

*Environment Effects Act 1978*

**SCOPING REQUIREMENTS**

for

**NORTH EAST LINK PROJECT  
ENVIRONMENT EFFECTS STATEMENT**

**June 2018**



## List of abbreviations and definitions

Arboriculture	The study of planted and remnant trees (i.e. woody plant three metres or taller in height with a primary trunk) within project area.
Broader project area	Throughout the document, reference is made to "broader project area" or "within the vicinity of project". These terms are interchangeable and the extent to which impacts exceed the project boundary will be different for each type of impact and this is what needs to be assessed by the proponent. For example, water borne pollutants may travel many kilometres downstream, but the effect of traffic noise is generally limited to less than 1 kilometre from the source. For this reason, there is no absolute definition of this area.
CHMP	Cultural Heritage Management Plan
DEDJTR	Department of Economic Development, Jobs, Transport and Resources
DELWP (or Department)	Department of Environment, Land, Water and Planning
EE Act	<i>Environment Effects Act 1978</i>
EES	Environment Effects Statement
EMF	Environmental Management Framework
EMP	Environmental Management Plan
EMS	Environmental Management Strategy
EP Act	<i>Environment Protection Act 1970</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPR	Environmental Performance Requirements are environmental outcomes that the project must achieve through design, management or mitigation measures.
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i>
Inquiry	An inquiry panel is appointed by the Minister for Planning pursuant to Section 9 (1) of the <i>Environment Effects Act 1978</i> .
NEL	North East Link
NELA	North East Link Authority
Northeast of Melbourne	<i>Refers to Council areas affected by the project i.e. Cities of Banyule, Boroondara, Nillumbik, Yarra, Whitehorse, Manningham</i>
P&E Act	<i>Planning and Environment Act 1987</i>
Road user	Anyone who uses a road, such as a pedestrian, cyclist, public transport user or motorist.
SEPP	State Environment Protection Policy
TI Act	<i>Transport Integration Act 2010</i>
TRG	Technical Reference Group

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## 1 Introduction

In light of the potential for significant environmental effects, on 2 February 2018 the Victorian Minister for Planning (the Minister) declared North East Link (the project) to be 'public works' under section 3(1) of the *Environment Effects Act 1978* (EE Act). The declaration was published in the Victorian Government Gazette on 6 February 2018 (No. S 38 Tuesday 6 February 2018) and in consequence, an environment effects statement (EES) must be prepared in respect of the project.

The Scoping Requirements set out the specific environmental matters to be investigated and documented in the project's EES.

### 1.1 Background

In December 2016, the Victorian Government announced its commitment to the delivery of the North East Link. The Department of Economic Development, Jobs, Transport and Resources (DEDJTR) assumed responsibility for developing the project and established the North East Link Authority (NELA) as an administrative office designated as the proponent for the EES process and delivery of the project.

The project is subject to ongoing design development informed by consultation with the community and stakeholders.

### 1.2 The project and setting

NELA proposes a new freeway to provide a link to the M80 Ring Road (M80) and follow the Greensborough Bypass south to connect with the Eastern Freeway near Bulleen Road. Functional designs indicate that this section of the project would be approximately 11 kilometres long. Works would be carried out on the M80 and the Eastern Freeway to facilitate connection of this section into the existing road network. The location of the project is shown in Figure 1.

The new freeway will necessitate upgrades to the Eastern Freeway to increase its capacity in both directions to accommodate merging between Bulleen Road and Chandler Highway and provide additional capacity and merging between Bulleen Road and Springvale Road. One to four lanes will be added to each carriageway in various locations with widening likely to take place on the outsides of the freeway as well as within the existing median. Reconstruction of some bridge structures will likely be required and may also involve covering parts of Koonung Creek with new structures and/or converting sections of the existing open creek to culverts.

The reconfiguration of the Eastern Freeway will also allow for full separation of Doncaster Busway services from Hoddle Street to Doncaster Road by building a separated bus-only carriageway. A new bridge structure would be required over Merri Creek.

Works within the M80 to Lower Plenty Road section of the project will include widening of the M80 Ring Road from Plenty Road to the Greensborough Bypass. Minor works may occur on the existing Greensborough Bypass through to Diamond Creek Road and may include bridge strengthening at the Plenty River bridge. South of the M80 and extending to Watsonia Station, the existing Greensborough Bypass would be upgraded to a freeway standard as part of North East Link. South of Watsonia Station, North East Link will diverge to the east of the existing Greensborough Bypass and be located in a trench. To maintain connectivity of the local road network, bridges will cross the trench at various locations. Similarly, walking and cycling connections will be maintained across the trench.

The North East Link will pass under residential areas in Rosanna, Heidelberg, Ivanhoe East and Bulleen through tunnels, approximately 5 km in length. The northern tunnel entrance will be north of Lower Plenty Road and a southern entrance will be south of the Veneto Club in Bulleen. This is intended to avoid environmentally and culturally sensitive areas of the Yarra River valley, Banyule Flats and Bolin Bolin

Billabong as well as the Heide Museum of Modern Art and Banksia Park. Interchanges with M80, Grimshaw Street, Lower Plenty and Manningham roads and the Eastern Freeway will be constructed.

North East Link’s construction activities may require upgrade of rail infrastructure such as signalling, overhead and track assets and access works within the existing rail reserve between Greensborough railway station and Grimshaw Street and between Watsonia railway station and Macleod railway station. These works would be required to support changes to rail operations that may result from any alternation, construction or installation or structural works over the Hurstbridge Rail Line.

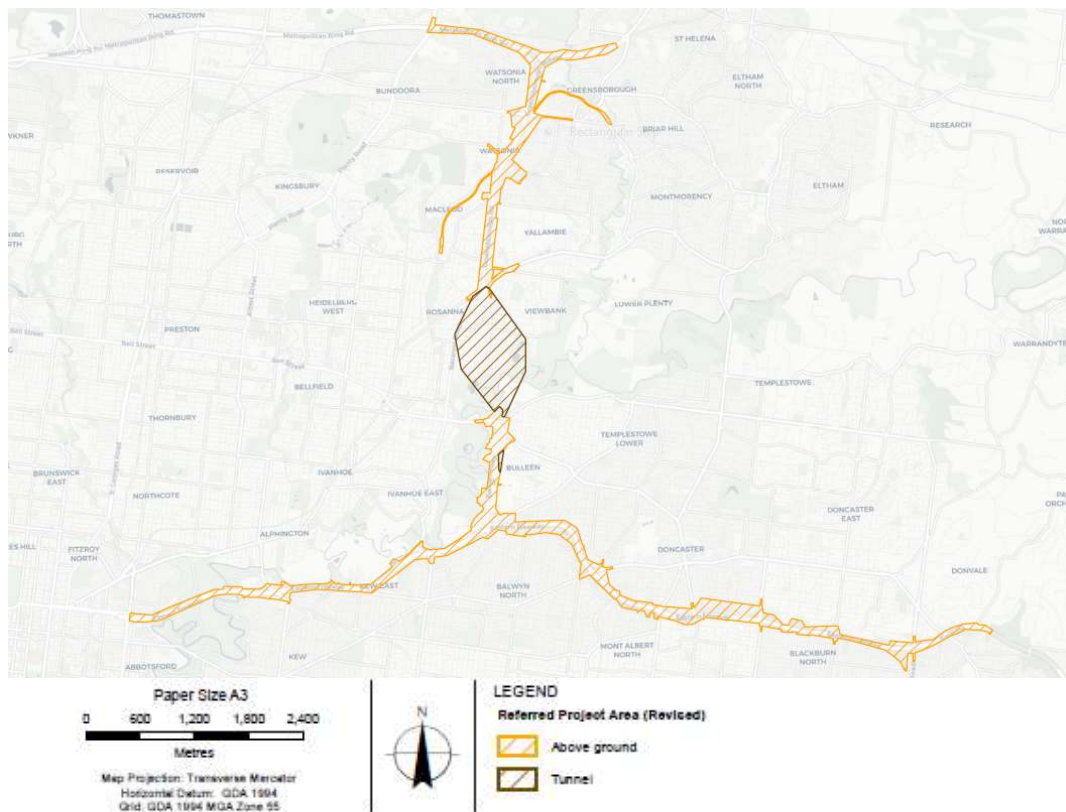


Figure 1. Location of the project.

### 1.3 Minister’s requirements for this EES

A project outline was submitted to the Minister for Planning to inform the decision that the project was public works under the EE Act on the basis that the project could ‘reasonably be considered to have or to be capable of having a significant effect on the environment’. The public works order specified the procedures and requirements that are to apply to an EES for the works. These procedures and requirements are provided in Appendix A.

The Minister’s Order specifies that the EES is to document ‘investigations of potential environmental effects of the Public Works, including the feasibility of design alternatives and relevant environmental mitigation and management measures, in particular for:

- a. potential effects on biodiversity, including through loss, degradation or fragmentation of habitat or through other causes (e.g. shading, light, noise and vibration), as well as related ecological effects;
- b. potential effects on beneficial uses of surface water and groundwaters due to changes in flows, water quality, hydrology connectivity, mobilisation of existing groundwater contamination, or dewatering arising during construction or operation;
- c. potential for ground movement or other geophysical conditions including risks related to land and river bank or bed stability;

- d. effects on cultural heritage values including Aboriginal cultural heritage;
- e. potential effects on health and amenity during construction and operation due to changes in visual conditions, changes in land use, redistributed traffic and transport changes, air quality, traffic noise and vibration;
- f. potential temporary and permanent effects on transport network and services, both for residents and businesses located in the vicinity of the proposed and related works and for the broader community;
- g. potential for displacement or severance of commercial and residential properties;
- h. potential for acid sulphate soils, other contaminated materials and the management of spoil throughout construction; and
- i. other effects on land uses and the community, including recreational value of open space.'

These Scoping Requirements provide further detail on the specific matters to be investigated in the EES in the context of the *Ministerial guidelines for assessment of environmental effects under the EE Act 1978* (Ministerial Guidelines).

## **2 Assessment process and required approvals**

### **2.1 What is an EES?**

The purpose of the EES is to provide a clear and sufficiently detailed description of the project to enable the effective assessment of its potential environmental effects. The EES process informs the public and stakeholders and seeks feedback to enable the Minister to issue an assessment of the environmental effects of the project. The Minister's assessment will be issued to the project Minister under section 4 of the EE Act. The Minister's assessment will also be provided to other statutory decision-makers for consideration when making decisions about the project.

An EES has two main components:

- the EES main report – this is an integrated, plain English document that describes the proposed project and analyses the effects of the project drawing upon data and technical studies; and
- technical appendices – these are the technical study reports documenting investigations and analysis of the potential effects of the project that inform the EES main report. These will be exhibited in full together with the EES main report.

The potential environmental effects that require technical studies are set out in Section 4 of this document.

### **2.2 The EES process**

NELA is responsible for preparing the EES, including preparing technical studies and undertaking stakeholder consultation, while the Department of Environment, Land, Water and Planning (DELWP) is responsible for managing the EES process. This EES process has the following steps:

- preparation of a study program and schedule by the proponent;
- preparation and then exhibition for public comment of the Draft Scoping Requirements by DELWP on behalf of the Minister for Planning;
- finalisation and issuing of Scoping Requirements by the Minister for Planning;
- review of the proponent's EES studies and draft documentation by DELWP and a technical reference group (TRG, see Section 2.3);
- completion of the EES by the proponent;
- review of the complete EES by DELWP on behalf of the Minister for Planning to establish its adequacy for public exhibition;
- exhibition of the proponent's EES and invitation for public comment by DELWP on behalf of the Minister for Planning;
- an Inquiry will be appointed by the Minister to consider the environmental effects of the works; and
- following receipt of the inquiry report, provision of the Minister for Planning's assessment of the project to decision-makers.

Further information on the EES process can be found on the department's website at [www.planning.vic.gov.au/environment-assessment/environment-assessment-home](http://www.planning.vic.gov.au/environment-assessment/environment-assessment-home).

### **2.3 Technical reference group**

DELWP has convened a TRG comprising representatives of state government agencies, departments, key decision makers and councils. The TRG will advise DELWP and the proponent during the investigations and preparation of the EES, on:

- applicable policies, strategies and statutory provisions;
- the proponent's public information and stakeholder consultation program;
- the Draft Scoping Requirements;
- the design and adequacy of technical studies;
- responses to issues arising from investigations;

- the technical adequacy of draft documentation; and
- coordination of statutory processes.

## 2.4 Public engagement

Consultation is a key aspect of the EES process as it enables stakeholders' knowledge and views to be considered in both project planning and formal decision-making. Formal opportunities for public input are established through the request for submissions in the setting of scoping requirements and the review of the exhibited EES. NELA will continue to engage with the public and stakeholders to identify and respond to their concerns in conjunction with the EES studies.

A stakeholder consultation plan for the EES process will be prepared and implemented by NELA. The purpose of the consultation plan will be to familiarise the public and stakeholders with the project and EES investigations, as well as provide opportunities for input and engagement on specific issues. NELA's consultation plan will be published on the DELWP website, updated as necessary and will:

- identify stakeholder groups;
- characterise the stakeholder groups in terms of their interests, concerns and consultation needs and potential to provide local knowledge;
- describe the consultation methods to be used and outline a schedule of consultation activities; and
- outline how inputs from stakeholders will be recorded, considered and/or addressed in the preparation of the EES.

## 2.5 Required approvals and coordination with the EES process

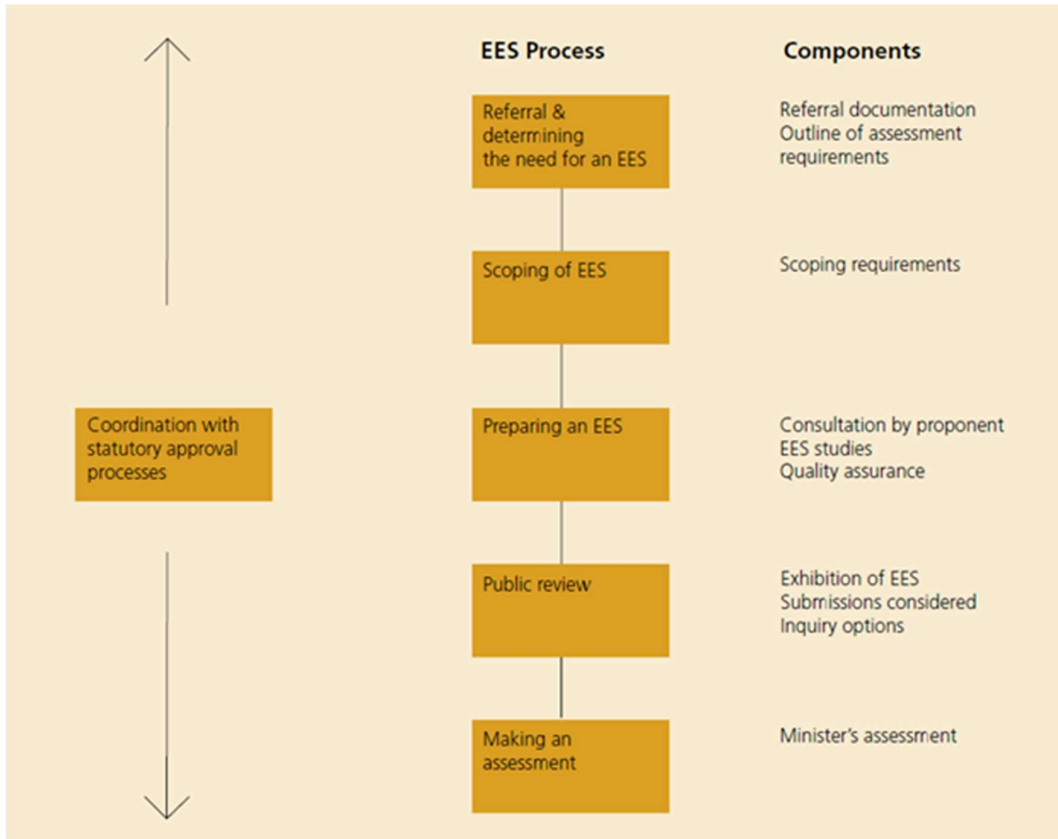
The project will require a range of approvals under Victorian legislation including:

- amendment to the Yarra, Banyule, Boroondara, Nillumbik, Manningham and Whitehorse planning schemes;
- works approval under the *Environment Protection Act 1970*;
- an approved cultural heritage management plan (CHMP) under the *Aboriginal Heritage Act 2006*;
- potential permits for the removal of listed flora and fauna under the *Flora and Fauna Guarantee Act 1988*;
- potential permit to take wildlife under the *Wildlife Act 1975*;
- permits and potential consents under the *Heritage Act 2017*;
- consents under the *Road Management Act 2004* for freeway connections and associated works on a road; and
- consents and licences to undertake works near waterways under the *Water Act 1989*.

Within the framework of the EES process, DELWP will coordinate the preparation and exhibition of the EES with other relevant approvals, including associated assessment and consultation requirements, where possible. A draft planning scheme amendment will likely be placed on public exhibition concurrently with the EES.

Figure 2 outlines the steps in the EES process and the parallel coordination of statutory processes.





**Figure 2. Coordination of statutory assessment and approvals processes.**

The North East Link will be partially located on land that is currently Commonwealth land at the Watsonia Simpson Barracks and has the potential to impact on Matters of National Environmental Significance (MNES) protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Consequently, NELA referred the project to the Commonwealth. The delegate for the Minister for the Environment and Energy determined on 13 April 2018 that the project is “a controlled action” and requires assessment and approval under the EPBC Act through development of a public environmental report. Because the project is partially located on Commonwealth land, an accredited assessment process is not able to be used under the bilateral agreement between the Commonwealth and Victoria for environmental assessment. Consequently, the assessment of MNES has not been included in these Scoping Requirements as the MNES will be addressed via the Commonwealth process along with the impact on the Commonwealth land. Nevertheless, these Scoping Requirements will apply to the portion of the project proposed within the Commonwealth land.

### 3 Matters to be addressed in the EES

#### 3.1 General approach

The EES will address the significant effects of all components and stages of the project upon the environment – being “*the physical, biological, heritage, cultural, social, health, safety and economic aspects of human surroundings, including the wider ecological and physical systems within which humans live*” (Ministerial Guidelines, p. 2).

Preparation of the EES and the necessary investigations should be consistent with the principles of a systems approach, so that each effect is also assessed for its interaction with other parts of the environment. Moreover, the EES approach should be risk-based<sup>1</sup>, so that a greater level of effort is directed at investigating and addressing those matters that pose relatively higher risk of adverse effects.

The EES should put forward a sound rationale for the level of assessment and analysis undertaken for any particular environmental effect or combination of environmental effects<sup>2</sup> arising from construction and operational stages of the project.

This assessment and analysis will require the integration of several aspects, including:

- potential effects on individual environmental assets, in terms of magnitude, extent and duration of change in the value of each asset;
- relationships between different effects;
- the likelihood of adverse effects and associated uncertainty of predictions or estimates; and
- implications of likely effects for implementation of statutory provisions, including policy, as well as consistency with principles and objectives of ecologically sustainable development.

Moreover, the EES should detail the proponent’s approach to managing (avoiding, minimising or offsetting) the anticipated environmental effects, including by documenting:

- likely residual effects assuming the proposed management measures are implemented and how these measures address relevant policies;
- proposed monitoring of environmental performance to ensure proposed management measures are effective and consistent with expectations outlined within the EES;
- proposed contingency measures should management measures not meet expectations or statutory requirements; and
- proposed environmental performance requirements (EPRs) that would be adopted for the design, construction and operation of the project to ensure that potential environmental effects are managed appropriately.

#### 3.2 General content and style of the EES

These Scoping Requirements must include the information or investigations necessary to address the matters contained in the public works order (see Section 1.3 and Appendix A). The content of the EES and related investigations is to be guided by this document and the Ministerial Guidelines. The EES should also address any other significant issues that may emerge during the investigations or through consultation. Ultimately, it is the proponent’s responsibility to ensure that adequate studies are undertaken and reported to support the assessment of environmental effects.

The EES main report should provide a clear, succinct, objective and well-integrated analysis of the potential effects of the proposed project including proposed mitigation and management measures. Overall, the main report should include:

- an executive summary of the potential environmental effects of the project;

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<sup>1</sup> Ministerial Guidelines (p. 14).

<sup>2</sup> Effects include direct, indirect, combined, cumulative, short and long-term, beneficial and adverse effects.

- a description of the entire project, including its objectives, key elements, associated requirements for new infrastructure and use of existing infrastructure (see Section 3.3);
- a description of relevant alternatives (see Section 3.5);
- an outline of the approvals required for the project to proceed;
- a description of the method used to identify and assess environmental effects of the project;
- descriptions of the existing environment and future climate change scenarios, where this is relevant to the assessment of potential effects;
- issues raised and suggestions made by stakeholders or members of the public, NELA’s design, construction or other responses to these issues and an outline of community engagement during project implementation;
- appropriately detailed assessments of potential effects of the project on environmental assets and values, relative to the “no project” scenario;
- intended measures for avoiding, minimising, managing and monitoring effects;
- any proposed offset measures where avoidance and mitigation measures will not adequately address effects on environmental values;
- predictions of residual effects of the project assuming implementation of proposed environmental management measures;
- evaluation of the project against applicable legislation and policy (see Section 3.6), including the principles and objectives of ecologically sustainable development and environmental protection; and
- a description of the environmental management framework (EMF) for managing the environmental effects and reducing risk. The EMF can include proposed environmental performance requirements (EPRs)<sup>3</sup> that define project-wide environmental outcomes.

NELA will prepare a concise non-technical summary document (hard copy A4, no more than 25 pages) for free distribution to interested parties. The EES summary document should include details of the EES exhibition, availability of the EES documentation and the public submission and inquiry process.

Close consultation by NELA with DELWP and the TRG during the investigations and preparation of the EES will minimise the need for revisions prior to authorisation of the EES for public exhibition. Given the technical and scientific complexity of the project, it is anticipated that NELA will commission independent peer review of key technical studies. Both the TRG and peer review processes will help NELA to ensure that appropriate consideration of issues is contained within the publicly exhibited EES.

Detail on the required scope and content of the EES is covered in the following sections.

### **3.3 Project description**

The EES is to describe the project in sufficient detail to allow an understanding of all relevant components, processes and development stages and to enable assessment of their likely potential environmental effects. The EES may assess the effects of a concept or reference design for the project with the ultimate design to be developed at a later stage. The EES should describe the following aspects of the project, to the extent relevant and practicable:

- an overview of NELA; and
- contextual information on the project, including its objectives and rationale, its operational life, its relationship to relevant statutory policies, plans and strategies (if relevant), and implications of the project not proceeding.

The EES, to the extent practicable, should detail the following project components:

- location, footprint, layout and access arrangements during construction and operation supported by plans and maps where applicable;

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<sup>3</sup> Note: environmental performance requirements will be proposed within the EES but may be refined following public submissions, matters raised through public hearings or additional technical investigations.

- the proposed approach to incorporate sustainability principles and practices into project procurement and delivery including consideration of economic, environmental and social impacts of goods and services over the entire lifecycle;
- proposed methods of construction, temporary occupation of land, construction timetabling and staging, other necessary works directly associated with the project, such as road upgrades, infrastructure and services relocation, or augmentation of existing plant and facilities and extent of disturbed areas;
- technical specifications and proposed development and design capacity;
- consideration of climate change risks utilising relevant standards for risk assessment (such as AS/NZS ISO 31000:2009), to evaluate the key risks associated with climate change impacts against IPCC projections and identify the proposed approach to ensure that the infrastructure will be resilient to projected changes in climate.
- aspects of the construction and operational phases of the project that could give rise to environmental effects, including air emissions, noise, vibration, discharges to water, local drainage, energy use and greenhouse gas emissions;
- solid waste, wastewater and hazardous material generation and management during construction and operation;
- lighting, safety and security requirements during construction and operation;
- consideration of public safety for road users during construction and operation;
- hours of construction work; and
- approach to be taken regarding rehabilitation of temporarily disturbed areas.

### **3.4 Urban design approach**

The EES is to describe the urban design approach to the project that will be adopted to guide the design of the project and inform relevant impact assessments, especially in regard to visual, amenity, social, land use and transport assessments. The urban design approach should explain how the function and character of the evolving urban environment, including built form, landscape and public realm within the immediate and broader context of the project, will be protected and enhanced. The EES should describe the approach that the project will adopt for the following aspects of the project, to the extent relevant and practicable:

- the character of the existing and evolving urban environment;
- the urban design features of the project's components; and
- the preferred form, function, amenity, experience, appearance and aesthetics of the project's design.

### **3.5 Project development and alternatives**

The EES should document the project's design development process including the alternatives considered and the rationale for selecting the preferred project design. The EES should also present alternatives considered during refinement of the project design and construction method. The discussion of relevant alternatives should include:

- an explanation of selection processes;
- evaluation of the broad environmental effects of the alternatives; and
- documentation of the basis for the proposed project.

### **3.6 Environmental management framework**

Adequate management of environmental effects during project construction and operation is required to meet statutory requirements, protect environmental values and sustain stakeholder confidence. Hence, the environmental management framework (EMF) in the EES should provide a transparent framework with clear accountabilities for mitigation, managing and monitoring the environmental effects and hazards associated

with the construction and operational phases<sup>4</sup> irrespective of the final form of the ultimate design to be implemented for the project.

The EMF should include:

- a description of the NELA's environmental management system, with organisational responsibilities, accountabilities and governance arrangements;
- a register of all relevant environmental approvals, consents and applicable legislation;
- an environmental risk register that is to be maintained during project implementation;
- environmental performance requirements (EPRs) or management measures proposed in the EES to address specific issues, including commitments to avoid, mitigate or manage adverse effects or enhance environmental outcomes;
- an outline of the environmental management plans for project construction and operation phases as well as the process and approach for development of these plans and the body or person responsible for approval of the plans;
- the proposed approach to design, construction methods, materials and equipment to measure, control and reduce energy use during construction and operation;
- the proposed approach to monitor and track actual performance against standards set in EPRs;
- the consultation required to inform how the EPRs will be achieved;
- monitoring (pre-construction, during construction and post-completion where relevant) detailing parameters to be measured, proposed equipment, including the need for calibration of equipment and training of staff;
- standards, guidelines or regulations to benchmark compliance; and
- evidence that will be used to demonstrate compliance.

An important aspect of the EMF is governance, continuous improvement and complaints management. To this end the EMF will set out the procedures for:

- auditing and reporting of performance including compliance with EPRs, relevant statutory conditions and standards;
- contingency measures to manage effects in response to unplanned events;
- review of the effectiveness of the environmental management framework for continuous improvement; and
- complaints recording and resolution.

### **3.7 Applicable legislation, policies and strategies**

The EES will need to identify relevant State and local government legislation, policies, strategies, guidelines and standards, and assess the project's compliance or consistency with these documents, in addition to required approvals (see Section 2.5), including:

- *Environment Effects Act 1978*;
- *Environment Protection Act 1970 including the relevant State Environment Protection Policies (SEPPs)*;
- *Planning and Environment Act 1987*;
- *Transport Integration Act 2010*;
- *Climate Change Act 2017*;
- *Aboriginal Heritage Act 2006*;
- *Heritage Act 2017*;
- *Road Management Act 2004*;
- *Public Health and Wellbeing Act 2008*;
- *Yarra River Protection (Wilip-gin Birrarung murron) Act 2017*<sup>5</sup>;

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<sup>4</sup>Ministerial Guidelines (p. 20).

<sup>5</sup> An exemption from the provisions of the Act applies for projects declared under the *Major Transport Projects Facilitation Act 2009*.

- *Flora and Fauna Guarantee Act 1988*;
- *Wildlife Act 1975*;
- *Guidelines for removal, destruction or lopping of native vegetation 2017*; and
- *Water Act 1989*.

### **3.8 Draft evaluation objectives**

Draft evaluation objectives are provided in Chapter 4 for each of the topics to be addressed in the EES. The draft evaluation objectives identify desired outcomes in the context of key legislative and statutory policies, as well as the principles and objectives of ecologically sustainable development and environment protection, including net community benefit. They provide a framework to guide an integrated assessment of environmental effects, in accordance with the Ministerial Guidelines, and for evaluating the overall implications of the project.

These objectives may be refined by the NELA or DELWP as the EES is prepared.

## 4 Assessment of specific environmental effects

### 4.1 Approach to assessment

The following sections set out specific requirements for the assessment of effects, using the following structure for each draft evaluation objective.

- **Key issues** identify the potentially significant issues or risks that the project poses for each evaluation objective.
- **Priorities for characterising the existing environment** set out the requirements for characterising existing assets, values and uses that could be affected by the project including any trends and their significance and resilience to change.
- **Design and mitigation measures** set out design or other measures that need to be considered that could substantially reduce and/or mitigate the risk of significant effects.
- **Assessment of likely effects** identifies potential and residual positive and negative effects to be assessed through analysis or modelling including evaluation of their significance. Residual effects are those predicted to remain after proposed management measures are implemented.
- **Approach to manage performance** identifies the need for environmental performance requirements that set environmental outcomes that the project must achieve through design, management or mitigation measures.

### 4.2 Transport capacity, connectivity and traffic management

#### Evaluation objective

To increase transport capacity and improve connectivity to, from and through the northeast of Melbourne, particularly freight movement via the freeway network instead of local and arterial roads, while managing the effects of the project on the broader and local road, public transport, cycling and pedestrian transport networks.

#### Key issues

- Disruption to pedestrian movements, bicycle connectivity, public transport, motor vehicle and freight traffic during construction.
- Contribution to an integrated and sustainable transport system, including active transport.
- Transport connectivity and capacity across the northeast of Melbourne, including network resilience and redundancy.
- Changes to local and arterial traffic distribution in the northeast of Melbourne.
- Effects of the redistribution of freight and heavy vehicle traffic including placarded and over-dimensional vehicles in the northeast of Melbourne and implications for residents, residential areas and businesses during construction and operation.
- Connectivity of pedestrian and cycling networks across the northeast of Melbourne and opportunities for future linkages.
- Predicting future travel behaviour and transport trends over time.

#### Priorities for characterising the existing environment

- Describe both the regional and local transport network context for the project.
- Describe relevant policies, strategies and plans for transport in the vicinity of the project.
- Establish comprehensive baseline data on freight, private motor vehicle, public transport, pedestrian and bicycle movements in areas affected by the project.
- Describe the elements of the road-based transport system including road, public transport, freight, cycling and pedestrian transport networks that might be affected by the project, during the construction and operational phases of the project.
- Undertake predictive modelling of regional and local transport network traffic flows in the absence of the project.

### **Design and mitigation measures**

- Describe the proposed approach to managing transport network conditions during the project's construction such as any staging proposed to maintain transport system function and the proposed nature and duration of diversions including for pedestrian and cycle links.
- Describe the potential routing of spoil transport from tunnelling works and other construction-related transport movements to minimise traffic and amenity impacts.
- Describe any potential public transport priority treatments, such as signal priority and tram/bus lanes, to enhance public transport access and uptake and minimise any adverse impacts on traffic and other public transport users' journeys including travel to stops and stations during construction.
- Describe the proposed transport network design features and approach to optimise and integrate the project with the existing or modified transport network, including any proposed solutions to accommodate placarded and over-dimensional vehicles.
- Describe the proposed transport network design features and approach to optimise and integrate the project with the existing pedestrian and bicycle network, including any proposed solutions to enhance pedestrian and bicycle access in the vicinity of the project.
- Describe traffic calming or other management tools that could be used to modify travel behaviour on the project and local roads such as managed motorway systems, intelligent transport systems, tolls, clearways, truck curfews and bans.

### **Assessment of likely effects**

- Characterise the extent, duration and types of disruptions during the construction phase.
- Undertake predictive modelling of regional, local and project transport network traffic flows following implementation of the project.
- Assess the project's positive and negative effects on the existing transport network during construction (including spoil transport) and operation including in relation to:
  - predicted travel time and vehicle movement outcomes, including performance at the project's interchanges and key intersections adjacent to the proposed alignment;
  - redistribution of traffic, including trucks and placarded vehicles, on the regional and local road network;
  - effects of traffic management measures on local and arterial roads;
  - traffic safety, given the predicted transport network traffic flows following implementation of the project;
  - local access of the community to residential areas, schools, retail centres, activity centres, community facilities and open spaces;
  - effects on tram, bus and train movements and access to stops and stations;
  - accessibility and safety for pedestrians at road junctions and community facilities;
  - connectivity, accessibility, function, experience and safety for cyclists and pedestrians including use of existing and new shared use paths, bridges and on-road bike paths;
  - the overall geographic distribution and magnitude of changes to travel times and accessibility for road users;
  - consistency with transport and urban plans (e.g. VicRoads Movement and Place Framework, Victorian Cycling Strategy (2018-2028), Plan Melbourne (2017-2050)); and
  - interactions, including possible cumulative impacts with other relevant projects, for example, the M80 and the Outer Metropolitan Ring Road/E6 developments.
- Undertake sensitivity analysis to test assumptions and inputs of transport model, if required.

### **Approach to manage performance**

- Describe the environmental performance requirements to set transport network outcomes that the project must achieve.



### 4.3 Health, amenity and environmental quality

#### Evaluation objective

To minimise adverse air quality, noise and vibration effects on the health and amenity of nearby residents, local communities and road users during both construction and operation of the project.

#### Key issues

- Adverse effects on air quality near residential and other sensitive land uses due to dust, odour or other emissions from construction activities.
- Generation of airborne, ground borne or regenerated vibration from construction that could adversely affect residential amenity or infrastructure.
- Effects of noise generated during construction from plant and equipment or vehicle movement adversely affecting residential amenity or other sensitive land uses.
- Effects on air quality near residential and other sensitive land uses of the project operations associated with changes in emissions from traffic on surface roads (including implications of changes in the distribution of vehicle types or brake and tyre wear dust) and from fixed plant, especially ventilation discharges from the tunnels.
- Generation of traffic noise either through direct, reflected or reverberated noise from vehicles during operation as well as from use of engine brakes that could adversely affect residential amenity or other sensitive land uses.
- Generation of airborne noise from fixed sources such as tunnel ventilation systems during project operations that could adversely affect residential amenity or other sensitive land uses.
- Potential for impact on health of sensitive receptors due to exposure to vehicle emissions (both noise and air).

#### Priorities for characterising the existing environment

- Identify residences (including sites that are the subject of current planning permit applications or planning scheme amendments), urban developments (where development proposals are identified in the planning scheme or form part of a seriously entertained planning proposal) and land uses (schools, hospitals, outdoor recreation sites, etc.) that require a particular focus on protecting the beneficial uses of the air and noise environment relating to human health and wellbeing, local amenity and aesthetic enjoyment.
- Identify residences, and other sensitive land uses, property assets or infrastructure that may be vulnerable to air borne, ground borne or regenerated vibration from construction activities.
- Collect local air quality data to characterise the expected affected area and compare with long-term urban data sets to ascertain if the long-term data sets are representative of the local air quality conditions.
- Assess existing air quality and compare with relevant SEPP standards.
- Measure and map the background noise levels LA90 exempt of noise from an industrial or commercial nature; and existing ambient noise levels LAeq including existing commercial and industrial sources (noting any tonal and/or impulse noises) as per SEPP N-1.
- Measure and map the existing traffic noise levels using hourly L10 and LAeq across the periods of 0600-2200, and 2200-0600 as per AS2702-1984 *Acoustics - Methods for the Measurement of Traffic Noise* and *VicRoads Traffic Noise Measurement Requirements for Acoustic Consultants*.
- Characterise existing ground vibration conditions through measurement and describe geological conditions that might influence the transmission of vibrations and regenerated noise from construction works.
- Characterise the existing health status of the population in the vicinity of the project.

#### Design and mitigation measures

- Propose siting, design, mitigation and management measures to control emissions of dust or other air pollutants and noise from construction activities.
- Propose siting, design, mitigation and management measures to prevent air quality impacts during operations, including on existing and future residential areas (including sites that are the subject of

current planning permit applications or planning scheme amendments or where development proposals are identified in the planning scheme of form part of a seriously entertained planning proposal) in the vicinity of existing and new elevated and surface roads, tunnel ventilation systems, Eastern Freeway and M80 widening works and any other roads where air quality is predicted to be affected due to the project's operation.

- Propose design, mitigation and management measures to control generation of airborne or ground borne vibrations from construction.
- Proposed design, mitigation and management measures to control noise generated from tunnel ventilation systems and other fixed sources during operation.
- Propose siting, design, mitigation and management measures to minimise generation of:
  - traffic noise from existing and new and upgraded surface or elevated roads or interchanges;
  - breakout noise from tunnel portals, openings or any enclosed structure; and
  - engine brake noise;either through direct, reflected or reverberated noise from elevated structures, infrastructure or vehicles during operation due to the redistribution of traffic in the vicinity of the project, increased heavy vehicle traffic in the project area or altered road and traffic conditions.

#### **Assessment of likely effects**

- Analyse the risk to sensitive uses associated with dust, odour or other emissions from construction works with respect to the *EPA Publication 480 Guidelines for Major Construction Sites*.
- Analyse risk of project emissions exceeding the relevant SEPP standards for surface roads and Schedule A Design Criteria for the tunnel ventilation system describing sources both in isolation and in addition to background levels of air pollution and assessing their cumulative impact on air quality and human health.
- Analyse potential for relevant construction noise standards set out in the *NSW Interim Construction Noise Guideline* and *EPA Noise Control Guidelines* (Publication No 1254) to be exceeded, considering timing, duration, localities and any relevant special noise characteristics (e.g. tonality, impulsiveness).
- Analyse potential for traffic noise levels to be exceeded during the day and night time periods and compare predicted traffic noise levels in the year of opening of the project and ten years hence according to the criteria under the *VicRoads Traffic Noise Policy 2005* (or any subsequent updates to this policy) and relevant criteria from the *World Health Organization Night Noise Guidelines for Europe 2009*.
- Analyse potential for noise from fixed sources such as tunnel ventilation systems to exceed noise standards as set out in SEPP N-1.
- Analyse the impact of engine brake noise and the likelihood of sleep disturbance, based on a qualitative assessment of the proportion of freight vehicles predicted to utilise the project and the percentage of those vehicles anticipated to represent a risk of engine brake noise.
- Analyse potential for vibration to cause disturbance to occupants of residential buildings or other sensitive land uses or cause adverse effects on property and infrastructure (see also Section 4.7 below for potential effects of vibration on heritage and cultural heritage values).
- Predict any improvements to air quality or noise levels due to project operation.
- Evaluate any changes to air quality and noise conditions for nearby residents and local communities that the project will deliver, particularly through redistribution or management of heavy vehicle traffic or altered road and traffic conditions and the implications of these for human health and amenity.

#### **Approach to manage performance**

- Describe the environmental performance requirements to set air quality, traffic noise and vibration outcomes that the project must achieve.

## **4.4 Social, business, land use and infrastructure**

### **Evaluation objective**

To manage effects of the project on land use and the social fabric of the community with regard to wellbeing, community cohesion, business functionality and access to goods, services and facilities.

### **Key issues**

- Maintenance of community linkages and social cohesion within both the immediate neighbourhood of proposed works and the broader area that may be affected by the project.
- Changed accessibility for residents, including to jobs and community goods, services or facilities due to construction or operation of the project.
- Potential effects on functionality of individual businesses and commercial precincts (e.g. resulting from changed access arrangements) and the implications for employment and the local economy.
- Effects on businesses including access, freight transport and logistics supply chain.
- Acquisitions of private property and temporary disruption or displacement of existing land use activities and infrastructure for project purposes.
- The compatibility of the proposal with existing land uses in the vicinity of the project area and the likely opportunities and constraints resulting from the project for future land use, giving consideration to sites that are the subject of current planning permit applications or planning scheme amendments and nearby urban renewal precincts where development proposals are identified in the planning scheme or form part of a seriously entertained planning proposal.
- Potential public risks associated with construction and operation of the project.
- Potential relocation of, or hazards and disruptions to key electricity transmission, water, drainage, sewerage, telecommunications or other public infrastructure assets due to construction activities.

### **Priorities for characterising the existing environment**

- Describe communities that may be affected by the project and characterise the relevant community values. The description should address both physical components, such as community service facilities and public spaces used by community members, and intangible elements such as social cohesion and values shared by particular groups, to the extent relevant to the project.
- Describe the land that may be required permanently or temporarily for the delivery of the project, including its current uses and sensitivities.
- Describe in broad terms current and proposed future land uses or land use objectives for required and nearby land that may be affected temporarily or permanently by project activities.
- Describe the individual businesses or business precincts (as may be appropriate) that could be affected temporarily or permanently by project activities.
- Describe the relevant infrastructure, networks and other elements that provide for connectivity within and between communities, to the extent that such features may be disrupted or additionally loaded due to project works or activities.
- Describe the relevant social and land use policies, strategies and plans in the vicinity of the project.

### **Design and mitigation measures**

- Describe measures to maintain or enhance community linkages or replace linkages that may be disrupted by the project.
- Describe measures to minimise the temporary or permanent acquisition of land and, where access is required, the processes to be applied to gain access to land, including the approach to compensation and managing adverse effects for landowners.
- Describe design and management measures to ensure that the project protects public safety during construction and operation phases.
- Describe design and management measures to protect public safety in public open spaces and shared use paths.
- Describe the approach to provide alternative access to properties, public space or community facilities for which existing access may be disrupted or displaced by the project.

- Describe the approach to be taken to enable or assist businesses that may be temporarily or permanently adversely affected by the project to maintain business continuity.
- Describe the approach to relocation of, or managing hazards and disruptions posed to, key electricity transmission, water, drainage, sewerage, telecommunications or other public infrastructure assets to manage effects from construction activities.

#### **Assessment of likely effects**

- Analyse the effects of temporary and longer-term land use changes resulting from the project.
- Analyse the residual effects on communities, categorising the severity of residual effects.
- Analyse indirect temporary and permanent effects that might result from the project (e.g. on catchments for community facilities).
- Analyse effects on businesses and business precincts, especially with respect to routine operations and business viability, and implications for the local economy and employment.
- Evaluate the consistency of the project with the policies and provisions of the Yarra, Banyule, Boroondara, Nillumbik, Manningham and Whitehorse planning schemes and other relevant land use planning, environmental, urban or built form strategies.
- Assess consistency with strategic plans, including Plan Melbourne (2017-2050).
- Describe residual effects on key electricity transmission, water, drainage, sewerage, telecommunications or other public infrastructure assets.
- Describe any benefits for social cohesion, business, land use, or infrastructure from the project.

#### **Approach to manage performance**

- Describe the environmental performance requirements to set social, business, land use and infrastructure outcomes that the project must achieve.

## **4.5 Landscape, visual and recreational values**

### **Evaluation objective**

To minimise adverse effects on landscape values, visual amenity, recreational and open space values and to maximise the enhancement of these values where opportunities exist.

### **Key issues**

- Potential adverse effects on urban landscapes that provide a range of functions (e.g. visual amenity, drainage, flood storage, cooling from vegetation and shade).
- Potential adverse effects on recreational opportunities (passive and active).
- Potential adverse effects on views from key receptors during the day and night resulting from construction phase works and operations.
- Potential temporary or permanent effects on public realm and recreational facilities, affecting the use of open space and the enjoyment of recreational opportunities.
- Potential loss of landscape values and visual amenity (e.g. visual, shading, tree canopy cover) from direct and indirect impacts to vegetation within the project boundary and the broader urban environment.

### **Priorities for characterising the existing environment**

- Identify key landscape features and visual amenity values including urban landscape character, form, appearance, aesthetics and function.
- Identify public realm and residential viewing points from which project components will be visible.
- Identify condition and uses of existing and planned public open space and recreational facilities that could be occupied or otherwise adversely affected by project construction and operation.
- Characterise existing lighting and shading conditions.

### **Design and mitigation measures**

- Describe design, management or offset measures to enhance or alternatively avoid or minimise adverse effects on landscape, visual amenity and recreational and open space values, especially with regard to long-term effects.

### **Assessment of likely effects**

- Assess likely extent and duration of residual adverse effects on, or improvements to, landscape aesthetics and functions.
- Assess likely effects on visual amenity values, including through use of photo-montages, sections and analysis drawings or other suitable methods for depicting predicted landscape changes, particularly from key viewing points.
- Undertake a shading analysis and assess the extent and nature of residual shading and light spill impacts on residential properties and public realm arising from the permanent project infrastructure with due regard to local planning provisions for shading and light spill.
- Identify and assess likely temporary and permanent effects on use and enjoyment of open space and recreational facilities, including public land to be used or occupied for project works.
- Assess consistency with any relevant built-form frameworks or urban plans.

### **Approach to manage performance**

- Describe the environmental performance requirements to set landscape, visual amenity, recreational and open space values outcomes that the project must achieve.

## **4.6 Habitat and biodiversity**

### **Evaluation objective**

To avoid or minimise adverse effects on vegetation (including remnant, planted and regenerated) listed rare and threatened species and ecological communities, habitat for listed threatened species, listed migratory species and other protected flora and fauna, and address offset requirements for residual environmental effects, consistent with relevant State policies.

### **Key issues**

- Potential for significant effects on biodiversity values including effects associated with changes in hydrology or hydrogeology (including under future climate change scenarios) or threatening processes listed under the FFG Act.
- Potential for indirect and direct impacts on riparian and in-stream environments brought about by the project both intersecting and near the project area.
- Potential for direct or indirect impact on vegetation and other landscape elements used by fauna listed under FFG Act or DELWP Advisory lists or by listed migratory species.
- Potential for adverse impacts on ecological character and key habitat locations including Bolin Bolin Billabong, Banyule Flats wetlands, Yarra River and Koonung Creek.
- Potential loss or degradation of habitat (and/or habitat connectivity) including tree hollows, existing canopy and woody debris, due to removal of trees.
- Potential for significant effects on biodiversity values including overall effects associated with actions to be approved, licensed or permitted under the *Wildlife Act 1975*.
- Reduction in environmental quality due to increased transmission or generation of pollutants from loss of vegetation, including aquatic vegetation and algae.

### **Priorities for characterising the existing environment**

- Identify both habitat utilised by listed fauna and the existing or likely presence of vegetation under the FFG Act or DELWP Advisory list within the project area, associated works areas and in the broader area.
- Characterise the local terrestrial and aquatic environments, identify flora and fauna likely to occur within the project area and characterise wildlife movement within the broader project area that could be directly or indirectly impacted by the project.

- Identify and characterise any groundwater dependant ecosystems that may be affected by altering the hydrogeological environment (particularly by dewatering).
- Describe the threats posed directly or indirectly by the project to biodiversity values, consistent with State policies, including:
  - direct removal or destruction of habitat (including remnant, regenerated or planted vegetation);
  - direct and indirect alteration of habitat conditions (including light spill and impacts of altering hydrogeological characteristics);
  - initiating or exacerbating potentially threatening processes listed under the FFG Act;
  - introduction and/or spread of any declared weeds or pathogens within or near project area;
  - increased risk of mortality of protected fauna and flora; and
  - alteration of conditions that may directly or indirectly impact riparian and in-stream environments.
- Identify current status, condition and arboricultural value of trees within the project area and those within construction areas via desktop and field study.
- Determine species, origin, dimension, health and lifespan of trees that may be affected by the project assuming current conditions continue and appropriate care is provided.

#### **Design and mitigation measures**

- Develop rehabilitation strategies to enable the recovery or restoration of vegetation that can provide habitat for protected and listed threatened species and amenity to local community consistent with any threat abatement plan or conservation action plan.
- Develop potential and proposed design options and measures that can avoid or minimise significant direct and indirect effects on vegetation, listed ecological communities, or other landscape elements utilised by protected fauna and flora. (including remnant, planted and regenerated vegetation).
- Develop potential and proposed design options and measures that can avoid or minimise significant effects on biodiversity values from actions to be approved, licensed or permitted under the *Wildlife Act 1975*.
- Develop offset strategies to offset loss of native vegetation.

#### **Assessment of likely effects**

- Assess direct and indirect effects of the project on vegetation (including remnant, planted and regenerated), listed ecological communities, listed rare and threatened species and other protected flora and fauna, consistent with relevant State policies.
- Assess direct and indirect effects on habitat connectivity and wildlife movement of terrestrial or aquatic fauna species that are listed under the FFG Act, DELWP Advisory list, or of listed migratory species.
- Assess direct and indirect effects on ecological character and significant habitat sites near the project area including Bolin Bolin Billabong, Banyule Flats Wetlands, Yarra River and Koonung Creek.
- Assess the potential direct and indirect effects of the project on arboricultural elements (including remnant, planted and regenerated trees).

#### **Approach to manage performance**

- Describe the environmental performance requirements to set biodiversity value outcomes that the project must achieve, including an offset strategy that outlines offsets that have been secured or are proposed to satisfy State offset policy requirements.
- Describe the environmental performance requirements to set arboricultural value outcomes that the project must achieve.

## 4.7 Cultural heritage

### Evaluation objective

To avoid or minimise adverse effects on Aboriginal and historical cultural heritage values.

### Key issues

- Potential adverse effects on Aboriginal cultural heritage values.
- Potential adverse effects on historical cultural heritage values, especially buildings, properties, trees, archaeological sites and precincts identified through statutory instruments.

### Priorities for characterising the existing environment

- Review land use history, Aboriginal traditional knowledge, previous studies and relevant registers to identify areas with the potential for Aboriginal and historical cultural heritage values.
- Identify Aboriginal cultural heritage sites and values that could be affected by the project.
- Identify areas of Aboriginal cultural heritage sensitivity relevant to the project.
- Identify potentially affected sites or precincts on the Victorian Heritage Register or Heritage Inventory, within Heritage Overlays in relevant planning schemes or otherwise documented as being of heritage significance.
- Investigate the condition and cultural heritage sensitivity of identified sites and heritage precincts.
- Identify the extent, nature and significance of Aboriginal cultural heritage places that could be affected by the project.

### Design and mitigation measures

- Describe design, management (harm avoidance and/or minimisation strategies) circumvent or mitigate potential adverse effects on known or potential Aboriginal cultural heritage or historical cultural heritage values.

### Assessment of likely effects

- Assess residual effects of the project on identified or potential sites or places of Aboriginal cultural heritage and sites of historical cultural heritage, considering possible impact pathways and significance of any effects.

### Approach to manage performance

- Describe the environmental performance requirements to set Aboriginal cultural heritage or historical heritage outcomes that the project must achieve including ensuring implementation of the conditions outlined in the Cultural Heritage Management Plan (CHMP).

## 4.8 Land stability

### Evaluation objective

To avoid or minimise adverse effects on land stability from project activities, including tunnel construction and river and creek crossings.

### Key issues

- Potential for project works to cause or lead to land subsidence or erosion that could adversely affect properties, structures, infrastructure, drainage, river health or other values including under future climate change scenarios.

### Priorities for characterising the existing environment

- Identify and map ground conditions along the project corridor including geology, hydrogeology and drainage.
- Identify ground conditions that may be susceptible to subsidence from proposed project activities (e.g. tunnelling, deep excavation, dewatering) and direct and indirect changes to vegetative cover (such as from increased shading by elevated structures).
- Identify properties, structures and infrastructure that may be susceptible to subsidence.

- Identify hydrological or geomorphic conditions that may contribute to susceptibility to erosion (e.g. steep slopes, channels).

#### **Design and mitigation measures**

- Identify design and construction management measures to maintain ground stability and prevent erosion where risks of potential instability due to the project have been identified.

#### **Assessment of likely effects**

- Predict subsidence and erosion due to project works and assess residual effects on assets and values.

#### **Approach to manage performance**

- Describe the environmental performance requirements to set subsidence and erosion outcomes that the project must achieve.

## **4.9 Waste management**

### **Evaluation objective**

To manage excavated spoil and other waste streams generated by the project in accordance with the waste hierarchy and relevant best practice principles.

### **Key issues**

- Management of substantial quantities of excavation and tunnelling spoil, including temporary stockpiling and on-site treatment, transporting material away from works sites and reuse or disposal.
- Management of a range of waste streams from the project.

### **Priorities for characterising the existing environment**

- Review geology and land use history, previous studies and relevant registers to identify likely occurrence of acid forming materials, contaminated soil, and other potential sources of contaminated materials in the project area.
- Identify indicative volumes and characteristics of excavated spoil.
- Characterise other key waste streams from the project.
- Identify suitable reuse, recycling, remediation or off-site disposal options for waste materials based on consideration of the waste hierarchy.
- Identify possible capacity issues that could affect either the management of waste on-site or disposal off-site, particularly given other proposed project works (such as the Melbourne Metro Rail Project and the West Gate Tunnel Project) that might generate spoil around the same time.

### **Design and mitigation measures**

- Identify options for treating, reusing or disposing of excavation spoil with reference to the waste hierarchy and relevant best practice principles, including for both contaminated and clean materials, and identify the routes and destinations for spoil material to be transported away from the project work sites.
- Describe and evaluate proposed design, management or site protection measures that could avoid or mitigate potential adverse effects of the excavated spoil or other waste streams generated by the project on land or water values, especially with regard to the project construction activities.

### **Assessment of likely effects**

- Analyse residual effects on land and water values from project waste streams.

### **Approach to manage performance**

- Describe the environmental performance requirements to set spoil and other waste stream outcomes that the project must achieve.



## **4.10 Catchment values**

### **Evaluation objective**

To avoid or minimise adverse effects on the interconnected surface water, groundwater and floodplain environments.

### **Key issues**

- Potential for project works to affect waterways, groundwater and hydrology, including with respect to flooding and future climate change scenarios.
- Potential for contaminated run-off or other water, including groundwater, to be discharged into surface waters or groundwater environments.
- Potential for migration or disturbance of anthropogenic contaminated soil or groundwater or naturally occurring acid forming materials.

### **Priorities for characterising the existing environment**

- Identify and map the natural and constructed surface water drainage system relevant to the geographic coverage of project works.
- Document the key assumptions to be adopted in the surface and groundwater hydrological analysis with respect to future climate change scenarios.
- Identify existing key surface water quality and stream condition parameters and trends.
- Identify existing groundwater conditions and characteristics within the general area that might be affected by project works.
- Identify known and potentially contaminated sites and ground conditions including acid forming materials. See also Section 4.9 regarding contaminated or acid forming material identification and management.

### **Design and mitigation measures**

- Describe measures to avoid or mitigate project effects on waterways and flood behaviour and management.
- Describe measures to protect surface water quality, especially during the construction phase, with reference to SEPP objectives and other relevant standards and guidelines.
- Describe measures to protect groundwater and aquifers, including with respect to the potential effects of constructing and operating the road tunnel.

### **Assessment of likely effects**

- Assess residual effects on waterways and hydrology, including with respect to flood behaviour and management with respect to public safety and potential effects on private property and assets.
- Assess residual effects on quality and availability of groundwater and water quality in receiving waters, having regard to existing water quality conditions, proposed mitigation measures and relevant SEPP standards.
- Assess residual effects of short-term or longer-term changes to groundwater conditions, with particular regard to ground subsidence, tunnel drainage, groundwater availability and quality, relevant SEPP standards and beneficial uses.
- Assess residual effects on surface and groundwater users or environmental values from changes in hydrology, contaminated soil, acid forming materials or contaminated groundwater.
- Undertake sensitivity analysis, if required.

### **Approach to manage performance**

- Describe the environmental performance requirements to set surface water and groundwater quality outcomes as well as groundwater level or flood behaviour outcomes that the project must achieve.

## **4.11 Greenhouse gases**

### **Evaluation objective**

To demonstrate that the project will contribute to the need for an effective, integrated and climate change-resilient transport system that provides a wide range of travel choices for all Victorians.

### **Key issues**

- The need to consider the commitment to achieve a climate resilient community and economy with net zero emissions by 2050 in designing and assessing the project.

### **Design and mitigation measures**

- Describe the proposed approach to design, construction methods, materials and equipment to reduce energy use, including vehicle emissions, during construction and operation over the life of the project.

### **Assessment of likely effects**

- Evaluate the greenhouse gas emissions associated with the design, construction and operation of the project in accordance with *Greenhouse Gas Assessment Workbook for Road Projects (TAGG)* and the *Australian National Greenhouse Accounts Factors*.
- Evaluate compliance with the policy principles and provision of SEPP Air Quality Management related to energy efficiency and greenhouse gas emissions.
- Identify the contribution to the State's transport greenhouse gas emissions with reference to projections in 2050.

### **Approach to manage performance**

- Describe the environmental performance requirements to set greenhouse gas generation outcomes that the project must achieve.

## **Appendix A - Minister's procedures and requirements under section 3(3) of the Environment Effects Act 1978**

The following procedures and requirements are to apply to the environment effects statement (EES) for the Public Works:

- (i) The EES is to document investigations of potential environmental effects of the Public Works, including the feasibility of design alternatives and relevant environmental mitigation and management measures, in particular for:
  - a. potential effects on biodiversity, including through loss, degradation or fragmentation of habitat or through other causes (e.g. shading, light, noise and vibration), as well as related ecological effects;
  - b. potential effects on beneficial uses of surface water and groundwaters due to changes in flows, water quality, hydrology connectivity, mobilisation of existing groundwater contamination, or dewatering arising during construction or operation;
  - c. potential for ground movement or other geophysical conditions including risks related to land and river bank or bed stability;
  - d. effects on cultural heritage values including Aboriginal cultural heritage;
  - e. potential effects on health and amenity during construction and operation due to changes in visual conditions, changes in land use, redistributed traffic and transport changes, air quality, traffic noise and vibration;
  - f. potential temporary and permanent effects on transport network and services, both for residents and businesses located in the vicinity of the proposed and related works and for the broader community;
  - g. potential for displacement or severance of commercial and residential properties;
  - h. potential for acid sulphate soils, other contaminated materials and the management of spoil throughout construction; and
  - i. other effects on land uses and the community, including recreational value of open space.
- (ii) The matters to be investigated and documented in the EES will be set out more fully in scoping requirements. Draft scoping requirements will be exhibited for at least 15 business days for public comment, before final scoping requirements are endorsed by the Minister for Planning.
- (iii) The North East Link Authority is also to prepare and submit to the Department of Environment, Land, Water and Planning (DELWP) a draft EES study program to inform the preparation of scoping requirements.
- (iv) The North East Link Authority is to prepare a schedule for the completion of studies, and preparation and exhibition of the EES to facilitate the alignment of the North East Link Authority's and DELWP's timeframes, including for review of technical studies for the EES and the main EES documentation.
- (v) The level of detail of investigation for the EES studies should be consistent with the approach set out in the scoping requirements and be adequate to inform an assessment of the significance and acceptability of the potential environmental effects of the proposed works, in the context of the Ministerial Guidelines.
- (vi) DELWP will convene an inter-agency technical reference group (TRG) to advise DELWP and the North East Link Authority, as appropriate, during the preparation of the EES, the scoping requirements, the design and adequacy of the EES studies, and coordination with statutory approval processes.
- (vii) The North East Link Authority is to prepare and implement an EES consultation plan for informing the public and consulting with stakeholders during the preparation of the EES, having regard to advice from DELWP and the TRG.
- (viii) The North East Link Authority is to apply appropriate peer review and quality management procedures to enable the completion of EES studies to a satisfactory standard.
- (ix) The EES is to be exhibited for a period of 30 business days for public comment, unless the exhibition period spans the Christmas–New Year period, in which case 40 business days will apply.
- (x) An inquiry appointed pursuant to section 9(1) of the Environment Effects Act 1978 will be established to consider the environmental effects of the Public Works.