

Urban Design and Landscape Plan

North East Link Eastern Freeway Upgrades - Hoddle Street to Burke Road

BIG

BUILD

EASTERN FREEWAY

PLANNING AND ENVIRONMENT ACT 1987
YARRA AND BOROONDARA PLANNING SCHEMES
CONDITION 4.9 OF THE NORTH EAST LINK PROJECT
INCORPORATED DOCUMENT DECEMBER 2019 (AMENDED
SEPTEMBER 2023)

ENDORSED PLAN
(1-320 sheets)

SIGNED.....
ON BEHALF OF THE MINISTER FOR PLANNING
DATE.....

22/07/2026



Artist's impression - indicative only

Acknowledgement

The North East Link Program wishes to acknowledge the Wurundjeri Woi-wurrung people as the Traditional Custodians of the land on which our work takes place.

We pay our respects to ancestors and Elders, both past and present. We value and respect the deep connection the Wurundjeri Woi-wurrung people have to Country; embedding their local knowledge is critical to the sustainability and health of the land and the environment. We also acknowledge Aboriginal and Torres Strait Islander Peoples as the Traditional Custodians and First Nations Peoples of Australia.

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Urban Design and Landscape Plan

Document information

Document title	Urban Design Landscape Plan, North East Link Eastern Freeway Upgrades – Hoddle Street to Burke Road
Stage	Eastern Freeway Upgrades: Hoddle Street to Burke Road
Document number	NEL-WST-NWA-4990-EPU-REP-2200

Review and Approval

Incorporated Document – Clause 4.9.1 and Clause 4.9.9

In accordance with Clause 4.9.1 and Clause 4.9.9 of the *North East Link Project Incorporated Document, December 2019 (Amended September 2023)*, the UDLP must be prepared to the satisfaction of the Minister for Planning and approved prior to the commencement of works for each stage.

Clause 4.9.1 states:

Prior to the commencement of development of permanent above-ground buildings or structures (excluding preparatory buildings and works under Clause 4.13.1 of the Incorporated Document), UDLPs must be prepared to the satisfaction of the Minister for Planning.

Clause 4.9.9 states:

The use and development of the Project must be carried out generally in accordance with the approved UDLPs.

Staging and amending approved UDLPs

Incorporated Document – Clause 4.9.7 and Clause 4.9.8

The UDLP may be prepared in stages in accordance with Clause 4.9.7 and each UDLP may be amended in accordance with Clause 4.9.8.

Clause 4.9.7 states:

An UDLP may be prepared and approved in stages but an UDLP for any stage must be approved before commencement of development (excluding preparatory buildings and works under Clause 4.13.1) for that stage.

Clause 4.9.8 states:

An UDLP may be amended from time to time, to the satisfaction of the Minister for Planning. The Minister for Planning must require an application for approval of an amendment to an UDLP to comply with the requirements of Clause 4.9.2, Clause 4.9.3, Clause 4.9.4 and Clause 4.9.5 unless, in the opinion of the Minister the proposed amendment:

- a. would not result in a material detriment to any person; or a person who may suffer a material detriment as a result of the Minister’s approval of the amendment has already been consulted in respect of the proposed amendment; and
- b. any proposed amendment does not involve any change to an approved Environmental Performance Requirement.

Applicability and validity

This UDLP applies to all North East Link Program personnel, suppliers, subcontractors, consultants and representatives, whose scopes of work influence, contribute to, or otherwise assist in, delivering the Project activities.

The current reviewed and approved version of this UDLP is available on the collaboration system for all Project personnel to access. Downloaded documents are deemed uncontrolled and it is the responsibility of the user to ensure they are using the latest revision.

Document Control – Revision History

Revision number	Date	Description of Change	Prepared By
0	27 October 2025	Issue for Public Exhibition	EHBA
0.01	02 March 2026	Issue for Review	EHBA
1	29 June 2026	Issued for Approval	EHBA

Terms and abbreviations

Term	Definition	Term	Definition
AEP	Annual Exceedance Probability	IEA	Independent Environmental Auditor
Birrarung	The traditional name of the Yarra River in Wurundjeri Woi-wurrung language and culture	Incorporated Document	North East Link Project Incorporated Document, December 2019 (Amended September 2023)
CEMP	Construction Environmental Management Plan	ITS	Intelligent Transport System
CHMP	Cultural Heritage Management Plan	LGA	Local Government Area
CPTED	Crime Prevention Through Environmental Design	OEMP	Operation Environmental Management Plan
DEECA	Department of Energy, Environment and Climate Action	OVGA	Office of the Victorian Government Architect
DTP	Department of Transport and Planning	PE Act	<i>Planning and Environment Act 1987</i>
EE Act	<i>Environment Effects Act 1978</i>	The Project	Eastern Freeway Upgrades – Hoddle Street to Burke Road
EES	Environment Effects Statement	RMP	Rotationally Moulded Plastic, also commonly known as recycled plastic
EMF	Environmental Management Framework	SUP	Shared Use Path
EMP	Environmental Management Plan	UDAP	Urban Design Advisory Panel
EMS	Environmental Management System	UDLP	Urban Design and Landscape Plan
EP Act	<i>Environment Protection Act 2017 (Vic)</i> , as amended by the <i>Environment Protection Amendment Act 2018 (Vic)</i>	UDS	North East Link Urban Design Strategy
EPA Victoria	Environment Protection Authority Victoria	VIDA	Victorian Infrastructure Delivery Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>	WEMP	Worksite Environmental Management Plan
EPR	Environmental Performance Requirement	WWCHAC	Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation
ESD	Environmentally Sustainable Design		
EVC	Ecological Vegetation Classes		

Design development

The term ‘design development’ when used throughout this Urban Design and Landscape Plan (UDLP) typically refers to the following process:

- The design development involves improving the level of detail rather than the basis for re-design.
- The design will be developed from a technical documentation perspective from Preliminary Design, Detailed Design, Final Design through to Issued for Construction. This process includes consultation with the relevant stakeholders and asset owners.
- The refinement of the design is to be consistent with the UDLP, North East Link Urban Design Strategy (UDS) and the Environmental Performance Requirements (EPRs).
- As part of this design process, consultation will occur as required with relevant stakeholders, including the Urban Design Advisory Panel (UDAP), the Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation (WWCHAC), councils, affected residents and authorities.
- The relevant flood plain manager, drainage authority or asset owner (typically Melbourne Water) will participate where required, in consultation during the design development process and any relevant acceptances will be obtained consistent with applicable EPRs.
- Additional information obtained and analysed throughout the preliminary design phase for the Eastern Freeway Upgrades: Hoddle Street to Burke Road such as site investigations and technical assessments have informed the design shown in this UDLP.
- Once this UDLP is endorsed, an amendment would be required if design development results in changes that are not generally in accordance with the approved UDLP. The amended UDLP would be submitted to the Minister for Planning for consideration in accordance with condition 4.9.8 and 4.9.9 of the North East Link Project Incorporated Document, December 2019 (Amended September 2023) (Incorporated Document).

Figure 1 shows the stages to preparing this UDLP and the points for stakeholder and community involvement in the development of the design response.

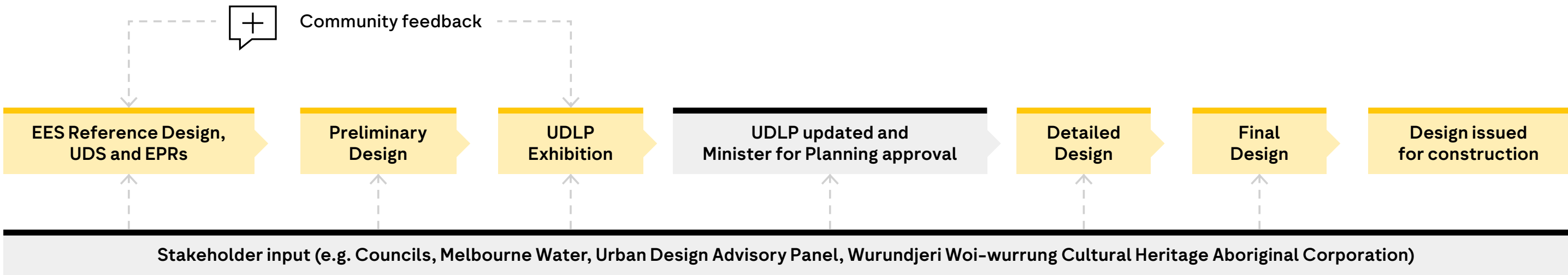


Figure 1: Summary of consultation in the design development process

Foreword

North East Link will make travel faster and easier – connecting more people to employment, education, community and opportunity. North East Link will connect the M80 Ring Road to an upgraded Eastern Freeway, cutting travel times by up to 35 minutes and taking 15,000 trucks a day off local roads.

Melbourne’s population is forecast to reach eight million people by 2050 and North East Link will accommodate this future growth in the north eastern suburbs of Melbourne. Victorians will have better access to goods, services, employment and education.

North East Link will provide the missing link in Melbourne’s road network by improving connections between the east and north of Melbourne, providing a quicker and easier link for 135,000 vehicles a day – reducing travel times and leaving local roads for local trips.

The North East Link Program involves upgrades and improvements to key road, pedestrian and cycling infrastructure through five separate but interrelated projects:

- M80 Ring Road Completion
- North East Link Tunnels
- Eastern Freeway Upgrades – Hoddle Street to Burke Road
- Eastern Freeway Upgrades – Burke Road to Tram Road
- Eastern Freeway Upgrades – Tram Road to Springvale Road.

This Urban Design and Landscape Plan (UDLP) has been prepared by the Eastern Freeway Hoddle to Burke Alliance to design and construct the North East Link Eastern Freeway Upgrades – Hoddle Street to Burke Road (the Project). It outlines the design for the road upgrades, bridges, noise walls and other structures, as well as landscape design and associated improvements to adjacent open space, and working and cycling connections.

This UDLP provides a detailed assessment of how the design complies with the Project’s Environmental Performance Requirements (EPRs) and how it is in accordance with the Urban Design Strategy (UDS).

This UDLP integrates urban design and landscape architecture into the freeway’s transport infrastructure. The overarching vision is to respect the freeway’s existing architecture and features, enhance the users’ experience and improve local landscapes and associated biodiversity.

Key outcomes to be facilitated through this UDLP are:

- Collaborative co-design with the Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation (WWCHAC) to ensure cultural values inform and are embedded in the design and delivery of the Project.
- A new landmark Shared Use Path (SUP) bridge spanning the Yarra River (Birrarung) with a tailored design that celebrates structural innovation and responds to the sensitive site and surrounds.
- A new Eastern Busway, providing a dedicated bus route from Doncaster Road (outside this UDLP) and Chandler Highway to Hoddle Street. The busway will be a fast, direct connection that improves service reliability and significantly reduces trip duration.
- New and upgraded sections of SUP from Burke Road to the Main Yarra Trail on the eastern side of Merri Creek, with branches to local roads and trails. The SUP will be a shorter, flatter, quicker and safer route for pedestrians and cyclists.

- Modification of the existing freeway between Chandler Highway and Burke Road to provide an additional lane in each direction for motorists.
- Replacement of the ramps at Chandler Highway and Burke Road to maintain access to connecting roads and to integrate the Eastern Busway and the SUP.
- Prioritising a design that responds to the existing modernist freeway architecture.
- Maximising the retention of vegetation along the corridor where possible and undertaking new plantings to integrate the transport upgrades into the landscape.
- Installation of new and upgraded noise walls where required to reduce the impact of traffic noise on residential amenity in accordance with stringent noise standards.
- Advanced traffic management systems to optimise flows and decrease travel times.

This UDLP was exhibited to the public in 2025 for inspection and comment, in accordance with the requirements of the Incorporated Document. Feedback received during this period was considered and responded to in the finalisation of this UDLP prior to submission to the Minister for Planning for approval.



Aerial perspective of the Burke Road interchange, looking east
Artist’s impression – indicative only

1. Introduction

1. Introduction

1.1 Project background

In 2016, Infrastructure Victoria – Victoria’s independent infrastructure advisors – named North East Link (NEL) the State’s priority road project.

More than five years of intensive and robust strategic planning, approvals and community consultation has developed North East Link into a major program of works spanning the road, bus and active transport network, together with new and upgraded public transport hubs and associated parking facilities. The North East Link Program will now deliver:

- Victoria’s longest road tunnels – protecting sensitive environmental areas along the Birrarung and enhancing surrounding public open space
- A completed M80 Ring Road in Greensborough
- A major modernisation of the Eastern Freeway
- Melbourne’s first dedicated busway with park and rides in Bulleen and Doncaster
- Active transport infrastructure, including more than 34 kilometres of new and upgraded walking and cycling paths.

The interconnected pieces of the North East Link Program, as shown in Figure 2, will be delivered by dedicated construction partners, with timing staged so the whole project can open around the same time in 2028.

This Urban Design and Landscape Plan (UDLP) applies to land shown in Figure 2 and Figure 3 that is located within the following Local Government Areas (LGAs):

- Yarra LGA
- Boroondara LGA.

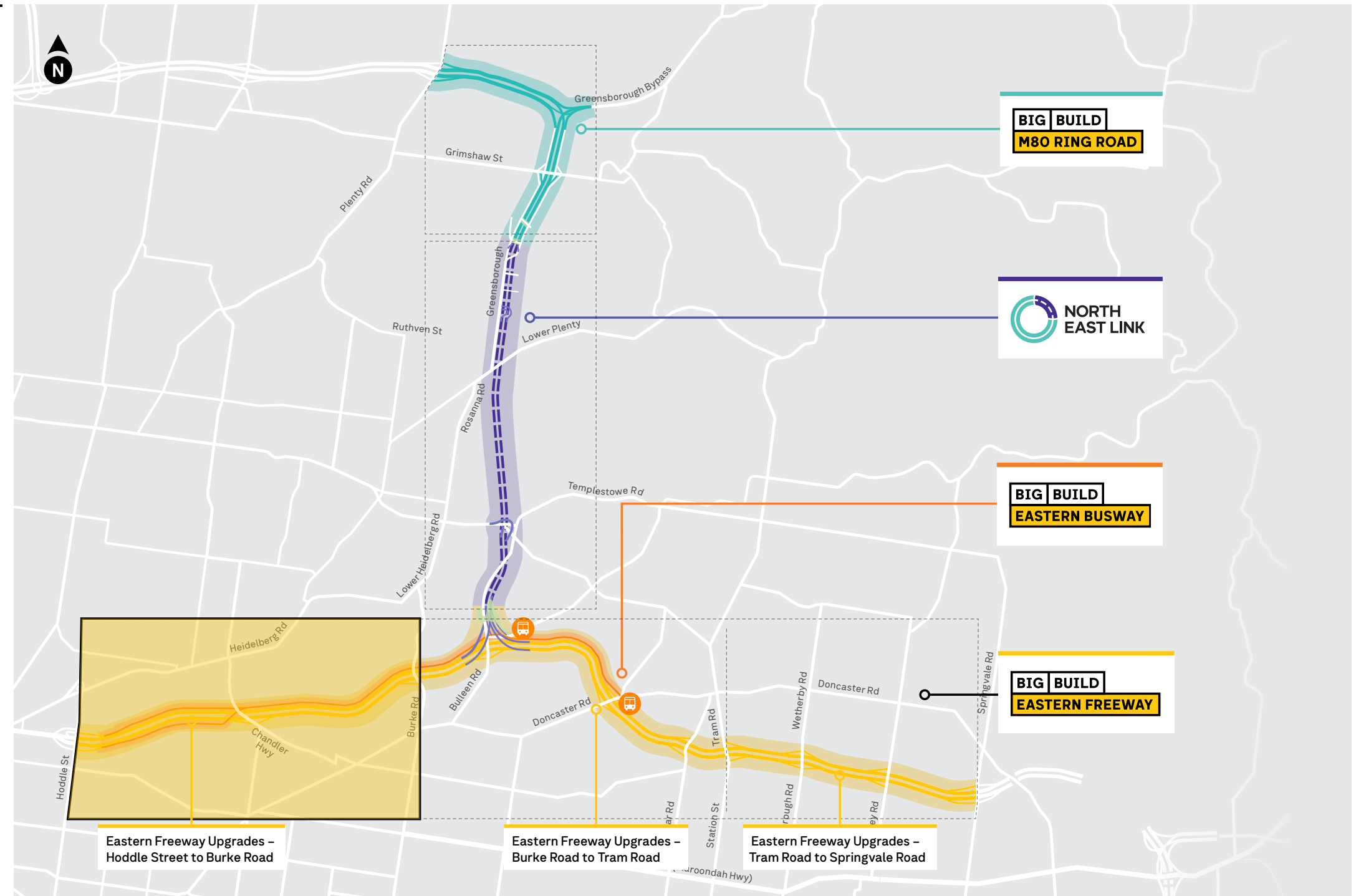


Figure 2: North East Link Program

1. Introduction

1.2 Purpose of an Urban Design and Landscape Plan

The *North East Link Project Incorporated Document*, December 2019 (amended September 2023) ('the Incorporated Document') provides the overarching planning approval for North East Link. This document forms part of all council planning schemes that apply to land within the North East Link Project boundaries and is implemented through a Specific Controls Overlay (Schedule 12, SCO12).

The Incorporated Document includes a number of conditions and requirements that must be met in the detailed planning, design, construction and operation of North East Link. Pursuant to Clause 4.9.1 of the Incorporated Document, an Urban Design and Landscape Plan (UDLP) is required to be prepared to the satisfaction of the Minister for Planning prior to the commencement of development for any permanent above ground buildings or structures.

The purpose of a UDLP is to describe the overarching urban design and landscape concept for the design, siting and treatment for all permanent structures, buildings and other above ground works forming part of the overall North East Link Program.

All UDLPs must be prepared to the satisfaction of the Minister for Planning and approved prior to the construction of permanent above ground buildings and structures, excluding specified preparatory buildings and works.

The UDLP also provides a detailed assessment of how the design responds to the requirements of the North East Link Urban Design Strategy (UDS) and Environmental Performance Requirements (EPRs). Compliance with these documents, which form the framework and parameters for the design, construction and management of the North East Link Program, is a key approval requirement.

This UDLP for the Project includes:

- An introduction to the Incorporated Document requirements and community consultation process (Section 2)
- An analysis of the site and context (Section 3)
- A description of the Project, design response and the urban design and landscape documents (Section 4)
- An assessment against design requirements of the UDS demonstrating consistency (Section 5)
- An assessment against the EPRs demonstrating compliance (Section 6).

Public exhibition of the UDLP provides an opportunity for the community and stakeholders to view and comment on the UDLP, including design elements such as bridges, noise walls, landscaping and the new and upgraded cycling and walking paths. Feedback received during the public exhibition is considered and responded to in the finalisation of this UDLP forming part of the submission to the Minister for Planning for approval.

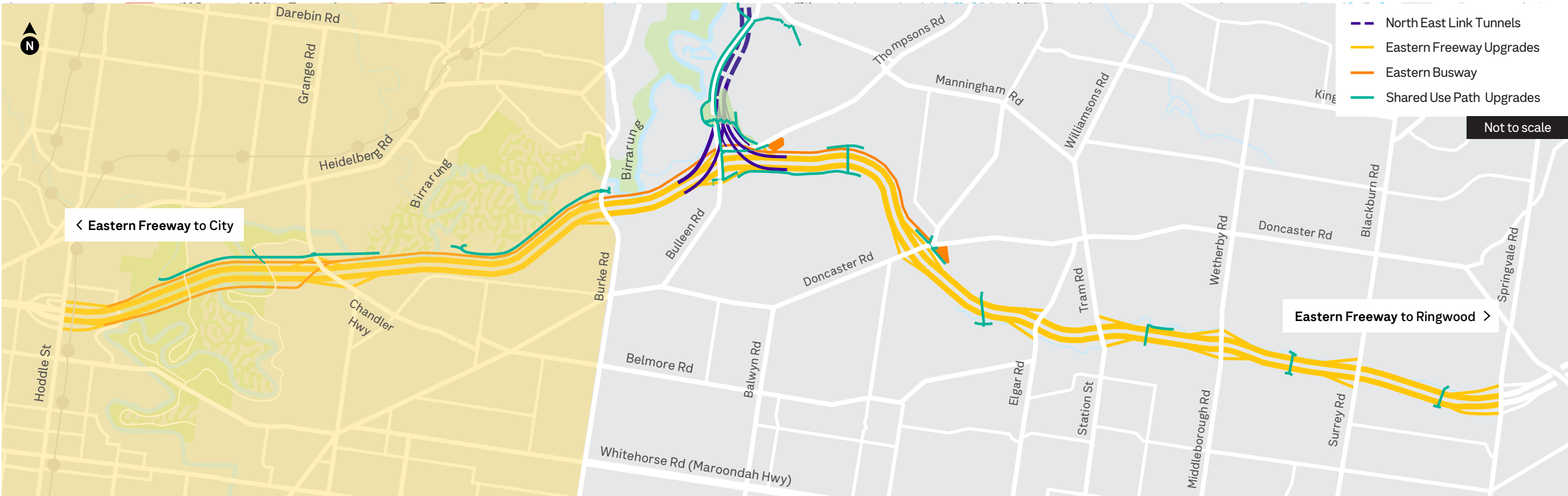


Figure 3: North East Link Eastern Freeway Upgrades

1. Introduction

1.3 Project approvals

An Environment Effects Statement (EES) was prepared for the North East Link Program under the provision of the *Environment Effects Act 1978* (Vic). The EES process considered a wide range of potential environmental outcomes associated with the North East Link Reference Design¹ and set out a comprehensive suite of EPRs detailing the minimum environmental outcomes the project must achieve across its design, construction and operational phases. The Minister for Planning released an assessment of the EES on 3 December 2019, which informed subsequent approval decisions, including the Incorporated Document.

Approvals obtained for the North East Link Program include:

- *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) (EPBC Act) – the North East Link Program is a ‘Controlled Action’. Approval of EPBC 2018/8142 issued under Part 9 of the EPBC Act, dated 12 December 2019 and as varied on 28 August 2020 and on 29 June 2021. The approval has several conditions to mitigate environmental impacts that must be undertaken in delivery of the project.
- *Planning and Environment Act 1987* (Vic) – Planning Scheme Amendment GC98 and subsequent amendments to the Banyule, Manningham, Boroondara, Yarra, Whitehorse, Whittlesea and Nillumbik planning schemes. Amendment GC98 facilitates the North East Link Program by:
 - Applying the Specific Controls Overlay to land required for the North East Link Project and allowing the use and development of that land in accordance with the specific controls in the Incorporated Document (the requirements of the Incorporated Document as applicable to the Project are addressed in Section 2 of this UDLP)
 - Applying the Design and Development Overlay to land in the Banyule and Manningham LGAs to ensure new development does not compromise the structural integrity or operation of North East Link Project infrastructure. Making the Minister for Planning the responsible authority for administering and enforcing the planning schemes as they relate to the North East Link Project.
- *Major Transport Projects Facilitation Act 2009* (Vic)

(MTPF Act) – The Project Area for the North East Link Program was designated by the Minister for Planning under Section 95(2)(a) of the MTPF Act by an order published in the Victorian Government Gazette on 5 February 2020. This approval facilitates the delivery of the North East Link Program by applying the delivery powers under the MTPF Act (excluding Parts 3 and 8 of the Act)

- *Aboriginal Heritage Act 2006* (Vic) – Cultural Heritage Management Plan (CHMP) No. 15576 (North East Link Project) was approved under the Aboriginal Heritage Act 2006. The CHMP has the purpose to assess the potential impact of the NEL Project on Aboriginal cultural heritage and provides measures to be undertaken to manage and protect Aboriginal cultural heritage
- *Environment Protection Act 2017* (Vic) – Development Licence authorising the development and installation of the road tunnel ventilation systems for the North East Link Project. The Development Licence was originally issued as a ‘Works Approval’ on 10 February 2020 and subsequently amended on 10 August 2022.

The following plans were prepared and approved by the Minister for Planning in accordance with the Incorporated Document and are relevant to this UDLP:

- North East Link Environmental Management Framework (EMF), as required under Clause 4.5 of the Incorporated Document was approved by the Minister for Planning on 9 February 2020 and amended on 21 July 2021 to reflect the Environment Protection Amendment Act 2018 (Vic). The EMF outlines 110 EPRs, which are performance-based environmental standards and outcomes that apply to the design, construction and operation of the North East Link Program. Refer to Section 6 of this UDLP for a summary of compliance with the EPRs.
- North East Link Urban Design Strategy (UDS), as required under Clause 4.8 of the Incorporated Document was approved by the Minister for Planning on 23 March 2020 and amended on 17 March 2025. Compliance with the relevant objectives of the UDS are outlined in Section 5 of this UDLP.

Figure 4 outlines the environmental management and approvals process for the North East Link Program.

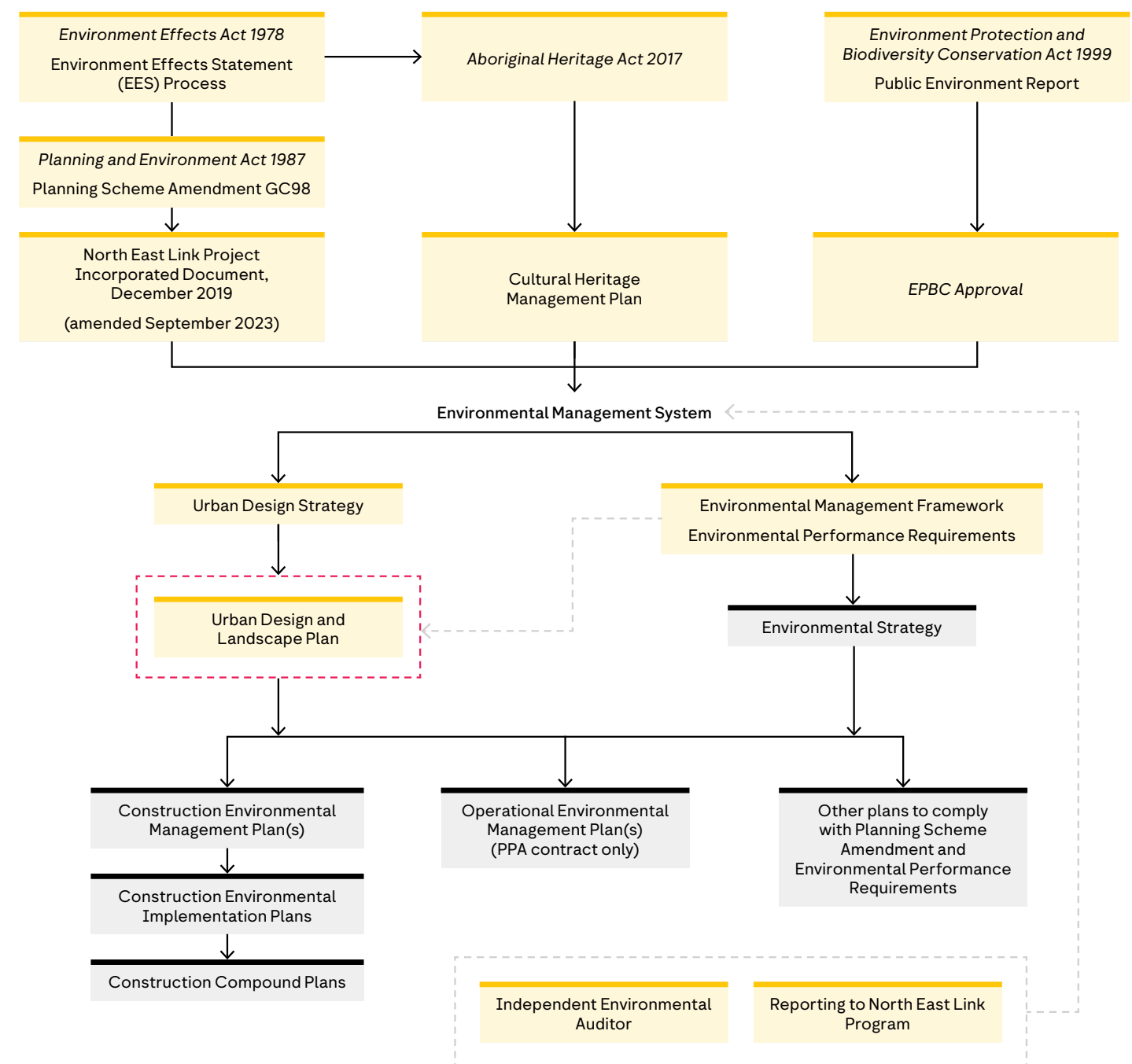


Figure 4: Environmental management and approvals process

1. The Reference Design was developed from 2018 to 2019. It showed one possible way the North East Link Program could have been designed and built and informed studies for the EES. The EES helped inform the requirements that must be met for the final project design, construction and operation.

1. Introduction

1.4 Approved Urban Design and Landscape Plans

The following UDLPs were previously approved by the Minister for Planning under the North East Link Project Incorporated Document:

- Bulleen Park and Ride UDLP, approved 28 March 2021 (amended January 2022 and October 2024)
- M80 Interchange Telecommunications Facility Relocation UDLP, approved 17 May 2022
- Watsonia Station Telecommunications Facility Relocation UDLP, approved 10 September 2021 (superseded by M80 Ring Road Completion UDLP)

- North East Link Tunnels UDLP, approved 3 February 2023 (amended 9 September 2024)
- Eastern Freeway Upgrades – Burke Road to Tram Road UDLP, approved 9 September 2024
- M80 Ring Road Completion UDLP, approved September 2024
- Doncaster Park and Ride UDLP, approved 5 May 2025
- Eastern Freeway Upgrades – Tram Road to Springvale Road UDLP, approved 24 April 2026.

UDLPs will also be prepared for the following Project areas:

- Watsonia Station Car Park UDLP.

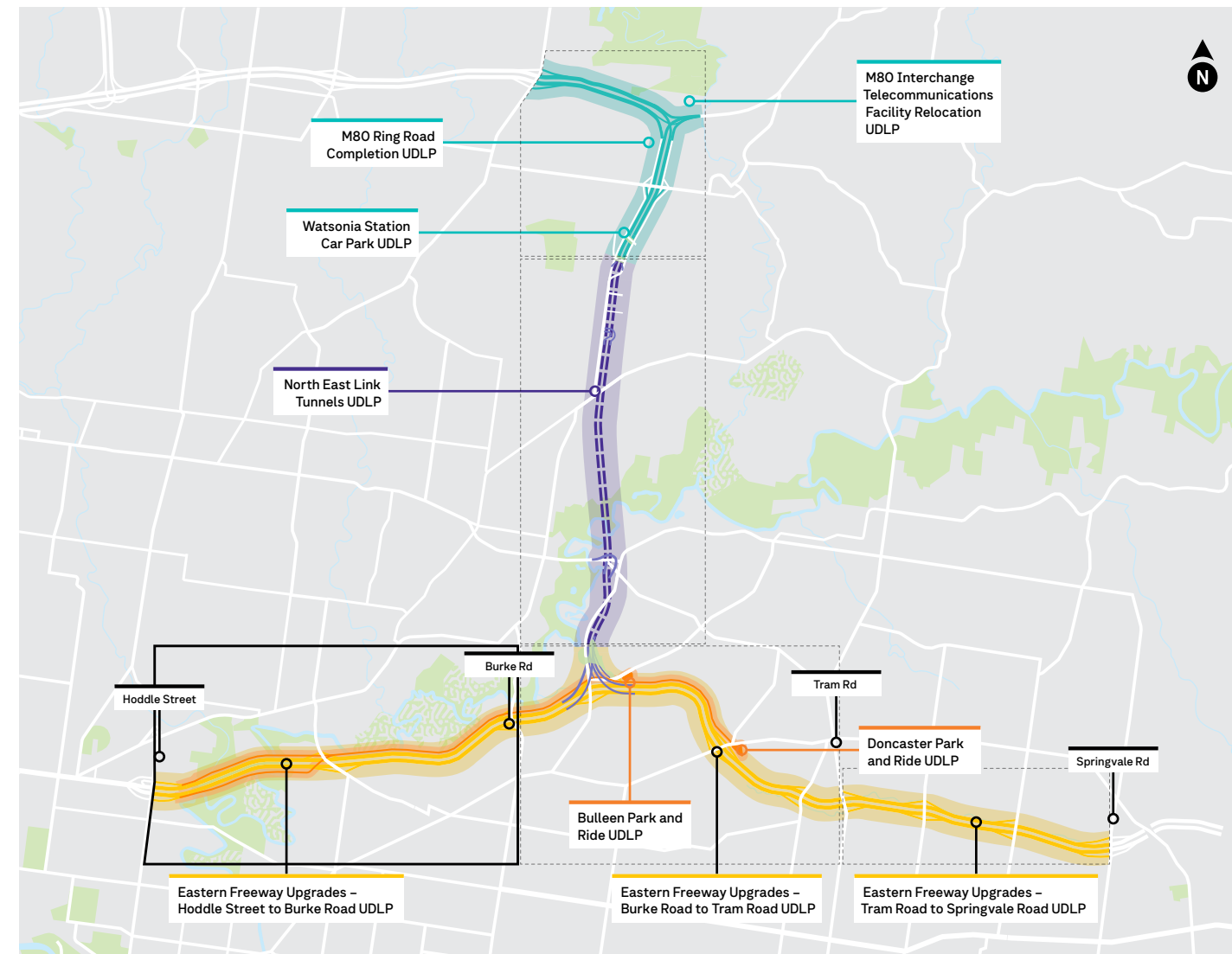


Figure 5: Hoddle to Burke UDLP in relation to other North East Link UDLPs

The location of the Eastern Freeway Upgrades – Hoddle Street to Burke Road UDLP and the other UDLPs is shown in Figure 5.

Eastern Freeway Upgrades – Burke Road to Tram Road UDLP interface

The Eastern Freeway Upgrades – Burke Road to Tram Road UDLP interfaces with this UDLP. It includes designs for the main carriageway, a small section of the Eastern Busway, the central median and planting in the central median of the Eastern Freeway from approximately 200 metres west of Burke Road (i.e. within this UDLP).

The overlapping designs shown in the two UDLPs are generally consistent. Both show the same number of lanes and central median. Minor differences in this overlapping area are shown in Figure 6 and these are the extent of the vegetation in the central median and one new maintenance access path to constructed as part of this UDLP. On approval of this UDLP by the Minister for Planning, where there is any overlap of the two UDLP designs within the boundary of this UDLP, then this UDLP will take precedence.

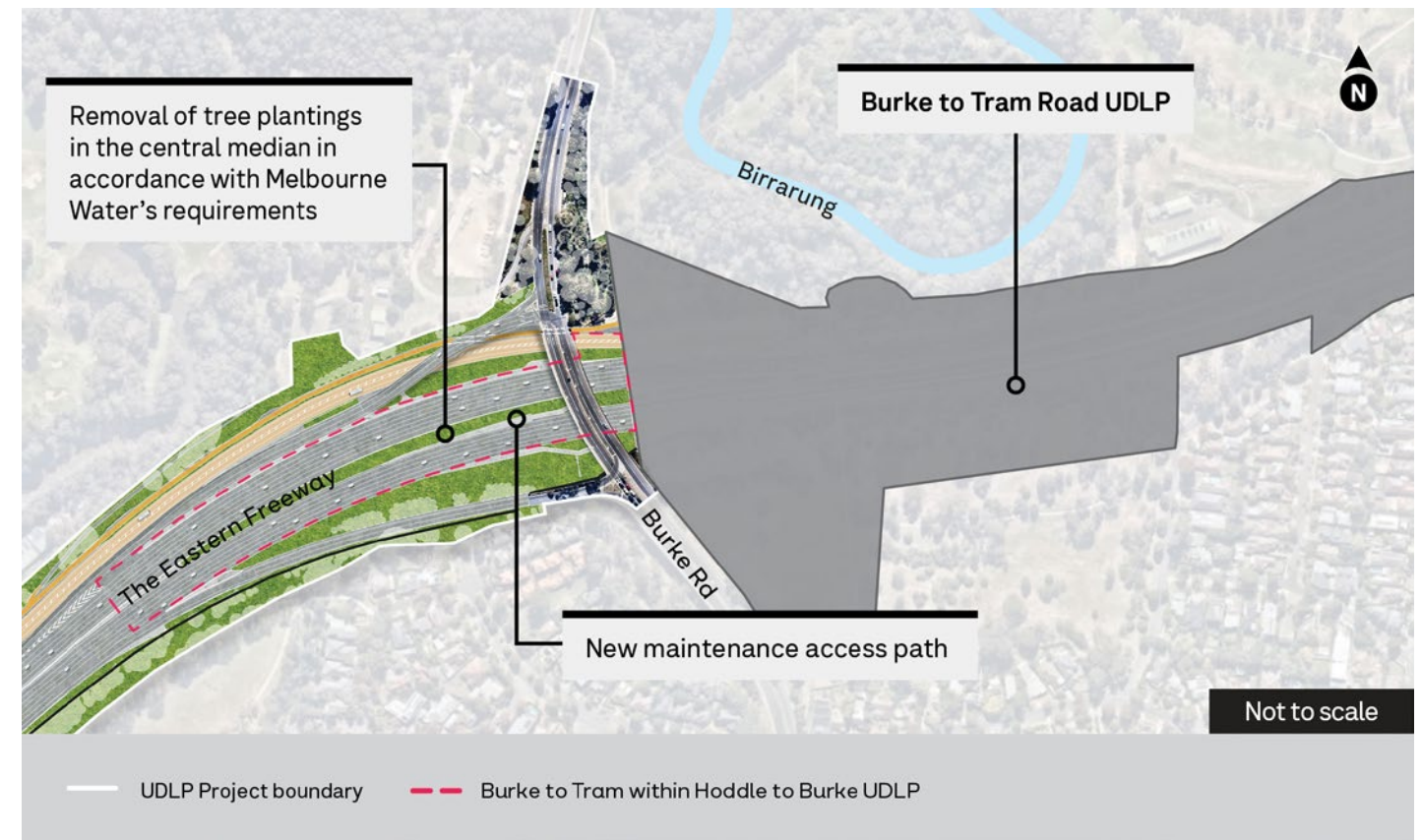


Figure 6: Overlapping areas of the Hoddle to Burke UDLP and Burke to Tram UDLP

2. Requirements for the Urban Design and Landscape Plan

2. Requirements for the Urban Design and Landscape Plan

2.1 North East Link Project Incorporated Document

The Incorporated Document was approved by the Minister for Planning in 2019 and subsequently amended in 2023. The document provides the overarching planning approval for the North East Link Program and forms part of all planning schemes that apply to land within the Project boundaries. The Incorporated Document is implemented through the Specific Controls Overlay – Schedule 12 (SCO12).

The Incorporated Document includes conditions and requirements that must be met in the detailed planning, design, construction and operation of North East Link. Clause 4.9.1 of the Incorporated Document requires that an UDLP must be prepared to the satisfaction of the Minister for Planning prior to the construction of permanent above ground buildings or structures (excluding preparatory buildings and works specified under Clause 4.13.1).

The use and development of the Project must be carried out generally in accordance with the approved UDLP (Clause 4.9.9). The UDLP must be prepared in accordance with the relevant requirements in the Incorporated Document, this includes design and consultation requirements. An assessment of this UDLP’s compliance with the requirements of the Incorporated Document is outlined below in Table 1.

Table 1: North East Link Project Incorporated Document – UDLP Compliance

Clause	Condition	Response
4.9.1	Prior to the commencement of development of permanent above-ground buildings or structures (excluding preparatory buildings and works under Clause 4.13.1), UDLPs must be prepared to the satisfaction of the Minister for Planning.	This UDLP details the design for all permanent above-ground buildings or structures in the Project area. Approval of this UDLP by the Minister for Planning is required prior to commencing the development of permanent above-ground buildings or structures.
4.9.2	The UDLPs must show the final built form design for the Project and include, where relevant: a) A site layout plan that shows the location of permanent above-ground buildings and structures (including but not limited to proposed bridges, elevated roads, tunnel portals, ventilation structures, flood walls, noise walls, public transport infrastructure and walking and cycling facilities). b) Architectural plans, including sections and elevations, with materials and finishes. c) Landscape plans, including sections and elevations, with plant species.	The UDLPs must show the final built form design for the Project and include, where relevant: Site layout plans showing the location of all permanent above-ground buildings and structures are included at: – Attachment 1: Architecture and Urban Design – Attachment 2: Landscape Design. Architectural plans are located at: – Attachment 1: Architecture and Urban Design. Landscape plans are located at: – Attachment 2: Landscape Design.
4.9.3	An Urban Design and Landscape Plan (UDLP) must be accompanied by the following, where relevant: (a) An explanation demonstrating how the UDLP is in accordance with the approved UDS including any relevant urban design framework plan. (b) An explanation demonstrating how the UDLP would comply with the EPRs included in the approved EMF. (c) A plan which shows the extent of the UDLP area in relation to any publicly available or approved UDLP/s. (d) A plan which shows the boundary of the Project Land and location of areas to be used for construction compounds consistent with the approved Construction Compound Plan under Clause 4.12.	An Urban Design and Landscape Plan (UDLP) must be accompanied by the following, where relevant: The Project is in accordance with the approved UDS. Refer to Section 5 of this UDLP for the assessment of the Project against the UDS. The Urban Design Framework Plans contained in the UDS are not relevant to this UDLP. The Project complies with the EPRs in the approved Environment Management Framework. Refer to Section 6 of this UDLP for the assessment of the Project against the relevant EPRs. The UDLP area for the North East Link Eastern Freeway Upgrades – Hoddle Street to Burke Road is shown in Figure 5 (Section 1.4). Figure 5 also shows the extent of this UDLP area in relation to all other publicly available or approved North East Link UDLPs. The boundary of the project area is shown in Section 4.1 and is illustrated in Attachment 1: Architecture and Urban Design and in Attachment 2: Landscape Design. There are four approved Construction Compound Plans (CCPs) including Chandler Main CCP (approved 12 November 2025), Burke CCP (approved 07 January 2026), Yarra West CCP (approved 27 April 2026) and Chandler North CCP (approved 25 May 2026). Approved CCPs are shown in Attachment 2: Landscape Design drawings NEL-WST-NWA-4990-ULS-DRG-9582 and 9583.
4.9.4	Prior to the submission of an UDLP to the Minister for Planning for approval, an UDLP must be: (a) Provided to the UDAP [Urban Design Advisory Panel] and relevant council/s for consultation (b) Provided to the Department of Transport, Roads Corporation, Public Transport Development Authority, Melbourne Water, Heritage Victoria, the Department of Environment, Land, Water and Planning (DELWP), Parks Victoria and the Head, Transport for Victoria for consultation where relevant.	Prior to the submission of an UDLP to the Minister for Planning for approval, an UDLP must be: A copy of this UDLP was provided to UDAP and relevant councils as part of the public exhibition process. A copy of this UDLP was provided to the relevant stakeholders as part of the public exhibition process. A summary of consultation is included at Section 2.2.

2. Requirements for the Urban Design and Landscape Plan

Clause	Condition	Response
	(c) Made available for public inspection and comment on a clearly identifiable Project website. The website must set out details about the entity and contact details to which written comments can be directed during that time and specify the time and manner for the making of written comments. The minimum period for public comment must be 21 days. For the avoidance of doubt, consultation in accordance with (a) and (b) can occur prior to, during and after the public inspection and comment period in (c).	This UDLP was available on the Engage Victoria website for public comment for a period of 21 calendar days from 27 October 2025.
4.9.5	Before, or on the same day as an UDLP is made available in accordance with Clause 4.9.4(c), a notice must be: (a) Published in a newspaper generally circulating in the area to which an UDLP applies informing the community of the matters set out in Clause 4.9.4(c). (b) Provided to owners and occupiers of land adjacent to the area/s to which an UDLP applies informing them of the matters set out in Clause 4.9.4. (c) The minimum period for comment must be 21 days.	Notice of the public exhibition of the UDLP was published in The Age and the Herald Sun as part of the public exhibition process. Owners and occupiers of adjacent land were notified by letterbox drop and, where the information has been available to the Project, by express post for absentee landowners as part of the public exhibition process. The UDLP was available on the Engage Victoria website for public comment for a period of 21 calendar days from 27 October 2025.
4.9.6	An UDLP submitted to the Minister for Planning for approval under Clause 4.9.1 must be accompanied by: (a) A summary of the consultation carried out under Clause 4.9.4 and Clause 4.9.5, all written comments received and a response to issues raised. (b) Written advice from the UDAP addressing the extent to which the UDLP is consistent with all relevant matters set out in the Minister's Assessment dated 3 December 2019 made pursuant to the EE Act [Environment Effects Act 1978]], the EPRs included in the approved EMF and the approved UDS including any relevant urban design framework plan.	Following completion of public exhibition, a summary of all written submissions received and responses to issues raised were prepared to accompany the UDLP submission to the Minister for Planning for assessment and approval. A memorandum of written advice was prepared by the UDAP addressing the alignment of this UDLP with all relevant matters set out in the Minister's EES assessment, the EPRs included in the approved EMF and the approved UDS. The UDAPs memorandum accompanied the submission of this UDLP to the Minister for Planning for assessment and approval.
4.9.7	A UDLP may be prepared and approved in stages but an UDLP for any stage must be approved before commencement of development (excluding preparatory buildings and works under Clause 4.13.1) for that stage.	This UDLP is for the North East Link Eastern Freeway Upgrades – Hoddle Street to Burke Road.
4.9.8	A UDLP may be amended from time to time, to the satisfaction of the Minister for Planning. The Minister for Planning must require an application for approval of an amendment to a UDLP to comply with the requirements of Clause 4.9.2, Clause 4.9.3, Clause 4.9.4 and Clause 4.9.5 unless, in the opinion of the Minister the proposed amendment: (a) would not result in a material detriment to any person; or a person who may suffer a material detriment as a result of the Minister's approval of the amendment has already been consulted in respect of the proposed amendment; and (b) any proposed amendment does not involve any change to an approved Environmental Performance Requirement.	If changes are proposed post approval of the UDLP, then an application can be made to the Minister for Planning to amend an approved UDLP, in accordance with Clause 4.9.8. If changes are proposed post approval of the UDLP, then an application can be made to the Minister for Planning to amend an approved UDLP, in accordance with Clause 4.9.8. If changes are proposed post approval of the UDLP, then an application can be made to the Minister for Planning to amend an approved UDLP, in accordance with Clause 4.9.8.
4.9.9	The use and development of the Project must be carried out generally in accordance with the approved UDLPs.	The use and development of the Project will be carried out generally in accordance with the approved UDLP.

2. Requirements for the Urban Design and Landscape Plan

2.2 Community and stakeholder engagement

The statutory requirements for consultation with the community and key stakeholders as part of the preparation of the UDLP are outlined at Clause 4.9.4 and 4.9.5 of the Incorporated Document. These requirements have been incorporated into, and form part of, a broader program of engagement that has informed the preparation of this UDLP. This engagement builds on previous consultation undertaken by the North East Link Program through the EES process in 2019 and on previously approved UDLPs.

Key communication and engagement activities for this UDLP are outlined in this section.

Public authorities

Consultation has been undertaken with the Department of Transport and Planning (DTP)*, Melbourne Water, Heritage Victoria, Parks Victoria and the Department of Energy, Environment and Climate Action (DEECA) to inform the preparation of this UDLP.

** As of 1 January 2023, the planning and environment functions of the former Department of Environment, Land, Water and Planning (DELWP) were incorporated into DTP and DEECA respectively. DTP also incorporates the state transport functions provided by the former Department of Transport (DoT) through the previous Roads Corporation (VicRoads), Public Transport Development Authority, and Transport for Victoria. The Incorporated Document references DELWP and DoT, as this was accurate at time of gazettal (January 2020). Any mention of DELWP and DoT in this UDLP is to be read as a reference to DEECA and/or DTP, respectively.*

Councils

The UDLP covers land within Boroondara and Yarra LGAs. The respective councils were consulted through a series of workshops and presentations prior to public exhibition to provide feedback on elements directly related to this UDLP and on the consultation approach with their communities.

Urban Design Advisory Panel

The Urban Design Advisory Panel (UDAP) for the North East Link Program was formed under Clause 4.7 of the Incorporated Document. Its role is to provide ongoing expert guidance and advocate for high quality design outcomes through an integrated design approach for the Project. Members include urban design specialists from the Office of the Victorian Government Architect (OVGA), DTP, WWCHAC and independent design specialists.

UDAP has been regularly consulted throughout the development of this UDLP.

Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation

The Project area is located within Wurundjeri Woi-wurrung Country and the Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation (WWCHAC) is the Registered Aboriginal Party under the Victorian Aboriginal Heritage Act 2006 for the whole area of this UDLP. The Birrarung, its tributaries and the surrounding environs are central to the identity, spirituality and culture of Wurundjeri Woi-wurrung people.

The WWCHAC has partnered with the North East Link Program since 2018. This partnership with WWCHAC is ongoing and will be maintained for the life of the Program. Consultation with the WWCHAC through a series of Indigenous design meetings and workshops has informed the design approach and development of this UDLP.

Public exhibition

The UDLP was available for public exhibition and comment for a period of 21 days from 27 October 2025. During public exhibition the UDLP was available:

- To view and download online at Victoria’s Big Build Engage Victoria website **engage.vic.gov.au/bigbuild**
- To view in hard copy at community information events
- To view in hard copy at local council offices and libraries.

Written submissions were made online at the Engage Victoria website **engage.vic.gov.au/bigbuild**.

The Engage Victoria website provided information about how to make a submission online, when submissions close and contact details for community enquiries.

Support to make a submission by email, post or other written method was also available.

In addition to the Engage Victoria website, the UDLP exhibition was supported by a range of communication and engagement activities to promote the UDLP and assist people in understanding the information included in the UDLP and the UDLP process. These include:

- Extensive advertising through print and digital channels including social media, letterbox drops, door knocks
- Community information events, with locations and dates promoted extensively through local channels
- Supporting material including information on the project website **bigbuild.vic.gov.au/projects/roads/eastern-freeway-upgrades**, an interactive online map, facts sheets and artist impressions.

All written submissions received during the public exhibition period were considered before the UDLP was finalised and submitted to the Minister for Planning for approval.

A Consultation Summary Report addressing written comments received during public exhibition and responses to issues raised was provided to the Minister for Planning at the time of final UDLP submission.

Reporting on the outcomes of the UDLP process

Following the Minister for Planning’s decision on this UDLP, the Project will report back to stakeholders and the community about how issues and opportunities raised through the public exhibition process were considered, including where any changes were made to the UDLP.

Ongoing engagement

Engagement with stakeholders and the community will continue throughout the life of the Project to keep people informed of its progress and to ensure community and stakeholder priorities, concerns and opportunities are considered and responded to in a timely and transparent way.

3. Site analysis

3. Site analysis

3.1 Site analysis

This section of the UDLP describes the characteristics and features of the Project area and surrounds. It is informed by the Landscape Character Area described in the UDS, the co-design process that has been undertaken with the Wurundjeri Woi-wurrung, as well as an analysis of the journeys, the natural environmental and local character within this UDLP.

The experience of this corridor is conceived as a series of layered journeys, shaped by the local character and the differing perspectives of those travelling along and across the corridor via the freeway, busway, roadways, pathways and waterway. The narrative of the layered journeys, as illustrated in Figure 7, is a key element in the site analysis and design response. The base layer represents Wurundjeri Country, comprising the landscapes and the meandering course of the Birrarung. The central layer represents the urban environment comprising local destinations, roads, open space and residential areas. The top layer represents the journey of motorists, passengers, cyclists and pedestrians along the corridor.

The site analysis recognises the Project area sits within Wurundjeri Country, lands that are shaped by the Birrarung and its network of tributaries. It is also within the Yarra River Valley Local Character Area, as identified in the UDS, which has a set of distinct characteristics observable in the natural landscape setting and existing built form outcomes.

The Eastern Freeway corridor cuts through two major geological formations, revealing the deep structure of the land. The corridor begins by crossing the steep Merri Creek valley, then cuts through the wide, elevated basalt plateau of Yarra Bend Park, before crossing the valley of the Birrarung. From there, the corridor slices through two prominent Silurian hills in East Kew, first near the Chandler Highway interchange and again near Belford Road, before finally rejoining the waterway and running alongside the floodplains of the Birrarung once more.

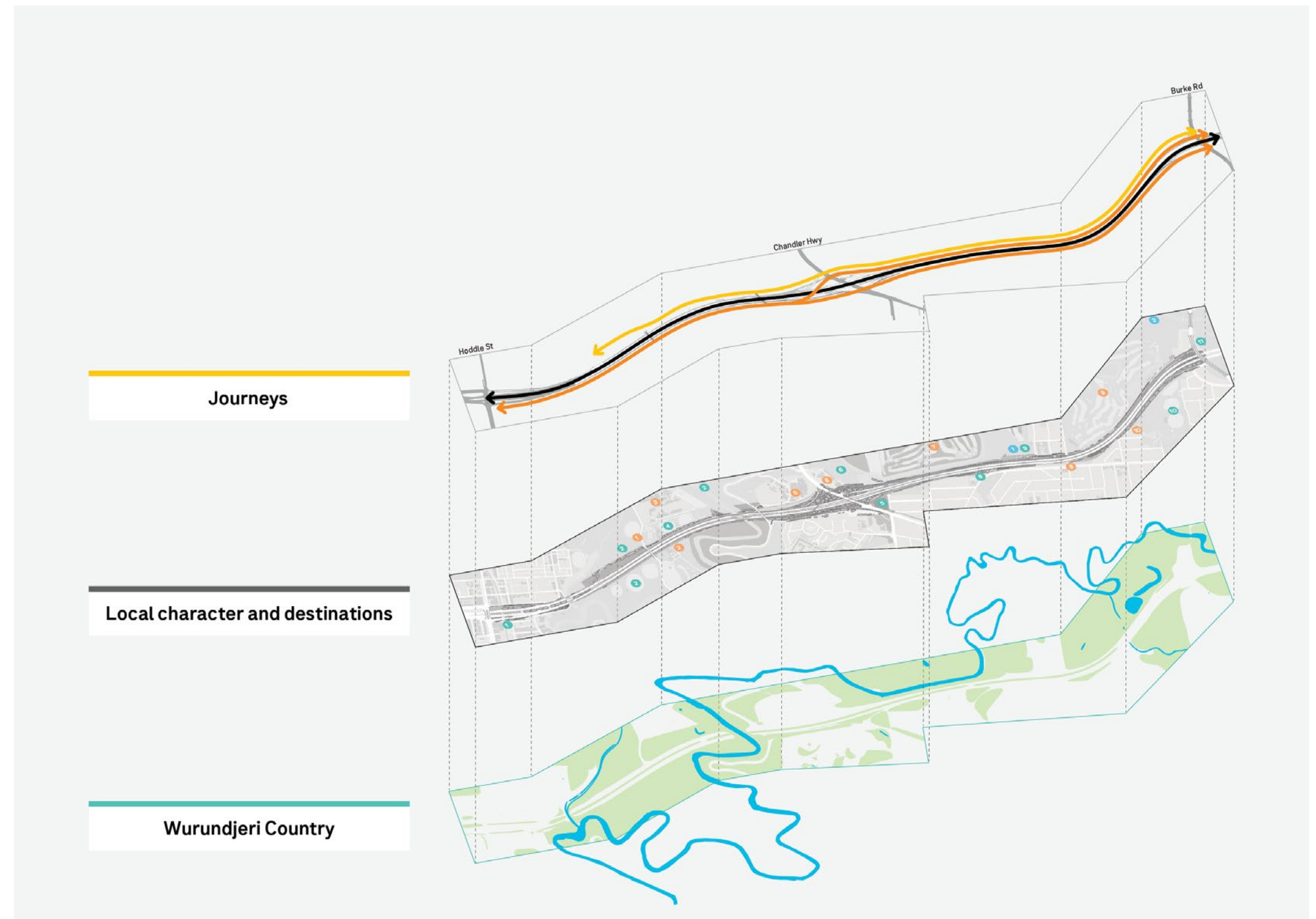


Figure 7: Site analysis

3. Site analysis

3.2 Wurundjeri Woi-wurrung Country

The Birrarung and Yarra Bend Park are important to the Wurundjeri Woi-wurrung people. The land and river are spiritually and culturally significant for their tangible and intangible cultural values, as well as nearby communities and visitors from across Melbourne. These places are significant as they link people to the ancestral spirits who created the land, animals and lore, as well as bond the Wurundjeri Woi-wurrung people to Country. Understanding these layers of cultural and environmental significance has informed the analysis, co-design process and interpretation of the ‘journeys’ reflected in this UDLP (refer to Section 4.2 for a description of the co-design process).

Melbourne’s early roads and highways were developed in the valleys adjacent to waterways. In contrast to other freeways in Melbourne that sit on or above the landscape/ Country, the Eastern Freeway exposes Country. This is evident in the basalt cuttings that are iconic to the journey and views from the freeway to the natural landscape of Yarra Bend Park.

The overarching cultural theme identified through the co-design process is the perspective of Waa, the Crow, one of the two moiety ancestors in Wurundjeri Woi-wurrung cosmology. Waa the Crow and Bunjil the Wedge-tailed Eagle and creator spirit are both significant figures for Victorian Aboriginal communities; both Waa and Bunjil were men before they were spirits.. Where Bunjil (while a man) created the land, waterways and its people, Waa was his helper responsible for the protection of the Wurundjeri Woi-wurrung people.

The co-design process has sought to understand the underlying characteristics of Country that may have influenced patterns of use and cultural practice: geology and soils, presence of particular species, seasonal flows of water, views to the sky, night constellations, as well as the topographic forms that may have offered shelter, gathering space or acoustic qualities for ceremony. As well as how the Wurundjeri Woi-wurrung people may have, and continue to, interact with these places. Inherent qualities of the land prompt the user to resonate with Wurundjeri Woi-wurrung physical and spiritual connection to Country and interactions with these places. The co-design process has recognised the scarred nature of the landscape that marks human presence across time. It also identified the experiences of Country at different speeds and scales of movement, with the elements along the corridor revealing themselves gradually, inviting multi-sensory engagement through sight, smell, touch, play and immersion into the spiritual essence of Country.

Figure 8 is a representation of the Wurundjeri Woi-wurrung people’s traditional connection with land and water within this UDLP. It identifies key features in the landscape within this UDLP. The key messages from the site analysis are:

- The Birrarung was an important transport route connecting the community to seasonal hunting, foraging and fishing grounds
- Yarra Bend Park was an important place for congregation to undertake ceremonies, connect with the celestial plane and to watch over the land
- The perspective of Waa flying over and protecting the land
- The connection of water, land, sky and the spiritual realm.

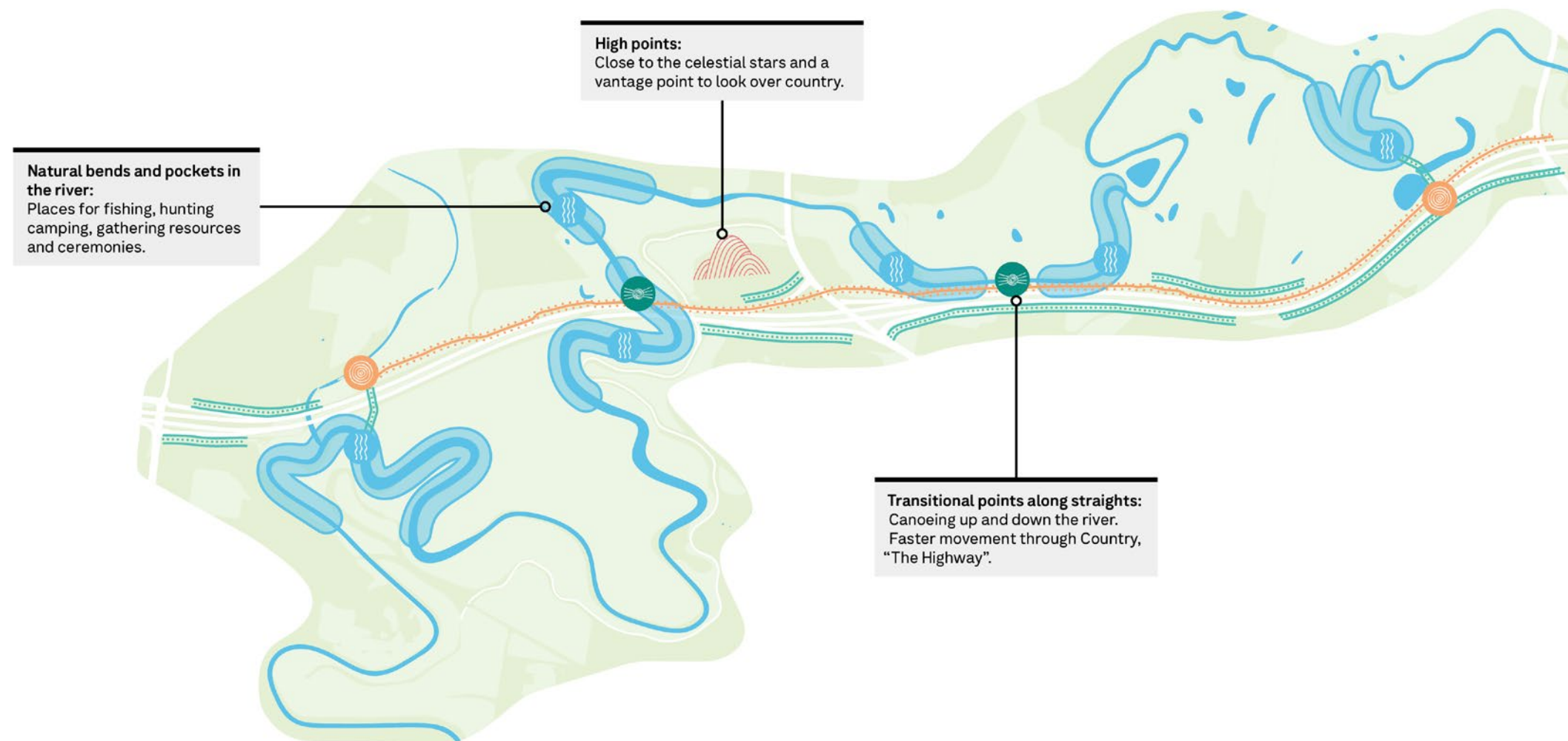


Figure 8: Wurundjeri Woi-wurrung: analysis of Country

3. Site analysis

3.3 Yarra River Valley landscape character area

The UDS identified three landscape character areas within the North East Link Program corridor – Yarra River Valley, Ridgeline and Koonung Creek Valley. This UDLP is wholly located within the Yarra River Valley Landscape Character Area as shown in Figure 9.

The UDS set the following key design requirements for the UDLP in this section of the Yarra River Valley Landscape Character Area:

- To protect and promote cultural values for places of significance including the Yarra River
- To respect the design qualities of the original section of the Eastern Freeway built in 1977 including mast lights and bridges, rock escarpments and ‘borrowed’ landscape
- To create a great bus user experience along the Eastern Freeway
- To be sympathetic to the landscape setting of the Greater Yarra Urban Parklands
- To provide enhanced and more convenient cycling routes to Melbourne’s inner-city areas.

The UDS identified two additional character areas – the Ridgeline Character Area and the Koonung Creek Valley Character Area. While they are not directly applicable, this UDLP has had regard to the UDLPs prepared for those areas to ensure a consistent design response across the whole North East Link Program.

3.4 Journeys

Each transport mode offers a unique relationship to the landscape of varying speed, height, visibility and capacity to pause and observe. These differences inherently result in distinct ways of entering, exiting and experiencing the corridor. These journeys unfold across the corridor, each with their own character and design opportunities. What binds these experiences is their shared landscape and built form setting. Site analysis through the lens of the Wurundjeri Woi-wurrung narratives, developed through the co-design process, further emphasises the importance of the landscape journey, subtle shifts in light, climate and the lifecycles of local flora and fauna that define human encounters with place. Recognising this layered quality of experience during the site analysis phase, by acknowledging the differing ways users engage with the corridor, has been essential to shaping the design response for the Project.

The defining features that can be observed along the freeway by motorists and passengers are the:

- Continuous visual connection to the surrounding green spaces and urban environment surrounding the freeway
- Exposed rock cuttings, reminiscent of natural escarpments, which are cut into the land, rising and falling as motorists move along the corridor
- Modernist bridges that span the freeway between the escarpments
- Momentary views across the waterways and valleys of Birrarung, Merri Creek and Kew Golf Course

- Mature tree canopy and borrowed landscapes that flank the freeway

- Timber noise walls that sit beneath the mature tree canopy along the interface to residential areas.

The defining features that can be observed along the northern side of the freeway by cyclists and pedestrians are the:

- Naturalistic landscape of the Yarra Bend Park, Kew Billabong and Burke Road Billabong and sections of the Main Yarra Trail

- Manicured landscapes of sporting fields, play grounds and public reserves at Fairlea Oval, Chandler Reserve, Willsmere Park and Yarra Flats Reserve
- Interconnecting trails within Yarra Bend Park that provide multiple opportunities to explore the natural landscape
- Interconnecting SUPs with Merri Creek Trail, Darebin Creek Trail, Darebin Creek, Chandler Highway and Koonung Creek Trail that provide connections to nearby suburbs and communities
- Momentary views of the earth or rock escarpments, tree canopy, noise walls and modernist freeway architecture visible from the freeway edge.

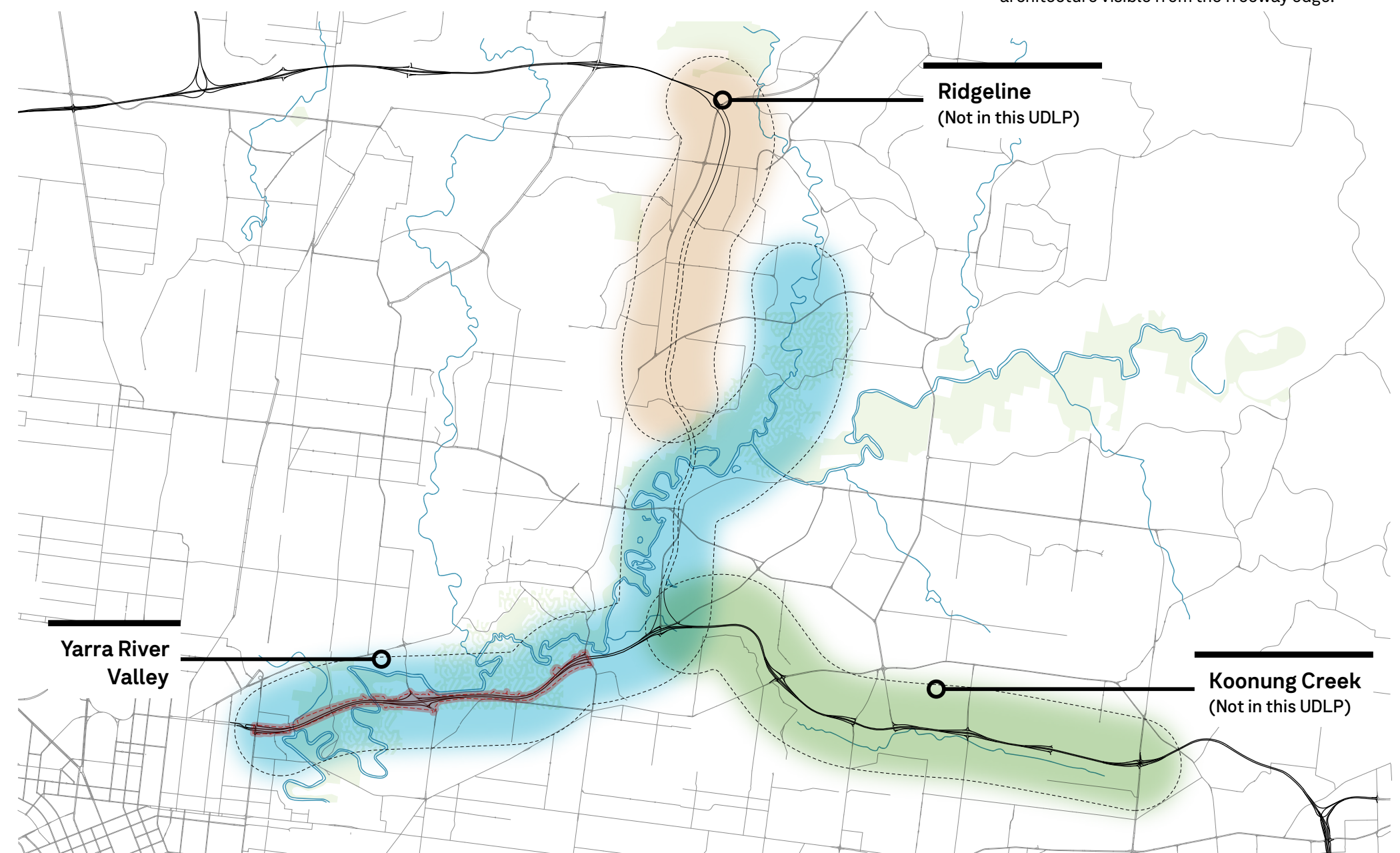


Figure 9: Landscape character areas identified in the UDS

3. Site analysis

3.5 Landscape features

Location and existing conditions

This UDLP includes land within and immediately adjacent to the existing Eastern Freeway between Hoddle Street in Abbotsford and Burke Road in Balwyn North.

Corridor features and local destinations of significance to the community that contribute to the sense of place are identified in Figure 10. This UDLP seeks to make a positive contribution to the prevailing sense of place, respond to the existing conditions, minimise the disturbance of land and to retain access to these local destinations.

Local destinations that are accessible via the local road network, Main Yarra Trail and interconnecting trails are shown in Figure 10. These include:

- Local businesses, community infrastructure and sport facilities
- Historic features
- Public open space, waterways and wetlands.



Figure 10: Local destinations and existing conditions

3. Site analysis



Modernist freeway

The original section of the Eastern Freeway from Hoddle Street to Bulleen Road was constructed in the 1970s. The freeway was the first in Victoria to bring aesthetic and landscape considerations to the forefront of freeway design. Hallmarks of the freeway are its modernist design, high mast lights, elegant concrete bridges that pass above the freeway (e.g. Belford Road bridge), wide embankments, impressive rock escarpments, clutter-free appearance and an attractive naturalistic setting achieved from the borrowed landscape of the mature tree canopy in the surrounding parkland and residential areas. The freeway architecture provides visual interest and defines the built form for motorists and passengers on their journey to and from the city. The bridges also provide architectural features in the landscape when viewed from the trails and along the waterways that pass beneath.

Photographs of the modernist bridges, rock escarpments and high mast lights are shown in Figure 11, while their locations are identified in the map in Figure 12. The example images show:

- 1 The gateway to Melbourne with basalt rock cuttings and tree canopy lining the freeway, wide corridor with a grassed central median, tall mast light and long views to the Melbourne city skyline
- 2 Freeway and pedestrian views of the modernist bridge designs that are repeated along the corridor at Merri Creek, Yarra Bend Road, Yarra Boulevard, Chandler Highway, Belford Road and Burke Road
- 3 The high mast lights that line the central median of the freeway from Hoddle Street to Burke Road
- 4 The rock cuttings through Silurian geology, east of the Birrarung.

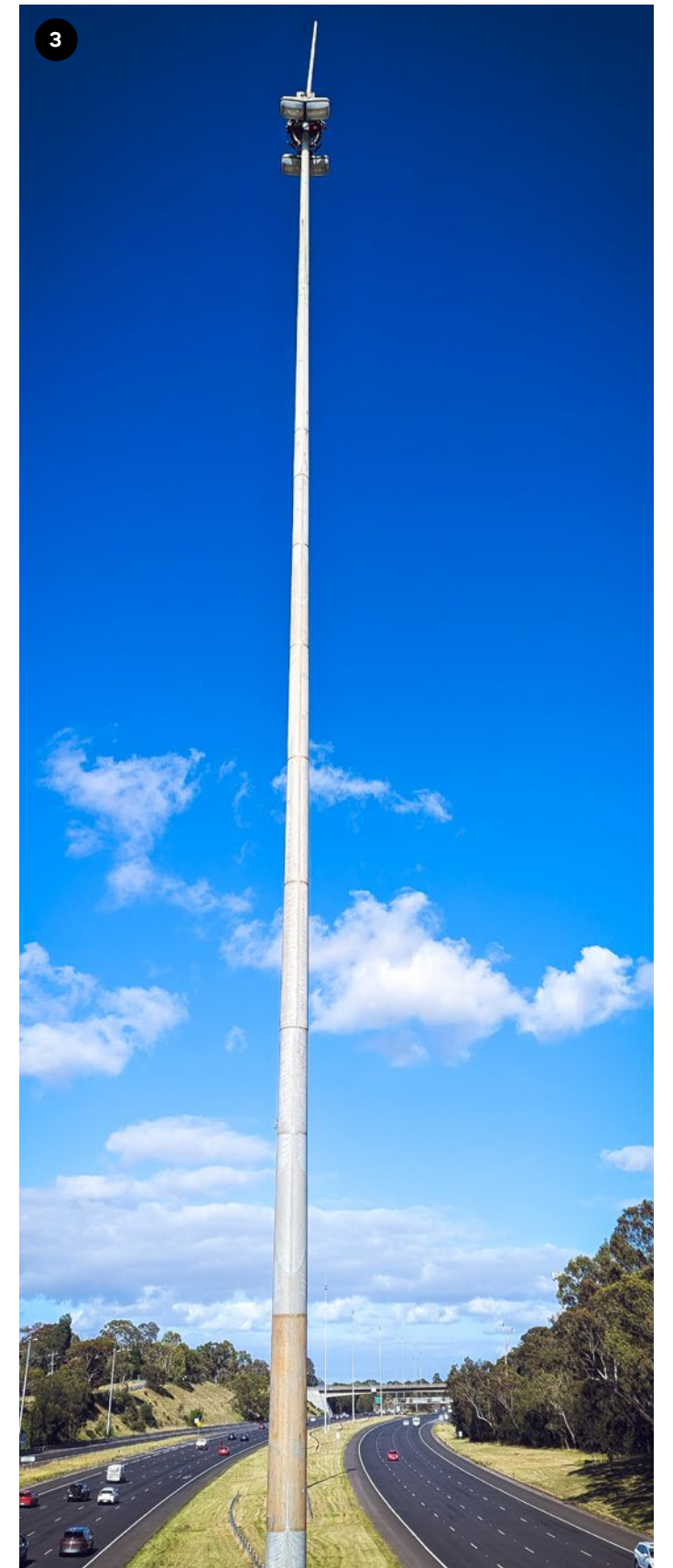
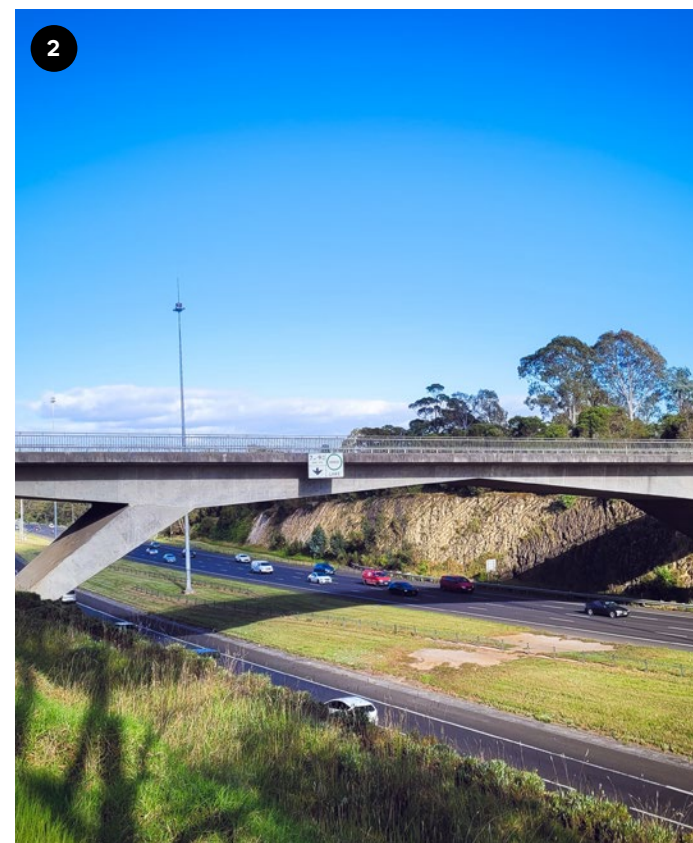


Figure 11: Images of the modernist freeway design

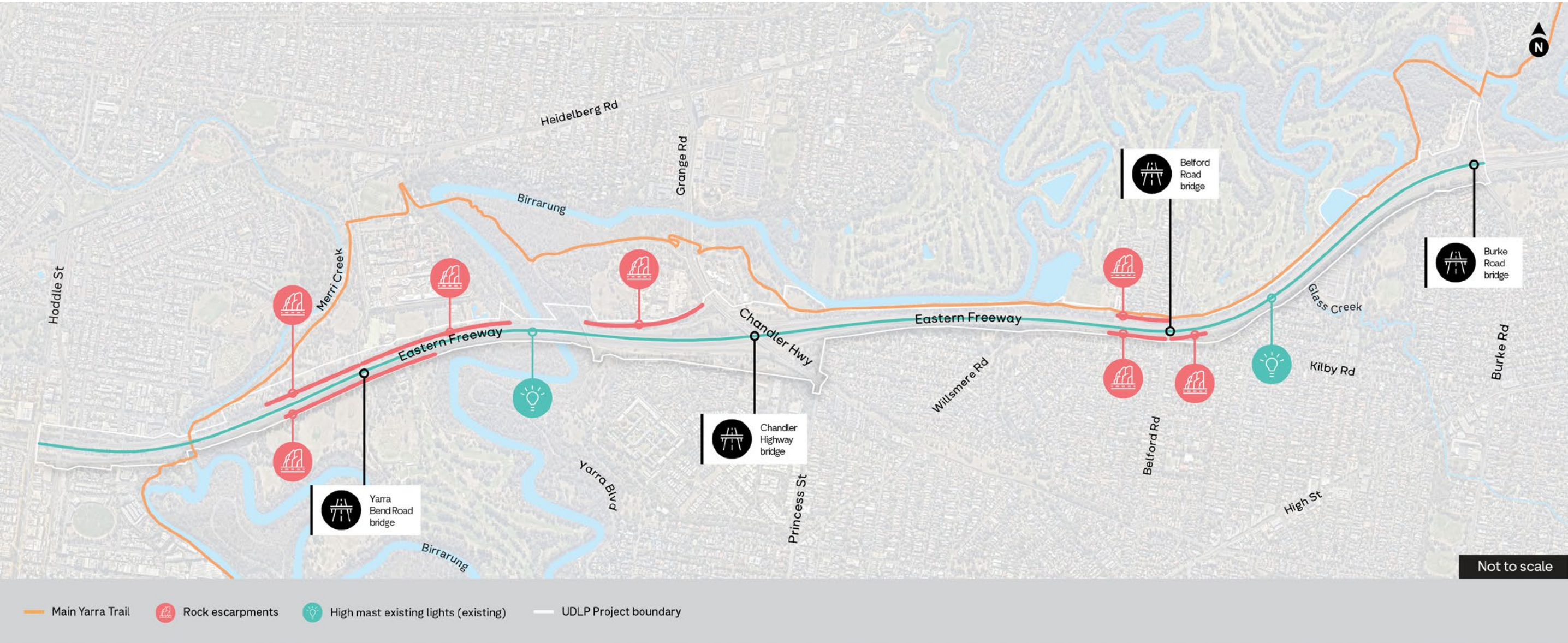


Figure 12: Location of the modernist freeway features

3. Site analysis



Waterways and wetlands

The Birrarung, Melbourne’s largest and most significant waterway, flows through the Project area covered by this UDLP. The Birrarung weaves its way through the landscape and is fed by the tributaries of Merri Creek, Darebin Creek and Glass Creek. These waterways collectively feed local wetlands, including the Burke Road Billabong and Kew Billabong within this UDLP.

The freeway bridges over the Birrarung and Merri Creek in two locations between Hoddle Street and Yarra Boulevard. Glass Creek (near Burke Road) is conveyed under the freeway via a culvert.

A section of the Birrarung runs parallel to the northern edge of the freeway between Chandler Highway and Belford Road, this section of the Birrarung was realigned and straightened in the 1970s. The land adjacent to the waterways is subject to flooding. In the hilly areas to the west of Chandler Highway the flooding is generally contained to the banks of the waterway. Flooding in the open valley to the east inundates the adjoining parkland and overtops sections of the freeway.

The waterways and wetlands are attractive features in the landscape and significant destinations for the community to connect with nature.

Photographs of the waterways and wetlands are identified in Figure 13, while their locations are identified in the map in Figure 14. The example images show:

- 1 The waterway and surrounding natural landscape of the Birrarung
- 2 The waterway and surrounding natural landscape of Merri Creek
- 3 The waterway and surrounding natural landscape of the open section of Glass Creek within Hays Paddock
- 4 The wetlands of Kew Billabong and Burke Road Billabong.

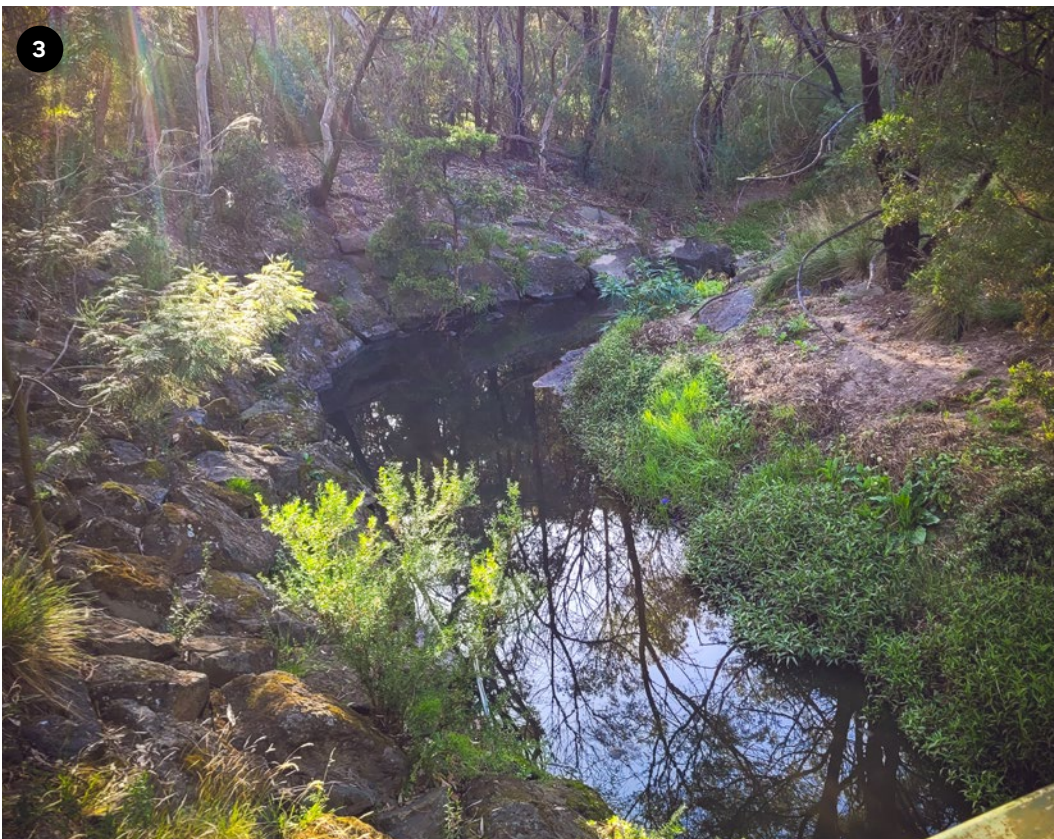


Figure 13: Images of waterways and wetlands

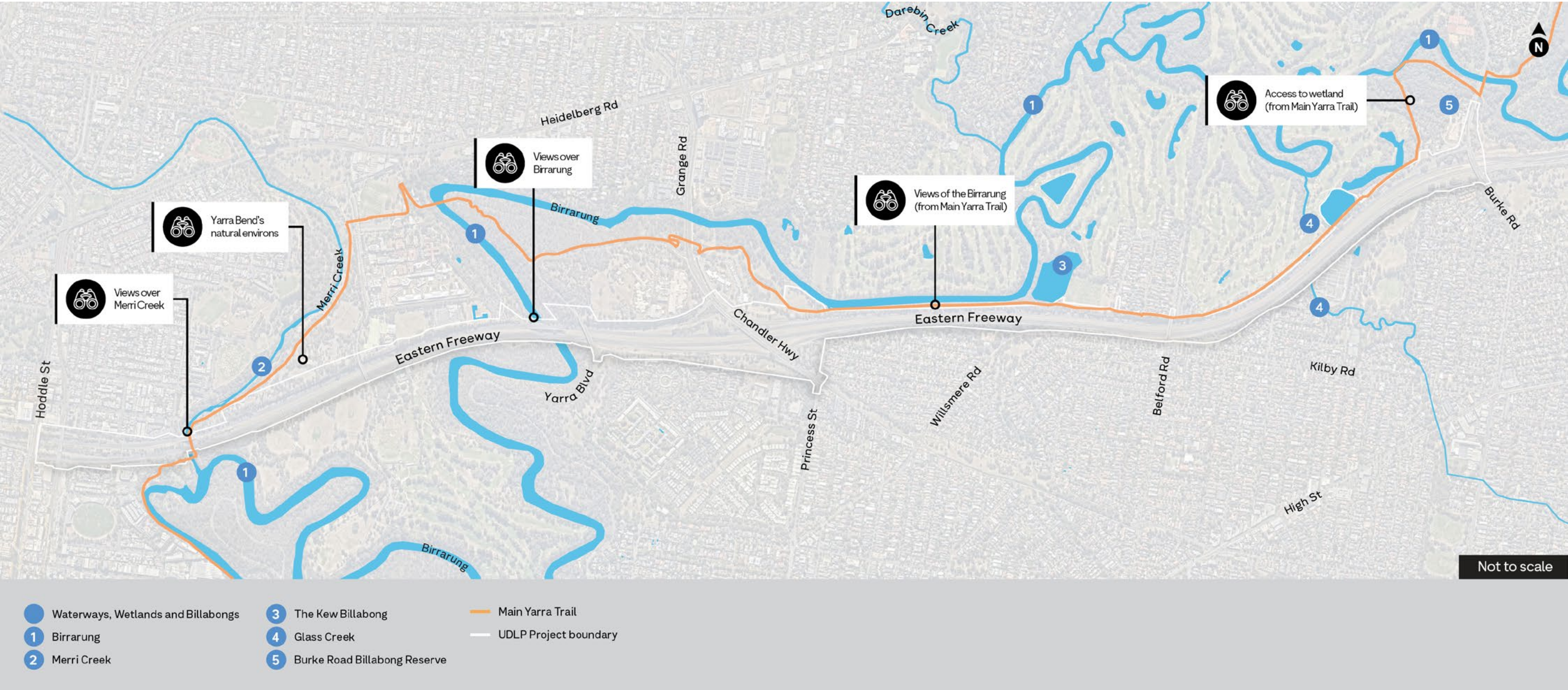


Figure 14: Location of waterways and wetlands

3. Site analysis



Yarra Bend Park and the series of interconnected parks

The parklands along the Birrarung are of high importance to Victorians, local residents and as habitat for fauna. The parklands, collectively declared as the Greater Yarra Urban Parklands, stretch from the Upper Yarra Reservoir in the Yarra Ranges to the mouth of the Birrarung, where it flows into the bay of Port Phillip. The regional open space and series of local parks provide a diversity of experiences for the community.

Yarra Bend Park, located in the west of the UDLP area, forms the largest area of natural woodland within central Melbourne. It provides all Melbournians the opportunity to connect with nature. The parkland features steep river escarpments, open woodlands, playing fields (e.g. Fairlea Reserve, Fairlea West Oval and Fairlea East Oval), golf courses and the historic Studley Park and Fairfield Park Boathouses. The naturalistic landscape of Yarra Bend Park offers filtered views above the canopy, an immersive experience within the wooded parkland and contributes to the mature tree canopy along the freeway edge.

Yarra Bend Park is listed on the Victorian Heritage Register and Inventory, which includes the remaining bluestone gate pillar of the former Yarra Bend Lunatic Asylum (historic gate pillar). The gate pillar is within the Project area near Yarra Bend Road.

Immediately south of the Eastern Freeway west of Yarra Boulevard is nationally significant habitat for the (approximately) 10,000 Grey-headed Flying-foxes. This is a 'No-Go Zone' for the Project and is outside the UDLP boundary.

A series of parks located along the corridor provide places for the local communities to play and stay active, including Fairlea Reserve, Chandler Park (Kew Recreation Reserve), Kate Campbell Reserve, Jack O'Toole Reserve, Hyde Park, Willsmere Park and Hays Paddock. Other areas used for public recreation include the Latrobe Golf Club and Kew Golf Club. The parks, playgrounds, sporting ovals and golf courses are significant local destinations for the community to recreate and play.

Photographs of public parks and private golf courses are identified in Figure 15, while their locations are identified in the map in Figure 16. The example images show:

- 1 The naturalistic landscape of Yarra Bend Park offering filtered views above the canopy, an immersive experience within the wooded parkland and the contributions of the mature tree canopy along the freeway edge
- 2 The manicured reserves, playground and sporting fields of Willsmere Park and other parks including Chandler Park and Kate Campbell Reserve
- 3 The groomed fairways of the Latrobe Golf Club and Kew Golf Club flanked by the naturalistic landscape that lines the Birrarung.

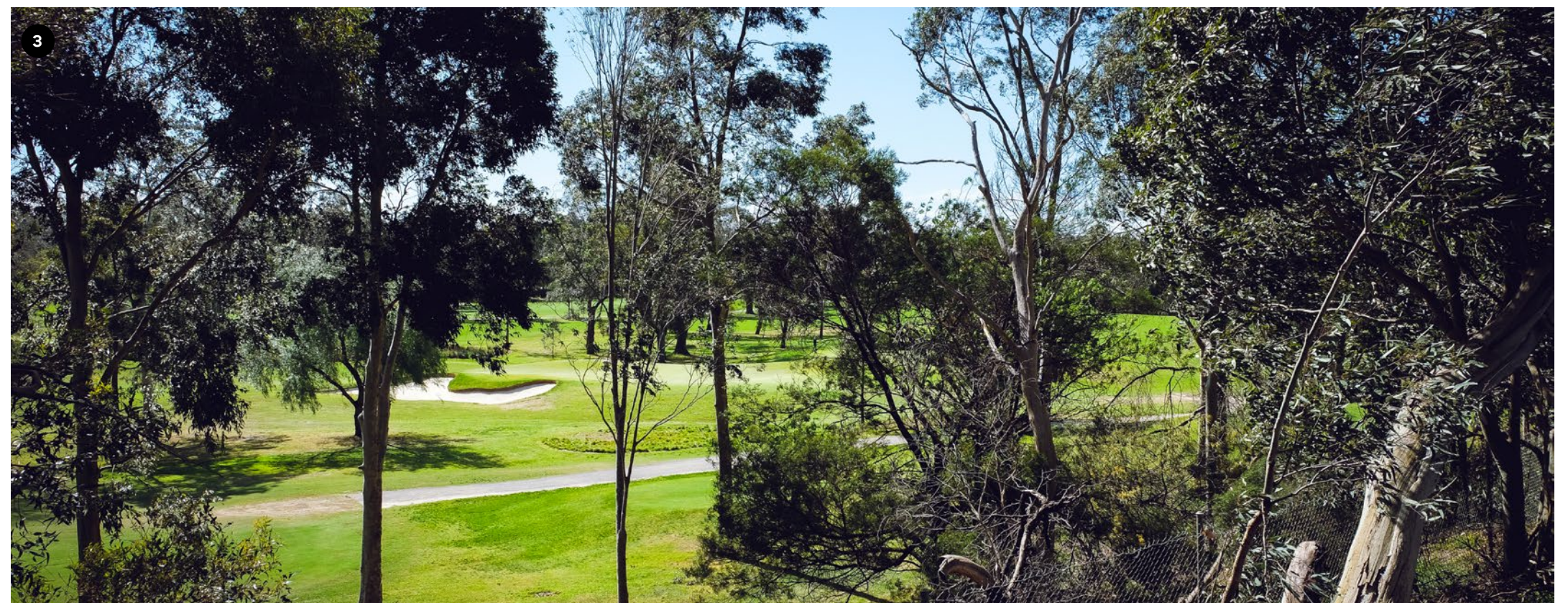


Figure 15: Images of public and private open space



Figure 16: Location of public and private open space

3. Site analysis



Landscape and mature canopy of trees

The naturalistic landscape along the Eastern Freeway provides a serene driver experience and an ‘experiential gateway’ between the city and the outer suburbs of Melbourne. The landscape’s transition between the natural rock cuttings and exposure of earth provides a contrast to the tree canopy. These elements work together to define and punctuate the journey. The naturalistic landscape and continuous mature canopy of trees provide an important interface between the freeway and the adjoining residential communities and public open space. Existing noise walls are located adjacent to the freeway, providing an amenity buffer to the residential areas. The timber-toned noise walls sit beneath the leafy canopy and recede gently into the freeway’s background.

The vegetation and waterways of the landscape provide an important biodiversity and wildlife corridor that supports a diversity of native flora and fauna, with Yarra Bend Park containing one of the few areas of intact Floodplain Riparian Woodland and Grassy Woodland in the Yarra River Valley Landscape Character Area. The vegetation within Yarra Bend Park and local parkland, as well as along the Birrarung and the freeway edge provide a near-unbroken habitat link along the corridor.

Photographs of the naturalistic landscape, mature tree canopy and borrowed landscape are shown in Figure 17. These features contribute to the visual amenity of the Eastern Freeway, public spaces along the SUP and the interface to the community. Their locations are identified in the map in Figure 18. The example images show:

- 1 The mature canopy trees flanking the freeway, high on the rock cutting grassed batters
- 2 Vegetation along the interface to residential areas that screens noise walls and provides green views for motorists, cyclists, pedestrians and the community
- 3 Vegetation along the Birrarung that provides passing tree-top views for motorists and views for pedestrians and cyclists across the river where there are opportunities to pause and experience the landscape.

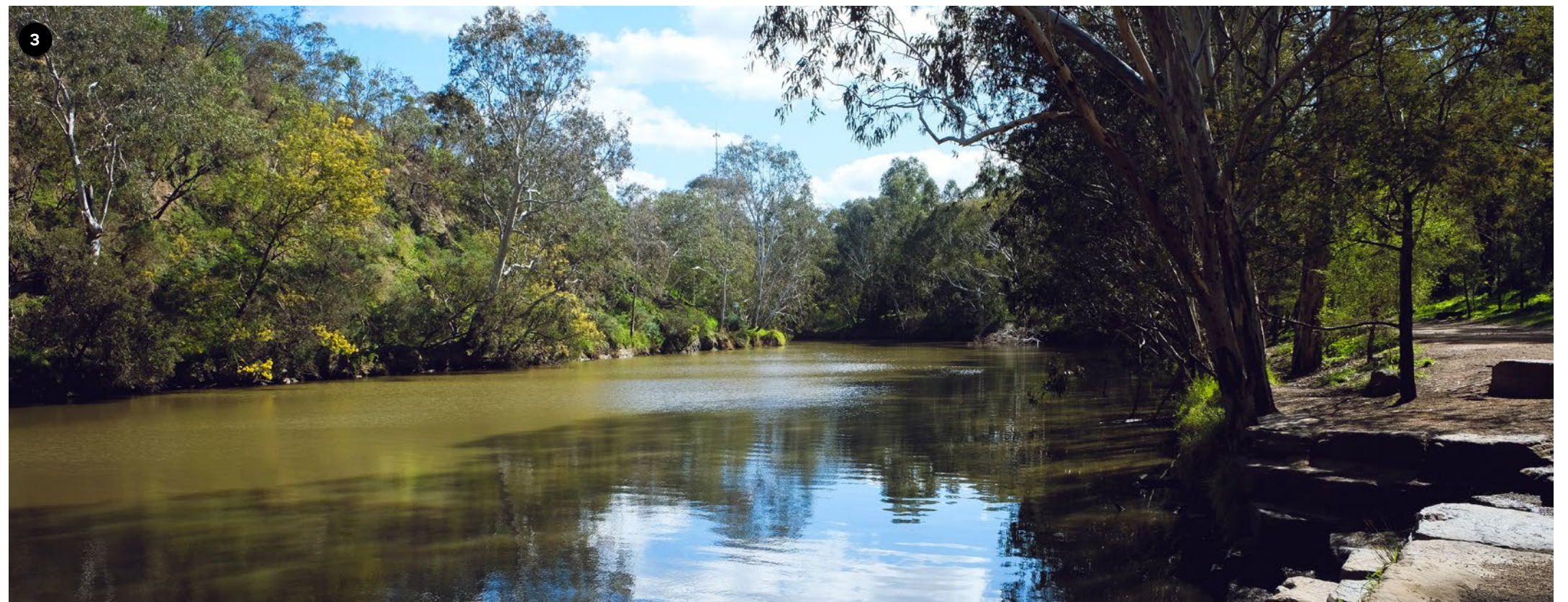


Figure 17: Images of mature tree canopy and borrowed landscapes along the Eastern Freeway

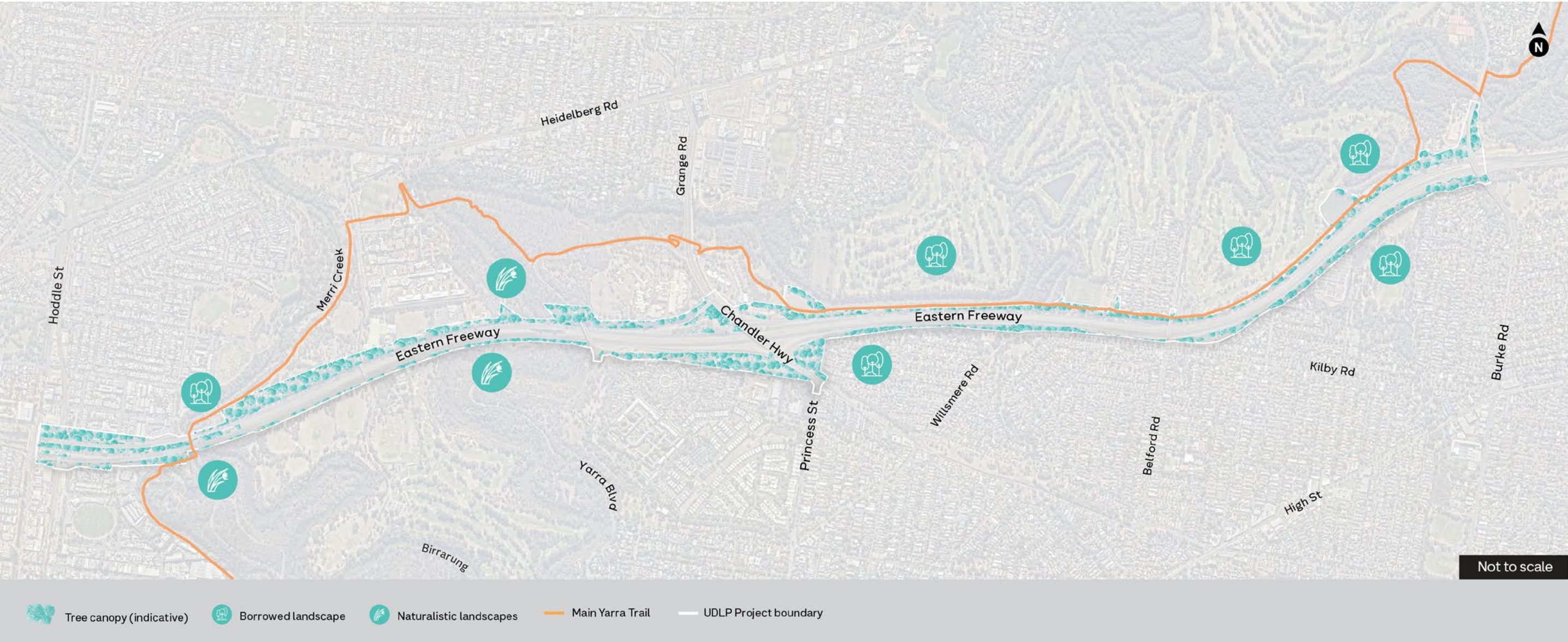


Figure 18: Location of mature tree canopy and borrowed landscapes

3. Site analysis



Main Yarra Trail and interconnecting trails

The existing Main Yarra Trail is a 33km SUP that follows the meandering Birrarung from Southbank in the City of Melbourne to Westerfolds Park in Templestowe. Construction of the trail began in the 1970s, with multiple additions and improvements added since.

Within the area of this UDLP, the Main Yarra Trail provides a continuous link from Merri Creek to Burke Road. It generally follows the path of the Birrarung to connect day visitors to local sites and destinations, such as the Fairfield Park Boathouse and the Wurundjeri Spur Lookout. The Main Yarra Trail links to a network of major trails (Merri Creek Trail, Darebin Creek Trail and Koonung Creek Trail) with connections to nearby suburbs, including under the freeway at the Willsmere underpass. It also links to a network of minor trails (River Circuit Trail and other unnamed trails and tracks) that provide access to destinations within Yarra Bend Park.

The condition of the trails varies significantly from minor trails and maintenance tracks in Yarra Bend Park to well-formed concrete paths. They include narrow and steep sections, pinch-points that slow speeds and create conflict between users, as well as paths with sufficient space for all users. The Main Yarra Trail follows the Eastern Freeway in sections but diverts away at Yarra Bend Park, Chandler Highway and Burke Road. This indirect route and the condition of the Main Yarra Trail is not conducive for cyclists seeking a direct off-road route connecting homes in the suburbs to jobs in the city.

Photographs of the Main Yarra Trail and major interconnecting trails are shown in Figure 19. Their routes are identified in the map in Figure 20. The example images show:

- 1 The minor dirt and gravel tracks within Yarra Bend Park that run parallel to the Eastern Freeway
- 2 The well-formed section of the Main Yarra Trail between Chandler Highway and Belford Road, with the recreation reserve and naturalistic vegetation that nestles the path between Eastern Freeway and the Birrarung
- 3 Willsmere underpass that provides a mid-block connection under the freeway between Chandler Highway and Belford Road, connecting the Main Yarra Trail and the Darebin Creek Trail to the Anniversary Outer Circle Trail
- 4 The short section of the Main Yarra Trail on top of the cutting, between noise walls and houses in the vicinity of Belford Road
- 5 The narrow section of the Main Yarra Trail south of Kew Golf Course, between Belford Road and Burke Road.

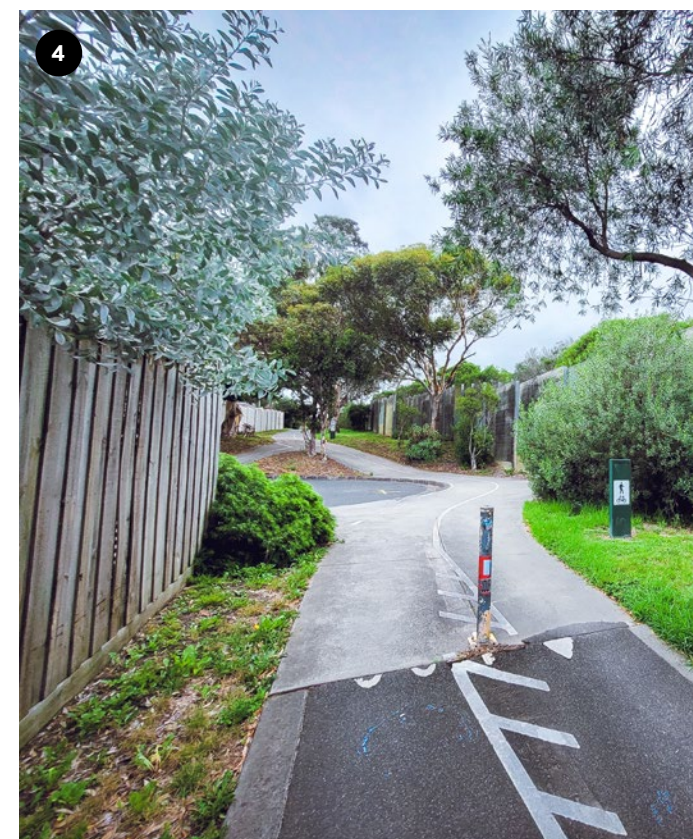
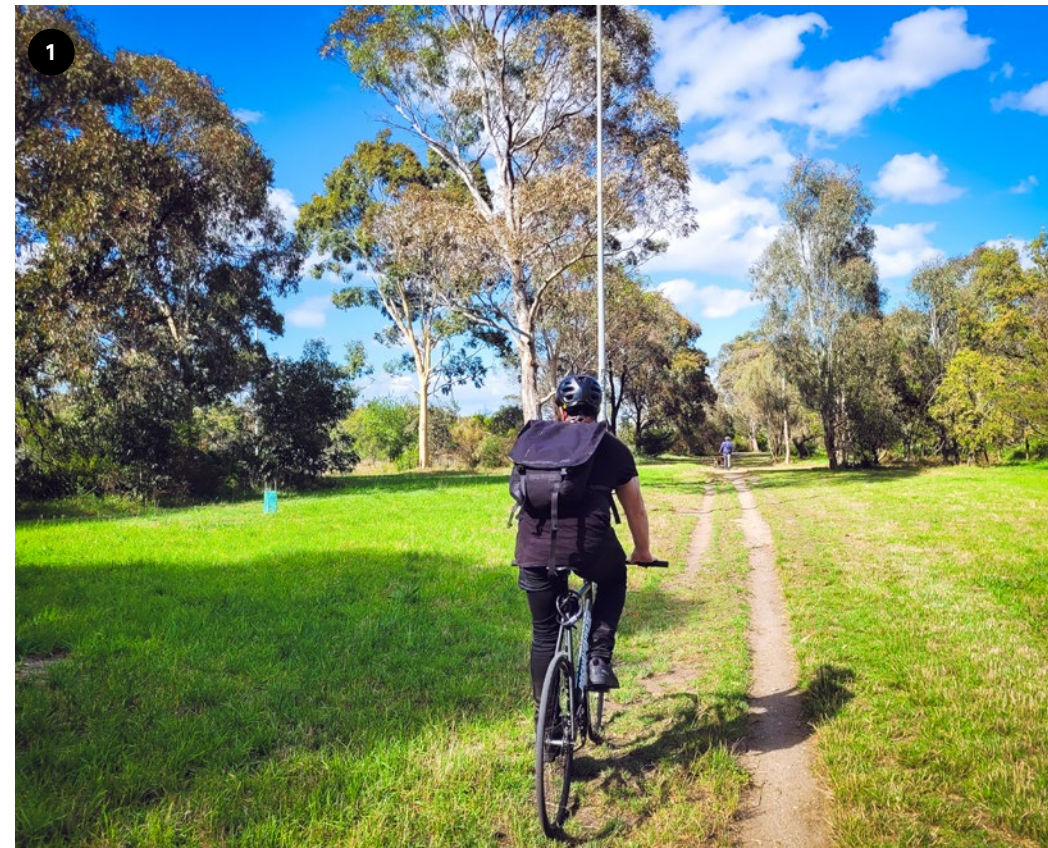


Figure 19: Images of the Main Yarra Trail and interconnecting trails

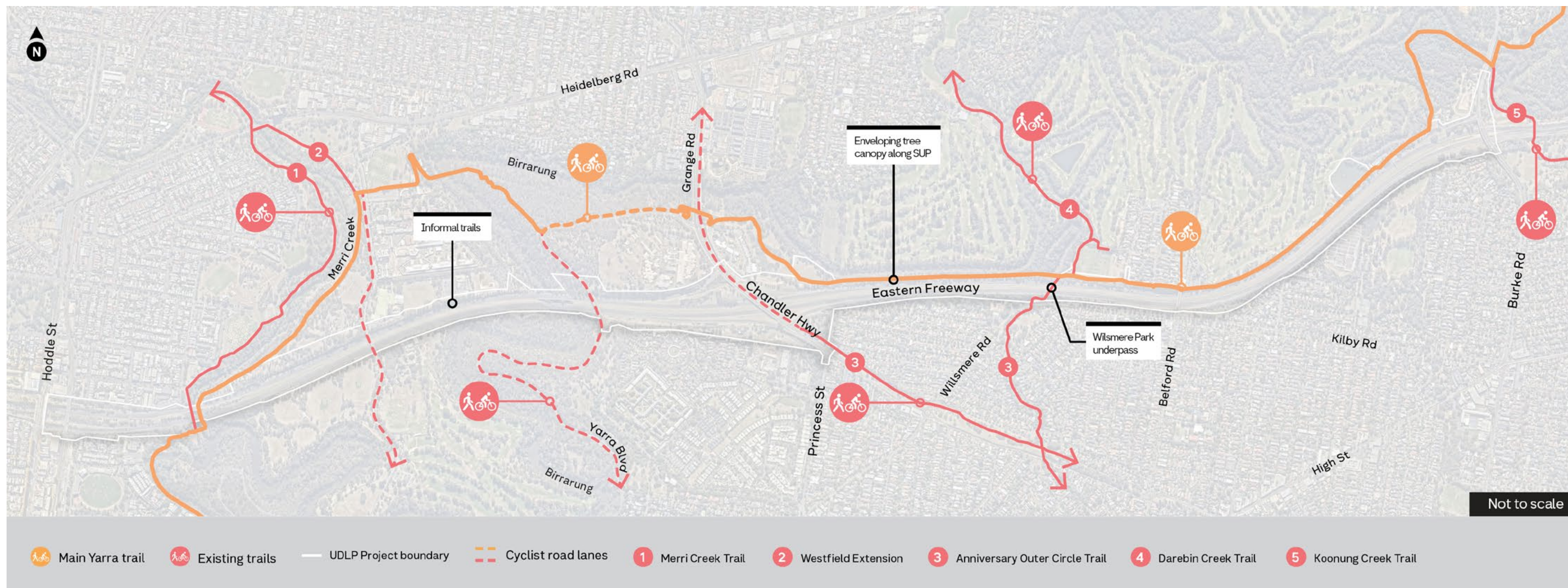


Figure 20: Main Yarra Trail and interconnecting trails

3. Site analysis

3.6 Observations and design parameters

The site analysis phase and co-design process has revealed several key understandings that have shaped the design approach. A strong emphasis is placed on responding to what already exists in both the built and natural environment across the corridor. The major observations and values that have influenced the design and the key parameters they provide are:



Embedding Wurundjeri Woi-wurrung knowledge and values

Key observations and values are:

- Wurundjeri Woi-wurrung knowledge and values guide the co-design process
- Connection to Country, Caring for Country and Connecting People underpin design
- Waterways are ecologically and culturally significant
- Visual connection to water, land and sky is a priority.

Key design parameters are:

- Celebrate connection to the Birrarung
- Minimise impacts to water, land and sky
- Translate Wurundjeri Woi-wurrung themes of Country into the design elements
- Form a connection between the design and Country
- Create a planting palette from indigenous plants that reflects the changing seasons
- Care for Country by improving habitat and reusing rocks and logs as features
- Provide pause points along the SUP journey to momentarily enjoy the landscape, with opportunities to subtly convey Wurundjeri Woi-wurrung culture and stories.



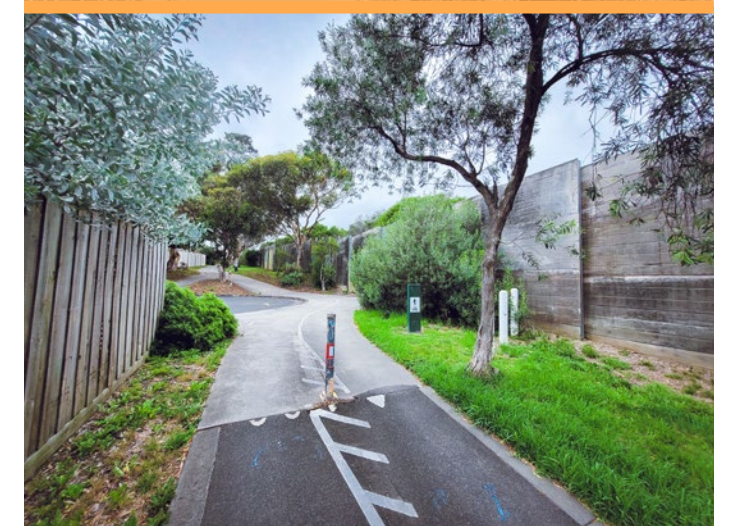
Celebrating the existing character

Key observations and values are:

- Existing modernist architecture is a cue for design restraint and form
- Existing vegetation defines the journey and is ecologically and culturally significant.

Key design parameters are:

- Adoption of a design that favours simplicity, clarity and minimal intervention
- Avoid and minimise the removal of vegetation
- Enhance the tree canopy and understorey along the freeway edge and interface
- Consistently use materials, colours and textures to provide continuity and contextual integration of the landscapes and architectural features
- Frame views to celebrate the landscape character, architecture and Connection to Country.



Creating a layered corridor experience

Key observations and values are:

- Different modes of travel result in varying perspectives and experiences
- Network gaps limit cyclist and pedestrian access to open space and active lifestyles
- Traffic bottlenecks at interchanges creates conflicts and slows movement.

Key design parameters are:

- Enhance the amenity of the corridor for transport users and the community
- Engage the viewing vantage points and speeds of motorists, cyclists and pedestrians
- Create a direct SUP route with connections to existing trails
- Unlock interchanges by removing bottlenecks and conflicts between transport modes
- Provide a safe user experience.

4. Project description and design response

4. Project description and design response

4.1 Scope of works

This UDLP outlines the design for the upgrade of the Eastern Freeway between Hoddle Street, Abbotsford and Burke Road, Balwyn North as part of the North East Link Program. The scope includes all permanent above-ground structures, works, urban design, landscape and other treatments required as part of the design response. Figure 21 shows the location of the key scope of work items delivered through this UDLP.

The scope of works is listed as follows:



Roads. Artist's impression - indicative only

Roads

Upgrade the Eastern Freeway within the existing road reserve as follows:

- Add one busway lane in each direction for the Eastern Busway
- Add one freeway lane in each direction from Chandler Highway to Burke Road
- Add one additional lane on the Hoddle Street entry ramp (eastbound)
- Add two lanes on the Chandler Highway entry ramp (eastbound)
- Lengthen four queueing lanes on the Chandler Highway exit ramp (westbound).

The Eastern Busway will provide a new dedicated busway in each direction from Burke Road to east of Merri Creek. The busway will be located on the northern side of the freeway east of Chandler Highway and will have separate eastbound and westbound lanes on either side of the freeway to the west of Chandler Highway. It will also include a dedicated entry ramp at Chandler Highway for local bus routes servicing Alphington, Fairfield, Kew and Balwyn. Buses will also be able to exit the busway at Chandler Highway using the eastbound freeway exit ramp.



Bridges. Artist's impression - indicative only

Bridges

Construct four new bridges as follows:

- A new cycling and pedestrian bridge over the Birrarung in Kew
- A new busway bridge (1 lane) over the Eastern Freeway at Chandler Highway, Kew
- A rebuilt eastbound exit ramp (3 lanes) at Chandler Highway, Kew
- A rebuilt eastbound exit ramp (2 lanes) at Burke Road, Kew East.

The new ramps and bridges at Chandler Highway will enable motorists, buses, cyclists and pedestrians to move through the interchange without impeding traffic flow.



Noise walls, retaining walls and safety fences. Artist's impression - indicative only

Noise walls, retaining walls and safety fences

Upgrade existing and construct new noise walls and retaining walls as follows:

- Construct new Rotationally Moulded Plastic (RMP) noise walls in the vicinity of both Chandler Highway Interchange and Belford Road bridge
- Construct a new noise wall in the vicinity of Alexandra Parade East
- Retain existing noise walls where they are in good condition, replace individual noise wall panels and re-paint noise walls (covering over graffiti)
- Construct and replace retaining walls adjacent to the freeway
- Install a new public safety barrier on the Belford Road bridge
- Install new road safety barriers separating adjoining carriageways, shielding hazards and protecting roadsides, including new pier protection barriers.

The existing and new noise walls will reduce freeway noise at adjacent residential properties in line with the North East Link EPRs. To improve visual amenity on both sides of the wall, new double sided RMP panels will be used for noise walls where they are not screened by existing or proposed vegetation.

4. Project description and design response



Walking and cycling paths. Artist's impression – indicative only

Walking and cycling paths

Undertake the following works:

- Construct a new section of SUP from east of Merri Creek to Chandler Park, connecting with the Main Yarra Trail at both ends
- Construct a new section of SUP from Willsmere Park to east of Belford Road, connecting with the Main Yarra Trail at both ends
- Upgrade the existing Main Yarra Trail from east of Belford Road to the Kew Golf Club dam and thereafter construct a new section of SUP from Kew Golf Club dam to Yarra Flats Reserve, connecting with the Main Yarra Trail on the western side of Burke Road and connecting with the SUP to be delivered as part of the Burke to Tram Road UDLP
- Construct a new section of the River Circuit Trail from Fairlea East Oval to east of the Red Tag Casting Pool, connecting with the SUP at both ends
- Construct a raised crossing where the SUP intersects with Yarra Bend Road
- Construct a pathway that links the SUP to Chandler Highway.



Waterways and open space. Artist's impression – indicative only

Waterways and open space

- Plant trees, shrubs and groundcover throughout the corridor as part of the landscape treatments
- The planting palette will complement the existing native and non-native vegetation, provide shade and enhance the habitat that supports indigenous plants and animals
- Pocket planting of trees will be used to screen new and retained noise walls
- Landscaping along the SUP will contribute to its amenity and integration into the existing character
- Landscaping at the SUP bridge will complement the design of the structure when viewed from the waterway and path below
- Construct a new bioretention system within Jack O'Toole Reserve to treat stormwater runoff from the adjacent roadways. Construction of the bioretention basin is subject to ultimate asset owner agreement.



Other road infrastructure. Artist's impression – indicative only

Other road infrastructure

- Construct and replace miscellaneous structures and overhead gantry structures
- Install new Intelligent Transport System (ITS), including a new trunk line from Hoddle Street to Burke Road, Lane Use Management Signs, Variable Message Signs, Freeway Ramp Metering Systems and other communications and electrical infrastructure to manage freeway traffic
- Protect and relocate utilities, along with new street lighting, signs and line marking and traffic signal modifications.

The implementation of this UDLP will be on land that is within the existing freeway reserve and abutting public land. Implementation of this UDLP avoids the acquisition of private land.

This UDLP does not apply to the construction compounds, other temporary structures and below ground structures. The design, treatment and management of these works are considered separately through the Construction Compound Plans (to be approved separately). The Construction Compound Plans have been prepared in accordance with Clause 4.12 of the Incorporated Document and the EPRs for the Project.

Figure 21 shows the location of the key scope of work items delivered through this UDLP.

4. Project description and design response

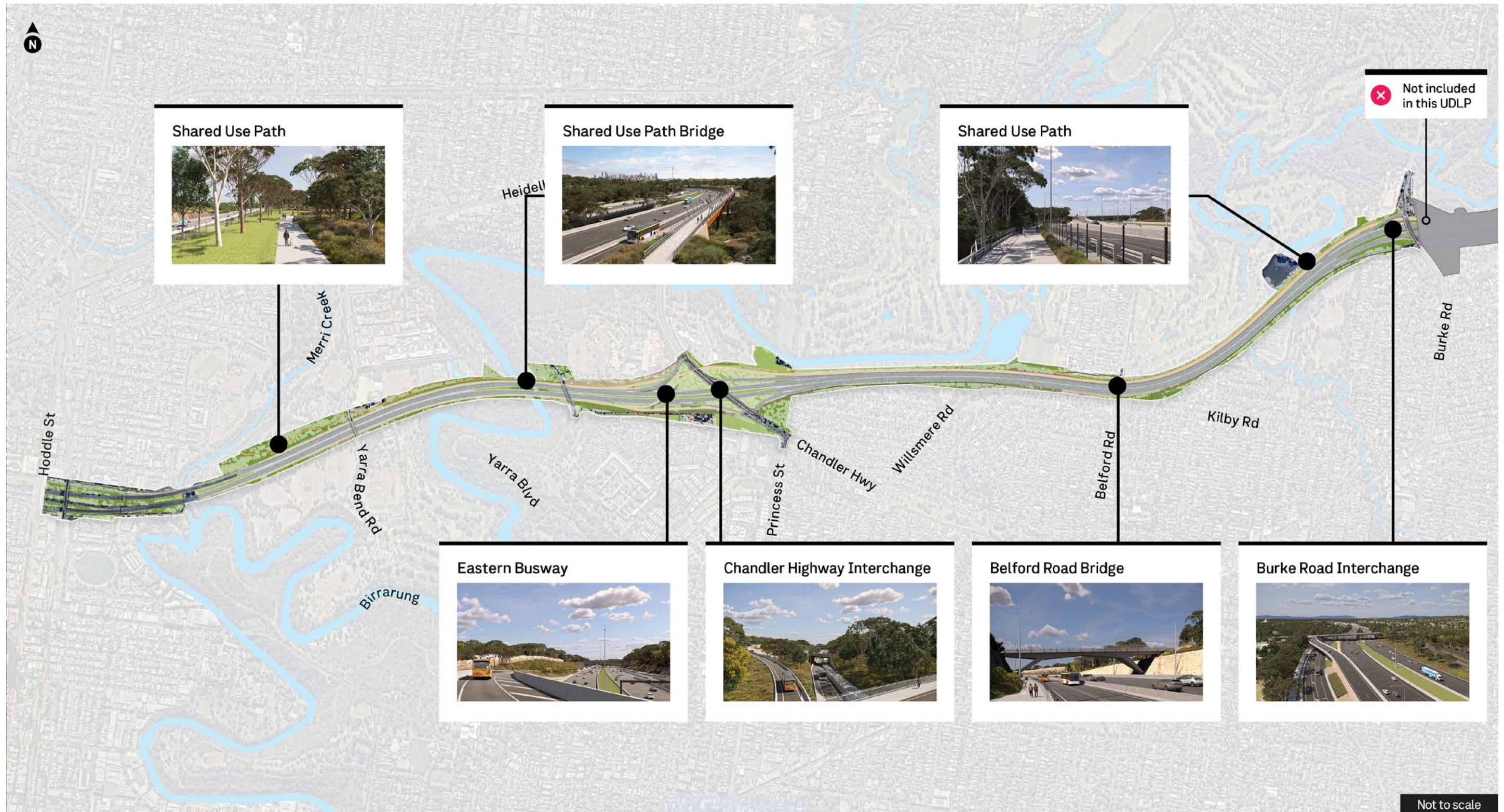


Figure 21: Key UDLP scope of works items

4. Project description and design response

4.2 Design approach

The design approach and response presented in this UDLP builds on the significant work already undertaken by the North East Link Program in partnership with key stakeholders, in establishing the overall urban design vision and framework for the North East Link Program. This includes the EES Reference Design, Wurundjeri themes, the UDS and the three core pillars.

The design approach comprises three key parts – the framework, the design drivers and the design response:

- The framework describes the overarching narrative and principles that will be represented in the built form and landscape outcomes of this UDLP, sets key Project directions and defines the scope of works between Hoddle Street and Burke Road.
- The design drivers, which are informed by the consolidated analysis in Section 3 and the ongoing co-design process, guides the collaborative and locally grounded urban design response.
- The design response guides the consideration of materials, landscape and urban design intent, ensuring that every design decision is grounded in a deep understanding of place. The design response creates a layered and meaningful experience along the corridor, from the perspective of all users.

The interrelationship of these is shown in Figure 22.

4.2.1 Framework

The framework comprises the following design elements that predated the commencement of this UDLP:

EES Reference Design

The EES Reference Design was assessed in 2019. It was reviewed by the Project team with the intent to elevate it from a traffic-based engineering solution to one equally focused on achieving improved environmental, social and landscape outcomes. This included detailed assessment and analysis of the freeway, adjoining spaces, form and materials, flood regime, traffic noise, vegetation and previously approved UDLPs. Design changes to the EES Reference Design are described in Section 4.4.

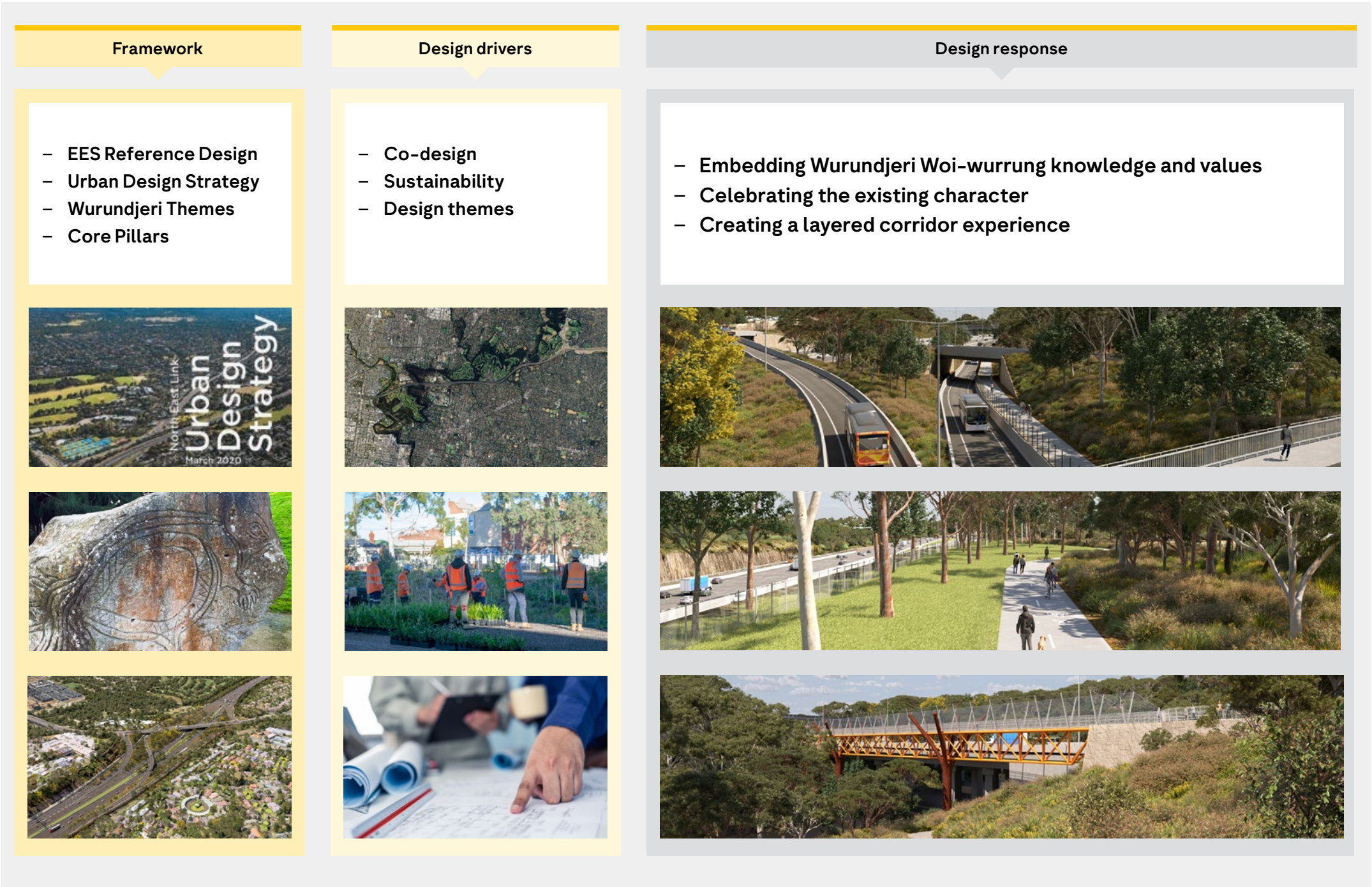


Figure 22: Design process for this UDLP

4. Project description and design response

Wurundjeri Themes

Wurundjeri Woi-wurrung traditional knowledge, values and culture have been embedded in the design of the North East Link Program prior to the commencement of this UDLP and continues to shape the approach and design response for this Project. The design response for this UDLP is consistent within the cultural themes previously developed by the Wurundjeri Woi-wurrung and the North East Link Program. In collaboration with WWCHAC through the co-design process, opportunities for further interpretation and design development to reflect and celebrate Wurundjeri Woi-wurrung culture through the Project were explored.

Urban Design Strategy

The UDS outlines the principles, objectives and design directions for the entire North East Link Program and includes a comprehensive suite of place-based requirements and design benchmarks. The baseline parameters described in the UDS have guided the design response for this UDLP. The principles and objectives are embodied in the design response and an assessment against these is provided in Section 5.

Three pillars

Complementing the UDS and the Wurundjeri themes are the three core 'pillars' – Connection to Country, Caring for Country and Connecting People (Figure 23). The three pillars express at a high level the Wurundjeri Woi-wurrung aspirations for the design process and inform the overarching vision and design intent across the North East Link Program as a whole. The design responds to the pillars to identify place-specific design responses.



Connection to Country

We are all part of Country, and each place has a story – an ancient story and one that will emerge. For best-practice urban design, the stories of the past, present and future should be woven together.



Caring for Country

Caring for Country is true stewardship of place. It is the reciprocal relationship we have with our environment. If we maintain it, re-mediate it and respect it and it sustains us. We only take what we need, allowing for replenishment and ongoing enjoyment of the land.



Connecting People

North East Link connects people. It connects people to economic opportunity, relieving the congestion burden of north eastern Melbourne and making it faster and easier to travel for work, business, education, and leisure. It also offers opportunities to bring people together.

Figure 23: The three pillars

4. Project description and design response

4.2.2 Design drivers

The design drivers comprise:

- The co-design process undertaken prior to and as part of the preparation of this UDLP
- The sustainability objectives and targets for the North East Link Program that underpin the design response
- The design themes, which are derived from the site analysis that guide the UDLP design response.

Co-design

The co-design process overlaps with the preparation, exhibition and approval of this UDLP. The approach was to first develop a narrative rooted in Wurundjeri Woi-wurrung stories and living memory of Country, particularly the relationship between the physical land and the spiritual world and to then embed that narrative within the design. This ensures Caring for Country is understood as both a process and an outcome, not solely tied to a physical design element.

The Wurundjeri Woi-wurrung’s relationship to land and water is reflected in the Yarra River Protection (Wilip-gin Birrarung murrn) Act 2017 (Vic) (Yarra River Protection Act). The Act protects the Birrarung and surrounding public land as a living and integrated natural entity. Through the Act, the Wurundjeri Woi-wurrung people are empowered to care and co-manage public land and water and to create places for the community. The elders of the Wurundjeri Woi-wurrung have expressed their vision for this UDLP – to express a narrative about all of us – our shared story and journey through these spaces over time.

The co-design process with WWCHAC prioritised relationship-building as the foundation for culturally respectful collaboration between the Project team, client group and Traditional Custodians. Grounded in cultural protocols and a shared understanding of cultural values, the process built on prior engagement and the Wurundjeri Woi-wurrung themes.

The WWCHAC contributed their knowledge to inform this UDLP and the co-design process ensures a culturally sensitive and authentic design approach. It enabled the Project to identify and respond to specific opportunities to respectfully embed Wurundjeri Woi-wurrung themes and priorities into the urban design and landscape.

The knowledge and insights shared through this process guided the Project’s architectural, urban design and landscape responses, offering opportunities to embrace, preserve and protect shared stories. The fundamental design approach has been to tread lightly, both physically and visually. The approach also sought to enhance Country, support healing of Country, contribute positively to existing ecologies and subtly embed design and landscape responses that respectfully reflect Wurundjeri Woi-wurrung culture.

The co-design process began with a workshop focused on listening deeply to understand Wurundjeri Woi-wurrung priorities, perspectives and appetite for involvement. With WWCHAC’s endorsement, early mapping of Country and cultural insights was then explored by drawing on a Victorian Indigenous worldview of the cultural and environmental layers of the site. Together with the three pillars, the mapping informed a draft narrative for the UDLP – Reading Country through the Eyes of Waa – and the identification of potential sites for narrative expression. A Walk on Country with Wurundjeri Woi-wurrung Elders was undertaken to review the site and to discuss the design concepts in situ. This allowed for the holistic reflection of the narrative and design response, grounding decisions in direct experience of Country and shared understanding. Additional cultural expressions may emerge through the ongoing co-design process, the timeframes of which may extend beyond the preparation and approval of this UDLP.

Rather than shaping every detail, the co-design process informed areas where there is an opportunity to hear and connect with Country. Concepts from the co-design process will be grouped into three categories – Base Delivery, Base Delivery with Customisation and Commissioned Works. Each will be guided by the Traditional Custodians and final selection will be subject to WWCHAC feedback to ensure cultural appropriateness and relevance. The scale of these elements will vary and will be conceptualisations of the narrative – reading Country through the eyes of Waa.

Narrative – reading Country through the eyes of Waa

The design narrative for this UDLP is the cultural perspective of Waa, the Crow, one of the two moiety ancestors in Wurundjeri Woi-wurrung cosmology. This UDLP has sought to understand the underlying characteristics of Country that may have influenced patterns of use. Waa the Crow and Bunjil the Wedge-tailed Eagle and creator spirit are both significant figures for Victorian Aboriginal communities. . According to Wurundjeri Woi-wurrung tradition, Waa and Bunjil were men before they became spirits. Where Bunjil (while a man) created land, waterways and its people, Waa was his helper who held responsibility as protector of Wurundjeri Woi-wurrung people. A sub-narrative for the design phase of UDLP is – Country holds memory, Living memory.

At the heart of this narrative is the concept of Reading Country. This is a practice that invites us to understand the land through its physical, environmental and ecological qualities. This involves observation and interpretation of the visible and tangible features of the landscape, its topography, water systems, plant communities, soil types and the rhythms of seasonal change. However, this is only one layer of understanding.

The perspective of Waa brings a parallel and deeply significant human dimension to this reading. It recognises the cultural, spiritual and lived experiences that became embedded in Country over the countless generations of the Wurundjeri Woi-wurrung people. Of relevance to this Project as a sub-narrative of the design phase, is the Wurundjeri people’s long-standing use of the Birrarung and its surrounding lands as a vital food source and travel route. This sub-narrative reflects the care of land, cultural practices and seasonal movement across Country.

By weaving these two perspectives together – the ecological and the cultural – a richer and more nuanced way of understanding place is created. The experience of moving through landscape is not just a passive observation of surroundings, but a layered interaction: a person walking on Country is simultaneously receiving sensory cues from the environment and drawing from their own inner store of cultural memory, personal knowledge and emotional response.

Subject to ongoing WWCHAC co-design process, it is anticipated that a series of agreed-upon sites (‘Co-design locations’) that will be carefully chosen for their inherent qualities will host a range of design intervention responses, informed by the perspective of Waa, which will aim to embody a subtle experience that prompts reflection and awareness. These interventions are not envisioned to be didactic statements but invitations to notice, to feel and to consider the cultural and spiritual meanings carried by the land. The goal is to foster a deeper appreciation of the Wurundjeri Woi-wurrung people’s connection to this Country, not only as a historical relationship but as a continuing and living one.

Visitors along the SUP will be encouraged to contemplate how this place was and continues to be used for ceremony, storytelling, making, harvesting, movement, celebration and mourning, as well as how these activities are intrinsically linked to the physical characteristics of the site. As well as how they may have, and continue to, interact with these places.

The type of design outcomes being explored through the co-design process are shown in Figure 24, which represent ways of connecting with Cultural understandings and practices on Country using iconography and markings. The indicative Co-design locations are shown in Attachment 2: Landscape Design.

Potential design outcomes of the manifestations will be experienced through a multi-layered approach, which may include:

- A range of physical, sensory elements
- Plantings and healing landscape interventions
- Heightened experiences of seasonality – changes of seasons – and time – changes across a day and across the night.

4. Project description and design response



Figure 24: Landscape features and themes to be explored at Co-design locations, including iconography and markings to connect with cultural understandings and practices on Country

4. Project description and design response

Sustainability

The North East Link Program has established a set of sustainability objectives and targets which represent commitments and performance expectations for the Project. These objectives and targets have been developed around six key sustainability themes: leadership, resource efficiency, urban ecosystems, communities, economic opportunities and climate change. Opportunities and examples of how the design response supports the themes is provided below.

The sustainability requirements, objectives and targets are discussed further in the assessment of the EPRs in Section 6.

Leadership	Resource efficiency	Urban ecosystems	Communities	Economic opportunities	Climate change
The North East Link seeks to be leaders in sustainability through collaboration, knowledge sharing, innovation, and transparent public reporting against the objectives and targets. This UDLP achieves excellent environmental, social and economic outcomes by implementing sustainable design principles. Examples include: - Development of the SUP, which will support healthy lifestyles - Enhancement of urban ecosystems by improving local landscapes, biodiversity and waterways by restoring land.	This UDLP embeds energy, water, material and waste reduction initiatives into the design, construction and operation of the Project. Examples include: - Use of energy efficient lighting along the freeway - Retention of existing noise walls where suitable and use of RMP noise walls made with ~80% recycled plastic - Salvage of timber for use as habitat logs and mulching within the Project area - Management of additional stormwater run-off through the integration with existing drainage infrastructure - Use of alternative and reclaimed materials for construction materials and the adoption of a 40% Portland cement reduction target for the Project.	This UDLP protects and seeks opportunities to enhance the natural environment. Examples include: - Minimisation of the works area to avoid and minimise the removal of native vegetation and tree canopy to the extent feasible - Identification of areas for planting to enhance biodiversity, restore the tree canopy and contribute to visual amenity - Reuse and enhancement of topsoil and subsoil to support the Project's planting schedule and invigoration of local biodiversity - Planting of indigenous and native species with the specific purpose of adding resilience to the habitat and biodiversity value - Construction of a bioretention system within Jack O'Toole Reserve to treat stormwater.	This UDLP makes a positive contribution to social, cultural and community health and wellbeing. Examples include: - Reduction in travel distance for cyclists by providing a direct route from Burke Road to the Main Yarra Trail east of Merri Creek - Improvement of bus through-movements and merging at Chandler Highway interchange - Embracing a design philosophy and approach that embeds and celebrates Indigenous cultural values and places of importance.	The North East Link Program facilitates opportunities for economic development, a skilled workforce and promotes diversity and inclusion. Examples of the North East Link Program's economic opportunities include: - Creation of 12,000 jobs - Support of local businesses and social enterprises through targeted procurement strategies - Investments towards the upgrade of local parks, busways, cycling infrastructure and amenity - Programs to support the entry of women and Aboriginals into the construction industry.	This UDLP plays a part in achieving Victoria's emission reduction targets while preparing for the challenges presented by climate change. Examples include: - Flood risk assessment and design responses for new infrastructure consider current and future flood conditions (i.e. the 1% Annual Exceedance Probability (AEP) event plus climate change scenario for 2100) - Implementation of a construction decarbonisation strategy to reduce energy and greenhouse gas emissions during the construction phase - Electrification of plant and equipment, use of alternative fuels and purchase of renewable energy for construction activities.

4. Project description and design response

Design themes

The design themes for this UDLP are informed by the site analysis and co-design process. The design themes drive the design response across all aspects of the Project. The design themes are:



Connecting with Cultural understandings through iconography and markings

Embedding Wurundjeri Woi-wurrung knowledge and values

- Respect and care for Country
- Embrace a design language that complements the Birrarung landscape
- Integrate cultural narratives and embed these into the landscape to deepen Connection to Country.



Existing 1970's modernist architecture of Belford Road bridge

Celebrating the existing character

- Preference singular, refined gestures over cluttered or highly expressive additions
- Avoid visual clutter in the landscape
- Design new structures to integrate with the existing modernist freeway character
- Create a planting palette to enhance the landscape and tree canopy.



View from Chandler Highway looking west towards Eastern Busway and shared use path. Artist's impression - indicative only

Creating a layered corridor experience

- Cater to different ways the corridor is experienced
- Establish a cohesive design outcome across the North East Link Program for transport users and the community
- Create an enriched and ecologically connected landscape
- Increase connectivity and reduce congestion.

4. Project description and design response

4.3 Design response

The design response acknowledges that the experience of the journey is dynamic and shifting, inextricably linked to and continuously shaped by the time of day, the seasons, the age and cycles of plants and animals, as well as the changing conditions of weather and water. This layered and fluid interaction with place reflects the Indigenous worldview, where the land is not static, but alive, responsive and interrelated with people.

In response to the site analysis, observations and opportunities summarised in Section 3, a range of design outcomes have been proposed to highlight, interpret or engage with the design themes and design drivers that emerged from the analysis. These outcomes, while still evolving through the ongoing co-design and stakeholder consultation processes and subject to further development during the detailed design phase, include a consideration of wayfinding markers, choreographed views, careful material selection, ecologically beneficial landscape and water treatment and opportunities for narrative interpretation.

The design response below is structured along the three design themes described in Section 4.2. These lenses have guided the consideration of materials, landscape and urban design intent, ensuring that every design decision is grounded in a deep understanding of place. The design response creates a layered and meaningful experience along the corridor, from the perspective of the different users.

Below describes how this UDLP has applied the three design themes for the whole of the corridor and these are further elaborated on for the three areas between Burke Road and Belford Road (see map in Figure 25 and visualisations in Figure 26), Belford Road and Yarra Boulevard (see map in Figure 27 and visualisations in Figure 28), Yarra Boulevard to Hoddle Street (see map in Figure 29 and visualisations in Figure 30).



Road infrastructure

Embedding Wurundjeri Woi-wurrung knowledge and values

The freeway is widened into the median to avoid and minimise impacts on Country and the community.

The design avoids impacts to adjoining residential properties, parkland, waterways, rock escarpments.

The design maximises opportunities for retaining the mature tree canopy that lines both sides of the freeway.

A palette of earthy ochres and varied textures on noise walls reflects the colours of Country and the landscape.

Celebrating the existing character

The earthy tones and uncluttered form of the new noise walls enhances their integration with the existing noise walls, the natural landscape and the existing tree canopy and new plantings that they will sit beneath.



Motorist, passengers, cyclists and pedestrians

Embedding Wurundjeri Woi-wurrung knowledge and values and creating a layered corridor experience

Connection to Country is represented through the multi-layered experience of transport users, including:

- The journey of pedestrians and cyclists along the SUP via natural landscapes, open space and sport fields, with pause points and interconnecting trails that invite the community to explore the area.
- The journey of motorists and bus passengers along the freeway and Eastern Busway where views to the existing and planted tree canopy and the iconic modernist architecture are retained.
- The shared experience, from different angles, of the SUP bridge and Eastern Busway bridge that connects elements of water, land, sky and the spiritual realm.

Creating a layered corridor experience

The SUP bridge and other new walking and cycling bridges for the North East Link Program (outside of this UDLP) share design attributes that define the bridges as a family of navigational features along the freeway and SUP journey.

The family of existing and new structures and other features of the North East Link Program (e.g. road bridges and noise walls), both inside and outside of this UDLP, also act as way finding markers along the freeway and SUP journey.

The new freeway lighting from Chandler Highway (inside this UDLP) through to Springvale Road (outside this UDLP) are a unifying feature of the corridor.

Celebrating the existing character

The retention of the high light masts from Hoddle Street to Chandler Highway (inside this UDLP) retain this significant architectural feature experienced by motorists and passengers using the freeway.

The existing character is celebrated by aligning the SUP through Yarra Bend Park. The Codesign nodes and viewing platform of the SUP bridge provide purposeful pause points for cyclists and pedestrians to appreciate the existing character of the Birrarung and the park.



Landscape

Embedding Wurundjeri Woi-wurrung knowledge and values

Place-specific planting palettes reflect Caring for Country, with indigenous and native flora species strategically located to increase biodiversity, maximise habitat corridors, respond to micro-climate conditions and provide shade. Traditional methods of mulch and compost mounding will also be used to aid in improving local soil conditions.

The selection of species for trees and understorey plantings will provide dynamic visual interest throughout the year, with colour change and flowering cycles telling the stories of seasonality through the landscape.

Celebrating the existing character

Views of the surrounding landscapes and tree canopy, rock cuttings and modernist architectural features are retained. The design embraces a gentle design language that draws from the existing modernist architecture, avoids visual clutter and preferences singular, refined gestures instead of overly expressive additions.

Creating a layered corridor experience

Trees and understorey plantings are strategically located on both sides of the existing freeway, including the inside and outside of noise walls. Plantings soften the view of existing noise walls for motorists and bus passengers, as well as screen the walls and contribute to enhanced urban amenity for the neighbouring community.



Shared Use Path

Embedding Wurundjeri Woi-wurrung knowledge and values

Modifications to the SUP alignment minimise impacts to native vegetation on Country.

Iconography will be used along the SUP to mark transition points that mark a Connection to Country.

Pause points along the SUP provide opportunities for Connections to Country through the subtle arrangements of landscape planting and reuse of rocks and logs as features.

Celebrating the existing character

The route of the SUP embraces the tapestry of landscapes and views along the route, from the naturalistic landscapes of Yarra Bend Park, views of the Melbourne city skyline and Birrarung, the rock cuttings and modern architecture of the freeway, to the dappled views across the golf courses.

Creating a layered corridor experience

The SUP improves the capacity for cyclists to move along the corridor.

Pause points along the corridor invite the opportunity to slow and momentarily experience the view and surrounds.

The connection of the SUP to existing walking and cycling trails invites the community to explore the neighbouring parkland and be further immersed in the local landscape.

4. Project description and design response

1 Burke Road exit ramp and surrounds

Celebrating the existing character

The redesign of the Burke Road bridge exit ramp has a minimalist style to match the existing modernist architecture of the Burke Road bridge.

The portal on the eastbound exit ramp has been replaced by two piers that sit either side of the Eastern Busway to reduce the bulk and to integrate the design with the existing bridge.

Tree and understory plantings at the Burke Road interchange will replace the vegetation removed as a result of the freeway upgrade.

Creating a layered corridor experience

The redesign of the Burke Road bridge exit ramp enables a direct route under the bridge for the SUP and Eastern Busway. Access via the existing Main Yarra Trail is retained.

2 Belford Road bridge and surrounds

Celebrating the existing character

The design of the Belford Road bridge safety fence integrates the new stainless-steel safety mesh barrier with the bridge's form and features when viewed from the freeway, as well as retains pedestrian views from the bridge to the receding sun as it sets behind the freeway.

3 Shared Use Path

Creating a layered corridor experience

The accessibility of the SUP is improved by diverting around steep sections along the existing Main Yarra Trail by passing under the Belford Road bridge. The existing route is retained.

The safety of the SUP is improved by increasing the width of the existing Main Yarra Trail between Belford Road and Burke Road.

The amenity of the SUP is improved by separating pedestrian and cyclists from the high volumes of traffic by locating the Eastern Busway in-between.

The new SUP shortens the path for pedestrians and cyclists by approximately 700m compared to the existing Main Yarra Trail around Burke Road Billabong Reserve.

Access to the existing Main Yarra Trail is retained, providing direct access for cyclists and pedestrians to the Burke Road Billabong Reserve.

Pause-points are provided for pedestrians and cyclists to momentarily stop and experience the views across the neighbouring golf course.

4 Freeway landscape and interface to community

Embedding Wurundjeri Woi-wurrung knowledge and values

Habitat planting using indigenous and native flora species is located in two areas – the interface to the Kew Golf Course, from Belford Road through to the Kew Golf Course waterbody, as well as the interface to Glass Creek and Hays Paddock.

Creating a layered corridor experience

Trees and understory plantings located along the northern side of the freeway from Belford Road through to Burke Road retains the views across the adjoining Kew Golf Course, providing visual amenity for motorists, bus passengers, cyclists and pedestrians.

Celebrating the existing character

New noise walls to the east and west of Belford Road integrate with the existing noise walls. A mixture of double-sided panels and screening vegetation is used to enhance the amenity of the community side.

Removal of the existing tree canopy is minimised by retaining noise walls along the southern side of the freeway from west of Meldrum Street through to Burke Road.

Tree and understory plantings between Willsmere Park and Belford Road will replace removed vegetation.

The landscape design responds to the transition from this UDLP to the neighbouring UDLP by planting the Burke Road interchange with a complementary tree canopy and ground cover to the extent feasible within the floodplain.



Figure 25: UDLP design response – Burke Road to Belford Road



Figure 26: UDLP visualisations – Burke Road to Belford Road

4. Project description and design response

1 Chandler Highway exit ramp and surrounds

Celebrating the existing character

The design of the Chandler Highway bridge exit ramp has a minimalist style to match the existing modernist architecture of the Chandler Highway bridge.

Creating a layered corridor experience

The design simplifies the bulk and embeds the structure into the landscape, while maintaining views to the existing modernist bridge and enhanced plantings.

The design of the Chandler Highway bridge exit ramp will accommodate a direct route for the SUP and Eastern Busway to pass underneath.

2 Eastern Busway bridge and surrounds

Celebrating the existing character

The design of the Eastern Busway bridge retains the views from the freeway to Chandler Highway bridge, continuing its role as a key way-finder along the freeway.

The new Eastern Busway bridge has been designed with a minimalist style to complement and enhance the existing modernist architecture of the freeway's bridges.

The abutments and piers have been designed to be visually appealing, with their bulk minimised and a sinuous form that maximises views to the modernist Chandler Highway bridge.

Creating a layered corridor experience

The design creates earth batters (avoiding the use of concrete retaining walls) and nestles the bridge into the vegetated landscape. The design avoids an outcome where the new bridge dominates the interchange.

3 Shared Use Path

Creating a layered corridor experience

The new SUP provides a seamless route through the interchange and provides connections to the Main Yarra Trail and Chandler Highway, as well as Yarra Boulevard via an existing section of the Main Yarra Trail.

The amenity and safety of the SUP through the Chandler Highway interchange is achieved by separating pedestrian and cyclists from the high volumes of traffic on the freeway by locating the Eastern Busway, landscaping and the exit ramps in-between.

Ground cover planting is provided along the SUP to soften the interface to roadside infrastructure, where feasible.

4 Freeway landscape and interface to the community

Embedding Wurundjeri Woi-wurrung knowledge and values

Habitat planting using indigenous and native flora species is located in three areas – the interface to Chandler Park, the landscaped-islands within the interchange and the former depot in the south-west of the interchange.

A bioretention basin is created at Jack O'Toole Reserve to improve the quality of stormwater run-off from the freeway before it enters the waterways.

Creating a layered corridor experience

Tree and understory plantings will form a dense canopy at the Chandler Highway interchange, replacing vegetation and enhancing the visual amenity for transport users and the local community.

New noise walls are located on three sides of the Chandler Highway interchange. The noise walls are integrated into the landscape with screening vegetation on both sides.

Celebrating the existing character

Removal of the existing tree canopy is minimised by retaining existing noise walls along the southern side of the freeway between Kate Campbell Reserve and Jack O'Toole Reserve. Tree and understory plantings between these two parks will replace removed vegetation.

Tree, understory plantings and lawn within the former depot will screen the new noise walls located along the northern edge of the depot and create an enclosed blank canvas upon which to plan for the land's future use.

Chandler Park will be planted with lawn to reinstate the public open space until such time that Council proceeds with its development of the Chandler Park Wetland.

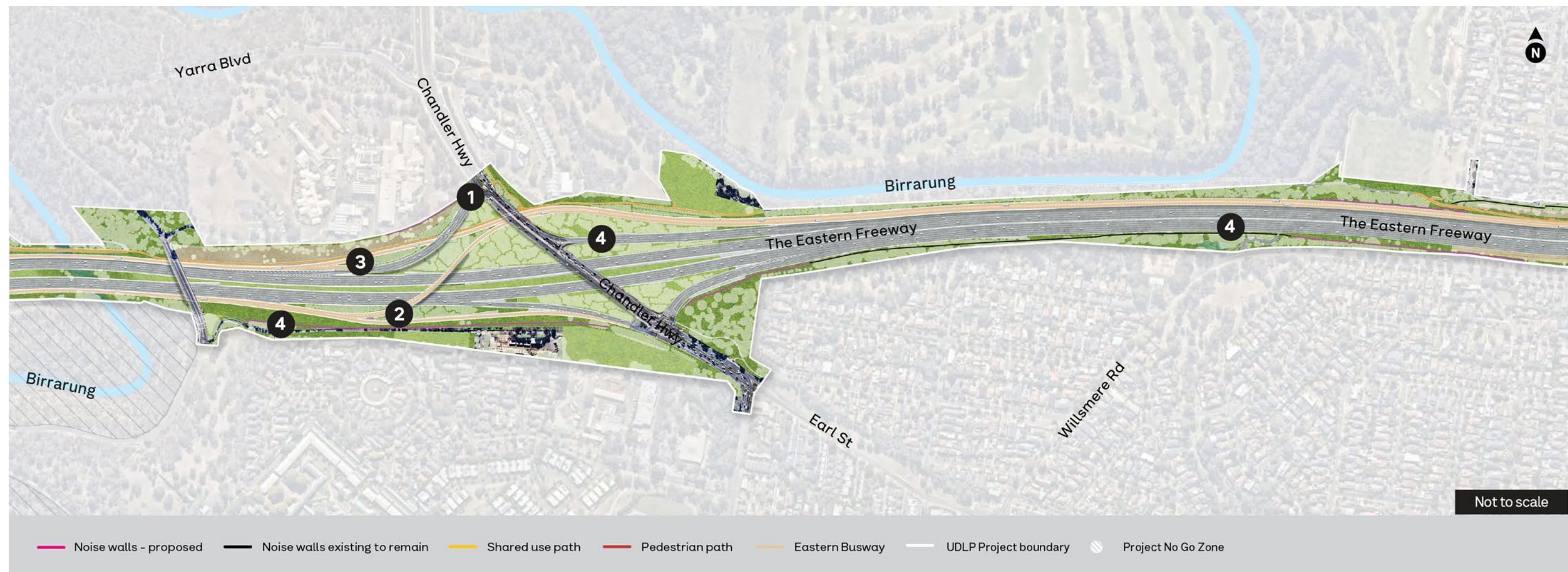


Figure 27: UDLP design response – Belford Road to Yarra Boulevard



Figure 28: UDLP visualisations – Belford Road to Yarra Boulevard

4. Project description and design response

1 Shared Use Path Bridge

Embedding Wurundjeri Woi-wurrung knowledge and values

Caring for Country guided the redesign of the SUP bridge to reduce the length, weight and position of the structure. This enabled the piers to be narrower and higher on the embankment which has reduced vegetation removal and minimised the impact on the waterway below.

The natural landscape has inspired the design of the SUP bridge, with the form of the trees reflected in the design of the piers.

Texture and colour treatments on the abutments will anchor the bridge, with inspiration drawn from the landscape within Yarra Bend Park and rock escarpments along the freeway.

The colours of the bridge draw inspiration from the Grey-headed Flying-fox colony. The colour of the pier reflects the patina of the streaked leaves and leaching of the trees from the bats sucking on the sap. The mesh fence reflects the silver branches of the gum trees and the connection to sky.

Creating a layered corridor experience

Connection with Country has been prioritised in the design response of the SUP bridge over the Birrarung.

The SUP bridge creates an iconic and memorable experience that will define the motorists' connection to 'place'. The bridge is elevated above the freeway to attract the eye. The lightness of the steel-truss structure and visually permeable safety screen is deliberately recessive, designed to draw the viewers' eye to the landscape and sky beyond.

The pause-point at the SUP bridge provides cyclists and pedestrians with the opportunity to pause and connect with the waterway beneath the bridge, the landscape in front and the sky above.

2 Hoddle Street ramps and surrounds

Celebrating the existing character

The Hoddle Street on-ramp is modified within the footprint of the existing lane and emergency stopping bay. The works avoids impacts to existing freeway structures.

Noise walls on the southern and northern side of the freeway are retained and the removal of tree canopy is minimised.

New noise walls are located in the vicinity of Alexandra Parade East.

The targeted tree and understorey plantings on the northern roadside of the noise walls at the Hoddle Street interchange strengthens the tree canopy and softens the view to noise walls.

3 Shared Use Path

Embedding Wurundjeri Woi-wurrung knowledge and values

Caring for Country guided adjustments to the SUP alignment to minimise impacts to mature native vegetation.

Creating a layered corridor experience

The route of the SUP is carefully aligned around key view lines, incorporating moments for pause and immersion within the natural landscape and cultural elements within Yarra Bend Park.

The SUP embraces the Yarra Bend landscape, connects to local historical sites, capitalises on views of the city skyline, and prioritises the movement of pedestrians and cyclists at Yarra Bend Road and Fairlea Reserve.

Pause-points are provided for pedestrians and cyclists to momentarily stop, rest and experience the views across the Birrarung and to the Melbourne city skyline.

Celebrating the existing character

The SUP has been redesigned to avoid the Yarra Boulevard bridge abutments by realigning the route to instead pass under the bridge and along the freeway.

4 Freeway landscape, Yarra Bend Park and interface to the community

Embedding Wurundjeri Woi-wurrung knowledge and values

Habitat planting using indigenous and native flora species is located adjacent to the SUP in the vicinity of Fairlea Reserve and around the SUP bridge.

Celebrating the existing character

Removal of the existing tree canopy is minimised between Hoddle Street and Merri Creek by weaving the SUP through Yarra Bend Park.

Retention of the high mast lights retains this significant feature along the existing freeway at the gateway to Melbourne.

Creating a layered corridor experience

Targeted plantings within the Hoddle Street interchange complements the existing dense trees and understorey plantings, enhancing the visual amenity for transport users and the local community.

Tree and understorey plantings line the SUP from the Main Yarra Trail, passing by the Fairlea ovals to the SUP bridge. The selection of species will provide dynamic visual interest throughout the year, with colour change and flowering cycles telling the stories of seasonality through the landscape.

4. Project description and design response

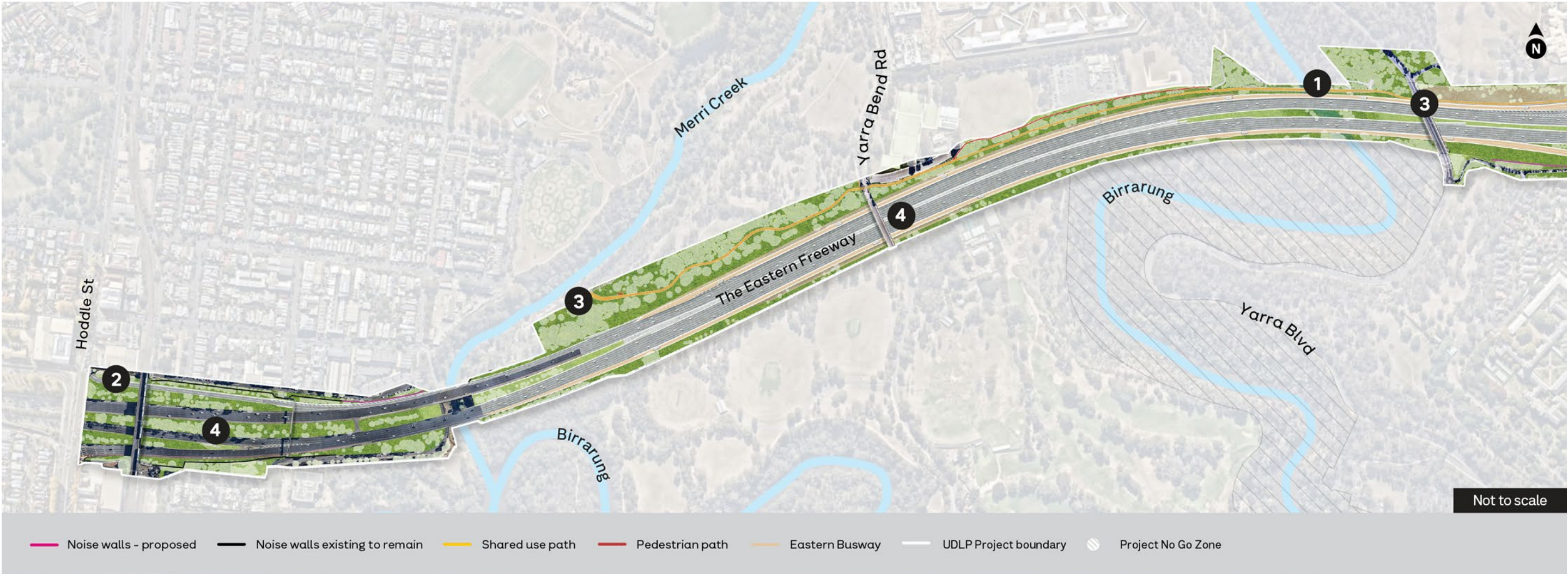


Figure 29: UDLP design response – Yarra Boulevard to Hoddle Street



Figure 30: UDLP visualisations – Yarra Boulevard to Hoddle Street

4. Project description and design response

4.4 Design changes following the Environment Effects Statement Reference Design

This section provides a summary of the design modifications since the exhibition of the EES Reference Design in 2019. The evolution of the design was part of the rigorous review process to identify opportunities to refine and enhance the engineering, flood mitigation and urban design outcomes where feasible. The proposed changes are consistent with the Minister's assessment of the EES (3 December 2019), the UDS and the EPRs.

The following elements of the EES Reference Design have been modified:

- SUP between Merri Creek and Yarra Bend Road
- SUP bridge over the Birrarung
- SUP between Yarra Boulevard and Chandler Highway
- Eastern Busway integration at Chandler Highway interchange
- Noise mitigation.

SUP between Merri Creek and Yarra Bend Road

The key design change to the SUP between the Main Yarra Trail (east of Merri Creek) and Yarra Bend Road is the re-alignment of the route. Figure 31 shows the route of the EES Reference Design and the realigned route for this UDLP. The route has been realigned as the EES Reference Design alignment passes between trees with moderate and high retention values. The route weaves through the landscape to minimise the number of trees that would be impacted by the construction of the SUP.

SUP bridge over the Birrarung

There are several key design changes to the SUP bridge as shown in Figure 32. This includes a shorter bridge span over the Birrarung, locating the SUP bridge closer to the existing freeway bridge and realignment of the SUP route on the approaches to the bridge. The shorter length of the steel-truss has reduced the structural weight of the bridge and facilitated a design that minimises the shape and mass of the piers. The redesign enables the piers to be positioned higher on the bank of the Birrarung and off-set from the existing freeway bridge piers, thereby reducing the impact on the flow of flood waters. Moving the SUP bridge closer to the freeway avoids and minimises impacts to the natural landscape, native vegetation and fauna.

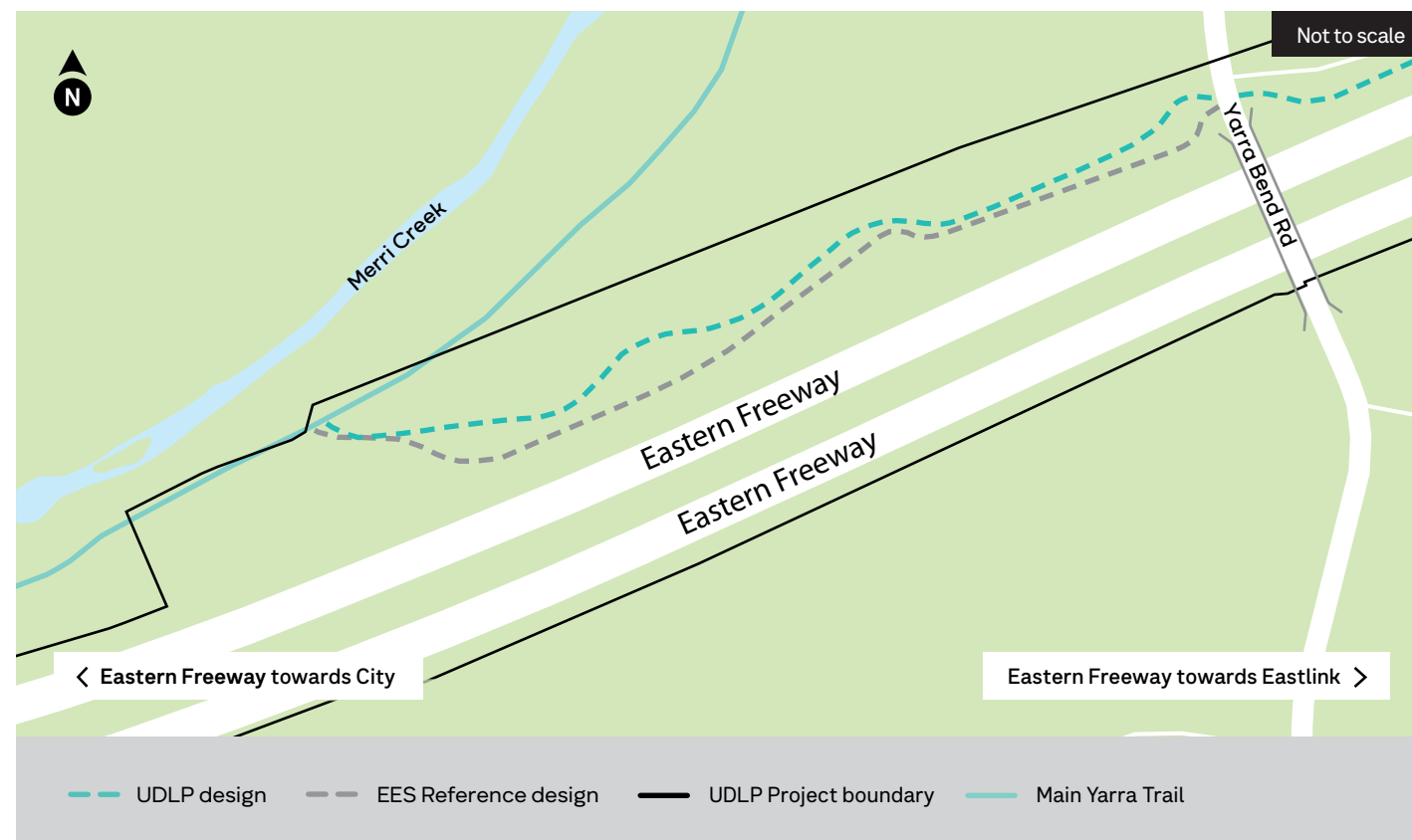


Figure 31: EES and UDLP design responses – SUP between Main Yarra Trail and Yarra Bend Road

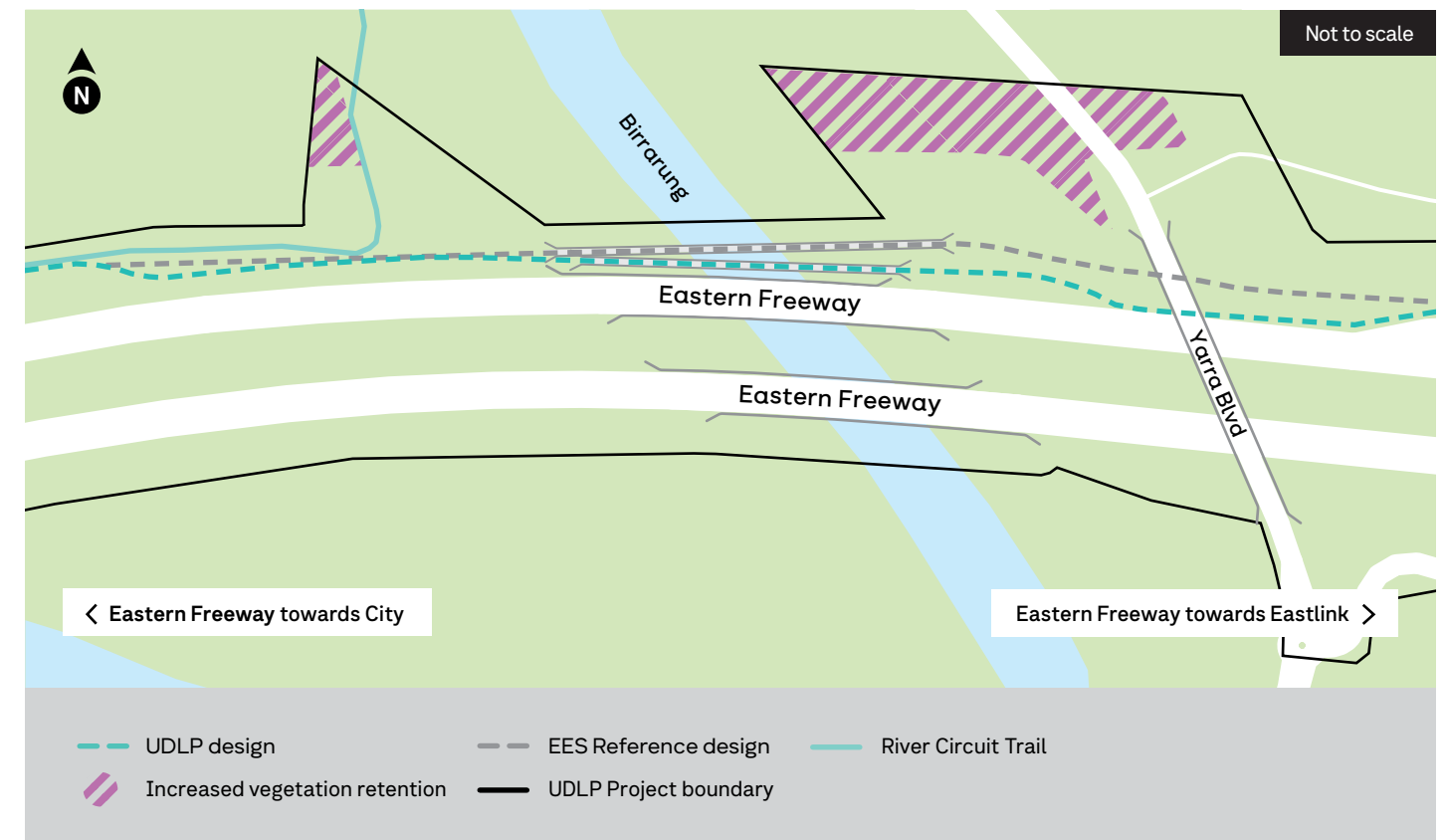


Figure 32: EES and UDLP design responses – SUP bridge over the Birrarung

4. Project description and design response

SUP between Yarra Boulevard and Chandler Highway

The key design change of the SUP between Yarra Boulevard and Chandler Highway is shown in Figure 33. In the EES Reference Design, the SUP passes through the abutments of the existing Yarra Bend Road bridge and continues along the rock escarpment. In the UDLP design, the SUP avoids impacts to the bridge abutments by diverting the SUP to travel under Yarra Bend Road bridge adjacent to the Eastern Busway. The revised design provides a gentler grade change for cyclists and pedestrians using the SUP. It also avoids modifications to the existing rock escarpment, tree canopy and native vegetation in this area.

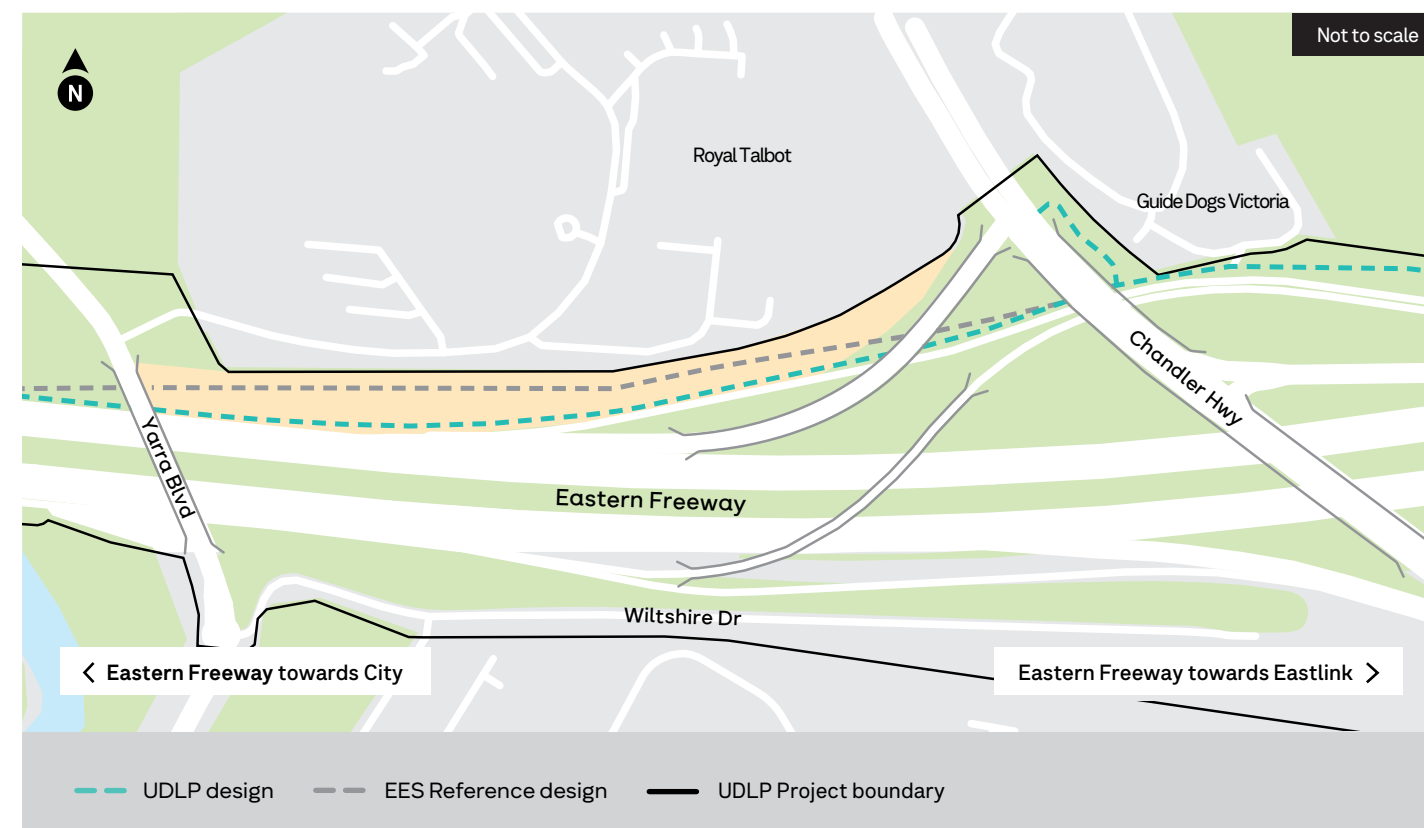


Figure 33: EES and UDLP design responses – SUP Yarra Boulevard to Chandler Highway

Chandler Highway interchange

The first key design change is the merging of buses at the intersection of the Eastern Busway with the Chandler Highway inbound bus lane. It has changed from a right-hand merge in EES Reference Design to a left-hand merge in this UDLP as shown in Figure 34. The redesign modifies the height and alignment of the bridge over the freeway and moves the Chandler Highway inbound busway outwards. The redesign means batters can be used instead of retaining walls, sitting the bridge lower in the landscape and avoiding an outcome where the bridge dominates the intersection. The batters enable increased landscaping within the interchange, softening its appearance and increasing habitat for local fauna.

A second key design is realignment of the Chandler Highway outbound exit-ramp which will enable the construction of the new ramp while traffic continues to use the existing ramp, avoiding traffic delays during the construction period.

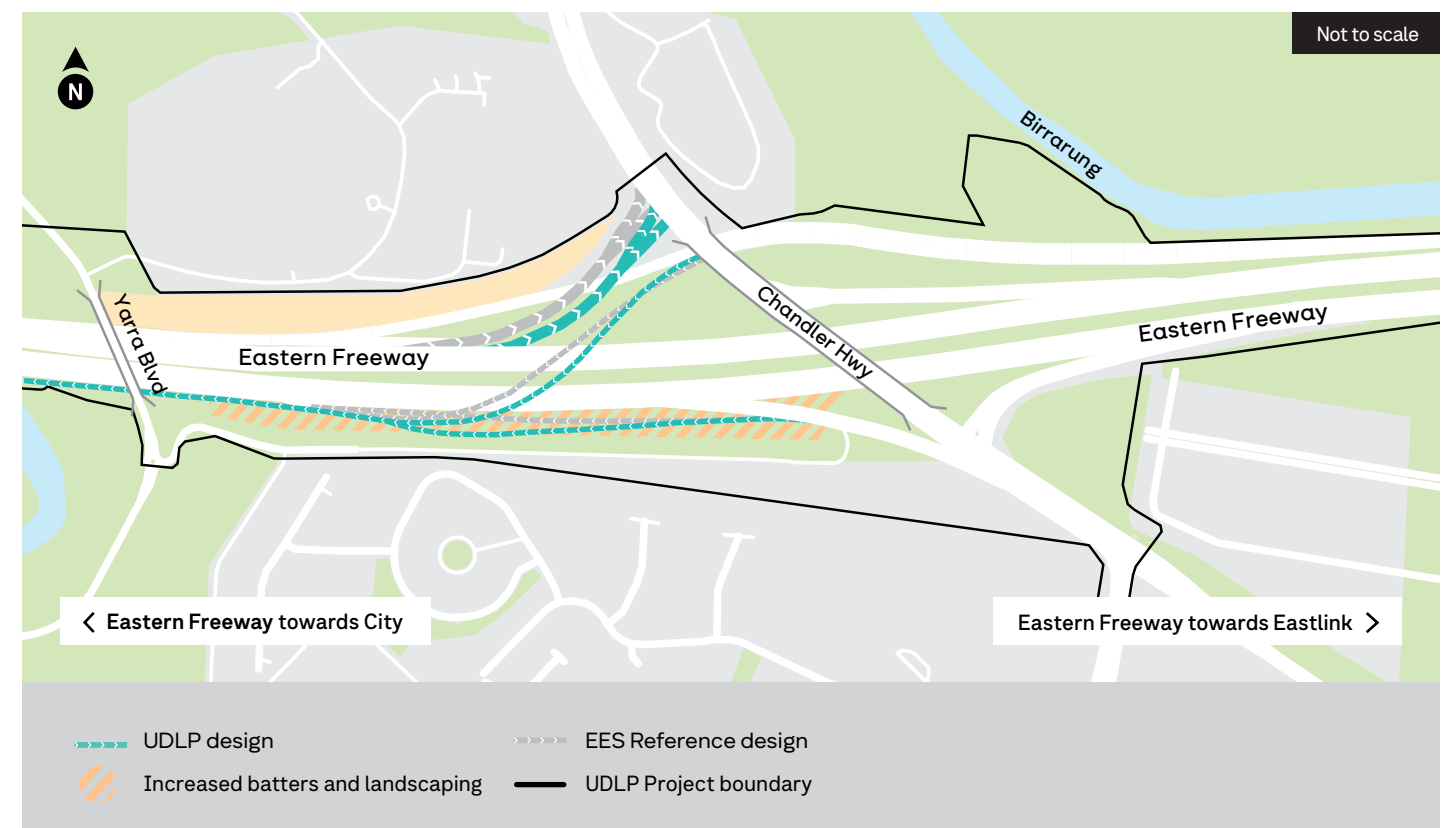


Figure 34: EES and UDLP design responses – Chandler Highway interchange

4. Project description and design response

Noise mitigation

The EES Reference design provided a conservative estimate of the noise mitigation requirements that would be needed in the Project design. The EES also assumed new noise walls would be the only form of mitigation for noise, as detailed condition assessments had not yet been undertaken. Such assessments have since been completed in consultation with DTP-Transport, and design further developed.

The Project has strict EPRs for noise mitigation developed during the EES phase to effectively mitigate noise impacts. NV1 provides traffic noise limits from the Eastern Freeway at various times of day, and at different types of buildings (e.g. residential, schools etc.).

NV15 specifies that predicted noise within existing public open space and school recreation grounds must not exceed the predicted levels in the EES. The design is consistent with these requirements and the North East Link Program will see Victoria's first implementation of a 58dBA night-time noise requirement for sensitive receptors.

The location, length and heights of the noise walls in the proposed design solution have been determined by monitoring current conditions on site, modelling the existing and future conditions (including locations and heights of new and retained noise walls) based on forecast traffic volumes at both the year of opening and 20 years thereafter. The proposed mitigations including locations and heights of new and retained noise walls have been confirmed in the noise model to mitigate noise in compliance with the EPRs.

Proposed mitigations include adopting regularly maintained open graded asphalt to reduce noise from tyres, in addition to mitigation provided by new and retained noise walls.

Existing noise walls have been identified for retention (including height, length and materiality) where they mitigate noise in accordance with NV1 and NV15. Any existing noise wall for retention will be structurally assessed and refurbished as required by the EPRs.

The Project's compliance with noise mitigation requirements has been verified by the IEA.

Figure 35 shows the extent of noise walls included in the EES Reference Design, which assumed all noise walls to be replaced, or new where there was no existing wall. Figure 36 shows the extent of proposed noise walls in the UDLP, and differentiates between walls that will remain

with refurbishment, and those that are new or rebuilt to a different height.

Benefits of the noise wall design evolution since EES Reference Design include a decrease in construction disruption, improved sustainability, and an increase in the retention of the existing tree canopy within the freeway and the public parks, reserves and private properties that back onto the freeway. It is noted that works for the Project, such as access for noise wall refurbishment, construction of underground utilities will still result in some vegetation removal and trimming.

Section 6 of the UDLP report outlines how operational road traffic noise has been assessed in accordance with NV1 and NV15 for the Project extents.

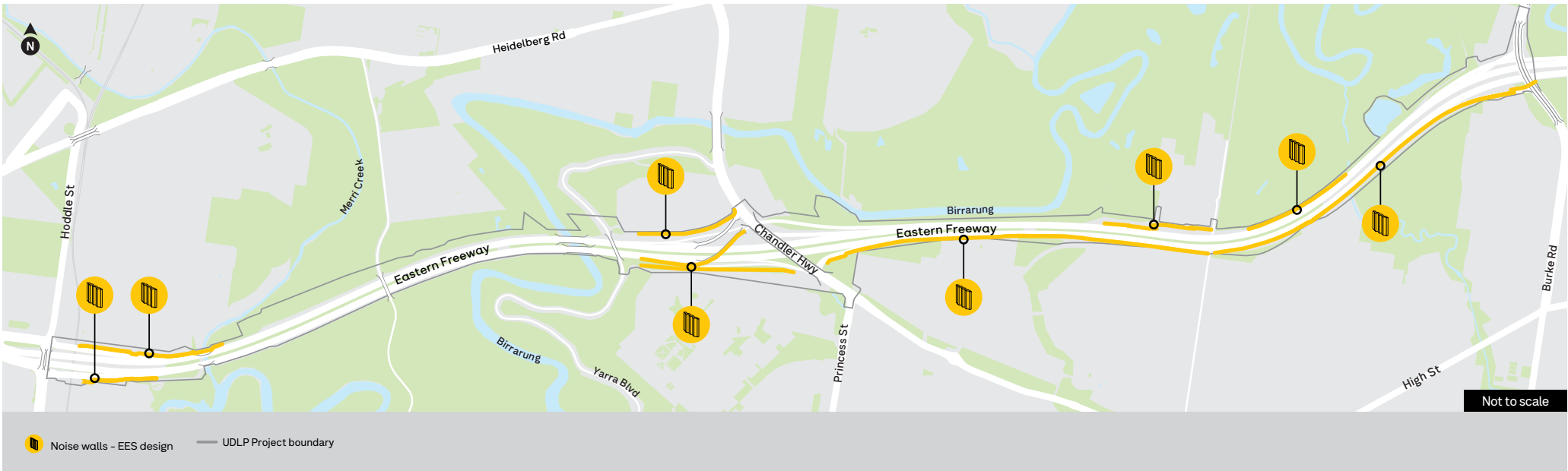


Figure 35:
EES design response – noise walls

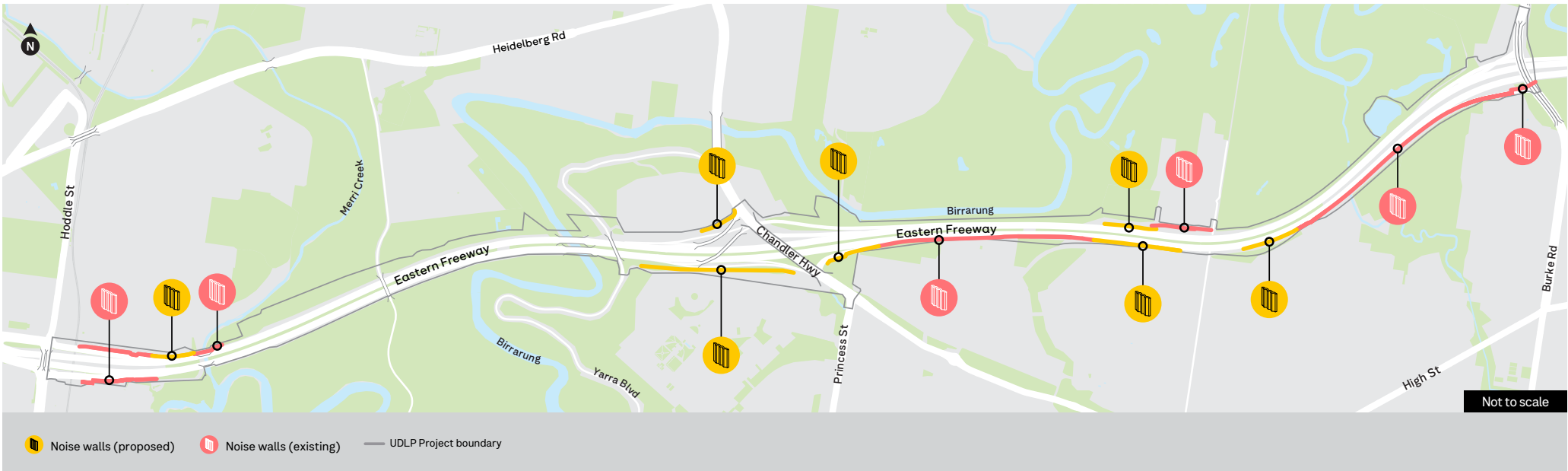


Figure 36:
UDLP design response – noise walls

4. Project description and design response

4.5 Urban design and landscape plan documents

The following UDLP design documents support this report.

UDLP attachment documents

The UDLP design documents are included in the following attachments:

- Attachment 1: Architecture and Urban Design
- Attachment 2: Landscape Design
- Attachment 3: Urban Design Visualisations (Artistic renderings and images as shown are indicative and provided for context only and will not form part of the UDLP approval)
- Attachment 4: Overshadowing and Overlooking Assessment.

The attachments contain design information such as:

- Site plans
- Elevations
- Sections
- Materials and planting schedules
- Visualisations.

The following documents have been prepared in line with the Project design response to comply with the UDS and the EPRs. The UDS and EPRs are performance-based to ensure design changes are assessed and result in appropriate outcomes.

Table 2: Architectural and Urban Design drawing list

Drawing Code	Drawing Number	Drawing Title
NEL-WST-NWA-4990-UUD-DRG	9000	COVER SHEET
NEL-WST-NWA-4990-UUD-DRG	9001	OVERVIEW AND DOCUMENT CONTROL
NEL-WST-NWA-4990-UUD-DRG	9002	TABLE OF CONTENTS – SHEET 01
NEL-WST-NWA-4990-UUD-DRG	9003	TABLE OF CONTENTS – SHEET 02
NEL-WST-NWA-4990-UUD-DRG	9004	MASTER LEGEND
NEL-WST-NWA-4990-UUD-DRG	9010	ALIGNMENT PLAN
NEL-WST-NWA-4100-UUD-DRG	9011	GENERAL ARRANGEMENT PLAN - ZONE 01
NEL-WST-NWA-4100-UUD-DRG	9012	GENERAL ARRANGEMENT PLAN - ZONE 02
NEL-WST-NWA-4100-UUD-DRG	9013	GENERAL ARRANGEMENT PLAN - ZONE 03
NEL-WST-NWA-4100-UUD-DRG	9014	GENERAL ARRANGEMENT PLAN - ZONE 04
NEL-WST-NWA-4200-UUD-DRG	9015	GENERAL ARRANGEMENT PLAN - ZONE 05
NEL-WST-NWA-4200-UUD-DRG	9016	GENERAL ARRANGEMENT PLAN - ZONE 06
NEL-WST-NWA-4200-UUD-DRG	9017	GENERAL ARRANGEMENT PLAN - ZONE 07
NEL-WST-NWA-4200-UUD-DRG	9018	GENERAL ARRANGEMENT PLAN - ZONE 08
NEL-WST-NWA-4200-UUD-DRG	9019	GENERAL ARRANGEMENT PLAN - ZONE 09
NEL-WST-NWA-4200-UUD-DRG	9020	GENERAL ARRANGEMENT PLAN - ZONE 10
NEL-WST-NWA-4100-UUD-DRG	9071	WESTBOUND BUSWAY BRIDGE - PLAN
NEL-WST-NWA-4100-UUD-DRG	9072	WESTBOUND BUSWAY BRIDGE - ELEVATIONS
NEL-WST-NWA-4100-UUD-DRG	9073	WESTBOUND BUSWAY BRIDGE - SECTIONS
NEL-WST-NWA-4100-UUD-DRG	9074	WESTBOUND BUSWAY BRIDGE - PIER DETAIL
NEL-WST-NWA-4100-UUD-DRG	9081	CHANDLER HIGHWAY EASTBOUND EXIT RAMP BRIDGE - PLAN
NEL-WST-NWA-4100-UUD-DRG	9082	CHANDLER HIGHWAY EASTBOUND EXIT RAMP BRIDGE - ELEVATIONS
NEL-WST-NWA-4100-UUD-DRG	9083	CHANDLER HIGHWAY EASTBOUND EXIT RAMP BRIDGE - SECTIONS
NEL-WST-NWA-4200-UUD-DRG	9091	BURKE ROAD EASTBOUND EXIT RAMP BRIDGE - PLAN
NEL-WST-NWA-4200-UUD-DRG	9092	BURKE ROAD EASTBOUND EXIT RAMP BRIDGE - ELEVATIONS
NEL-WST-NWA-4200-UUD-DRG	9093	BURKE ROAD EASTBOUND EXIT RAMP BRIDGE- SECTIONS
NEL-WST-NWA-4200-UUD-DRG	9094	BURKE ROAD EASTBOUND EXIT RAMP BRIDGE - PIER DETAIL
NEL-WST-NWA-4100-UUD-DRG	9101	SHARED USE PATH BRIDGE OVER BIRRARUNG - PLAN

4. Project description and design response

Drawing Code	Drawing Number	Drawing Title	Drawing Code	Drawing Number	Drawing Title
NEL-WST-NWA-4100-UUD-DRG	9102	SHARED USE PATH BRIDGE OVER BIRRARUNG - ELEVATIONS	NEL-WST-NWA-4990-UUD-DRG	9215	NOISE WALL TREATMENT – SINGLE PANEL NOISE WALL
NEL-WST-NWA-4100-UUD-DRG	9103	SHARED USE PATH BRIDGE OVER BIRRARUNG - TYPICAL SECTION	NEL-WST-NWA-4990-UUD-DRG	9216	NOISE WALL TREATMENT – DOUBLE PANEL NOISE WALL
NEL-WST-NWA-4100-UUD-DRG	9104	SHARED USE PATH BRIDGE OVER BIRRARUNG - 3D	NEL-WST-NWA-4990-UUD-DRG	9217	NOISE WALL TREATMENT – TYPICAL TAPERING
NEL-WST-NWA-4100-UUD-DRG	9105	SHARED USE PATH BRIDGE OVER BIRRARUNG - RETAINING WALLS	NEL-WST-NWA-4990-UUD-DRG	9218	NOISE WALL TREATMENT – TYPICAL TRANSITION DETAIL
NEL-WST-NWA-4200-UUD-DRG	9110	EXISTING BELFORD ROAD BRIDGE UPGRADE - PLAN	NEL-WST-NWA-4990-UUD-DRG	9230	ROAD INFRASTRUCTURE – FENCE TYPES
NEL-WST-NWA-4200-UUD-DRG	9111	EXISTING BELFORD ROAD BRIDGE UPGRADE - ELEVATIONS	NEL-WST-NWA-4100-UUD-DRG	9251	GANTRIES – SHEET 01
NEL-WST-NWA-4200-UUD-DRG	9112	EXISTING BELFORD ROAD BRIDGE UPGRADE - SECTIONS	NEL-WST-NWA-4100-UUD-DRG	9252	GANTRIES – SHEET 02
NEL-WST-NWA-4200-UUD-DRG	9113	EXISTING BELFORD ROAD BRIDGE UPGRADE - SECTION DETAILS	NEL-WST-NWA-4100-UUD-DRG	9253	GANTRIES – SHEET 03
NEL-WST-NWA-4990-UUD-DRG	9200	ROAD INFRASTRUCTURE EXTENT - ALIGNMENT PLAN	NEL-WST-NWA-4100-UUD-DRG	9254	GANTRIES – SHEET 04
NEL-WST-NWA-4100-UUD-DRG	9201	ROAD INFRASTRUCTURE EXTENT - ZONE 01	NEL-WST-NWA-4100-UUD-DRG	9255	GANTRIES – SHEET 05
NEL-WST-NWA-4100-UUD-DRG	9202	ROAD INFRASTRUCTURE EXTENT - ZONE 02	NEL-WST-NWA-4100-UUD-DRG	9256	GANTRIES – SHEET 06
NEL-WST-NWA-4100-UUD-DRG	9203	ROAD INFRASTRUCTURE EXTENT - ZONE 03	NEL-WST-NWA-4100-UUD-DRG	9259	ON-STRUCTURE BARRIERS
NEL-WST-NWA-4100-UUD-DRG	9204	ROAD INFRASTRUCTURE EXTENT - ZONE 04	NEL-WST-NWA-4990-UUD-DRG	9261	RETAINING WALLS – SHEET 01
NEL-WST-NWA-4100-UUD-DRG	9205	ROAD INFRASTRUCTURE EXTENT - ZONE 05	NEL-WST-NWA-4990-UUD-DRG	9262	RETAINING WALLS – SHEET 02
NEL-WST-NWA-4100-UUD-DRG	9206	ROAD INFRASTRUCTURE EXTENT - ZONE 06	NEL-WST-NWA-4990-UUD-DRG	9265	MATERIAL SELECTION – SHEET 01
NEL-WST-NWA-4200-UUD-DRG	9207	ROAD INFRASTRUCTURE EXTENT - ZONE 07	NEL-WST-NWA-4990-UUD-DRG	9266	MATERIAL SELECTION – SHEET 02
NEL-WST-NWA-4200-UUD-DRG	9208	ROAD INFRASTRUCTURE EXTENT - ZONE 08			
NEL-WST-NWA-4200-UUD-DRG	9209	ROAD INFRASTRUCTURE EXTENT - ZONE 09			
NEL-WST-NWA-4200-UUD-DRG	9210	ROAD INFRASTRUCTURE EXTENT - ZONE 10			

4. Project description and design response

Table 3: Landscape Plans drawing list

Drawing Code	Drawing Number	Drawing Title	Drawing Code	Drawing Number	Drawing Title
NEL-WST-NWA-4990-ULS-DRG	9500	COVER PAGE – LANDSCAPE	NEL-WST-NWA-4990-ULS-DRG	9541	LANDSCAPE PLAN – CHANDLER HIGHWAY – SHEET 01
NEL-WST-NWA-4990-ULS-DRG	9501	OVERVIEW	NEL-WST-NWA-4990-ULS-DRG	9542	LANDSCAPE PLAN – CHANDLER HIGHWAY – SHEET 02
NEL-WST-NWA-4990-ULS-DRG	9502	TABLE OF CONTENTS	NEL-WST-NWA-4990-ULS-DRG	9543	LANDSCAPE PLAN – CHANDLER HIGHWAY – SHEET 03
NEL-WST-NWA-4990-ULS-DRG	9503	GENERAL NOTES & LEGEND	NEL-WST-NWA-4990-ULS-DRG	9544	LANDSCAPE PLAN – CHANDLER HIGHWAY – SHEET 04
NEL-WST-NWA-4990-ULS-DRG	9510	PLANTING SCHEDULE & IMAGES – SHEET 01	NEL-WST-NWA-4990-ULS-DRG	9545	LANDSCAPE PLAN – BURKE ROAD – SHEET 05
NEL-WST-NWA-4990-ULS-DRG	9511	PLANTING SCHEDULE & IMAGES – SHEET 02	NEL-WST-NWA-4990-ULS-DRG	9551	LANDSCAPE SECTIONS – SHEET 01
NEL-WST-NWA-4990-ULS-DRG	9512	PLANTING SCHEDULE & IMAGES – SHEET 03	NEL-WST-NWA-4990-ULS-DRG	9552	LANDSCAPE SECTIONS – SHEET 02
NEL-WST-NWA-4990-ULS-DRG	9513	PLANTING SCHEDULE & IMAGES – SHEET 04	NEL-WST-NWA-4990-ULS-DRG	9553	LANDSCAPE SECTIONS – SHEET 03
NEL-WST-NWA-4990-ULS-DRG	9514	PLANTING SCHEDULE & IMAGES – SHEET 05	NEL-WST-NWA-4990-ULS-DRG	9554	LANDSCAPE SECTIONS – SHEET 04
NEL-WST-NWA-4990-ULS-DRG	9515	PLANTING SCHEDULE & IMAGES – SHEET 06	NEL-WST-NWA-4990-ULS-DRG	9555	LANDSCAPE SECTIONS – SHEET 05
NEL-WST-NWA-4990-ULS-DRG	9516	PLANTING SCHEDULE & IMAGES – SHEET 07	NEL-WST-NWA-4990-ULS-DRG	9556	LANDSCAPE SECTIONS – SHEET 06
NEL-WST-NWA-4990-ULS-DRG	9517	PLANTING SCHEDULE & IMAGES – SHEET 08	NEL-WST-NWA-4990-ULS-DRG	9571	TREE RETENTION & REMOVAL PLAN – ZONE A
NEL-WST-NWA-4990-ULS-DRG	9518	PLANTING SCHEDULE & IMAGES – SHEET 09	NEL-WST-NWA-4990-ULS-DRG	9572	TREE RETENTION & REMOVAL PLAN – ZONE B
NEL-WST-NWA-4990-ULS-DRG	9519	PLANTING SCHEDULE & IMAGES – SHEET 10	NEL-WST-NWA-4990-ULS-DRG	9573	TREE RETENTION & REMOVAL PLAN – ZONE C
NEL-WST-NWA-4990-ULS-DRG	9520	OVERALL LANDSCAPE	NEL-WST-NWA-4990-ULS-DRG	9581	PROPOSED CONSTRUCTION COMPOUND – ZONE A
NEL-WST-NWA-4990-ULS-DRG	9531	LANDSCAPE PLAN – ZONE 01	NEL-WST-NWA-4990-ULS-DRG	9582	PROPOSED CONSTRUCTION COMPOUND – ZONE B
NEL-WST-NWA-4990-ULS-DRG	9532	LANDSCAPE PLAN – ZONE 02	NEL-WST-NWA-4990-ULS-DRG	9583	PROPOSED CONSTRUCTION COMPOUND – ZONE C
NEL-WST-NWA-4990-ULS-DRG	9533	LANDSCAPE PLAN – ZONE 03			
NEL-WST-NWA-4990-ULS-DRG	9534	LANDSCAPE PLAN – ZONE 04			
NEL-WST-NWA-4990-ULS-DRG	9535	LANDSCAPE PLAN – ZONE 05			
NEL-WST-NWA-4990-ULS-DRG	9536	LANDSCAPE PLAN – ZONE 06			
NEL-WST-NWA-4990-ULS-DRG	9537	LANDSCAPE PLAN – ZONE 07			
NEL-WST-NWA-4990-ULS-DRG	9538	LANDSCAPE PLAN – ZONE 08			
NEL-WST-NWA-4990-ULS-DRG	9539	LANDSCAPE PLAN – ZONE 09			
NEL-WST-NWA-4990-ULS-DRG	9540	LANDSCAPE PLAN – ZONE 10			

4. Project description and design response

Table 4: Urban Design visualisations list

Drawing Code	Drawing Number	Drawing Title
Page 1	N/A	COVER SHEET
Page 2	N/A	OVERVIEW AND DOCUMENT CONTROL
Page 3	N/A	URBAN DESIGN VISUALISATIONS LIST
Page 4	N/A	3D VIEW LOCATION PLAN – HODDLE STREET TO CHANDLER HIGHWAY
Page 5	N/A	3D VIEW LOCATION PLAN – CHANDLER HIGHWAY TO BURKE ROAD
Page 6	1	YARRA BEND PARK SHARED USE PATH FACING WEST
Page 7	2	EASTERN FREEWAY/EASTERN BUSWAY EASTBOUND VIEW OF THE SHARED USE PATH BRIDGE OVER THE BIRRARUNG
Page 8	3	SHARED USE PATH BRIDGE OVER THE BIRRARUNG VIEWED FROM THE RIVER CIRCUIT TRAIL
Page 9	4	VIEW FACING EAST TOWARDS SHARED USE PATH BRIDGE OVER THE BIRRARUNG
Page 10	5	VIEW FACING EAST FROM THE SHARED USE PATH OVER THE BIRRARUNG
Page 11	6	FACING WEST TOWARDS THE SHARED USE PATH BRIDGE OVER THE BIRRARUNG
Page 12	7	VIEW OF THE CHANDLER HIGHWAY INTERCHANGE FROM THE SOUTH WEST
Page 13	8	VIEW OF THE EASTERN BUSWAY BRIDGE FACING EAST
Page 14	9	EASTERN FREEWAY EASTBOUND VIEW OF THE EASTERN BUSWAY BRIDGE
Page 15	10	VIEW FROM THE EASTERN BUSWAY BRIDGE LOOKING WEST TOWARDS HODDLE STREET
Page 16	11	EASTERN FREEWAY/CHANDLER HIGHWAY EXIT RAMP FACING EAST TOWARDS CHANDLER HIGHWAY INTERCHANGE
Page 17	12	VIEW FROM CHANDLER HIGHWAY LOOKING WEST TOWARDS EASTERN BUSWAY AND SHARED USE PATH
Page 18	13	VIEW OF THE CHANDLER HIGHWAY INTERCHANGE FACING WEST
Page 19	14	EASTERN FREEWAY/CHANDLER HIGHWAY EXIT RAMP FACING WEST TOWARDS CHANDLER HIGHWAY
Page 20	15	NOISE WALL AND SHARED USE PATH AT WILL SMERE PARK
Page 21	16	SHARED USE PATH VIEW OF BELFORD ROAD BRIDGE WITH INTEGRATED SAFETY SCREENS FACING EAST
Page 22	17	EASTBOUND VIEW TOWARDS BURKE ROAD INTERCHANGE FROM THE MAIN YARRA TRAIL
Page 23	18	VIEW OF THE BURKE ROAD INTERCHANGE FACING EAST
Page 24	19	VIEW FROM THE EASTERN BUSWAY FACING EAST TOWARDS THE BURKE ROAD INTERCHANGE
Page 25	20	WEST VIEW OF THE BURKE ROAD INTERCHANGE FROM THE NORTH EAST
Page 26	21	WEST VIEW OF THE BURKE ROAD INTERCHANGE FROM THE NORTH EAST

Table 5: Urban Design Overshadowing and Overlooking assessment list

Drawing Code	Drawing Number	Drawing Title
NEL-WST-NWA-4990-UUD-DRG	9270	OVERSHADOWING AND OVERLOOKING ASSESSMENT – COVER SHEET
NEL-WST-NWA-4990-UUD-DRG	9271	OVERSHADOWING AND OVERLOOKING ASSESSMENT – OVERVIEW AND DOCUMENT CONTROL
NEL-WST-NWA-4990-UDD-DRG	9272	OVERSHADOWING AND OVERLOOKING ASSESSMENT – PURPOSE, METHODOLOGY AND LIMITATIONS
NEL-WST-NWA-4990-UDD-DRG	9273	OVERSHADOWING AND OVERLOOKING ASSESSMENT – TABLE OF CONTENTS
NEL-WST-NWA-4990-UDD-DRG	9274	OVERSHADOWING ASSESSMENT – ALIGNMENT PLAN
NEL-WST-NWA-4100-UDD-DRG	9275	OVERSHADOWING ASSESSMENT – ZONE 1
NEL-WST-NWA-4100-UDD-DRG	9276	OVERSHADOWING ASSESSMENT – ZONE 2
NEL-WST-NWA-4100-UDD-DRG	9277	OVERSHADOWING ASSESSMENT – ZONE 3
NEL-WST-NWA-4100-UDD-DRG	9278	OVERSHADOWING ASSESSMENT – ZONE 4
NEL-WST-NWA-4100-UDD-DRG	9279	OVERSHADOWING ASSESSMENT – ZONE 5
NEL-WST-NWA-4200-UDD-DRG	9280	OVERSHADOWING ASSESSMENT – ZONE 6
NEL-WST-NWA-4200-UDD-DRG	9281	OVERSHADOWING ASSESSMENT – ZONE 7
NEL-WST-NWA-4200-UDD-DRG	9282	OVERSHADOWING ASSESSMENT – ZONE 8
NEL-WST-NWA-4200-UDD-DRG	9283	OVERSHADOWING ASSESSMENT – ZONE 9
NEL-WST-NWA-4200-UDD-DRG	9284	OVERSHADOWING ASSESSMENT – ZONE 10
NEL-WST-NWA-4200-UDD-DRG	9285	OVERSHADOWING ASSESSMENT – FOCUSED ANALYSIS PRINCESS STREET AREA
NEL-WST-NWA-4200-UDD-DRG	9286	OVERSHADOWING ASSESSMENT – FOCUSED ANALYSIS FAIRWAY DRIVE AREA
NEL-WST-NWA-4990-UUD-DRG	9287	OVERLOOKING ASSESSMENT – ALIGNMENT KEY PLAN
NEL-WST-NWA-4100-UUD-DRG	9288	OVERLOOKING ASSESSMENT – FOCUSED ANALYSIS SHARED USE PATH BRIDGE OVER BIRRARUNG
NEL-WST-NWA-4100-UUD-DRG	9289	OVERLOOKING ASSESSMENT – FOCUSED ANALYSIS WESTBOUND BUSWAY BRIDGE

5. Consistency with the Urban Design Strategy

5. Consistency with the Urban Design Strategy

The UDS, approved by the Minister for Planning in March 2020 and amended in March 2025, outlines the vision and quality expectations for the North East Link Program.

The purpose of the UDS is to:

- Establish and communicate the urban design requirements for the North East Link Program
- Provide a proposal that is developed with integrated urban design solutions
- Provide the framework for a performance-based assessment of UDLPs.

The UDS is comprised of four key sections:

- Corridor-wide requirements which set out a corridor-wide design approach that includes principles, objectives and key design directions
- Place-specific requirements which guide design development within three distinct character areas so that existing landscape and natural features influence the design
- Detailed requirements and benchmarks which relate to specific elements and inform the minimum standard of the design quality expected
- Urban Design Framework Plans (which only apply to land outside of this UDLP area) that set out design and development priorities for five key locations to guide design development and to minimise landscape and visual impacts at these locations.

Sections 5.1 to 5.6 of this UDLP describe how the Eastern Freeway Upgrades – Hoddle Street to Burke Road design aligns with the UDS requirements. The responses should be read in conjunction with the UDS and the UDLP attachments.

5. Consistency with the Urban Design Strategy

5.1 Corridor-wide urban design principles and objectives

This section of the UDLP demonstrates compliance against Section 3.1 of the UDS. The eight principles outlined in the UDS inform a whole-of-corridor design approach that is applied locally to develop a context-sensitive design.

Table 6: Response to UDS Principles and Objectives

UDS Reference	Urban Design Outcome	UDLP Response
	Principle 1 – Identity A well-defined identity and sense of place add to people’s experience and understanding of a place.	
Objective 1.1 – Sense of Place	Protect, maintain and enhance the identity of local places and respectfully represent Indigenous and non-indigenous cultural values. This includes appropriate consideration of local community facilities, the natural environment, European and Indigenous history and cultural places such as the Bolin Bolin Billabong, Yarra Bend Park and Heide Museum of Modern Art	The design approach seeks to protect, enhance and maintain the Indigenous and non-Indigenous identity and sense of place embedded in the land along the Eastern Freeway corridor. Examples of this are: – Impacts to the natural landscape and native vegetation within Yarra Bend Park are minimised by making modifications to the alignment of the SUP (see Drawings NEL-WST-NWA-4990-ULS-DRG-9571 to 9573 in Attachment 2: Landscape Design) – Impacts to the riparian environment of the Birrarung are minimised by reducing the weight of the SUP bridge structure, which has enabled the piers to be reduced in size and relocated higher on the embankment – Reducing the area of works to construct the SUP bridge to minimise impacts to the waterway and native vegetation – Developing the co-design response narrative of ‘Reading Country through the eyes of Waa’ – Identifying opportunities along the corridor for the expression of Wurundjeri cultural themes through the selection of materials, colours and planting schedules – Reflecting themes of Country in the function, symbology and design of the SUP bridge – Retaining views of the freeway modernist features, such as the Yarra Bend Road, Belford Road and Chandler Highway overpasses – Retaining views through new structures along the freeway of the existing modernist freeway architecture and borrowed landscapes. The collaborative co-design process with WWCHAC will further identify place-specific and cultural design expressions for the landscape in line with the corridor wide approach to create an authentic sense of place.
Objective 1.2 – Recognise the Birrarung	Provide a design that respects and promotes the Birrarung and its environs which encompass its tributaries, wetlands, billabongs, native vegetation and parklands such as Banyule Flats and seek opportunities to celebrate this iconic Melbourne asset and ceremonial meeting place for the benefit of Traditional Owners and the general public.	The Project respects and promotes the Birrarung, tributaries, wetlands and nearby parkland as follows: – The lookout adjacent to the SUP bridge provides a location for pedestrians and cyclists to stop and appreciate the views over the Birrarung, landscape of Yarra Bend Park and Melbourne City skyline – Improved connectivity to the Birrarung, wetlands and parklands through the construction of the new SUP, upgrade of an existing walking path within Yarra Bend Park and connections to existing trails – Design of the SUP bridge to reflect themes of Country with an open, light and transparent design that maintains views through to the waterway, valley and tree canopy – Form of the trees within Yarra Bend Park are reflected in the design of the SUP bridge piers – Texture and colour treatments on the abutments of the SUP bridge will be further explored through co-design to ‘anchor’ the bridge – Inspiration drawn from Yarra Bend Park’s landscape in the interpretation of the SUP bridge and the freeway’s rock escarpments in the interpretation of the new RMP noise wall treatments – Planting palette which includes indigenous and native plant species within Yarra Bend Park and along the Birrarung environs to bolster biodiversity and extend habitat and food sources for native wildlife (see Drawing NEL-WST-NWA-4990-ULS-DRG-9511 to 9519 in Attachment 2: Landscape Design) – Protection of the Grey-headed Flying-fox colony habitat situated to the south of the Eastern Freeway in Yarra Bend Park by excluding works in this area during the construction phase (see Drawing number NEL-WST-NWA-4990-ULS-DRG-9533 to 9534 in Attachment 2: Landscape Design). The collaborative co-design process with WWCHAC will further identify place-specific and cultural design expressions for the landscape in line with the corridor wide approach to create an authentic sense of place.

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
Objective 1.3 – Landscape and Visual Amenity	Sensitively enhance landscape and visual outcomes and reduce physical and visual impacts associated with the Project.	The sensitive design response enhances the landscape and visual outcomes, while reducing the physical and visual impacts associated with the Project. This includes: – Avoided and minimised removal of the existing mature tree canopy along the edge of the freeway to the extent feasible by retaining existing noise walls where possible and reducing the extent of the construction area where feasible (see Drawing number NEL-WST-NWA-4990-ULS-DRG-9571 to 9573 in Attachment 2: Landscape Design) – Maintained views to the existing modernist architecture along the freeway by minimising the height and bulk of new road structures, such as the new Eastern Busway bridge, so they can be nestled into surrounding landscaping (see Drawing NEL-WST-NWA-4990-ULS-DRG-9535 in Attachment 2: Landscape Design) – Responds to the landscape and waterway through design of the SUP bridge, with the light and transparent structures minimising the visual and physical impact on the Birrarung – Enhance the visual amenity through new plantings within the freeway interchanges, along the edge of the freeway and along the SUP contributing to local habitat (see Drawings NEL-WST-NWA-4990-ULS-DRG-9531 to 9539 in Attachment 2: Landscape Design) – Reduce visual bulk of walls and structure through the use of landscaping (for example, see Drawings NEL-WST-NWA-4990-ULS-DRG-9535 and NEL-WST-NWA-4990-ULS-DRG-9553 in Attachment 2: Landscape Design) – Unify the corridor’s design response through a cohesive palette of high-quality materials, textures and forms, including the use of concrete, treated steel and RMP panels (see Drawings NEL-WST-NWA-4990-UUD-DRG-9265 to 9266, NEL-WST-NWA-4100-UUD-DRG-9082 to 9105 in Attachment 1: Architecture and Urban Design). The collaborative co-design process with WWCHAC will further identify place-specific and cultural design expressions for bridges, noise walls, screens and other structures in line with the corridor wide approach to create an authentic sense of place.
Objective 1.4 – Existing Landscape Character	Provide a high quality design outcome that responds sensitively to the distinctive character of this part of Melbourne, takes advantage of existing landmarks and vegetation, views and significant places, protects landscape and vegetation and seeks to enhance the way in which people experience and interact with the landscape.	The design responds sensitively to the distinctive character of the Eastern Freeway. This includes: – Responding to the modernist architecture – Retaining views to bridges and rock escarpments, as well as long vistas to the Melbourne city skyline from the freeway and Fairlea Reserve – Nestling the height and bulk of new road structures, such as the new Eastern Busway bridge, into the freeway and surrounding landscaping – Integrating the SUP with the existing Main Yarra Trail to take advantage of the existing road bridges and new SUP bridge as landmarks that define the route – Immersing cyclists and pedestrian in the natural landscape of Yarra Bend Park, the Birrarung and other parkland through the design and route of the SUP – Avoiding significant impacts to the distinctive rock cuttings, with the freeway widened into the central median and the route of the SUP entering and exiting the freeway’s road reserve (see Drawings NEL-WST-NWA-4990-ULS-DRG-9551 to 9555 in Attachment 2: Landscape Design) – Retaining the mature tree canopy that sits high on the cuttings and the freeway edge where possible – Where trees are removed along the corridor (as shown in Drawings NEL-WST-NWA-4990-ULS-DRG-9571 to 9573 in Attachment 2: Landscape Design) they will be replanted to provide a continuous and near-unbroken canopy from Hoddle Street to Burke Road (see Drawings NEL-WST-NWA-4990-ULS-DRG-9531 to 9539 in Attachment 2: Landscape Design). The collaborative co-design process with WWCHAC will further identify place-specific and cultural design expressions for bridges, noise walls, screens and other structures in line with the corridor wide approach to create an authentic sense of place.

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
Objective 1.5 – Sense of Place	Make a positive architectural contribution to infrastructure including bridges, noise walls and other structures.	Architectural elements, including bridges, noise walls and other structures, are designed in a sympathetic manner that shares a cohesive approach along the Eastern Freeway. The design response contributes positively to the experience of movement through the corridor while also enriching the lives of surrounding communities by enhancing both the visual and cultural landscape. Examples include: – The SUP bridge has been designed as a feature urban landmark that is visually permeable to allow expansive views for cyclists and pedestrians on the bridge and motorists along the freeway – The SUP bridge incorporates slender, tree-like piers that elegantly branch out to support the steel truss spanning the Birrarung and the open weave of the stainless-steel mesh safety barriers (see Drawings NEL-WST-NWA-4100-UUD-DRG-9102 to 9104 in Attachment 1: Architecture and Urban Design) – Existing and new features in the landscape, such as the existing road bridges, historic gate pillar and SUP bridge act as subtle wayfinding markers along the journey – RMP noise walls are designed to integrate with retained timber noise walls, with further refinement of their design to be explored through the co-design process (see Drawings NEL-WST-NWA-4990-UUD-DRG-9215 to 9218 in Attachment 1: Architecture and Urban Design) – A cohesive palette of high-quality materials, textures and forms that unify the corridor’s design response. The collaborative co-design process with WWCHAC will further identify place-specific and cultural design expressions for bridges, noise walls, screens and other structures in line with the corridor wide approach to create an authentic sense of place.
 Principle 2 – Connectivity and Wayfinding A well-defined identity and sense of place add to people’s experience and understanding of a place.		
Objective 2.1 – Connectivity	Improve people’s ability to move through the immediate and wider area with ample, efficient and quality links across and along the corridor for all transport modes, including pedestrians and cyclists	The Project improves people’s ability to move through, along and across the Eastern Freeway as follows: – Upgrade of the freeway improves the capacity of the transport network to move people and goods – The Eastern Busway improves public transport efficiency and reduces bus journey times between Hoddle Street and Burke Road – Upgrades to the entry and exit ramps at Chandler Highway and Burke Road improve the flow of traffic for all users at these busy intersections and along the freeway – The SUP, which improves links to the broader active transport network within the UDLP area, including to Yarra Bend Road, Chandler Highway, Belford Road and Burke Road, as well as connectivity to the Main Yarra Trail, Darebin Creek Trail, Merri Creek Trail and the Anniversary Outer Circle Trail (see Drawings NEL-WST-NWA-4990-ULS-DRG-9532 to 9533, NEL-WST-NWA-4990-ULS-DRG-9535 and NEL-WST-NWA-4990-ULS-DRG-9537 to 9539 in Attachment 2: Landscape Design) – The SUP connection with the SUP delivered by the Burke Road to Springvale Road UDLP to form a continuous route along the Eastern Freeway – Subtle wayfinding markers for pedestrians, cyclists and motorists have been designed to be intuitive, inviting and engaging, to provide points of interest and to serve a function.

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
Objective 2.2 – Transport Integration	Maximise the benefits of the Project by facilitating seamless access to a variety of public transport, walking and cycling choices as part of a connected intermodal network.	The design supports walking, cycling and access to public transport services as part of a connected intermodal network. This includes the: – Eastern Busway which will provide a dedicated, fast and direct connection for buses from Doncaster Road to Hoddle Street, improving service reliability and significantly reducing trip duration – Inbound lane to the Eastern Busway at Chandler Highway which provides direct access for local buses (e.g. Routes 302 and 304) without mixing with other vehicles – Outbound lane from the Eastern Busway to Chandler Highway which provides improved exit for local buses – SUP which will improve walking and cycling connections, as well as access to existing public transport services on nearby roads (Chandler Highway, Kilby Road and Burke Road) – SUP which will provide a more direct route along the eastern Freeway, and shorter route than the Main Yarra Trail – SUP which will improve connections from the SUP to existing trails and roads at Merri Creek, Yarra Bend Road, River Circuit Trail, Chandler Highway, Darebin Creek Trail, Darebin Creek Trail and the Willsmere underpass and Koonung Creek Trail – SUP which will improve sections of the Main Yarra Trail between Belford Road and Burke Road that are currently steep and narrow – Existing modes of transport over and under the freeway which will be retained, including Yarra Bend Road, Yarra Boulevard, Chandler Highway, Willsmere underpass, Belford Road and Burke Road – New safety barriers on the Belford Road bridge which will meet contemporary road safety standards and provide safer pedestrian access – Upgrade of lights inside the Willsmere underpass which will contribute to the safety of pedestrians and cyclists.
Objective 2.3 – Legibility and Wayfinding	Provide a coordinated design that promotes visual connections and wayfinding, reduces reliance on signage and minimises visual clutter and obstructions to key views.	The design response supports the visual connection of motorists, bus passengers, cyclists and pedestrians to the transport journey along the corridor. It uses visual cues for wayfinding, reducing reliance on wayfinding signage and minimising visual clutter and obstructions of key views. This has been achieved by: – Avoiding visual clutter, such as directional signage on the existing bridges – Retaining important view lines to existing bridges, escarpments and borrowed landscapes – Contributing to the iconic bridge structures along the freeway that define the journey along the corridor and the SUP will be significant wayfinding marker for cyclists and pedestrians along the SUP – Ensuring the high-quality architectural forms of the new bridges and structures along the freeway tie-in with the existing modernist infrastructure elements, which also act as wayfinding markers along the freeway and SUP – Using materials that compliment the existing structures along the freeway and a muted colour palette for new infrastructure and noise walls, meaning they will sit sympathetically amongst the landscape with minimal visual distractions and clutter. The following is also noted regarding legibility and wayfinding: – Statutory signage and ITS signs to be included within the Project will promote efficient wayfinding for road users – Gantries will be considered in consultation with DTP (the road authority) to ensure adequate wayfinding on the road network is achieved – Clear and logical built form arrangement with adequate sightlines is prioritised for SUP users to minimise reliance on signage – Borrowed light from the freeway and adjoining local road network will illuminate the SUP – Handrail lighting will be included across the new SUP bridge. The existing transit lane signage on the face of the existing bridges (Burke Road, Belford Road, Chandler Highway, Yarra Boulevard and Yarra Bend Road) will be removed and not replaced. No new freeway signs or advertising signs will be placed on the face of these bridges. Clear sightlines from the freeway to these bridges will be retained, with ITS and other signage to be placed on gantries along the freeway.

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
 Principle 3 – Urban Integration Well integrated infrastructure provides a sound framework for successful cities and places.		
Objective 3.1 – Integration with Context	Avoid, minimise and mitigate any severance of communities. Provide a well-integrated corridor environment that enhances the street network and takes advantage of opportunities to connect and integrate with the broader commercial, residential and open space functions and environment.	The upgrade of the freeway and construction of the SUP does not sever any existing communities. This includes: – All existing locations for vehicles, pedestrians and cyclists to cross the Eastern Freeway at Burke Road, Belford Road, Chandler Highway, Yarra Boulevard, Yarra Bend Road, Trenerry Crescent and Hoddle Street are retained – All existing locations for pedestrians and cyclists to pass under or over the Eastern Freeway at Merri Creek, Willsmere underpass and the Maugie Street overpass will be retained. The upgrade of the SUP, including the construction of a new section of trail from the east side of Merri Creek to Chandler Highway and the upgrade of the existing section of the Main Yarra Trail from Belford Road to Burke Road will improve connectivity in the local area. New elements along the corridor, such as the SUP bridge, road barriers and new noise walls have been carefully designed to integrate with the local context and avoid, minimise and mitigate severance of communities while enhancing the local network. This includes: – The SUP provides new connections at the Main Yarra Trail near Merri Creek, Yarra Bend Road, River Circuit Trail near the Birrarung, the eastern side of Chandler Highway, and Main Yarra Trail east of Chandler Highway. Where the new section of the SUP is proposed at the Main Yarra Trail east of Willsmere Park, it will pass under Belford Road bridge and the existing section of the Main Yarra Trail will be retained as a secondary path between Willsmere Park, Belford Road and Kew Golf Course. Where the new section of SUP is proposed at the Main Yarra Trail east of Kew Golf Club, it will pass under Burke Road bridge and the existing section of the Main Yarra Trail will be retained as a secondary path that follows the meandering course of the Birrarung. These connections take advantage of opportunities to connect and integrate with the broader commercial, residential and open space environments surrounding the Project. – The design of the noise walls includes breaks to ensure continued access for pedestrians and to maintain infrastructure and landscaping – The noise walls, retaining walls and built infrastructure are framed through a vegetated landscape, including plants and large tree canopies that are strategically sited throughout the Project area to enhance and create integration with the public domain context.
Objective 3.2 – Integration of Design	Ensure an integrated engineering, urban design, architectural and landscape architectural approach that sensitively addresses social, cultural, functional and physical aspects of the Project.	This UDLP has evolved through the collaboration of engineering, design, landscape, ecology and stakeholder consultation to achieve an integrated, enduring and high-quality solution that responds to social, cultural, functional and physical drivers for the Project. The design responds to the overlapping experiences of pedestrians, cyclists, bus passengers and motorists to provide a seamless journey for all users. The integrated approach has resulted in the following outcomes: – Views connect road users to the surrounding landscape, including the tree canopies from Merri Creek to Yarra Boulevard, the rock escarpment and modernist freeway where the SUP alignment runs parallel to the roadway – Increased areas of vegetation face the roadway, contributing to a more natural and appealing roadway environment – The SUP bridge, in the proportions of the piers and the shape of the abutment walls, reflects an integrated engineering and urban design composition that is sympathetic to the surrounding natural environment – Unobstructed views of the existing natural landscape from the SUP bridge provides a sense of openness and allows road users to maintain a strong connection to Country – The new Eastern Busway bridge and entry and exit ramps at the Chandler Highway interchange reflect an integrated architectural and structural design whereby the bridge harmonises with its surroundings, and the newly vegetated embankments blend seamlessly into the existing landscape – The Eastern Busway bridge and noise walls integrate with the existing freeway infrastructure and reflect the landscape context along the corridor – Noise walls and built infrastructure use layered planting to integrate with the local environment, and native tree planting and vegetated batters inside and outside the road corridor continue the tree-lined setting of the Eastern Freeway A collaborative co-design process with WWCHAC will further identify place-specific and cultural design expressions for bridges, noise walls, screens and other structures to create an authentic sense of place.

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
Objective 3.3 – Strategic Alignment	Provide an integrated transport infrastructure and land use solution that responds to strategic transport and land use planning for the broader precinct in consultation with local government and authorities.	Development and refinement of road alignment and associated infrastructure – active transport linkages, and connection to adjacent nodes – continues through ongoing consultation with relevant authorities and local government to ensure all broader precinct strategic transport and land use planning objectives are addressed. The design response has been positively shaped by the following strategic documents: – <i>Plan Melbourne 2017-2050</i> (and 2019 Addendum) – the Plan sets out broad transport and land use directions for a growing Melbourne. The Project provides an appropriate response to Plan Melbourne in the following ways: – The Project will help connect people to jobs and services and goods to market (Outcomes 1 and 3) – The design of its infrastructure will ensure Melbourne continues to be a distinctive city with quality design (Outcome 4) – The design employs a variety of techniques (including tree planting, a bioretention system and the delivery of the SUP) to ensure the sustainability and resilience of the infrastructure and the corridor around it (Outcome 6) – <i>Healthy Waterways Strategy 2018-2028</i> – the design has sought to respond to the goals and values within this strategy by ensuring that the waterways crossing and within the corridor are enhanced and stormwater is suitably managed, where appropriate – <i>Victorian Cycling Strategy 2018-28</i> – through the delivery of the SUP, the Project is helping to deliver a safer and better-connected cycling network in Melbourne’s east. The design provides a direct cycling connection from Burke Road to the Main Yarra Trail to the east of Merri Creek. The SUP links to the network of existing paths and trails, including the Main Yarra Trail. The SUP provides a new route that avoids steep inclines along sections of the retained Main Yarra Trail. – <i>Burndap Birrarung Burndap Umarkoo (Yarra Strategic Plan) 2022-2032</i> – the WWCHAC’s involvement in the creation of the strategic plan and the Project’s ongoing collaboration with the WWCHAC ensures a continuity of approach and thinking. The bioretention system to filter stormwater runoff from the freeway at Jack O’Toole Reserve will contribute to improved water quality within the catchment and the health of waterways.
Objective 3.4 – Minimise footprint	Minimise negative impacts on the community and the environment by minimising the Project footprint and visual bulk, particularly where it intrudes on sensitive land uses including open space and existing vegetated areas.	The integrated design approach has minimised the impact on open space and reduced the visual bulk of the infrastructure. This includes: – Project footprint widens into the central median of the freeway, as opposed to extending into the surrounding rock cutting and open space – Form and materiality of the Eastern Busway bridge is pure and simple to minimise obtrusiveness of the new structure on the existing modernist design of the Chandler Highway bridge – Height of the Eastern Busway bridge has been reduced, meaning it avoids visually dominating the interchange – The SUP bridge uses a lightweight structure that allows visibility through to the natural landscape – Textures and colour of new noise walls will be muted in keeping with the existing timber noise walls along the corridor – Retention of the mature tree canopy where possible and new plantings will retain the green landscape along the transport corridor, allowing the canopy to be visually dominant over the noise walls that sit beneath (see Drawings NEL-WST-NWA-4990-ULS-DRG-9571 to 9573 Attachment 2: Landscape Design) – The overshadowing assessment which demonstrates that the location and height of new noise walls will not over-shadow existing open space between the hours of 9am-3pm on 22 September (see Drawings NEL-WST-NWA-4100-UUD-DRG-9275 to NEL-WST-NWA-4200-UUD-DRG-9286 in Attachment 4: Overshadowing and Overlooking Assessment) – New safety screens on the Belford Road bridge and the SUP bridge to meet contemporary road safety standards, minimise post sizes and frequency, maximises visual permeability, reduces visual impacts and integrates the barrier into the form of the bridges – A ‘no-go-zone’ within the Grey-headed Flying-fox habitat adjacent to the southern edge of the freeway through Yarra Bend Park.

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
 Principle 4 – Resilience and Sustainability Infrastructure must be sustainable, enduring and resilient to support current and future generations.		
Objective 4.1 – Enduring & Durable	Provide a design that is enduring and functional for generations to come, is readily maintainable and will age gracefully in concept and detail, ensuring a positive built form legacy.	The design response will provide an enduring and functional legacy for generations to come. The design is readily maintainable and will age gracefully in concept and detail. The design concept has been carefully considered to ensure a positive built form legacy in the following ways: – The Birrarung is celebrated in the design response through the inclusion of the SUP bridge over the river. The bridge is an iconic landmark that expresses Wurundjeri Woi-wurrung cultural themes, creates a strong connection to Country, and enhances the visual and cultural landscape. – Slender, tree-like piers branch out to support the steel truss spanning the Birrarung – The open weave of the stainless-steel mesh safety barriers along the bridge deck provide structural elegance and visual permeability, allowing expansive views for cyclists and pedestrians on the bridge, as well as for bus passengers and motorists travelling along the Eastern Freeway. Materials selection is driven by durability and sustainability and has been carefully considered to age gracefully in concept and detail, thereby contributing positively to the long-term legacy. Examples of this include: – Weathered and galvanised structural steel, stainless-steel tensile safety screens and off-form concrete have been selected for the new infrastructure so that it is in keeping with the existing modernist infrastructure along the freeway – New RMP noise walls are robust, require minimal maintenance and are integrated with anti-graffiti qualities – Mulching and the salvage of timber for use as habitat logs – Chain-link mesh fencing to be used on bridges is a readily maintainable material with a robust lifespan – Pigmentation of concretes that may be proposed as part of the co-design solution will be designed to age and fade into muted tones to complement open face rock cuttings characteristic of the surroundings. Engagement with proposed asset owners, including councils, will occur during detailed design to ensure the outcome is readily maintainable, fit for purpose and can be enjoyed by the community for years to come. Agreements with proposed asset owners will be obtained to ensure the standard and final design accords with the stakeholder’s expectations.
Objective 4.2 – Resilience & Future Proofing	Ensure the infrastructure is able to survive, adapt and perform when subjected to acute stresses and shocks such as changes in climate, technology, future fleets, road use and extreme events.	The design ensures the infrastructure can survive, adapt and perform when subjected to acute stresses and shocks in the following ways: – The freeway and SUP corridors are designed to accommodate modal intergeneration and adaption to future technological change, which includes road demand to 2036 – A climate and natural hazards risk assessment and treatment plan is being developed to support delivery of a future-proofed outcome. Risks have been identified by the design team and evaluated for severity and likelihood using Representation Concentration Pathway (RCP) 8.5 climate projections – Built form and infrastructure elements use construction materials as the finished product such as concrete, steel and rock – The design and materials are well-suited to their environmental context, promoting durability and minimising long-term maintenance – All materials and systems comply with necessary warranties with weathered and galvanised steel components offering a resilient solution for both new bridge structures and upgrades to existing ones – Landscapes are designed to support a resilient outcome, with modified plantings better able to survive flood events, such as around the banks of the Birrarung, where batters are proposed to be planted with species that self-colonise and thrive in the localised conditions – The upgrade of the SUP along the corridor responds to the increasing use of e-bikes as a mode of transport, by increasing lane width and modifying the curvature of bends along the route – The design of the SUP bridge and drainage infrastructure responds to current flood modelling that has factored in the 1% AEP plus climate change to 2100 – The Project considers increasing temperatures and heatwaves by reducing urban heat island impacts with shading and low absorption, light coloured materials – The ITS enables the freeway to be managed in real time to adapt to transport stressors by directing vehicles out of occupied lanes or reducing speeds to manage traffic flow – Wurundjeri Woi-wurrung peoples’ knowledge of managing bushfire risk will inform vegetation species selection.

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
Objective 4.3 – Environmental Sustainability	Optimise environmental performance and embed sustainability initiatives into the design response. This includes integrated water management, biodiversity and habitat enhancement and connections, green infrastructure provision and sustainable use of energy and materials.	The design optimises environmental performance and embeds sustainability initiatives into the design response. This includes: – A Sustainability Design Brief is used to communicate and develop the design response across the North East Link Program and includes sustainability targets and requirements relating to carbon reduction, life cycle impacts, Recycled First targets, integrated water management, resilience and ecology – Design optimisation has occurred and will continue to be undertaken throughout design development to reduce and optimise material use, operational energy and energy required for construction works, with these savings being captured and quantified by the sustainability team – Existing noise walls are retained where possible to minimise material use, maximise opportunities for mature vegetation retention and extend the functional lifespan through minor refurbishments and adjustments – RMP panels, selected for their durability, embedded energy reduction and recyclability amongst other features – Material lifecycle reductions are achieved through the reuse of materials and use of recycled materials, including topsoil and subsoil in landscaping, trees for habitat logs, recycled materials in hard landscaping, recycled plastic fibre reinforcement for the SUP instead of typical steel reinforcement, the use of reclaimed asphalt pavement and reduced use of Portland cement within the Project – Energy and greenhouse gas emissions are to be reduced through a construction decarbonisation strategy that includes electrification of a proportion of construction plant and equipment, use of alternative fuels, purchase of renewable energy for all construction electricity and optimisation of the proposed construction methodology – Energy use in operation is being minimised through optimisation of the proposed public lighting design and the use of energy efficient LED lighting where feasible – New areas of planting, which will include indigenous and native species to bolster habitat and biodiversity within the corridor that respond to the different micro-climates and are drought tolerant – The design is integrated with the existing stormwater infrastructure that manages freeway run-off and flooding and is further supported by the construction of a new bioretention system at Jack O’Toole Reserve.
Objective 4.4 – Whole of Life	Ensure the design is appropriate having regard to ongoing maintenance, operations and upkeep; and effective governance arrangements are established to ensure its functionality, design qualities and appearance is able to meet community expectations.	The proposed design outcomes take into consideration aspects of ongoing maintenance, operations and upkeep. As part of the design development process, design reports for all works packages will include an operations and maintenance review of the design solution, covering maintenance access, material maintenance considerations and durability assessments. Coordination with relevant authorities will ensure ongoing maintenance delivers best outcomes. The design will deliver outcomes for landscape and infrastructure that meet community expectations and maintenance requirements. Agreements with proposed asset owners will be obtained to ensure the standard and final design accords with the stakeholder expectations. The integrated design of the structures and their forms utilise a considered material palette, including weathered and galvanised structural steel, stainless steel tensile safety screens and off-form concrete, which have been selected in response to the modernist character of the existing Eastern Freeway infrastructure. The decision to retain the natural finish of these materials provides a long term, robust solution that is inherently low maintenance. The proposed freeway lighting design minimises both maintenance and energy consumption, for example: – New lighting is provided at the outer edge of the freeway rather than within the central median between Chandler Highway and Burke Road providing simpler and safer access to undertake maintenance – The provision of fewer taller poles at a higher lamp wattage provides both material and energy savings – The existing light fittings on retained mast lights west of Chandler Highway will be upgraded with LED globes where feasible, subject to structural assessments. The North East Link Program is targeting net zero emissions in operation and maintenance. The Project will support this objective through initiatives that minimise operational energy such as energy efficient lighting and signalling, using LEDs where agreed by the asset owners. Ongoing maintenance requirements will be reduced by using durable materials, such as concrete and drought resistant native vegetation species. The Project objective to increase tree canopy cover also decreases lifecycle carbon emissions, by sequestering more from the atmosphere.

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
 Principle 5 – Amenity High quality urban amenity afforded by well-designed infrastructure contributes to successful, equitable and prosperous communities.		
Objective 5.1 – Improved Amenity	Enhance urban amenity through a highly considered and site-specific response to realise opportunities and address challenges to create better places for people.	The Project enhances urban amenity by improving places for people. Examples of this include the: – Landscape and habitat planting within Yarra Bend Park, around the SUP bridge and public open space interfaces to optimise biodiversity and visual amenity – SUP which connects the community via the River Circuit Trail and the Main Yarra Trail to Yarra Bend Park as well as other areas of open space – SUP and SUP bridge which provide a safer, more accessible missing link in the commuter cycling network – Points of visual interest along the corridor, such as the SUP bridge which is a new landmark and a place to view the adjacent landscape of Yarra Bend Park and the Birrarung – Separation of cycling and pedestrian paths within Yarra Bend Park near Fairlea Reserve provides a safer outcome for pedestrians and cyclists, reducing potential conflicts during times of high use – Bioretention system at Jack O'Toole Reserve which contributes to an integrated water management response and improves water quality – Increased tree planting within the Hoddle Street, Chandler Highway and Burke Road interchanges to improve the visual amenity of the freeway (within the limitations of the floodplain at Burke Road) – Existing tree canopy that is retained to the extent feasible and buffer plantings at the interchanges and along the corridor that will create better places for people.
Objective 5.2 – Landscape Values	Create positive outcomes for the community with a coherent landscape response that embraces natural qualities and values.	The landscape response has considered the location and placement of planting types to maintain coherence across the Project, while also being responsive to characteristics of specific areas. To do this, plant palettes have been formulated for use in different scenarios. As an example, the palette used within parklands is different in terms of distribution and diversity of plants, as compared to the palette for roadside planting, where hardier trees and vegetation is proposed. Similarly, the placement of plantings to create nodes reinforces a sense of arrival or departure at key thresholds along the SUP, including near Burke Road, the SUP bridge and near Merri Creek. The Project improves the ecological and landscape amenity within the freeway and adjoining land, to create positive outcomes for the community and fosters greater connection to Country. To ensure the design response embraces the natural qualities of the existing landscape, plant species for the Project are predominantly selected from the locally occurring vegetation classes of the broader region. Species have been selected with consideration to the soil conditions and varying micro-climatic conditions along the Project corridor. Consideration has also been given to plant species of cultural significance to the Wurundjeri Woi-wurrung people, such as the Manna Gum (see list in Drawings NEL-WST-NWA-4990-ULS-DRG-9511 to 9519 in Attachment 2: Landscape Design).

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
Objective 5.3 – High Quality	Provide a high quality design outcome that makes a positive contribution to the local built and natural environment and minimises physical and visual impact on the surrounding community.	Positive contributions to the local built environment include: – Architectural form of bridges, ramps and the SUP bridge that avoid the use of superfluous materials, minimise the number of piers and integrate elegant forms that promote the structures as landmarks (see Drawing NEL-WST-NWA-4100-UUD-DRG-9102 in Attachment 1: Architecture and Urban Design) – Integration of noise walls and retaining walls with the surrounding landscape. Positive contributions to the local natural environment include: – Use of a native plants and tree canopy to enhance habitat for wildlife, improve visual amenity, provide shade for pedestrians and cyclists and avoid erosion of embankments (see Drawings NEL-WST-NWA-4990-ULS-DRG-9532 to 9539 in Attachment 2: Landscape Design) – Improved connectivity and amenity along the network of SUP and intersecting trails and paths. Physical and visual impacts on the surrounding community have been minimised by: – The use of strategically located plantings along the community side of the noise walls to provide a transition from the freeway to nearby residents, streets and open space – The repair and painting of retained noise walls combined with plantings to soften the interface – The design of new RMP noise walls with a community-facing side that uses visual treatments and plantings to soften the interface.
Objective 5.4 – Experiential	Provide a great journey for motorists, public transport users, pedestrians and cyclists with consideration of the varying speeds and journey types. Prioritise the visual amenity of the community over the road user.	This UDLP seeks to provide a great journey for all transport users along the corridor, including motorists, public transport users, pedestrians and cyclists. The elements that make the journey great are the: – Retention of the escarpments, modernist architecture of the existing freeway and views from the freeway to the borrowed landscapes – Enhancement of the retained tree canopy by undertaking replacement tree planting – Sympathetic design of new bridge structures for the replacement exit ramps at Chandler Highway and Burke Road (see Drawings NEL-WST-NWA-4200-UUD-DRG-9015 and 9019 in Attachment 1: Architecture and Urban Design) – Iconic design of the SUP bridge at the crossing of the Birrarung (see Drawing NEL-WST-NWA-4100-UUD-DRG-9014 in Attachment 1: Architecture and Urban Design) – Strategically located plantings within the road reserve, along the SUP and at the interface between the road and residential areas – Modest use of colours and texture on new noise walls to harmonise with the existing timber noise walls. The design of the SUP bridge is a notable addition to the corridor as it stands out as a significant urban landmark. Its design and construction methodology, including the selection of materials and finishes, embed the structure firmly within its physical and cultural context, strengthening its connection to both Country and community. From the slender, tree-like piers that branch out to support the steel truss spanning the Birrarung, to the open weave of the stainless-steel mesh safety barriers along the SUP deck, every element has been carefully considered. These details also invite visual permeability, allowing expansive views for cyclists and pedestrians on the bridge, as well as for bus passengers and motorists travelling along the Eastern Freeway (see Drawing NEL-WST-NWA-4100-UUD-DRG-9014 in Attachment 1: Architecture and Urban Design). The design of the bridge is integrated into the natural landscape, serving not only functional purposes but also acting as subtle wayfinding markers for pedestrians, cyclists and motorists. The sculptural and considered form creates a strong connection to Country and fosters meaningful connections between people and place. These interventions contribute positively to the experience of movement through the corridor while also enhancing the visual and cultural landscape for surrounding communities. In addition to the above, this UDLP prioritises the visual amenity of the community by retaining the existing tree canopy to the extent feasible and through strategic planting and noise wall treatments along the interface between residential areas and the transport corridor.

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
 Principle 6 – Vibrancy Vibrant communities are places where people want to visit, experience or live.		
Objective 6.1 – Putting People First	Provide places that are comfortable, inclusive and pleasant for the local community, support active and healthy lifestyles and encourage diverse social interaction within public spaces.	Building upon the existing landscape character, the active transport network and open spaces will provide places that are comfortable, inclusive and pleasant for the local community, support active and healthy lifestyles and encourage diverse social interaction within public spaces. New built elements, while being integrated seamlessly within their context, are memorable and distinctive. For instance, the SUP bridge is a unique crossing of the Birrarung, delivering an engaging experience for pedestrians and cyclists through its tree-like piers, steel truss and stainless steel mesh, which provide structural elegance as well as visual permeability. It is also a distinctive wayfinding event and a feature element along the journey. Further west of the SUP bridge, the UDLP formalises the River Circuit Trail to enhance pedestrian safety, function and enjoyment of the adjoining recreational open space. Active lifestyles are also supported through the provision of an inclusive SUP network. This includes the avoidance of steep inclines along the path to make it useable for a range of physical abilities. Multiple points of connection from the SUP to the local transport network provide opportunities for the community to pause, play and explore local parks along the route (see Drawings NEL-WST-NWA-4990-ULS-DRG-9532 to 9533, NEL-WST-NWA-4990-ULS-DRG-9535 and NEL-WST-NWA-4990-ULS-DRG-9537 to 9539 in Attachment 2: Landscape Design).

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
Objective 6.2 – Places for people	Improve local neighbourhoods where there are opportunities to create inviting, people-friendly streets and public places.	New noise walls constructed of RMP panels provide both durability and design versatility. The panels support double-sided patterning and colour application, enabling place-specific visual treatments on both the freeway-facing and community-facing sides. The co-design process will further contribute to the embedding of meaningful cultural narratives and locally relevant expressions into the design of the noise walls. Complementing this, a considered landscape strategy introduces a palette of contextually appropriate plant species that work in harmony with the noise wall treatments. Together, these elements ensure that the interface between the noise walls, paths, SUP and surrounding roads is cohesive, contextually sensitive and visually engaging throughout the Project corridor. Adjacent urban landscape and street interfaces are addressed throughout the Project, protecting existing community spaces and providing an expanded range of diverse public spaces for community benefits, such as the SUP spanning from east of Merri Creek to Burke Road and beyond, connecting communities with the active transport network and increasing access to community facilities. The design improves public spaces in existing local neighbourhoods adjacent to the freeway by the construction of the new and upgraded sections of the SUP which will make it easier for the community to connect to local open space. The design also integrates the tree-lined setting of the surrounding neighbourhoods into the Project areas through supplementary native vegetation planting. This planting will reinstate and enhance vegetation and landscape visual amenity within the public open space. Together these additions will assist in fostering healthy, active communities and vibrant people-friendly urban environments. Overall, the Project will deliver an improved inviting and people-friendly public space for the community.
 Principle 7 – Safety Safe environments are essential for strong, connected and liveable communities.		
Objective 7.1 – Safer places	Reduce the opportunity for crime, maximise passive surveillance and support safe, comfortable and enjoyable places that meet Crime Prevention through Environmental Design (CPTED) principles.	The selection and location of plant and tree species maintains sight lines across connected landscape spaces, increasing passive surveillance and mitigating CPTED issues, providing a safe user and community experience within public open spaces. This is achieved through a deliberate reduction in mid-storey planting, favouring a low understorey of native grassland species interspersed with open-canopy trees. Long-span bridge crossings, like those within the Project, can present challenges for perceived user safety. The proposals maximise the perceived and actual openness and natural surveillance of bridge users from the freeway and adjacent spaces. Screens are visually permeable enabling sightlines that are straight and open. Safety screens on pedestrian and cyclist bridges have been designed to address potential user behaviours, including over the freeway and over the river, to prevent climbing and jumping from the bridge. Fencing and barriers adjacent to the SUP have been selected with CPTED considerations in mind. Products proposed, such as the use of chain-link mesh, are visually permeable to allow passive surveillance and penetration of ambient light from surrounding areas, avoiding the creation of dark corridors. The design avoids the creation of dark, narrow spaces. For example: – The wide openings and spacings of the SUP under the existing bridges allows light to penetrate and supports passive surveillance – The stainless-steel tensile mesh proposed for use on both the SUP bridge and Belford Road bridge is visually lightweight and supports passive surveillance to increase safety for users. The SUP bridge has handrail lighting incorporated in addition to supplementary lighting along the SUP to meet safety, accessibility and visibility requirements.

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
Objective 7.2 – Road Safety	Prioritise safety for all users including motorists, cyclists, pedestrians and public transport users and avoid unnecessary distractions.	The design has adopted a safety-led solution for all users in the following manner: – Road design has been developed in accordance with current standards and best practice, noting that Road Safety Audits have already been undertaken and will continue to be undertaken through the following stages of design development – The use of continuous concrete barriers aligns with safe principles for road users – Variable message signage on regularly-spaced gantries prioritises the safety of motorists and minimises clutter – Dedicated lanes on the Eastern Busway minimises the interaction with other modes and movements, reducing conflict and delays with motorists – Design of the SUP is consistent with CPTED principles to provide for the safety of pedestrians and cyclists – A raised pedestrian crossing is provided at Yarra Bend Road to increase visibility of the SUP crossing and provide physical indicators of priority movements to support signage – SUP crossings at Yarra Boulevard, Chandler Highway, Belford Road and Burke Road to avoid unnecessary interactions between motorists and active transport users – The secondary pathway at the River Circuit Trail in Yarra Bend Park separates cyclists from pedestrians – The design of the SUP (including the SUP bridge) balances accessibility, environmental impacts, inclines and rest areas – Landscape heights and planting locations provide suitable sightlines for pedestrians and cyclists as they move along the SUP (see Drawings NEL-WST-NWA-4990-ULS-DRG-9551 and NEL-WST-NWA-4990-ULS-DRG-9533 in Attachment 2: Landscape Design as an example) – The interface with the freeway has been carefully considered to provide visibility and safety for transport users – Safety will continue to be the priority of the design development through the establishment of a Safety in Design process that reviews the designs for safety during the construction, operation, maintenance and demolition stages.
 Principle 8 – Accessibility Highly accessible and inclusive environments encourage positive activation and are vital to community wellbeing, inclusion and health.		
Objective 8.1 – Universally Inclusive	Enhance universal access across the affected and surrounding area for all members of the community.	This UDLP has prioritised universal access to provide safe, easy and a comfortable pathway that supports users to navigate the new SUP and upgraded sections of the Main Yarra Trail effectively. Examples of improved access for people with disabilities and parents with prams are the new: – SUP replaces the section of Main Yarra Trail between Belford Road and Burke Road, improving access along the wider and smoother surface – SUP at Belford Road provides a new route that avoids the steep hill along the existing Main Yarra Trail, making it more accessible and usable – SUP bridge which is designed to comply with accessibility standards, such as gradual sloping on the approaches and functional handrail lighting to improve visibility – SUP through Yarra Bend Park and the new walking path at Fairlea Reserve that integrate new areas of access and separates pedestrians, people with disabilities and parents with prams from other users on the SUP through this busier section of Yarra Bend Park – Raised pedestrian crossing on Yarra Bend Road. Other principles of universal access that are promoted across this UDLP are: – Maintaining a minimum width of 3m along the new and upgraded sections of the SUP – Providing accessible grades where possible – Smooth and slip-resistant surfaces.

5. Consistency with the Urban Design Strategy

UDS Reference	Urban Design Outcome	UDLP Response
Objective 8.2 – Twenty-Minute Neighbourhoods	Support and enhance 20-minute neighbourhoods for convenient and desirable access to everyday services and facilities (within a 20-minute walk from their home, or faster by bicycle or local public transport).	The design includes a new and upgraded SUP and linkages along and across the corridor to make it easier, safer and faster for communities to access services and facilities through active or public transport. Examples of how the Project enhances 20-minute neighbourhoods include: – Improved connections for cyclists and pedestrians to Yarra Bend Park, Chandler Highway, Willsmere Park and interconnecting roads, trails and paths support access to every day services and facilities in nearby neighbourhoods – Improved lighting within Willsmere underpass, making it a safer and more desirable route – Improvements to the grade of the SUP that avoids steep sections of the Main Yarra Trail, making it more accessible for a range of users.
Objective 8.3 – Active Transport	Encourage walking and cycling for transport and recreation with an integrated active transport infrastructure that meets future growth in demand and connects seamlessly with surrounding networks and with proposed infrastructure being delivered by others.	The new SUP addresses a ‘missing link’ between the Main Yarra Trail near Merri Creek and the Main Yarra Trail near Burke Road. The Main Yarra Trail has long been a challenge as pedestrians and cyclists must currently use indirect and fragmented paths. The new SUP will address this gap with a direct and continuous off-road cycling and pedestrian path. The enhancements create a seamless, safer and more enjoyable experience for cyclists and pedestrians. The SUP supports walking and cycling for passive recreation and active transport. This includes the connection of the SUP to existing trails and paths, including those in/along/to: – Yarra Bend Park – Chandler Highway – Main Yarra Trail – River Circuit Trail – Darebin Creek Trail – Belford Road – Burke Road – Koonung Creek Trail – Anniversary Outer Circle Trail – Yarra Boulevard (via the existing and new connection to Chandler Highway).

5.2 Corridor wide key design directions

The Incorporated Document requires that this UDLP is consistent with the UDS. As per Section 3.2 of the UDS, the Project must demonstrate effective integration of disciplines to deliver an innovative and integrated design solution in response to the five corridor-wide key design directions. This section outlines this UDLPs consistency with the key design directions.

Table 7: Response to Corridor Wide Key Design Directions

Key Direction	Requirement	UDLP Response
1 Develop an integrated design response	The Project must demonstrate the effective integration of engineering and urban design to deliver an innovative and balanced design solution.	The design response has been collaboratively developed by a multidisciplinary, integrated Project team of urban and landscape designers, architects, engineers, planners, environment, heritage and sustainability specialists. Consistent with this key direction's intent to move beyond a business as usual and engineering-centred approach, the multidisciplinary team addressed design challenges holistically and the optimised solution delivers positive legacy outcomes where possible. For example, the SUP bridge: – Provides an iconic landmark design for the freeway that expresses Wurundjeri Woi-wurrung cultural themes – Enhances road and SUP user experiences – Minimises impacts to the natural landscape by locating the piers higher on the bank of the Birrarung and off-set from the existing freeway bridge piers. The construction methodology and staging have been integrated early in the design solution to ensure infrastructure can be built safely and efficiently and minimise impacts on traffic, community and environment during construction and in its permanent form. The design of the Eastern Busway bridge at the Chandler Highway interchange demonstrates this approach, with a significant reduction in the number of girders to be constructed to minimise crane lifts and associated disruption to road users. Low-carbon, recycled and reclaimed materials have been identified and incorporated into the design where appropriate and will be explored further in subsequent design phases. This includes coatings using low volatile organic compounds, energy-efficient lighting and durable, low-maintenance materials and finishes.
2 Support a natural and connected corridor	The Project must demonstrate a design that responds to the natural, movement and open space systems and improve connectivity to 'stitch' communities across the Project corridor.	The navigation of the existing active transport network from the Main Yarra Trail near Merri Creek to Burke Road is disconnected due to missing links in the network. The provision of a new and upgraded SUP along the Eastern Freeway alignment will provide an efficient, safe and visually interesting active transport link between the communities along the freeway. In particular, the provision of a SUP crossing of the Birrarung, as well as underpasses of Chandler Highway and Burke Road, will provide substantial benefits by promoting walking and cycling as a viable alternative for private vehicle transport. In addition, the key areas of habitat and native vegetation across the corridor have resulted in a thorough and considered planting strategy for the pedestrian interfaces. The planting design reinforces the legibility of key movements, provides visual connections and increases canopy cover and biodiversity through the following: – Retention and protection of existing high-value vegetation through the realignment of the SUP between Merri Creek and Yarra Bend Road, which minimises the number of high-value trees that would be impacted – Extension of the vegetation communities along the SUP and within open spaces to foster the local landscape character – A layered planting response that integrates noise walls and built infrastructure into the local environment – Tree planting that provides pedestrian respite, reduces urban heat island effects and increases habitat opportunities to foster biodiversity – Enhanced natural environment and biodiversity through tree canopy replacement and the use of a diverse selection of indigenous and native plant species for understorey plant palettes – To provide a cohesive design which stitches seamlessly across the whole Project corridor, planting combinations will also use mixes that have been specified in the adjacent Eastern Freeway upgrades – Continuation of the tree-lined setting of the Eastern Freeway, with native tree planting and vegetated batters inside and outside the road corridor, frame key decision points and activation nodes, including Kew Billabong, Kate Campbell Reserve and Yarra Bend Park.

5. Consistency with the Urban Design Strategy

Key Direction	Requirement	UDLP Response
3 Recognise cultural and historic values	The Project must demonstrate a design philosophy and approach that recognises, protects and promotes Indigenous cultural heritage values and celebrates and interprets places and objects of historical heritage importance.	The design process has involved a rigorous and respectful investigation of the landscape to identify sites with physical and cultural significance. Through the co-design process, a series of sites (Co-design locations) within the Project are being explored as places where cultural stories and practices may be meaningfully expressed or evoked. Design outcomes may include the subtle arrangements of landscape plantings, the reuse of rocks and logs as features, on-ground markings at transition points. This UDLP has also responded to the following historical elements: - The historic gate pillar adjacent to the Westfield Grasslands at Yarra Bend Road will be a point of interest along the SUP - The existing iconic high mast lights west of Chandler Highway will be retained - The new structures adjacent to the existing bridges are complementary in form and placement - The safety screening applied to Belford Road bridge is geometrically sympathetic to the existing structure and maintains sightlines and views with minimal visual impact. The landscape strategy recognises and exemplifies the existing tree planting design unique to this corridor, maintaining and enhancing the mature canopy and borrowed landscape of the Eastern Freeway.
4 Provide a great experience for road users	The Project must demonstrate a design that creates a great journey for road users, with a consistent experience that coherently links to adjacent freeways and provides a design hierarchy that allows for intuitive navigation.	The design creates a positive experience for road users that provides an improved journey from Hoddle Street to Burke Road, which seamlessly integrates into the Eastern Freeway upgrades east of Burke Road. Design interventions along the corridor build upon the strong existing character and supplement it with well-considered new forms. The new SUP bridge provides a distinctive yet fitting marker for motorists. With its striking yet simple structural language spanning over the river below, the bridge is light in appearance yet robust through its execution and function. The integrated design strategy allows views through the bridge from the motorist's perspective toward the tree canopies beyond. Safety screens on the existing Belford Road bridge also provide motorists with open, safe and unencumbered views. The retrofitted design of the bridge has been carefully considered to maintain the impressive engineering features of one of the freeway's existing landmarks, while integrating new mesh safety barriers into the existing form to meet current safety requirements for road users and pedestrians along Belford Road. In maintaining as much of the existing noise walls as possible along the Eastern Freeway, the existing character is extended and reinterpreted in a contemporary manner. New sections of noise walls will incorporate RMP panels, with textures and colours carefully selected to complement the existing timber walls and blend subtly within the surrounding landscape. From the driver's perspective, these new elements will appear as a seamless continuation, stitching cohesively between retained sections. On the community side, the noise walls will present muted, earthy tones that offer a subdued and respectful backdrop to the dense, verdant planting of the landscape. The Eastern Freeway's tree-lined setting will recognise and exemplify the tree planting design unique to the corridor, providing an opportunity to soften the bridge landings without visually impacting the architecture of the existing and proposed bridge structures, basalt cuttings and noise walls.
5 Create a context sensitive design	The Project must demonstrate a design that protects, maintains and enhances the local context through which the Project passes.	The distinct landscape character area of the Yarra River Valley is a key feature of the North East Link Program. The design response within this UDLP has carefully responded to community needs outlined in the UDS to ensure the design is respectful of uses and values of the community and enhances habitat and biodiversity values wherever possible. For example, planting species derive from indigenous and native vegetation types are used to join/close gaps along the SUP and freeway. The result immerses pedestrians and cyclists in the character of each land area and creates a journey that exemplifies the landscape character of the Yarra River Valley. The proposed built elements, including bridge spans, piers and retaining walls, build upon the established modernist freeway character with complementary forms, materials and finishes. New noise walls also complement retained noise walls while responding to the specific roadside and community-side interfaces.

5. Consistency with the Urban Design Strategy

5.3 Design character area key design requirements

The UDS defines three distinctive landscape character areas – Ridgeline, Yarra River Valley and Koonung Creek Valley – each containing distinct landscape and biodiversity values. This UDLP applies to land within the Yarra River Valley Landscape Character Area. This section outlines this UDLPs consistency with the key design requirements.

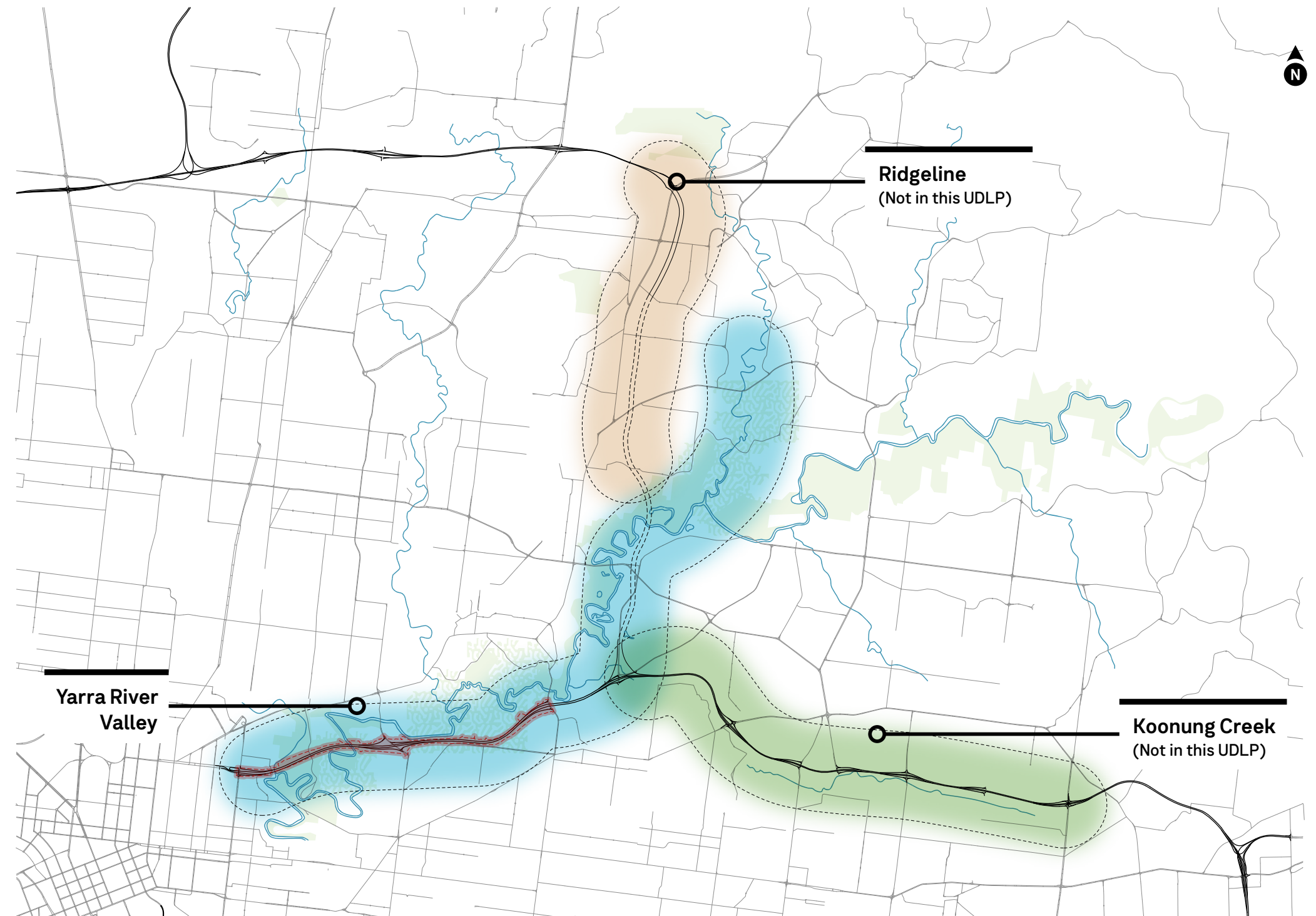


Figure 37: North East Link Program Landscape Character Areas

5. Consistency with the Urban Design Strategy

Table 8: Response to Yarra River Valley Landscape Character Area Key Design Directions

Yarra River Valley Design Character Area	
1.Y Protect and promote cultural values for places of significance including the Yarra River, Bolin Bolin Billabong and the Heide Museum of Modern Art	The design response acknowledges the spiritual and cultural significance of the Birrarung to the Wurundjeri Woi-wurrung people, respecting and protecting its unique character. The Birrarung is celebrated in the design response through the inclusion of the SUP bridge, which provides an iconic landmark design that expresses Wurundjeri Woi-wurrung cultural themes. The design also enhances road and SUP user experiences by providing a new, unique experience travelling over the Birrarung in this location. From the slender, tree-like piers that branch out to support the steel truss spanning the Birrarung, to the open weave of the stainless-steel mesh safety barriers along the SUP deck, every element has been carefully considered. These details invite visual permeability, allowing expansive views for cyclists and pedestrians on the bridge, as well as for bus passengers and motorists travelling along the Eastern Freeway. The sculptural and considered form of the bridge creates a strong connection to Country and fosters meaningful connections between people and place. This contributes positively to the experience of movement through the corridor while enhancing the visual and cultural landscape for surrounding communities. The outlook from the SUP bridge allows for broader views of the surrounding parklands and river corridor. It provides a visual connection to Country and appreciation for the characteristics of the area from the vantage point of SUP users, while maintaining views through the structure to the Birrarung for freeway and busway traffic. Physical impacts to the Birrarung corridor have been minimised through careful design and siting of footings associated with the SUP bridge, minimising vegetation removal and the impact of piers on the banks and waterway flows. Additionally, there is no widening of the Eastern Freeway outside of its existing boundary. The freeway will be modified to provide the Eastern Busway lanes within the existing shoulder areas and with additional traffic lanes being constructed in the central freeway median. Additional landscape plantings along the SUP provide opportunities for people to connect with and experience the cultural, landscape and environmental significance of the Birrarung and surrounding parklands. The design retains and enhances views from the Eastern Freeway through to landscape of Yarra Bend Park. Additional landscape planting and careful siting of road infrastructure ensures that impact to these places of significance are enhanced following completion of construction. The SUP bridge provides a vantage point to connect with Country, including the Birrarung. The SUP also provides connection to existing trails that encourage pedestrians and cyclists to explore the waterways and parkland. Where possible, the location of new noise walls has been carefully selected to maintain the views to native vegetation and parklands experienced by motorists and SUP users. The Heide Museum of Modern Art and the Bolin Bolin Billabong are located outside of this UDLP. The SUP supports connection to these destinations.
2.Y Respect the design qualities of the original section of the Eastern Freeway built in 1977 including mast lights and bridges, rock escarpments and ‘borrowed’ landscape	The design response respects the original design of the Eastern Freeway. This includes: – The design retains mast lights along the freeway to the west of Chandler Highway – The design removes mast lights to the east of Chandler Highway and replaces them with the same type of lights used for the balance of the Eastern Freeway Upgrades – Works to the bridges at Yarra Bend Road and Yarra Boulevard are avoided, including realignment of the SUP to avoid modifications to the Yarra Boulevard abutments – Where new structures are built on or adjacent to the existing modernist bridges (i.e. Burke Road and Chandler Highway, then the new structures (i.e. Eastern Busway bridge and exit ramps) are designed with simple forms and materials to conserve the views and quality of the existing bridges and landscape – While a stainless-steel tensile mesh protection screen is required on Belford Road bridge to meet Safety in Design requirements, the design integrates the new stainless-steel safety mesh barrier into the existing form of the bridge – Existing rock escarpments have been maintained with only minor modifications to a limited number of localised areas around gantry footings (see Drawings NEL-WST-NWA-4990-ULS-DRG-9551 to 9555 in Attachment 2: Landscape Design) – The tree canopy along the freeway retained to the extent feasible and enhanced with additional plantings to contribute to the borrowed landscapes – A design-palette of colours, textures and materials that reflects the existing infrastructure and landscape has been adopted for this UDLP – The views from the freeway through existing bridges to abutting parklands are retained to the extent feasible as key ‘framing’ design elements, particularly on the northern side of the freeway where new and enhanced landscape treatments provide filtered views through to the borrowed landscapes in Kew Golf Club and LaTrobe Golf Club – New noise walls along the freeway will have an appearance similar to the existing timber noise walls to minimise visual intrusiveness, with a limited palette of textures that reflect the surrounding natural context.

5. Consistency with the Urban Design Strategy

Yarra River Valley Design Character Area

3.Y Create a great bus user experience along the Eastern Freeway and a well-resolved facility for Bulleen Bus Park and Ride	The Bulleen Bus Park and Ride facility is located outside of this UDLP. The design response provides for a dedicated busway connection between Burke Road and Hoddle Street, avoiding both freeway and road traffic to deliver a streamlined bus user experience from the Park and Ride facility to inner Melbourne. The Busway provides passing views of the Kew and LaTrobe Golf Clubs and scenic views of the Yarra Bend Park and the Melbourne city skyline.
4.Y Maximise opportunities for land use integration at the Manningham Road interchange	The Manningham Road interchange is not located within this UDLP.
5.Y Be sympathetic to the landscape setting of the Greater Yarra Urban Parklands	The Greater Yarra Urban Parklands is the collection of parklands and conservation areas connected by the Birrarung, stretching from Warrandyte to Port Phillip Bay. The design approach in this UDLP is sympathetic to the section of the Greater Yarra Urban Parklands within the corridor. The UDLP responds to the natural landscapes and contribute to the sense of place, including the naturalistic landscape and riparian environment of the Birrarung and Yarra Bend Park, as well as to the filtered views along the freeway edges to the manicured open space of public reserves and golf courses. The landscape response improves the quality, amenity and character of the peripheral areas of the Project and areas either side of the SUP through plantings, which will be selected in consultation with the WWCHAC. The proposed landscaping has the effect of celebrating the valued landscape character while simultaneously improving and extending, where possible, biodiversity, ecological and habitat values. This UDLP design provides for the planting of canopy trees and enhanced areas of indigenous landscape plantings chosen from the indigenous and native vegetation, improving biodiversity and existing habitat links and visual amenity along the Birrarung.
6.Y Improve the ability for the community to access open space in Bulleen	Bulleen is not located within this UDLP.
7.Y Provide enhanced and more convenient cycling routes to Melbourne's inner city areas	The new and upgraded SUP provides an enhanced and more convenient cycling route through the following: – Streamlining the Main Yarra Trail by replacing existing gaps/detours at Chandler highway and Burke Road – New SUP bridge across the Birrarung to complete the 'missing link' of the Main Yarra Trail – New connections along the SUP linking it to existing roads, trails and paths across this UDLP, including Yarra Bend Park. The SUP will provide a shorter, flatter, quicker and safer route for those who commute to and from Melbourne's inner-city areas by bicycle.

5. Consistency with the Urban Design Strategy

5.4 Place specific requirements

This section of the UDLP outlines compliance with the place-specific requirements outlined in the UDS. Compliance with these requirements is demonstrated in the below table and demonstrates a context driven approach to design resolution.

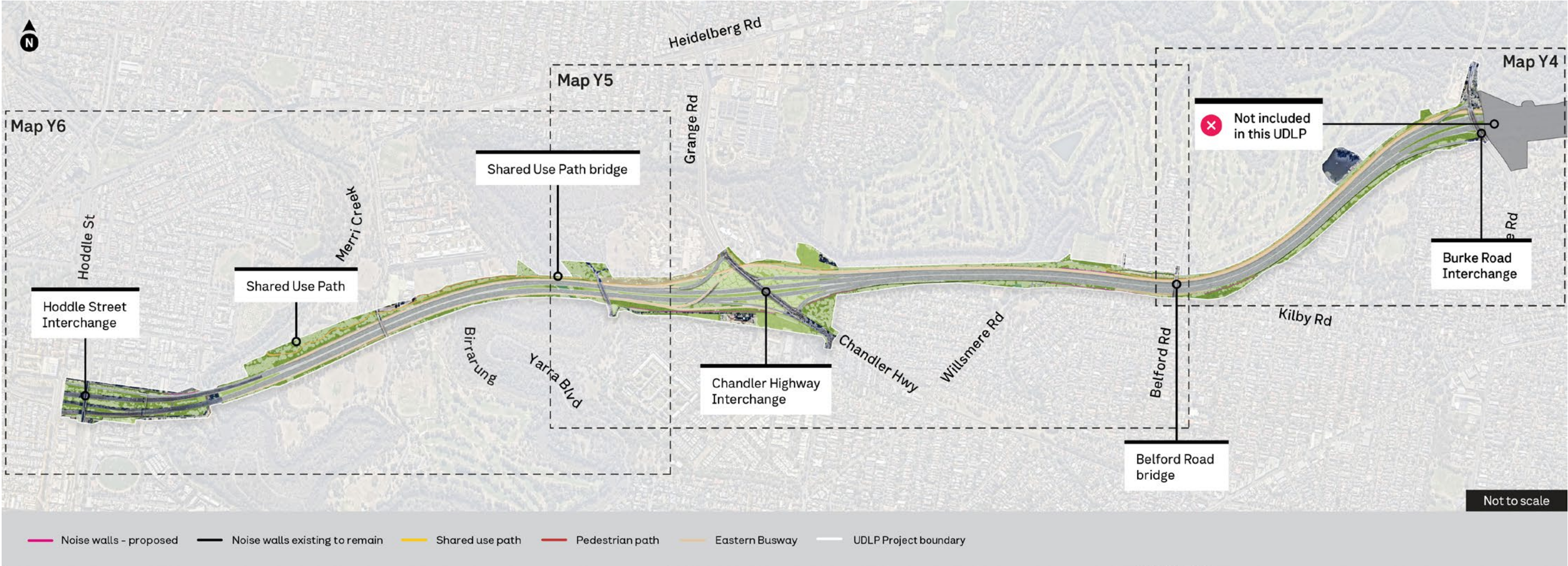


Figure 38: Yarra River Valley Landscape Character Area – Hoddle Street to Burke Road extent

5. Consistency with the Urban Design Strategy

Bulleen Road to Belford Road Map Y4

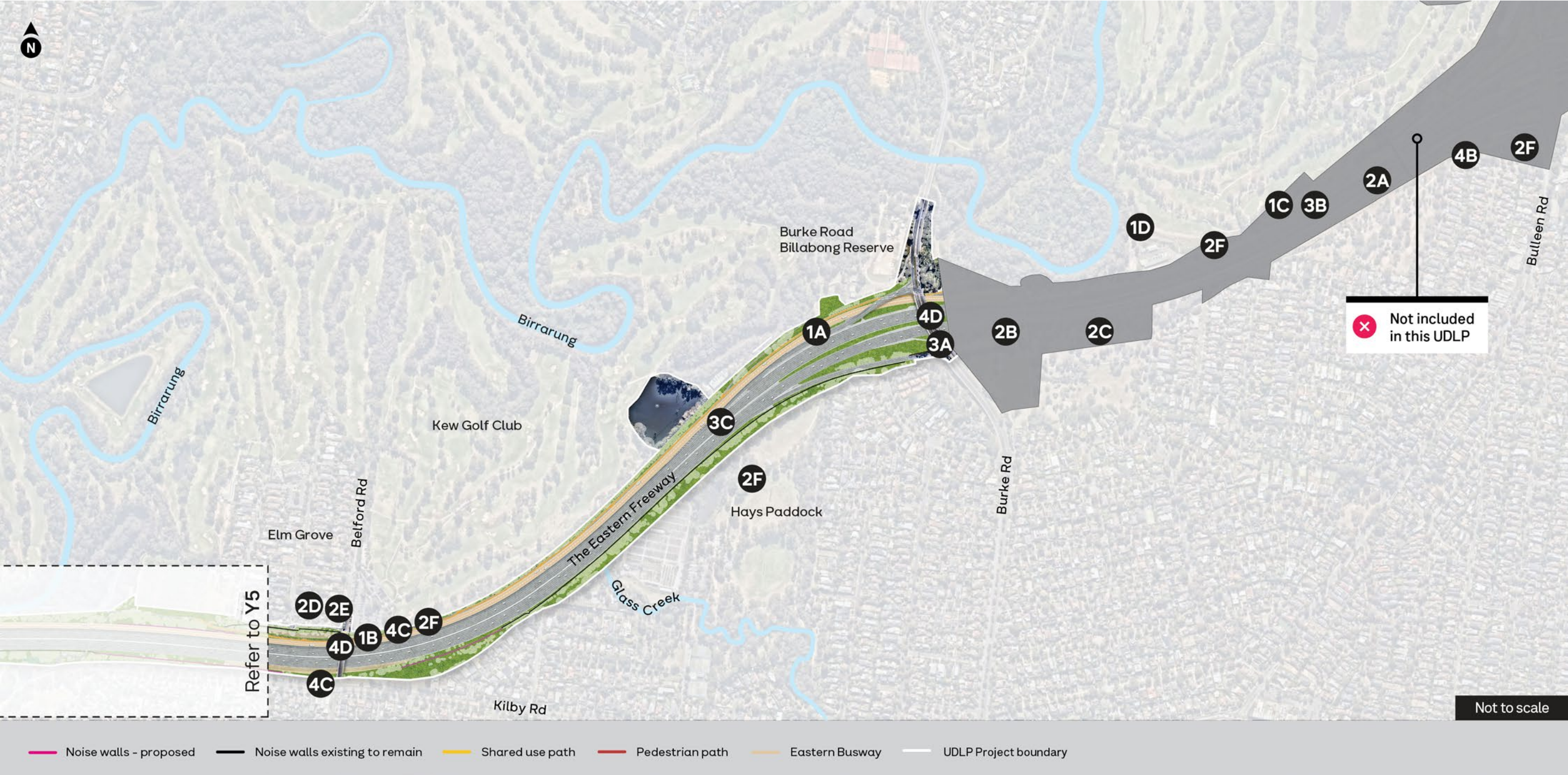


Figure 39: Burke Road to Belford Road UDS Map Y4

5. Consistency with the Urban Design Strategy

Table 9: Bulleen Road to Belford Road Map Y4

Requirement	UDLP Response
Connectivity, Wayfinding & Accessibility	
1A Provide a more direct cycling path parallel with the Eastern Freeway from Burke Road, connecting to the existing Koonung Creek Trail east of Burke Road.	A more direct SUP will be provided parallel to the Eastern Freeway. The route of the SUP will pass under Burke Road bridge, making it approximately 700m shorter than the existing path of the Main Yarra Trail around Burke Road Billabong. The existing circuitous route is shown in Figure 19.
1B Provide a cycling path on the north side of the Eastern Freeway at freeway level to address existing grade issues at Belford Road.	The existing Main Yarra Trail either side of Belford Road is narrow and has a steep incline, making this section a challenge for beginner cyclists and people with disabilities. The new SUP separates from the Main Yarra Trail on either side of the Belford Road escarpments to pass under Belford Road bridge. The maximum grade of the SUP in this section does not exceed 5%, ensuring the SUP is accessible for a range of users and abilities. The existing Main Yarra Trail has been retained at this location to accommodate access to Belford Road.
1C *Consider providing a walking and cycling path on the north side of the Eastern Freeway from Bulleen Road towards Burke Road.	The area between Burke Road and Bulleen Road is located outside of this UDLP.
1D *Consider providing a path connection along the east side of the Yarra River in the Freeway Golf Course to improve access on either side of the Eastern Freeway	The Freeway Golf Course area is located outside of this UDLP.
Amenity, Vibrancy & Safety	
2A Reinststate and enhance buffer planting along the Eastern Freeway interface at Columba Street Reserve. *Consider opportunities to improve neighbourhood/local unstructured and informal recreational facilities in consultation with Boroondara City Council.	The Columba Street Reserve is located outside of this UDLP.
2B Improve lighting and consider other enhancements to wall treatments, sightlines and wayfinding at the existing underpass beneath the Eastern Freeway connecting Musca Reserve and Yarra Flats Reserve.	The Musca Reserve and Yarra Flats Reserve is located outside of this UDLP.
2C Provide buffer planting to the edge of Musca Street Reserve to create a vegetated backdrop and filter views towards road infrastructure.	The Musca Street Reserve is located outside of this UDLP.
2D Design infrastructure to maximise solar access to properties along Elm Grove / Main Yarra Trail adjoining the Eastern Freeway.	No new noise walls are proposed that would impact on solar access to properties along Elm Grove and the Main Yarra Trail, and there is no other infrastructure proposed in this location that would overshadow private properties.
2E Noise walls adjacent to residential properties are to provide visual amenity on both the road and residential interfaces	Drawings NEL-WST-NWA-4990-UUD-DRG-9215 to 9218 in Attachment 1: Architecture and Urban Design show the noise wall materials, texture, colour and pattern treatments on both road and community faces. These are designed with a muted earthy tone to integrate with both the surrounding vegetation and retained timber noise walls, all contributing to provide visual amenity. The location of the different types of walls is shown in Drawing NEL-WST-NWA-4100-UUD-DRG-9201 to 9210 in Attachment 1: Architecture and Urban Design and should be read in combination with the landscaping shown in Attachment 2: Landscape Design.
2F Maximise views towards borrowed landscapes from the Eastern Freeway.	The borrowed landscape is the existing tree canopy that sit behind the existing noise walls. Views from the freeway towards the existing borrowed landscapes are retained. This UDLP contributes to these views through the targeted landscape plantings on the community side of the existing noise walls. These plantings will contribute to a denser tree canopy along the freeway's edge.

5. Consistency with the Urban Design Strategy

Requirement	UDLP Response
Resilience & Sustainability	
3A *Consider providing habitat infrastructure beneath Burke Road bridge to support habitat connectivity to and from the Yarra River.	The feasibility and effectiveness of a habitat link in this location was considered through the design development process and confirmed by suitably qualified Project ecologists. Based on known fauna populations it was of little benefit, unlikely to be used and lead to predation at the crossing point. As a result, this element is no longer proposed to be delivered and does not form part of this UDLP. It is considered that the proposed landscape along the freeway corridor provides a more effective means of improving and extending habitat, this includes the existing habitat crossings at Merri Creek, the Birrarung, Willsmere Underpass and Glass Creek Culvert. The land located underneath the Burke Road bridge will be grassed, as per the existing landscape.
3B *Consider providing a habitat link across the Eastern Freeway to the Freeway Public Golf Course.	The Freeway Public Golf Course is located outside of this UDLP.
3C *Consider providing a habitat link across the Eastern Freeway from Hays Paddock to Kew Golf Club.	The feasibility and effectiveness of a habitat link in this location was considered through the design development process and confirmed by suitably qualified Project ecologists. Based on known fauna populations it was of little benefit, unlikely to be used and lead to predation at the crossing point. As a result, this element is no longer proposed to be delivered and does not form part of this UDLP. It is considered that the proposed landscape along the freeway corridor provides a more effective means of improving and extending habitat, this includes the existing habitat crossings at Merri Creek, the Birrarung, Willsmere Underpass and Glass Creek Culvert.
Identity	
4A Through the design process, consider the relocation of the existing mast lights where the lights cannot be retained in their current location.	The mast lights between Chandler Highway and Burke Road cannot be relocated to the boundary of the freeway due to space constraints. The replacement lights to be used along the freeway boundary in this section are smaller in height and require less space at ground level. The freeway is to be widened into the central median between Chandler Highway and Burke Road to make enough space for an additional lane of traffic, the Eastern Busway and the SUP. This will mean that the mast lights in this section cannot be retained in their current location. Once the 50-year-old mast lights are removed the present-day regulatory compliance requirements, as well as space constraints, make it unfeasible to reuse them along the Eastern Freeway. Replacement lighting will be designed in consultation with relevant stakeholders, such as the Department of Transport and Planning.
4B Seek to maintain distant scenic views to the north from residential areas on Columba Street at the interface with the Project.	The Columba Street area is located outside of this UDLP.
4C Maintain the existing rock escarpments. Where additional rock cutting or modifications are required, they should complement the existing rock escarpment.	The existing rock escarpments along the freeway will be retained. The design will require only minor modifications to rock escarpment at the base of gantry footings. The footings are located on foundation piles and do not impact on the views of the escarpment.
4D Conserve the quality of existing Belford Road and Burke Road bridges by: – Avoiding the retrofitting of elements to the bridges. Should the retrofitting of elements be required, they are to be bespoke to complement the existing bridge designs – Not locating signage on the bridges – Ensuring any new structures and/or elements located near the existing bridges are designed to minimise visual impact and to respond to the design of the existing bridges.	The retrofitted safety screens on the Belford Road bridge represent a critical enhancement to pedestrian safety, delivered through a bespoke design that features tapered posts and a stainless-steel mesh screen, as seen in Drawings NEL-WST-NWA-4200-UUD-DRG-9111 to 9113 in Attachment 1: Architecture and Urban Design. This lightweight and see-through barrier is carefully integrated with the character of the existing bridge while minimising both visual and physical impacts. The design maximises visual permeability, preserving important sightlines for pedestrians, cyclists and motorists. By retaining the existing bridge structure and handrail, the integrity of the original design is respected, ensuring a cohesive and contextually sensitive outcome. Freeway signage has been deliberately excluded from existing bridge structures to maintain their architectural clarity. The new exit ramp at Burke Road has been designed to facilitate the uninterrupted continuation of the Eastern Busway. Its sweeping, sinuous form respects and draws inspiration from the modernist architecture and design of the Burke Road bridge. The ramp's geometry, along with the integrated pier and crosshead, adopts a refined and understated aesthetic—expressing a simplicity in form that reinforces the proportions and materials of surrounding structures. The existing transit lane signage on the face of the existing bridges (Burke Road, Belford Road, Chandler Highway, Yarra Boulevard and Yarra Bend Road) will be removed and not replaced. No new freeway signs or advertising signs will be placed on the face of these bridges. Clear sightlines from the freeway to these bridges will be retained, with ITS and other signage to be placed on gantries along the freeway.

5. Consistency with the Urban Design Strategy

Belford Road to Yarra Boulevard Map Y5



Figure 40: Belford Road to Yarra Boulevard UDS Map Y5

5. Consistency with the Urban Design Strategy

Table 10: Belford Road to Yarra Boulevard Map Y5

Requirement	UDLP Response
Connectivity, Wayfinding & Accessibility	
1A Provide a new walking and cycling connection to link Chandler Highway to the proposed Eastern Bicycle Corridor	A new walking and cycling connection to link Chandler Highway to the new SUP (i.e. the Eastern Bicycle Corridor) is provided on the northern side of the Eastern Freeway. The connecting path is located on the eastern side of Chandler Highway and will connect to Chandler Highway near the existing traffic lights adjacent to the intersection of the Eastern Freeway off ramp and Chandler Highway. The new connection will improve connectivity for pedestrians and cyclists seeking to access the SUP from nearby communities in Alphington and Kew. The new SUP also connects into the existing Main Yarra Trail east of the Guide Dogs Victoria site. From this location, the Main Yarra Trail continues to the north west, where it provides a second connection into Chandler Highway at the intersection with Yarra Boulevard. Existing paths are discussed in Section 3 of this UDLP.
1B Provide a new cycling connection to the north of the Eastern Freeway near Chandler Highway as part of the Eastern Bicycle Corridor. This new bicycle corridor alignment should avoid removing existing trees where possible.	The Project delivers a continuous SUP along the northern side of the Eastern Freeway between the Main Yarra Trail at Merri Creek and Burke Road. This includes a new path under the Chandler Highway bridge to avoid a busy road crossing, as well as a new connection to Chandler Highway as outlined above. The SUP minimises tree removals by locating the SUP within the footprint of the freeway in this location, avoiding vegetation higher on the escarpment. New tree planting is proposed within the interchange to enhance amenity and habitat.
1C Provide a walking and cycling bridge connection over the Yarra River as part of the new Eastern Bicycle Corridor.	A new SUP bridge is provided across the Birrarung (Yarra River), as part of the new Eastern Bicycle Corridor. The bridge provides a direct route that is parallel to the freeway, supplementing the indirect route of the Main Yarra Trail that follows the river.
Amenity, Vibrancy & Safety	
2A Improve lighting and consider other improvements such as wall treatments and wayfinding at the existing underpass beneath the Eastern Freeway near Willsmere Park.	The existing lighting inside the Willsmere underpass will be upgraded, making this a safer and more desirable route for the public to use. Other treatments such as wayfinding and wall treatments are outside the scope of works of this UDLP.
2B Minimise visual impacts of proposed elevated busway to residential properties to the south along Wiltshire Drive.	The Overshadowing and Overlooking Assessment in Attachment 4 shows that the Eastern Busway bridge does not result in overlooking of residential properties located to the south along Wiltshire Drive. The height of the bridge is minimised while achieving the necessary road clearances. The design of the bridge with a simple, minimalistic form avoids visual clutter and elements that would unnecessarily impact adjacent residential areas. Additionally, the existing and proposed tree canopy both inside and outside of the road reserve effectively screen the Eastern Busway Bridge from residential areas to the south as shown in Drawing NEL-WST-NWA-4100-UUD-DRG-9289 in Attachment 4: Overshadowing and Overlooking Assessment.
2C Maintain the pedestrian environment and established landscape along Kilby Road.	New noise walls are to be constructed along the southern boundary of the freeway, interfacing with Kilby Road. Where existing vegetation is removed then replacement plantings will be undertaken in accordance with Drawing NEL-WST-NWA-4990-ULS-DRG-9537 in Attachment 2: Landscape Design to reinstate and enhance amenity along this interface. In addition to the above, a bioretention system is to be constructed at Jack O'Toole Reserve (see Drawing NEL-WST-NWA-4990-ULS-DRG-9537 in Attachment 2: Landscape Design). The bioretention system is an integrated water management feature to treat freeway storm-water runoff. The bioretention system is located within a grassed drainage swale. The bioretention system would make a positive contribution to the established landscape along Kilby Road by adding visual interest. The location of the bioretention basin would not impact on pedestrian movements.
2D Provide additional buffer planting to noise walls to filter views from residential areas and from Vaughan Crescent.	Additional buffer planting will be provided along the southern side of the noise wall between Vaughan Crescent and Wiltshire Drive (80 metres east of Yarra Boulevard), as shown in Drawings NEL-WST-NWA-4990-ULS-DRG-9534 to 9535 in Attachment 2: Landscape Design. The additional buffer planting will provide filtered views of noise walls from the adjoining residential area, Vaughan Crescent and Wiltshire Drive.

Requirement	UDLP Response
2E Maximise views towards borrowed landscapes from the Eastern Freeway.	The borrowed landscape is the existing tree canopy that sits behind the existing noise walls. The tree canopy and landscape along the edge of the freeway is recognised as a signature feature of the existing corridor. Vegetation will be replaced where the construction results in the removal of trees. The replacement of the tree canopy and vegetation along the inside edge of the freeway’s noise walls will enhance the views towards borrowed landscape in this location, with examples shown in Drawings NEL-WST-NWA-4990-ULS-DRG-9534 to 9535 in Attachment 2: Landscape Design.
Resilience & Sustainability	
3A Do not preclude a wetland at Chandler Park (to be delivered by others) to receive and treat stormwater from the Eastern Freeway and surrounding residential areas.	The design solution does not preclude a future wetland at Chandler Park. The Project plans on using Chandler Park as a Construction Compound for the Project (subject to approval as discussed in Table 1). To avoid precluding the future development of a wetland, only reinstatement of the existing landscaping is proposed once the compound is no longer needed for the Project. This UDLP does not propose installation of permanent infrastructure within the site of the proposed future wetland.
Identity	
4A Retain the mast lights to the west of Chandler Highway as existing navigational landmarks that contribute to the aesthetic qualities and original design of this section of road.	This UDLP retains the existing mast lights between Hoddle Street and Chandler Highway, subject to further investigations such as structural checks to confirm their ongoing design life and suitability. To improve the efficiency of these iconic navigational landmarks, the existing light globes are to be upgraded to LEDs.
4B Through the design process, consider the relocation of the existing Eastern Freeway mast lights where they cannot be retained in their current location	The freeway is to be widened into the central median between Chandler Highway and Burke Road to make enough space for an additional lane of traffic, the Eastern Busway and the SUP. This will mean that the mast lights in this section cannot be retained in their current location. Once the 50-year-old mast lights are removed the present-day regulatory compliance requirements, as well as space constraints, make it unfeasible to reuse them along the Eastern Freeway.
4C Maintain the existing rock escarpments. Where additional rock cutting or modifications are required, they should complement the existing rock escarpment.	The existing rock escarpments will be maintained. There are no new rock cuttings created within this UDLP. Minor modifications are required to localised areas around gantry footings, which will not change the appearance of the cuttings. Minor modifications are also required for the retaining wall along the SUP between Yarra Boulevard and Chandler Highway. The materials and muted tones of the retaining wall will complement the existing rock cutting. The modified route for the SUP, where it now passes under Yarra Boulevard bridge and below the escarpment, avoids impacts to the Yarra Boulevard bridge abutments and the rock face.
4D Conserve the quality of existing Yarra Boulevard and Chandler Highway bridges by: – Avoiding the retrofitting of elements to the bridges. Should the retrofitting of elements be required, they are to be bespoke to complement the existing bridge designs – Not locating signage on the bridges – Ensuring any new structures and/or elements located near the existing bridges are designed to minimise visual impact and to respond to the design of the existing bridges.	No works are proposed to the Yarra Boulevard and Chandler Highway bridges, including signage. Freeway signage has been deliberately excluded from existing bridge structures to maintain their architectural clarity. The new Eastern Busway bridge near Chandler Highway and the smaller bridge for the eastbound exit ramp to Chandler Highway over the eastbound busway lane and SUP, have been carefully considered to maintain sufficient clearances and avoid the use of obtrusive materials. They are located a sufficient distance from the existing Chandler Highway bridge to minimise visual change when viewed from the freeway (see Drawing NEL-WST-NWA-4100-UUD-DRG-9015 in Attachment 1: Architecture and Urban Design). For the Eastern Busway bridge, the smooth integration of the crosshead and piers, combined with the singular curvature of the bridge and the precast concrete road barriers with downturn skirts, contributes to an overall uncluttered form and design. This cohesive approach ensures the new structure responds sensitively to the design language of the existing Chandler Highway bridge, effectively reducing the visual impact of the new elements with their clean lines within the landscape (see Drawing NEL-WST-NWA-4200-UUD-DRG-9015 Attachment 1: Architecture and Urban Design). The eastbound exit ramp to Burke Road over the eastbound busway lane and SUP, have been carefully considered to maintain sufficient clearances and avoid the use of obtrusive materials. They are located a sufficient distance from the existing Burke Road bridge to minimise visual change when viewed from the freeway (see Drawing NEL-WST-NWA-4100-UUD-DRG-9019 in Attachment 1: Architecture and Urban Design). The cohesive approach responds sensitively to the design language of the existing Burke Road bridge.

5. Consistency with the Urban Design Strategy

Yarra Boulevard to Hoddle Street Map Y6

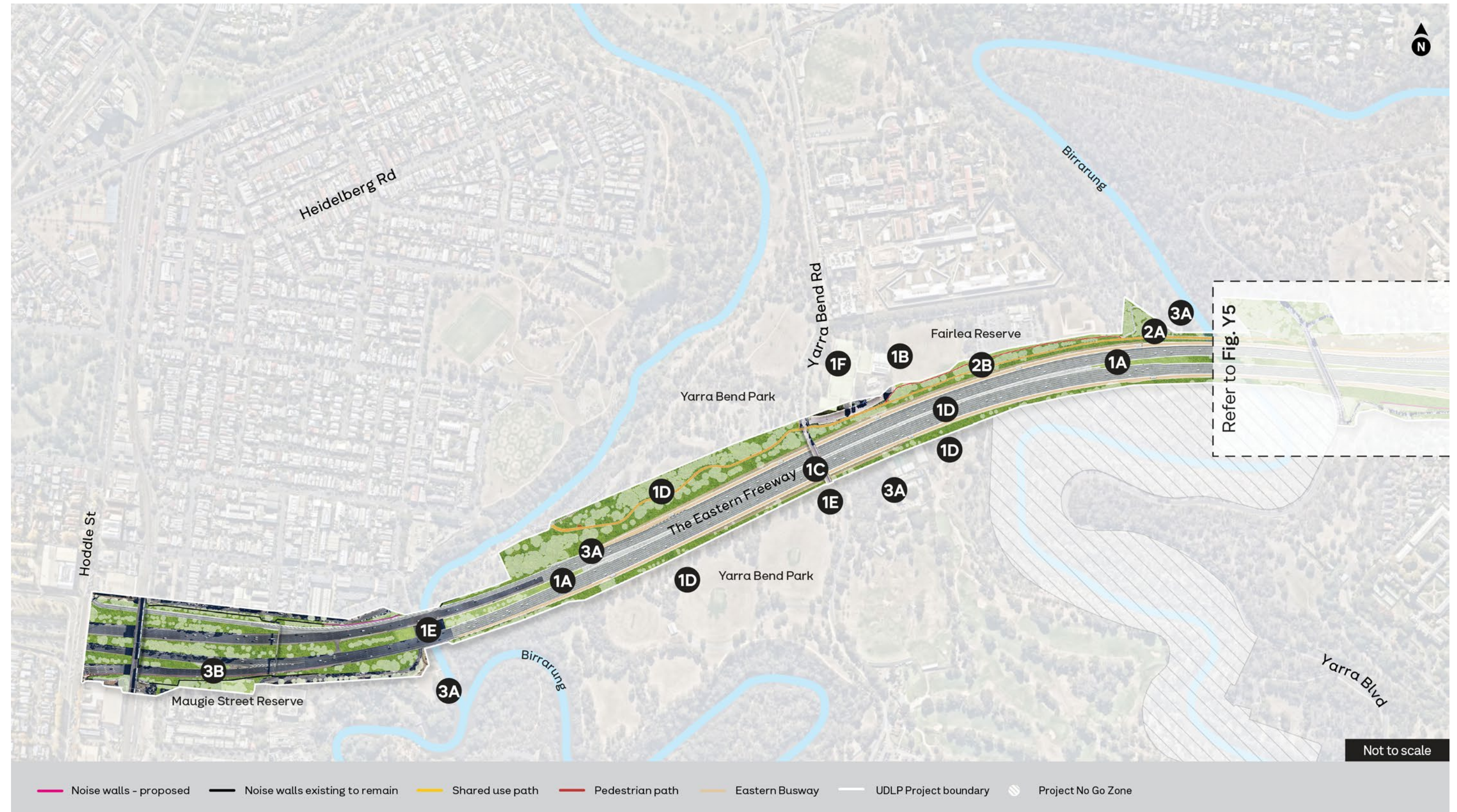


Figure 41: Yarra Boulevard to Hoddle Street UDS Map Y6

5. Consistency with the Urban Design Strategy

Table 11: Yarra Boulevard to Hoddle Street Map Y6

Requirement	UDLP Response
Identity	
1A Retain the mast lights to the west of Chandler Highway as existing navigational landmarks that contribute to the aesthetic qualities and original design of this section of road.	Existing mast lights between Hoddle Street and Chandler Highway will be retained, subject to unknown variables such as (but not limited to) structural checks being completed during construction to confirm their ongoing design life and suitability.
1B Maintain prominent views to the city from Fairlea Reserve	The Melbourne City skyline is partially visible through and above the existing tree canopy in and around Fairlea Reserve. The angle of the SUP and new sections of the River Circuit Trail, along with strategically located breaks in the landscaping treatment retain these views to the Melbourne City skyline.
1C Retain motorist views towards rock escarpments.	New infrastructure delivered as part of this UDLP will not impact on motorists' views to the rock escarpments along the freeway. The new dedicated busway lanes are located on both sides of the main freeway carriageways and are separated from traffic lanes by concrete road barriers. Users of the freeway will be able to see over the road barriers and still view the rock escarpments on both sides. The SUP is located in Yarra Bend Park, above and beyond the rock escarpment.
1D Maintain the existing rock escarpments. Where additional rock cutting or modifications are required, they should complement the existing rock escarpment.	The existing rock escarpments along the freeway will be retained. The freeway will be widened into the central median and there will be no works to the existing escarpments. The design will require only minor modifications to rock escarpment at the base of gantry footings. The footings are located on foundation piles and do not impact on the views of the escarpment.
1E Conserve the quality of existing Yarra Bend Road and Merri Creek bridges by: - Avoiding the retrofitting of elements to the bridges. Should the retrofitting of elements be required, they are to be bespoke to complement the existing bridge designs - Not locating signage on the bridges - Ensuring any new structures and/or elements located near the existing bridges are designed to minimise visual impact and to respond to the design of the existing bridges.	No works are proposed to the existing Yarra Bend Road and Merri Creek bridges, including signage. This UDLP does not propose new structures or elements near Yarra Bend Road or Merri Creek bridges that will have visual impacts to the bridges.
1F Consider opportunities along the shared use path between the Yarra River and the Main Yarra Trail to interpret the cultural heritage values of the former Yarra Bend Asylum and Yarra Bend Park (such as signage).	Opportunities along the SUP to interpret the cultural heritage are being explored through the co-design process (see Section 4.2). The detailed design stage will further explore opportunities to interpret cultural heritage values within new landscaping and on new structures. The co-design process is being undertaken in parallel with the preparation of this UDLP. The Project is working with the WWCHAC to further develop meaningful and innovative ways to represent Indigenous cultural themes and living culture into the landscape within Yarra Bend Park. The SUP alignment runs adjacent to the historic gate pillar, establishing it as a landmark along the route.

5. Consistency with the Urban Design Strategy

Requirement	UDLP Response
Connectivity, Wayfinding & Accessibility	
2A Provide a new cycling connection to the north of Eastern Freeway as part of the Eastern Bicycle Corridor. This new bicycle corridor alignment should avoid removing existing trees where possible.	The new and upgraded sections of the SUP along the northern side of the Eastern Freeway provides a continuous connection from the Main Yarra Trail at Merri Creek to Burke Road as part of the Eastern Bicycle Corridor. The design of the SUP and SUP bridge has been modified to minimise the removal of trees where feasible. Where the removal of some trees is required, appropriate replacement trees and other vegetation is proposed based on local EVC species, biodiversity value and future shade requirements. Drawings No. NEL-WST-NWA-4990-ULS-DRG-9571 to 9573 Attachment 2: Landscape Design show where the removal of vegetation has been avoided and minimised.
2B Upgrade the existing River Circuit Trail at Fairlea Reserve to provide a footpath for walkers separated from the new Eastern Bicycle Corridor	The existing River Circuit Trail at Fairlea Reserve will be retained and upgraded to provide a footpath for walkers separate from the proposed SUP. Proposed upgrades include new surfacing and minor re-grading.
Amenity, Vibrancy & Safety	
3A Maximise views towards borrowed landscapes from the Eastern Freeway	The borrowed landscape is the existing tree canopy beyond the freeway, within Yarra Bend Park. The borrowed landscape and canopy along the freeway's edge is a signature feature of the Eastern Freeway. The design retains trees and vegetation where possible. For example, utilising the central median avoids widening the freeway into the tree canopy and borrowed landscapes. The UDS identified four areas of borrowed landscapes in this section of the freeway (see Figure 41) which comprises the tree canopy along the freeway edge and the filtered views to Yarra Bend Park and the Birrarung. The UDLP design does not introduce new noise walls or modify the heights of existing noise walls in the nominated borrowed landscape areas. The proposed SUP bridge over the Birrarung is located in one of these borrowed landscapes. Its design seeks an integrated structural solution that is light and permeable, allowing views from and through the bridge and thereby maintaining the views to the borrowed landscape for motorists, cyclists and pedestrians. The Tree Removal and Retention Plan (Drawing NEL-WST-NWA-4990-ULS-DRG-9571 to 9573 in Attachment 2: Landscape Design) shows where impacts to the borrowed landscape have been reduced. Tree will be replanted in this location to reinstate the borrowed landscape.
3B Provide tree planting along Maugie Street open space reserve to filter views of the Eastern Freeway.	Opportunities for additional tree planting within the Maugie Street Reserve are constrained by underground services and the coverage of existing vegetation. Additional tree planting is proposed in Maugie Street Reserve adjacent to the Eastern Freeway (see Drawing NEL-WST-NWA-4990-ULS-DRG-9531 in Attachment 2: Landscape Design). The additional tree planting along with the retained existing shrubs and trees filters views of the Eastern Freeway.

5. Consistency with the Urban Design Strategy

5.5 Detailed requirements and benchmarks

This section of the UDLP outlines compliance with the element-based detailed requirements and qualitative benchmarks outlined in Section 7 of the UDS. Compliance is outlined in Table 12 and demonstrates a consistent and high-quality corridor-wide approach to design resolution. The following element-based requirements are applicable to the scope of works proposed through this UDLP:

Element-based requirements and qualitative benchmarks	
1. Multi-span bridges	11. Car parking
2. Road bridges	12. Lighting
3. Land bridges	13. Walking and cycling infrastructure
4. Open cuttings	14. Walking and cycling bridges
5. Ventilation structures, portals and tunnels	15. Walking and cycling underpasses
6. Project buildings and ancillary structures	16. Navigational nodes and thresholds
7. Public open space	17. Landscape
8. Local streets, schools and neighbourhoods	18. Water
9. Walls, fencing, barriers and screens	19. Road signage
10. Bus park and ride facilities and bus lanes	20. Materials and finishes.

Table 12: Response to Detailed Requirements and Benchmarks

Design Element	Requirement	UDLP Response
1. Multi-Span Bridges		
1.1 Viaduct design	Viaducts (continuous multi-span bridges) and ramps are well designed and well proportioned to complement the surrounding area and appropriately address sensitive interfaces. Viaduct profile and design employ a high quality aesthetic when viewed from and to the structure and are designed to minimise visual bulk. Abrupt changes of size and depth of structures is avoided and transitions are smooth. Structural solutions are durable and avoid the need for cladding.	The new Eastern Busway bridge has been designed with a minimalist style to complement and enhance the existing modernist architecture of the freeway’s bridges. The abutments and piers have been designed to be visually appealing, with their bulk minimised in place of a sleek form that maximises views to the modernist form of the existing Chandler Highway bridge. The new bridge will have concrete finishes, avoids the need for cladding and ties in with the existing bridge (see Drawings NEL-WST-NWA-4100-UUD-DRG-9071 to 9074 in Attachment 1: Architecture and Urban Design). The new freeway exit ramps (eastbound) at Chandler Highway and Burke Road have been designed to facilitate the uninterrupted continuation of the SUP and Eastern Busway through two new bridges (see Drawings NEL-WST-NWA-4100-UUD-DRG-9081 and 9082 as well as NEL-WST-NWA-4200-UUD-DRG-9091 and 9092 in Attachment 1: Architecture and Urban Design). The design of the ramps draws inspiration from the existing modernist architecture. The geometry of the Burke Road ramp, including the integrated pier and crosshead, will incorporate a simple and understated aesthetic that complements the proportions and materials of surrounding structures.
1.2 Integration	New elements such as elevated roads and ramps are integrated well with connected structures and/or other built elements, the surrounding land form, local context and road network. Any widening of existing structures are carefully integrated with existing structures to create a cohesive design. Widened structures shall match with existing in size, shape and structural form. Where bridges are duplicated, new soffit lines do not protrude below existing soffit lines and match existing profile. Superstructure, piers, beams, barriers, railings, associated furniture, deck, abutment and feature lighting are carefully integrated together to provide a high quality and durable design solution for all users above and below the structure. Opportunities are maximised to structurally integrate pier cross heads into the bridge and viaduct superstructure.	The new Eastern Busway bridge has been designed with a minimalist style to match the existing modernist architecture of the freeway. The abutments and piers have been designed to be visually appealing, with their bulk minimised in place of a sleek form that maximises views to the modernist form of the existing Chandler Highway bridge. The new bridge will have concrete finishes, avoids the need for cladding and ties in with the existing bridge. The eastbound exit ramp for Burke Road has two piers that sit either side of the Eastern Busway. The piers integrate with the design of the piers of the existing Burke Road bridge. The need for steel barriers atop concrete road barriers has been mitigated by extending the height of the concrete barrier, resulting in a cleaner, more refined outcome. This approach achieves an uncluttered design with strong, continuous lines that mirror the form and rhythm of the viaduct. The principle of simplicity and singular gestures carries through to the integrated pier and crosshead design, where the crosshead seamlessly merges with the circular pier in one fluid, sweeping motion. These design cues are deliberate and considered responses to the modernist infrastructure language that defines the journey along the Eastern Freeway. The design of the Eastern Busway creates a left-hand merge for local buses entering the busway. This means that as it crosses over the freeway the bridge can begin its descent sooner than in the EES Reference Design, reducing the height and bulk of the bridge.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
1.3 Minimising impacts	Elevated roads and structures are designed with minimal visual bulk. The design of these structures is to minimise overshadowing of residential properties, impacts on the use of nearby areas (including through generation of noise and disruption of access) and visual impacts from sensitive viewpoints. The visual impact of the elevated roads and structures on road users is also minimised.	The new Eastern Busway bridge has been designed with a minimalist style to match the existing modernist architecture of the freeway. The abutments and piers have been designed to be visually appealing, with their bulk minimised in place of a sleek form that maximises views to the modernist form of the existing Chandler Highway bridge. The new bridge will have concrete finishes, avoids the need for cladding and ties in with the existing bridge. The lower height of the Eastern Busway bridge reduces the visual change within the interchange. The location of the new Eastern Busway bridge is located at a significant distance to local residences, thereby minimising noise and visual impacts. The eastbound exit ramps at Chandler Highway and Burke Road remain within the road corridor and have a form that complements the existing modernist architecture of the Eastern Freeway. Located left of the eastbound traffic lanes, their appearance will not cause significant visual impact to motorists. As demonstrated in Attachment 4: Overshadowing and Overlooking Assessment the Project’s infrastructure does not overshadow properties adjacent to the freeway. Noise walls are not located on the bridge structures. Noise walls are provided along the freeway boundary and mitigate noise in accordance with the NEL EMF. The existing tree canopy has been retained to the extent feasible. New screening vegetation and buffer planting along the freeway and at the interchanges will improve the visual amenity.
1.4 Visual clutter	Visual clutter is avoided and the number of piers are minimised. Piers and towers are located to avoid the need for additional structures (such as protection barriers). Where pier protection barriers are unavoidable, reduce the scale and carefully integrate with the bridge design. Elements such as the edge of the deck, drainage pipes, services and ducts are concealed from view.	There is only one pier required in the central median of the freeway for the Eastern Busway bridge, minimising visual clutter (see Drawing NEL-WST-NWA-4100-UUD-DRG-9072 in Attachment 1: Architecture and Urban Design). The pier is protected through the use of continuous roadside concrete barriers instead of dedicated pier protection barriers, minimising the visual impact to the form of the bridge. The need for steel barriers atop concrete road barriers has been mitigated by extending the height of the concrete barrier itself, resulting in a cleaner, more refined outcome (see Drawing NEL-WST-NWA-4100-UUD-DRG-9072 in Attachment 1: Architecture and Urban Design). This approach achieves an uncluttered design with strong, continuous lines that mirror the form and rhythm of the viaduct. The principle of simplicity and singular gestures carries through to the integrated pier and crosshead design, where the crosshead seamlessly merges with the circular pier in one fluid, sweeping motion. These design cues are deliberate and considered responses to the modernist infrastructure language that defines the journey along the Eastern Freeway. Services and drainage are concealed from view.
1.5 Passive surveillance	Where there is access below structures, passive surveillance is maximised to deter undesirable behaviour. Materials, textures and finishes are used to deter graffiti. Solar access is maximised to spaces beneath the structure.	There is no direct public access beneath the Eastern Busway bridge, with retaining walls and fences preventing public access to the freeway (see Drawing NEL-WST-NWA-4200-UUD-DRG-9015 in Attachment 1: Architecture and Urban Design). The area is visible from passing traffic on the Eastern Freeway and Chandler Highway and passive surveillance is retained by the clear sightlines (i.e. no sharp corners or obscured spaces) from the adjoining roads with appropriate lighting. Access beneath the on- and off-ramps is limited at Chandler Highway and Burke Road. The areas are visible from passing traffic on the Eastern Freeway and Eastern Busway. Passive surveillance is retained by the clear sightlines (i.e. no sharp corners or obscured spaces) from the adjoining roads. Anti-graffiti coatings on piers, abutments and other structures will be applied to make the removal of graffiti easier. The use of textured RMP panels further supports graffiti resistance. These panels possess inherent anti-graffiti properties (as most paints do not adhere effectively to the surface). The width of the portals for the SUP and outbound lane of the Eastern Busway, which pass under the Eastern Busway bridge (inbound lane) provide solar access beneath structures at Chandler Highway and Burke Road through the use of high clearances and the existing open structure of the bridge (see Drawing NEL-WST-NWA-4100-UUD-DRG-9082 in Attachment 1: Architecture and Urban Design).
2. Road Bridges		
2.1 Bridge design	All new bridges continue the form of the existing Eastern Freeway bridges. New road bridges and modifications to existing bridges are well designed, complement the surrounding area and appropriately address sensitive interfaces. Bridges are designed to a high quality standard, to minimise visual bulk and to be visually pleasing when viewed from and to the structure. The overall structure and the various parts of the bridge structure, are geometrically proportioned and have a harmonious relationship. Structural solutions are durable and avoid the need for cladding. New piers match existing pier shape, angle and proportion in both directions. Base of bridge beams match the existing beams in profile.	There are no new road bridges located within this UDLP
2.2 Identity	Sets of bridges within a corridor visually complement one another. There is a clear relationship between bridges, with a consistency of bridge elements demonstrated along the length of the Project.	There are no new road bridges located within this UDLP. The new multi-span bridges at Chandler Highway interchange and Burke Road interchange incorporate a concrete, minimalist style that complements the existing modernist architecture of the freeway’s bridges. The new bridges also use a cohesive palette of high-quality materials, textures and forms, including the use of concrete and treated steel which further unifies the corridor’s design response.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
2.3 Integration	New bridges and modifications to existing bridges are well integrated with any connected structures or other built elements, the surrounding land form, local context and road network. Superstructure, piers, beams, barriers, railings, associated furniture, deck, abutment and feature lighting are carefully integrated together to provide a high quality design solution for all users above and below the structure. Opportunities are maximised to structurally integrate pier cross heads into the bridge superstructure.	The EES Reference Design proposed the inclusion of safety barriers on the existing Belford Road bridge to meet contemporary road safety standards. The UDS encouraged a bespoke design that responds to the architectural qualities of the existing bridge. The UDLP design integrates the new stainless-steel safety mesh barrier into the existing form of the bridge. The design approach ensures space is provided for views of the natural environment when viewed from Belford Road. It also maintains the engineering form and features of the bridge structure when viewed from the freeway. The design of the public safety barrier is subject to change during detailed design.
2.4 Views	Scenic views and vistas seen from bridges are maximised for road users and pedestrians.	There are no new road bridges located within this UDLP. Scenic views and vistas from the existing bridges are retained. Views from new multi-span bridges are maximised for road users and pedestrians.
2.5 Minimising impacts	Road bridges are designed to minimal height and width to reduce landscape and visual impacts and overshadowing of residential properties and other sensitive land uses. The visual impact of the bridge structure on road users is minimised.	There are no new road bridges located within this UDLP. The heights of existing road bridges are not modified. The design of the multi-span bridges minimises the height and width to reduce landscape and visual impacts. The new multi-span bridges do not overshadow residential properties and other sensitive land uses. The new multi-span bridges minimise the visual impact of the bridge structure by adopting a minimalist style to match the existing modernist architecture of the freeway. The abutments and piers have been designed to be visually appealing, with their bulk minimised in place of a sleek form that maximises views to the modernist form of the existing Chandler Highway and Burke Road bridges. The multi-span bridges will have concrete finishes that avoid the need for cladding. The existing tree canopy has been retained to the extent feasible. New screening vegetation and buffer planting along the freeway and at the interchanges will improve the visual amenity.
2.6 Visual clutter	Visual clutter is avoided and the number of piers are minimised. Piers and towers are located to avoid the need for additional structures (such as protection barriers). Where pier protection barriers are unavoidable, reduce the scale and carefully integrate with the bridge design. Elements such as the edge of the deck, drainage pipes, services and ducts are concealed from view	There are no new road bridges located within this UDLP. The multi-span bridges avoid visual clutter. There is only one pier required in the central median of the freeway for the Eastern Busway bridge, minimising visual clutter (see Drawing NEL-WST-NWA-4100-UUD-DRG-9072 in Attachment 1: Architecture and Urban Design). The pier is protected through the use of continuous roadside concrete barriers instead of dedicated pier protection barriers, minimising the visual impact to the form of the bridge. The need for steel barriers atop concrete road barriers has been mitigated by extending the height of the concrete barrier itself, resulting in a cleaner, more refined outcome (see Drawing NEL-WST-NWA-4100-UUD-DRG-9072 in Attachment 1: Architecture and Urban Design). This approach achieves an uncluttered design with strong, continuous lines that mirror the form and rhythm of the viaduct. The principle of simplicity and singular gestures carries through to the integrated pier and crosshead design, where the crosshead seamlessly merges with the circular pier in one fluid, sweeping motion. These design cues are deliberate and considered responses to the modernist infrastructure language that defines the journey along the Eastern Freeway. Services and drainage are concealed from view.
2.7 Passive surveillance	Where there is public access below structures, passive surveillance is maximised to deter undesirable behaviour. Materials, textures and finishes are used effectively to deter graffiti. Solar access is maximised to spaces beneath the structure.	There are no new road bridges located within this UDLP. Public access beneath the freeway off-ramps at Chandler Highway and Burke Road is limited to the SUP. The bridges in these locations span both the SUP and Eastern Busway, creating a wider opening and allowing solar access. The SUP is visible from passing traffic on the Eastern Freeway and Eastern Busway, the latter of which is separated from the SUP by a chain-link mesh fence. Passive surveillance is further retained by the clear sightlines (i.e. no sharp corners or obscured spaces) and appropriate lighting. At the Yarra Boulevard and Belford Road bridges the SUP is located directly adjacent to and highly visible from the busway and freeway, maintaining passive surveillance, while the bridge spans allow for solar access for users of the SUP. The final treatment of the retaining walls adjacent the SUP beneath the Chandler Highway and Burke Road bridges and off-ramp bridges, as well as other new structures publicly accessible, will either incorporate a textured finish to deter vandalism and/or be easily maintainable to manage graffiti.
2.8 Retrofitting	New built elements (e.g. throw screens, traffic barriers around piers, structures, fencing, walls etc.) on existing road bridges are bespoke, innovative and designed to complement the original form and aesthetic qualities.	The EES Reference Design proposed the inclusion of safety barriers on the existing Belford Road bridge to meet contemporary road safety standards. The UDS encouraged a bespoke design that responds to the architectural qualities of the existing bridge. The UDLP design response integrates the new stainless-steel safety mesh barrier into the existing form of the bridge. The design approach ensures space is provided for views of the natural environment when viewed from Belford Road. It also maintains the engineering form and features of the bridge structure when viewed from the freeway.
2.9 Signage on bridges	Advertising and road signage are not located on bridges. Intelligent Transport System (ITS) signage on bridges is avoided or well integrated into the bridge design.	The existing transit lane signage on the face of the existing bridges (Burke Road, Belford Road, Chandler Highway, Yarra Boulevard and Yarra Bend Road) will be removed and not replaced. No new freeway signs or advertising signs will be placed on the face of these bridges. Clear sightlines from the freeway to these bridges will be retained, with ITS and other signage to be placed on gantries along the freeway.
3. Land Bridges		
3.1 Community connections	Land bridges (land supported by bridge structures that cross over a road in trench) maintain and/or enhance connections for pedestrians and cyclists across the road corridor.	There are no land bridges proposed within this UDLP area.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
3.2 Green links	Land bridges act as ‘green bridges’ to connect adjacent open space and vegetation visually and physically. They enhance and extend biodiversity and habitat links across the Project.	There are no land bridges proposed within this UDLP area.
3.3 Soil depth	Land bridges have sufficient depth of soil and a suitable soil profile to support healthy long-term growth of trees and shrubs.	There are no land bridges proposed within this UDLP area.
3.4 Land bridge design	Land bridges are unique and visually appealing design elements for both the roadway and adjacent communities. Land bridges extend surrounding public space and movement patterns and enhance the open space function. Design response should include innovative and integrated solutions. Careful consideration is given to the driver experience including the use of lighting, quality surface materials that age gracefully, and the minimising of the need for structural elements (such as piers) that clutter views.	There are no land bridges proposed within this UDLP area.
3.5 Visual considerations	Barriers on and adjoining land bridges are well integrated, provide good visual connectivity, maximise passive surveillance, and minimise visual obstructions to views and landmarks for the surrounding community. Central piers and visual driver clutter is avoided for land bridges over cutting.	There are no land bridges proposed within this UDLP area.
4. Open Cuttings		
4.1 Connectivity	The design of open cuttings is part of a holistic urban design response to improve permeability, legibility and accessibility along and across the corridor and severance impacts on communities are avoided. The quality and number of path crossings over the Project corridor are maintained to better connect communities, provide access to local facilities and link movement networks.	There are no new open cuttings proposed within this UDLP area.
4.2 Cutting design	High quality finishes, materials and hard and soft landscapes are used in cuttings. Cuttings are designed to mitigate adverse amenity impacts for adjacent residents and the local community and to provide spaces that are considered and well resolved as part of the overall design solution.	There are no new open cuttings proposed within this UDLP area.
4.3 Landscaping	Landscape design and plant species selection within open cut areas are appropriate to local conditions, micro-climate, urban design concepts and local character.	There are no new open cuttings proposed within this UDLP area.
4.4 Visual considerations	Barriers on or adjacent to land bridges provide good visual connectivity, maximise passive surveillance and minimise visual obstructions to views and landmarks for the surrounding community.	There are no new open cuttings proposed within this UDLP area.
5. Ventilation Structures, Portals & Tunnels		
5.1 Tunnel approach, dive structures and portal design	Tunnel approach, dive structures and portals make a positive contribution to the identity of the local area and user experience through high quality design. The design is well coordinated, neat, attractive and inviting for motorists. The portal design is context sensitive, avoids unnecessary clutter, minimises opportunities for vandalism and does not detract from the remaining tunnel system and components. The portals transition smoothly to create a relaxed and safe feeling for motorists. Signage is well integrated to ensure the tunnel approach and entrance is uncluttered. The transition into the tunnel is welcoming, maximises road safety and provides a positive and memorable experience for the driver. The tunnel entrance is of generous proportions to promote driver comfort	There are no Ventilation Structures, Portals and Tunnels proposed within this UDLP.
5.2 Context sensitive	The tunnel and associated structures are well integrated into the local built context to minimise impacts on surrounding land uses, open spaces and connectivity. The tunnel is integrated with the character of the local area, land form and landscape. Opportunities to add value to the community are maximised such as green infrastructure, improved connectivity, interpretation of indigenous and historical cultural values etc.	There are no Ventilation Structures, Portals and Tunnels proposed within this UDLP.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
5.3 Landscape and visual considerations	The tunnel approach, dive structures, portals, ventilation structures and other associated buildings are designed to minimise negative landscape and visual impact on the surrounding community. The surrounding landscape design responds to the structure's scale, and siting is sensitive to the surrounding environs with particular attention to bulk and scale. Associated elements such as flood walls are integrated into the structure (e.g. use of land form). The position, form and overall appearance of the tunnel and associated structure are consistent with the characteristics and qualities of the local area.	There are no Ventilation Structures, Portals and Tunnels proposed within this UDLP.
5.4 Ventilation structure design	Large-scale elements such as ventilation structures and associated buildings are sensitively sited and designed, and well integrated to minimise negative impact on the surrounding area and adjacent communities. Ventilation structures and buildings are to be high quality architectural and landscape design elements that are positive elements in the landscape when seen from outside the road corridor. The architectural form, texture, colour and lighting of the ventilation structures and associated buildings are context sensitive and provide a positive contribution to the local environment. Visual bulk and size is minimised through landform and vegetation and innovative design.	There are no Ventilation Structures, Portals and Tunnels proposed within this UDLP.
5.5 Internal tunnel design	The internal design and profile of the tunnel provides a positive experience for the driver and appropriately addresses transitional and ambient lighting. High quality and robust surface materials are used to enhance the driving experience, age gracefully, withstand harsh tunnel conditions and are easy to maintain. Design features are provided in the tunnel to promote high quality driver experience that is appropriately designed for the speed at which they are viewed.	There are no Ventilation Structures, Portals and Tunnels proposed within this UDLP.
5.6 Safe and comfortable tunnel experience	The tunnel interior is designed to maximise driver safety and comfort, minimise feelings of claustrophobia and provide an appropriate level of visual stimulation at strategic points to influence driver alertness without being distracting.	There are no Ventilation Structures, Portals and Tunnels proposed within this UDLP.
5.7 Below ground orientation	The tunnel interior enhances cognitive mapping, minimises disorientation associated with long tunnels and winding ramps and enables awareness of location. Opportunities are maximised to create landmarks or artistic elements within the tunnel that reflect the above-ground characteristics, assist with driver orientation and add interest to the journey. The perceptual experience of the tunnel is shortened with points of visual interest along the journey.	There are no Ventilation Structures, Portals and Tunnels proposed within this UDLP.
6. Project Buildings & Ancillary Structures		
6.1 Siting	New above-ground service and utility infrastructure are located to avoid or minimise impacts to existing to adjoining properties, and to reduce the need to remove vegetation. The number and size of utility buildings and structures within public open space are minimised. Above-ground utility buildings and structures are co-located with nearby existing structures and adjacent to vegetation to better integrate with the surrounding area. They are located to maintain the amenity and function of the places they occupy, and minimise visual impacts on significant buildings, monuments, trees, open spaces and landscape vistas.	There are no Project Buildings and Ancillary Structures proposed within this UDLP.
6.2 Integrated and coordinated	Project buildings, technical shelters, compounds and structures integrate sensitively with their surrounds, and complement and coordinate with existing nearby structures and fencing where appropriate. The obtrusive appearance of utility buildings and structures from the public realm (public realm refers to all public open space along with other publicly-owned land between buildings including streets) is minimised through the use of appropriate landscaping screening (e.g. planting and land form), architectural façades, and/or security fencing that also function as a visual screen.	There are no Project Buildings and Ancillary Structures proposed within this UDLP.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
7. Public open space		
7.1 Integration with surroundings	The design maximises continuity of public realm, extends surrounding public open space (land primarily used for recreation, nature conservation and passive outdoor enjoyment) and movement patterns and mitigates any severing of communities and places. Access to public open space within and at the interface of the Project is enhanced. Opportunities to create additional functional and high quality open space within the Project corridor are maximised. The open space function of the open spaces within and along the Project corridor is maintained. Encroachment and impacts on adjacent open space by freeway infrastructure and roadside landscaping (planting within the road reserve) is minimised.	The design widens the freeway into the existing median. It does not widen into adjoining public open space or residential areas, other than for the construction of the SUP within Yarra Bend Park. The UDLP also includes roadside plantings to enhance the amenity of the corridor. The design of the landscape maximises the continuity of the public realm for users of the freeway and SUP by creating a seamless experience. This includes landscape planting within the interchanges and along the inside and outside of the freeway edge to strengthen the tree canopy as a defining feature of the corridor. It also includes a coherent design response that repeats along the SUP while also responding to the unique variations in the local landscapes and environs along the route, from the naturalistic landscape of Yarra Bend Park, the rock escarpment cuttings in the underpasses at Yarra Bend Road and Belford Road and adjacent to local parks. The design of the landscape also maximises the continuity of the public realm for the community. This includes landscaping along the community side of noise walls to enhance the interface. As shown in the Drawings NEL-WST-NWA-4990-ULS-DRG-9531 to 9539 in Attachment 2: Landscape Design, the construction of the new SUP and upgraded sections of the Main Yarra Trail improves access to public open space within Yarra Bend Park, Chandler Park, Willsmere Park and along the Birrarung to the north of the freeway. The existing bridges and underpasses provide a link to public open space to the south of the freeway, including Yarra Bend Park, Kate Campbell Reserve, Hyde Park and Hays Paddock. This UDLP enhances the journey to these parks through strategic plantings along the path and around the junction of intersecting paths.
7.2 Open space infrastructure	Opportunities to upgrade the existing open spaces along the Project corridor are maximised to create consistent, high quality, multifunctional and efficient spaces. This includes public open space infrastructure to enhance the function and enjoyment of the open space, such as seating, natural shade, drinking fountains, dog drinking bowls, emergency markers, bicycle leaning rails/ hoops and rest areas. Public open spaces are consistent with local council or Parks Victoria furniture, material palettes and standards and playground guidelines. Park and recreation facilities are clustered within open spaces to encourage people to gather together and to have positive social interactions.	The key opportunity to enhance open space within this UDLP is through the construction of the SUP and upgrade of existing sections of the Main Yarra Trail. The SUP will improve access to existing areas of public open space that are used for sport, leisure, sitting, rest, shade and play. These spaces have existing public amenities and drinking fountains. The SUP takes advantage of the existing tree canopy to provide shade and this will be supplemented by additional strategically located plantings along the route. The route has been aligned to pass historic features such as the historic gate pillar within Yarra Bend Park. A series of co-design locations are being explored as pause points, where cultural stories and practices may be meaningfully expressed or evoked. Public open space infrastructure will be provided at these co-design locations and intervals along the SUP. These will be developed throughout the detailed design process in coordination with the asset owners and in collaboration with WWCHAC. Elements will include seating crafted from trees removed from the immediate site area, repurposed and carved with Indigenous motifs, as well as carved stone and sand blasted path treatments at rest nodes. The indicative co-design locations are shown in Attachment 2: Landscape Design. Figure 24 shows the type of outcomes being explored through the co-design process. Additional local treatments (at the Historic Gate Pilar introduced in Section 3 and entry to the bat colony) will be included subject to asset owner acceptance. Wayfinding signage will be developed in coordination with asset owners during detailed design. This UDLP has developed in consultation with Parks Victoria, Boroondara City Council and Yarra City Council. Ongoing consultation with these stakeholders will continue through the detailed design phase to align the Project with relevant standards and guidelines.
7.3 Positive use of space	The design promotes and enables the positive use of public open space through design, with the resulting spaces being useful, attractive, activated, safe and sustainable. This includes incidental spaces such as those under ramps and viaducts, as well as pocket parks alongside the roadway. Places are well designed to cater for a diversity of uses that promote opportunities for positive social interactions and incidental physical activity	The design along the SUP promotes the positive use of public open space. The design contributes to attractive, safe and active spaces along the SUP, including incidental spaces under ramps and bridges. These spaces are enhanced by a diversity of plantings that change colours and hues with the seasons. The UDLP enhances the existing public open space through strategic plantings within Yarra Bend Park, Chandler Park, Kate Campbell Reserve, Jack O’Toole Reserve and Willsmere Park. The landscaping within these places is well designed to promote positive social interactions and support physical activity.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
7.4 Pedestrian realm	Public open spaces are inclusive, pleasant and welcoming. Seating, shade, shelter, ‘pause points’ and lighting are provided, as appropriate and at regular intervals in open spaces at transport stops, on key pathways and in community spaces associated with the Project. Natural daylight is maximised into public spaces below and adjacent structures.	The SUP connects to existing sections of the Main Yarra Trail and other minor trails. Together these provide connections to places within Yarra Bend Park and other parks along the corridor where there are existing opportunities to pause, take shade and temporarily shelter beneath existing public buildings and mature vegetation. The indicative locations of pause points are shown in Attachment 2: Landscape Design and these will be finalised during the detailed design phase. The SUP bridge over the Birrarung introduces a new opportunity for cyclists and pedestrians to pause and appreciate the views of the surrounding landscape. The design of the SUP bridge is open, transparent, permeable and light, which maximises the natural daylight into the adjoining public spaces below. The Overshadowing and Overlooking Assessment in Attachment 4 confirms that the existing and new noise walls do not significantly impact on natural light into adjacent area of public open space. Borrowed light from lights along the freeway will provide illumination of the SUP at night. The handrail on the SUP bridge will be illuminated. In accordance with the Urban Design Guidelines for Victoria – 6.5 Lighting and in consultation with the asset owner as per LV4, additional lighting along the SUP west of Yarra Bend Road is not proposed. Additional lighting will be provided along the SUP east of Yarra Bend Road where required to meet the relevant LUX levels as per AS1158.3 Pedestrian area (Category P) lighting – Performance and design requirements (November 2024, Amendment 1). The width of the portals for the SUP and eastbound lane of the Eastern Busway passing under the eastbound exit ramp at Chandler Highway provide solar access beneath the bridge. The form of the Burke Road exit ramp, constructed on two piers and extending over the SUP and Eastern Busway, also maximises daylight to the SUP.
7.5 Safety	New spaces created around the Project feel safe, comfortable and welcoming to users during both day time and night time, maximising passive surveillance, clear sight lines and appropriate lighting.	The alignment of the SUP avoids obstructing sight lines to ensure visibility of oncoming cyclists and pedestrians. This is done through the use of soft curves and the absence of sharp corners to maximise views ahead, as well through the use of low-level planting combined with tall canopy planting. Borrowed light from lights along the freeway will provide illumination of the SUP at night. The handrail on the SUP bridge will be illuminated. In accordance with the Urban Design Guidelines for Victoria – 6.5 Lighting and at the request of Parks Victoria, additional lighting along the SUP west of Yarra Bend Road is not proposed. Additional lighting will be provided along the SUP east of Yarra Bend Road where required to meet the relevant LUX levels as per AS1158.3 Pedestrian area (Category P) lighting – Performance and design requirements (November 2024 (Amendment 1) The design also includes luminaries beneath the Chandler Highway undercrofts, and a mixture of luminaires and pole lights beneath the Burke Road undercrofts. The Project will continue to develop the undercrofts during the detailed design phase to deliver a high-quality integrated design. A safety fence must be provided along the SUP between Belford Road bridge and Burke Road bridge in accordance with DTP requirements. The purpose of the fence is to provide an additional layer of safety for pedestrians and cyclists. The fence has been micro-sited to enable groundcover plantings along the interfacing edge of the SUP, as shown in the visualisation in Figure 26.

8. Local Streets, Schools & Neighbourhoods

8.1 Pedestrian friendly local streets	Pedestrian-friendly areas and the ‘20 minute neighbourhood’ concept is supported, with streetscapes that are comfortable, safe, inclusive, pleasant and welcoming to the local community.	The Project, including the SUP, does not cross or intersect with local streets apart from Yarra Bend Road, which the SUP crosses. The crossing of Yarra Bend Road will be managed through appropriate planting and wayfinding markers to alert drivers, cyclists and pedestrians of each other’s presence. Yarra Bend Road is a cul-de-sac solely accessed from Heidelberg Road. Where it crosses the SUP, it is only used to access Fairlea Reserve, the Victorian Indigenous Nurseries Co-Operative, Yarra Bend Public Golf Course and other areas of public open space within Yarra Bend Park. Improved accessibility along the SUP, in particular the SUP bridge, will support the ‘20-minute neighbourhood’ concept by allowing more residents of the eastern suburbs to access these community facilities within a 20-minute cycle.
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5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
8.2 Boulevards and streetscapes	Landscape design of local roads and streets as part of the Project contributes positively to the function and character of the area. This includes the introduction of street tree planting, additional greening, pedestrian and cycling infrastructure. The design of local streets is consistent with local authority requirements. Boulevards of canopy trees are prioritised, especially adjacent to shared and pedestrian paths. Seating, shade, shelter and lighting are provided, as appropriate and at regular intervals, transport stops, on key pathways and in community places associated with the Project.	The Project does not include new or upgraded boulevards. The Project removes trees and other vegetation along Kilby Road, which will be replaced in accordance with the design shown in Drawing NEL-WST-NWA-4990-ULS-DRG-9537 in Attachment 2: Landscape Design. The new plantings will contribute positively to the streetscape and character by creating foliage that will screen the noise wall. A bioretention system is to be constructed at Jack O'Toole Reserve as shown in Drawing no. NEL-WST-NWA-4990-ULS-DRG-9537 in Attachment 2: Landscape Design. The bioretention system is an integrated water management feature to treat freeway stormwater runoff. The bioretention system is located within a grassed drainage swale. The bioretention system would make a positive contribution to the established landscape along Kilby Road by contributing to visual amenity and creating habitat for fauna. The Project contributes to the streetscape of Wiltshire Drive, Willow Grove, Elm Grove, Belford Road, Meldrum Street and Old Burke Road through the planting of trees in accordance with the design shown in Drawing no. NEL-WST-NWA-4990-ULS-DRG-9534, NEL-WST-NWA-4990-ULS-DRG-9537, NEL-WST-NWA-4990-ULS-DRG-9538 and NEL-WST-NWA-4990-ULS-DRG-9539 in Attachment 2: Landscape Design. The new plantings will contribute positively to the streetscape and character by creating foliage that will screen the existing and proposed noise walls.
8.3 Transition	Built elements and landscape are designed to sensitively transition from a highway environment to local streets and neighbourhoods.	A sensitive design approach has been implemented for the transitions between freeway environments and local streets. The proposed landscaping incorporates structured revegetation and biodiverse planting mixes that reflect the local ecological character. Understorey plant species and tree selection and placement will blend with the landscape character of the surrounding neighbourhoods. This works to soften the visual and experiential impact of the freeway as it transitions to the surrounding neighbourhoods. As shown in Drawings NEL-WST-NWA-4990-ULS-DRG-9531 to 9539, the design includes massed plantings, habitat plantings and new tree canopy plantings along the community side of noise walls to enhance the transition from the freeway to the local streets, neighbourhoods and public open space.
8.4 School interfaces	Liaise with schools that interface the Project to identify appropriate interface treatments. The design of road infrastructure around schools carefully considers local identity, sense of arrival, legibility of access points and operational requirements. The landscape design response filters and screens any views of road infrastructure from school grounds where appropriate.	This UDLP does not interface with any local schools.
9. Walls, Fencing, Barriers & Screens		
9.1 Noise and visual mitigation	Noise attenuation elements are high quality and context sensitive. Innovative methods of noise mitigation are maximised to reflect/refract and/or absorb noise. Landscaping and landscaped embankments enhance and soften the appearance of walls and barriers, reduce height and bulk and better integrate the structures into the surrounding area.	Noise mitigation has been achieved through a range of methods, including the construction of new noise walls, the retention of existing noise walls and the use of open graded asphalt on the freeway's main carriageways (which works by absorbing the noise into the pavement). The retained and new noise walls are shown in Drawings NEL-WST-NWA-4100-UUD-DRG-9201 to 9210 in Attachment 1 Architecture and Urban Design. RMP noise walls are to be constructed along the freeway. This innovative material choice provides both durability and design versatility. It also supports double-sided patterning and colouration for visual treatment on both the freeway-facing and community-facing sides. The co-design process will further contribute to the embedding of meaningful cultural narratives and locally relevant expressions into the design of the noise walls. At Alexandra Parade East, noise walls are designed to be site specific and match in with the existing timber noise walls. Retained noise walls will be repaired where required and graffiti painted over, enabling important established vegetation to be retained where feasible. Complementing this, a considered landscape strategy introduces a palette of contextually appropriate plant species that work in harmony with the noise wall treatments. Together, these elements ensure that the interface between the walls, paths, SUP and surrounding roads is cohesive, contextually sensitive and visually engaging throughout the Project corridor.
9.2 Integrated and coordinated	Noise walls, flood walls, fences, screens and traffic barriers are coordinated and integrated to minimise visual and physical clutter. These elements integrate with existing or proposed elements to reduce the need for additional structures and transition seamlessly into the existing elements. Opportunities to incorporate new built form as noise mitigation are maximised to replace the need for noise walls. Transitions in wall and fencing heights are well considered and seamless. Materials and colour palettes are coordinated and finishes are high quality.	The design approach for noise walls, fences, screens and road barriers are coordinated to minimise visual and physical clutter within the freeway and adjoining open spaces. Where possible, road infrastructure is combined with these elements and/or integrated with adjacent structures. Road related infrastructure, such as road barriers, fencing and anti-throw screens, are designed to reduce overall visual and physical clutter along the freeway and will be refined through the detailed design development phase in accordance with the road authority's requirements. Existing noise walls are retained where possible to satisfy acoustic, durability and urban design requirements, while maximising opportunities for tree and vegetation retention and minimising impacts on established ecology. All existing noise walls to be retained will be cleaned and painted, and refurbished as required to ensure compliance with EPRs (see NEL-WST-NWA-4990-UUD-DRG-9218 and 9266 in Attachment 1: Architecture and Urban Design). All new noise walls are visually integrated with existing and proposed structural and roadway design elements. All retained existing and new noise walls will use a palette of muted earthy tones to sensitively complement the existing natural landscape conditions. The materials palette is shown in Drawings NEL-WST-NWA-4990-UUD-DRG-9215 to 9218 in Attachment 1: Architecture and Urban Design. The transitions between varying noise wall heights are managed by the stepping of module heights. Where the post is exposed, it will be colour matched to the adjoining noise wall panel. A safety fence must be provided along the SUP between Belford Road bridge and Burke Road bridge in accordance with DTP requirements. The purpose of the fence is to provide an additional layer of safety for pedestrians and cyclists. The fence has been micro-sited to enable groundcover plantings along the interfacing edge of the SUP, as shown in the visualisation in Figure 26.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
9.3 Local context and scale	Walls, fencing and screens are designed in response to the surrounding areas, with careful consideration to form, texture and colour on both sides of the walls. Use of colour is appropriate to location, and minimises the impact on residential and sensitive uses, including negative impacts from coloured light from transparent materials. Both faces are designed to the same standard of quality, with a front and a front, rather than a front and a back. Walls are appropriately designed to address the speed at which they are viewed. Design on public and residential interfaces reflects a pedestrian scale, whereas the roadside interface reflects the scale of a high-speed vehicle environment. Walls and other structures are sensitively sited and proportionate to the surrounding structures, landscape and urban elements.	The noise walls, screens and fencing design is carefully attuned to its surrounding context, integrating seamlessly with existing structures while adopting a restrained and thoughtful design strategy. Recessive patterning is employed to ensure the walls visually recede into the landscape, offering a subtle yet cohesive addition to the environment. New noise walls incorporate textures and patterns that are responsive to the character and materiality of specific locations, particularly where new walls are introduced between existing timber noise walls. These treatments are intended to reflect the local context and maintain visual continuity. Ongoing collaboration through co-design will further refine these opportunities, identifying site-specific moments where the design can create meaningful connections to people, Country and the Wurundjeri Woi-wurrung culture and community. The flexibility of the RMP system supports the integration of textures and colour, offering engaging visual experiences from both community and road-facing perspectives. Existing noise walls to be retained will be refurbished, cleaned and painted. The muted earthy tone of the refurbished and repainted noise walls blends with the borrowed landscapes and the new noise walls. Drawing no. NEL-WST-NWA-4990-UUD-DRG-9215 to 9218 in Attachment 1: Architecture and Urban Design shows the design response for the noise walls, including both Type A and B noise walls which show single and double panel noise walls, both with a front and a front face. These designs are to be read in conjunction with the General Arrangement drawings in Attachment 2: Landscape Design, which show the landscaping treatments for both resident and road facing walls. The design response is focused on maximising visual appeal and amenity at eye level and minimising overall visual bulk and intrusiveness of new noise walls along residential interfaces. This is achieved by designing new noise walls with a face on both sides.
9.4 Interfaces	The creation of unsafe narrow areas between noise walls and residential properties are avoided and minimised. Innovative solutions are included to ensure any narrow spaces are pleasant and safe. Walls respond to the adjacent land uses and boundaries and maximise opportunities for dual use.	As shown in Attachment 1: Architecture and Urban Design the Project does not create new areas of narrow open space between noise walls and residential properties. Open mesh fence on the SUP bridge provides transparency, permeability and passive surveillance to create a sense of openness and connection to the surrounding environment. This prevents the creation of dark, narrow spaces and allows for passive surveillance and overlooking. An additional 290m of landscaping is proposed between the SUP and the fence to further create the sense openness Lighting within bridge undercrofts and at the existing Willsmere underpass will improve visibility, enhance safety and make safe exit points more legible within these narrow spaces. Drawing no. NEL-WST-NWA-4990-UUD-DRG-9215 to 9219 in Attachment 1: Architecture and Urban Design shows the design response for the noise walls, including both Type A and B noise walls which use single and double panel noise walls, both with a front and a front face. These designs are to be read in conjunction with the General Arrangement drawings in Attachment 2: Landscape Design, which show the landscaping treatments for both resident and road facing walls.
9.5 Transitions	Transitions in types and materials of walls, barriers and fencing appropriately address adjacent sensitive land use, property boundaries and vegetation. Changes in wall heights and materials types in walls, barriers and fencing are well considered.	A balanced and considered design approach ensures visual consistency across appearance, texture and colour to create a cohesive and unified outcome for the corridor. New and retained noise wall materials include RMP panels and timber panels. The UDLP design response integrates these two types of materials to provide a seamless transition along the corridor, see drawing NEL-WST-NWA-4990-UUD-DRG-9218 in Attachment 1: Architecture and Urban Design. The texture and colour of the new wall panels have been selected to complement the surrounding natural landscape and in alignment with themes of Country. The texture and colours are to be further explored through the co-design process, with an overarching intent for the noise walls to have a palette of earthy tones that recede into the landscape. The heights of noise walls serve the primary function of mitigating noise from the freeway. The transitions between varying noise wall heights will be managed by the stepping of module heights. Where the post is exposed, the post will be colour matched to the adjoining noise wall panel. Attachment 4: Overshadowing and Overlooking Assessment demonstrates that the noise walls are compliant with overshadowing guidelines. Double panel noise walls are to be constructed along the corridor where noise walls are not obscured or screened and would be visible from residential properties, local streets and public open spaces. As shown in Attachment 2: Landscape Design, new plantings are strategically located along the freeway, including the residential side of noise walls to enhance visual amenity.
9.6 Visual connectivity and solar access	Transparent barriers are used to take advantage of scenic and adjacent views of surrounding landscape and reduce the bulky appearance of structures. Walls and barriers are designed (for example sited or angled) to avoid or minimise overshadowing of properties, waterways and open space. Transparent barriers are used to optimise solar access and to maximise visual connectivity across corridor to connect communities. Walls and barriers are responsive to the local environment and allow sunlight to waterways and ecological areas.	The design of the noise walls maintains visual connectivity and solar access. This includes: – This UDLP does not require the use of transparent barriers (e.g. acrylic panels placed on the top of noise walls) to meet overshadowing guidelines, as demonstrated by Attachment 4: Overshadowing and Overlooking Assessment – Visual connectivity across the freeway is not significantly altered by the additional sections of noise walls. For example, the limited sections of new noise walls are generally opposite areas on the other side of the freeway where there are existing noise walls – The noise walls sit below the existing mature tree canopy and will be supplemented with additional plantings to screen the walls and to provide a transition from the freeway to neighbouring open space, local roads and residences. In parallel, opportunities for co-design are being explored along the corridor in collaboration with the Wurundjeri Woi-wurrung community. This process seeks to identify culturally significant locations that can meaningfully inform the design of the noise walls. These interventions aim to provide visual moments of cultural expression and landscape connection, enriching the experience for both local communities and drivers along the Eastern Freeway.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
9.7 Anti-throw screens, public safety barriers (PSB) and privacy screens	Anti-throw screens, public safety barriers and privacy screens are well integrated with bridge and road structures and utilise high quality architectural materials while maintaining a high quality aesthetic form. The scale and visual bulk of throw screens are minimised. Screens are designed to avoid the perception of entrapment that may become a barrier to use. Anti-throw screens have good visual permeability when viewed from adjacent areas, to maximise passive surveillance.	The design strategy for incorporating anti-throw and anti-climb screens on both the new SUP bridge and the existing Belford Road bridge is unified, refined and contextually sensitive. On the SUP bridge, the screen has been designed to meet safety requirements while maintaining a sense of openness and connection to the natural environment. The use of a stainless-steel tensile mesh allows for high levels of transparency and permeability, framing views to the surrounding tree canopies and offering visual connectivity to the Birrarung below. The screen’s structural components, including posts and mesh, are fully integrated into the bridge’s architecture, resulting in a seamless and elegant solution that complements the bridge’s form and setting. This design language is consistently applied to the Belford Road bridge, where the screen’s minimalist expression aligns with the bridge’s existing modernist character. The approach prioritises visual clarity and openness, preserving sightlines for pedestrians and cyclists using the bridge, while also enabling clear views from the freeway below. This not only enhances the visual experience but also maximises opportunities for passive surveillance, contributing to a safe and welcoming environment for all users. The design of the public safety barrier is subject to change during detailed design.
9.8 Flood walls and retaining walls	Walls are carefully integrated with the landform. Opportunities to use earth embankments and screen planting to mitigate the visual height and bulk of walls are maximised. Walls are integrated with traffic barriers, fencing, throw screens and other structures to reduce visual clutter. Walls have a consistent form, design and material palette. Wall design appropriately reflects the surrounding landscape, urban form and the local context. Walls at the entrance to tunnels and along the road corridor use a consistent design and materials, are integrated with the landscape and have appropriate maintenance access.	The visual impact and scale of retaining walls is mitigated through the considered use of texture, colour and planting to deliver a cohesive relationship with the surrounding mature vegetation. This approach supports a seamless and unified landscape character throughout the corridor. Drawing NEL-WST-NWA-4990-UUD-DRG-9261 and 9262 in Attachment 1: Architecture and Urban Design depicts the retaining walls. Retaining walls are designed using a combination of precast and in situ concrete, with opportunities for integrated textures and patterns to provide visual interest and align with the broader aesthetic of the corridor. These treatments not only reduce the perceived scale of the walls but also contribute to the overall design narrative of the Project. The retaining walls will be constructed to integrate with the existing concrete bridges (e.g. Chandler Highway bridge and Yarra Boulevard bridge) with the support of additional planting as shown in Drawing NEL-WST-NWA-4990-ULS-DRG-9535 and NEL-WST-NWA-4990-ULS-DRG-9553 in Attachment 2: Landscape Design. Examples of this are: – Between the eastbound off-ramp to Chandler Highway and the eastbound Eastern Busway where there is sufficient space to integrate landscaping to sit in front of the retaining wall – Along the eastbound lanes of the Eastern Freeway where there is insufficient space to integrate landscaping to sit in front of the retaining wall and instead placed above the retaining wall to enhance visual amenity. A maintenance access strategy is being developed for new infrastructure covered in this UDLP in consultation with relevant asset owners (e.g. DTP) and it will detail how appropriate maintenance access for retaining walls will be provided. Retaining walls at the following locations will continue to be refined during the detailed design phase: – The retaining wall on the eastern embankment of the SUP bridge, with the possible solution to adopt a terraced retaining wall – The retaining wall opposite Chandler Park, with the possible solution to adopt a landscaped batter and to marginally modify the alignment of the SUP accordingly.
9.9 Deterring graffiti	High quality materials and textured surfaces are used on walls, fencing and screening to deter graffiti, particularly at lower levels of the noise wall. Other opportunities for innovative solutions to deter graffiti are maximised.	A multi-layered strategy has been adopted to deter graffiti on noise walls, retaining walls, fencing and screens by combining landscape treatments with material selection. This includes: – The retention of existing vegetation, along with the introduction of new screening plantings and low-level garden beds, creates a natural buffer that discourages physical access and provides visual softening – Treatment of surfaces with an anti-graffiti sealant – Repainting as required and cleaning of existing noise walls to remove graffiti – The use of textured RMP panels for the new noise walls further supports graffiti resistance. These panels possess inherent anti-graffiti properties (as most paints do not adhere effectively to the surface) – Easily cleaned RMP panels using high-pressure water, ensuring minimal maintenance and long-term visual integrity – Fencing and screens along the Project use permeable materials, such as the stainless-steel tensile mesh of the SUP and Belford Road bridges and chain-link mesh fence that inherently discourage graffiti – Passive surveillance across the transport network to discourage graffiti.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
9.10 Maintenance	Walls are designed to minimise maintenance burden through the selection of high quality materials that are durable, not subject to environmental damage and can be accessed to maintain their high quality	This UDLP prioritises the use of high quality, durable materials to reduce maintenance and replacement costs. Construction materials are well-suited to their environmental context, promoting durability and minimising long-term maintenance. All materials and systems comply with necessary warranties and are designed to withstand the natural conditions of their context. Examples include: – Off-form concrete barriers maintain the visual continuity and language of existing modernist infrastructure, reinforcing a legacy of enduring and functional design – RMP noise walls deliver robust, enduring finishes with high sustainability, embedded energy reduction and recycling benefits, as well as minimal maintenance and integrated anti-graffiti qualities – Pigmentation of concretes that may be proposed as part of the co-design solution will be designed to age and fade into muted tones to complement open face rock cuttings characteristic of the surroundings – Chainlink mesh fencing material is readily available, easy to maintain and has a robust lifespan – Existing noise walls to be retained are cleaned and painted and subject to refurbishment in accordance with a structural assessment to ensure the future maintenance burden is minimised – All noise walls (new and existing) will be maintained in accordance with the requirements of the relevant Road Management Plan under the <i>Road Management Act 2004</i> by DTP-Transport and as stipulated within the Project EPRs.
10. Bus Park & Ride, & Bus Lanes		
10.1 Bus interchanges	Bus interchanges provide a high quality experience for commuters that enhances their journey, provides intermodal connections and increases neighbourhood connectivity. Interchanges have demonstrated capacity to support or facilitate future service changes.	There is no bus interchange located within this UDLP.
10.2 Bus station design	The design of the interchange optimises their dual role as service points for public transport infrastructure and as public landmarks. Architecture of the bus interchange is high quality and provides a positive built-form contribution to the local area. The public realm promotes pedestrian activity, creates vibrant spaces, uplifts connectivity and integrates the interchange precinct into the surrounding area. Complementary land use and activation opportunities such as commercial, retail and public facilities are maximised. Car parking areas are safe and positive places. Weather protection must be provided such as shelters and passenger lounges. Break rooms and toilets for drivers are conveniently located to minimise disruption to services.	There is no bus station located within this UDLP.
10.3 Innovation	Innovative design solutions that add value to Project should be incorporated into the design. These are solutions that are not commonly used in the Victoria and are beyond business-as-usual approaches. These solutions include locating of ticketing devices on platforms, creating more attractive ‘airport’ style waiting spaces, integrating retail and public amenities into station building, initiatives that support intermodal interchange such as shower and change room facilities, integrating future-thinking technologies and built form sustainability initiatives that contribute to beyond business-as-usual sustainability outcomes.	There is no bus station located within this UDLP.
10.4 Transport and active travel connections	Interchanges provide the ability for commuters to undertake effective, safe and comfortable intermodal connections to public transport, vehicles and active transport. Customers are provided with clear and open movement within the bus precinct/station. Walking and cycling along priority routes into the precinct, along desire lines and at entry points (both existing and future) within the precinct is improved. Walking and cycling connections link into the surrounding network and are convenient, direct and attractive to use. End of trip and bicycle amenities including bicycle parking are provided. Clear sight lines and well integrated connections are provided to feeder bus services and other modes of transport. The entry and exit to facilities and stops are identifiable and easy to access.	There are no intermodal interchanges within this UDLP.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
10.5 Bus lanes and busway	The design creates a clear corridor that supports the efficient, safe and high speed movement of buses. The corridor infrastructure has a strong visual identity, works to break-up the perceived expanse of freeway, is responsive to the adjacent landscape and urban form and creates a memorable public transport experience. The busway design is sympathetic to the design of the Eastern Freeway. Busway is designed to achieve high quality urban design and landscape outcomes.	The Eastern Busway provides a streamlined corridor for public buses separated from motorists. This means that buses are not impacted by traffic conditions on the freeway carriageways, with greater travel reliability and isolation from traffic incidents and congestion. Safety is improved with physical separation from freeway traffic as the buses only interact with other buses. The architecture, engineering and landscape elements of the Eastern Busway bridge have been carefully developed to coherently link the Eastern Busway Bridge to the wider corridor, and to help pedestrians, cyclists, motorists and bus passengers gauge their location. The Eastern Busway bridge is identifiable and well-designed, and has been designed with a minimalist style to complement and enhance the existing modernist architecture of the freeway’s bridges. Architectural elements are simple in form, balancing the pier, the steel-girder bridge truss and non-structural concrete road barrier. New structural elements are intentionally low-profile and elegantly proportioned, with consistent horizontal forms, clean soffits and a sensitively placed pier. The alignment, form and treatment of the bridge creates smooth, uninterrupted lines that integrate seamlessly with the surrounding landscape including the existing Chandler Highway bridge. To amplify the landscape experience, the Busway bridge retains views to Chandler Highway Bridge as a key wayfinding element along the corridor. The alignment of the busway at Chandler Highway and Burke Road diverges from the main carriageway to create space for enhanced plantings which softens and lightens the perceived expanse of the freeway (see Drawing no. NEL-WST-NWA-4990-ULS-DRG-9535 and NEL-WST-NWA-4990-ULS-DRG -9539 in Attachment 2: Landscape Design). These integrated design choices contribute to a strong, unified visual language across the corridor, reinforcing the identity of the corridor while supporting functional improvements for bus operations.
11. Car Parking		
11.1 Car park design	Car parks will maximise opportunities for vehicle efficiencies such as via other off-peak uses of car park area, and the integration of commuter car parking into any site development. Landscaping is used in car parks to mitigate the visual impact of large expanses of pavement and to create attractive buffers to residential interfaces. Canopy tree planting is used in car parks to enhance amenity and to provide shade. Opportunities to incorporate Water Sensitive Urban Design infrastructure into the car park precinct is maximised to reduce surface water flow impacts and to provide passive irrigation to planted areas.	There is no car parking within this UDLP.
11.2 Connectivity and safety	Car parking areas feel safe during the day and night time, passive surveillance is maximised with clear sight lines for pedestrians and cyclists. Car parking areas support the ease of movement for pedestrians and cyclists and avoid or minimise the potential for conflict with vehicles. Access points to walking and cycling paths are clearly defined and are separate from vehicle movements.	There is no car parking within this UDLP.
11.3 Signage and entries	Entries to car parks are legible and clear for all modes of transport. Entry points and signage are of high quality design.	There is no car parking within this UDLP.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
12. Lighting		
12.1 General lighting	Functional lighting design and light elements for roads and paths integrate with infrastructure and surrounding areas and are appropriate to surrounding land uses and enhance personal safety. Lighting creates a cohesive identity for the Project and is integrated with built elements and the general lighting approach.	The mast lights located to the west of Chandler Highway are to be retained and light fittings upgraded; those to the east are to be removed. The new lights between Chandler Highway and Burke Road will be the same as those used for the balance of the North East Link Program along the Eastern Freeway (east of Burke Road) to ensure a corridor-wide approach to lighting. The new light poles between Chandler Highway and Burke Road will be located along the boundary of the freeway and on/adjacent to new bridge structures within the interchanges. Borrowed light from the freeway will illuminate the SUP. In accordance with the Urban Design Guidelines for Victoria – 6.5 Lighting and at the request the asset owner, additional lighting along the SUP west of Yarra Bend Road is not proposed. Additional lighting will be provided along the SUP east of Yarra Bend Road where required to meet the relevant LUX levels as per AS1158.3 Pedestrian area (Category P) lighting – Performance and design requirements (November 2024 (Amendment 1). Lights interfacing residential areas will be baffled to throw light into the freeway, but not into neighbouring residential properties. This approach of using the freeway lighting as the main source of light for the freeway, busway and SUP ensures a cohesive lighting identity along the length of the Project. Lighting on the SUP bridge is to be integrated into the handrail to support wayfinding. Lighting within the Willsmere underpass will be upgraded to improve safety. Supplementary lighting will be provided where required to achieve adequate illumination levels in accordance with relevant guidelines and to the satisfaction of the relevant land manager.
12.2 Feature lighting	Feature lighting is integrated with road lighting to enhance navigation and user experience. All lighting appropriately addresses impacts to sensitive adjacent land uses.	This UDLP does not include feature lighting.
12.3 Light pollution	Lighting employed in the Project is designed sensitively for the surrounding environment and to avoid or minimise light pollution.	Light fittings will focus lighting to illuminate the freeway and SUP. The lighting solution will be finalised during the detailed design phase and the Project will seek to avoid and minimise light pollution to environmentally sensitive areas with fauna habitat, such as within Yarra Bend Park by using baffling on light fixtures as far as practicable. Baseline lux levels have been obtained. A review of the proposed design lux levels and type of lighting will be reviewed by a suitably qualified ecologist during the detailed design phase to ensure it is appropriate for managing impacts to the Grey-headed Flying-fox colony at Yarra Bend.
12.4 Maintenance	General and feature lighting include designs and elements that maximise road safety, are environmentally friendly and can be safely maintained.	Lighting along the freeway maximises road safety, is environmentally friendly and can be safely maintained. This includes: – New and existing lights will illuminate the freeway, interchanges and the SUP to avoid the duplication of lights – New light poles and other lighting within the Project (e.g. Willsmere underpass) are designed and sited in accordance with the relevant Australian standards for road lighting, are subject to a Road Safety Audit and align with CPTED principles for cyclist and pedestrian safety – LED light fittings are proposed for all new and existing mast lights to maximise operational life span – A maintenance access strategy is being developed in consultation with relevant asset owners and it will detail how appropriate maintenance access to lights will be provided.
12.5 Energy efficiency	Energy efficient lighting is used to reduce ongoing energy consumption.	Energy efficient LED globes will be used for all new lights along the freeway. Energy efficient LED globes will be included in replacement light fittings on the existing mast lights where feasible.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
13. Walking & Cycling Infrastructure		
13.1 Pedestrian and cycling network	The Project maintains or enhances the existing pedestrian and cycling network. Walking and cycling connectivity through local neighbourhoods is improved with integrated links and connections across the Project. Clear visual and movement linkages between streets, footpaths, bicycle paths and public open spaces connect public transport, neighbourhood activity centres, schools and other key community facilities and services.	The Project enhances the existing pedestrian and cycling network, with walking and cycling connectivity from local neighbourhoods to open space along the corridor significantly improved by integrated existing links and connections to the SUP. This UDLP integrates the SUP with the existing active transport network to support connections with nearby neighbourhoods. This includes access from the SUP to the following trails and roads: – Main Yarra Trail, east of Merri Creek – Yarra Bend Road – River Circuit Trail, at Fairlea Oval West – River Circuit Trail, prior to the SUP bridge – Chandler Highway – Main Yarra Trail, east of Chandler Highway – Main Yarra Trail and Willow Grove, west of Chandler Highway – Main Yarra Trail, east of Belford Road – Main Yarra Trail, west of Burke Road – Koonung Creek Trail, east of Burke Road (for the works outside of this UDLP refer to the Burke Road to Tram Road UDLP). These connections will improve access for nearby communities to: – Existing public transport stops along Chandler Highway, Kilby Road and Burke Road – Eastern Freeway crossings via the retained roads, bridges and underpasses, including the existing freeway underpass that connects Willsmere Road to Willsmere Park – Areas of public open space directly abutting the SUP, including the expansive Yarra Bend Park – Existing activity centres, community facilities and schools that are located beyond the immediate environs of the Project The new SUP has been designed to provide sightlines and visual cues where there will be connection points to the existing transport network.
13.2 Encourage cross-community connectivity	Opportunities to remove barriers that discourage walking and cycling, cross-Project corridor connectivity and the community’s ability to reach everyday services and facilities within a 20 minute walk are maximised. These barriers include physical obstructions and a lack of shade and rest stops. Pedestrian and cycle crossings of the Project corridor are celebrated and emphasised to encourage greater sense of connectivity.	The design upgrades existing pedestrian and cycling networks through a series of improvements designed to make walking and cycling a safe, efficient and pleasant alternative to car-based travel. Improved connections to key destinations and services supports opportunities to ‘mode switch’. Examples include: – Provision of a new SUP bridge across the Birrarung, to close a gap in the existing path network in the corridor – Improving connectivity for pedestrians, cyclists and people using mobility devices, with ramps and access points designed to minimise gradients and maximise accessibility – Provision of dedicated secondary path (an upgraded section of the River Circuit Trail) for pedestrians/recreational cyclists adjacent to Fairlea Reserve to reduce conflicts with cyclists using the SUP – Inclusion of additional trees and buffer plantings, which will provide both separation buffers and grow to provide additional natural shade alongside the SUP – Inclusion of a new connection from the SUP to Chandler Highway (in front of the Guide Dogs Victoria) – Upgrade of the existing Main Yarra Trail between Belford and Burke Road (alongside the Kew Golf Course). In addition to these upgrades, all existing crossings and connections into the broader network are maintained. This includes connections to the Main Yarra Trail, Darebin Creek Trail, Willsmere underpass, Koonung Creek Trail, and the following roads – Yarra Bend Road, Chandler Highway, Belford Road, Burke Road.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
13.3 Pathways and connections	Connectivity and continuity of on-road and offroad walking and cycling routes along and around the corridor are maintained and enhanced. Any existing trails impacted by works are realigned to retain connectivity. Pathways are direct and convenient. Access is maintained or improved with direct, pleasant and safe pedestrian and cycling links. Opportunities for grade separation of walking and cycling paths from roads are maximised. Off-road walking and cycling paths are high quality, suitably wide, functional and aligned appropriately. The transition between cycling paths is continuous and seamless with direct routes and consistent design elements. The riding environment is safe and appealing. Extent of local and strategic cycling corridors is maximised.	The design maintains and improves the connectivity and continuity of existing on and off-road pedestrian and cycling paths as well as providing new and/or upgraded links between them. The SUP creates a more direct and convenient route for pedestrians and cyclists, including the: – SUP bridge over the Birrarung, which avoids the circuitous route that follows the river – SUP underpass at Chandler Highway, which avoids the circuitous route around Guide Dogs Victoria – SUP underpass at Burke Road, which avoids the circuitous route that follows the river – Sealing of informal trails through Yarra Bend Park and Fairlea Reserve – Widening, repairing and/or realigning of existing sections of the Main Yarra Trail that overlap with the SUP – Seamless transition between the SUP, the Main Yarra Trail and other existing paths (e.g. River Circuit Trail and Darebin Creek Trail) and roads (Yarra Bend Road, Chandler Highway, Willow Grove / Belford Road and Burke Road) – Avoidance of steep sections along the existing Main Yarra Trail. A high level of physical separation between the SUP and freeway traffic is achieved by locating the path through open space along the northern side of the freeway. This provides an appealing environment for pedestrians and cyclists. Where the SUP is located within the freeway reserve, it is separated from motorist on the freeway by the Eastern Busway, road barriers and safety fencing. Where the SUP is located in the freeway reserve the design response supplements existing landscaping along the edge of Kew Golf Club to enhance the riding environment for cyclists.
13.4 Path separation	Separated walking and cycling paths are used in high-use areas where appropriate and avoid and minimise the potential for conflict between intersecting travel paths.	A dedicated secondary path (River Circuit Trail) is provided for pedestrians in the high-use area of Fairlea Reserve in accordance with the requirements of the UDS to reduce conflicts with cyclists using the SUP. In this area where the width of the public open space is wide enough, the separate walking path is separated from the SUP with a minimum 1m clearance. Where the new section of SUP is diverted to run alongside the freeway and pass under Belford Road bridge, the existing section of the Main Yarra Trail is retained as a secondary path between Willsmere Park, Belford Road and Kew Golf Course. Where the new section of SUP is diverted to run along the freeway and pass under Burke Road bridge, the existing section of the Main Yarra Trail is retained as a secondary path that follows the meandering course of the Birrarung. Opportunities for other separated paths was explored in the preliminary design stage; however, more could not be provided due to spatial constraints on both sides of the freeway.
13.5 Pedestrian crossings	Pedestrian crossings are provided at strategic points to encourage safe travel behaviour and enhanced connectivity. They are regularly spaced. The distances between them minimised.	The SUP is a dedicated route that separates cyclists and pedestrians from cars, with the exception of a single local road crossing at Yarra Bend Road. Yarra Bend Road is a no-through road and the proposed crossing point is located in a section of the road where traffic volume is relatively low given the limited range of uses (recreational open space) to the south of the crossing point. The SUP crossing will be raised to sit level with the SUP path to give priority to pedestrians and cyclists over cars. Other connections to the transport network are described at 13.1 above.
13.6 Perceived safety	Perceptions of safety along walking and cycling paths are improved for pedestrians and cyclists, through good design, to remove barriers to participation.	Walking and cycling paths have been designed to be wide, welcoming and attractive for users of all abilities. This includes the: – Provision of a SUP that has a minimum width of three metres – Approaches to underpasses and through other ‘pinch points’ are kept as straight as possible to maximise sightlines – Road barriers and fencing support between the SUP and the freeway separate and protect pedestrians and cyclists – Mesh fencing on the Belford Road bridge, the SUP bridge and along the SUP where within the road reserve is visually light, prevents the creation of dark, narrow spaces and allows for passive surveillance and overlooking – Use of signage and path design, with bends at strategic locations to slow the pace of cyclists where conflicts are more probable – Landscaped verges along the SUP which create a sense of openness.
13.7 Shade	Canopy trees are maximised along pedestrian and cycle routes, to provide amenity and shade.	The design approach is to maximise planting of canopy trees along the existing, upgraded and new SUP and secondary paths to provide shade for both pedestrians and cyclists, increase biodiversity and improve habitat corridors. Attachment 2: Landscape Design provides for the replacement and/or increase in canopy tree planting along the SUP and any secondary paths except where this is precluded by spatial constraints (for example, at ‘pinch points’ between the freeway reserve and residential properties).

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
13.8 Prioritise pedestrians	Pedestrian priority is maximised on key walking routes into and around key community facilities and destinations (including activity centres, Park and Rides and nearby schools and aged care facilities) by providing a high quality walking environment. This includes shade, drinking fountains at appropriate intervals and rest stops with seating. Pedestrian-friendly walkways are free from obstructions and have a smooth surface. Outdoor furniture and fixtures such as bins, bicycle parking and drinking fountains are offset from pedestrian pathways.	Other than the new and upgraded sections of the SUP, this UDLP does not modify walking routes into and around key community facilities and destinations. The design approach prioritises pedestrian access at Fairlea Reserve where a separate pedestrian path is provided to avoid conflicts between cyclists on the SUP and pedestrians walking along the River Circuit Trail. Pedestrian access is also prioritised at Yarra Bend Road where the SUP crossing will be raised to sit level with the SUP surface, giving priority to pedestrians and cyclists over cars. The design, location and type of outdoor furniture and fixtures will be determined through the detailed landscape design in consultation with the relevant councils and Parks Victoria.
13.9 Wayfinding	Wayfinding and signage is used to improve the ability for people to find their way to key destinations.	Wayfinding markers will be included at key locations along the SUP to assist pedestrians and cyclists to navigate to key destinations. Wayfinding will be developed during the detailed design phase and is not part of this UDLP. The design of these elements will ensure that the SUP and its connections to the existing network are easily navigable, clear, reliable, appropriate and sensitive to the environment and users of varying abilities. Potential locations for wayfinding are the: – Modified intersection at Burke Road – Modified intersection at Chandler Highway – Existing intersection of the SUP with the Darebin Creek Trail – SUP bridge and surrounds within Yarra Bend Park – New crossing of Yarra Bend Road – New intersection of the SUP with the Main Yarra Trail within Yarra Bend Park.
13.10 Wayfinding signage design	Wayfinding signage provides clear and reliable information, as well as being appropriate and sensitive to the environment and users of varying abilities. A balance is struck between sufficient signage and visual clutter. Obstructions to key sightlines are avoided or minimised. Signage is consistent and well integrated with any existing local signage systems. Route hierarchy is coherent. Standard route naming is adopted along entire routes, negotiated with the relevant authority. Individual branding incorporating graphic devices is employed, such as the Koonung Creek Trail branding. A list of ‘standard’ destinations is developed for each route in consultation with the relevant authority. Names and notation are consistent with those used on other wayfinding signs and maps. Signage is provided where users join the route, at the ends of the route and at any significant intersection with another, route, trail, path or road. Alternative routes are signed where appropriate, such as where the main route may flood. Signage is provided at any point where route continuity is unclear. Signage is high quality, graffiti proof, weatherproof and low maintenance.	Wayfinding signage design will be developed during the detailed design phase and is not part of this UDLP. The final design of wayfinding and directional signage will be in accordance with any relevant guidelines and confirmed in consultation with councils, DTP and Parks Victoria. This will include consideration of any existing strategies or design themes applied to specific routes or areas, to ensure consistency across the network and to maintain legibility and identity for users.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
14. Walking & Cycling Bridges		
14.1 Walking and cycling bridge design	Walking and cycling bridges are high quality and suitably wide to allow for passive surveillance and maintenance vehicles. Walking and cycling bridges are well designed and proportioned and are visually appealing design elements for the roadway and adjacent communities. Bridges are structurally expressive and durable and the need to enhance the appearance of the bridge by use of cladding is avoided. Walking and cycling bridges use structural form, materials, texture and colour to create an identity for the Project. Bridges respond to the surrounding context and are sensitive to the local character of the area.	The crossing of the Birrarung (see Drawings NEL-WST-NWA-4100-UUD-DRG-9101 to 9105 in Attachment 1: Architecture and Urban Design) provides an opportunity for the SUP bridge to connect both the physical and cultural landscape. The design responds to the three pillars of Connection to Country, Caring for Country and Connecting People, as well meets the design and functional requirements outlined in the UDS and relevant architectural standards. The SUP bridge responds sensitively to the surrounding landscape with an open truss structure and permeable stainless-steel tensile mesh screen reducing visual bulk and allowing road users and path users to see through the bridge elements to the established landscape of Yarra Bend Park. The SUP bridge transitions smoothly into the landscape with the stainless-steel tensile mesh tapering down at each end of the bridge and the abutments rising up out of the landscape. Introducing colour further breaks down the scale of the bridge. It provides an opportunity for the Wurundjeri cultural themes of Country to be integrated into the design. The design and construction methodology in the ecologically sensitive environment of the Birrarung has prioritised protecting existing aquatic ecology and vegetation by locating the piers out of the waterway. The SUP bridge is 4m wide, providing sufficient width for people to pause on the bridge and for maintenance access. The transparent design of the bridge supports passive surveillance across the bridge from the freeway and either side of the bridge. The texture and colour treatments on the abutments of the SUP will be further explored through co-design to anchor the bridge, with inspiration drawn from Yarra Bend Park’s landscape and the freeway’s rock escarpments.
14.2 Entries	Bridges have a sense of openness at the approach, with a clearly identifiable entry and effective wayfinding.	The new SUP bridge has been designed to foster a sense of openness, with a clear entry and exit that cohesively interface with the ground at logical and intuitive locations and provide a clear line of sight from the SUP. Permeability and lightness in appearance has been paramount in the design to ensure a sense of openness at approach. The form of the bridge, its alignment to the SUP and its connection to the Birrarung landscape and Eastern Freeway will provide effective wayfinding for pedestrians and cyclists.
14.3 Safety	Bridges provide a high level of passive surveillance and perception of safety.	The design avoids the creation of dark and narrow spaces. The urban design approach ensures clear sightlines between the SUP bridge and its surrounding context, achieved through its lightweight design, strategic path alignment and landscape species selection. In particular, the stainless-steel tensile mesh proposed for use on the SUP bridge allows for passive surveillance and overlooking to increase safety for users. The SUP bridge also has handrail lighting incorporated to meet safety, accessibility and visibility requirements.
14.4 Minimising impacts	Elevated structures are designed to minimise landscape and visual impacts, overlooking and overshadowing of residential and other sensitive areas. The visual impact of the bridge structure on road users is minimised. Planting is used to integrate ramps with their surroundings and reduce their visual impacts.	The open structural form of the SUP bridge minimises the potential visual impact and visually integrates into the context, allowing the landscape and river environment to permeate. The design of the SUP bridge is reflective of the natural context in which it sits. The open steel truss, slender piers and an open stainless-steel tensile mesh protection screen keep the bridge light and transparent while shrub and ground cover planting is proposed on either side of the direct ramp to integrate the structure with the surrounding landscape. The design approach maintains views through to the Birrarung’s valley and tree canopy for pedestrian, cyclists and motorists. The SUP bridge is located on the northern side of the Eastern Freeway, between Yarra Boulevard and the existing River Circuit Trail. Therefore, there will be no overlooking or overshadowing of residential and other sensitive areas from the SUP bridge (see Drawing NEL-WST-NWA-4100-UUD-DRG-9288 in Attachment 4: Overshadowing and Overlooking Assessment).
14.5 Access	Walking and cycling bridges meet universal access requirements with ramps and stairs for direct access.	The SUP bridge meets at ground level on either side of the waterway with a gentle grade. There is no design requirement to integrate ramps or stairs to achieve universal access. A consistent minimum width of 3m applies across the SUP and the SUP bridge has a minimum width of 4m.
14.6 Views	The design takes advantage of scenic views and vistas and space for stopping and viewing does not significantly interrupt pedestrian and cycle movement.	The design of the SUP bridge maximises scenic views to the Birrarung through its open steel truss and stainless-steel tensile mesh protection screen, which maintains views through to the Birrarung’s valley and tree canopy for pedestrian, cyclists and motorists. A lookout is located on the western side of the bridge to provide pedestrians and cyclists with the opportunity to pause and enjoy the views to the Birrarung, Yarra Bend Park and the Melbourne City skyline.
14.7 Lighting	Lighting is integrated into the design to make the crossing attractive and appropriate for night time use.	The SUP bridge has handrail lighting incorporated to meet safety, accessibility and visibility requirements. Borrowed lighting will also be provided to the bridge from the retained mast lights along the Eastern Freeway either side of the Birrarung.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
15. Walking & Cycling Underpasses		
15.1 Entries	Underpasses have a sense of openness at the approach, with a clearly identifiable entry and effective wayfinding.	There are no new underpasses proposed within this UDLP. Sections of the SUP that go under Burke and Belford bridges are not considered underpasses. Willsmere underpass is the only existing underpass within the Project area. Landscaping is to provide natural wayfinding for people on the approach to the underpass, acting as a visual queue to this transition point. Landscape planting near the southern and northern portals of the underpass have been designed to maintain sightlines as pedestrians and cyclists transition through the entries.
15.2 Connections	Underpasses are strategically located to improve any gaps in the existing path network. Topography and entry points are integrated with the existing path network to provide a seamless and safe journey with clear sight lines. Paths are generously proportioned with room for pedestrians and cyclists traveling in both directions.	There are no new underpasses proposed within this UDLP. Sections of the SUP that go under Burke and Belford bridges are not considered underpasses. Existing modes of transport and all existing locations for pedestrians and cyclists to pass under the Eastern Freeway at Willsmere underpass will be retained.
15.3 Safety	Underpasses have clear visual connections through to the streetscape and public spaces on either side. Underpasses are wide enough to provide a high level of passive surveillance and perception of safety. The length of underpasses is minimised.	The lighting inside the existing Willsmere underpass will be upgraded, making this a safer and more desirable route for the public to use. Upgrades to the visual connections and length of the underpass is outside the scope of works of this UDLP. There are no new underpasses proposed within this UDLP.
15.4 Deterring graffiti	Internal and external walls use high quality materials with graffiti-resistant surfaces.	There are no new underpasses proposed within this UDLP. No works are proposed to the internal or external walls of the existing Willsmere underpass, noting that existing surface treatments and maintenance regimes will continue to apply.
15.5 Natural lighting	Opportunities to incorporate openings for natural daylight are maximised to improve lighting and reduce operating costs.	There are no new underpasses proposed within this UDLP. No works are proposed to the internal or external walls of the existing Willsmere underpass, noting that existing surface treatments and maintenance regimes will continue to apply.
15.6 Artificial lighting	High quality artificial lighting is used to enhance safety for pedestrians and cyclists. Lighting elements are included as design features integrated into the structure.	There are no new underpasses proposed within this UDLP. Artificial lighting will be upgraded within the Willsmere underpass, making it a safer and more desirable route for the public to use. The proposed lighting is designed and sited in accordance with the relevant Australian standards for road lighting, are subject to a Road Safety Audit and align with CPTED principles for cyclist and pedestrian safety. The details of this lighting will be further developed during the detailed design phase.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
16. Navigational Nodes & Thresholds		
16.1 Hierarchy	A hierarchy of identifiable elements are located along the corridor, in accordance with the key design directions set out in this document, to help the community to navigate and identify their location. These elements should incorporate scenic views to the city, mountains, ridgelines and existing natural or built features; or through the design of elements that respond to cultural and historic values, geology, topography, water course, vegetation, above-ground characteristics and places above tunnels and/or the urban setting.	A hierarchy of identifiable elements are located along the corridor to help the community navigate and identify their location. These elements include the existing modernist bridges at Yarra Bend Road, Yarra Boulevard, Chandler Highway and Burke Road, the existing high mast lights between Hoddle Street and Chandler Highway that will be retained and the existing rock escarpments along the corridor. It also includes the new SUP bridge and Eastern Busway bridge, which are overlapping navigational elements. The SUP bridge is designed to relate to the new pedestrian bridges to be delivered within the North East Link Program. The Eastern Busway bridge is designed to respond to the existing Chandler Highway bridge. The views from the existing bridges are retained. The new SUP bridge not only incorporates scenic views to the surrounding landscape and Melbourne City skyline, but also becomes a new iconic view for motorists travelling along the freeway. The design for Chandler Highway interchange means that the Eastern Busway bridge simultaneously avoids overlooking while also taking advantage of views to the landscape, freeway and rock escarpments. The design creates a positive experience for road and SUP users that provides an improved journey from Hoddle Street to Burke Road, which seamlessly integrates into the Eastern Freeway upgrades east of Burke Road. The Eastern Freeway’s tree-lined setting will recognise and exemplify the unique tree planting within the corridor, providing an opportunity to soften structures without visually impacting the architecture. Safety screens on the existing Belford Road bridge provide motorists with open, safe and unencumbered views. The retrofitted design of the Belford Road bridge has been carefully considered to maintain one of the freeway’s existing landmarks impressive engineering features, while integrating new mesh safety barriers into the existing form to meet current safety requirements for road users and pedestrians along Belford Road. In maintaining as much of the existing noise walls as possible along the Eastern Freeway, the existing character is extended and reinterpreted in a contemporary manner. New sections of noise walls will incorporate RMP panels, with textures and colours carefully selected to complement the existing timber walls and blend subtly within the surrounding landscape. From the driver’s perspective, these new elements will appear as a seamless continuation, stitching cohesively between retained sections. On the community side, the noise walls will present muted, earthy tones that offer a subdued and respectful backdrop to the dense, verdant planting of the landscape.
16.2 Structures as features	Opportunities are maximised for attractive, identifiable and well-designed structures (interchanges, ramps, bridges etc.) that also act as navigational nodes and threshold treatments. Built features and elements are meaningful and are not superfluous visual elements.	New structures along the freeway, including the Eastern Busway bridge and SUP bridge, serve the purpose of being identifiable and well-designed. These new structures share design attributes with the other structures (e.g. road bridges and noise walls) delivered as part of the broader Noth East Link Program, creating a family of navigational features along the freeway and SUP journey, contributing to the road user experience. This UDLP aligns with the approach across the corridor. It uses consistent, materials, barrier design and colour to illustrate the relationship between bridges across the corridor, with localised variations to serve as episodic markers for motorists. New abutment structures feature patterned and tapered forms referencing similar structures throughout the Eastern Freeway Corridor. The Eastern Busway bridge is simple in form and reflected through its construction methodology. Breaking it down to its fundamental materiality which is expressed through its form and function. The balance between the pier, the steel-girder bridge truss and on-structure concrete road barrier are pure and simple. The smooth back face finish of the road barrier with its skirt creates symmetry and accentuates the curvature of the bridge. The SUP bridge is an integrated design from the ground up. The piers are simple in form and articulate as they embrace the truss structure that spans over the Birrarung. Taking inspiration from the existing natural landscape and its connection to Country, the form of the trees is reflected in the design of the piers. Permeability and lightness in appearance has been paramount in the design to ensure both users of the bridge as well as drivers on freeway experience connection to Country with views through the bridge and its screens. These additions provide a visual statement for motorists but are also clear landmarks and destinations for pedestrians and cyclists moving along and across the corridor.
16.3 Visual clutter	Visual clutter is to be minimised including from road lighting.	The urban design approach: – Reduces visual clutter through the regular spacing of gantries and signage – Avoids the placement of signage on existing road bridges – Conceals functional elements – Uses a consistent colour palette along the freeway interface – Services and drainage are concealed from view. The design results in a cleaner, refined outcome with strong, continuous lines that mirror the form and rhythm of the existing modernist architecture. The existing high mast lights between Chandler Highway and Hoddle Street are to be retained. New lighting installed between Chandler Highway and Burke Road maintain a consistent and clean visual character to tie in with the balance of the Eastern Freeway Upgrades.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
17. Landscape		
17.1 Green corridors	The Project enhances the quality of the surrounding landscape and strengthens existing green corridors. New landscape work complements the existing soft landscaping and is distributed evenly throughout the Project. Landscaping is undertaken early in the construction process where practicable, prioritising areas that will not be impacted by future construction, in order to maintain the green character of the area.	The proposed landscape design enhances and reinforces the existing green corridors by introducing new areas of planting that establish ecological continuity and visual cohesion along the Project corridor. These additions are strategically placed to strengthen habitat connectivity, increase biodiversity and integrate seamlessly with infrastructure. To enhance local biodiversity, new areas of understorey and tree planting will use native species indigenous to the area and to Victoria. This approach supports the restoration of indigenous plant communities, reinforces the region's natural heritage and provides habitat for local fauna. New landscaped areas have been carefully designed to blend with adjacent sections of the Project by using similar plant species mixes that maintain the distinct landscape character of each section. These mixes are applied in a site-specific manner responsive to the context (i.e. parklands or roadside) as well and considerations such as topography and existing vegetation patterns. This approach ensures a cohesive yet place-specific design throughout the corridor. Where practicable, landscaping works are scheduled strategically in the construction program, ensuring landscape works are done in areas that will not be affected by subsequent construction activities. This staging of implementation helps to establish greenery, reinstating the green character of the area during the construction phase and contributing to immediate visual and environmental benefits.
17.2 Roadway identity	Landscaping unifies the road corridor, contributes to the identity of the roadway and enhances the experience when driving through the area.	The proposed landscaping along the road corridor includes a selection of plant species that match and complement species adopted by the Burke Road to Tram Road UDLP to create a consistent and unified experience when driving through the area. The design also incorporates plant species naturally occurring in the area to support local biodiversity and enhance the identity of the roadway by connecting it to the natural landscape. To further enhance the user experience, the design proposes the integration of low-growing shrubs and ground covers adjacent to footpaths and kerbs. This vegetation will have a maximum height of 0.5 metres to maintain clear sightlines. The design approach in its incorporation of both existing and naturally occurring plant species will create a diverse and unique sequence of landscape experiences, that are reflective of the local identity and support a continued and unified driving experience along the road corridor.
17.3 Integration	The landscape design integrates the road environment into the existing landscape character and urban fabric. Landscape areas are clearly defined and are not left-over and undesirable spaces.	The landscape design integrates the road environment into the existing landscape character and urban fabric by: – Providing sufficient space to retain/supplement vegetation and retain existing paths, which avoids the creation of left-over and undesirable spaces – Landscaping within the freeway reserve to enhance the visual amenity for bus passengers and motorists, including the: – Hoddle Street, Chandler Highway and Burke Road interchange as respectively shown in Drawings NEL-WST-NWA-4990-ULS-DRG-9531, NEL-WST-NWA-4990-ULS-DRG-9534 and NEL-WST-NWA-4990-ULS-DRG-9539 of Attachment 2: Landscape Design (within the limitations of the floodplain at Burke Road) – Southern side of the Eastern Freeway between Chandler Highway and Belford Road as shown in Drawings NEL-WST-NWA-4990-ULS-DRG-9536 to 9537 in Attachment 2: Landscape Design – Both side of the Eastern Freeway between Belford Road and Burke Road as shown in Drawing NEL-WST-NWA-4990-ULS-DRG-9538 to 9539 of Attachment 2: Landscape Design – Landscaping outside the freeway reserve, in adjoining local roads and public parks to enhance the visual amenity for the community and residents, including along the interface to: – Wiltshire Drive as shown in Drawing NEL-WST-NWA-4990-ULS-DRG-9534 of Attachment 2: Landscape Design – Kilby Road, Jack O'Toole Reserve, Hyde Park and residents along Kilby Road as shown in Drawing NEL-WST-NWA-4990-ULS-DRG-9537 in Attachment 2: Landscape Design – Willsmere Park, Willow Grove, residents along Willow Grove Road and visitors to Kew Golf Club as shown in Drawings NEL-WST-NWA-4990-ULS-DRG-9537 to 9538 in Attachment 2: Landscape Design – Meldrum Street, Minogue Street, residents along these streets as shown in Drawing NEL-WST-NWA-4990-ULS-DRG-9538 in Attachment 2: Landscape Design – Old Burke Road and residents along Old Burke Road as shown in Drawing NEL-WST-NWA-4990-ULS-DRG-9539 in Attachment 2: Landscape Design. The proposed planting palette is based on the existing landscape and vegetation as well indigenous and native flora. The design intent is to reinforce the established character, improve the green canopy along the freeway edge, enhance habitat and improving biodiversity.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
17.4 Minimising loss	The removal of mature trees, planted and remnant native trees and remnant vegetation, (particularly large amenity trees, heritage vegetation and vegetation within or connected to open space) is minimised. Opportunities to retain all valuable habitat linkages or corridors are maximised. An approach for the reuse of existing vegetation to be removed is developed.	Opportunities to minimise the loss of mature canopy trees and remnant native vegetation have been carefully considered through the design of the freeway widening and associated works, both in terms of direct impacts from the design footprint and indirect impacts due to planning and methodology of construction activities (including access requirements and staging of works). Removal of existing trees will be minimised, with the proposed design undertaken based on multidisciplinary workshops including construction, engineering, land planning, approvals and environment teams. In addition to this, extensive survey and arboricultural studies have also considered ways to avoid impacts on tree health for the trees being retained (such as through careful design and construction practices). Tree data was embedded into the construction, engineering, land, planning and environment and urban design workflows to inform the design response in this UDLP with the underlying intent to avoid the removal of vegetation. In developing the proposed design, construction methodology and staging, prioritisation has been given to retaining existing vegetation wherever possible and including areas of new tree planting. For example: – The SUP bridge proposal has been strategically located to minimise vegetation removal – Bridge beams have been designed to be craned in place from the adjacent freeway instead of requiring the clearance of large areas of vegetation on the banks of the Birrarung – A stormwater pipe under the busway is proposed between Belford Road bridge and Burke Road to avoid removing trees and using a boring methodology for the ITS infrastructure in highly vegetated areas where feasible – New tree planting is proposed with tree species selection based on assessment of existing character, biodiversity, habitat value and continuity with the adjacent works where relevant – Landscape areas disturbed by construction will be rehabilitated, with the aim of enhancing indigenous and native vegetation areas, linking to the landscape character as appropriate – Noise modelling and structural assessments of existing noise walls have enabled the retention of existing noise walls which maximises the opportunity for retention of trees and other vegetation between Chandler Highway and Burke Road, subject to the design of underground and utility infrastructure supporting the freeway. The proposed design will reflect the requirements in the Tree Protection Plan and Tree Canopy Replacement Plan. This includes: – Trees that are removed will be assessed for suitability of salvage and reuse opportunities such as for habitat logs or materials within areas of landscaping – The Project will also look for opportunities to work with local groups, including councils and schools, to reuse timber from the Project for community benefit – The reuse of timber in soft landscaping is considered at a ‘whole of Project’ level, rather than within individual UDLP areas – Tree schedules will be developed to meet stakeholder requirements and procurement availability.
17.5 Enhance habitat and biodiversity	New landscapes corridors are developed to enhance biodiversity and habitat links (both new and existing). Indigenous vegetation is planted in existing habitat linkages and corridors to strengthen biodiversity and provide habitat links for native fauna to move more easily through the urban landscape. Opportunities to create fauna habitat and links are maximised, including the use of hollow logs, nesting boxes and rope ladders as part of any landscape works undertaken within biodiversity zones and natural open spaces.	This UDLP retains existing vegetation where possible, and supplement plantings to create a near continuous, biodiversity rich corridor linking areas of habitat through Melbourne’s eastern suburbs. The design prioritises ecological connectivity and biodiversity along the freeway’s linear open space with the existing bushland character to be enhanced through layered planting (i.e. ground covers, understorey plantings, large shrubs and canopy trees) using indigenous species that will strengthen habitat for native fauna. Pollinator pathways are supported by flowering species, while tailored aquatic and riparian planting mixes establish both habitat links. Native vegetation retention is prioritised and supplemented with new planting to reinforce the Yarra River Valley character and reconnect fragmented habitat corridors. Further assessment of existing and potential ecological conditions will be undertaken to inform the final location and selection of plant species, in consultation with the relevant public land manager, to ensure opportunities for the creation of habitat links are identified and fully capitalised on. Ecological assessments will guide species selection and the placement of fauna-supportive features, such as the salvage of trees to be reused as habitat logs. These interventions are focused within biodiversity zones and open spaces to maximise habitat opportunities and facilitate safe fauna movement across the urban landscape.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
17.6 Visual mitigation	Landscaping is used to filter or screen views of road infrastructure and head light glare. The punctuation of built form and structures above treed ridgelines is minimised. Support a canopy of mature trees as the dominant visual element throughout the Project corridor. Roadside landscape is used to mitigate the visual impact of large expanses of asphalt and to enhance the driver experience.	The landscape design maximises opportunities to integrate vegetation and tree planting along the freeway, using planting to filter and soften views of road infrastructure and reduce the visual dominance of built elements. Dense planting zones, including canopy trees, are strategically located to screen views of noise walls, retaining structures and other vertical infrastructure. A strong emphasis is placed on prioritising the inclusion of canopy trees to establish a continuous and mature tree canopy as the dominant visual element throughout the corridor, particularly focused on areas in open space and medians, where wider areas of space are available. These trees will contribute to long-term visual cohesion, reduce the perceived scale of the freeway, and create a greener, more immersive experience for road users. Where practicable, canopy trees are planted adjacent to the roadway and in median strips, with appropriate species selected to ensure road safety and compatibility with infrastructure. Greening is included between road barriers to break up the expanse of asphalt and enhance the overall driver experience. Vegetation in these areas also contributes to ecological connectivity and visual integration with the surrounding landscape.
17.7 Be inspired by local assets	The landscape design takes cues and is inspired by nearby local environmental assets including the Yarra Valley Parklands, Koonung Creek, Plenty River Gorge, Gresswell Nature Forest, Banyule Creek and Simpson Barracks. Landscapes along river and creek corridors that are impacted by the Project are rehabilitated and naturalised for ecological and experiential benefits.	The overarching landscape design concept presented through this UDLP has drawn inspiration from the neighbouring Birrarung and surrounding banks, as well as the broader region of the Yarra Valley Parklands, with their ecological and cultural significance. The bushland character of these spaces is retained and enhanced through informal, layered planting mixes primarily drawn from species indigenous to the area to maximise biodiversity and ecological values while improving overall landscape and recreational amenity of users of these spaces and directly adjoining areas. Open spaces are visually and functionally connected to the Birrarung through species selection, and experiences accessed from travelling along the new SUP. In allowing this visual connection to be made, users can connect in other ways with the Birrarung, its history, its role as a living waterway, and in doing so connect with the wider Yarra River catchment. Details of the landscape design will be finalised through design development and will be to the satisfaction of the future asset owners.
17.8 Urban forest	New tree planting and vegetation is prioritised within the Project corridor, including adjoining streets, medians, buffers and in carparks, to support the urban forest. Opportunities for tree planting within the roadway landscape, local streetscapes, in buffer planting and on highpoints and ridgelines is maximised. Innovative engineering solutions are used to maximise tree planting. Where there is a conflict between planting canopy trees and maintaining views, canopy tree and buffer planting may take precedence. Services are located to optimise tree planting.	In addition to replacement and enhancement of existing areas of landscaping and tree plantings, the proposed landscape design also includes new areas of canopy tree planting in open spaces to improve amenity and increase overall canopy cover and shade. Proposed locations for canopy tree planting have been coordinated with technical engineering design processes and utility service providers to avoid and minimise existing and proposed conflicts between trees and service infrastructure. Examples of how this has been implemented through the proposed design include: – Bundling of services where feasible to minimise overall encumbrance in key locations and locating service corridors outside of open space and other areas of high amenity – Rationalising bridge and other structural designs such as with the SUP bridge design, to reduce the number and location of piers and increase clearance – This design approach achieves the provision of more space and improved conditions for establishment of landscape areas in the surrounding areas.
17.9 Plant health	The design provides sufficient set-backs, soil and conditions for new and existing trees and vegetation to maintain and support plant health and growth.	All earthworks, including excavation, road batters and retaining walls, have been designed to ensure final grades, and soil depth will support the establishment and ongoing growth of all new landscaping proposed through this UDLP, including the establishment of canopy trees. Setbacks, soil and conditions for trees to be planted within the freeway and along the SUP will be designed to be in accordance with relevant standards, and further design development through the detailed design phase of landscape plans. All other tree planting will be in accordance with the requirements of the relevant Council and relevant authorities. Areas of new planting prioritise using site-won topsoil tested to ensure compliance for horticultural suitability and salvaging habitat logs from the trees required to be removed. Opportunities to improve conditions for new and existing landscape plantings, particularly within open space, have also been identified through the development of this UDLP, including the use of runoff for passive irrigation. Hard surface areas have been designed to slope towards soft landscape areas. The main exit points are Jack O’Toole Reserve, and the central median. Additionally, to support plant health and growth, species selection along the noise walls is based on the solar conditions at these locations. These opportunities will be further investigated and confirmed through the design development during the detailed design phase of landscape plans, which will involve a careful assessment of species suitability and location based on specific conditions and the maintenance requirements of the future asset owner.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
17.10 Plant selection	Planting throughout the Project is self-reliant, sustainable and requires minimal maintenance. Native species of local provenance are used in environmentally sensitive areas and/or identified biodiversity sites and corridors. The potential for impacts on identified biodiversity and habitat corridors and sites, and the Yarra River corridor by introduced species, is minimised. Trees and other vegetation are selected, to take into account predicted future changes in climate. Plant species selection is consistent with State and local government guidance. New tree planting, within or adjacent to the road reserve, is appropriate to the scale for the road environment and considers maintenance access.	A series of planting palettes have been developed using a diverse mix of species suited to the specific environmental, climatic, and functional conditions across the UDLP area. Species selection has been guided by the historic Ecological Vegetation Classes (EVCs), with an emphasis on robust, drought-tolerant species to minimise long-term maintenance and resource demands, and to provide resilience against future changes in climate and rainfall patterns. The planting design aligns with existing vegetation and references indigenous and native plant species historically present on site. These are detailed in the Landscape Documentation and Planting Schedules and include: – EVC 55 Plains Grassy Woodland – EVC 56 Floodplain Riparian Woodland – EVC 61 Box-Ironbark Forest – EVC 175 Grassy Woodland – EVC 851 Stream Bank Shrubland. Plant palettes have been drawn from EVCs native to the site and those already present in surrounding open spaces and the Eastern Freeway. This ensures species are well adapted to local conditions, once established, will require minimal water and maintenance. Refinement of species selection has considered the long-term impacts of climate change and expected maintenance levels, with consistent priority given to resilient, low-maintenance species that support the Project’s sustainability goals. The design minimises negative impacts on identified biodiversity and ecological corridors, such as the Birrarung, Yarra Bend Park, Merri Creek, Westfield Grasslands, and Willsmere Park, by incorporating planting mixes tailored to ecologically sensitive areas and using species that enhance and extend the existing natural environments. The proposed landscape design adheres to DTP standards for planting within the roadway corridor and adjacent to noise walls, with tree species, sizes, and placement aligned to offset requirements based on barrier types and vehicle speeds. It incorporates a planting palette specifically suited to roadside environments, accounting for height and low-maintenance needs, while ensuring safe maintenance access on batters with limited servicing, using robust species capable of thriving under such conditions. Additionally, tree placement maintains required sightlines at on-ramp locations in accordance with VicRoads guidelines, and positioning has been carefully planned when in proximity to the roadway or noise walls, thereby mitigating risks related to frangibility, tree fall and limb drop. No local or State listed weed species have been included within the planting lists. Flowering plants have been included within all garden bed planting palettes to promote the establishment of ‘pollen pathways’ for bees and birds, enhancing habitat and biodiversity. Plants specimens of local provenance will be prioritised and used wherever possible in the key biodiversity and ecological areas such as the Birrarung corridor. Ongoing consultation is planned in detailed design with Parks Victoria, the relevant local Councils and DTPs transport division to ensure that the proposed design is consistent with their guidelines and requirements as the future asset owner(s). Opportunities to incorporate culturally significant species or planting designs will also be further explored as part of the development of detailed landscape designs, in consultation with WWCHAC.

Design Element	Requirement	UDLP Response
17.11 Buffer planting and land form	Landscape design elements including buffer planting (planted vegetation situated outside the road reserve) and land form are used to create a visual buffer between the roadway and surrounding areas. Existing buffer planting is retained at the edges of any widened road corridors. Land form is used to reduce the apparent height of walls, barriers and road infrastructure. A suitable width of low planting is used to separate pedestrian and roadside traffic.	Direct views to the freeway from adjacent areas are largely screened by existing topography, existing and new planting and noise walls. The design provides for extensive areas of landscape buffer planting along the new noise wall alignments on both sides of the freeway, including the replacement and extension of existing plantings along the interface of open space reserves where impacted by Project works, to filter, soften and screen views to this infrastructure. The views from residential areas are also largely screened by existing topography. These interface conditions are to be retained and enhanced, in places, with replacement/additional landscape planting where impacted by replacement of existing noise walls. Pedestrian traffic is fully separated from road traffic for the full length of the Project area, prior to transitioning to the local street network. Landscape buffers are retained where existing to maintain separation between the pedestrian path network and adjacent roadways. Where new SUP and pedestrian paths are created as part of the design, additional planting and landscape buffers have been provided to separate pedestrians, cyclists and road traffic.
18. Water		
18.1 Water sensitive design	A 'water-sensitive design' approach is used to integrate water management objectives into the Project's urban design and achieve a broad range of community and environmental benefits. This includes the use of passive irrigation techniques and the incorporation of Water Sensitive Urban Design infrastructure such as swales, bio-filtration systems (rain gardens) and wetlands. A holistic approach to integrated water management across the entire Project should be adopted.	A 'water-sensitive design' approach has been incorporated throughout the Project area. Overall, the design optimises water treatment of freeway runoff wherever possible to improve the quality of local watershed runoff and incorporates bioretention to treat stormwater runoff in accordance with Best Practice Environmental Management (BPEM) guidelines. Key examples include: – The bioretention system within Jack O'Toole Reserve which provides water filtration benefits to stormwater flows and contributes to the landscape – Planting placement to improve water quality through reduction of erosion on steep embankments – Maximising landscaping within pervious surfaces to reduce and slow run-off from the central median, along the SUP and at freeway interchanges. It is understood that Council has plans to introduce Water Sensitive Urban Design at Chandler Park. This could include water detention, bioretention and other systems with extensive habitat areas and enriched aquatic ecology. The design of the Project has considered this and does not preclude this development on this identified area. The Project will continue to investigate opportunities to implement passive irrigation to landscape areas during the detailed design phase.
18.2 Healthy waterways	The Project maintains or improves the river health of the waterways that it crosses. Drainage infrastructure maximises opportunities to replicate natural processes in the treatment of water and enhances stormwater management outcomes, as well as broader urban design and ecological values.	The design of the SUP bridge has considered the health of the Birrarung, with extensive design testing and development undertaken to refine the forms and number of piers, ensuring these have as minimal impact as possible and withstand anticipated water flows. The bioretention system at Jack O'Toole Reserve contributes to waterway health by filtering stormwater runoff from the freeway before the water enters the drainage network. In addition to this, the enhanced landscaping and planted areas will improve ecological value and the health of the river, particularly through areas of planting on steep embankments which will mitigate erosion and the subsequent sediment migration. This will have direct flow-on benefits to the quality of local watershed runoff whilst providing enhanced biodiversity and ecological value to the corridor.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
18.3 Daylighting waterways	Opportunities are maximised to preserve and restore natural and open waterways and to ‘daylight’ (restore to a more natural state above ground) sections of creeks and streams that have previously been diverted into a culvert, pipe or drainage system to improve aesthetics, amenity and ecological values. Roadway crossings of waterways and wetland are minimised.	There are no opportunities to daylight creeks and streams relevant to this UDLP area. There are no new road crossings of the Birrarung or other waterways or wetlands proposed within this UDLP.
18.4 Minimise habitat impacts	Road infrastructure is designed, located and constructed to minimise short and long-term impacts on riparian, riverbed and aquatic habitat.	The Project design in this UDLP area does not extend the overall footprint of the roadway beyond the existing boundaries and as such minimises short and long-term impacts on the Birrarung and adjacent parklands. Stormwater runoff will be directed to existing drainage infrastructure. This UDLP includes a new bioretention system at Jack O’Toole Reserve to contribute to improved water quality that ultimately flows into the Birrarung. Where the SUP bridge crosses the Birrarung it has been designed to have a minimal visual impact on the landscape and has been designed to minimise direct impacts on existing riparian habitat, with vegetation replaced and enhanced where this cannot be avoided. The piers have been sited outside of the waterway itself to avoid direct impacts on the waterway. Consultation with Melbourne Water has also been implemented into the design development and is an ongoing process.
18.5 Drainage infrastructure and retarding basin design	Drainage infrastructure and retarding basins are located and designed to not adversely impact on the function of public open space. Drainage infrastructure within public open space does not inhibit the ability of local residents to have access to open space near where they live. New infrastructure enhances recreational values and contributes positively to the quality and function of the open space. Low points in basins are strategically located to maximise useable open space and to minimise disruption to the community’s enjoyment of open space, particularly following wet periods. Drainage infrastructure is designed to visually blend into the surrounding landscape.	Drainage infrastructure has been designed to reuse existing pits and pipes as a means of reducing the construction footprint. New drainage infrastructure will have little to no impact on public access to nearby open space areas. The bioretention system in Jack O’Toole Reserve has been sited to improve water quality for anticipated stormwater flows in an open space area. The bioretention system would make a positive contribution to the established landscape along Kilby Road by contributing to visual amenity and creating habitat for fauna. As the infrastructure is located in a drainage depression, it does not inhibit local residents access to nearby public open space.
18.6 Maximise community and environmental benefits	Opportunities for community education and to integrate community recreational infrastructure (e.g. seating, paths, boardwalks) are maximised. Water Sensitive Urban Design infrastructure is prioritised at locations where there are opportunities for water harvesting, treatment and reuse that support community facilities (such as providing a source of treated water for the irrigation of sporting fields). Water Sensitive Urban Design infrastructure does not limit opportunities to use landscape to mitigate visual impacts of the Project (that is, by reducing available space for planting of trees and vegetation to filter views towards infrastructure). Water Sensitive Urban Design infrastructure is located and designed to support the proposed hierarchy of navigational nodes.	A bioretention system is proposed within Jack O’Toole Reserve. It will be nestled in the drainage depression located north of Kilby Road and the driveway of the North Kew Tennis Club, and south of the freeway noise walls. The design of the system is to be resolved in consultation with MW, DTP and Boroondara City Council (who have overlapping interests and governance responsibilities for the land). As the bioretention system would be located within an area where an existing Land Subject to Inundation Overlay (LSIO) applies, and given the proximity to recreational facilities in Hyde Park, additional recreational facilities are not proposed at this site. As shown in Attachment 2: Landscape Design, the bioretention system does not constrain the targeted planting along the interface to Kilby Road.

5. Consistency with the Urban Design Strategy

Design Element	Requirement	UDLP Response
18.7 Raingarden and wetland design	Water Sensitive Urban Design infrastructure is integrated with the surrounding context and is designed to enhance the aesthetic appeal and ecological values of the area. Water Sensitive Urban Design maintains existing and planned key walking and cycling movement connections. Wetlands and raingardens located within or near the Yarra River floodplain or along creek and waterway corridors are naturalistic in form and aesthetics. The location of these elements avoids or minimises impact on existing recreational values. New wetland shapes respond to the contours of the land. The design provides a balance between natural areas for animal and bird life and areas for public amenity, including places for respite, recreation and seclusion.	The proposed bioretention system has also been located within Jack O'Toole Reserve, in the north-eastern area, which is of open landscape character, primarily mature canopy trees, an undulating lawn and walking path. The proposed location is clear from existing walking or cycling connections within the reserve. The final location, footprint and design of the system is to be resolved in consultation with Melbourne Water and Boroondara City Council (who have overlapping governance responsibilities as the floodplain authority, manager of the road reserve and future asset owner).
19. Road Signage		
19.1 Strategic approach	A consistent, coordinated, whole-of-corridor signage and wayfinding approach is developed to enhance driver legibility and safety and to improve the overall experience.	The design, location and extent of road and wayfinding signage adopts the whole of corridor approach for the North East Link Program, which provides a consistent design theme across the freeway network. It is based on the signage function, visibility and legibility, minimising clutter, local branding (where applicable) and road safety. Signage will be in accordance with the relevant guidelines, standards and requirements, to the satisfaction of the DTP and the relevant Councils.
19.2 General signage	Signage, toll points, gantries and associated infrastructure are sited and designed to be well integrated along the corridor. The scale and character of the area is not undermined with a dominating skyline, or with significant views blocked by signage infrastructure. Minimise visual impacts from signage and toll points on local communities and on the quality of the adjoining public realm. Signage infrastructure is located sensitively, relative to topography, access, safety, security, visual impact, landform and vegetation.	Locations for road gantries and signage will be carefully considered to maximise the function of the freeway while minimising the impact on visual amenity. Road gantries (with ITS) and static signage are regularly spaced along the freeway to provide dynamic road management and to provide early guidance to road users. To avoid detracting from the freeway's design, ITS and road signage will not be appended to existing bridges to reduce visual clutter and strengthen the design integrity of the bridges as architectural features. The final location of ITS and signage will be determined in consultation with the road authority.
19.3 Design	Signage and gantries are consistent, with a simple structure and with consideration to form, shape and colour. Unauthorised access and vandalism is prevented	The design of signage and gantries reduces visual clutter and improves user experience and ease of maintenance. Long single-span truss structures minimise the number of vertical interfaces along the freeway. All gantries are clad in high-quality perforated metal to conceal the structure and its associated components, while improving the design outcome. The cladding and finish account for future maintenance and graffiti removal. The perforated cladding of gantries is finished in high-quality powder coats. At lower levels where graffiti is more likely, a standard paint finish is used to ensure cover-ups are seamless and undetectable. The design of the gantries is consistent with those used across the North East Link Program.
19.4 Siting to reduce visual clutter	Signage and gantries are consolidated and rationalised where appropriate to minimise the number of overhead elements. The locating of signage on bridges and structures is minimised. Signage at tunnel entries is avoided. Signage is well integrated with the design of Project elements. The locating of gantries on ramps and elevated structures, or within close proximity to bridges is minimised. Gantries are integrated inside tunnel ceilings to avoid visual clutter at portals. Opportunities are maximised to co-locate features such as signage, toll points, Lane Use Management Signs (LUMS), Closed Circuit Television (CCTV), Variable Speed Limit (VSL) signs and Variable Message Signs (VMS) on shared gantries, light poles and other shared assets. Alternative tolling solutions and the 'designing out' of radio frequency (RF) barriers are considered, to avoid or minimise visual impacts.	Locations for road gantries and signage have been carefully considered to maximise the function of the freeway while minimising the impact on visual amenity. Road gantries (with ITS) and static signage are regularly spaced along the freeway to provide dynamic road management and to provide early guidance to road users. To avoid detracting from the freeway's design, ITS and road signage will not be appended to existing bridges to reduce visual clutter and strengthen the design integrity of the bridges as architectural features.

Design Element	Requirement	UDLP Response
20. Materials & Finishes		
20.1 High quality	Materials and finishes used in the Project are high quality, durable, robust, easy to maintain and will weather and age well over time.	The selected materials and finishes deliver robust, durable and low-maintenance outcomes that incorporate natural elements and weathered and textured finishes to age well over time. The material palette has been carefully chosen to balance aesthetic cohesion with long-term performance and compliance with durability requirements and warranty standards. The proposed use of heavily textured or patterned precast panels for the SUP bridge abutments and the retaining walls at the Chandler Highway and Burke Road interchanges represents a robust, durable, and contextually responsive design strategy. This approach draws direct inspiration from the natural cut rock faces that define sections of the Eastern Freeway, ensuring that the new infrastructure integrates harmoniously with its surroundings. Raked and highly textured surfaces have been selected to reinforce the naturalistic character of the corridor while also allowing for practical access to facilitate ongoing maintenance. The combination of weathered and galvanised steel, stainless steel tensile mesh and deeply textured precast panels provides a resilient and low-maintenance solution. These materials work collectively to establish a strong and consistent design language throughout the corridor, reinforcing its identity while delivering functional, enduring outcomes.
20.2 Colour palette	The colour palette for the materials and finishes is consistent along the Project's design character areas, sensitive to the local environment and reinforces the broader wayfinding approach for the corridor	The colour palette for the materials and finishes is drawn from studies undertaken on site and through the co-design process with the Wurundjeri Woi-wurrung and the Munsell soil colour classification system. Narrative elements will be explored through the co-design process. The colour classification system will be applied to infrastructure along the corridor. Examples of this include: – The steel structure of the SUP bridge, including its screens and piers as a means connecting to Country. The colour and texture to be applied to the abutments that ground the bridge, will take inspiration from the lines of the surrounding landscape visible along the corridor – New noise walls will use a palette of earthy tones.
20.3 Reflectivity	New materials and finishes minimise light pollution in the surrounding areas from reflectivity.	The selection of materials for new built infrastructure elements has been guided by principles of durability, contextual sensitivity and visual restraint. Materials have been chosen for their robustness, low reflectivity and ability to blend with the vegetation along the freeway. Where architectural steel elements are exposed, finishes such as weathered, galvanised, or matte-painted surfaces in muted, earthy tones have been selected. Concrete road barriers are designed with smooth, matte and planar surfaces. These materials reduce visual prominence and reflectivity. The use of highly textured, patterned precast panels also helps to reduce glare and mitigate light spill, contributing to a softer and more integrated outcome within the broader freeway environment.
20.4 Vandalism	Selection and application of materials and finishes discourages and minimises the potential for vandalism including graffiti.	To discourage and minimise the potential for vandalism, textured finishes will be applied on the lower level of walls. The use of textured RMP panels possess inherent anti-graffiti properties, as most paints do not adhere effectively to the surface. In the event of graffiti, the panels can be easily cleaned with high-pressure water, ensuring minimal maintenance and long-term visual integrity. Other surfaces may be treated with an anti-graffiti sealant. In addition to material selection, existing and new vegetation as well as new low-level garden beds create a buffer that discourages physical access and deters vandalism.
20.5 Identity through design	The design elements along the freeway corridors are coordinated and designed to promote a cohesive identity through colour, materials, patterns and form. These design features include noise attenuation elements, retaining walls, pedestrian bridges, signage and buildings. This coordinated approach creates a consistent, high quality experience for road users and the local community.	This UDLP's approach retains the views to freeway's modernist features, such as the freeway overpasses of Yarra Bend Road, Yarra Boulevard and Chandler Highway. The design response provides complementary forms, materials and finishes for new structures (e.g. noise walls, retaining walls, bridges and signage) that are simple and uncluttered in their form and finish. The infrastructure complements the existing freeway and provides a coherent identity through colour, materials, patterns and form resulting in a high-quality experience for road users and the local community. For example, noise walls are designed in muted earthy tones to match in with retained timber noise walls and the borrowed freeway landscapes.
20.6 Use resources efficiently	Opportunities are maximised to use materials that are recycled, recovered, have lower embodied energy and are ethically sourced.	All materials and finishes within the Project have been selected based on their sustainability merit, including embodied carbon and product lifespan. Examples of resource efficiency includes: – Areas of new planting prioritise using site-won topsoil, once tested to ensure compliance for horticultural suitability – Trees removed due to construction works will be salvaged wherever possible and used within landscaping areas for habitat value – Recycled asphalt and sustainable concrete mixes will be implemented where possible – RMP noise walls – Materials will be sourced locally where possible to reduced embodied carbon. Opportunities to further reduce overall material requirements and increase the proportion of reused and recycled materials, including site-won materials, will continue to be identified through the detailed design development process.

5. Consistency with the Urban Design Strategy

5.6 Managing construction impacts

The North East Link Program EMF was established to manage environmental risks and impacts associated with the construction of the North East Link Program, including the Hoddle Street to Burke Road Project. The EMF includes EPRs, which set measurable standards to guide how environmental risks and impacts are managed during the design, construction and operation phases. An assessment against the EPRs is provided in Section 6 of this UDLP.

In accordance with the EMF and EPPRs, construction impacts will be managed through the preparation of a Construction Environmental Management Plan (CEMP) and associated plans, including the Worksite Environmental Management Plan, Transport Management Plan, Communications and Community Engagement Plan, Business Disruption Mitigation Plan and Sustainability Management Plan.

The UDS states that to comply with EPR LV2, temporary and construction works are to be designed and carried out in accordance with the North East Link Program's urban design principles and objectives and section 7.2 of the UDS. The objective is to minimise adverse impacts during construction.

The following key design approaches will also be used to avoid, minimise and mitigate impacts resulting from temporary works and construction activities:

- Access for pedestrian and cycling movements will be maintained by redirecting users to alternative routes and substitute routes while works are undertaken. For example, between Belford Road and Burke Road, the Eastern Busway will be constructed prior to removing the existing Main Yarra Trail. Once the Eastern Busway is completed (and before it is opened to buses), cyclists and pedestrians will use this space while the new SUP is constructed.
- Connectivity to community facilities will be maintained in accordance with the Transport Management Plan including signposting of alternate routes and ongoing consultation with the community and key stakeholders.

- Temporary construction compounds will be sited to minimise adverse impacts on amenity. Approved Construction Compound Plans (CCPs) within the area covered by this UDLP are shown in Attachment 2: Landscape Design. The rehabilitation of these areas will be undertaken in accordance with Drawings NEL-WST-NWA-4990-ULSDRG-9531 to 9540 of Attachment 2 Landscape Design Plan.
- Existing landmarks, features and vegetation within the Project area, such as the historic gate pillar, the Grey-headed Flying Fox habitat and trees to be retained will have protection zones placed around them to avoid damage.
- The North East Link Program commenced early planting across North East Link in 2020. This includes planting Studley Park Gum trees at 3 sites along the banks of the Yarra River on land managed by Parks Victoria.
- Screens and hoardings around construction compounds and temporary work areas will respond to the activity to be undertaken and the sensitivity of the surrounding land uses. The screens will typically include reference to the Big Build.
- In alignment with the sustainability principles for the project, recoverable materials will be reused on site where practicable, including soils, rocks and vegetation for habitat logs, mulch and furniture within the pause points.
- To manage local initiatives and collaborative involvement with the local community, the North East Link Program has developed and implemented a Community Involvement and Participation Plan in consultation with relevant local councils.

6. Environmental Performance Requirements

6. Environmental Performance Requirements

Clause 4.9.3(b) of the Incorporated Document requires that a UDLP be accompanied by an explanation demonstrating how the UDLP complies with the EPRs included in the approved EMF. The EPRs set out the minimum environmental outcomes the Project must achieve during design, construction and operation.

The Minister for Planning’s assessment of the EES, the Incorporated Document, relevant environmental legislation and policy requirements and Project specific measures recommended by subject matter experts informed the preparation of the EPRs. The approach to the development of the EPRs seeks to minimise risk and avoid, reduce, or offset environmental impacts identified through the EES risk and impact assessment process. The EPRs were approved by the Minister for Planning in 2021 as part of the EMF.

6.1 Assessment of the Environmental Performance Requirements

This section of the UDLP report identifies all relevant EPRs and demonstrates how the Project, as detailed through this UDLP, would comply with the applicable requirements.

Table 13: Response to Project Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
1. Environmental Management (EMF)			
EMF1	Deliver the Project in general accordance with an Environmental Management System Develop, implement and maintain an Environmental Management System (EMS) that conforms to Australian Standard AS/NZS ISO 14001:2015 Environmental Management Systems – requirements with guidance for use through design, construction and operation of North East Link.	All	Design, construction and operation The Project has prepared an EMS that conforms with Australian Standard AS/NZS ISO 14001:2015 to guide the design and construction of the Project. The EMS conforms with the EMF, which is a statutory requirement under the Incorporated Document.
EMF2	Deliver the Project in accordance with an Environmental Strategy and Management Plans Prepare and implement an Environmental Strategy, Construction Environmental Management Plan (CEMP), Worksite Environmental Management Plans (WEMPs), Operation Environmental Management Plan (OEMP) (operator only) and other plans as required by the Environmental Performance Requirements (EPRs) and in accordance with the Environmental Management Framework (EMF). The Environmental Strategy, CEMP, WEMPs and OEMP must be developed in consultation with relevant stakeholders as listed in the EMF and as required by NELP or under any statutory approvals. The CEMP must be prepared with reference to best practice and EPA Publication 1834, Civil construction, building and demolition guide.	All	Design, construction and operation The Project will prepare the relevant strategies and plans as required by the EPRs in accordance with the EMF. Consultation with relevant stakeholders outlined in the EMF and required by NELP will be undertaken to implement each in time for the Design and Pre-construction phases of the Project. The CEMP will be prepared with reference to best practice and EPA Publication 1834 – Civil construction, building and demolition guide.
EMF3	Audit and report on environmental compliance Appoint an Independent Environmental Auditor (IEA) to: - Review the Environmental Strategy, CEMP, WEMPs, OEMP and other plans required by the EPRs for compliance with the EMF and the EPRs - Undertake environmental audits of compliance with and implementation of the EPRs and the Environmental Strategy, CEMP, WEMPs, OEMP and other plans required by the EPRs. The IEA must include persons with expertise, based on qualifications and experience, appropriate to allow the roles specified for the IEA in the EMF to be properly carried out; including a person(s) appointed by the EPA as an environmental auditor for contaminated soil and groundwater given the potential risk of acid sulfate soils and to ensure that there is no risk of vapour or gas intrusion from former landfills. Audits must occur during construction and for five years after opening of North East Link, or as otherwise agreed with the Minister for Planning. A six-monthly summary report must be provided to the Minister for Planning that summarises the findings of audits carried out during the reporting period. A close-out report must be provided to the Minister for Planning at the conclusion of the auditing and reporting period. The summary reports must be made publicly available on a Project website for the period of construction and a minimum of five years after opening of North East Link	Design, construction, operation	Design and construction The North East Link Program has appointed the IEA to review, verify and audit Project documentation and environmental performance. The IEA is responsible for reviewing and verifying the Environmental Strategy, CEMP, WEMPs and other plans required by the EPRs for compliance with the EMF and the EPRs. These reviews have been completed or are underway for a range of environmental management documents prepared by the Project. IEA review and verification is required before their implementation during construction. The IEA will undertake environmental audits to verify compliance with and implementation of the EPRs and the Environmental Strategy, CEMP, WEMPs, OEMP and other plans required by the EPRs, including the UDLP. The Environmental Strategy and CEMP set out the approach to the IEA audit program management. The Project will maintain an IEA Audit Findings and Close Out Register to record and monitor audit findings and track the actions, assigned responsibilities and timing of close-out of each finding. A report summarising the findings of IEA audits will be prepared and published every six months during construction and will be available online for up to five years post-completion of the Project. Operation The IEA role and responsibilities for the operations phase will be facilitated by the State.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
EMF4	Complaints Management System Prior to the commencement of works a process for recording, managing and resolving complaints received from affected stakeholders must be developed and implemented. The complaints management arrangements must be consistent with Australian Standard AS/NZS 100002: 2014 Guidelines for Complaints Management in Organisations. The complaints management system must be consistent with the Communications and Community Engagement Plan required under EPR SC3.	Design, construction, operation	Design and construction The North East Link Program has implemented a complaints management system as defined in the Project Communications and Community Engagement Plan. The Communications and Community Engagement Plan includes a process to identify community issues and to record, manage and resolve complaints from affected stakeholders consistent with AS/NZS 10002:2022 Guidelines for Complaint Management in Organisations (supersedes AS/NZS 10002:2014). This process aligns with and complements the Major Transport Infrastructure Authority Complaint Management Policy. Under this Policy, complaints can be made by calling 1800 105 105. A Consultation Manager database is used to record complaints, concerns and requests for information. Operation Complaints management during the Project’s operation will be managed by the State.
2. Aboriginal Heritage (AH)			
AH1	Comply with the Cultural Heritage Management Plan Implement and comply with the Cultural Heritage Management Plan (CHMP) approved under the Aboriginal Heritage Act 2006.	Design, construction	A CHMP (No.15576) has been prepared for the North East Link Program and approved under the <i>Aboriginal Heritage Act 2006</i>. Design The CHMP identifies sensitive areas and registered sites within the Project area. The Project will comply with the conditions of the CHMP including: – Avoiding and minimising impacts on sensitive areas/exclusion zones identified in the CHMP. – Ensuring that urban and landscape design considers Aboriginal places and management triggers. In addition to compliance with the CHMP, the Project has embedded indigenous design and consultation with the WWCHAC throughout the UDLP preparation and design process. The urban design concept considers the corridor wide design approach and the Wurundjeri Woi-wurrung Themes from a strategic level, like the structural design of the SUP bridge¹, to the specific, like the expression in the noise wall RMP texture and art walls. Construction During construction, the Project will carry out development activities in compliance with the CHMP, including: – CHMP inductions chaired by the Registered Aboriginal Party representative for all personnel involved in ground disturbing activities. – Ongoing consultation with the WWCHAC for the Project area.
3. Air Quality (AQ)			
AQ1	Implement a Dust and Air Quality Management and Monitoring Plan to minimise air quality impacts during construction Prepare and implement a Dust and Air Quality Management and Monitoring Plan(s), in consultation with EPA, which sets out best practice measures and controls to minimise and monitor impacts on air quality during construction. The plan(s) must: – Set out how the Project will monitor and control the emission of smoke, dust, fumes, odour and other pollution into the atmosphere during construction using best practice measures with reference to EPA Publication 1834, Civil construction, building and demolition guide – Identify the main sources of dust and airborne pollutants and the location of sensitive land uses relevant to each construction area – Describe the monitoring requirements for each construction area including real-time particulate matter monitoring to manage dust control where deemed to be required and with reference to sensitive receptors and utilising consistent and common monitoring equipment across the Project – Describe the air quality triggers for investigation, the mitigation measures and the processes for implementing appropriate controls	Construction	Construction The Project’s approved Dust and Air Quality Management and Monitoring Plan will be implemented to minimise and monitor the impacts of construction on air quality. The plan is to be verified by the IEA prior to construction in accordance with the requirements of the EMF.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
AQ2	Design tunnel ventilation system to meet EPA requirements for air quality Design, construct and operate the permanent tunnel ventilation system in accordance with the requirements of the EPA Victoria Development Licence and the EPA Victoria Operating Licence. The design should include provision for retrofitting of tunnel ventilation particulates pollution control equipment if subsequently required.	Design, construction, operation	Not applicable - no road tunnels are proposed or required to be delivered within the area subject to this UDLP.
AQ3	In-tunnel air quality performance standards Design, construct and operate a tunnel ventilation system to introduce and remove air from the tunnels to meet the in tunnel air quality requirements for carbon monoxide (CO) and for NO2 listed below and in accordance with the EPA Victoria Development Licence and EPA Victoria Operating Licence. In tunnel air quality must meet the following CO standards: – Maximum peak CO value of 150 ppm – 15 minute average CO value of 50 ppm – 2-hour average CO value of 25 ppm. The tunnel ventilation system must also be designed and operated so that the tunnel average nitrogen dioxide (NO2) concentration is less than 0.5 ppm as a rolling 15 minute average. Develop and implement contingency measures to manage in-tunnel air quality in the event of incidents or emergencies. Apply best practice Australian management techniques to minimise impacts on health from in-tunnel exposure to PM2.5 and PM10.	Design, construction, operation	Not applicable - no road tunnels are proposed or required to be delivered within the area subject to this UDLP.
AQ4	Monitor ambient air quality Develop and undertake an ambient air quality monitoring program in consultation with EPA Victoria to measure the air quality impacts of North East Link during construction and operation. The ambient air quality monitoring program must be undertaken at a minimum of six locations (including a site where the highest increases of air pollution are predicted to occur), unless otherwise agreed by EPA Victoria; include at least one year of monitoring before operation; continue for 5 years after commencement of North East Link operation; and, for the ventilation structures, be in accordance with the EPA Victoria Operating Licence. Monitoring results must be compared against the indicators and objectives (excluding odour) in Table 2.2 of the Environment Reference Standard (Ambient Air). Results (unvalidated) of the monitoring program are to be made publicly available on a website related to the Project, or through EPA Victoria's Air Watch website, on a daily basis.	Construction, operation	Construction The North East Link Program has developed and will be undertaking and reporting the results of an ambient air quality monitoring program in consultation with EPA Victoria in accordance with this EPR. Operation Ongoing monitoring during the Project's operation will be managed by the State.
AQ5	Monitor compliance of in-tunnel air quality and ventilation structure emissions Monitor the in-tunnel air quality and ventilation structure emissions during operation of the ventilation system to demonstrate compliance with EPR AQ2, EPR AQ3 and the EPA Victoria Operating Licence to the satisfaction of EPA Victoria. Report the monitoring results publicly after validation and in accordance with the EPA Victoria Operating Licence. If standards outlined in EPR AQ2, EPR AQ3 and the EPA Victoria Operating Licence are not met, report to EPA Victoria, investigate the cause of the exceedance and take remedial action as appropriate to the satisfaction of EPA Victoria.	Operation	Not applicable - no road tunnels are proposed or required to be delivered within the area subject to this UDLP.
AQ6	Construction Haulage Vehicle Fleet Incentives must be provided for contractors and subcontractors to preferentially select on-road heavy vehicles for haulage that comply at a minimum with the Euro V European emission standards. The incentives must seek to increase the proportion of on-road heavy vehicles that comply at a minimum with Euro V European emission standards within the Project's construction haulage fleet over the construction life of the Project.	Construction	Construction The Dust and Air Quality Management and Monitoring Plan will detail the commitment to preference on-road heavy haulage vehicles that comply or exceed the Euro V European emission standards. The plan will be submitted for IEA review and verification and to Victorian Infrastructure Delivery Authority (VIDA) for acceptance for prior to the commencement of construction.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
4. Arboriculture (AR)			
AR1	Develop and implement a Tree Removal Plan Develop and implement a Tree Removal Plan, as part of the CEMP, that identifies all trees within the Project boundary and includes: – Trees to be removed or retained as part of the works – Confirmation of the condition and arboricultural value of the amenity trees to be removed – The canopy area of all trees to be removed – The procedure for tree removal that addresses the requirements of EPR FF1, EPR FF2 and EPR FF5. Tree retention must be maximised to the extent practicable through detailed design and selection of construction methods to minimise canopy loss and in accordance with EPR FF1, including by retaining trees where practicable and minimising potential impacts to trees. This includes the River Red Gum (Caltex Tree) at 39 Bridge Street, Bulleen. Arboricultural assessments are to verify existing details and inform the detailed design, Tree Removal Plan and Tree Canopy Replacement Plan (required by EPR AR3) in order to maximise tree retention and long-term viability of amenity plantings in accordance with Australian Standard AS4970:2009 Protection of Trees on Development Sites. The Tree Removal Plan must be informed by a pre-construction site assessment to confirm the area and number of trees and other vegetation proposed to be impacted. Trees to be retained must be protected in accordance with EPR AR2. Vegetation removal is to occur in a staged manner with removal only occurring once necessary for the current stage of works. The area and number of trees and other vegetation actually removed is to be confirmed through a post-construction assessment.	Design, Construction	Design An Arboricultural Impact Assessment was undertaken during the early stages of design development to maximise tree retention and long-term viability of amenity plantings. All trees within and adjacent to the Project area have been assessed by a suitably qualified professional. Based on the assessment a Tree Removal Plan has been prepared that identifies: – All trees within the Project boundary and their condition and arboricultural value – Whether the trees are proposed for removal or retention as part of the works – The protocol for removal. Attachment 2: Landscape Design shows the trees proposed to be retained and removed. The proposed design solution considers potential impacts and retention opportunities to avoid, minimise and mitigate tree canopy loss. Design elements which are responsive to trees include the strategic placement of the SUP, reducing the construction footprint and vegetation impacts, the selection of RMP material for noise walls which is lighter than traditional options and can be installed with smaller equipment. The Tree Removal Plan has been prepared and it will be submitted to the IEA for review and verification prior to the removal of vegetation. Notwithstanding the above, the Project team are committed to further maximise tree retentions in the detailed design phase where possible. Construction A Tree Protection Plan and a Tree Removal Plan are sub-plans to the CEMP and will be verified by the IEA prior to the removal of vegetation. Vegetation removal is to occur in a staged manner, with removal only occurring as necessary for the stage of works. During construction, site-specific Arboriculture Impact Assessments will consider the relevant construction activities and identify specific mitigations measures required to protect retained trees. Such measures may include temporary fencing and demarcating the tree protections zones, structural root zones, trunk and ground protection and restricting activities within these areas. Construction methods such as underground boring, hydro excavation and directional drilling will be employed where possible to limit or prevent impact to trees where works are to occur within the structural root zone. On-site inspections will be carried out by a suitably qualified professional to ensure all works are occurring in accordance with Australian Standard AS4970-2009 Protection of Trees on Development Sites. Trees subject to protection must be monitored for a three-year period following completion of works in the immediate area to assess the trees ongoing viability, with maintenance or replacement of stressed or damaged specimens to be undertaken. Post-construction assessments will be undertaken to confirm the total number of trees and vegetation removed.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
AR2	Implement a Tree Protection Plan(s) to protect trees to be retained The CEMP must include a Tree Protection Plan(s), which is to be developed and implemented in accordance with Australian Standard AS4970-2009 Protection of Trees on Development Sites. The Tree Protection Plan(s) must provide details of any tree protection actions that will ensure that trees proposed to be retained are adequately protected from the impact of construction or related activities, prior to those works being undertaken. Tree Protection Plans must be prepared based on detailed construction drawings and surveyed tree locations. Trees subject to protection must be monitored for a three-year period following completion of construction works in that location to assess ongoing viability, with maintenance or replacement of stressed or damaged specimens to be undertaken.	Design, construction, operation	Design A Tree Protection Plan will be developed in accordance with this EPR that details how trees retained are protected from construction or related activities prior to these works being undertaken. It will be informed by detailed construction drawings and surveyed tree locations. Construction Tree protection plans are prepared by a qualified arborist in accordance with Australian Standard AS 4970-2009 and will outline the mechanisms through which retained trees will be protected through the construction period. These plans will also detail requirements for monitoring tree health during and post construction. Trees that meet the criteria for monitoring will be monitored by a suitably qualified professional arborist. The Project’s Tree Protection Plan will be verified by the IEA in compliance with the requirements of the EMF. It will detail the requirements that must be adhered to throughout construction associated with tree retention. Operation Trees protected must be monitored for a three-year period following completion of construction works. During the monitoring phase, maintenance or replacement of stressed or damaged specimens will be undertaken.
AR3	Implement a Tree Canopy Replacement Plan Develop and implement a Tree Canopy Replacement Plan to replace the canopy of native vegetation and amenity plantings removed as a result of the Project and achieve a net gain in tree canopy cover by 2045. The plan must: – Show the location, size (including canopy spread) and species of replacement trees, in consultation with councils and other relevant land managers – Specify requirements to support the long-term viability of all replacement plantings including appropriate soil requirements, establishment works and ongoing maintenance. – Maintain at least a ratio of 2:1 for replacement of amenity plantings – Replanting should generally follow the hierarchy of: – Within the North East Link Project boundary – as first priority, in locations in close proximity to where trees are removed – Outside the Project boundary and within 400m walking catchment from where trees are removed – Within Victorian Government and local Council land within the municipalities of Manningham, Boroondara, Nillumbik, Yarra, Whitehorse and Banyule outside the Project boundary – Within the wider north east area of metropolitan Melbourne outside the Project boundary, if required. Note: all locations selected must provide for long-term tree growth – Within the Project boundary, include understorey plantings in addition to the tree canopy replacement plantings where feasible in consultation with Councils and/or the land manager – Specify requirements for the ongoing responsibility for maintenance and monitoring of the Tree Canopy Replacement Plan. The replacement planting should commence as soon as possible and in stages, once tree removal extent is confirmed and suitable replacement sites have been determined in consultation with relevant councils and authorities. A post-construction assessment is to be undertaken to confirm extent of tree removal and that the Tree Canopy Replacement Plan will achieve the net gain target set out above	Design, construction, operation	Design The Tree Canopy Replacement Plan has been prepared to guide the replacement of the tree canopy affected by the Project and it aims to achieve a net gain in tree canopy cover by 2045. The Plan is based on the Arboricultural Impact Assessment and will be prepared in consultation with councils, Parks Victoria and WWCHAC. It shows where trees are to be planted, the palette of tree species available for replanting and measures to ensure tree survival. Construction Implementation of this Plan will occur during the construction phase. Where possible pre-planting will occur in areas where suitable replacement sites have been identified and agreed to in areas outside of the Project Boundary (where required), as well as re-planting after the works in the immediate area have been completed within the Project Boundary. Further engagement would occur with councils and landowners where needed to support the implementation of the Tree Canopy Replacement Plan. A post-construction vegetation reconciliation report will also be prepared to capture the extent of tree removal so that canopy replacement can be reassessed against target values to ensure it achieves the required 2:1 replacement of amenity plantings.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
5. Business (B)			
B1	Business disruption mitigation plan Prepare and implement a Business Disruption Mitigation Plan in accordance with the Victorian Small Business Engagement Guidelines (Victorian Small Business Commission) to ensure that business disruption for small businesses, including all disrupted businesses in the Bulleen Industrial Precinct, arising from the Project is mitigated to the extent practicable.	Design, construction	Design and construction The Business Disruption Mitigation Plan has been prepared in accordance with the Victorian Small Business Engagement Guidelines. The Plan has been verified by the IEA in compliance with the requirements of the EMF. Businesses and commercial facilities affected by Project construction will receive regular updates on the planning and design progress for the Project, and support programs will be implemented for businesses in close proximity to construction sites.
B2	Business Relocation Strategy MTIA must develop and implement a Business Relocation Strategy to assist businesses directly affected by acquisition. The strategy must be developed in consultation with affected businesses, relevant local Councils, relevant local trader associations and other affected stakeholders affected, immediately on approval of the EMF. The strategy must include, but not be limited to: The identification of affected businesses and other relevant stakeholders – Provide a program to support the relocation of businesses including identifying services and support programs. – The appointment of an independent specialised relocation adviser(s) to support affected businesses. – Procedures to disseminate information, including through the Business Liaison Group (EPR B8) regarding the business relocation strategy and services, key Project milestones that may impact on business relocations and other changes that may affect businesses during the closure of existing operations. – Assistance in the provision of targeted marketing and promotional initiatives to build community and customer awareness for relocated businesses. – Procedures to work with business and landowners to endeavour to reach agreement on the timeframe for possession of the land. – Procedures to engage with businesses and other stakeholders and through which affected businesses and relevant local trader associations can provide comment or feedback in relation to the relocation strategy and its associated services. NELP should also work with councils to identify and assess the feasibility of alternative location options for displaced businesses. In parallel with the Business Relocation Strategy, the independent specialised relocation adviser(s) must provide individual business planning and support to the businesses in the Bulleen Industrial Precinct, including to prepare and implement individual business plans prepared with each business in the Bulleen Industrial Precinct (except where a business has requested not to be part of such assistance) that: – Understands at a fine-grained level their current operation – Desire to relocate or cease operations – Business needs for new sites – Preliminary specific site identification Practical and reasonable assistance to implement these plans. Note: the requirements of this EPR are in addition to any rights or entitlements available under compulsory acquisition legislation.	Design, construction	Design and construction Not applicable. There are no businesses directly affected by acquisition within the area subject to this UDLP.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
B3	Employee Assistance Strategy MTIA must develop and implement an Employee Assistance Strategy to provide relevant workforce support measures for employees of businesses closing or relocating as a consequence of acquisition for the Project. The strategy must include, but not be limited to: – The identification of affected businesses and employees – Provide a co-ordinated link to support services for affected employees (for example, access to a range of services such as training advice, careers advice, resume workshopping, advice on government entitlements, referral to other job support services and skills assessments). – The identification of relevant government agencies and support services – Procedures to disseminate information including through the Business Liaison Group (EPR B85), regarding the employee assistance strategy and services, key Project milestones that may impact on business closures and relocations and other changes that may affect businesses and their employees during the closure of existing operations. In parallel with the Employee Assistance Strategy, MTIA with appropriate expert advice, must prepare and implement a package of individual employee assistance plans prepared with and for each employee who requests it, in consultation with the employer, that: – Understands at a fine-grained level their future employment plans – Need for training and development – Factors that would influence their desire to remain employed with a Bulleen Industrial Precinct business – Practical and reasonable assistance to implement their assistance plan.	Design, construction	Design and construction Not applicable. There are no businesses directly affected by acquisition within the area subject to this UDLP.
B4	Minimise disruption to businesses from land acquisition and temporary occupation Minimise disruption to businesses from permanent acquisition or temporary occupation of land to the extent practicable and work with affected businesses and land owners to endeavour to reach agreement on the terms for possession of the land in accordance with relevant legislation. Efforts to provide for Bulleen Art and Garden’s continued operation from its current site should be undertaken.	Design, construction	Design and construction Not applicable. There are no businesses directly affected by acquisition. Temporary occupation affecting businesses will be minimised to the extent possible.
B5	Minimise and remedy damage or impacts on third party property and infrastructure Through detailed design and construction and in consultation with relevant land owners and parties as necessary, design and construct the works to minimise, to the extent practicable, impacts to and interference with, third party property and infrastructure and to ensure that infrastructure and property is protected during construction and operation. Any damage caused to property or infrastructure as a result of North East Link must be appropriately remedied in consultation with the property or asset owner.	Design, construction	Design The design has mitigated risk of damage to third party property and infrastructure by minimising the footprint to the extent feasible. The Project has also identified moderate to high-risk activities to be undertaken adjacent to third party property and infrastructure. Construction Engagement with directly affected property and asset owners will be carried out. Potential impacts to third party properties and infrastructure where identified will be addressed through appropriate remedies in consultation with the property and/or asset owner (e.g. design modification, construction methodology modification, asset protection, and specialist monitoring of works being undertaken). Appropriate traffic management will be implemented in accordance with the Transport Management Plan. Should damage be sustained to third party property or infrastructure that is determined to be caused by the Project, the damage will be appropriately remedied in consultation with the property or asset owner.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
B6	Minimise access and amenity impacts on businesses Any reduction in the level of access, amenity or function of any business or commercial facility must be minimised to the extent and duration necessary to carry out the relevant construction related works. Affected business and commercial facilities must be provided with adequate notification of potential impacts and temporary access arrangements. Emergency access must be maintained at all times. Access must be maintained for customers, delivery and waste removal unless there has been a prior arrangement with affected businesses. As well as minimising impacts above, temporary occupation of sites for construction must: – Minimise impacts on the viability of nearby businesses – Minimise adverse amenity impacts on views and amenity experience from nearby businesses – Minimise significant increases in travel time from residential areas to businesses and shopping precincts including Watsonia Village – Not reduce car parking available to shoppers and traders in shopping areas including Watsonia Village. All permanent access to business and commercial facilities affected by North East Link works is to be reinstated, or relocated as agreed with the relevant property owner, including associated landscaping and reinstatement works and temporary access arrangements put in place for construction must be removed when relevant construction activities have ceased.	Design, construction	Design The Project has been designed to minimise disruptions to businesses to the extent needed to complete the works. Construction A Transport Management Plan and CEMP will be prepared. Together they will outline how access will be maintained during construction. Main access points to businesses are to be maintained while temporary works are undertaken where possible. Affected businesses will be notified of works that may affect access prior to the commencement of works. The Project will maintain access at all times for customers, delivery, waste removal and emergency services unless a prior arrangement has otherwise been agreed with the affected business. The Transport Management Plan and CEMP will be verified by the IEA prior to the commencement of construction.
B7	Protect utility assets Protect or, where required, relocate utility assets to the reasonable satisfaction of the service provider and/or asset owners.	Design, construction	Design and construction The Project design has considered major existing and proposed utilities and structures/permanent infrastructure (such as landscaping, SUPs and buildings) has been located to avoid existing or proposed utilities where possible if avoidance measures cannot be achieved. Protection or relocation measures will be implemented with consultation with the utility service provider or asset owner.
B8	Business liaison groups Contractors must participate in the Business Liaison Groups established and managed by the North East Link Project to facilitate business and stakeholder involvement for the construction phase of the Project. Participation must include: – Attendance at meetings – Regular and timely reporting of design and construction activities and key Project milestones – Provision of advance notice about changes to traffic and parking conditions and the duration of impact – Timely provision of relevant information, including response to issues raised by the group – Regular reporting and monitoring of business community feedback, impacts and discussion of mitigation measures and their effectiveness – Recording, managing and resolving complaints from affected businesses in accordance with the complaints management process required under EPR EMF4.	Design, construction	Design and construction The Project will participate in the Business Liaison Group established by the North East Link Program as required. Participation will accord with the EPRs, including providing updates on design and construction activities as well as feedback and responses to Project issues, if raised. Feedback from the Business Liaison Groups will be considered and used (as appropriate) to inform continuous improvement in Project delivery, stakeholder engagement and construction operation.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
6. Contamination and soil (CL)			
CL1	Implement a Spoil Management Plan Prepare and implement a Spoil Management Plan (SMP) in accordance with relevant regulations, standards and best practice guidelines and with reference to the Spoil Management Strategy contained within the EES (Technical Report O). The SMP must be developed in consultation with the EPA Victoria, any relevant public land managers and, in respect of transport of spoil, the relevant road authorities. The SMP must include processes and measures to manage spoil, define roles and responsibilities and include requirements and methods for: – Complying with applicable regulatory requirements – Completing a detailed site investigation (in accordance with Australian Standards AS 4482.1:2005 Guide to the investigation and sampling of sites with potentially contaminated soil, AS 4439.2:1997 Wastes, sediments and contaminated soils (Part 2: Preparation of leachates – Zero headspace procedure), AS 4439.3:1997 Wastes, sediments and contaminated soils (Part 3: Preparation of leachates – Bottle leaching procedure), EPA Victoria Industrial Waste Resource Guideline 702 with respect to the twenty times leachable concentration threshold approach (the 'Twenty Times Rule') and EPA Publication 1828.2 Waste disposal categories – characteristics and thresholds) prior to any excavation of potentially contaminated areas to identify location, types and extent of impacts and to characterise spoil to inform spoil and waste management – Identifying the nature and extent of spoil (clean fill and contaminated spoil) – Identifying, in consultation with the waste industry, the capacity for contaminated spoil material to be treated and/or disposed – Storage, handling, transport and disposal of spoil in a manner that protects human health and the environment and is consistent with the transport management plan(s) required by EPR T2. This includes requirements and methods for the appropriate treatment/remediation of any contaminated excavated spoil and contaminated residual material left on site – Design and management of temporary stockpile areas – Minimising impacts and risks from disturbance of acid sulfate soils (as per EPR CL2), odour (as per EPR CL3) and vapour and ground gas intrusion (as per EPR CL4) – Transport of spoil along appropriate roads with reference to the transport management plan(s) required by EPR T2 – Management of hazardous substances, including health, safety and environment procedures that address risks associated with exposure to hazardous substances for visitors, the general public; and local fauna; contain measures to control exposure in accordance with relevant regulations, standards and best practice guidance and to the requirements of WorkSafe and EPA Victoria; and include method statements detailing monitoring and reporting requirements – Identifying where any contaminated or hazardous material is exposed during construction (notably through former landfills, service stations and industrial land) and how it will be made safe for the public and the environment. Environmental values of land and National Environment Protection (Assessment of Site Contamination) Measures 2013 guidance on criteria protective of those environmental values must be considered for the land uses in these areas. This must include methods for: – – Construction of appropriate cover (soil, concrete, geofabric etc) such that no contamination is left exposed at the surface or where it may be readily accessed by the public and local fauna such that it cannot generate runoff or leachate during rain events – Maintenance of the cover – Identification of the nature and depth of the contaminants – Mitigating impacts during sub-surface works in those areas, eg drilling and excavation	Design, construction	Design and construction A Spoil Management Plan will be prepared in consultation with the EPA and in accordance with relevant legislation, standards and guidelines. The Spoil Management Plan will be reviewed by the North East Link Program and will be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.

CL1 – Continued in next page

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
CL1	- Monitoring and reporting - Identifying locations and extent of any industrial waste, priority waste, reportable priority waste, other waste and the method for characterising industrial waste, priority waste, reportable priority waste and other waste prior to excavation - Application of the Environment Protection Act 2017 waste management hierarchy, including: - Ongoing identification and, where practicable, adoption of options for the re-use of spoil - Identification of options for management of spoil - Identifying suitable sites for disposal of any waste. This includes identifying contingency arrangements for management of waste, where required, to address any identified capacity issues associated with the licensed landfill's ability to receive PIW and other waste - In areas used for temporary construction works and the construction of surface water management works, contamination attributable to the Project must be appropriately remediated in consultation with the relevant land manager.	Design, construction	Design and construction A Spoil Management Plan (SMP) will be prepared in consultation with the EPA and in accordance with relevant legislation, standards and guidelines. The SMP will be reviewed by North East Link Program and will be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.
CL2	Minimise impacts from disturbance of acid sulfate soil The SMP referenced in EPR CL1 must include requirements and methods to minimise impacts from disturbance of acid sulfate soil, including but not limited to: - Characterising acid sulfate soil and rock prior to excavation - Developing appropriate stockpile areas including lining, covering and runoff collection to prevent release of acid to the environment, including wetlands and impact to human health - Identifying suitable sites for re-use management or disposal of acid sulfate soil and rock - Preventing oxidation that could lead to acid formation if possible through cover and/or scheduling practices, ie ensuring acid sulfate soil and rock is not left in stockpiles for any length of time and/or addition of neutralising compounds. Requirements and methods must be in accordance with the relevant sections of EPA Publication 1834 Civil construction, building and demolition guide, EPA Victoria Publication 655.1 Acid Sulfate Soil and Rock and the Department of Sustainability and Environment's Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soil.	Construction	Construction Based on initial investigations, the likelihood of potential acid sulfate soil is minimal within the area subject to this UDLP. Where potential acid sulfate soil (PASS) is intersected, it will be managed in accordance with the management controls for spoil as described in the Spoil Management Plan for the construction phase. The Spoil Management Plan will be reviewed by the North East Link Program and will be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.
CL3	Minimise odour impacts during spoil management The SMP referenced in EPR CL1 must include requirements and methods for odour management (in accordance with EPA Victoria requirements) during the excavation, stockpiling and transportation of contaminated material including: - Identifying the areas of contamination that may pose an odour risk - Monitoring of the excavated material for possible odour risk - Management measures to minimise odour.	Construction	Construction The Spoil Management Plan referenced in EPR CL1 outlines control measures to eliminate or minimise odour if odorous spoil is encountered. This includes identifying areas of contamination that may pose an odour risk, monitoring this material during excavation, applying management measures to minimise odour, and avoiding or minimising stockpiling of odorous materials, with direct removal and disposal being the primary objective. If stockpiling is required, odour mitigation measures will be implemented in accordance with the controls outlined in the Spoil Management Plan. The Spoil Management Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction. The Project Communications and Community Engagement team will work with potentially impacted residents and Councils (where required), in the event that odour is anticipated or reported.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
CL4	Minimise risks from vapour and ground gas intrusion Relevant North East Link sections must be designed and constructed to prevent ingress of vapours and gases associated with any construction that interfaces with landfill sites or contaminated areas. The SMP referenced in EPR CL1 must include requirements for assessment, monitoring and management of intrusive vapour including potentially toxic, flammable or explosive conditions in enclosed spaces or other impacts on human health and the environment. The plan must address vapour risks associated with excavation of impacted soils, extraction of impacted groundwater, open excavations and stockpiles and gases associated with landfills. This must include, where relevant: – Securing of the excavation and stockpile area from the public and signage warning of open excavations – Monitoring of vapours and odours while excavations are open and stockpiles remain onsite – Mitigation measures to prevent fugitive releases of vapours and gasses during construction.	Design, construction	Design and construction Considerations during both the design and construction phases of the Project will be made to minimise interaction within historic landfill areas. Where interaction with areas of historic landfills is unavoidable, the outcome of contamination investigations will inform the risk of vapour and ground gas intrusion and identify further mitigations to be implemented during the construction phase. Implementation of the Spoil Management Plan will include: – Identification of areas that may pose vapour and ground gas intrusion risk (e.g., former landfills). – Assessment of design options (elimination/minimisation) and working with the Project’s Environment Team to manage risk in line with the Spoil Management Plan. – Identification of opportunities to further limit the extent of excavation required within areas interfacing with landfill sites or contaminated soils, and implementation through detailed design and construction plans. In addition, hazardous material events are also captured in the Emergency Response and Incident Management Sub Plan, demonstrating further compliance with these EPR requirements.
CL5	Manage chemicals, fuels and hazardous materials The CEMP and OEMP must include requirements for management of chemicals, fuels and hazardous materials including: – Minimise chemical and fuel storage on site and store hazardous materials and dangerous goods in accordance with the relevant guidelines and requirements – Comply with the Victorian WorkCover Authority and Australian Standard AS1940 Storage Handling of Flammable and Combustible Liquids and with reference to EPA Victoria Publication 1834 Civil construction, building and demolition guide and 1698 Liquid Storage and Handling Guidelines – Develop and implement management measures for hazardous materials and dangerous substances, including: – Creating and maintaining a dangerous goods register – Disposing of any hazardous materials, including asbestos, in accordance with regulations and relevant guidelines – Implementing requirements for the installation of bunds and precautions to reduce the risk of spills – Contingency and emergency response procedures to handle fuel and chemical spills, including availability of on-site hydrocarbon spill kits.	Design, construction, operation	Design Design has been prepared to avoid, where possible, chemical and fuel storages in locations that may impact on sensitive receivers and human health and the environment. Construction A CEMP includes requirements for management of chemicals, fuels and hazardous materials including spill control measures in accordance with the relevant legislation and regulations. The CEMP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction. Operation An OEMP will be prepared for the operation phase. Suitable contingency and emergency responses procedures will be developed in compliance with this EPR and relevant work safety requirements. The OEMP will be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.
CL6	Minimise contamination risks during operation The OEMP must include requirements and methods for minimising contamination risks during operation and maintenance of North East Link including: – Maintaining relevant controls and preventing impacts during operation from contaminated material, odour, vapour and gas – Maintaining controls implemented as part of North East Link to make any known areas of contamination or hazardous material that were exposed during construction (notably through former landfills) safe for the public and the environment – Mitigating impacts during sub-surface works in any identified areas of contamination or hazardous materials, eg drilling and excavation – Implementing contingency measures, where required, to address any potential contamination, odour, vapour or gas impacts or incidents. – Monitoring any potential mobilisation of contaminants towards ecological and recreational assets including the Yarra River and wetlands and must include a groundwater monitoring program, intervention trigger levels and mitigation actions.	Operation	Operation The North East Link Program will prepare an OEMP to manage soil and groundwater conditions during operation. It will be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
7. Flora and Fauna (FF)			
FF1	Avoid and minimise impacts on fauna and flora The CEMP must include requirements and methods for avoiding, or where avoidance is not feasible minimising to the greatest extent reasonably possible, for: – Managing fauna that may be displaced due to vegetation removal or encountered on site during construction works in compliance with the <i>Wildlife Act 1975</i> and in consultation with public land managers where relevant – Complying with the <i>Fisheries Act 1995</i> – Undertaking pre-clearing surveys and inspections to confirm the on-site location of fauna immediately prior to habitat removal or, where relevant, works on waterways and to assist fauna to safety as necessary – Prepare a Kangaroo Management Plan for the Project interface with Simpson Barracks and for the M80 interchange in consultation with DELWP – Contingency and reporting procedures for the event that a listed threatened species is identified in order to mitigate any potential for significant impacts on the listed threatened species. – Protection of all vegetation inside and adjacent to the Project area that is not required to be removed, provided that such measures should be limited to activities undertaken inside the Project boundary. Surveys, inspections and management actions must be undertaken by a qualified wildlife ecologist or aquatic ecologist with all necessary authorisations obtained prior to removal of fauna habitat. The CEMP must be prepared in consultation with relevant land managers. A copy of the flora and fauna sub plan(s) of the approved CEMP must be provided to relevant land managers and each relevant municipal Council.	Construction	Construction The Project will prepare a CEMP that incorporates the requirements for managing and minimising construction ecological impacts for relevant areas of the Project as required and outlined under this EPR, including requirements set within FF1, FF2, FF3, FF4 and FF5. Prior to the removal of flora and fauna, the Flora and Fauna Management sub-plan(s) will be provided to the relevant land managers and municipal councils as required. Pre-clearing surveys and inspections will be conducted to confirm the location of fauna on-site prior to tree removal. Suitably qualified wildlife handlers will also assess the vegetation prior to removal to ensure fauna is identified and managed in accordance with the Wildlife Act. Contingency and reporting procedures for the event that a listed threatened species is identified will be included within the management plan. The CEMP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
FF2	Minimise and offset native vegetation removal Through detailed design, avoid, or where avoidance is not feasible, minimise to the greatest extent reasonably possible, the removal of native vegetation and fauna habitat and impacts on habitat connectivity, in particular in relation to Environment Protection and Biodiversity Conservation Act 1999 (Cth) or Flora and Fauna Guarantee Act 1988 listed threatened species. This must include minimising removal of Matted Flax Lily, the locally endemic Studley Park Gum and the loss of potential foraging habitat for the Powerful Owl, Swift Parrot and Grey-headed Flying Fox. Key areas for minimisation efforts must include Simpson Barracks, Yarra Bend Park, Trinity Grammar wetlands, Banksia Parkland, River Gum Walk Creek Bend Reserve and the Koonung Creek valley. The CEMP must include requirements for protection of native vegetation and listed species, including establishment of no-go zones to protect vegetation and habitat to be retained and Tree Protection Plan(s) as required by EPR AR2. No-go zones must also be established for: - The Grey-headed Flying fox Campsite within the Yarra Bend Park - Bolin Bolin Billabong - The Plains Grassy Woodland community between Enterprise Drive and the M80 Ring Road in Bundoora - The portion of 49 Greenaway Street, Bulleen (former Drive-in) heavily vegetated with trees along the Yarra River - Surface impacts in the Banyule Flats and Warringal Parklands and the Heide Museum of Modern Art. Every effort must be made to avoid ecological impacts in other locations that are known to provide high habitat value for significant fauna species. Where the removal of native vegetation is unavoidable the Project must meet the offset requirements of the Guidelines for the removal, destruction or lopping of native vegetation, DELWP December 2017 except as otherwise agreed to by the Secretary to DELWP. Where appropriate for the landscape and Project location, tree replacement (as required by EPR AR3) and landscaping is to use locally indigenous species (utilising seed collected from species within the Project boundary where appropriate and practical), which are suited to the landscape profile and setting being revegetated and seek to maximise habitat value and connectivity for native fauna. Where practicable and appropriate for the landscape and Project location, best practice measures must be applied to retain and reinstate topsoil to support growing conditions for native species. Where topsoil cannot be retained or reused for North East Link, alternative opportunities for reuse must be explored.	Design, construction	Design The North East Link EES Technical Report Q – Ecology did not identify Matted Flax-lily within this UDLP area, with this finding supported by further investigations following the EES. It did identify Studley Park Gum in the Yarra Bend Park No Go Zone and in other areas of Yarra Bend Park adjoining but outside of the area considered in this UDLP. While the EES Technical Report did identify Arching Flax-lily adjacent to the SUP bridge area, subsequent more detailed investigations confirmed there is no Arching Flax-lily within the scope area of this UDLP. The Project is undertaking arboricultural and ecological surveys to inform constructability, detailed design and to identify opportunities to further avoid and minimise the removal of native vegetation and fauna. This UDLP avoids the removal of the following native vegetation: - Studley Park Gums - Matted Flax Lily - Arching Flax-Lily The Project also avoids and minimises the removal of vegetation and disturbance of fauna by: - Retaining existing noise walls where suitable - Constructing the works from the within the freeway reserve - Identifying alternative construction methodologies that avoid the removal of vegetation, such as trenchless boring - Locating construction compounds and access routes in previously disturbed areas to the extent possible. The Project avoids works within the Grey-headed Flying fox Campsite within the Yarra Bend Park No Go Zone by conducting works inside the road reserve. This UDLP does not include works within the no-go zones for: - The Plains Grassy Woodland community between Enterprise Drive and the M80 Ring Road in Bundoora - The portion of 49 Greenaway Street, Bulleen (former Drive-in) heavily vegetated with trees along the Birrarung - Surface impacts in the Banyule Flats and Warringal Parklands and the Heide Museum of Modern Art. Construction A Flora and Fauna Management sub-plan has been developed as part of the CEMP. The Flora and Fauna Management Sub-plan includes processes and procedures to minimise native vegetation removal and impacts on fauna during construction. The sub-plan will also include consideration of best practice measures to retain native vegetation, as well as to retain and reinstate topsoil in accordance with the Sustainability Management Plan and Spoil Management Plan. Where native vegetation removal within the Project boundary cannot be avoided, native vegetation offsets will be secured by the North East Link Program in accordance with statutory requirements. The CEMP, Flora and Fauna Management sub-plan, Sustainability Management Plan and Spoil Management Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
FF3	Avoid introduction or spread of weeds and pathogens The CEMP must include measures to avoid the spread or introduction of weeds and pathogens during construction, including vehicle and equipment hygiene.	Construction	Construction A Flora and Fauna Management sub-plan has been developed as part of the CEMP. The Flora and Fauna Management Sub-plan includes measures for avoiding the spread of weeds and pathogens during construction and replanting activities. Measures include wheel washes, designated driving areas and cleaning of equipment after use in designated wash bays for plant and equipment in areas of known weeds or pathogens. Other measures include completion of a weed hygiene inspection for all equipment prior to arrival on site. This EPR will support the objectives of the UDLP, where the naturalistic setting is to be enhanced by new planting. Control of weeds and pathogens contributes to the success of landscaping. The CEMP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior the commencement of construction.
FF4	Protect aquatic habitat In consultation with public land managers and Melbourne Water where relevant, design, locate and construct structures to minimise short and long term adverse impacts on riparian, riverbed and aquatic habitat in waterways and wetlands, including billabongs. The CEMP must contain and require implementation of measures to minimise adverse impacts from construction activities on riparian, riverbed and aquatic habitat and aquatic fauna connectivity	Design, construction	Design Consultation has occurred with Melbourne Water and relevant public land managers through a series of design meetings that have informed the design response, location of infrastructure and minimisation of impacts to the environment as a result of the planned construction. As part of the drainage design solution, measures have been developed to minimise adverse impacts on riparian, riverbed and aquatic habitat in waterways. Particular consideration has been given to the proposed design of the SUP bridge, such as by locating and shaping the new bridge piers to minimise the impact on the Birrarung's flows. Construction A Flora and Fauna Management sub-plan as part of the CEMP will be implemented, containing measures to minimise adverse impacts from construction activities on riparian, riverbed and aquatic habitat. Consultation will occur with public land managers and Melbourne Water as required. Particular consideration has been given to the construction methodology for works to bridge barriers on the existing Yarra River bridge (freeway) to minimise adverse impacts.
FF5	Obtain Flora and Fauna Guarantee Act 1988 permits Prior to commencement of relevant works, a permit(s) must be obtained to take and destroy flora species protected under the Flora and Fauna Guarantee Act 1988.	Construction	Construction In accordance with CEMP and relevant WEMPs, and in consultation with DEECA, the Project will obtain necessary approvals and permits prior to construction activities that may destroy flora species protected under the Flora and Fauna Guarantee Act 1988.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
FF6	Implement a Groundwater Dependent Ecosystem Monitoring and Mitigation Plan Prepare and implement a Groundwater Dependent Ecosystem Monitoring and Mitigation Plan with no objection from the relevant water authorities. – The Groundwater Dependent Ecosystem Monitoring and Mitigation Plan must be informed by the groundwater modelling and groundwater monitoring required by EPR GW1 and EPR GW2 and must include (but not be limited to): – Identification of Groundwater Dependent Ecosystems (GDEs) predicted to be impacted prior to relevant construction commencing, including Bolin Bolin Billabong if relevant. – Details of the monitoring procedures and program for each relevant GDEs including monitoring periods appropriate to each GDE – Specific procedures to monitor groundwater levels at GDEs predicted to be impacted including monitoring as close as possible to the GDE (considering ecological and access constraints) and for aquatic GDEs monitoring the surface water levels and quality as appropriate, including Bolin Bolin Billabong. These procedures should include: – Groundwater monitoring of the alluvium by specific monitoring bores as close as possible to billabongs must be undertaken before, during and after construction. – Monitoring of water levels and water quality in billabongs must be undertaken before, during and after construction. – Estimation of water balance input and output volumes to and from billabongs must be undertaken before, during and after construction, based on analysis of the monitoring of water levels in the billabong and surrounding groundwater monitoring bores – Identification of relevant monitoring and management programs by Melbourne Water or other authorities and how these are referenced in the Groundwater Dependent Ecosystem Monitoring and Mitigation Plan – Measures to mitigate monitored changes in water levels and quality that could impact the billabongs or other GDEs, which take into account the natural variability – Where the survival of Groundwater Dependent Large Trees not requiring removal is predicted to be affected by groundwater drawdown during construction or operation based on groundwater modelling outputs, include measures to maintain the health of large trees In relation to any trees unlikely to survive during operation as a consequence of groundwater drawdown, processes for offsets to be obtained in accordance with EPR FF2 The process for review of the Plan, including how the groundwater modelling and monitoring under EPR GW1 and EPR GW2 will be considered and the GDE monitoring program and periods subsequently reviewed. * All reasonable endeavours must be made to reach a position of no objection, provided the stakeholder responds within a reasonable timeframe.	Construction, operation	Construction and operation The need for a Groundwater Dependent Ecosystem Monitoring and Mitigation Plan is determined as part of the Groundwater Management Plan (through which the risk is assessed, and a determination made as to whether this Plan is triggered by the Project with relevant procedural requirements outlined). The Project will prepare a Groundwater Management Plan, which has the objective to avoid or minimise adverse effects on groundwater and groundwater-related receptors, including groundwater dependent ecosystems. It is also noted that during the pre-construction works phase, development site-specific risk assessments for the management zones, a monitoring program will be incorporated into the Groundwater Management Plan as well as the site-specific WEMPs. The WEMPs will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction. The Groundwater Management Plan (including the Groundwater Impact Assessment) will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.
FF7	Implement a salvage and translocation plan for Matted Flax-lily Where direct impacts on Matted Flax-lily occur, a salvage and translocation plan must be developed and implemented to the satisfaction of the Department of Environment, Land, Water and Planning and the Commonwealth Department of Environment and Energy, prior to the commencement of relevant works.	Construction, operation	Construction and operation The EES Technical Report Q – Ecology and subsequent investigations did not identify the Matted Flax Lily within the extents of this UDLP. The North East Link Program-wide salvage and translocation plan will not need to be implemented within this UDLP.
FF8	Minimise intense noise and vibration impacts on Australian Grayling The CEMP must include and require implementation of reasonable measures to avoid and mitigate intense noise and vibration impacts in or near the Yarra River (eg from activities such as pile driving and similar activities). This must include, to the extent practicable: – Selection of work methods to minimise noise and vibration – Avoiding activities that may generate intense noise and vibration and impact on the Australian Grayling during critical migration or breeding periods (March to June, September to November) as defined within the National Recovery Plan for the Australian Grayling <i>Prototroctes maraena</i> (Backhouse, G, Jackson, J & O'Connor, J 2008) – Management and monitoring of noise and vibration in accordance with the CNVMP (EPR NV4).	Construction	Construction Noise and vibration impacts will be mitigated in locations in or near the Birrarung. The CNVMP will include a selection of methods to minimise noise and vibration, avoiding intense noise and vibration activities during critical migration or breeding periods on the Australian Grayling and noise and vibration monitoring and management. The CNVMP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
FF9	Protect fauna habitat values in existing waterbodies that are modified for drainage purposes Where existing waterbodies within or near the Project boundary are to be modified for drainage purposes (for example Simpson’s Lake, billabongs and the southernmost waterbody in the Freeway golf course), the CEMP must include and require implementation of measures to minimise impacts on waterbirds and other fauna that use the wetlands including: – Retain dead and alive standing trees and other vegetation in and surrounding the waterbody – As far as practicable, undertake activities outside the typical nesting period for waterbirds (typically Sept to Jan) – Minimise the construction period to the extent practicable and refill the wetlands post construction if they have been drained – Use of gross pollutant traps and water quality treatment measures to the requirements of the relevant waterway manager.	Construction	Construction A CEMP contains due considerations of potential impacts to fauna habitat in existing waterbodies (should it be deemed necessary). Potential impacts to waterbirds that may occur due to modification of existing waterbodies for drainage purposes will be minimised to the extent practicable including requirements detailed in EPR FF9. The CEMP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.
FF10	Studley Park Gum Mitigation To mitigate impacts on the Studley Park Gum, a Studley Park Gum Management Framework must be developed and corresponding management plan must be developed and implemented in consultation with DELWP.	Design, construction, operation	Design and construction There are no Studley Park Gums within the extents of this UDLP that would be removed as a result of the works. Operation There are no Studley Park Gums within the extents of this UDLP that would require ongoing monitoring during operation.

8. Ground Movement (GM)

GM1	Design and construction to be informed by a geotechnical model and assessment Develop and maintain geological and groundwater model(s) (as per EPR GW1) to inform tunnel and trench design and the construction techniques to be applied for the various geological and groundwater conditions. The model(s) are to: – Identify sensitive receptors that may be impacted by ground movement – Inform monitoring of ground movement and ground water levels prior to construction to identify pre-existing movement – Inform tunnel design and the construction techniques to be applied for the various geological and groundwater conditions – Assess potential drawdown and identify trigger levels for implementing additional mitigation measures to minimise potential primary consolidation settlement – Assess potential ground movement from excavation and identify trigger levels for implementing additional mitigation measures to minimise potential ground movement.	Design, construction	Design and construction Tunnelling and deep trenches are not within the scope of this UDLP. The risk of ground movement with the Project area is a low risk. A Ground Movement Plan outlines a procedure for high-risk activities that have the potential to cause ground movement should such activities be identified. It includes mitigation measures, which will be appropriately implemented in response to the Ground Movement Risk Assessment. The Ground Movement Plan will be prepared and submitted for verification by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.
GM2	Implement a Ground Movement Plan to manage ground movement impacts Develop and implement a Ground Movement Plan(s). The Ground Movement Plan must be informed by EPR GM1 and EPR GW1 (predictive model) and: – Address the location of structures/assets which may be susceptible to damage by ground movement – Identify baseline ground movement monitoring prior to construction. A baseline monitoring report is to be compiled summarising the results of the baseline surveys undertaken and included in the plan – Identify appropriate ground movement impact acceptability criteria – Identify appropriate mitigation measures should the geotechnical model (EPR GM1), predictive groundwater model (EPR GW1), or subsequent monitoring program indicate acceptability criteria may not be met – Establish ground movement monitoring requirements for the area surrounding proposed Project works to measure ground movement consistency with the anticipated ground movement in the predictive model.	Design, construction	Design and construction A Ground Movement Plan will be implemented to manage under-boring and utilities works deemed to require management of settlement risk, such as monitoring requirements. This management plan will respond to and comply with all items as listed in this EPR. Based on the results of preliminary modelling and local geological conditions, it is unlikely that there will be material impacts to buildings or structures in proximity to work areas within this UDLP. The Ground Movement Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
GM3	Carry out Condition surveys for potentially affected property and infrastructure Conduct condition survey(s) of property and infrastructure predicted to be affected by ground movement based on the results of the geological and groundwater model (EPR GM1) or, where a property owner reasonably expects to be potentially affected and has requested a pre-construction condition survey. Develop and maintain a database of preconstruction and as-built condition information for each potentially affected structure identified as being in an area susceptible to damage (see EPR GM1) or where a property owner has requested a pre-construction condition survey, specifically including: – A list of identified structures/assets which may be susceptible to damage resulting from ground movement resulting from Project works – Results of pre-construction condition surveys of structures, pavements, significant utilities and parklands to establish baseline conditions and potential vulnerabilities – Records of consultation with land owners in relation to the condition surveys – Post-construction stage condition surveys conducted, where required, to ascertain if any damage has been caused as a result of Project works. – Pre- and post-condition assessments must be proactively shared with the property owner. – All stakeholder engagement activities must be undertaken in accordance with the Communications and Community Engagement Plan (see EPR SC2).	Construction	Construction Pre-construction and post-condition surveys will be conducted in accordance with EPR GM3 for assets that have been identified as at risk of damage from ground movement as informed by the modelling findings or where reasonably requested by a property owner. Property owners will be engaged in accordance with the Communications and Community Engagement Plan.
GM4	Rectify damage to properties and assets impacted by ground movement or settlement For properties and assets (including natural landscapes and parklands) damaged by ground movement caused by the Project, undertake necessary repair works or other actions as agreed with the relevant property or asset owner (or land manager). For places listed on the Victorian Heritage Register, consultation with Heritage Victoria must be undertaken. Establish an independent mediation process for the assessment of claims for property and asset damage that cannot be agreed between the Project and the property or asset owner.	Construction	Construction It is unlikely that the Project scope will trigger issues associated with ground movement. There are no places on the Victorian Heritage Register that will be subject to ground movement impacts due to Project civil works. Repair works will be undertaken on assets that have been identified will be impacted by the Project works in accordance with the Ground Movement Plan and will be implemented as required by relevant EPRs. The Ground Movement Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction. The new SUP through Yarra Bend Park (a Victorian Heritage Inventory listed place) will require minor civil works that do not require a Ground Movement Plan. Heritage Victoria will be consulted during the development of this UDLP on all works including the SUP.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
9. Groundwater (GW)			
GW1	Design and construction to be informed by a groundwater model Develop a predictive and numerical groundwater model in consultation with EPA Victoria, informed by field investigations, to predict changes in groundwater levels and flow and quality, as they are affected by construction and develop mitigation strategies, as per EPR GM1. The groundwater model must be of a standard that is at least comparable to the modelling documented within the Report on Additional Groundwater Modelling prepared by GHD and dated July 2019 and must be updated to take account of any changes to construction techniques or operational design features and additional monitoring data from EPR GW2. The groundwater model must be developed with a process that involves independent review by the Independent Environmental Auditor consistent with the Australian Groundwater Modelling Guidelines (June 2012).	Design, construction	Design and construction This UDLP does not include road tunnels. This requirement is not applicable to this UDLP.
GW2	Monitor groundwater Develop and implement a pre-construction and construction groundwater monitoring program to: – Establish baseline water level and quality conditions throughout the study area, including the delineation (to the extent practicable) of those portions of existing contaminant plume(s) that may be impacted by the Project – Calibrate the predictive model prior to commencement of construction, manage construction activities and verify the model predictions – Assess the adequacy of proposed design and construction methods and where required, identify and implement any additional measures required to mitigate impacts from changes in groundwater levels, flow and quality. A post-construction groundwater monitoring program must be developed and implemented to: – Confirm the acceptability of resultant water quality and water level recovery (and potential mounding) as predicted by the numerical groundwater model. Acceptability is to be assessed with consideration to the Groundwater Dependent Ecosystem Monitoring and Mitigation Plan (as required by EPR FF6) and other identified environmental values of groundwater – Confirm the effectiveness of applied measures as identified in the Groundwater Management Plan (refer EPR GW4) and if required, identify and implement contingency measures to restore groundwater to an acceptable level. The duration of post-construction monitoring must be a minimum of two years or until acceptable restoration of groundwater and a relatively stable hydrogeological regime, taking into account prevailing climatic conditions and natural variability, has been confirmed by the Independent Environmental Auditor, in consultation with EPA Victoria and Melbourne Water. The pre-construction, construction and post-construction monitoring program(s) must be developed in consultation with EPA Victoria and Melbourne Water and be consistent with EPA Victoria Publication 668 Hydrogeological assessment groundwater quality guidelines, EPA Victoria Publication 669 Groundwater Sampling Guidelines and the State Environment Protection Policy (Waters).	Design, construction, operation	Design A risk-based approach is proposed for compliance purposes against this EPR. A Groundwater Management Plan has been developed in consultation with the EPA and Melbourne Water to identify baseline conditions, verify predictions and assess adequacy of management measures in line with the proposed design and construction methods to be undertaken by the Alliance. The Groundwater Management Plan also includes the Alliance approach to monitoring as per the EPRs. The Groundwater Management Plan has been prepared and will be submitted for IEA verification in compliance with the requirements of the EMF prior to the commencement of construction. Construction and operation Further consideration will be given during the construction phase and implemented in accordance with environmental documentation such as the WEMPs. This will include consideration of how the risks to groundwater will be managed during construction activities. The WEMPs will be prepared by the Alliance and verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction. A post-construction groundwater monitoring program will be developed and implemented to evaluate and ensure post-construction groundwater conditions are acceptable as per EPR GW4.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
GW3	Minimise changes to groundwater levels through tunnel and trench drainage design and construction methods Design long term tunnel and trench drainage and adopt construction methods which minimise changes to groundwater levels during construction and operation to manage, mitigate and/or minimise to the extent practicable: - Requirements for groundwater management and disposal - Mobilisation of contaminated groundwater - Dewatering and potential impacts of acid sulfate soils, including both unconsolidated sediments and lithified sedimentary rock - Potential impacts on waterways and potential groundwater dependent ecosystems, including terrestrial ecosystems - Any other adverse impacts of groundwater level changes such as subsidence Design and implement engineering control measures and/or ground treatment to limit to the extent practicable groundwater inflow and groundwater drawdown during excavation, construction and operation of tunnels and trenches, cross passages and subsurface excavations. The Groundwater Management Plan (as required by EPR GW4) must contain measures and/or controls to minimise groundwater inflow during construction to excavations and groundwater drawdown, including contingency measures should monitoring indicate adverse impacts are occurring. These must include measures to: - Minimise to the extent practicable reduction or loss of groundwater discharge to waterways or loss of water availability for terrestrial ecosystems - Manage, mitigate and minimise the oxidation of acid sulfate soil materials and acidification of groundwater - Manage, mitigate and minimise any movement of contamination that is identified - Manage, mitigate and minimise impacts on environmental values and risk of vapour intrusion - Ensure that groundwater seepage is collected, treated and disposed during construction in accordance with the Environment Protection Act 2017 waste management hierarchy and EPA Victoria requirements. Obtain a trade waste agreement from the relevant water authority where disposal to sewer is required or approval from EPA and the relevant water authority (as required) if discharge to waterways is determined to be appropriate.	Design, construction	This UDLP does not include toad tunnels. This requirement is not applicable to this UDLP.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
GW4	Implement a Groundwater Management Plan to Protect groundwater quality and manage groundwater interception A Groundwater Management Plan must be developed in consultation with EPA Victoria and Melbourne Water and implemented to protect groundwater quality and manage interception of groundwater including documenting the measures required to achieve EPR GW2 and EPR GW3. The Groundwater Management Plan must be informed by the groundwater modelling required by EPR GW1 and updated where required in response to modelling results, new information resulting from the monitoring programs required by GW2 and assessment of the adequacy or effectiveness of controls. The Groundwater Management Plan must include requirements and construction methods to protect groundwater quality including where appropriate, but not limited to: – Selection and use of sealing products, caulking products, lubricating products and chemical grouts during construction that will not diminish the groundwater quality – Selection and use of fluids for artificial recharge activities that will not diminish the groundwater quality – Requirements to ensure compatibility of construction material with groundwater quality to provide long term durability for infrastructure design life – Design and development of drainage infrastructure that minimises clogging and maintenance risks from dissolved constituents in groundwater precipitating out of solution – Measures to assess, remove and dispose of contaminated groundwater and impacted soils associated with excavation and construction – Reinjection borefields for hydraulic control of drawdowns (or contaminated groundwater plumes) – Remedial grouting The Groundwater Management Plan must include requirements and methods for management of groundwater interception during construction including where appropriate, but not limited to: – Identification, treatment, disposal and handling of contaminated seepage water and/or slurries including vapours in accordance with relevant legislation and guidelines – Assessment of barrier/damming effects – Subsidence management – Dewatering and potential impacts on acid sulfate soils, including both unconsolidated sediments and lithified sedimentary rock – Protection of waterways and potential groundwater dependent ecosystems – Management of unexpected contaminated groundwater eg using treatments, hydraulic controls, grouting and exclusion methods – Management of possible impact to groundwater monitoring and management by third parties of existing contamination plumes – Contingency actions when interventions are required. The Groundwater Management Plan must also include a review to confirm the status of potential use of extraction bores within the estimated construction drawdown area. Where required, measures must be developed and implemented, to the satisfaction of Southern Rural Water, to maintain water supply to identified, impacted groundwater users.	Design, construction	Design The design of the Project has considered groundwater issues and will address potential groundwater impacts during the detailed design phase, including the identification of suitable mitigation responses. Construction A Groundwater Management Plan has been developed in consultation with the EPA and Melbourne Water and implemented to protect groundwater quality and manage interception of groundwater including documenting the measures required to achieve EPR GW2 and EPR GW3. The Groundwater Management Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
GW5	Manage groundwater during operation Prepare as part of the OEMP and implement measures for management, monitoring, reuse where possible and disposal of groundwater inflows during operation that comply with relevant legislation and guidelines (and include provisions of EPR FF6 where relevant), including but not limited to: – State Environment Protection Policy (Waters) – Environment Reference Standard (Land) – Environment Protection Regulations 2021 – Water Act 1989 and Water Industry Regulations 2006 – Occupational Health and Safety Act 2004 and Occupational Health and Safety Regulations 2017. The OEMP must include contingency measures and emergency response plans if unexpected groundwater contamination is encountered and requires disposal. A trade waste agreement from the relevant water authority must be obtained in accordance with regulatory requirements, where disposal to sewer is proposed. Approval from EPA and the relevant water authority (as required) must be obtained in accordance with regulatory requirements, where discharge to waterways is proposed.	Operation	Operation This UDLP does not include toad tunnels. This requirement is not applicable to this UDLP.

10. Historical Heritage (HH)

HH1	Design and construct to minimise impacts on heritage Undertake detailed design of the permanent and temporary works to minimise impacts to the greatest extent practicable on the cultural heritage values of heritage places in consultation with Heritage Victoria and/or local councils (as applicable). Prior to commencement of works with capacity to affect heritage places, structures or features, directly or indirectly, develop and implement in consultation with the relevant heritage authority: – Physical protection measures for potentially affected heritage places, structures or features as appropriate – Where required, a methodology for any required dismantling, storage or reinstatement of heritage fabric (with reference to the ICOMOS Burra Charter 2013) and works to ensure an appropriate setting if relocation is required.	Design, construction	Design and construction This UDLP includes an area of Yarra Bend Park. The Park is listed on the Victorian Heritage Register (H2398) and the Heritage Overlay of the Yarra Planning Scheme (HO535). The Victorian Heritage Register states that ‘land, trees, plantings, open parkland, roads and paths, historic gate pillar, golf club house and course, and all archaeological deposits’ associated with historic uses are significant. The SUP through Yarra Bend Park extends through this heritage place, including near the historic gate pillar. The historic gate pillar will be retained and be a point of interest along the SUP, along with strategic tree planting and access to encourage pedestrian interaction. Refer Drawing no. NEL-WST-NWA-4990-ULS-DRG-9532 to 9534 in Attachment 2: Landscape Design for details of the SUP in Yarra Bend Park. The proposed design has been developed in consultation with Heritage Victoria to minimise impacts to cultural heritage and archaeological sites and values. All works will comply with the Heritage Act 2017 and Aboriginal Heritage Act 2006 approvals.
HH2	Implement an Archaeological Management Plan to avoid and minimise impacts on historic archaeological sites and values. Develop and implement an Archaeological Management Plan in consultation with Heritage Victoria detailing measures to avoid, minimise, mitigate and manage disturbance of archaeological sites and values affected by the Project. Undertake investigations in accordance with the Guidelines for Investigating Historical Archaeological Artefacts and Sites, Heritage Victoria 2015 and to the satisfaction of the Executive Director, Heritage Victoria. The Archaeological Management Plan must include: – Requirements for background historical research, excavation methodology, research design, reporting and artefact management, artefact conservation and analysis – Protocols for managing previously unidentified historical archaeological sites discovered during the works.	Construction	Construction This UDLP includes an area of Yarra Bend Park. The Park is listed on the Victorian Heritage Inventory (Yarra Bend Park Northcote 1 H7922-0142). A Heritage and Archaeological Management Plan will minimise impacts on this historic archaeological site and its values. It will detail measures to avoid, minimise, mitigate and manage disturbance. It will include requirements for background historical research, excavation methodology, research design, reporting and artefact management and analysis, consistent with the Guidelines for Investigating Historical Archaeological Artefacts and Sites (Heritage Victoria 2015) and to the satisfaction of the Executive Director, Heritage Victoria. The Heritage and Archaeological Management Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
HH3	Monitor condition of heritage sites Undertake pre-construction and post-construction condition survey(s) in accordance with EPR GM3 for heritage places at risk of impact from settlement and structural integrity disturbance as a result of the Project. Measures to manage and monitor potential vibration impacts on heritage places during construction must be implemented in accordance with the Construction Noise and Vibration Management Plan required by EPR NV4 and Groundwater Management Plan required by EPR GW4. Report the results of monitoring for heritage places to the Executive Director, Heritage Victoria and take remedial action, if required, to the satisfaction of the Executive Director, Heritage Victoria.	Construction	Construction Pre-construction and post-construction surveys will be undertaken in accordance with EPR GM3 to assess potential impacts to heritage sites caused by the Project. Remedial action will be undertaken if required to the satisfaction of Heritage Victoria. Compliance requirements will be detailed within the Heritage and Archaeological Management Plan. Potential vibration impacts on heritage places during construction will be managed and monitored in accordance with the CNVMP required by EPR NV4 and Groundwater Management Plan required by EPR GW4. The results of monitoring will be reported to the Executive Director, Heritage Victoria and remedial action taken, if required, to the satisfaction of the Executive Director, Heritage Victoria. The Heritage and Archaeological Management Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction. The CNVMP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction. The Groundwater Management Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.
HH4	Undertake archival photographic recording Prior to commencement of relevant works, undertake archival photographic recording of all heritage places (including trees) and their settings, demolished or modified by the works in accordance with Heritage Victoria's specification for the archival photographic recording of heritage places or alternative applicable Heritage Victoria guidelines as updated, to the satisfaction of the Executive Director, Heritage Victoria.	Construction	Construction An archival photographic recording will occur at heritage places that are demolished or modified by the works (Yarra Bend Park (Victorian Heritage Register no. H2398) and Yarra Bend Park Northcote 1 (Victorian Heritage Inventory no. H7922-0142)) in accordance with Heritage Victoria's specification, as detailed within the Heritage and Archaeological Management Plan. Trees to be removed will be photographed for archival purposes as required by and in consultation with Heritage Victoria.
HH5	Minimise impacts on heritage trees Comply with any requirements of Heritage Victoria if the trees that are to be impacted by the Project are listed on the Victorian Heritage Register.	Construction	Construction No heritage trees specifically listed on Victorian Heritage Register are identified to be impacted by the Project; however, the heritage significance of Yarra Bend Park (Victorian Heritage Register no. H2398) includes all trees associated with the historic uses of the land. The potential impacts to trees within Yarra Bend Park will be managed in accordance with the requirements of Heritage Victoria. Trees will be identified in the design phase and management measures incorporated into the Heritage and Archaeological Management Plan.

11. Land Use Planning (LP)

LP1	Minimise land use impacts The Project must be designed and constructed to: - Minimise the construction and design footprint and avoid, or, where avoidance is not feasible, minimise to the greatest extent reasonably possible, any temporary and permanent impacts on the following land uses: - Parks and reserves including passive and active open space and pathways - Significant landscapes including those around the Yarra River - Other sensitive land uses such as educational facilities - Sport, recreational and community facilities - Residential properties - Commercial and industrial sites - Sites of identified cultural or social value including Heide Museum of Modern Art and Bulleen Art and Garden - Consolidate or minimise the fragmentation of and provide access to, residual land parcels to support future viable land use to the extent practicable.	Design, construction	Design The Project is designed to minimise land use impacts by way of reducing the construction and design footprint to the extent feasible, practical and reasonable. Construction The construction of the freeway avoids land use impacts to freehold properties and public open space as it will primarily occur within the existing freeway reserve to the extent feasible. Where the construction of the SUP, noise walls, landscaping, drainage and ancillary infrastructure occurs outside of the freeway reserve, then to the extent feasible works would be undertaken within public land. Where access to freehold land is required, which is generally limited to the removal of vegetation and installation of noise walls, landowner consent would be obtained prior to the commencement of the works.
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6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
LP2	Minimise impacts from location of new services and utilities New above ground services and utility infrastructure are to be located in a way that minimises impacts to existing residential areas, public open space and recreational facilities. This must include considering options to co-locate infrastructure where practicable.	Design	Design New above-ground service and utility infrastructure is designed and located to minimise impacts to existing residential areas and recreational facilities. Examples of this include using combined gantries with a single roadside cabinet being used where possible, with above-ground ITS and lighting conduits concealed to minimised visual impacts.
LP3	Minimise inconsistency with strategic land use plans Design and development of the Project must have regard to relevant approved urban design and land use strategies, plans and frameworks including the Yarra Strategic Plan and Draft Yarra River Bulleen Precinct Land Use Framework Plan when approved or any approved superseding document. Consultation must occur with land managers and authorities responsible for the implementation of the relevant strategic land use plans and policies. in preparing Urban Design Framework Plans required by the Incorporated Document. An integrated approach must be adopted to the Manningham Interchange in consultation with Manningham City Council which supports viable future land uses (such as commercial and industrial) and includes maximising the developable area at surface level to the extent practicable in addition to requirements for the Urban Design Framework Plan for this interchange to be approved under the Incorporated Document as part of the Urban Design Strategy. The Project must avoid, or where avoidance is not feasible, minimise to the greatest extent reasonably possible, impacts on residential, commercial, industrial, open space, culturally valued and community facility land uses from Project development and operations which would be inconsistent with approved strategic land use policies.	Design	Design Design and development of the Project has had regard to relevant approved urban design and land use strategies, plans and frameworks. The design is consistent with the Yarra Strategic Plan and Birrarung-Bolin Framework Plan including the delivery of a range of improvements to pedestrian and cycling paths. Consultation has occurred with land managers and authorities responsible for the implementation of the relevant strategic land use plans and policies as part of the UDLP consultation program. The UDLP is consistent with the UDS, which has had regard to a wide range of state and local strategic planning and urban design documents.
LP4	Minimise overshadowing from noise walls and elevated structures and overlooking from elevated structures Overshadowing from elevated structures and noise walls to residential properties (including existing solar panels), community facilities, open spaces, waterways and valuable natural habitats must be minimised through detailed design. Consultation must occur with directly affected property owners and occupiers to inform formulation of parameters for these structures including location, design and materials. Unless with the consent of an affected landowner or in exceptional circumstances, the extent of additional overshadowing of residential properties from non transparent structures: – Should be no greater than the existing shadowing of secluded private open spaces associated with residential properties cast by existing structures including existing noise walls and other structures (e.g. elevated walkways) between the hours of 9:00 am to 3:00 pm as measured on September 22. – If additional overshadowing occurs it must not be greater than 50% of the secluded private open space or 40 sqm, whichever is the greater, between the hours of 9:00 am to 3:00 pm as measured on September 22. Overlooking from elevated structures, especially within a distance of 15 metres to secluded open space and habitable room windows of residential properties, must be minimised through detailed design as far practicable. Consultation must occur with directly affected property owners and occupiers to inform formulation of parameters, designs and materials for these structures.	Design	Design Drawing no. NEL-WST-NWA-4100-UUD-DRG-9275 to 9284 in Attachment 4: Overshadowing and Overlooking Assessment confirms that noise walls and elevated structures: – Avoid overshadowing residential properties and secluded private open space and community facilities between the hours of 9am–3pm on 22 September – Minimise overshadowing of public open spaces and natural areas as far as practicable. The new Eastern Busway bridge and Birrarung SUP bridge are separated from the nearest residential property by approximately 55m and 115m respectively. Drawing no. NEL-WST-NWA-4990-UUD-DRG-9288 to 9289 in Attachment 4: Overshadowing and Overlooking Assessment demonstrates compliance with LP4 as there are no opportunities for overlooking of residential properties from either elevated structure, especially within a distance of 15m.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
LP5	Prepare and implement a Public Open Space Relocation and Replacement Plan Prior to operation of the Project, the Proponent in conjunction with the State and in consultation with relevant stakeholders including DELWP, Parks Victoria, Melbourne Water and Birrarung Council, must develop and implement a Public Open Space Relocation and Replacement Plan to provide for replacement of public open space permanently required for the Project, where not already being replaced in accordance with EPR SC5. The plan should reflect an underlying philosophy of replacement on a like-for-like basis. The Public Open Space Relocation and Replacement Plan must set out the process for selecting and acquiring replacement public open space, including but not limited to: - Identifying public open space to be permanently required for the Project, including public land used for parkland, reserves, passive open space and active open space including recreation facilities (where not addressed by EPR SC5) - A process for the acquisition of replacement land, including within the Public Acquisition Overlay or land in key strategic locations - Assessment of the suitability of potential replacement land by reference to: - the location and characteristics of the land - relevant approved strategic land use plans and policies, including those within planning schemes - existing and proposed public purpose reservations - the Yarra Strategic Plan (when released), reference to the Yarra River Bulleen Land Use Framework Plan (when released) - An approach for the preparation of functional concept plans for the future use of each replacement site, where the plans will be prepared with input from relevant councils, land managers, public asset owners and stakeholders (in the case of formal sporting uses being replaced) - A program identifying the timing and scope of works to be undertaken to implement the functional concept plans and provide appropriate or upgraded facilities at the replacement sites. - In addition, where public open space is to be temporarily lost during construction, residual public open space should be enhanced where practical to minimise and mitigate land use impacts. Note: * Land in a Road Zone is excluded from the replacement calculation and land on a land bridge that is part of the access network will not count as replacement public open space.	Operation	The North East Link Program will develop and implement the Public Open Space Relocation and Replacement Plan in advance of the operation of the North East Link Program.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
12. Landscape and Visual (LV)			
LV1	Design to be in accordance with the Urban Design Strategy Urban Design and Landscape Plans must be developed and implemented for permanent above-ground buildings or structures (excluding preparatory buildings and works) in accordance with the North East Link Project – Incorporated Document. The design response must be in accordance with the North East Link Urban Design Strategy and, to the extent practicable: – Avoid or minimise landscape and visual, overlooking and shading (with reference to EPR LP4) impacts in extent, duration and intensity. – Maximise opportunities for enhancement of public and private receptors including public amenity, open space and facilities and heritage places by the Project including by facilitating value add/capture opportunities. – Respond to opportunities and constraints identified in an Urban Design Framework Plan forming part of the approved Urban Design Strategy for key interchanges, activity centres and interfaces identified in the Incorporated Document (where applicable). – Identify residential areas with the potential for high visual impact and develop targeted design options to avoid or minimise amenity impacts on these areas, including as a result of the proposed noise walls. – Detailed design to ensure landmark elements balance visual impact with minimal overshadowing.	Design, construction	Design and construction The Project design has been prepared in accordance with the UDS. Consistency with the UDS has been demonstrated through the compliance table included in Section 5 of this UDLP. The design of structures, bridges, ramps and noise walls has considered the extent, duration and intensity of over-looking and overshadowing. The urban design response is provided in Attachment 1. The overshadowing assessment is provided in Attachment 4. The design and overshadowing assessment have had regard to LP4 (land use impacts). This UDLP identifies opportunities to landscape areas of public open space, the freeway interface, freeway inter-changes and along the SUP to contribute to visual amenity. The landscape design response is provided in Attachment 2. There is no Urban Design Framework that is relevant to this UDLP area. The detailed design of landmark elements along the corridor carefully balances their visual presence while minimising potential overshadowing impacts. New noise walls have been sensitively integrated with existing infrastructure to avoid adverse effects on adjacent open spaces and nearby residential properties. This design approach is under-pinned by ongoing noise modelling and overshadowing studies, ensuring optimal acoustic performance without compromising environmental amenity. Strategic landscaping enhances this integration by softening the interface between noise walls and surrounding areas, using planting to create a graduated vertical transition that mediates between the height of the structures and the lower ground planes. This not only improves visual amenity but also supports broader environmental integration. Similarly, the new public safety barriers at Belford Road bridge have been thoughtfully designed to align with the existing structural form. The use of transparent, lightweight materials ensures a minimal visual footprint while maximising permeability, preserving key view lines from the bridge and maintaining the visual prominence of the feature bridge structure for both freeway and SUP users. The design of the public safety barrier is subject to change during detailed design.
LV2	Minimise landscape and visual impacts during construction Temporary and construction works must be located, designed and carried out in accordance with a Construction Compound Plan to be approved under the Incorporated Document and the Urban Design Strategy guidance on using design to help manage construction impacts. Areas disturbed by temporary and construction works must be reinstated with no objection from the relevant land manager, waterway manager and any relevant public asset owners.* Design of acoustic sheds used during construction, to contribute to the image and identity of the area. Develop and implement measures to use temporary landscaping, features or structures (including viewing portals) during construction to minimise adverse visual impact of Project works and provide visual appeal. Temporary landscape treatments, features or screening must be reused across the Project, where appropriate. Implement landscaping enhancement including early tree planting (with reference to EPR AR3 as part of permanent works) prior to construction works commencing, where practicable. * All reasonable endeavours must be made to reach a position of no-objection, provided the relevant stakeholder responds within a reasonable timeframe.	Design, construction	Design and construction A Construction Compound Plan helps manage construction impacts. The design for the Construction Compound Plan seeks to minimise adverse visual impacts and provide visual appeal where possible. It also identifies where temporary and construction works will be located and describes the proposed construction activities, hours of operation, potential environment and community impacts including mitigation and management controls associated with the construction and operation of the relevant construction compound in accordance with the requirements in the Incorporated Document (December 2019, amended September 2023) and under relevant EPRs. The temporary and construction works will be located, designed and carried out in accordance with the approved Construction Compound Plan (including subsequent amendments as approved). The Construction Compound Plan (and amendments) will be subject to future ministerial approval. Tree removal and retention will be addressed in the Tree Removal and Retention Plan, which will be reviewed and approved for construction-related impacts Approved Construction Compound Plans are shown in Attachment 2: Landscape Design.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
LV3	Minimise construction lighting impacts Develop and implement effective measures to minimise light spillage and glare during construction including from construction vehicles and equipment to protect the amenity of adjacent neighbourhoods, parks, community facilities and any known significant native fauna habitat to the extent practicable. Such measures must have regard to the content of guidelines or Australian Standards pertaining to outdoor lighting and best available technology and best practice.	Design, construction	Design and construction Design of temporary lighting will consider impacts on sensitive residential receivers and light sensitive native fauna and will include measures to minimise light spill impacts. These measures include: – Lighting facing away from sensitive receptors and neighbouring communities. – Limiting the need for lighting through planning works during the day where possible. – Design of permanent operational facilities – Complaints relating to lighting will be rectified immediately to the extent practicable. Lighting design will consider Australian Standards AS4282-1997 Control of the obtrusive effects of outdoor lighting. Construction lighting will be managed in accordance with the CEMP. The CEMP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.
LV4	Minimise operation lighting impacts and maximise operational lighting benefits for open space Design and install lighting used during operation of permanent structures and resulting from the orientation of all permanent structures (including from vehicle headlights) in accordance with relevant standards, including but not limited to relevant guidelines and Australian Standards pertaining to outdoor lighting and the protection of beneficial uses. Design and install lighting to minimise light spill and disturbance to significant fauna sites including the Grey-headed Flying fox colony at Yarra Bend Park, wetlands and waterways immediately adjacent to roadways. Subject to consultation with and the views of future asset owners, provide sensitively designed lighting to shared use paths and open spaces to provide improved safety for users without causing unreasonable effects on residential amenity or environmental and landscape values. Designs must consider Crime Prevention Through Environmental Design, including effects on safe movements of pedestrians and cyclists; including within undercrofts, bicycle and pedestrian tunnels and open spaces areas.	Design, construction	Design and construction The location and design of lighting of permanent structures will comply with relevant standards, including, but not limited to, relevant guidelines and Australian Standards pertaining to outdoor lighting and the protection of beneficial uses. Specific locations where lighting has been considered include key intersections and wayfinding locations. Lighting design will also comply with the UDS and look at opportunities to provide dual purpose lighting options with controlled spillage. Lighting design seeks to minimise light spill to significant fauna sites, including at the Yarra Bend Park, wetlands and waterways adjacent to roadways in accordance with AS 4282-1997. Light spill assessments will be undertaken as part of design development with measures to minimise unreasonable operational lighting impacts investigated and implemented as required under this EPR. Lighting to the SUP and open spaces enhances safety for users while minimising impacts on residential amenities and environmental and landscape values. During construction, the Project will engage with suitably qualified Project ecologists and will undertake targeted engagement with key stakeholders and community groups to inform mitigations to minimise impacts to the Grey-headed Flying fox colony. Specific mitigations include but are not limited to noise monitoring for high impact works, acoustic and behavioural monitoring, light spill management (e.g. directional lighting pointed away from the colony), and record keeping. CPTED principles have informed the design of pedestrian and cycling infrastructure to ensure that appropriate lighting levels are based on lighting modelling and will be applied to respective areas through consultation with councils, relevant stakeholders, and future asset owners. The final design and location of lighting will be resolved as part of design development, in consultation with the future land and asset owner and in accordance with relevant operational requirements.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
13. Noise and Vibration (NV)			
NV1	Achieve traffic noise objectives Design, construct and maintain the works to meet the following traffic noise objectives. a. Design, construct and maintain the works to meet the following traffic noise objectives. a Traffic noise from North East Link Project Roads* must be no greater than: – 63 dBA (L10,18hr) measured between 6 am and midnight at Category A buildings** – 63 dBA (L10, 12hr) measured between 6 am and 6 pm at Category B buildings**. b. For Category A and Category B buildings on non-Project Roads which: – Abut the North East link Project roads, or directly intersect with North East Link Project roads and – where total traffic noise for the design year and with Project exceeds the thresholds listed in paragraph (a). The combined noise from North East Link Project Roads and non-Project Roads must not be more than 2 dBA higher than the predicted traffic noise level under the design year ‘do nothing’ scenario. Intersecting non-Project Roads must be modelled for a distance of 100 m from the intersection with North East Link Project Roads or to the first traffic intersection (whichever is the lesser). c. Night-time traffic noise for category A buildings must meet the WHO 2009 interim target of LAeq night 55dB when adjusted to Australian conditions as per the EES Technical Appendix C i.e be no greater than 58dB LAeq 8hr (including façade correction). The 8hour time period is to be between 2200-0600hrs as consistent with the Better Apartment Design Standards. d. The noise criteria in paragraphs (a), (b) and (c) above and (e) are to apply to the lowest habitable level of Category A buildings and Category B buildings at both the year of opening and 20 years thereafter. Traffic noise mitigation measures must be maintained throughout this period. For the purposes of this EPR, Category A buildings and Category B buildings to be considered are those that are either existing or known to have planning approval prior to exhibition of the North East Link Environment Effects Statement. e. Where external traffic noise cannot be mitigated through Project design solutions to meet the criteria outlined in paragraphs (a), (b) and (c), at-property treatments will be required to be designed and constructed so that internal noise levels achieve the following: – 35dBA for bedrooms assessed as an LAeq, 8 h from 10pm –6am – 40dBA for living areas assessed as LAeq, 16h from 6am-10pm At-property treatments would be undertaken in accordance with section 7.3 of the NSW Road and Maritime Services document ‘Noise Mitigation Guidelines 2015 – Roads and Maritime Services’ and in consultation with the owner of the relevant building. In circumstances where at-property treatments are proposed, the Independent Environmental Auditor must review the Project design solutions to confirm that the criteria outlined in paragraphs (a), (b) and (c), could not be achieved by the adoption of reasonable and feasible detailed design measures. * Project Roads are defined to be the M80 Ring Road (east of Plenty Road), the Greensborough Bypass (west of the Plenty River bridge and up to the M80 interchange with North East Link), the upgrade of the Eastern Freeway (between Hoddle Street and Springvale Road) and the new North East Link freeway (connecting the M80 Ring Road to the Eastern Freeway), including all access ramps. ** Category A Buildings and Category B Buildings means: – Category A Buildings – Residential dwellings, aged persons homes, hospitals, motels, caravan parks and other buildings of a residential nature – Category B Buildings – Schools (including buildings within the Carey Sports Complex), kindergartens, libraries and other noise-sensitive community buildings. Note: If a resident of a dwelling advises NELP that they consider their residence to be noise affected, external noise levels must be investigated against the above criteria. If the external noise levels do not comply and mitigation is not feasible (as confirmed by the IEA) then at property treatment to achieve the required internal noise levels must be undertaken in accordance with (e) above.	Design, construction, operation	Design The design and location of noise walls is informed by noise modelling to ensure road traffic noise objectives will be met during the operational phase of the Project. The design will achieve the relevant noise objectives for the Project. The noise walls are identified in Drawing no. NEL-WST-NWA-4990-UUD-DRG-9215 to 9219 in Attachment 1: Architecture and Urban Design. In the event at-property treatments are proposed, the IEA will review the Project Contractor design solutions to confirm that the relevant criteria could not be achieved by the adoption of reasonable and feasible detailed design measures. This will be supported by an assessment by a suitably qualified acoustic professional to determine an appropriate form of at-property treatment to achieve compliance with NV1. The assessment will be undertaken in consultation with the property owner. Construction A CNVMP will detail requirements for minimising noise to the extent practicable to achieve noise objectives set out within EPR NV1. Noise modelling will be undertaken to inform the CNVMP. Noise modelling has informed the design solution to meet road traffic noise objectives. The location, height, and alignment of noise walls consider the anticipated acoustic requirements for sensitive receptors like residential areas. Further refinement of noise walls will occur through detailed design. The CNVMP has been prepared and submitted for IEA review and verification, and VIDA acceptance for implementation for construction works prior to the commencement of construction. Operation Compliance with the EPR is measured and demonstrated. The timeline and criteria for remedial action required as a result of the non-compliant noise levels post completion will be determined by the IEA and will be fulfilled by the Project, with subsequent reporting of compliance provided to the Minister for Roads and Road Safety.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
NV2	Monitor traffic noise Traffic noise monitoring must be carried out for at least the following time periods: – Baseline traffic noise must be re-measured after Project award and prior to construction works – Traffic noise must be re-measured within six months of Project opening during normal traffic flows (outside school or public holidays). For the purpose of determining compliance, the measurements conducted after Project opening must be adjusted to the 10 year traffic flows – Traffic noise must be re-measured 10 years and 20 years after Project opening. All traffic noise monitoring must be undertaken in accordance with the VicRoads Traffic Noise Measurement Requirements for Acoustic Consultants – September 2011, to verify conformance with the external traffic noise objectives set out in EPR NV1. The adequacy of the monitoring program is to be verified by the Independent Environmental Auditor. Remedial action must be taken in the event that the measured traffic noise levels demonstrate that the external traffic noise objectives set out in EPR NV1 are not met. The timeframe and the criterion for remedial action must be determined by the IEA and reporting of compliance must be provided to the Minister of Roads and Road Safety or his/her successor.	Design, operation	Design The North East Link Program has undertaken baseline traffic noise monitoring in accordance with NV2, which will inform the detailed design. Baseline traffic noise will be measured by the Project prior to the commencement of construction works. Traffic noise will be re-measured and captured as specified by the State in the operations phase. Operation A traffic noise monitoring program to address the requirements of EPR NV2 will be developed and implemented by the State for the operation phase. It is expected this will include continuous monitoring of traffic noise during the Project's operation. Remedial actions that include at property treatments if required to meet the traffic noise objectives in accordance with EPR NV2.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response																				
NV3	Minimise construction noise impacts to sensitive receptors Construction noise and vibration must be managed in accordance with the Construction Noise and Vibration Management Plan (CNVMP) required by EPR NV4. Non-residential sensitive receptors For sensitive land uses (based on AS/NZS 2107:2016) implement management actions as per EPR NV4 if construction noise is predicted to or does exceed the internal or external noise management levels set out in the table below and a noise sensitive receptor is, or is predicted to be, adversely impacted. If construction exceeds the noise management levels below, in determining whether a noise sensitive receptor is, or is predicted to be, adversely impacted: Consider the duration of construction noise Consider the existing ambient noise levels Consult with the owner or operator of the noise sensitive receptor Consider any specific acoustic requirements of land uses listed below to determine whether a noise sensitive receptor is adversely impacted.	Construction	Construction A CNVMP and includes measures to meet the construction noise management levels and construction noise guideline targets. Application of the noise hierarchy will be implemented to minimise disruption as far as reasonably practicable for all nearby sensitive receivers, such as the construction of noise walls adjacent to residential properties. The CNVMP has been prepared for the Project. Measures to manage the impact of construction noise on sensitive receptors are to include: – Identification of sensitive receivers on Worksite Environmental Management Plans (WEMPs) – Use of quieter equipment where feasible – Consideration of construction scheduling/timing – Noise monitoring and mitigation – Notification of planned works – Verification of unavoidable works by the IEA. The CNVMP will be submitted for IEA review and verification, and VIDA acceptance for implementation for construction works prior to the commencement of construction.																				
<table><tr><th>Land Use</th><th>Construction noise management level, LAeq(15 min) applies when properties are in use</th></tr><tr><td>Classrooms in schools and other educational institutions</td><td>Internal noise level 45 dB(A)</td></tr><tr><td>Healthcare facilities with inpatient care including hospital wards and operating theatres and rehabilitation centres</td><td>Internal noise level 45 dB(A)</td></tr><tr><td>Places of worship</td><td>Internal noise level 45 dB(A)</td></tr><tr><td>Active recreation areas characterised by sporting activities and activities which generate their own noise, making them less sensitive to external noise intrusion</td><td>External noise level 65 dB(A)</td></tr><tr><td>Passive recreation areas characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, for example reading, meditation School grounds used for teaching purposes are to be considered as passive recreation areas, where feasible and reasonable ***</td><td>External noise level 60 dB(A)</td></tr><tr><td>Community centres</td><td>Depends on the intended use of the centre. Refer to the recommended upper internal levels in AS/NZS 2107:2016 for specific uses</td></tr><tr><td>Industrial premises</td><td>External noise level 75 dB(A)</td></tr><tr><td>Offices, retail outlets</td><td>External noise level 70 dB(A)</td></tr><tr><td>Other noise sensitive land uses as identified in AS/NZS 2107:2016</td><td>Refer to the noise levels in AS/NZS 2107:2016</td></tr></table>		Land Use	Construction noise management level, LAeq(15 min) applies when properties are in use	Classrooms in schools and other educational institutions	Internal noise level 45 dB(A)	Healthcare facilities with inpatient care including hospital wards and operating theatres and rehabilitation centres	Internal noise level 45 dB(A)	Places of worship	Internal noise level 45 dB(A)	Active recreation areas characterised by sporting activities and activities which generate their own noise, making them less sensitive to external noise intrusion	External noise level 65 dB(A)	Passive recreation areas characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, for example reading, meditation School grounds used for teaching purposes are to be considered as passive recreation areas, where feasible and reasonable ***	External noise level 60 dB(A)	Community centres	Depends on the intended use of the centre. Refer to the recommended upper internal levels in AS/NZS 2107:2016 for specific uses	Industrial premises	External noise level 75 dB(A)	Offices, retail outlets	External noise level 70 dB(A)	Other noise sensitive land uses as identified in AS/NZS 2107:2016	Refer to the noise levels in AS/NZS 2107:2016		
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Classrooms in schools and other educational institutions	Internal noise level 45 dB(A)																						
Healthcare facilities with inpatient care including hospital wards and operating theatres and rehabilitation centres	Internal noise level 45 dB(A)																						
Places of worship	Internal noise level 45 dB(A)																						
Active recreation areas characterised by sporting activities and activities which generate their own noise, making them less sensitive to external noise intrusion	External noise level 65 dB(A)																						
Passive recreation areas characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, for example reading, meditation School grounds used for teaching purposes are to be considered as passive recreation areas, where feasible and reasonable ***	External noise level 60 dB(A)																						
Community centres	Depends on the intended use of the centre. Refer to the recommended upper internal levels in AS/NZS 2107:2016 for specific uses																						
Industrial premises	External noise level 75 dB(A)																						
Offices, retail outlets	External noise level 70 dB(A)																						
Other noise sensitive land uses as identified in AS/NZS 2107:2016	Refer to the noise levels in AS/NZS 2107:2016																						

NV3 – Continued in next page

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response										
NV3	Residential receptors For residential dwellings, management actions must be implemented as per EPR NV4 if noise from construction works during normal working hours is predicted to or does exceed the noise management levels for normal working hours below. Noise from construction works during weekend/evening work hours and the night period must meet the weekend/evening and night period noise guideline targets in the table below unless they are Unavoidable Works verified by the Independent Environmental Auditor as per EPR NV4. All reasonable strategies to mitigate the impacts of such Unavoidable Works must be applied.	Construction	Construction A CNVMP and includes measures to meet the construction noise management levels and construction noise guideline targets. Application of the noise hierarchy will be implemented to minimise disruption as far as reasonably practicable for all nearby sensitive receivers, such as the construction of noise walls adjacent to residential properties. The CNVMP has been prepared for the Project. Measures to manage the impact of construction noise on sensitive receptors are to include: – Identification of sensitive receivers on Worksite Environmental Management Plans (WEMPs) – Use of quieter equipment where feasible – Consideration of construction scheduling/timing – Noise monitoring and mitigation – Notification of planned works – Verification of unavoidable works by the IEA. The CNVMP will be submitted for IEA review and verification, and VIDA acceptance for implementation for construction works prior to the commencement of construction.										
	<table><tr><th>Time of day</th><th>Construction noise guideline targets</th></tr><tr><td>Normal working hours: 7 am – 6 pm Monday to Friday</td><td>Noise affected: Background LA90+10 dB Highly noise affected: 75 dB(A)</td></tr><tr><td>7 am – 1 pm Saturday</td><td>Source: NSW Interim Construction Noise Guideline (ICNG) Chapter 4.1.1 Table 2 The noise affected level represents the point above which there may be some community reaction to noise The highly noise affected level represents the point above which there may be strong community reaction to noise.</td></tr><tr><td>Weekend/evening work hours: 6 pm – 10 pm Monday to Friday 1 pm – 10 pm Saturday 7 am – 10 pm Sunday and public holidays</td><td>Noise level at any residential premises not to exceed background noise (LA90) by: 10 dB(A) or more for up to 18 months 5 dB(A) or more after 18 months Source: EPA Publication 1834 Chapter 4</td></tr><tr><td>Night period: 10 pm – 7 am Monday to Sunday</td><td>Noise inaudible within a habitable room of any residential premises Source: EPA Publication 1834 Chapter 4</td></tr></table>		Time of day	Construction noise guideline targets	Normal working hours: 7 am – 6 pm Monday to Friday	Noise affected: Background LA90+10 dB Highly noise affected: 75 dB(A)	7 am – 1 pm Saturday	Source: NSW Interim Construction Noise Guideline (ICNG) Chapter 4.1.1 Table 2 The noise affected level represents the point above which there may be some community reaction to noise The highly noise affected level represents the point above which there may be strong community reaction to noise.	Weekend/evening work hours: 6 pm – 10 pm Monday to Friday 1 pm – 10 pm Saturday 7 am – 10 pm Sunday and public holidays	Noise level at any residential premises not to exceed background noise (LA90) by: 10 dB(A) or more for up to 18 months 5 dB(A) or more after 18 months Source: EPA Publication 1834 Chapter 4	Night period: 10 pm – 7 am Monday to Sunday	Noise inaudible within a habitable room of any residential premises Source: EPA Publication 1834 Chapter 4	
	Time of day		Construction noise guideline targets										
	Normal working hours: 7 am – 6 pm Monday to Friday		Noise affected: Background LA90+10 dB Highly noise affected: 75 dB(A)										
	7 am – 1 pm Saturday		Source: NSW Interim Construction Noise Guideline (ICNG) Chapter 4.1.1 Table 2 The noise affected level represents the point above which there may be some community reaction to noise The highly noise affected level represents the point above which there may be strong community reaction to noise.										
	Weekend/evening work hours: 6 pm – 10 pm Monday to Friday 1 pm – 10 pm Saturday 7 am – 10 pm Sunday and public holidays		Noise level at any residential premises not to exceed background noise (LA90) by: 10 dB(A) or more for up to 18 months 5 dB(A) or more after 18 months Source: EPA Publication 1834 Chapter 4										
	Night period: 10 pm – 7 am Monday to Sunday		Noise inaudible within a habitable room of any residential premises Source: EPA Publication 1834 Chapter 4										
	Note:												
	* Where any reference is made to the rating background level (RBL) or background LA90; the ‘average background’:												
	– it applies to each discrete time period to ensure that averaging does not necessarily occur over day, evening or night-time hours. For example, background noise between 0100 and 0400 may be substantially different to that between 2200 and 0100 and hence should not be averaged over the entire night time period; and												
– over the assessment period as per Victorian noise policy practices is to be used. This applies to all receptors and all time periods.													
** In relation to sensitive receptors, the construction noise guideline targets apply to construction works and construction compounds.													
*** Consultation with affected schools should be undertaken to designate the most sensitive areas where teaching occurs within school grounds.													

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
NV3	Unavoidable Works Unavoidable Works must be verified by the Independent Environmental Auditor for each instance they are undertaken, as per EPR NV4 and include the following: - The delivery of oversized plant or structures that police or other authorities determine require special arrangements to transport along public roads - Emergency work to avoid the loss of life or damage to property, or to prevent environmental harm - Maintenance and repair of public infrastructure where disruption to essential services and/or considerations of worker safety do not allow work within standard hours - Tunnelling works including mined excavation elements and the activities that are required to support tunnelling works (ie spoil treatment facilities) - Road and rail occupations or works that would cause a major traffic hazard - Other works where a contractor demonstrates and justifies a need to operate outside normal working hours and exceed the noise guideline targets such as work that once started cannot practically be stopped.	Construction	Construction A CNVMP and includes measures to meet the construction noise management levels and construction noise guideline targets. Application of the noise hierarchy will be implemented to minimise disruption as far as reasonably practicable for all nearby sensitive receivers, such as the construction of noise walls adjacent to residential properties. The CNVMP has been prepared for the Project. Measures to manage the impact of construction noise on sensitive receptors are to include: - Identification of sensitive receivers on Worksite Environmental Management Plans (WEMPs) - Use of quieter equipment where feasible - Consideration of construction scheduling/timing - Noise monitoring and mitigation - Notification of planned works - Verification of unavoidable works by the IEA. The CNVMP will be submitted for IEA review and verification, and VIDA acceptance for implementation for construction works prior to the commencement of construction.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
NV4	Implement a Construction Noise and Vibration Management Plan (CNVMP) to manage noise and vibration impacts Prepare, implement and maintain a Construction Noise and Vibration Management Plan (CNVMP) in consultation with EPA Victoria, relevant councils and relevant stakeholders. The CNVMP must comply with and address the Noise and Vibration EPRs, be informed by the noise modelling and monitoring results and must include (but not be limited to): – Identification and assessment of noise and vibration sensitive receptors along the Project alignment, including but not limited to: – habitat for listed threatened fauna likely to be impacted by the Project (refer to EPR FF8) – buildings used for shop, gallery, commercial, office or industrial purposes including Bulleen Art and Garden and the Heide Museum of Modern Art – school buildings and school grounds – Residential buildings – Construction noise and vibration targets as per EPRs NV3, NV5, NV8, NV9, NV10, NV11 and NV12, including any details of conversions between alternative metrics – Details of construction activities and an indicative schedule for construction works, including the identification of key noise and/or vibration generating construction activities that have the potential to generate airborne noise and/or surface vibration impacts on surrounding sensitive receivers – How construction noise (including truck haulage) and vibration would be minimised (see EPR T2) – A requirement for preliminary tests using the actual equipment to validate modelling for vibration and regenerated noise and review, with predictions to be remodelled as necessary and confirm prevention/mitigation/remediation measures confirmed – Management actions and notification and mitigation measures to be implemented with reference to the Appendix B and Appendix C of the New South Wales Roads and Maritime Services Construction Noise and Vibration Guideline 2016 (CNVG) – Any processes and measures to be implemented as part of the Communications and Community Engagement Plan including managing matters of interest raised by key stakeholders through CCEP processes and measures concerning complaints management (see EPR SC2) – Requirements to assess and manage vibration impacts to scientific or medical establishments to the higher of ambient levels or ASHRAE VC Standards (as defined in the 2015 handbook), or manufacturers equipment levels (unless by agreement with occupant) – Measures to ensure effective monitoring of noise and vibration associated with construction with consideration to the construction noise and vibration targets – Measures to minimise noise and vibration impacts from temporary traffic diversions and altered access to parking facilities – The Unavoidable Works (refer to EPR NV3) that would be undertaken, including their location, timing and duration. The CNVMP must either include a clear rationale for defining works or a list of the type of planned works that constitute Unavoidable Works and response strategies to mitigate the impacts of these Unavoidable Works, consistent with Chapter 4 of EPA Victoria Publication 1834 Civil construction, building and demolition guide and with reference to Appendix B and Appendix C of the CNVG. The Independent Environmental Auditor must verify that the proposed Unavoidable Works meet the definition of Unavoidable Works (refer to EPR NV3) for each instance they are undertaken. Details of Unavoidable Works must be made publicly available. For emergency Unavoidable Work, a rationale must be provided to the satisfaction of the Independent Environmental Auditor as soon as practicable – Noise from construction works during weekend/evening work hours and the night period must meet the weekend/evening work hours and night period noise guideline targets unless they are unavoidable works verified by the Independent Environmental Auditor. All reasonable measures must be implemented to mitigate the impacts of such unavoidable works. A clear framework for managing Unavoidable Work must be developed and include noise level thresholds and details of mitigation measures. The framework must be approved by the Independent Environmental Auditor. The CNVMP must be reviewed (including consultation with external stakeholder as required) and updated as appropriate on a six monthly basis and verified by the Independent Environmental Auditor. Note: * The CNVMP applies to construction works and construction compounds	Construction	Construction The CNVMP includes measures to meet the construction noise and vibration guideline targets. The CNVMP includes requirements for noise modelling, to predict impacts on sensitive receivers and establish noise management levels, which will inform mitigation measures. The CNVMP was prepared in consultation with the EPA and relevant councils. The CNVMP will be prepared and submitted for IEA review and verification, and VIDA acceptance for implementation for construction works prior to the commencement of construction.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response												
NV5	Establish vibration guidelines to protect utility assets	Construction	Construction The CNVMP includes measures to meet the construction noise and vibration guideline targets. Condition assessments in accordance with EPR GM3 will be undertaken to establish vibration guidelines to maintain asset integrity. Vibration monitoring will be undertaken during construction in accordance with the CNVMP. The CNVMP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.												
	Prior to commencement of relevant works, undertake condition assessments of above and below ground utility assets (EPR GM3) and consult with asset owners to establish and agree construction vibration guidelines to maintain asset integrity. In all cases the asset owner’s criteria takes precedence.														
	Where construction vibration guidelines are not proposed by the asset owner, reference should be made to the relevant sections of German Standard DIN 4150 – Part 3 – Structural Vibration in Buildings – Effects on Structures (2016) for guideline assessment procedures for buried pipework or underground infrastructure. The integrity of the asset should be reviewed and assessed (by the contractor, in conjunction with the asset owner) to confirm these values are appropriate. If necessary, based on this assessment, limits must be reduced to the level necessary to maintain asset integrity.														
	Monitor vibration levels during construction to demonstrate compliance with agreed vibration guidelines. Identify contingency measures to be implemented if guidelines are not met. Where necessary rectify any defects that are attributable to the Project.														
	An overview of the key vibration guidelines values is presented below. In all cases, the supporting documentation within the Standard which describes, clarifies and sometimes modifies the tables below must be considered.														
Table 2 Guideline values for vi, max, for evaluating the effects of short-term vibration on the lining of underground cavities															
	<table><tr><th>Line</th><th>Lining Material</th><th>Guideline values for vi, max in mm/s perpendicular to lining surface</th></tr><tr><td>1</td><td>Reinforced or sprayed concrete, tubbing segments</td><td>80</td></tr><tr><td>2</td><td>Concrete, stone</td><td>60</td></tr><tr><td>3</td><td>Masonry</td><td>40</td></tr></table>	Line	Lining Material	Guideline values for vi, max in mm/s perpendicular to lining surface	1	Reinforced or sprayed concrete, tubbing segments	80	2	Concrete, stone	60	3	Masonry	40		
Line	Lining Material	Guideline values for vi, max in mm/s perpendicular to lining surface													
1	Reinforced or sprayed concrete, tubbing segments	80													
2	Concrete, stone	60													
3	Masonry	40													
Note: The guideline values were measured during nearby mine blasting operations and apply only to the lining of underground structures, but not to any associated installations.															
Table 3 Guideline values for vi, max, for evaluating the effects of short-term vibration on buried pipework															
	<table><tr><th>Line</th><th>Lining Material</th><th>Guideline values for vi, max in mm/s perpendicular to lining surface</th></tr><tr><td>1</td><td>Steel, welded</td><td>100</td></tr><tr><td>2</td><td>Vitrified clay, concrete, reinforced concrete, prestressed concrete, metal (with or without flange)</td><td>80</td></tr><tr><td>3</td><td>Masonry, plastics</td><td>50</td></tr></table>	Line	Lining Material	Guideline values for vi, max in mm/s perpendicular to lining surface	1	Steel, welded	100	2	Vitrified clay, concrete, reinforced concrete, prestressed concrete, metal (with or without flange)	80	3	Masonry, plastics	50		
Line	Lining Material	Guideline values for vi, max in mm/s perpendicular to lining surface													
1	Steel, welded	100													
2	Vitrified clay, concrete, reinforced concrete, prestressed concrete, metal (with or without flange)	80													
3	Masonry, plastics	50													

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response																												
NV6	Design permanent tunnel ventilation system and relevant fixed infrastructure to meet EPA requirements for noise Design and construct the permanent tunnel ventilation system and relevant fixed infrastructure that is subject to EPA Publication 1826.4 Noise Protocol to achieve compliance with EPA Publication 1826.4 Noise Protocol and in accordance with the EPA Victoria Development Licence. Where EPA Victoria Publication 1826.4 Noise Protocol does not apply, design and implement the permanent tunnel ventilation system to comply with the internal lower Recommended Design Sound Levels as defined in AS/NZS 2107 for the types of occupancies, relevant to spaces within the affected Category A and Category B buildings, as defined in EPR NV1. If the existing internal background noise level within any identified relevant Category A or Category B buildings already exceeds the upper Recommended Design Sound Level in AS/NZS 2107 for the types of occupancies relevant to spaces within these buildings, then noise from the fixed plant associated with the Project must not exceed the existing background levels within these buildings.	Design, construction	Not applicable to this UDLP.																												
NV7	Monitor noise from tunnel ventilation system and relevant fixed infrastructure Measure noise from the permanent tunnel ventilation system and relevant fixed infrastructure that is subject to EPA Publication 1826.4 Noise Protocol on commencing road operation and monitor noise from the tunnel ventilation system post opening of the North East Link, as agreed with EPA Victoria, to verify compliance with EPA Publication 1826.4 Noise Protocol and the EPA Victoria Operating Licence. Identify and implement contingency measures to be implemented if noise level limits are not met.	Operation	Not applicable to this UDLP.																												
NV8	Minimise construction vibration impacts on amenity Implement management actions if the following guideline target levels for vibration from construction activity to protect human comfort of occupied buildings (including heritage buildings) are not achieved (levels are calculated from the British Standard BS6472-1:2008 Guide to evaluation of human exposure to vibration in buildings. Vibration sources other than blasting.). <table><tr><th rowspan="3">Type of space occupancy</th><th colspan="4">Vibration Dose Values (m/s1.75)</th></tr><tr><th colspan="2">Day (7am to 10pm)</th><th colspan="2">Night (10pm to 7am)</th></tr><tr><th>Preferred Value</th><th>Maximum Value</th><th>Preferred Value</th><th>Maximum Value</th></tr><tr><td>Residential</td><td>0.2</td><td>0.4</td><td>0.1</td><td>0.2</td></tr><tr><td>Offices, schools, educational institutions, places of worship</td><td>0.4</td><td>0.8</td><td>0.4</td><td>0.8</td></tr><tr><td>Workshops</td><td>0.8</td><td>1.6</td><td>0.8</td><td>1.6</td></tr></table> Notes 1. The Guideline Targets are non-mandatory; they are goals that should be sought to be achieved through the application of practicable mitigation measures. If exceeded then management actions would be required. 2. The Vibration Dose Values may be converted to Peak Particle Velocities within a noise and vibration construction management plan. 3. For the purpose of this EPR, the guideline target levels for ‘offices, schools, educational institutions, places of worship’ also apply to the Heide Museum of Modern Art and the outdoor sculpture exhibition area at Heide Museum of Modern Art.	Type of space occupancy	Vibration Dose Values (m/s1.75)				Day (7am to 10pm)		Night (10pm to 7am)		Preferred Value	Maximum Value	Preferred Value	Maximum Value	Residential	0.2	0.4	0.1	0.2	Offices, schools, educational institutions, places of worship	0.4	0.8	0.4	0.8	Workshops	0.8	1.6	0.8	1.6	Construction	Construction A CNVMP has been developed and includes measures to meet the construction noise and vibration guideline targets. The CNVMP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.
Type of space occupancy	Vibration Dose Values (m/s1.75)																														
	Day (7am to 10pm)		Night (10pm to 7am)																												
	Preferred Value	Maximum Value	Preferred Value	Maximum Value																											
Residential	0.2	0.4	0.1	0.2																											
Offices, schools, educational institutions, places of worship	0.4	0.8	0.4	0.8																											
Workshops	0.8	1.6	0.8	1.6																											

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response																																													
NV9	Minimise construction vibration impacts on structures Construction vibration targets for structures based on German Standard DIN 4150 – Part 3 – Structural Vibration in Buildings – Effects on Structures (2016) must be adopted. All sections of the German Standard DIN 4150 – Part 3 – Structural Vibration in Buildings – Effects on Structures (2016) standard apply, noting the guideline levels detailed in Section 5 and Section 6 (and any references sections). An overview of the key vibration guidelines values is presented below. In all cases, the supporting documentation within the Standard which describes, clarifies and sometimes modifies the tables below must be considered. Table 1 – Guideline values for vibration velocity, vi, max, for evaluating the effects of short-term vibration on structures <table><tr><th colspan="2" rowspan="3">Type of structure</th><th colspan="5">Guideline values for vi, max in mm/s</th></tr><tr><th colspan="3">Foundation, all directions, i = x, y, z, at a frequency of</th><th>Topmost floor, horizontal direction, i = x, y</th><th>Floor slabs, vertical direction, i = z</th></tr><tr><th>1 Hz to 10 Hz</th><th>10 Hz to 50 Hz</th><th>50 Hz to 100 Hz (a)</th><th>All frequencies</th><th>All frequencies</th></tr><tr><th>Column Line</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th></tr><tr><td>1</td><td>Buildings used for commercial purposes, industrial buildings and buildings of similar design</td><td>20</td><td>20 to 40</td><td>40 to 50</td><td>40</td><td>20</td></tr><tr><td>2</td><td>Residential buildings and buildings of similar design and/or occupancy</td><td>5</td><td>5 to 15</td><td>15 to 20</td><td>15</td><td>20</td></tr><tr><td>3</td><td>Structures that, because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 and are of great intrinsic value (eg listed buildings)</td><td>3</td><td>3 to 8</td><td>8 to 10</td><td>8</td><td>20 (b)</td></tr></table> Note: Even if guideline values as in line 1, columns 2 to 5, are complied with, minor damage cannot be excluded. (a) At frequencies above 100 Hz, the guideline values for 100 Hz can be applied as minimum values. (b) Paragraph 2 of 5.1.2 must be observed.	Type of structure		Guideline values for vi, max in mm/s					Foundation, all directions, i = x, y, z, at a frequency of			Topmost floor, horizontal direction, i = x, y	Floor slabs, vertical direction, i = z	1 Hz to 10 Hz	10 Hz to 50 Hz	50 Hz to 100 Hz (a)	All frequencies	All frequencies	Column Line	1	2	3	4	5	6	1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40	20	2	Residential buildings and buildings of similar design and/or occupancy	5	5 to 15	15 to 20	15	20	3	Structures that, because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 and are of great intrinsic value (eg listed buildings)	3	3 to 8	8 to 10	8	20 (b)	Construction	Construction The CNVMP has been developed and includes measures to meet the construction noise and vibration guideline targets. The CNVMP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.
Type of structure				Guideline values for vi, max in mm/s																																												
				Foundation, all directions, i = x, y, z, at a frequency of			Topmost floor, horizontal direction, i = x, y	Floor slabs, vertical direction, i = z																																								
		1 Hz to 10 Hz	10 Hz to 50 Hz	50 Hz to 100 Hz (a)	All frequencies	All frequencies																																										
Column Line	1	2	3	4	5	6																																										
1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40	20																																										
2	Residential buildings and buildings of similar design and/or occupancy	5	5 to 15	15 to 20	15	20																																										
3	Structures that, because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 and are of great intrinsic value (eg listed buildings)	3	3 to 8	8 to 10	8	20 (b)																																										

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement			Phase	UDLP Response
NV9	Type of building		Guideline values for v_i , max, in mm/s		Construction The CNVMP has been developed and includes measures to meet the construction noise and vibration guideline targets. The CNVMP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.
			Topmost floor, horizontal direction, all frequencies	Floor slab, vertical direction, all frequencies	
	Column Line	1	2	3	
	1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	10	10	
	2	Residential buildings and buildings of similar design and/or occupancy	5	10	
	3	Structures that, because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 and are of great intrinsic value (eg listed buildings)	2.5	10 (a)	
	Note: Even if guideline values as in line 1, column 2, are complied with, minor damage cannot be ruled out.				
	(a) Section 6.1.2 must be observed.				
	(b) Vibration levels above apply to all works, including unavoidable works as defined in NV3.				
	NV10	Minimise impacts from ground-borne (internal) noise			
Implement management actions in consultation with potentially affected land owners to protect amenity at residences where the following ground borne noise guideline targets based on Section 4.2 of the New South Wales Interim Construction Noise Guidelines are exceeded during construction.					
Time of Day		Internal noise level measured at the centre of the most affected habitable room			
Evening (6 pm to 10 pm)		LAeq(15 minute) = 40 dBA			
Night (10 pm to 6 am)		LAeq(15 minute) = 35 dBA			
Notes					
1. Levels are only applicable when ground borne noise levels are higher than airborne noise levels.					
2. Management actions include community consultation to determine acceptable level of disruption and provision of respite accommodation in some circumstances.					
3. Noise levels above apply to all works, including unavoidable works as defined in NV3					

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response		
NV11	Minimise amenity impacts from blast vibration Implement management actions if the following vibration values are not achieved. Blasting activities must comply with Australian Standard AS2187.2-2006 , Explosives – Storage and use Part 2 – Use of explosives for all blasting.	Construction	Construction Not applicable to this UDLP.		
	Category (as defined in AS 2187.2-2006)			Type of blasting operations	Peak component particle velocity (mm/s)
	Sensitive site			More than 20 blasts	5 mm/s for 95% blasts per year 10 mm/s maximum (unless by agreement with occupier)
	Sensitive site			Less than 20 blasts	10 mm/s maximum (unless by agreement with occupier)
	Non-sensitive site (with occupants)			All blasting	25 mm/s maximum value (unless by agreement with occupier).
	Scientific equipment			All blasting	Existing ambient levels or ASHRAE VC Standards (as defined in the 2015 handbook) (whichever is the higher) or manufacturers equipment levels (unless by agreement with occupier)
NV12	Minimise amenity impacts from blast overpressure Implement management actions if the following overpressure values are not achieved. Blasting activities must comply with Australian Standard AS2187.2-2006 , Explosives – Storage and use Part 2 – Use of explosives for all blasting.	Construction	Construction Not applicable to this UDLP.		
	Category (as defined in AS 2187.2-2006)			Type of blasting operations	Peak component particle velocity (mm/s)
	Sensitive site			More than 20 blasts	115 dBL for 95% blasts 120 dBL maximum (unless by agreement with occupier)
				Less than 20 blasts	120 dBL for 95% blasts 125 dBL maximum (unless by agreement with occupier)
	Occupied non-sensitive sites such as factories and commercial premises			All blasting	10 mm/s maximum (unless by agreement with occupier)
NV13	Noise mitigation – noise walls Construction of permanent noise attenuation must, where feasible, be installed in advance of adjacent works. Where the ultimate wall cannot be constructed prior to demolition of the existing wall and noise sensitive premises will be exposed to significantly increased traffic noise for an extended period, install temporary noise walls where practicable	Construction	Construction Construction of new and replacement noise walls will be managed to provide continuity of noise protection through the construction process where feasible. The staged construction and use of temporary noise walls will be planned and implemented in accordance with the requirements of the CNVMP.		

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
NV14	Reduce impacts from engine brake noise Measures to encourage heavy vehicle drivers to reduce use of engine brakes must be considered and implemented, where practicable.	Design, construction, operation	Design Design measure to reduce engine break noise from heavy vehicles includes the separation of heavy vehicles from the Eastern Busway and SUP to avoid conflicts between these modes of transport, the retention of long exit ramps and reduced speeds at exit points. Construction and operation The Project will ensure heavy vehicles used for construction of the Project are fitted with a maintained Original Equipment Manufacturer exhaust silencer or a silencer that complies with the National Transport Commission's 'In-service test procedure' and standard.
NV15	Noise at public open space and school recreation grounds Predicted noise levels at existing public open space and school grounds detailed in updated noise modelling for the final design and as-built construction of the Project must not exceed the predicted design year noise levels detailed in the EES –Technical Appendix C. Noise monitoring at appropriate locations must be performed post construction to verify that predicted levels have been achieved. Monitoring must be performed 10 years and 20 years after Project opening.	Design, operation	Design The Project is designed to achieve predicted design year noise levels at existing sensitive receptors. Additional noise modelling has been undertaken during the development of the design to identify suitable acoustic treatments are in accordance with the EPRs. The extension of noise walls and use of open graded asphalt have been identified in sections of the freeway where needed to meet the relevant noise regulations. The use of these noise mitigation measures has been balanced against the land use and visual impacts. Operation Operational phase monitoring will be undertaken by the North East Link Program.
NV16	Monitoring of Ongoing performance of operational traffic noise mitigation measures Permanent noise monitoring stations must be established in representative locations based on a programme developed in consultation with the IEA and the EPA, to enable the ongoing real time monitoring of operational traffic noise. Where open graded asphalt is used and is relied on to achieve compliance with noise limits the acoustic performance of the OGA must be assessed at least once in each 12 months to ensure that it continues to reduce operational traffic noise to the Project traffic noise objectives in EPR NV1. NELP interactive noise tool The following information is to be made freely available on a publicly accessible website as interactive layers: – Existing (pre-Project) noise levels – Final operational road traffic noise contours for the Project – Operational noise criteria for the Project – Operational noise monitoring data for the Project. The maps are to be interactive so as to enable the public to locate their position on a map, identify the operational noise criteria and data relevant to their location and submit a query or complaint to NELP online.	Operation	Operation Permanent noise monitoring stations will be established and monitored by the North East Link Program in consultation with the IEA and EPA Victoria. The stations will provide ongoing real time monitoring of operational traffic noise. Information that will be made freely available via a publicly accessible website includes: – Existing (pre-Project) noise levels – Final operational road traffic noise contours for the Project – Operational noise criteria for the Project – Operational noise monitoring data for the Project.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
14. Social and Community (SC)			
SC1	Reduce community disruption and adverse amenity impacts Design and construct the Project to reduce disruption to residences, community infrastructure facilities and open space from direct acquisition or temporary occupation, to the maximum extent reasonably possible to preserve acceptable levels of amenity.	Design, construction	Design The proposed works to the Eastern Freeway, including the Eastern Busway, are located within the existing freeway reserve. The SUP is located in the freeway reserve and adjoining public land, much of which is already used for a SUP. Ancillary underground drainage infrastructure is located in the freeway reserve, adjoining roads and public land. The Project does not require the acquisition of private or public land. The Project will require the temporary occupation of public land and freehold land and impacts have been mitigated in accordance with LP1. Construction The location and footprint of temporary construction compounds and site facilities have been carefully considered regarding acceptable levels of amenity and impacts. The layout and location of construction compounds will ensure that the impacts of temporary occupation and the temporary loss of open space is minimised. Occupation durations will only occur for the minimum time required to facilitate construction, and pedestrian and cyclist access will be maintained during this period.
SC2	Minimise and manage impacts of land acquisition and occupation Where private land is to be permanently acquired or temporarily occupied, the Project must: – Minimise the extent of the acquisition or the extent or duration of the occupation – Use a case-management approach for Project interactions with affected land owners and occupants including appointing a social worker, buyers’ advocate or equivalent to assist households with special needs to manage the transition, except where a land owner or occupier has requested not to be part of such assistance – Endeavour to reach agreement on the terms for possession of the land including purchasing properties early when identified for permanent acquisition and agreed by the landowner – Consider the relative vulnerability and special needs of land owners and occupants – Communicate likely timing and steps to be taken including updates as relevant – Return private land not required for permanent Project infrastructure to its pre-existing use post-construction as soon as practicable, unless otherwise agreed with the land owner. – Where public land is to be permanently acquired or temporarily occupied, the Project will: – Minimise the extent of the acquisition or the extent or duration of the occupation – Stage works to the greatest extent reasonably possible to maintain functionality of the land for all users either within the site or on proximate land, subject to the Public Open Space Relocation and Replacement Plan required by EPR LP5 – Endeavour to reach agreement with the land manager on the terms for possession of the land – Return public land not required for permanent Project infrastructure to its pre-existing use post-construction as soon as practicable, including with all relevant reinstatement works, unless otherwise agreed with the land manager In the case of public land used for formal active recreation, ensure that impacts are minimised in accordance with SC5.	Design, construction	Design and construction The Project does not require the acquisition of private land. The Project has developed a Land Access Management Plan that has been accepted by the North East Link Program. For temporary occupation, the Project will notify affected parties prior to the commencement of occupation. The temporary occupation of public and private land will be minimised to the extents required to complete the works and will be staged to minimise conflicts with the ongoing use of public facilities where feasible. Private land will be returned to its pre-existing condition unless otherwise agreed with the land owner. Public land will be returned to its pre-existing condition except where this UDLP proposes a new condition for the land (e.g. the SUP and landscaping), it is required for permanent infrastructure (e.g. a noise wall) or as may be otherwise agreed to by the land manager. The Land Access Management Plan has been prepared and will be submitted for approval prior to the commencement of construction. The Land Access Management Plan includes processes for accessing privately owned or privately managed land including consultation requirements.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
SC3	Implement a Communications and Community Engagement Plan Prior to construction, prepare and implement a Communications and Community Engagement Plan to engage the community and potentially affected stakeholders and communicate progress of construction activities and operation. The plan must include: - A process for identifying community issues and the recording, management and resolution of complaints from affected stakeholders including business owners, community service providers, education providers, public and active transport key user groups and residents, consistent with Australian Standard AS/NZS 10002:2014 Guidelines for Complaint Management in Organisations - Approach to stakeholder identification - Enquiry management and record keeping approach and procedures including making available an attended 24-hour telephone number, postal address and an email address and publishing these on the Project website - Approach to communicating and engaging with the community and potentially affected stakeholders in relation to: - Construction activities including temporary facilities and impacts that may affect the community, businesses or individual stakeholders (eg dust, noise, vibration and light) and relevant mitigation (eg relocations policy) - Changes to transport conditions and relevant mitigation (eg road closures, detours) - Timelines and an outline of works that will affect particular local areas, to be updated to reflect current and anticipated conditions - Identifying how stakeholders can access information on environmental performance that is to be made publicly available - Incident and emergency communications, including notification methods and timeframes in the event of a major incident or overrun - Approach and processes to ensure that the workforce has appropriate community awareness and sensitivity including to prevent the workforce from parking in local roads and in public parking in the vicinity of local shopping areas except when frequenting those areas for private purposes. - Innovative communications tools and methods to enhance the Project’s ability to effectively communicate and engage with the community and stakeholders including best available technology in addition to conventional means - Approach to engaging with local schools to ascertain safety requirements (including evacuation procedures) and to provide education opportunities on Project activities. - Approach to making relevant Project information available to the community, including updates on Project works, with specific consideration to vulnerable groups (including culturally and linguistically diverse groups) and a responsive process for resolving complaints by vulnerable groups or individuals - How it will evaluate the effectiveness of the communication and engagement under the Communications and Community Engagement Plan.	Design, construction, operation	Design This UDLP will be informed by significant consultation with key stakeholders such as councils, agencies and the community, as per the requirements of the Incorporated Document (December 2019). The UDLP is publicly available for comment through the public exhibition period prior to finalisation and submission to the Minister for Planning. Construction and operation The Project has prepared a Communications and Community Engagement Plan to guide community engagement and communications through construction and operation of the Project. The Communications and Community Engagement Plan aligns with the requirements of EPR SC3, including a process for identifying community issues and recording, managing, and resolving these issues. Regular engagement and timely communications will be maintained through letterbox drops, newsletters, community meetings, information sessions and social media posts, to maintain awareness of the Project and communicate overall Project benefits, ensure stakeholders are kept informed of construction progress and acknowledge and work through community and stakeholder matters of interest or concern. The Communications and Community Engagement Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
SC3	The Communications and Community Engagement Plan must consider and where appropriate address matters of interest or concern to the following stakeholders and provide for the appointment of a dedicated liaison officer (as appropriate): – Municipal councils – Recreation, sporting clubs and community groups – Schools and other educational institutions – Potentially affected residents and property owners – Potentially affected business – Other public facilities in proximity – Religious and worship groups Vulnerable groups Traditional owners Public transport users.	Design, construction, operation	Design This UDLP will be informed by significant consultation with key stakeholders such as councils, agencies and the community, as per the requirements of the Incorporated Document (December 2019). The UDLP is publicly available for comment through the public exhibition period prior to finalisation and submission to the Minister for Planning. Construction and operation The Project has prepared a CCEP to guide community engagement and communications through construction and operation of the Project. The CCEP aligns with the requirements of EPR SC3, including a process for identifying community issues and recording, managing, and resolving these issues. Regular engagement and timely communications will be maintained through letterbox drops, newsletters, community meetings, information sessions and social media posts, to maintain awareness of the Project and communicate overall Project benefits, ensure stakeholders are kept informed of construction progress and acknowledge and work through community and stakeholder matters of interest or concern. The CCEP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.
SC4	Participate in the Community Liaison Group Contractors must participate in the Community Liaison Group (CLG) that has been established and managed by North East Link Project, to facilitate community and stakeholder involvement for the design and construction phases of the Project. Participation must include: – Attendance at meetings – Regular reporting of design and construction activities – Timely provision of relevant information, including response to issues raised by the group – Regular reporting and monitoring of community feedback, impacts and discussion of mitigation measures and their effectiveness.	Design, construction	Design and construction The Project design solution has been and will continue to be informed by consultation with key stakeholders such as councils and the community, through public exhibition activities during the public exhibition period. The Southern Community Liaison Group is also a key stakeholder. The Project will participate in the Community Liaison Group and the Business Liaison Groups established by the North East Link Program, as required, which will include feedback and responses to Project issues, as required by the EPR.
SC5	Minimise impacts of displacement of formal active recreation facilities The Project must be designed and delivered to minimise displacement of formal active recreation facilities including facilities on private land such as schools. Where formal active recreation facilities are displaced by the construction or operation of the Project, the Project must facilitate the reasonable relocation of all such facilities to enable their continued functionality at a reasonable level of service for those activities (except where otherwise agreed with the relevant facility owner or where other compensation is provided by agreement or under relevant legislation). The Proponent must work in collaboration with facility operators, local Councils, public land managers and relevant State authorities, to prepare and implement a Formal Active Recreation Facilities Relocation Plan. The Plan must: – seek to relocate all formal active recreation facilities to reasonable relocation sites to the extent possible before existing facilities are discontinued – document measures to be provided by the Proponent to provide reasonable replacement facilities at all relocation sites – where facilities are not permanently displaced, document measures to be provided by the Proponent to restore facilities that have been vacated to at least the same standard than when the use was discontinued, accounting for identified growth of clubs (where applicable) and for any decline in condition of the facility during the time of disuse – consider and provide a suite of reasonable measures to enable the ongoing viability of relevant sporting and recreation clubs affected by displacement and to reduce material disadvantage	Design, construction, operation	Design, Construction and Operation The Project does not displace land used for active recreation due to construction or operation of the Project. The North East Link Program has developed and implemented, in consultation with relevant councils and other stakeholders such as sports clubs, a Formal Active Recreation Facilities Relocation Plan for sports clubs impacted by the North East Link Program.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
SC6	Minimise impacts on formal active recreation and other facilities Where construction or operation activities directly impact formal active recreation facilities or community infrastructure facilities not on public land such as schools, child care centres and aged care centres, consultation must occur with facility operators, owners and user groups of the facilities to understand and, implement any practical measures that can be taken to avoid or minimise impacts. Such measures must provide for the continued operation of each facility (except where the facility is permanently displaced), with suitable access, provision of generally proximate parking comparable to pre-development conditions (where possible), reasonable protection of amenity and maintenance of the current level and nature of activity, except where otherwise agreed with relevant facility owners.	Design, construction, operation	The Project does not displace land used for active recreation on non-public land due to construction or operation of the Project.
SC7	Implement a Community Involvement and Participation Plan (CIPP) Develop and implement a CIPP in consultation with local councils for communities within those council areas affected by the impacts of the Project, in order to improve community connectedness and cohesiveness, enhance the local area and create a positive Project legacy. The plan must include: Identification of affected communities relevant to the CIPP Approach and processes for funding allocation with funding to be proportionate to the level of impact on each community Identification of types of initiatives that the CIPP may facilitate including community led, community partnership programs; community support grants; community events; sponsorships of local sporting clubs; small capital works projects targeting community, sporting and recreation facilities.	Construction, operation	Construction and operation The North East Link Program has developed and implemented a CIPP in consultation with relevant local councils, in accordance with the requirements of this EPR.
SC8	Implement a voluntary purchase scheme for residential properties Develop and implement a voluntary purchase scheme for residential properties that satisfy defined criteria relating to significant amenity impacts. The voluntary purchase scheme must include principles and criteria for eligibility of residential properties for inclusion in the voluntary purchase scheme. The principles and criteria must be developed having regard to: – Construction impacts including proximity of the residential property to major works and likely extent and duration of proximate works; and – Built form impacts on the residential property including visual intrusion and overshadowing. – In applying the principles and criteria of the voluntary purchase scheme, consideration must also be given to the presence of vulnerable occupants of residential properties.	Construction, operation	Construction and operation The North East Link Program has prepared a Voluntary Purchase Scheme for residential properties. The Voluntary Purchase Scheme is applicable for this UDLP where defined criteria are met.
15. Surface Water (SW)			
SW1	Discharges and runoff to meet State Environment Protection Policy (Waters) Meet the State Environment Protection Policy (Waters) requirements for discharge and run-off from the Project, including by complying with the Victorian Stormwater Committee's Best Practice Environmental Management Guidelines for Urban Stormwater (as published by CSIRO in 1999 with assistance from EPA Victoria and others).	Design, construction, operation	Design construction and operation The proposed drainage design will meet the State Environment Protection Policy (Waters) for stormwater discharge and run-off from the Project. The Surface Water Management Plan will include measures to measure the baseline conditions and to monitor changes resulting from the Project. These measures will also be informed by baseline surface water monitoring. The Surface Water Management Plan will be prepared and be submitted for IEA review and verification, and VIDA acceptance for implementation for construction works prior to the commencement of construction.
SW2	Design and implement spill containment Design and construct the spill containment capacity of the stormwater drainage system for all freeway pavements (including ramps) to manage the risk of hazardous spills from traffic accidents at or prior to every stormwater outlet, to meet AustRoads requirements (Part 5 Drainage – General & Hydrology Considerations). The design and location of spill containment must consider the risk and potential impact of a spill, as well as the effectiveness in reducing the risks associated with a spill on the environment. Develop procedures for freeway roads and ramps to be implemented in response to a hazardous spill. The OEMP must include requirements to maintain spill containment infrastructure and implement associated procedures.	Design, construction, operation	Design Spill containment capacity of the stormwater drainage for all freeway pavements will be considered in the detailed design phase. Construction and operation The Project will be constructed with consideration of spill containment capacity of the stormwater drainage system for all freeway pavements. The OEMP will include further requirements to address this EPR.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
SW3	Waste water discharges to be minimised and approved The Surface Water Management Plan (refer EPR SW5) and OEMP must include requirements and methods for minimising, handling, classifying, treating, disposing and otherwise managing waste water. Any proposed discharge of waste water from the site must be approved by the relevant authority prior to discharges occurring and meet the State Environment Protection Policy (Waters) requirements.	Construction, operation	Construction and operation The Surface Water Management Plan will be developed in consultation with the EPA. It includes requirements and methods for managing wastewater during the construction phase, including measures to reduce wastewater dis-charge, wastewater monitoring or sampling, preparation and approval of a Trade Waste Agreement. The Surface Water Management Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction. The OEMP will include further requirements to address this EPR.
SW4	Monitor water quality Develop and implement a surface water monitoring program prior to commencement of and during construction, to assess surface water quality in multiple locations at suitable distances upstream and downstream of works to establish baseline conditions and enable assessment of construction impacts on receiving waters. The surface water quality monitoring program must be implemented for a period up to three years after commencement of North East Link operation, or a lesser period agreed with the EPA, to assess the discharges and runoff from the Project against SEPP (Waters) requirements and confirm the effectiveness of environmental controls. The monitoring program must be developed in consultation with EPA Victoria and the asset owner/manager and as appropriate with reference to applicable policies and guidelines, including SEPP (Waters), Victorian Stormwater Committee's Victoria Best Practice Environmental Management Guidelines for Urban Stormwater (as published by CSIRO in 1999 with assistance from EPA Victoria and others), EPA Victoria Publication 596 Point source discharges to streams: protocol for in-stream monitoring and assessment and Industrial Waste Resource Guideline 701 Sampling and analysis of waters, wastewaters, soils and wastes. The surface water monitoring program is to be used to inform the development and refinement of the Surface Water Management Plan (EPR SW5).	Design, construction, operation	Design The surface water monitoring program has identified suitable locations to monitor water quality in response to the proposed works, activities and their proximity to waterways. Construction and operation The Project will implement the surface water monitoring program in consultation with EPA Victoria and the asset owner/manager as appropriate, with reference to applicable policies and guidelines. The Surface Water Management Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction. The Surface Water Management Plan will be implemented in consultation with EPA Victoria during the construction phase.
SW5	Implement a Surface Water Management Plan during construction Develop and implement a Surface Water Management Plan, in consultation with EPA Victoria, for construction that sets out requirements and methods for: – Best practice sediment and erosion control and monitoring, in general accordance with EPA Victoria publications 275 Construction techniques for sediment pollution control, 1834 Civil construction, building and demolition guide and Industrial Waste Resource Guideline 701 Sampling and analysis of waters, wastewaters, soils and wastes – Maintaining the key hydrologic and hydraulic functionality and reliability of existing flow paths, drainage lines and floodplain storage – Retain existing flow characteristics to maintain waterway stability downstream of construction – Location and bunding of any contaminated material (including tunnel spoil and stockpiled soil) to the 1% AEP flood level and to the requirements of EPA Victoria and the relevant drainage authority – Works scheduling to reduce flood related risks – Bunding of significant excavations including tunnel portals and interchanges to an appropriate level during the construction phase – Protecting against the risk of contaminated discharge to waterways when working in close proximity to potential pollutant sources (eg landfill or sewer infrastructure) – Documenting the existing condition of all drainage assets potentially affected by the works (including their immediate surrounds) to enable baseline conditions to be established and potential construction impacts on these assets to be assessed and managed.	Construction	Construction The Surface Water Management Plan has been developed in consultation with the EPA Victoria. The Surface Water Management Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction. The Surface Water Management Plan will be implemented in consultation with EPA Victoria during the construction phase.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
SW6	Minimise risk from changes to flood levels, flows and velocities Permanent works and associated temporary construction works must not increase overall flood risk at relevant locations or modify the flow regime of waterways without the acceptance of the relevant flood plain manager, drainage authority or asset owner (typically Melbourne Water) and in consultation with other relevant authorities (eg Council, Department of Transport, Parks Victoria, SES, emergency services). Prior to commencement of relevant works, flood risk should be appropriately assessed using modelling of the design of permanent and temporary works to demonstrate the resultant flood levels and risk profile in accordance with Melbourne Water Standards for Infrastructure Projects in Flood-Prone Areas (2019). This modelling analysis is to include sufficient events (at least up to and including the 1% AEP event) and scenarios (eg with and without blockage) to support the estimation of tangible (eg average annual damages) and intangible flood damages. If significant increases in flood risk are predicted for any events analysed, an assessment of overall flood risk considering tangible and intangible flood damages must be prepared and presented with appropriate mitigation measures for the acceptance of the relevant drainage authority or asset owner prior to commencement of construction for the relevant section of the works. If there are significant design changes during construction, the model must continue to be updated, as appropriate to represent those changes.	Design	Design The Project has reviewed and considered the Incorporated Document (December 2019, amended September 2023) and all background materials in the EES process including EES Report, EES Technical Report, IAC Final Report and the Minister’s assessment (all publicly available on the Victoria Big Build’s website); and is committed to appropriately mitigating potential surface water impacts as required by relevant EPRs. During the detailed design phase, relevant acceptances will be obtained through consultation with relevant authorities (particularly having regard to floodplain management authority, in this case, Melbourne Water). The approval will confirm that risks due to changes to flood levels, flows and velocities have been minimised to an acceptable level. This UDLP shows the final built form for the Project design as required by the Incorporated Document. Design details such as flood levels or exact flow paths and velocities are not required to be shown, however have been considered in development of this UDLP. The UDLP plans have incorporated annotations confirming that all amenities and facilities will be placed and maintained with ultimate future owners (which does not preclude floodplain management authority). The design of permanent structures, buildings and landscaping is informed by flood modelling, which demonstrates changes to overall flood risk, includes an analysis of sufficient events up to and including the 1% AEP and scenarios to support tangible and intangible flood damages, as well as proposed mitigations. This will be further developed during the detailed design phase. During the Design Packages review period, the Project will actively carry out consultation with relevant authorities as required, which may include coordination meetings and workshops where reviews of design packages are undertaken to obtain relevant acceptances prior to commencement of relevant works in accordance with this EPR. Prior to the commencement of development of permanent above-ground buildings or structures (excluding preparatory buildings and works), the acceptance of the relevant floodplain manager (Melbourne Water) will be obtained, where permanent or associated temporary constructions will increase overall flood risk or modify the flow regime of waterways.
SW7	Develop flood emergency management plans Develop and implement flood emergency management plans for each of construction and operation. Flood emergency management plans are to include but not be limited to measures to manage flood risk to construction sites (including consideration of scheduling works), the tunnels and tunnel portals including interchanges and substations and operation, maintenance and emergency management procedures for flood protection works.	Construction, operation	Construction The Project will implement a Flood Emergency Management Plan (FEMP) for construction. The plan will be prepared and will be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction. Operation This UDLP does not include tunnel or tunnel portal works including interchanges, substations or flood protection works and a plan for operations is not required.
SW8	Minimise impacts from waterway modifications Where waterway or flow regime modification is necessary, modifications will be designed and undertaken in a way that mitigates to the extent practicable the effects of changes to flow and minimises, to the extent practicable, the potential for erosion, sediment plumes, impacts on bed or bank stability and exposure or mobilisation of contaminated material during construction and operation to the requirements of Melbourne Water or the relevant drainage authority. Waterway modifications are to be designed and undertaken in a way that supports the visual and aesthetic amenity and environmental conditions (including habitat, connectivity, refuge and hydraulic conditions) to support aquatic ecosystems of the waterways having regard to relevant strategies, policies and plans for that waterway and in consultation with Melbourne Water or the relevant drainage authority.	Design, construction	Design The waterway and flow regime will be modified by the piers for the SUP bridge. The piers have been relocated onto the banks of the waterway outside of the waterways average daily flow. The girth of the piers has also been reduced and offset from the existing freeway piers to minimise the impacts on the waterway’s flow regime. The design of the SUP bridge is being undertaken in consultation with Melbourne Water with the intent to mitigate (to the extent practicable) negative effects, such as erosion or impacts on bank stability. The residual impacts to nearby waterways will also be considered. This UDLP identifies the landscaping design elements relating to modified waterways and considers the visual and aesthetic amenity and environmental conditions of these waterways. Construction Construction within and adjoining waterways will be undertaken in accordance with Melbourne Water’s approval of the design and the Surface Water Management Plan.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
SW9	Maintain bank stability Develop and implement appropriate measures to minimise erosion and protect bank stability of waterways affected by construction or operation activities both directly or indirectly (for example as a result of site access), to the requirements of Melbourne Water or the relevant drainage authority.	Design, construction, operation	Design Where waterways or flow regimes will be permanently modified, appropriate mitigations will be included within the drainage design solution to maintain bank stability. Bank stability will be assessed as part of the geotechnical design process to the satisfaction of Melbourne Water or the relevant drainage authority. Construction and operation A Surface Water Management Plan that includes reference to erosion and sedimentation controls has been prepared and will be implemented during the construction phase.
SW10	Provide for access to Melbourne Water and other drainage assets Provide adequate clearances and access for ongoing maintenance of Melbourne Water and other drainage authority assets to the requirements of the relevant drainage authority.	Design, construction	Design and construction An Asset Allocation Strategy has been developed and implemented to manage access to stakeholder assets, including drainage authority assets. The permanent design provides adequate access for asset owners post construction. Adequate clearances and access are provided for the ongoing maintenance of Melbourne Water and other drainage authority assets within the Project.
SW11	Adopt Water Sensitive Urban and Road Design Adopt and implement water sensitive urban design and integrated water management principles in the stormwater treatment design in consultation with the relevant flood plain manager, drainage authority, asset owner or land manager and in general accordance with the Urban Design Strategy, the specifications of the relevant local council as applicable and VicRoads Integrated Water Management Guidelines (June 2013), the Victorian Stormwater Committee's Victoria Best Practice Environmental Management Guidelines for Urban Stormwater (as published by CSIRO in 1999 with assistance from EPA Victoria and others) and the DELWP Integrated Water Management Framework for Victoria (September 2017).	Design, construction	Design and construction A bioretention system is included at Jack O'Toole Reserve and is being implemented on the Project in consultation with Melbourne Water and Councils as the likely asset owners / land managers of the system.
SW12	Minimise impacts on irrigation of sporting fields Maintain existing storage and available water supply of a quality that is suitable for the irrigation of sporting fields impacted by the Project as necessary in consultation with the impacted stakeholders.	Design, construction, operation	Design, construction and operation The Project does not acquire or temporarily occupy sporting fields. Existing water supplies will not be affected by this UDLP.
SW13	Consider climate change effects The flood risk assessment (as required by EPR SW6) must consider current climate conditions as well as the potential effects of climate change on pre and post work scenarios for future climate conditions (ie increased rainfall intensity and sea-level rise) as predicted at the end of the asset's design life using RCP8.5 projections from CSIRO to the requirements of Melbourne Water or the relevant drainage authority.	Design	Design The flood risk assessment and design response consider current and future flood conditions (1% AEP event plus climate change scenario for 2100) on pre and post development.
SW14	Meet existing water quality treatment performance Retain or replace existing water quality treatment assets to meet or exceed water quality treatment performance as originally designed for that asset. In consultation with relevant asset owner or land manager, consider climate change effects and the potential for improved treatment outcomes where practicable.	Design, construction	Design and construction The existing water quality treatment assets that may be affected by the Project will be assessed and managed to ensure baseline conditions are met in accordance with the Surface Water Management Plan. This process also involves consultation with relevant asset owners and/or land managers and considers climate change effects and the potential for improved treatment outcomes where practicable.
SW15	Water Sensitive Urban Design asset transfer strategy Prepare a strategy identifying Water Sensitive Urban Design assets constructed as part of the Project to be transferred to public authorities. The strategy must include a process to consult with relevant asset managers to confirm the relevant delivery and maintenance standards to be met.	Design, construction, operation	Design, construction and operation The Asset Transfer Strategy will outline the transfer of the bioretention system at Jack O'Toole Reserve to the relevant public authority.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
16. Sustainability and Climate Change (SCC)			
SCC1	Implement a Sustainability Management Plan North East Link Project must set sustainability targets and specify ratings to be achieved under the Infrastructure Sustainability Council of Australia's Infrastructure Sustainability Rating Tool. Contractors must develop and implement a Sustainability Management Plan that contains measures to meet, as a minimum, the sustainability targets and specified ratings.	Design, construction, operation	Design and construction A Sustainability Management Plan (SuMP) will be developed and implemented on the Project to support achievement of the Project's sustainability objectives and targets. The SuMP details the measures in place to meet the sustainability targets and specified ratings for the Project. The SuMP is to be verified by the IEA in compliance with the requirements of the EMF. Operation The SuMP details that handover documentation must be prepared for the operator at the completion of the Project. This will include sustainability targets, operational sustainability initiatives, roles and responsibilities for objectives, reporting and review requirements.
SCC2	Minimise greenhouse gas emissions Integrate sustainable design practices which are best practice for major road and tunnel infrastructure projects into the design process and implement these to minimise, to the extent practicable, greenhouse gas emissions arising from construction, operation and maintenance of North East Link. In detailed design, select materials and consider energy and carbon during construction, to target: – At least a 30% reduction in carbon emissions from the construction of North East Link against an Infrastructure Sustainability Council of Australia (ISCA) verified base case calculated in accordance with their independent standards (IS v1.2 Ene-1 Level 3 or v2.0 equivalent) – Use of a minimum of 50% of renewable energy for electricity used to construct North East Link (IS v1.2 Ene-2 Level 1.5 or v2.0 equivalent) – Net zero emissions in the operation and maintenance of North East Link (excluding emissions from traffic) with reference to the IS v2.0 energy and carbon guideline – Reduction of the amount of Portland Cement content in concrete across the Project by a minimum of 30% against Green Building Council of Australia reference mix design levels subject to durability and strength requirements.	Design, construction, operation	Design and construction The Project approach to meeting greenhouse gas emissions minimisation targets includes the following initiatives: – Use of biodiesel and electrification of construction plant and equipment, as well as significant design optimisation to achieve a 30% reduction in construction phase greenhouse gas emissions. – 100% of electricity used to construct the Project to be renewable energy. – Concrete specification to meet a minimum 40% reduction in Portland cement across the Project. – Reduced embodied carbon in Project material specification, including use of Recycled Asphalt Pavement, recycled plastic reinforcement of the SUP instead of steel, and recycled plastic pipes where possible. Throughout the detailed design and construction phases, the Project will continue to investigate opportunities in the selection and procurement of materials and the construction methodology and practices that will minimise greenhouse gas emissions. Operation The Project will support the achievement of net zero emissions during operation and maintenance via: – Efficient road lighting design that reduces operational electricity demand. – Consideration of maintenance and end-of-life adaptability and reuse. The ecologiQ Recycled First Policy Agency Guidelines, dated February 2022, includes requirements for Operations and Maintenance contracts in Section 2.2.
SCC3	Apply best practice measures for energy usage for tunnel ventilation and lighting systems Best practice measures for energy usage are to be applied for the tunnel ventilation and lighting systems in accordance with the Protocol for Environmental Management (Greenhouse Gas Emissions and Energy Efficiency in Industry), the EPA Victoria Development Licence and the EPA Victoria Operating Licence.	Design, operation	Not applicable to this UDLP.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
SCC4	Minimise and appropriately manage waste Develop and implement management measures for waste (excluding soils) minimisation during construction and operation in accordance with the Environment Protection Act 2017 waste management hierarchy and management options, to address: – Litter management – Construction and demolition wastes including, but not limited to, washing residues, slurries and contaminated water – Organic wastes – Inert solid wastes.	Construction, operation	Construction Waste management has been included as part of the CEMP and sub-plan framework, outlining actions to design for resource and waste efficiency through considerations of potential reuse of materials to the extent reasonably practical and minimise and appropriately manage waste. The CEMP will be reviewed by the North East Link Program and verified by the IEA prior to construction. The Project contributes to the minimisation and appropriate management of waste during construction by using precast elements where appropriate and by using demolished materials such as non-structural fill and crushed concrete where feasible. Waste will be managed using the waste management hierarchy: – Avoid: e.g. avoid vegetation clearing – Reuse: e.g. reuse of topsoil – Repurpose: e.g. removed trees used for habitat logs or by WWCHAC for training and cultural activities. – Recycle: e.g. cleared vegetation mulched for landscaping – Treatment: e.g. acid sulfate soils, or dispersive soils treated with lime – Containment: e.g. acid sulfate soils left in-situ and capped with low permeability clays – Disposal: e.g. disposed to landfill. Operation Durable, low maintenance materials will be investigated during design development to support minimisation of waste in operation and maintenance of the asset. Examples include concrete for hardscaping and drought resistant native vegetation for landscaping. Mulch will be included around plantings where appropriate, which will improve drought resistance and increase organic content of the soil over time, promoting long term survival of vegetation. Another low maintenance material example to be investigated is including plastic reinforcing fibres in concrete to extend the life of concrete paving, by removing steel that is susceptible to corrosion over time, commonly known as concrete cancer; subject to agreement from the relevant maintenance authority.
SCC5	Minimise potable water consumption Stormwater, recycled water and groundwater inflow to tunnels or other water sources must be used in preference to potable water for construction activities, including concrete mixing and dust control, where this is available, practicable, of suitable quality and meets health and safety requirements.	Construction	Construction Specific strategies to minimise potable water consumption include the following: – Rainwater harvesting and reuse for the site compounds to serve toilet flushing and other appropriate demands such as washdown and irrigation. – Drought tolerant landscape design including specification of local indigenous plants. – Flow restriction devices, such as dribble bars for water carts, will be used during construction for dust suppression. The Sustainability Management Plan will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction. The CEMP will be prepared and be verified by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.

6. Environmental Performance Requirements

EPR Code	Environmental Performance Requirement	Phase	UDLP Response
17. Traffic and Transport (TT)			
T1	Optimise design performance Optimise the design of the works in consultation with appropriate road management authorities, public transport authorities, relevant land managers and local councils as part of the detailed design process to: – Minimise adverse impact on travel times for all transport modes, including walking and cycling – Maintain and where practicable, enhance the traffic movements at interchanges and adjacent intersections within the Project boundary – Design the road, walking and cycling and public transport elements to meet relevant road and transport authority requirements – Design any truncation of local access roads in consultation with directly affected residents – Maintain and where practicable, enhance pedestrian movements, bicycle connectivity and shared use paths, including access (both vehicular and pedestrian) to public open space and reserves – Work with relevant public transport authorities and road authorities to minimise impacts on buses, trams and rail and, where practicable, enhance public transport facilities and services that cross or run parallel to the alignment of North East Link – Replace and enhance commuter car parking, where affected by the Project, in consultation with the Department of Transport – Minimise loss of other car parking in consultation with relevant local councils and other directly affected stakeholders.	Design	Design The design meets minimum authority requirements and has sought to improve traffic flows on the freeway and the movement of pedestrians and cyclists along the SUP. The design separates the movement of buses along the Eastern Busway and cyclists along the SUP from the movement of eastbound vehicles exiting to Chandler Highway and Burke Road interchanges. This enhances the experience for all transport users/modes along this strategically significant transport corridor. The Project does not truncate roads, modify access to local roads or remove car parking bays.
T2	Transport Management Plan(s) (TMP) Prior to commencement of relevant works, develop and implement Transport Management Plan(s) (TMP) to minimise disruption to affected local land uses, traffic, car parking, public transport (rail, tram and bus), pedestrian and bicycle movements and existing public facilities during all stages of construction. The TMP must be informed and supported by an appropriate level of transport modelling and must include: – Requirements for maintaining transport capacity for all travel modes in the peak demand periods – Requirements for limiting the amount of construction haulage during the peak demand periods – A monitoring program to assess the effectiveness of the TMPs on all modes of transport – Where monitoring identifies adverse impacts, implement practicable and appropriate mitigation measures – Consideration of construction activities for other relevant major projects occurring concurrently with construction activities for North East Link and potentially impacting modes of transport in the same area – Potential routes for construction haulage and construction vehicles travelling to and from the Project construction site, recognising sensitive receptors and avoiding the use of local streets where practicable – Suitable measures, developed in consultation with emergency services, to ensure emergency service access is not inhibited as a result of Project construction activities – Provision of alternative parking where practicable to replace public, private and commuter parking lost as a result of Project construction activities – Requirements to minimise impacts on local streets, community and commercial facilities by providing parking for construction workers at construction compounds where practicable – Measures to ensure connectivity and safety for all transport network users during construction – Measures to limit the extent of road closures – Consultation with the Department of Transport, relevant transportation authorities and relevant local Councils. – A TMP may be split into precincts where appropriate but must consider other precinct TMPs through the Transport Management Liaison Group as per EPR T3. – TMPs must be submitted to the relevant authority for approval.	Construction	Construction A Transport Management Plan has been developed. It will be implemented prior to the commencement of relevant works to minimise disruption to vehicles, cyclists and pedestrians during the construction of the Project. Worksite Transport Management Plans will be prepared and approved by the relevant road authority. The Transport Management Plan has been prepared and will be submitted for verification by the IEA in compliance with the requirements of the EMF prior to the commencement of construction.

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T3	Transport Management Liaison Group A Transport Management Liaison Group (TMLG) must be established and convene prior to the commencement of any works that may impact on existing roads, paths or public transport infrastructure. The TMLG must include representatives from the State, the Department of Transport, emergency services, the Project, relevant transportation authorities and relevant local councils. The TMLG will be a forum for exchange of information and discussion of issues associated with Transport Management Plans. This must include review of proposed haulage routes for construction sites to minimise reliance on a single haulage route between Bell Street and the M80 Ring Road and facilitate different sites using different haulage routes. The TMLG must be provided with the Transport Management Plans, details as to timing of implementation, information about construction traffic monitoring conducted by the Project, relevant sections of Road Safety Audit reports and other reports, as relevant. Where construction activities have the potential to significantly impact on specific stakeholder or community group facilities, the TMLG should be satisfied that there has been adequate consultation to inform the Transport Management Plans and should consider inviting stakeholder representatives to relevant TMLG meetings. The TMLG must meet at least monthly until the completion of construction.	Design, construction	Design and construction The Project team will prepare the Transport Management Plans that accord with the requirements of this EPR. The Transport Management Plans will be verified by the IEA and will be provided to the Transport Management Liaison Group prior to the commencement of relevant works. Project representatives will attend the Transport Management Liaison Group monthly meetings during construction to exchange information and discuss issues with the implementation of the Transport Management Plans.
EPR Code	Environmental Performance Requirement	Phase	UDLP Response
T4	Road safety design Undertake independent Road Safety Audits after each stage of detailed design and during and after construction. The Project design and operational activities must meet all relevant road and transport authority requirements with respect to transport network user safety.	Design, construction, operation	Design and operation An independent Road Safety Auditor will undertake Road Safety Audits during the design development and post construction during the Project's operations to ensure relevant road and transport authority requirements relating to transport network user safety are met. Construction Independent Road Safety Audits will be undertaken during the implementation of a Transport Management Plan for discrete Project stages or components. NOTE: The relevant Project delivery partner is responsible for engagement with independent Road Safety Auditors during the design and operation phases. This is not a North East Link Program responsibility.
T5	Traffic monitoring Undertake traffic monitoring on selected roads (arterial and non-arterial) identified in consultation with the relevant transportation authorities and local council pre-construction, at six monthly intervals during construction and up to two years after construction is complete. As part of the selection process, consideration must be given to roads that carry public transport services. Ensure any material adverse traffic impacts of the Project are mitigated by implementing local area traffic management strategies, including other works as required in consultation with the relevant road management authorities. Develop and implement traffic performance management to monitor conditions during construction. Real time traffic information must be provided to drivers.	Design, construction, operation	Design The design response includes ITS to monitor and modify traffic flows in real time to address congestion and traffic incidents on the Eastern Freeway. Construction and operation Traffic monitoring will be conducted on selected roads as identified in consultation with the relevant authorities. The Transport Management Plan will detail mitigation measures for material adverse impacts on the Project and include traffic performance management to monitor conditions during construction. Monitoring will also be undertaken in consultation with the relevant transportation authorities and local councils' pre-construction, at six monthly intervals during construction, and up to two years after construction is complete. Operational phase monitoring is the responsibility of the North East Link Program.

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