

**SUBMISSION FOR THE
CITIES OF BANYULE, BOROONDARA AND
WHITEHORSE**

**DRAFT PUBLIC ENVIRONMENT REPORT
NORTH EAST LINK PROJECT**

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Glossary of terms

Term	Definition
Councils	Cities of Whitehorse, Banyule and Boroondara
EES	Environmental Effects Statement
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Vic)
ESD Principles	Principles of ecologically sustainable development as contained in s 3A of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Vic)
EPBC Regulations	<i>Environment Protection and Biodiversity Conservation Regulations 2000</i> (Vic)
EWL	East West Link
GDEs	Groundwater dependent ecosystems
IAC	Joint Enquiry and Advisory Committee
MNES	Matter of National Environmental Significance as included in Part 3 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Vic)
NELP	North East Link Project
Offsets Policy	Environmental Offsets Policy 2012 under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Vic)
PER	Public Environment Report; the subject of this submission
Project	The North East Link Project being the controlled action for the purposes of the PER
SEPP	State Environment Protection Policy
SRL	Suburban Rail Loop
TIA	Transport Impact Assessments

1. Introduction

- 1.1 This submission is made on behalf of:
 - 1.1.1 Banyule City Council;
 - 1.1.2 Boroondara City Council; and
 - 1.1.3 Whitehorse City Council (together, the **Councils**)
- 1.2 The controlled action (**Project**) is to take place within the municipal districts of each of the Councils.
- 1.3 The Councils submit that the Commonwealth Minister for the Environment should not approve the Project for the following principle reasons:
 - 1.3.1 the approval sought is premature, in that the nature of the Project is uncertain. A Joint Enquiry and Advisory Committee (**IAC**) has been appointed by the Victorian Minister for Planning, to consider and make recommendations under the *Environmental Effects Act 1978*, the *Planning and Environment Act 1987* and the *Environment Protections Act 1970*. The IAC is scheduled to conduct public hearings commencing on 25 July 2019 for approximately six weeks. It is highly likely that changes to the Project will occur during this process. The approval should not be considered until after the IAC report is made available;
 - 1.3.2 the Minister will not have sufficient information about the nature of the Project and its environmental impacts until after the IAC report is available. The “design” is a reference design, not an actual design. It will inevitably change and be subject to Environmental Performance Requirements (**EPRs**), which will evolve throughout the IAC process;
 - 1.3.3 the Project will cause unnecessary, unacceptable and irreversible effect on Matters of National Environmental Significance (**MNES**) and the environment on Commonwealth land that are not justified by the alleged benefits of the Project;
 - 1.3.4 the proponent has failed to properly identify and quantify the negative social and economic effects of the Project. In addition, the positive social and economic benefits of the proposal have been materially exaggerated, due to flaws in the transport assessment and economic analysis relied upon by the proponent, and do not justify the environmental damage that the project will cause;
 - 1.3.5 the draft Public Environment Report (**PER**) also fails to undertake an adequate cost benefit analysis, compared to feasible alternatives;
 - 1.3.6 the Project is contrary to the principles of ecologically sustainable development and contrary to the objectives of the *Environment Protection & Biodiversity Conservation Act 1999 (Cth)* (**EPBC Act**); and
 - 1.3.7 if the environmental consequence of the Project could be addressed by conditions, the conditions required to protect, repair and mitigate the environmental damage that the Project will cause would be so extensive as to constitute a transformation of the Project and thereby be beyond what can be dealt with by conditions.
- 1.4 It follows that approval required under the EPBC Act should not be granted.
- 1.5 Alternatively, any further assessment of the Project should be deferred until after the Minister is able to consider:

- 1.5.1 the report of the IAC appointed by the Victorian Minister for Planning to consider the Environment Effects Statement (**EES**);
- 1.5.2 the changes to the Project that will occur in the course of the IAC process;
- 1.5.3 the evidence and submissions that are to be put before the IAC;
- 1.5.4 any amendment to the draft PER required to be prepared as a consequence of the above;
- 1.5.5 any further submission that any person seeks to make after the conclusion of the IAC process; and
- 1.5.6 if the PER is amended after the IAC process; any further submission that any person seeks to make in response to the amended PER.

2. Executive Summary

The Project should not be approved

- 2.1 The Councils contend that the proposed action should not be approved under the EPBC Act.
- 2.2 The reasons for opposing the Project can be summarised as follows:
 - 2.2.1 the Project will have an undesirable and significant effect on MNES and the environment on Commonwealth land that are not justified by the alleged benefits of the project;
 - 2.2.2 the Minister is bound to give proper weight to the principles of ecologically sustainable development, as defined in the EPBC Act (**ESD principles**) when considering whether to grant approval. The proposal is inconsistent with the ESD principles;
 - 2.2.3 the Project is inconsistent with the ESD principles because:
 - (a) the ecological integrity of the land within and adjacent to the project corridor is a paramount and fundamental consideration for decision making under the EPBC Act. Reliance on reactive or adaptive management does not provide sufficient certainty that the project will not have long lasting and significant impacts on the ecological systems within the project corridor;
 - (b) the environmental impacts are serious and irreversible. As such they outweigh the alleged social and economic benefits, even assuming that those benefits are not overstated in the PER; and
 - (c) the alleged benefits of the Project as described in the draft PER are likely to be overstated due to flaws and constraints in the transport assessment and economic analysis relied on by the proponent.
 - 2.2.4 the absence of a critical analysis of the relative costs and benefits of the Project, compared to other feasible alternatives and the no project alternative leads to the conclusion that the environmental impacts of the proposed action lack proper justification; and
 - 2.2.5 the extent of reliance on offsets is unlikely to satisfy the EPBC Act Offsets Policy 2012.

Alternatively, amendments to the reference design should be made

- 2.3 How, and the extent to which, the reference design will change in the course of the IAC process cannot be known. However, it will change. Should the Project receive the Minister's approval, the Councils contend that certain variations should first be made to the Project. . The changes sought by the Councils are:
- 2.3.1 extended tunnels between Lower Plenty Road and Grimshaw Street;
 - 2.3.2 options for a simplified design of the Lower Plenty Road interchange, with reduced environmental impact on MNES and the environment on Commonwealth land (including Studley Park Gum, Matted Flax Lilly and the Banyule wetlands);
 - 2.3.3 rationalisation of the Bulleen Road Interchange through the use of extended tunnels and by shifting the alignment to the north-east, to avoid impacts on land to the west of Bulleen Road;
 - 2.3.4 rationalisation of the Eastern Freeway upgrades to avoid and minimise impacts on nearby open space, Koonung Creek, the Koonung Creek Reserve and the landscape character of the freeway corridor;
 - 2.3.5 relocation of the Boroondara Tennis Centre and reconfiguration of the Freeway Golf Course on land to the west of Bulleen Road;
 - 2.3.6 provision of compensatory open space of equivalent area and function, that results in no net loss of useable, unencumbered open space;
 - 2.3.7 an offsets regime that supports integrated stormwater, ecological and urban design planning outcomes along the project corridor; and
 - 2.3.8 provision of a range of complementary projects including public transport and road enhancements, bicycle corridors, public realm and activity centre upgrades, new recreational infrastructure and economic development support.
- 2.4 The position of the Councils will be more fully articulated as part of its presentation and evidence to the IAC in July, August and September 2019.

3. Statutory context

- 3.1 These submissions are structured in a manner that responds to the relevant statutory criteria under the EPBC Act that govern the development and assessment of the draft PER.
- 3.2 It also considers the adequacy of the draft PER process in circumstances where there is a concurrent IAC appointed under the *Environment Effects Act 1978* and *Planning and Environment Act 1987 (Vic)* to consider the North East Link Project.
- 3.3 Section 4 addressed the requirements for draft PER.
- 3.4 Section 5 outlines the relevant section 136 criteria.
- 3.5 Sections 16 and 17 addresses flaws in the current process and urges the Minister to appoint an Inquiry under section 90 of the EPBC Act. Alternatively, the Councils urge the Minister to delay the PER process and to require the Proponent to give public notice of a revised PER subsequent to the release of the IAC report.

4. Failure to comply with requirements for a draft Public Environment Report

- 4.1 Schedule 4 to the *Environment Protection & Biodiversity Conservation Regulations 2000* (**EPBC Regulations**) sets out the requirements for a draft Public Environment Report. These requirements have been incorporated into tailored guidelines for this Project (Attachment I of the draft PER) (**PER Guidelines**) which outline in further detail the information about the Project and its relevant impacts that are required to be included the PER.
 - 4.2 Annexure B to this submission contains an assessment of the draft PER against these requirements and identifies a number of areas of non-compliance with the Schedule 4 and PER Guidelines.
 - 4.3 The draft PER acknowledges that this is a reference design and liable to change – therefore by its very nature it is unable to consider the impacts of an actual proposal and certainly not “all impacts” as required by the guidelines. This likelihood is further compounded by the IAC process which will deliver further investigations and likely changes to the Project.
 - 4.4 To the extent that the draft PER does not include information, reports or analysis represented in the EES, or address evidence to be adduced to the IAC, it should be regarded as deficient. It is submitted that a proper analysis of those documents must be carried out in order to test the veracity of the claims in the draft PER.
 - 4.5 As a result, the Councils position is the approval should not be granted and the Minister should exercise power to require more information to ensure that the standard of the draft PER meets the requirements in the EPBC Act.
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5. Section 136 considerations

- 5.1 Section 136 of the EPBC Act sets out the general considerations to be taken into account, when deciding whether to approve a controlled action. These considerations include:
 - 5.1.1 Part 3 matters (concerning listed threatened species and communities (section 18 and 18A), listed migratory species (section 20 and section 20A) and the environment of Commonwealth land (section 26 and 27A));
 - 5.1.2 economic and social matters;
 - 5.1.3 the principles of ecologically sustainable development;
 - 5.1.4 the assessment report;
 - 5.1.5 any finalised public environment report or Inquiry report, as appropriate
 - 5.1.6 any other information the Minister has on the relevant impacts of the action (including information in a report on the impacts of actions taken under a policy, plan or program under which the action is to be taken that was given to the Minister under an agreement under Part 10 about strategic assessments).
- 5.2 Part 3 matters relating to listed species and communities, migratory species and the environment of Commonwealth land are addressed in sections 6 to 10 of this submission.
- 5.3 The principles of ecologically sustainable development are addressed in section 11 of the submission.
- 5.4 Economic and social matters are addressed in section 12 of the submission.

6. Part 3 matters

- 6.1 The Minister has determined that the Project is a controlled action due to its likely significant impacts on the following matters that are protected under Part 3 of the EPBC Act:
- 6.1.1 listed threatened species and communities (section 18 and 18A);
 - 6.1.2 listed migratory species (section 20 and section 20A); and
 - 6.1.3 the environment of Commonwealth land (section 26 and 27A).
- 6.2 The adequacy and specific concerns regarding the assessment of the impact on each of these matters in the draft PER are considered below.

Expert Reports and Council Officer concerns

- 6.3 The ecological report of Dr Graeme Lorimer, dated 1 October 2018, titled "Peer Review of North East Link EES Technical Report – Ecology" is attached to this submission as **Annexure A**. The report of Dr Lorimer was prepared during the development of the EES.
- 6.4 Dr Lorimer is well known in the Victorian planning and environment industry. His work within the north and eastern suburbs of Melbourne has played an important role in the development of a benchmark conservation analysis upon which all vegetation and ecological overlay controls in planning schemes are largely based. Dr Lorimer noted a range of issues including:
- 6.4.1 incomplete fieldwork;
 - 6.4.2 failure to address scoping requirements;
 - 6.4.3 failures to address planning provisions; and
 - 6.4.4 failures to identify vegetation threatened by the project.
- 6.5 His report refers to eight (8) threatened ecological vegetation communities, seven of which are listed as endangered.
- 6.6 Dr Lorimer cites concerns regarding groundwater drawdown on wetland vegetation and ecology. He also notes the limitations of the groundwater model. The Councils are concerned that reliance on a class 1 groundwater model is not adequate to assess the impacts of the Project on the biodiversity and systems of the Yarra River floodplain. This concern is discussed in further detail at section 7 below.
- 6.7 Dr Lorimer also cites a concern regarding sediment runoff from construction areas within the floodplain. There are many parks and reserves to be temporarily acquired within the project corridor that will present a risk of sediment pollution during the construction period. It is unrealistic to think that there will be effective mitigation for high intensity rainfall events during the construction period.
- 6.8 It is noted that the Councils have historically commissioned a number of ecological studies which identify a broad range of ecological values, including MNES recorded within the Project area. These reports are listed in Schedule A and will be separately provided.
- 6.9 Council officer level concerns are expressed in **Annexures C and D**. These concerns relate to a broad range of issues but include concerns relating to MNES and impacts on Commonwealth land.

7. Groundwater depressurisation

- 7.1 A number of MNES and ecological systems within the project corridor will be affected by groundwater pumping.
- 7.2 The extent of drawdown for groundwater pumping, and the activation of acid sulphate soils are matters of contention. Evidence will be called by various parties before the IAC regarding the groundwater issue and its relationship to ecological impacts.
- 7.3 State Environment Protection Policy (Waters of Victoria) (**SEPP**) defines water dependent ecosystems and species as a beneficial use of groundwater, along with other beneficial uses, including irrigation. For water dependent ecosystems the beneficial use is defined to encompass¹:
- protection of the integrity of riparian vegetation as it contributes to the health of water dependent ecosystems and bank stability;
 - that groundwater quality does not adversely affect surface water ecosystems;
 - ensures that groundwater quality does not adversely affect natural
 - ecosystems that require access to groundwater to meet all or some of their water requirements on a permanent or intermittent basis to maintain their communities of organisms, ecological processes and ecosystem services. This includes wetlands, rivers and streams reliant on groundwater baseflow, some terrestrial vegetation and some estuarine and near-shore marine systems, stygofauna and troglifauna; and
 - maintenance of fish passage
- 7.4 For present purposes, the Councils note that the reliance on a class 1 model is disproportionate to the scale of the project and its risk to groundwater systems. It is patently deficient for a project of this scale that dissects the Yarra River floodplain. It most likely reflects the tight timelines imposed on the Project, rather than attention to detail.
- 7.5 In particular, Banyule Council has expressed concern regarding the impacts of groundwater pumping on a number of wetlands within its municipality (refer **Annexure C**). For additional context, please also refer to:
- 7.5.1 Video prepared by Banyule Council regarding the Banyule Flats, accessible at: <https://www.youtube.com/watch?v=DhswCy5hO1k>; and
- 7.5.2 Warringal Parklands and Banyule Flats Ecological and Conservation Assessment (Practical Ecology 2017, as referred to in Annexure A).
- 7.6 Where groundwater pumping will occur to enable tunnel construction along the Yarra River Floodplain, there is a concern that this may adversely affect MNES and ecological integrity more generally.
- 7.7 Of course, others rely on access to water for a range of purposes, including irrigation of open space. More than 200 licenced bores are recorded in the draft PER. To what drawdown will affect the ability of licensees to access groundwater is also unknown.
- 7.8 The Groundwater Technical Appendix includes the following statement²:

¹ SEPP(Waters of Victoria) Schedule 2, Table 1

² Technical Appendix B: Groundwater (GHD), April 2019, Page 104

The numerical groundwater model has not been applied to assess the extraction of groundwater for a construction water supply, nor the use of recharge bores to mitigate against drawdowns.

This numerical modelling may be required to support licensing of a production bore, or the design of a recharge scheme and would be completed during detailed design.

Any groundwater bores installed for construction water supply or permanent water supply would need to be licensed by Southern Rural Water in accordance with Victoria's Water Act 1989 and would be subject to its licensing determinations. As part of any licensing determination, a proponent would be required to complete a technical hydrogeological assessment to support the groundwater licensing. This would include an assessment of impact to existing users, surface water flows and water availability. A groundwater supply would not be licensed unless the risks of extraction on groundwater (other users, the environment) are deemed acceptable by Southern Rural Water. This legislative requirement is considered to form an effective mitigation measure.

- 7.9 This approach consciously elects to avoid providing relevant information to the IAC, affected stakeholders and the Commonwealth. The purpose of the draft PER is to advise statutory decision makers. The impact on groundwater, including whether re-charge bores are needed to mitigate those impacts and whether groundwater is required for construction or permanent water supply for the project, is a matter that needs to be properly investigated prior to any approval under the EPBC Act.
- 7.10 It is not for the Proponent to elect not to provide critical analysis as part of the statutory process, and instead suggest it will be completed after the approval is obtained. Such an election would defeat the purpose of an integrated environmental assessment process, if it were permitted. The Minister should exercise power to direct the provision of further information prior to consideration of the PER.
- 7.11 Whilst Groundwater Dependant Ecosystems (**GDEs**) have been mapped in the area, no confidence is given regarding the behaviour of surface water and groundwater interactions. For example, the draft PER acknowledges that's GDEs exist around Banyule Creek and surrounds (Simpson Barracks). The report then states (pg 13):
- On the lower to mid slopes of Simpson Barracks (east of the project boundary) where depth to groundwater is 10 to 20 metres (based on groundwater depth contours), it is assumed that River Red Gums may be accessing subsurface groundwater for at least part of the year (such as during summer) or during drought conditions. On the upper slopes of Simpson Barracks where depth to groundwater is greater than 20 metres (based on groundwater depth contours), it is assumed that River Red Gum and Yellow Box do not access subsurface groundwater.
- 7.12 It is therefore clear that no groundwater levels were measured at or near these GDEs otherwise these more discrete values would be reported.
- 7.13 This approach seems to have also been used for assuming groundwater and surface water interactions at Yarra Flats (including Yarra floodplain, ephemeral Yarra billabongs, and Bolin Bolin Billabong).
- 7.14 Data relied on in the model is deficient. For example:
- 7.14.1 there is no long-term monitoring data available within the model domain to enable meaningful calibration to assess seasonal variations in rainfall derived recharge;
- 7.14.2 one bore in Tarneit was relied on to assess groundwater response to climate; and
- 7.14.3 the model uses a minimum water level contour of 0.1m. However, this level of accuracy can be misleading as changes of less than 0.5m are generally considered beyond the threshold accuracy of the regional model.

- 7.15 It is submitted that a small reduction in the aquifer groundwater level can have a large impact on the water levels in a wetland, as aquifers establish a new level in response to prolonged drawdown.
- 7.16 It is understood that several parties to the IAC process are likely to call evidence regarding the adequacy of the groundwater impact assessment and the impact of the likely groundwater drawdown on the environment. The Minister cannot make an informed decision as to whether the Project should be permitted without a full assessment of the groundwater impacts and the consequences of those impacts.

8. Listed threatened species and communities and migratory species

- 8.1 Section 139 of the EPBC Act sets out specific considerations when making decisions that affected listed species and communities. Importantly, the Minister must:
- (a) not act inconsistently with Australia's obligations under the Biodiversity Convention, the APIA Convention, CITES, or a recovery plan or threat abatement plan; and
 - (b) must have regard to approved conservation advice (see s 266B(2)) when considering impacts on a listed threatened species or community.

Matted Flax Lily (endangered)

- 8.2 The draft PER states that population of Matted Flax Lily at Simpsons Barracks is "one of the largest known populations". 30 percent of this population will be lost. Clearly there is potential for a significant impact.
- 8.3 Though the largest population is recorded on the eastern part of the site, the western part of the site may offer greater long term potential for recruitment. Ninety-three (93) ramets have been identified within the project boundary. This is a significant population in its own right.
- 8.4 The National Recovery Plan (2010) highlights the extent of fragmentation and the significance of larger populations:

The Matted Flax-lily has been recorded from about 120 sites (DSE Flora Information System), although the number of reproductively independent populations may be much less than this, probably closer to 50. Most populations are small and highly fragmented, and there is thought to be only around 2,500 plants in total. However, individuals are often difficult to distinguish in the field, due to the strongly rhizomatous habit of the species. Plants often form clumps that can spread over an area of up to 20 m x 20 m, although are usually much smaller, and comprise many apparently isolated individual shoots. Therefore, the number of genetically distinct plants may be quite small. The majority of populations comprise just a few plants.

- 8.5 If approval is granted, the subdivision of the land (to facilitate use and development by the State of Victoria) will place the remaining population under increased pressure, as the balance of the land is likely to be used more intensively. The subdivision of the land (or grant of a perpetual lease) should be referred as a controlled action in and of itself due to the pressures it will place on the remaining population.

- 8.6 The fragmentation threat is described as follows in the Recovery Plan:

Population fragmentation. A consequence of extensive habitat and population destruction is that remaining populations are often small and genetically isolated from one another, such that some ecological processes such as pollination have been severely disrupted. In *Dianella* species, pollination is effected by native bees, and plants will not produce seed unless bee-pollinated. As such the welfare of the bees and their habitat becomes a key component of recovery considerations. Fruits are relatively heavy, and probably rely on being eaten and dispersed by birds and reptiles. The Matted Flax-lily apparently does not readily regenerate from seed in

situ (Gray & Knight, 2001), and no seedlings have been seen at any site (G. Carr & M. White pers. comm.), indicating that at least some processes upon which the species relies have probably been disrupted.

- 8.7 It is submitted that approval of the Project is, on any reasonable assessment, inconsistent with the Recovery Plan for the Matted Flax Lily, and therefore inconsistent with section 139 of the EPBC Act. In summary, approval would be at odds with the Recovery Plan because:
- 8.7.1 it would increase the chance of extinction in the wild;
 - 8.7.2 it would reduce the probability of populations at the Simpson Army Barracks becoming self-sustaining in the long term; and
 - 8.7.3 action 3.1 of the Recovery Plan is an action of legally protecting unreserved populations on public land. The Project is self-evidently inconsistent with this outcome.
- 8.8 The proponent relies on the effectiveness of a translocation plan to be developed in future. At this time there is limited, if any evidence before the Minister to satisfy herself that the translocation plan would be effective, or that it will give rise to an offset that satisfies the EPBC Act Offsets Policy.
- 8.9 The draft PER asserts the loss of 30% of the largest known population is insignificant, relying on the effectiveness of translocation. The assessment should start by accepting that this loss is significant in the context of the known population, and then ask whether the mitigation will be effective. It is submitted that it is not reasonable to merely assume that translocation will be effective.
- 8.10 Table 7-12 acknowledges that even with translocation the loss could 'adversely affect habitat critical to the survival of a species. This should be a red flag that reliance on offsets is inappropriate.
- 8.11 The assessment of whether the loss would isolate or decrease the availability of quality habitat assumes that the translocation will be effective. The response is inadequate in this regard. The response should acknowledge that the quality of any replacement habitat may or may not be the same as the habitat being lost. Alternative quality habitat is not identified in Chapter 7.
- 8.12 The increased exposure to invasive species is acknowledged in the following terms:
- In the absence of mitigation measures, it is possible that invasive species may become established in the retained habitat for Matted Flax-lily (that is, east of the project boundary) at Simpson Barracks, owing to ground disturbance in the immediately adjacent construction area facilitating weed invasion or encroachment
- However, management requirements for noxious weed species and best practice hygiene measures would be incorporated into the CEMP and implemented during construction. With the implementation of mitigation and avoidance measures outlined in Chapter 10 – Proposed avoidance and mitigation measures, it is considered unlikely that invasive species would become established in the retained habitat for Matted Flax-lily as a result of North East Link.
- 8.13 The author does not refer to any study as to whether such measures have been proven to be effective on work sites. It is not clear whether hygiene measures would involve the use of chemicals or other activities that could damage ecological health.
- 8.14 There is no analysis as to whether an offset will comply with the Offsets Policy.
- 8.15 The discussion regarding the translocation plan underscores the scepticism which many have noted with reliance on offsets. In this case, the governance and oversight of offsets provided on private land has been historically lacking. Decision makers have little empirical

information to satisfy themselves that delivery of offsets on private land will be effective in the long term. After the initial focus of public bodies during the 10 year management plan, there is little incentive for public authorities to keep an eye on the maintenance of the offset into the future.

- 8.16 Accordingly, in the absence of a candidate site that is on public land and that is subject to an active management programme into the long term, it is hard to be satisfied that the offset is credible, and will be robust in the long term.
- 8.17 Having said that, it is acknowledged that if an extended tunnel is delivered through this area, the land abutting the Greensborough Highway reservation could host an offset as a reserve that will be in secure public management into the future, and that can also provide a landscape interface to residential areas to the west.

River Swamp Wallaby Grass (Vulnerable)

- 8.18 In response to uncertainties in the draft PER, the Councils highlight that:
 - 8.18.1 the 2007 report prepared by Australian Ecosystems (referred to in Annexure A) identifies the presence of River Swamp Wallaby Grass in wetlands B and D at the Trinity Grammar Sports Complex. It is understood that populations of the species were recorded in 1995 at or near the Banyule Billabong; and
 - 8.18.2 the species was recorded within the Project area. This information has been made known to the proponent as part of the consultation process before release of the EES.
- 8.19 The proponent suggests reliance on a reactive monitoring plan for water levels in the relevant wetlands to assess risk to this species.
- 8.20 It is submitted that this approach is inconsistent with the protection of the environment. Once the project is approved, construction timeframes and critical paths will represent constraints for management responses.
- 8.21 The threats listed in the Approved Conservation Advice for the River Swamp Wallaby Grass are as follows:

The main identified threats to River Swamp Wallaby-grass are grazing and trampling by livestock, particularly late in the season as the swamps dry and become accessible; hydrological changes; and invasion of remnant habitats by exotic grasses and weeds.

Historically, many lowland swamps were drained and converted to agricultural lands, resulting in the loss of habitat and populations of River Swamp Wallaby-grass. In addition, some seasonal wetlands inhabited by the species were converted to deep, permanent dams, which are unsuitable for continued habitation by this species.
- 8.22 The future response to groundwater drawdown during periods of extended drought need to be better understood. As set out in further detail below in relation to groundwater depressurisation, the draft PER models the effect on the aquifer, but fails to assess the relationship between altered groundwater levels and wetlands and other GDEs. This approach fails to respect the ESD principles.
- 8.23 A review of the ecological assessment indicates that:
 - 8.23.1 the draft Technical Report acknowledges that there is unfinished botanical fieldwork regarding the River Swamp Wallaby-grass and other species. Depending on the findings, there may be a need for the preparation of salvage and translocation Plans, offsetting and/or changes in project design or construction processes to avoid impacts to one or more of these species;

- 8.23.2 River Swamp Wallaby Grass was recorded in Wetlands B and D at the Trinity Grammar Sports Complex (Australian Ecosystems 2007), and Wetland B is proposed to be impacted (cut-and-cover trench through Wetland B). Wetland D may also be affected as a result of anticipated changes to the groundwater associated with the project;
- 8.23.3 native vegetation identified to be removed appears to have been overlooked and some of it has been misrepresented. For example, at the Trinity Grammar Sports Complex (Figure 10-13). No vegetation is shown as being removed from the eastern half of 'Wetland B' where Australian Ecosystems (2007) detected River Swamp Wallaby-grass, despite that area being within the project boundary;
- 8.23.4 the population of River Swamp Wallaby-grass at the sports complex is likely to be near the edge of its tolerance of dry conditions, and therefore vulnerable to potential disruption to flood frequency and the height of the water table by the project. Further consideration into the occurrence and potential impacts to River Swamp Wallaby-grass should be undertaken, particularly in the wetlands at the Trinity Grammar Sports Complex.

Swift Parrot (critically endangered)

- 8.24 Section 7.5.2 of the draft PER fails to adequately document the extent of removal of habitat for this species. It is difficult to accept the assessment in circumstances where the extent of loss of habitat has not been properly taken into account. The draft PER contends that:

While Swift Parrots may forage in trees within the project boundary occasionally and opportunistically, there is no evidence to suggest they rely on these trees or use them regularly or frequently to the point the birds would be displaced by removal of the trees.

- 8.25 That contention seeks to shift the evidentiary burden to someone other than the proponent. Just because they have not been adequately surveyed, does not mean that are not present in the area.

- 8.26 As outlined in the Significant Impact Guidelines:

the clearance of nesting, roosting or foraging habitat may have a significant impact on the population. Such impacts are most likely to be significant where a proposal or activity may result in loss of habitat in, or adjacent to priority foraging, nesting and roosting sites (as previously defined).

- 8.27 The draft PER states:

Removal of native vegetation, fauna habitat and reduction of habitat connectivity would be minimised to the extent practicable in the detailed design phase of North East Link.

- 8.28 It is not clear whether this is a measure that can be relied upon. It is certainly vague in its expression and difficult to give much weight to.

- 8.29 This section of the draft PER fails to recognise that the project will remove many hectares of native vegetation and up 25,000 planted amenity trees that may be relied upon by birds, including the Swift Parrot, or that the operation of the road will represent a major source of disturbance. It is deficient.

- 8.30 The Recovery Plan for the Swift Parrot notes that:

- 8.30.1 the breeding range is in Tasmania;
- 8.30.2 the winter range extends across Victoria and New South Wales;

- 8.30.3 there are a few records each year in the Melbourne and Geelong region; and
- 8.30.4 coastal areas tend to support larger numbers of birds when inland habitats are subjected to drought.
- 8.31 The Councils recommend that:
 - 8.31.1 targeted surveys for Swift Parrot should be undertaken;
 - 8.31.2 a map showing the relative habitat value of remanent and planted trees within the project corridor should be prepared; and
 - 8.31.3 the Project should give further consideration with respect to the conservation objectives for Swift Parrot outlines in the Swift Parrot Recovery Plan.

Painted Snipe (endangered)

- 8.32 In the absence of appropriate surveys it is unclear that confident predictions can be made regarding the effect of the loss of trees and native vegetation on the habitat for this protected matter. The assessment in Table 7-6 improperly assumes that the vegetation to be lost would not constitute habitat for this species.

Australasian Bittern (endangered)

- 8.33 The draft PER identifies suitable habitat as being located along the Yarra River and the associated floodplains, in wetlands dominated by sedges, rushes and reeds.
- 8.34 The draft PER discounts the possibility of the habitat in this area being affected by reduced groundwater availability.

Growling Grass Frog (vulnerable)

- 8.35 Table 1 of the National Recovery Plan identifies a suite of recovery actions for the species which include measures to:
 - 8.35.1 test the response to various water parameters and pollutants; and
 - 8.35.2 investigate response to translocation.
- 8.36 Management practices for the conservation of the Growling Grass Frog include:
 - 8.36.1 detailed surveys of known and potential habitat; and
 - 8.36.2 habitat retention and legal protection of sites where possible, especially on public land.
- 8.37 No individuals were detected during targeted surveys but it is not clear that the surveys were adequate. It can reasonably be expected that the Yarra River floodplain will provide good habitat for this species. The habitat may play a critical role in its recovery, with proper management.
- 8.38 The alteration of aquifer conditions and changes to wetland water availability are a key threat to its habitat.
- 8.39 The Project is inconsistent with the recovery plan.

9. The environment on Commonwealth land

- 9.1 The effect of the action on Commonwealth land has ecological, amenity and social impacts that need to be considered

Ecology

- 9.2 The loss of 10.976 hectares of Plains Grassy Woodland (a direct loss) is a very significant impact.
- 9.3 Trees vulnerable to groundwater drawdown may be affected as an indicate effect. This includes the Studley Park Gum hybrid which is ecologically significant.
- 9.4 There are several populations of listed threatened species including:
- 9.4.1 Matted Flax Lily;
 - 9.4.2 Arching Flax Lily; and
 - 9.4.3 Studley Park Gum.
- 9.5 The draft PER acknowledges that these populations require additional survey work.
- 9.6 In terms of terrestrial fauna the draft PER notes that:
- Occasionally or rarely, habitats within Simpson Barracks are known to attract threatened fauna such as Powerful Owl *Ninox strenua*, Swift Parrot *Lathamus discolor* and Grey-headed Flying-fox *Pteropus poliocephalus*; although this is likely for foraging only, and these species are not expected to frequently or regularly breed or roost there. Other species (White-throated Needletail *Hirundapus caudacutus*, Grey Goshawk *Accipiter novaehollandiae*, Black Falcon *Falco subniger*, Barking Owl *Ninox connivens*) may visit Simpson Barracks occasionally, but are unlikely to be there regularly, or depend on habitat within the site.
- 9.7 In addition, the extent of vegetation removal is likely to be understated. Sheet 13 of 42 in Part 1 of the 'Map Book' shows a tunnel ventilation structure and off/on ramps extending almost to the eastern edge of the project area within the barracks. There will be no space within the project area to construct a replacement for the existing perimeter road and firebreak, which will therefore have to be constructed further east. That, in turn, will require more vegetation removal. It is not clear whether a botanical survey of that area has been undertaken, outside the project area. It is understood that the new surface above the cut-and-cover tunnel appears to be 2.5–3 m above current ground level, so there will need to be a batter sloping to the east (or perhaps a retaining wall) and that will complicate the construction of a perimeter road inside the project boundary.
- 9.8 Feasible alternatives that involve consideration of the need for the Lower Plenty Road interchange and greater use of bored tunnels may not have the same extent of impact.
- 9.9 Reliance on offsets for direct loss of almost 11 hectares of native vegetation warrants a detailed assessment against the EPBC Act Offsets Policy 2012. Purchasing third party offsets from remote sites without any physical nexus to the populations is not accepted to be an acceptable response to that policy.
- 9.10 The draft PER does not properly consider whether the extent of this impact, or other environmental impacts and risks are either avoidable or warrant the refusal of the Project after closer consideration of the feasible alternatives.
- 9.11 Impacts to aquatic habitat within Banyule Creek are to be addressed as part of the Environmental Management Framework proposed as part of the EES, but the draft PER

fails to identify any measures to maintain fish passage or habitat condition during a protracted construction programme.

- 9.12 Fragmentation of habitat on the Commonwealth land is an important consideration in the context where the groundwater assessment demonstrates this area is at greatest risk from depressurisation.

Health and amenity

- 9.13 The proposal will remove the landscaped interface present along Greensborough Highway and provide residential areas with an outlook to a trenched freeway. This will significantly affect the quality of life of residents in the affected area in terms of air quality, noise, light spill and the effect of a degraded landscape interface.
- 9.14 Whereas background noise levels at night would have reduced to low levels, the freeway will provide for a constant elevated background noise at night.

Physical dislocation

- 9.15 The trench will further separate the communities of Macleod and Yallambie and create social and physical dislocation. Planning policy seeks to avoid such outcomes by directing freeways to areas with suitable separation from residential areas.

Natural landscape features

- 9.16 The North East Link will substantially alter the landscape features of the area. The draft PER inappropriately suggests that the landscape impact would not be significant.

Spoil management

- 9.17 The construction of the trench through Simpsons Barracks and transport of spoil will have a significant effect on the community during the construction phase.

10. Offsets

- 10.1 Recent media coverage has highlighted the lack of progress in developing the Western Grasslands Reserve which was to be delivered as a condition of the Melbourne Strategic Assessment³.
- 10.2 The recent Senate Inquiry into Environmental Offsets reflects a broader concern with reliance on environmental offsets. The Government's Response to the Senate Inquiry records that a technical review of the Environmental offsets Policy was to be carried out within 5 years, and that future reviews will evaluate the performance of the offsets policy. The lack of a register of environmental offsets is obviously, a critical deficiency in the governance arrangements.
- 10.3 The public can have little confidence in a system that is not accountable. Where reliance on offsets, as distinct from avoiding and minimising environmental impacts, becomes the preferred method, decision makers forget to consider the threshold question of ecological integrity. In some cases, reliance on offsets raises more questions than it solves.
- 10.4 The EPBC Act Environmental Offsets Policy 2012 (**Offsets Policy**) identifies relevant requirements for offsets to be approved, that broadly described, include the following:

³ <https://www.theage.com.au/politics/victoria/from-grassland-to-wasteland-victoria-breaks-promise-to-create-environmental-reserve-20190512-p51mjd.html>

- 10.4.1 offsets must deliver an overall conservation improvement that maintains the viability of the protected matter;
- 10.4.2 offsets should be tailored to the attribute of the protected matter;
- 10.4.3 direct offsets should be the focus of the offset;
- 10.4.4 offsets should be proportional to the level of statutory protection applicable to the protected matter;
- 10.4.5 offsets must be of a size and scale proportionate to the residual impacts on the protected matter; and
- 10.4.6 offsets must account for and manage the risk of the offset not succeeding;
- 10.4.7 offsets must have transparent governance arrangements.
- 10.5 If the proponent can purchase offsets from remote farming land outside the urban growth boundary to save money, there can be little confidence that the regulatory framework will achieve these objectives. Certainly there is reason to doubt that the overall conservation outcome would represent an improvement and that the offsets are tailored to the attributes of the relevant protected matters.
- 10.6 This is particularly the case, after the 10 year management period ends, when there will be no funds to monitor the landowner and the system potentially breaks down.
- 10.7 It is not appropriate to delegate this question to a condition given the scale of vegetation removal required for this project, and as the State is the proponent.
- 10.8 The Councils submit that:
 - 10.8.1 the material available in the draft PER is not sufficient to allow the Minister to be satisfied that the requirements of the offset policy have been or can be satisfied;
 - 10.8.2 as avoidance and mitigation of potential risks to the ecological systems of the Yarra River floodplain and associated water bodies is a fundamental consideration, reliance on offsets should not justify taking environmental risks that do not improve the resilience of the protected matters within and adjacent to the project corridor; and
 - 10.8.3 opportunities to provide local offsets close to the project corridor and Yarra River floodplain need to be prioritised over remote offsets that are geographically remote from the protected matter.
- 10.9 The Government Response to the Senate Inquiry provides that offsets should only be used following implementation of all reasonable avoidance and mitigation measures. In effect, this means that feasible alternatives and project options that avoid loss of important habitat must be considered and will be preferred.
- 10.10 Recommendation 7 of the Senate Inquiry was that offsets should be identified before approvals are given. The Government agreed with this recommendation in principle. In Victoria, the Guidelines on Removal of Native Vegetation require an Offset Strategy to be identified up front. Given the scale of the proposed loss of vegetation and impacts on MNES, it is appropriate that the offset strategy is identified up front.
- 10.11 There needs to be an evidentiary basis to be satisfied that the losses can be appropriately offset on suitable land before the issue can be left to conditions.

- 10.12 Land that is publicly managed, within and adjacent to the project corridor should be preferred to remote land that will not be actively managed for conservation purposes after the completion of the 10 year management period that is standard for offset management plans. Such an outcome is consistent with the *Yarra River (Wilip-gin Birrarung murrong) Protection Act 2017* environment principles, including section 9(4) of that Act which provides, for example:
- (4) There should be a net gain for the environment **in the area of Yarra River land** arising out of any individual action or policy that has an environmental impact on Yarra River land **[our emphasis]**

11. Ecologically Sustainable Development

- 11.1 Section 136 of the EPBC Act requires the Minister to apply the ESD principles.

- 11.2 Section 3A of the EPBC Act defines the principles as follows:

Principles of ecologically sustainable development

The following principles are principles of ecologically sustainable development:

- (a) decision-making processes should **effectively integrate both long-term and short-term economic, environmental, social and equitable considerations**;
 - (b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
 - (c) the principle of **inter-generational equity**--that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
 - (d) the **conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making**;
 - (e) improved valuation, pricing and incentive mechanisms should be promoted. **[emphasis added]**
- 11.3 There is a strong overlap with the objectives of relevant Victorian Acts that reflect the ESD principles as understood in international and domestic law.
- 11.4 Section 136 of the EPBC Act requires the Minister to consider whether the project will respect principles of inter-generational equity and require ecological integrity to be a fundamental basis for decision making.
- 11.5 As it stands, the Minister is not properly informed as to:
- 11.5.1 the extent of risk posed to the affected aquifers and their related ecosystems;
 - 11.5.2 whether this project could prejudice the interest of future generations by undermining the proposed Suburban Rail Loop (**SRL**) and Doncaster Rail Link; and
 - 11.5.3 whether and to what extent the project will exacerbate climate change effects by reason of increased dependence on car based transport, and greater reliance on freeway as a form of commuting, which will lead to greater kilometres travelled per trip. In this regard, the EES transport assessments reveal that the project will increase kilometres travelled on a freeway by 44% in the north east of Melbourne,

compared with the No Project case. This, in an area that is under serviced by public transport, compared with the Melbourne Metropolitan average.

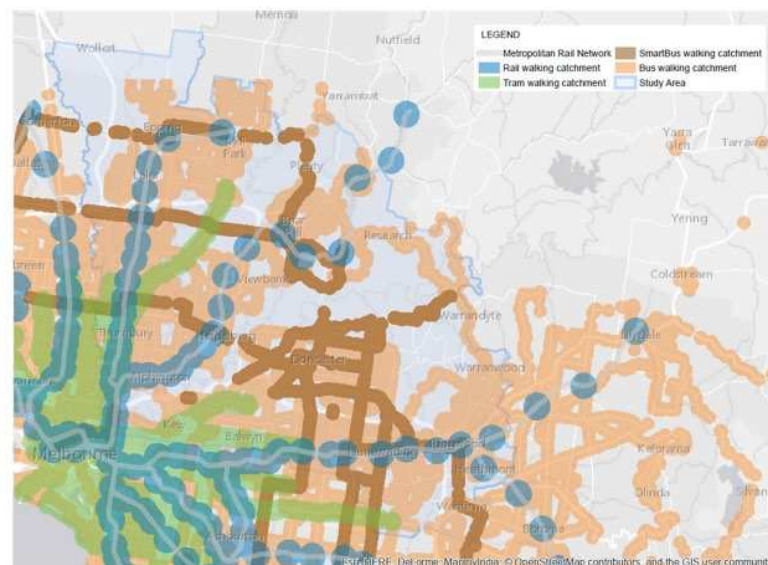
The ecological integrity of the Yarra River floodplain and the environment on Commonwealth land is a fundamental consideration

- 11.6 Applying the ESD principles, the Councils submit that the risks to the ecological integrity of environmental systems within the project corridor (including the Yarra River floodplain and associated wetlands and GDEs, the ecological systems on the Simpsons Barracks and within and adjacent to the Eastern Freeway corridor) are fundamental considerations for decision making under the ESD principles. To the extent that the Precautionary Principle can be invoked to protect them from irreparable damage, it must be.
- 11.7 The Minister cannot delegate a threshold issue (being the assessment of risk to the ecology of the floodplain environs) to the contractor engaged to construct the NELP, or leave it to be resolved by conditions.
- 11.8 The Minister must be positively satisfied that the groundwater model is reliable and that the range of uncertainty as to the potential impacts is sufficiently low that the risk can be managed with a high degree of confidence. The draft PER does not provide that level of assurance.
- 11.9 This is a case where the ecological values at stake are of such central importance, that it would be inappropriate to make an approval decision where there was reasonable doubt as to the extent of risk of damage to the ecological assets and systems. The ecological integrity of the floodplain and wetlands requires a full and complete investigation. Such an investigation might conclude that the impacts are of such a magnitude so that the approval should not be granted.

Future public transport investment in the project corridor

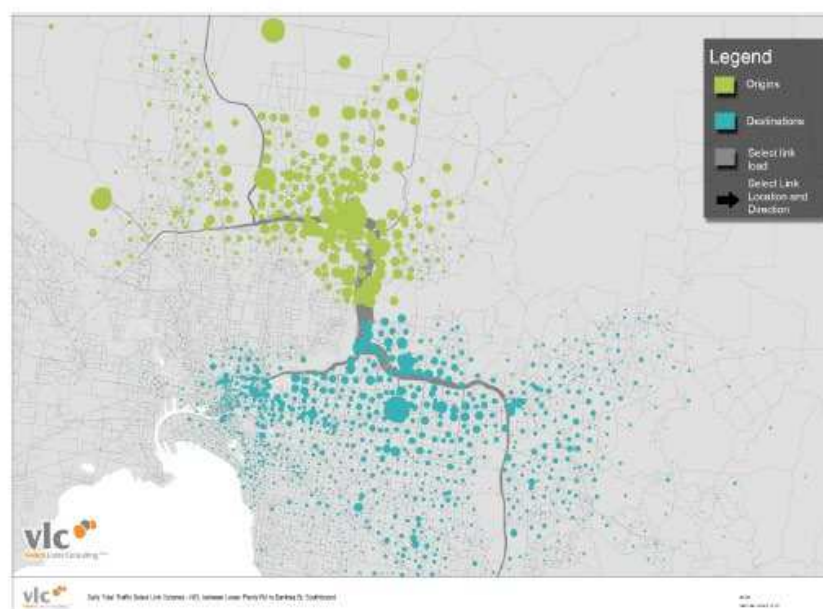
- 11.10 The Project encourages greater car use, but does not address the system level challenge of promoting investment in sustainable transport modes for those in the North East. Increased car dependence is directly at odds with ESD and accepted understanding of sustainable transport planning. It is not an ecologically sustainable choice compared to public transport investment in the same corridor.
- 11.11 The catchment around Greensborough Highway and Bulleen Road is clearly under-serviced by railway transport. Those in the outer eastern and north eastern suburbs have a much longer and more expensive journey to the airport than those in other parts of Melbourne. At present they would have to travel to Southern Cross Station to get a bus to the airport.
- 11.12 The map below extracted from the Proponent's transport materials shows the walkable catchment for the public transport network for the north east of Melbourne and shows the lack of rail in the area:

Figure 79 Public transport coverage

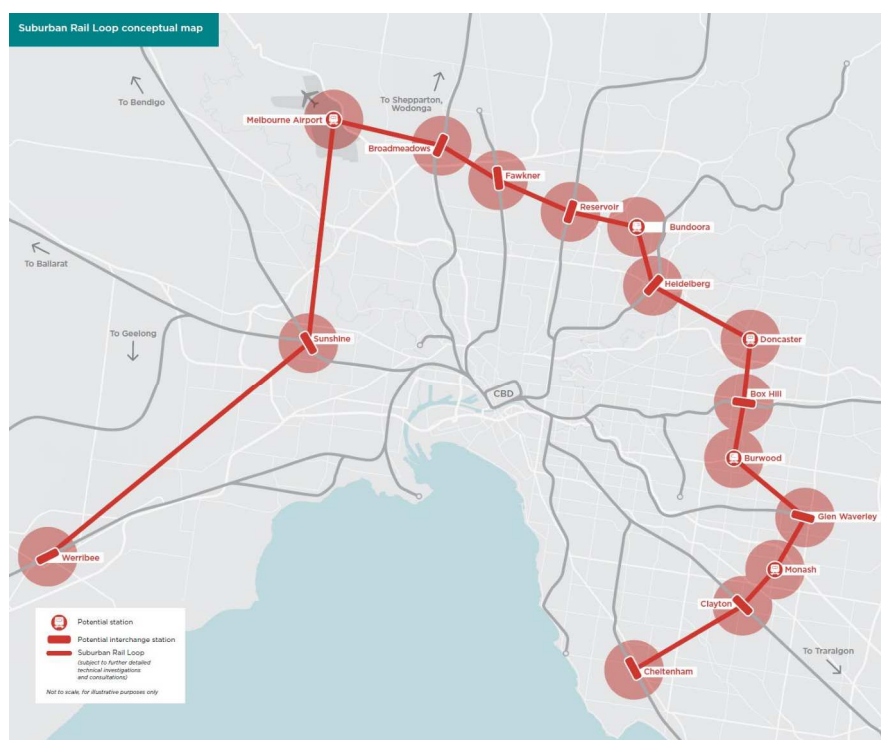


- 11.13 The alignment of the SRL via Latrobe University appears to be one way of providing those residents with an alternative to car based transport in the north east of Melbourne. It also offers a future route to the airport that does not require an interchange at Southern Cross Station.
- 11.14 The origin and destination map for vehicles using North East Link would help to justify a Business Case for the SRL for trips between Box Hill, Latrobe University and the Airport.

Figure 13 Daily origins and destinations all southbound vehicles using North East Link



- 11.15 The indicative alignment of the SRL is shown below:



- 11.16 The SRL Strategic Assessment⁴ states that the project will carry up to 400,000 daily trips and will remove up to 200,000 cars from roads per day in 2051. It is not clear what proportion of those trips would be generated from the north east and east of Melbourne, but it might be 50% (representing 100,000 displaced car trips per day). On the basis of that statement alone, any decision to approve the North East Link without assessing its effect on the business case for the SRL would be curious, having regard to the ESD principles.
- 11.17 In order to properly apply the ESD principles the Minister must inform properly herself regarding the potential economic implications of the Project for the economics or timing for other transports currently under consideration, such as the SRL.
- 11.18 Approving a freeway without considering the economic implications on the SRL, is a perfect example of a failure to balance the needs of present and future generations as required by the ESD principles.

12. Economic and social effects

- 12.1 Section 136 of the EPBC Act requires the Minister to consider economic and social matters when deciding whether or not to approve the taking of an action. This is reflected in the PER Guidelines which requires the economic and social impact of the Project, both positive and negative to be analysed, including:
- 12.1.1 the projected economic costs and benefits of the Project, including the basis for their estimation through cost/benefit analysis or similar studies; and
 - 12.1.2 details of the relevant cost and benefits of alternative options to the Project.

⁴ Accessible at: https://bigbuild.vic.gov.au/_data/assets/pdf_file/0006/325572/Suburban-Rail-Loop-Strategic-Assessment.pdf

- 12.2 The Councils submit that:
- 12.2.1 the positive social and economic benefits of the proposal have been materially exaggerated and so do not justify the environmental damage that the Project will cause;
 - 12.2.2 the Proponent has failed to properly identify and quantify the negative social and economic effects; and
 - 12.2.3 at best the social and economic impacts are neutral, in that the disbenefits at least equal the benefits.
- 12.3 As a result, the Councils also submit that the cost of proper mitigation of environmental impacts would be significant, and that this would bridge the gap in costs between the reference project and one or more of the feasible alternatives.
- 12.4 A triple bottom line assessment would provide for a more meaningful comparison with the costs of alternatives, consistent with the ESD principles that apply.
- 12.5 The positive social and economic impacts that have been overstated relate principally to:
- 12.5.1 patronage and demand forecasts; and
 - 12.5.2 asserted travel time savings.
- 12.6 The negative social and economic impacts that have not been asserted or have not been adequately assessed include:
- 12.6.1 the failure to take into account that cost of duplicating the Eastlink Tunnels as a necessary consequence of this Project;
 - 12.6.2 the costs of and foregone contribution to productivity of the businesses that are to be acquired;
 - 12.6.3 assessment of the probability that the businesses will not be able to re-establish, and consequent effects on economic output;
 - 12.6.4 identification and delivery of equivalent replacement open space;
 - 12.6.5 whether it is possible to deliver the continuity of local and regional sporting events that rely on open space assets that are to be acquired for construction purposes;
 - 12.6.6 measures to deliver a suitable replacement site of the Bulleen Tennis Centre and replacement holes for the Freeway Golf Course;
 - 12.6.7 the contribution of vegetation to clean air, health and wellbeing;
 - 12.6.8 potential for adverse economic effects on public transport investment in the catchment.
 - 12.6.9 the future stormwater management costs of the interface between the road project and the existing drainage system should be added to the costs of the Project; the costs of the Project should include the environmental costs of the damage to MNES and the ecological integrity of the project corridor and the Yarra river Floodplain environs.

Overstated benefits

- 12.7 The economic benefits of the action are highly questionable. In its 2016 report to Infrastructure Victoria KPMG/Jacobs and Arup (**Annexure F**) assessed the North East Link

as having a Benefit Cost Ratio (**BCR**) of 1.4 based on the assumed cost of \$7.1 Billion (without reference to wider economic benefits (**WEBs**)). With WEBs the BCR increased to 2.2.

- 12.8 That was based on a 2046 growth scenario conducted before the capital cost of the NELP doubled to more than \$14 Billion in the 2018 Business Case presented to Infrastructure Australia. On its face a doubling of the costs would generally halve the BCR value.
- 12.9 The cost of the proposal was considered in the 2018 Business Case. However, the Business Case contains 3 different traffic assessments. The No Project Case assessment estimated traffic volumes on the Eastern Freeway as approximately 150,000 vpd in the No Project Case. The predicted traffic volumes in the 2036 Project Case indicate a modelled increase of 100,000 vpd (two way) on top of the 150,000 vpd in the No Project Case, along the Eastern Freeway. However, it is not clear how and why the modelling increase of 100,000 vpd (two way) occurs. The justification for this number in the Business Case and the draft PER is lacking.
- 12.10 A layperson would reasonably apprehend that the significant increase in the 2036 Project Case volumes are driven by a perceived need to readjust the BCR following the significant increase in the costs of the Project in the 2018 Business Case, so that the BCR was maintained above 1. The Minister should critically assess whether benefits in excess of the \$10 Billion assessed by KPMG/Arup and Jacobs are credible. If they are not credible they should not be relied upon to justify the significant risk of damage to the Yarra River floodplain ecology and the destruction of many hectares of native vegetation.

Qualitative assessment is of limited use

- 12.11 The draft PER contains a qualitative assessment of socio-economic benefits (Table 16-1). However, this is of little assistance as it contains little more than a series of untested assertions. The draft PER process is not a useful process to test those assertions. It will not have the benefit of a number of experienced experts, as will the IAC process in Victoria.
- 12.12 Given that a large number of business and homes will be displaced, it would be reasonable to expect a detailed quantitative economic assessment that justifies the asserted benefits, having regard to the quantitative impacts of displaced businesses and environmental assets.
- 12.13 Table 16-2 of the draft PER fails to recognise the social and economic disbenefits of the action on those who are adversely affected. It is the best case scenario.
- 12.14 The proposition is supported by the findings of Infrastructure Australia which identified the following limitations in its analysis of the Business Case⁵:

Infrastructure Australia identified two limitations in the proponent's analysis which are likely to impact on the BCR. Potential downside risks which could reduce the estimated project BCR are as follows:

- The project is expected to deliver vehicle operating cost (VOC) savings for road users **by allowing higher travel speeds. However, the estimated household savings are likely to be too high due to the proponent applying higher VOC assumptions that are inconsistent with the Infrastructure Australia Assessment Framework**
- The analysis included benefits from avoided perceived congestion in the core BCR, which is inconsistent with Victorian Government guidelines. Infrastructure Australia also recommends excluding this type of benefit from the core results as the evidence base is not yet sufficiently mature to allow their quantification with confidence. **[our emphasis]**

⁶ Page R-55

- 12.15 A sensitivity analysis that recognises the reality of the flaws in the transport model (peak congestion, realistic toll avoidance scenarios and future variables such as growth of the ride share economy and autonomous vehicles, and potential competition from the SRL) need to be prepared and considered as part of the PER process.

Quantification of value of social and economic impacts

- 12.16 The assessment of social impacts at table 16-4 is qualitative. The Minister should attempt to put a dollar value on these impacts in order to respect the ESD principle of the triple bottom line approach.
- 12.17 The social and economic cost of land acquisition, business disruption and environmental repair and management are likely to be very significant but are not quantified. As a result, it is submitted that the draft PER fails to adequately address these issues.
- 12.18 Its level of analysis does not invite scrutiny of the detail, but the detail is what matters here. This project is city shaping. It warrants a high level of analysis that is lacking in the draft PER.
- 12.19 For example, the following questions should be addressed:
1. How does one assess the social cost on the permanent physical separation of the residents of Watsonia and Macleod by a trenched freeway?
 2. How does one assess the social and economic cost of the acquisition of at least 100 businesses;
 3. How does one assess the social effect of the acquisition of at least 34 family homes?
 4. What is the social value of the loss of 182,300 sqm of public open space?
 5. How much does it cost to relocate sporting organisations and, how much effort is required to retain members during a period of sustained disruption? What is the economic effect on those organisations? What is the social effect on the members and community networks?
 6. What is the value of that part of the open space network that is to be set aside to manage new stormwater assets?
 7. What is the ongoing maintenance costs of the new stormwater assets and who will bear that burden? Has this been assessed?
 8. What is the ongoing maintenance costs for new landscape plantings? Will the costs of this be adequately funded by the State, through toll revenue, or will the cost burden shift to ratepayers?
 9. Will water bills or rates have to be increased to pay for the ongoing maintenance of new assets?
 10. Has the risk of increased congestion and delays on the Eastern Freeway been assessed, or is it assumed that the project will not exacerbate delays for those who already use the Eastern?
 11. To what extent can extended tunnels provide a basis for value capture along the rail corridor?
 12. What is the future health benefit of preserving hectares of public open space?
 13. What is the \$ value benefit of avoiding large areas of native vegetation?

- 12.20 The truth is that the social costs of these impacts are sufficiently significant that they warrant a full and complete investigation which has not been provided as part of the draft PER. A full and complete investigation may lead to the conclusion that there are no net and social and economic benefits for the purpose of the EPBC Act.

13. Traffic impact assessment

- 13.1 The Councils assert that there are a number of key flaws or constraints in the outputs of the transport model that cast doubt over the asserted benefits of the Project and that Council proposes to test with evidence before the IAC,.

- 13.2 In summary the key issues are as follows

- 13.2.1 The failure to address the effects of the project on the Eastlink tunnels, and the future need for duplication of those tunnels, as a consequence of the 2036 project volumes;
- 13.2.2 The assumption of free flow conditions is unrealistic and fails to take account of queues and congestion at either end of the Eastern Freeway. Average travel times in the peaks will be much slower than described in the model;
- 13.2.3 The risk of toll avoidance, and its effect on travel times has not been properly assessed. The draft PER assessment is inconsistent with the Business Case.
- 13.2.4 The modelled increase of 100,000 vpd on the Eastern Freeway has not been properly justified. On its face, it appears unrealistic.

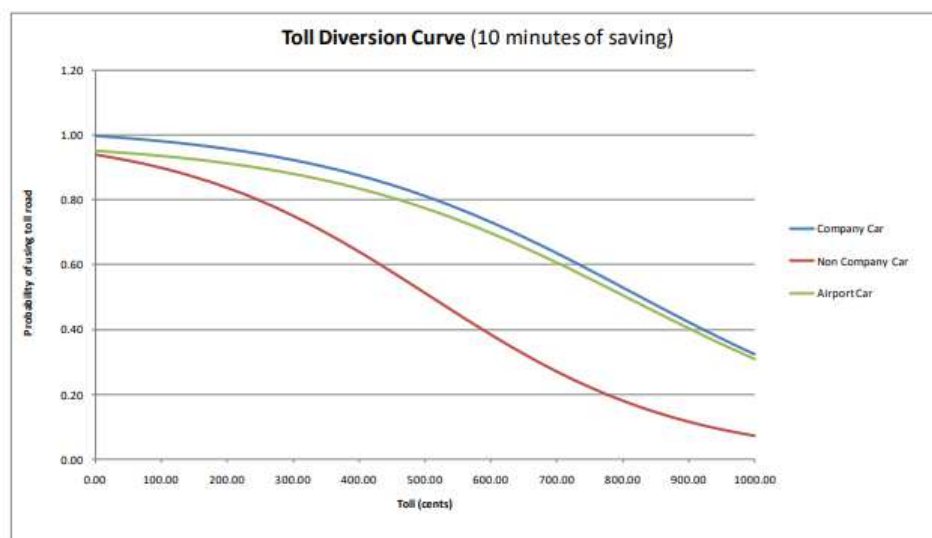
- 13.3 There are important and unexplained differences between the traffic assessments now relied upon and those which were attached to the Business Case. For example, section 6.6 of Appendix R to the Business Case states⁶:

Due to the paucity of robust data relating to observed toll diversion for existing toll roads, it is difficult to compare existing toll roads in Australia with the North East Link forecasts in terms of predicted toll diversion.

Therefore, sensitivity testing was undertaken of the North East Link project in a 2036 untolled scenario. It was found that with the addition of the core tolling scenario, daily two-way traffic volumes decreased by 32% compared to the untolled project.

⁶ Page R-55

13.4

Figure 7 Example Zenith toll diversion curves**Figure 7, Appendix R to the Business Case**

- 13.5 While the statement in the Business Case and the above figure have seemingly significant implications for the economics of the project, it is not reflected in the draft PER or the modelled traffic volumes in the draft PER. The EES applies a +/- 20% variation to the assumed toll price and predicts a minor change to traffic volumes. But the 32% reduction referred to in the Business Case has been filtered out, for reasons which remain unclear.
- 13.6 If the type of congestion observed on the M1 (stretching all the way to Berwick during the am peak) occurs on the North East Link, this will cause commuters to look for untolled alternatives, such as Rosanna Road.

Asserted travel time savings

- 13.7 The model assertion that average peak travel times along the Eastern Freeway exceeding 85 km/h in the peak periods is unachievable. It illustrates that the model is not realistic and should not be relied upon by the Minister.
- 13.8 That the asserted speed is misleading is illustrated by the admitted inability of the models to properly take account of queues and congestion at either end of the Eastern Freeway.
- 13.9 The Business Case acknowledged that average speeds during the peak periods drop significantly in the baseline 2016 scenario, as shown in Figures 57 and 58 to Appendix C:

Figure 57 Average weekday speeds by section of the Eastern Freeway inbound

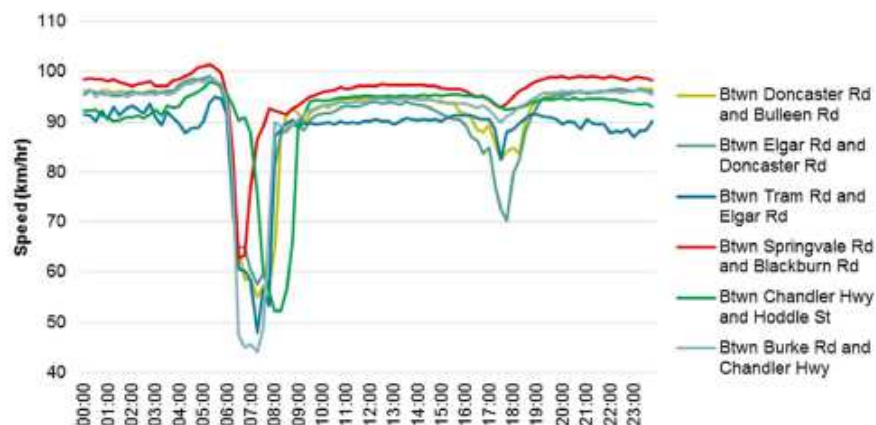
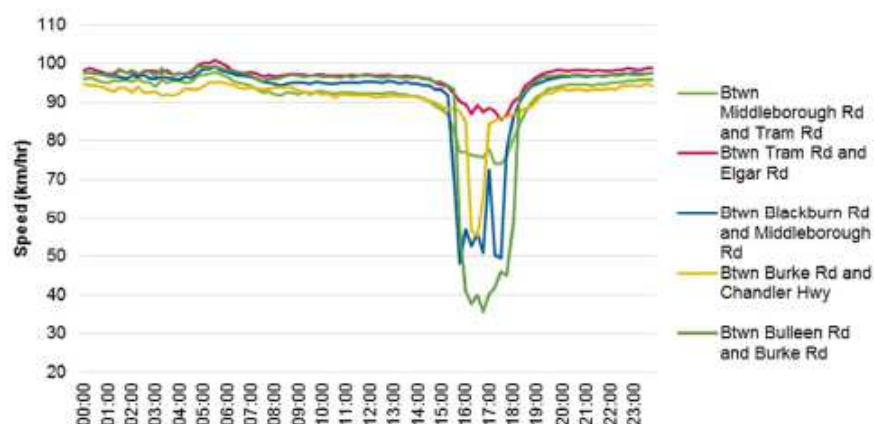


Figure 58 Average weekday speeds by section of the Eastern Freeway outbound



- 13.10 It's not easy to reconcile this data with what is presented in the EES and the draft PER. The EES asserts that the project will achieve average speeds in excess of 85km/h during the am peak. Such a claim appears unlikely on its face and warrants proper scrutiny. It is not the type of claim that can be accepted at face value by a reasonable decision maker.
- 13.11 Accordingly, the Minister must factor down the likely travel speeds (and the benefits associated with that) by reference to the evidence.

Failure of the Eastlink Tunnels

- 13.12 Putting to one side for the moment, whether or not the congestion is influenced by a lack of capacity in the tunnels, the EES and the draft PER fail to assess the level of capacity in the

Eastlink Tunnels in the 2036 Project case. The proponent's approach prevents the Minister and other decision makers from considering whether the NELP will cause or contribute to failure of the Eastlink Tunnels.

- 13.13 It is submitted that the effect of the project on the Eastlink Tunnels is a relevant consideration that cannot be ignored. It is central to whether the feasible alternatives should be the subject of further assessment. Some of the feasible alternatives included duplication of the Eastlink Tunnels.

14. Assessment of feasible alternatives

Summary

- 14.1 The PER Guidelines requires the draft PER to include a discussion of any feasible alternatives to the extent reasonably practicable, including, the alternative of taking no action as well as a comparative description of the impacts of each alternative on the relevant MNES protected under Part 3 of the EPBC Act. The proponent is also required to provide sufficient detail to make it clear why any alternative is preferred to another.
- 14.2 The Council's submit that the draft PER fails to provide a persuasive basis for rejecting the feasible alternatives.
- 14.3 It is submitted that other Corridor options have demonstrable advantages because they:
- 14.3.1 would, in the case of a true ring road option, increase overall main road capacity and spread demand across the road network (consistent with planning policy), whereas the chosen option replicates and in parts replaces an existing route;
 - 14.3.2 will not cause:
 - (a) a significant increase in queue lengths along on the Eastern Freeway for commuters in the am or pm peak;
 - (b) failure of the Mullum Mullum Tunnels;
 - (c) a significant degradation of urban design and landscape attributes of the Eastern Freeway, which are experienced by hundreds of thousands of Victorian on their daily commute.
 - 14.3.3 will minimise the number of trucks and freight vehicles on the Eastern Freeway, and further transport planning objectives of segregating freight and commuter transport;
 - 14.3.4 will reserve spare capacity on the Eastern Freeway:
 - (a) until the EWL is constructed;
 - (b) for the benefit of the EWL in the event that EWL is constructed by a future government; and
 - (c) It will provide a high speed orbital connection that does not compete with radial commuter traffic (i.e. it's a true ring road); and
 - 14.3.5 will not have the following undesirable consequences attributable to Corridor A:
 - (a) impacts on the Yarra River, its floodplains, tributaries and significant wetlands;

- (b) congestion and associated delays;
 - (c) adverse effects on landscape character and constrained opportunities for good urban design;
 - (d) widening of the Eastern Freeway reservation and land acquisition;
 - (e) less secondary delays associated with ramp metering;
 - (f) loss of large areas of vegetation; and
 - (g) encroachment on landscape buffers and residential interfaces.
- 14.3.6 offer greater potential to link key freight hubs and inter modal terminals to interstate freight routes and freight corridors; and
- 14.3.7 will reduce the need to impose higher tolls on freight during peak periods, thus making Victoria's position as the Freight State more resilient to increased competition from other States and ports.
- 14.4 In addition the draft PER fails to consider sustainable transport options such as the SRL as part of the government's response to future transport demand.
- 14.5 One may ask why a freeway is being designed to service predominantly local demand that benefits an inner urban catchment that has lower public transport use than the metropolitan average, at the expense of commuters in outer suburbs?
- 14.6 One may also ask why the negative impacts has been excluded from the draft PER. The PER must adequately identify who will enjoy a benefit and who suffers a disbenefit in considering the social and economic effects of the proposal. Without further information of these issues within the PER, the Minister will be unable to adequately determine the overall impact of this Project.

Alternative strategic interventions

- 14.7 Section 4.2 of the draft PER addresses policy interventions that do not involve large capital infrastructure projects.
- 14.8 These were the subject of a report prepared by KPMG/Arup/Jacobs Report shows that alternative interventions performed strongly compared to road infrastructure projects.
- 14.9 The Response to strategic option 2 (demand and productivity management) was that it did not fully address the freight problem. The response to the public transport investments (strategic option 3) was also rejected on the basis that it did not solve the problem of orbital connectivity and freight movements.
- 14.10 Alternative alignments can address the challenge of providing an orbital link for freight traffic between employment hubs in the south-east of Melbourne.
- 14.11 Table 4-1 in the draft PER represents the complete justification for not proceeding with the strategic options. It lacks any detail or empirical support. The assertions are not supported by evidence in a form that invites scrutiny. That the strategic justification for not proceeding with an alternative alignment can be boiled down to a few one line assertions in a table, highlights the lack of rigour in the draft PER.

Alternative alignments

- 14.12 Both Banyule and Boroondara expressed a preference for Corridor C during the consultation phase before the release of the draft PER. They believe that a truly orbital freeway connection is the appropriate road based transport system solution.
- 14.13 If the type of congestion observed on the M1 (stretching all the way to Berwick during the am peak) occurs on the North East Link, this will cause commuters to look for untolled alternatives, such as Rosanna Road. A true orbital freeway connection, of the type encouraged by planning policy would avoid the risk of bringing more congestion into the inner suburbs of Melbourne, and have the effect of protecting Rosanna Road, the Eastern Freeway and the Outer Suburban Rail Loop.
- 14.14 The draft PER refers to the strategic merit test, rapid appraisal and detailed appraisal methodology. The approach adopted is reflected in Appendix D to the Business Case (Corridor Options Assessment).
- 14.15 The Corridor Options Assessment is a poorly constructed document that represents a biased approach to assessment of the alternative options. It is biased in favour of Corridor A due partly to the selection of the 2036 Project Case. Such a short planning horizon is biased in favour of Corridor A because it does not allow for the full development of the outer growth corridors, which would improve the business case for a truly orbital freeway connection between Eastlink and the M80.
- 14.16 The Corridor Options Assessment considered the cost of Option A without the improvements to the Eastern Freeway. This additional work added around \$6 Billion to the overall project cost, which has not been re-assessed against the benefit of other corridor options.
- 14.17 The following image, taken from Appendix Q2 to the Business Case, is illustrative of the extra catchment obtained in the 2051 project timeframe, that allow for further build out of the growth corridors and population growth:

Table 2 - Population forecasts for Project catchment

Study area	2016	2036	2051	2016-2036		2036 - 2051	
				Change	CAGR	Change	CAGR
Key residential locations	310,807	476,477	562,195	165,669	2.2%	85,718	1.1%
Project catchment	1,773,337	2,336,023	2,764,932	562,686	1.4%	428,908	1.1%
Melbourne UGB	4,379,804	6,090,175	7,406,967	1,710,371	1.7%	1,316,793	1.3%

Source: TIV Reference Case land use v.1.08 based on VIF 2015

- 14.18 If the assessment of the alternative corridors had been based on a 2051 model, rather than the 2036 Project Case, then it would show a significant increase in the population in the Project catchment. It is reasonable to infer the benefits of an orbital alignment would grow proportionally to the population growth. Clearly, it would make sense to plan for an orbital connection to directly service population growth in the outer suburbs, thereby reserving the opportunity for East West Link to absorb the capacity in the Eastern Freeway reservation. This requires consideration of when the business case is optimised.
- 14.19 Furthermore, the detailed appraisal criteria in Appendix D to the Business Case were not 'risk weighted'. They should have been. Each criteria appears to have assumed the same level of significance, resulting in a 'tick a box' approach to the assessment, rather than a critical analysis. For example, risks to groundwater and surface water ecology were not graded any differently than other relatively benign issues.
- 14.20 Further, the Corridor Options Assessment attached to the Business Case illustrates a demonstrable bias in favour of Corridor A. An example of this is that the groundwater risk for

Corridor C was given the same weighting in the Corridor Options Assessment, despite the fact that Corridor C goes through hilly terrain, at depth, relative to waterways and would represent a lower risk of drawdown than a tunnel through the Yarra River floodplain.

- 14.21 The relative groundwater risk is noted in the key findings of the draft PER. However, it is not clear that the significant risk posed to the groundwater environment (and dependent ecosystem values) has been given the weight required by the ESD principles. Those principles make it clear that ecological integrity is a fundamental consideration for decision makers. Accordingly, it has not been demonstrated that this consideration is given adequate weight in the draft PER.
- 14.22 The risk to the Yarra River Floodplain are so significant that Corridor A should be rejected. The risk to these ecological systems is presented in the absence of a sound argument that the No Project would be unacceptable, or lead to serious traffic failures in the nominated planning horizon (2036).
- 14.23 It is submitted that the corridor options assessment lacks independence and should not be adopted. It is inherently unreliable and defective.
- 14.24 To the extent the capital costs was a factor in preferring Corridor A, it is submitted that there is an unfair comparison, associated with the proponent's election to exclude the duplication of the Eastlink Tunnels from the Corridor A project costs. As is demonstrated elsewhere in this submission, the Corridor A project will cause significant congestion at the Eastlink Tunnels. As this is a direct result of the project, it is necessary to consider the effects of the project on the need to duplicate the Eastlink Tunnels and connect them to either the Eastern Freeway or the M80. This cost would add \$Billions to the cost of the reference project.
- 14.25 Alternatively, the cost of duplicating the tunnels should be subtracted from the alternate alignments to provide a fair comparison.

15. Alternative components of the reference project

- 15.1 In the event that the Minister and the Proponent rejects the Council's primary submissions, the Councils seek a range of changes to the Project to be incorporated into the final PER the subject of the EPBC Act approval.

Extended Tunnelling to Grimshaw Street

- 15.2 In the Northern end, Banyule City Council has a strong preference for extended tunnels between Lower Plenty Road and Grimshaw Street as described as Option 2A in the BabEng report described in Annexure A. Put simply, the costs of extended tunnelling are acceptable and can be financed by toll revenue.
- 15.3 If there is a financing solution, no reasonable decision maker could subject the residents of Watsonia to a trench that divides the community and hinders access to the Principal Public Transport Network.
- 15.4 The proponent's preference for excluding the extended tunnel option is due to an asserted preference to minimise property acquisition. With respect, the proposition of a trench dividing the community is more concerning than the acquisition of a few houses along the project corridor, most of which are substantially detrimentally affected in any event.
- 15.5 It is submitted that no reasonable decision maker could justify Option B on account of the need to acquire houses, in preference to an extended tunnel which preserves the urban design integrity of the corridor and retains physical connections for its residents.
- 15.6 If an extended tunnel is delivered, it would provide an important opportunity to exploit value capture opportunities around Watsonia Station. This would attract new investment to the

reclaimed land along the corridor, and would offer options to claim open space adjacent to residential interfaces and to construct appropriate landscape interfaces for residential areas. Banyule City Council is developing options for the Watsonia Precinct which will be presented as part of its case before the IAC considering the EES.

- 15.7 Further, it is significant that the draft PER does not suggest that the tunnels are not feasible.

M80 and Grimshaw Street Interchanges

- 15.8 The Councils acknowledge that there is congestion around the M80 interchange and Grimshaw Street that can and should be addressed. This congestion is likely to be addressed by capital works projects regardless of whether the North East Link is approved.
- 15.9 A grade separated upgrade of the M80 interchange has been on the agenda for many years. It is desirable to separate local traffic flows from longer distance trips to reduce conflicts at this junction.
- 15.10 However, it is submitted that this can be achieved in a much more efficient manner, through a rationalised design. Alternative design options will be presented to the IAC considering the EES.

Lower Plenty Road Interchange

- 15.11 Banyule Council's concern with the proposed interchange design is that it occupies more land than the alternative options and represents excessive level of environmental impact.
- 15.12 The interchange could be redesigned with a more conventional interchange to minimise the ecological impact on trees, open space and local amenity.

Bulleen Road/Eastern Freeway interchange

- 15.13 Chapter 4 presents various options for the design of this interchange, including extended tunnel and cut and cover options.
- 15.14 The Councils strongly prefer Option B (extended tunnels) as described in Chapter 4. They have commissioned work from transport engineers that may result in a revised alignment of the tunnel portal.
- 15.15 The Project is a poor outcome from an urban design point of view and also maximises the impact on the open space, community facilities and environmental assets.
- 15.16 The interchange design is unduly complex and involves a layering of elevated roads under and over other roadways.
- 15.17 The reference design will involve impacts to the Koonung Creek reserve, including covering a 1.5 km section of the Koonung Creek.
- 15.18 The reference project would also have a significant impact on open space assets west of Bulleen Road, principally the Freeway Golf Course.
- 15.19 The draft PER does not include any clear justification as to why Option C was preferred. It notes the disadvantaged of Option C, but fails to identify any failing with Option B. This is completely unacceptable, given the very significant visual intrusion that Option C represents in a busy viewshed.
- 15.20 The Eastern Freeway is currently well landscaped. Its landscape attributes will be significantly affected by Option C.

- 15.21 The Councils will be presenting detailed alternative alignments as part of their case before the IAC which reduces the impacts to the west of Bulleen Road and substantially avoids impacts to Koonung Creek to the south of the Eastern Freeway.
- 15.22 It is submitted that the feasible alternatives better respond to the principles of ESD and no reasonable Minister could refuse to prefer them, on the assumption that there is an acceptable finance mechanism to pay for any net increase in capital costs (i.e. toll revenue). Further, these alternatives will involve significant savings in capital costs by rationalising the extent of works required.
- 15.23 These alternative alignments and interchange design options can avoid the loss of several hectares of open space and preserve the Koonung Creek.

The Eastern Freeway upgrades are excessive

- 15.24 The Business Case transport impact assessments (TIAs) admit that there is more capacity being delivered than is required to service the North East Link demand in the 2036 Project Case. This is clearly inferred from the Project Case TIA (Appendix K to the Business Case)

Table 4 from Project Case TIA in the Business Case

Midblock section	Existing number of lanes (two-way)	Proposed number of lanes (two-way)	Increase in capacity ¹	Change in AM peak hour volumes (2036)
Springvale Road to Blackburn Road	6 (7 during PM peak)	9 ²	45%	5-10%
Blackburn Road to Middleborough Road	8	11	35%	5-10%
Middleborough Road to Station Street	8	12	50%	20-25%
Station Street to Elgar Road	6	12	100%	55-60%
Elgar Road to Doncaster Road	6	14	115%	55-60%
Doncaster Road to Bulleen Road	6	14	130%	70-75%
Bulleen Road to Burke Road	8	10	25%	25-30%
Burke Road to Chandler Highway	8	10	25%	20-25%
Chandler Highway to Hoddle Street	10	10	-	5-10%

1 Capacities based on VicRoads Motorway Capacity Guide (2017)

2 Additional lane (5 lanes) provided in eastbound direction compared to westbound direction (4 lanes) to better separate traffic exiting at Springvale Road from traffic travelling towards EastLink

The Eastern Upgrades do not avoid or minimise impacts on native vegetation, contrary to policy

- 15.25 Commonwealth and State policy requires a demonstrated effort to avoid and minimise impacts on native vegetation and ecological values
- 15.26 The Reference Design demonstrably fails to achieve this:
- (a) within the Eastern Freeway corridor; and
 - (b) along Greensborough Road and the Lower Plenty Road interchange
- 15.27 The Councils will lead expert evidence before the IAC that demonstrates that impacts to native vegetation communities are avoidable.
- 15.28 The Councils are confident that design solutions exist which avoid impacts along the Koonung Creek corridor, and which minimise the footprint of the Bulleen Road interchange.

It is expected that these design options will save several hectares of scarce public open space.

- 15.29 The Joint Councils contend that the same objective can be achieved with a rationalised road design, so they do not contend that the above scenario is representative of what should occur. The benefits of extra capacity are retained through a simpler and superior road design. But if the Eastern Upgrades were not approved or were deferred, this is the scenario analysed in the advice provided to Infrastructure Victoria.
- 15.30 The widening proposed around the Bulleen Road interchange shows just how intrusive the project will be within the viewshed and the floodplain environs.
- 15.31 As outlined above, the Councils will lead evidence before the IAC that the scale of works proposed is excessive, and that feasible options exist which reduce the impacts on the Koonung Creek corridor.

16. Procedural flaws

- 16.1 The Councils have a range of significant concerns regarding the process.
 - 16.1.1 firstly they are concerned that the reliance on a public environment report in the context of the Project simultaneously going through a public inquiry process in Victoria is a flawed process that may undermine the validity and legitimacy of any decision to approve the project under the EPBC Act given the extent of further evidence and changes to the Project that are likely to still occur through the Victorian IAC process. The PER process patently inferior to an Inquiry where evidence can be tested and witnesses called.
 - 16.1.2 second, they believe that the Eastern Freeway Upgrades a part of a broader action that acquiesces in the future delivery of the East West Link. This is inferred by the fact that the scale of works in the Eastern Freeway are more than is required to accommodate demand in the 2036 Project Case. This means that the project should be assessed as part of a broader action, if it retains those excessive works and additional lanes.
 - 16.1.3 thirdly, they are concerned that the Minister will not have the benefit of the hearing the evidence and the cross examination that will occur through the Victorian IAC process.
 - 16.1.4 finally, they are concerned if that the material in the draft PER is not sufficiently detailed to allow a meaningful assessment of feasible alternatives.
- 16.2 Individually and collectively these procedural concerns serve only to undermine the validity of the assessment and approval process reliant on the draft PER process.

17. The Minister should appoint an Inquiry without delay

- 17.1 Section 90 of the EPBC Act empowers the Minister to substitute a new decision as to the required assessment approach by directing that the effects of the process must be assessed by an Inquiry.
- 17.2 The mere fact that the EES process and IAC will run concurrently with the draft PER illustrates the problem. The Minister must not miss out on important and relevant evidence. The reference design is likely to be materially refined in the course of the IAC hearing.

- 17.3 The proponent will suggest EPR's in the course of the IAC hearing. The IAC may recommend additional design changes and EPR's in its report. The Minister of Planning may require additional design changes and EPR's as part of the approval. The IAC will hear extensive environmental evidence in the course of its hearing that will inform the final design parameters of the Project.
- 17.4 Because of the comprehensive and independent nature of the IAC process, the ability to call experts and cross examine witnesses, it is highly likely that the reliance on the draft PER process will mean that the Minister is being asked to make a decision under the EPBC Act without the benefit of the best available and complete information in relation to the Project.
- 17.5 Accordingly, if the Minister is not intending to refuse the approval, the Minister should:
- 17.5.1 delay the PER process until at least after the IAC report is available;
 - 17.5.2 require an amended PER that is consistent with the case run before the IAC and is consistent with the report of the IAC;
 - 17.5.3 require the amended draft PER to be publicly exhibited and interested person to have the opportunity to make submissions in relation to it.
- 17.6 The Minister should exercise power under section 90 of the EPBC Act to direct that the proposal be assessed by an Inquiry. Among other things this would allow the incoming government to consider whether the economics of the SRL would be undermined by the Project.

18. Recommendations

- 18.1 The recommendations on behalf of the Councils are set out in Annexure G.

List of Annexures

Annexure A	Report of Dr Lorimer, October 2018
Annexure B	Assessment against Schedule 4 to the EPBC Regulations
Annexure C	Banyule CC comments
Annexure D	Boroondara CC comments
Annexure E	Recommendations
Annexure F	KPMG/Arup/Jacobs Report to Infrastructure Victoria
Annexure G	BabEng Report on extended Tunnel Option

Schedule 1 Relevant Ecological Studies

	Banyule	Boroondara
Previous reports	<p>Warrigal Parklands & Banyule Flats Ecological and Conservation Values Assessment: Practical Ecology May 2017</p> <p>Mammals Birds and Reptiles observed at and near Banyule Flats and Warrigal Parklands, Lyon et al, 2016/2017</p> <p>Swift Parrot in Banyule and surrounds: Practical Ecology 2017</p> <p>Streerton Views Estate stage 11 Yallambie: <i>With particular reference to The significance of the natural hybrid Eucalyptus xstudleyensis studley park gum and the endangered species Dianella amoena matted flax-illy</i> David Cameron, Kevin Rule & Randall Robinson, May 1999</p>	<p>Inventory of indigenous flora and fauna (Lorimer, 2006)</p> <p>EAGA Biodiversity Monitoring Bird Communities Report</p> <p>Boroondara Protected Matters Search Report, listed species and communities</p> <p>Urban Biodiversity Strategy 2013-2023</p>
Reports referred to in the planning scheme	<p>Significant Trees and Areas of Vegetation Study March 2000 (reference document in planning scheme (ESQ4))</p>	<p>Boroondara Urban Biodiversity Strategy 2013-2023</p> <p>The Inventory and Assessment of Indigenous Flora and Fauna in Boroondara</p> <p>Integrated Water Management Strategy 2014-2024 (City of Boroondara, 2014)</p> <p>Boroondara Open Space Strategy (City of Boroondara, 2013)</p>

ANNEXURE A – Report of Dr Lorimer, October 2018

Peer Review of North East Link EES

Technical Report – Ecology

A report to the City of Boroondara
by Dr Graeme Lorimer, Biosphere Pty Ltd

Version 1.0, 1st October 2018

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1. Introduction

This document contains a critical review of the draft 'North East Link Project Environmental Effects Statement Technical Report – Ecology' by GHD, dated September 2018. For compactness, the term, 'draft Technical Report' is used in what follows.

The draft Technical Report was provided to the City of Boroondara's representatives on the Environmental Effects Statement's 'Technical Reference Group' for review. They then referred it to me for independent peer review, with a request to focus on Boroondara and adjacent areas that may affect Boroondara. They also gave me the corresponding draft report on groundwater, which I have searched for parts relevant to ecology.

2. Overview

The draft Technical Report covers a large amount of work in its 626 pages. However, it appears to have been rushed and it is not ready for the review by me or the EES Technical Reference Group. It is incomplete and contains many errors and inconsistencies that need to be corrected. This section of my review provides an overview and Section 3 provides more detail.

I have highlighted 'action items' that I would particularly like to see addressed, other than those already foreshadowed in the report.

2.1. Incompleteness

2.1.1. Unfinished Fieldwork

The draft Technical Report acknowledges that there is unfinished botanical fieldwork regarding the River Swamp Wallaby-grass, Short Water-starwort, Silurian Striped Greenhood, Green-striped Greenhood. The remaining fieldwork cannot be completed until December 2018 at the earliest, followed by incorporation of the findings into several sections of the report. Depending on the findings, there may be a need for translocation plans, offsetting and/or changes in project design or construction processes.

Another indication of incomplete fieldwork is the first paragraph of p. 100, which ends, 'Field surveys will be required to complete these assessments' (being Habitat Hectare assessments).

Because additional fieldwork will delay completion of a future draft of the report, there is an opportunity to do fieldwork in Boroondara that the report says would have been done if not for delayed permission from the council.

There is also an opportunity to fill gaps in the investigation that the report does not address. One such gap is the failure to conduct a targeted survey for the Glossy Grass Skink, for which the report identifies a number of possible locations within 'a large area of potential habitat' (p. 142). Other gaps in the fieldwork are discussed below.

2.1.2. Unaddressed Scoping Requirements

Section 4.6 of the EES Scoping Requirements, headed 'Habitat and biodiversity', includes this 'key issue': '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’. The draft Technical Report does not address future climate change scenarios and their interactions with North East Link’s impacts on water availability for flora or fauna.

Another ‘key issue’ in the EES Scoping Requirements that has not been addressed in the draft Technical Report is ‘Reduction in environmental quality due to increased transmission or generation of pollutants from loss of vegetation, including aquatic vegetation and algae’.

Among its ‘Priorities for characterising the existing environment’, the EES Scoping Requirements includes a requirement to ‘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’. Listed fauna and the DELWP Advisory List for plants include a range of categories of species. The draft Technical Report has chosen not to assess all those categories (see my Section 3.3.1 below). I can see no basis for GHD to have done so and I am concerned that some of the omissions could be quite important.

Action: Correct the neglect of requirements related to climate change, pollution / vegetation interactions and DELWP Advisory Listed-species.

Another EES Scoping Requirement is to ‘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)’. The draft Technical Report’s response is presumably the use of tunnelling and the ‘Environmental Performance Requirements’ (EPRs) in Section 13. However, most of the EPRs provide only a superficial response because they represent only a promise that design options or mitigation measures will be developed later.

For example, in response to the EES Scoping Requirement to ‘Develop potential and proposed design options and measures that can avoid or minimise significant direct and indirect effects on vegetation’, EPR FF2 proposes, ‘Through detailed design, minimise the removal of native vegetation and fauna habitat and impacts on habitat connectivity’, leaving the actual measures to an as-yet unwritten ‘Construction Environmental Management Plan’. As another example, for ‘Weed and pathogen management measures’, EPR FF3 is ‘Develop and implement measures to avoid the spread or introduction of weeds and pathogens during construction, including vehicle and equipment hygiene’.

In the many cases like these, I feel the EPRs do not respond to the requirement to provide solutions but instead simply restate that the requirement exists. I expect an EES to produce evidence that solutions actually exist, not just statements that solutions will be sought. I am concerned that corners appear to have been cut and an important role of the EES is being devolved to later work without the same level of oversight.

Action: Develop actual solutions to the ecological threats, not just statements that solutions will be sought at some later time.

The EES Scoping Requirement quoted above is not the only one to refer to planted vegetation. The ‘Evaluation objective’ for habitat and biodiversity is ‘To avoid or minimise adverse effects on vegetation (including remnant, planted and regenerated) ...’. In most respects, the draft Technical Report dismisses planted vegetation on the (mistaken) basis that its removal is not generally subject to a planning permit. Even revegetation funded by government to provide

habitat is dismissed as ‘amenity planting’, which is inaccurate and arguably disingenuous. I do not regard the draft Technical Report as meeting the EES Scoping Requirements for planted vegetation. I provide more detail in Section 3.1 below.

Action: Assess planted vegetation as required under current planning provisions, without using the term ‘amenity plantings’ as a euphemism.

The EES Scoping Requirements incorporate the associated ‘Minister’s Procedures and Requirements’, which commence as follows:

‘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, ...’ [my emphasis].

I do not see any documentation of investigations into the feasibility of design alternatives. That is not to say that alternatives have not been considered; I regard the use of tunnelling and the designation of no-go zones as appropriate measures to reduce effects on biodiversity. There may well have been other steps taken. In view of the quote above, I would like the draft Technical Report to document what has been done. To a large degree, the same documentation needs to be prepared anyway for the applicable planning permit under clause 52.17 of the Victoria Planning Provisions.

Action: Document what design alternatives, mitigation measures and management options have been considered to reduce ecological impacts and why they were adopted or rejected.

2.1.3. Unaddressed Planning Provisions

Misunderstandings of planning law have led the draft Technical Report to omit various investigations that are required under planning schemes.

Page 11 and Section 4.3 wrongly suggest that no planning permit is required for vegetation removal as long as an exemption applies under the state-wide controls over removal of native vegetation (clause 52.17 of the Victoria Planning Provisions). In reality, an exemption from clause 52.17 does not also represent an exemption from any other planning control. Most of the project area lies within overlays that require a permit to remove various types of vegetation (native or otherwise), regardless of any exemption under clause 52.17.

The draft Technical Report has only assessed locally indigenous species. Even clause 52.17 is more general, while many of the overlays (including in Boroondara) extend to species from overseas.

The draft Technical Report says that properties smaller than 0.4 hectares were not assessed for flora or fauna on the basis that an exemption applies to such properties under clause 52.17. The overlays generally do not provide such an exemption, so properties smaller than 0.4 hectares should be assessed. In any case, the EES Scoping Requirements do not say that flora and fauna only need to be assessed on larger properties.

Manningham’s Environmental Significance Overlays ESO2 and ESO3 require an assessment of locally and regionally threatened flora and fauna, as well as measures to negate, minimise or manage those impacts. The draft Technical Report does not address these requirements and additional fieldwork would be required to do so.

The draft Technical Report deals with ‘offsets’, but only those associated with clause 52.17. In general, an offset that satisfies clause 52.17 may not be of the right kind or magnitude to meet the requirements of the applicable overlays.

I understand that it is intended that the EES will be exhibited alongside a planning amendment to effectively exempt North East Link from planning controls and substitute other requirements approved by the Minister for Planning, guided by the EES. The present draft of the amendment would effectively remove the relevant overlays. I therefore regard it as particularly important to deal thoroughly with all the currently relevant planning controls during the EES process.

I provide more detail about planning controls in Section 3.1 below.

Action: Take advice from a planner and complete the assessments required under current planning provisions.

2.1.4. Unaddressed Works

I am surprised that the draft Technical Report does not even mention that some wetlands at the Trinity Grammar Sports Complex will be destroyed by excavations for a cut-and-cover tunnel and an adit (or launch point) for a mined tunnel. The vulnerable-listed River Swamp Wallaby-grass was found in one of those wetlands during the most recent thorough botanical survey, in 2007. (Page 93 wrongly states that River Swamp Wallaby-grass was only detected ‘within close proximity to the project boundary’, whereas it was actually recorded in ‘Wetland B’, all of which is within the project area and much of which will be excavated for a cut-and-cover tunnel.) It is not clear to me what will be the fate of the Trinity Grammar wetlands that are not, or only partly, excavated. Without even acknowledging these facts, and before a targeted search has been done, the draft Technical Report should not have concluded that the species ‘is not expected to be significantly impacted’ by North East Link. See my Section 3.3.4 below for more detail.

I have only been given a few of the draft EES documents, so I may be missing something, but there are bulges in the project boundary which make me wonder whether there are works proposed which have not been properly considered in the draft Technical Report.

The most straightforward example is Simpsons Lake in the Kew Golf Club’s course. As stated by Lorimer (2006), the lake’s trees are believed to represent the only breeding site in the Melbourne area for the Australasian Darter. A range of other cormorant species also breed there. The project area boundary bulges around the lake, for reasons I do not know. Given that the project area is said to be where construction work and associated activities are concentrated, I would have expected those activities at Simpsons Lake to be addressed in the draft Technical Report.

Similar situations in Boroondara occur at the southernmost pond at the Freeway Golf Course and at the freeway underpass next to the Kew Billabong.

Action: Reveal all the relevant works in proximity to significant natural assets and update the risk assessment, impact assessment and environmental protection requirements accordingly.

2.2. Contestable or Inconsistent Content

There are many cases in which I think the draft Technical Report has taken an unjustifiably optimistic view that North East Link's impacts can be dismissed. The most important of these are as follows:

- I am concerned that some of the native vegetation to be removed appears to have been overlooked and some of it has been misrepresented. For example, at the Trinity Grammar Sports Complex, I see on Figure 10-13 that:
 - The indigenous revegetation along the northern boundary (generally north of the tennis courts) is not shown as being subject to removal despite being at the junction between the cut-and-cover tunnel and the mined tunnel, where works will be at their most intense;
 - No vegetation is shown as being removed from the eastern half of 'Wetland B' where Australian Ecosystems (2007) found the listed-vulnerable River Swamp Wallaby-grass, despite that area being within the project boundary; and
 - The rest of 'Wetland B' and all of 'Wetland A' are depicted as 'Floodplain Riparian Woodland' whereas they are actually wetlands, identified by Australian Ecosystems (2007) as 'EVC 932 Wet Verge Sedgeland' and 'EVC 172 Floodplain Wetland Aggregate', respectively.

My task in checking for errors and omissions in vegetation removal has been confounded by the apparent absence of a map or plan that shows labels on the 'habitat zones' that appear in Table 25. In this situation, I cannot (and should not have to) check all of the vegetation to be removed but more checking is needed.

Action: Correct the errors above, check the remaining areas and make corrections as required. Put labels on Figure 10 to allow independent checking.

I and others have found the draft Technical Report equivocal about how much vegetation is to be removed, not just because the project design is not final. Within the project boundary, pages iii, 76, 186 and 240 say that there are 52 ha of native vegetation, 74 large trees in patches and 284 scattered trees lie within the project boundary, whereas p. 99 and Tables 23, 24, 25 and 50 indicate that there are 109–110 ha of native vegetation, 111 large trees in patches and 433 scattered trees. Uncertainty is understandable but internal inconsistencies of more than a factor of two are worrying.

Action: Resolve the inconsistencies just mentioned, be open about what the quoted figures represent and acknowledge that more or less clearing may be required.

- The project area is acknowledged in various tables in the draft Technical Report to contain eight threatened Ecological Vegetation Classes (or vegetation communities). However, the text of the report makes repeated erroneous statements that the native vegetation within the project boundary is 'non-threatened' and that there are no threatened communities (e.g. pp. iii, 76 and 186). I am also not satisfied that the project area contains no community that is listed as threatened under the *Flora and Fauna Guarantee Act* or the *Environment Protection and Biodiversity Conservation Act* ('EPBC Act'), as claimed in several places in the report. The community at issue is called either 'EVC 55-04 – Western Basalt Plains (River Red Gum) Grassy Woodland' or 'Grassy Eucalypt Woodland of the Victorian Volcanic Plain'. For details, see my Section 3.2 below.

Action: Correct the misrepresentation of threatened Ecological Vegetation Classes. Either explain why the abovementioned listed communities do not occur, or correct the mistake and make the necessary arrangements under the two Acts.

- I know the listed vulnerable species, Melbourne Yellow Gum, to be common around Yarra Bend Park and the ‘Victorian Biodiversity Atlas’ holds a 2018 record of it in within the project area. The draft Technical Report conflicts with these observations, as detailed in my Section 3.3.3 below.

Action: Check tree identifications and resolve the discrepancy with the conflicting data.

- The draft Technical Report dismisses the impacts of North East Link upon many of the threatened flora and fauna species with statements like ‘Direct impacts on the most suitable habitat for these species are being avoided by tunnelling’. These dismissals ignore indirect impacts (contrary to the EES Scoping Requirements) as well as habitat that may be substantial but less so than the most suitable habitat. No justification is given for doing so. Tunnelling is also given credit for avoiding certain risks even at locations remote from the tunnels. I provide details in Section 3.3 below.

Action: Remove spurious dismissals of impacts and replace them with either valid arguments or appropriate acknowledgement of, and responses to, the threats.

- The many descriptions in the report of impacts from groundwater changes appear to me to be inconsistent, and I think the need for mitigation has been unjustifiably dismissed (see my Section 3.5 below). The draft Technical Report states that ‘this report does not seek to verify the accuracy of modelling’ of groundwater changes. In the absence of any evidence about the accuracy or otherwise of the modelling, I think the report should not draw so heavily on the modelling to dismiss groundwater impacts.

Action: Report on how different the groundwater modelling predictions may be from reality (including an allowance for climate change, as per the EES Scoping Requirements). Address the impacts that would result if groundwater drawdown turns out to be at the upper end of the range of uncertainty in the modelling results.

- I see shortcomings in the ‘Risk assessment’ and ‘Impact assessment’ processes in Sections 11 and 12 (see my Sections 3.7 and 3.8). In my view, some of the ‘Impact assessments’ are superficial and based on unreasonable assessments of the likelihood of impacts occurring.

3. Further Detail

3.1. Misunderstanding of Planning Provisions

The last column of Table 3 on p. 11 of the draft Technical Report implies that in overlay areas, permits are not required if there is an exemption under clause 52.17. This suggests the authors have a fundamental misunderstanding about statutory planning. Exemptions under clause 52.17 are restricted to that clause and do not represent exemptions from any other part of a planning scheme, including overlays. Overlays have separate and independent exemptions, about which the table is silent.

There is also a misunderstanding about ‘offsets’ under overlays. There is no particular need for the ‘offsets’ or other permit requirements under an overlay to match those of clause 52.17, in

magnitude or kind. For example, Manningham's ESO2 and ESO3 overlays include the decision guideline: 'The likely impact of the proposal on species of flora or fauna which are threatened at the municipal, regional, state or federal level and the extent to which provisions are made to negate, minimise or manage those impacts'. In other words, a permit may be refused, or 'offset' conditions may be imposed, if locally or regionally threatened flora or fauna are affected, despite such powers not applying under clause 52.17. At any location where clause 52.17 applies as well as one or more overlays, it is quite possible that offsets satisfying clause 52.17 will not satisfy the overlay(s).

The misunderstanding about how planning permit exemptions work may explain why the fieldwork described in Section 5.4.5 of the draft Technical Report does not describe any attempt to detect or quantify the presence of locally threatened plant species in areas affected by Manningham's ESO2 and ESO3.

The misunderstandings just described have also impaired Section 4.3.2 of the draft Technical Report. The part of that section headed 'Guidelines for the removal, destruction or lopping of native vegetation' describes various aspects of planning permits under clause 52.17 but it is presented as if they apply also to permits under other provisions such as overlays. For example, the paragraphs headed 'Offset requirements' are not, in general, applicable to the requirements of an overlay. The text under the heading 'Planning overlays and Planning Zones' on p. 17 does not acknowledge that overlays may require compensation for vegetation removal beyond what is required by clause 52.17, even in a situation where there is an exemption from clause 52.17.

The misunderstandings above carry into the treatment of 'amenity plantings' on page 31 of the draft Technical Report. (The report takes the unusual course of calling revegetation 'amenity plantings', which I think is inaccurate and value-driven, if not disingenuous.) There, the report assumes that vegetation which is exempt under clause 52.17 does not require a permit for its removal. This is not true if an overlay triggers a need for a permit. Take the example of Significant Landscape Overlays (SLOs), which (according to p. 21 of the report) affect the project in six municipalities. (All of the Boroondara section of the North East Link project is affected.) All of those overlays require a permit for removal of vegetation, whether planted or not and whether 'native' or not. Exemptions apply but not the exemption from clause 52.17 relied upon on page 31 of the draft Technical Report.

The subsequent page then states that planted plants were only treated as needing a permit for their removal if they met all of four criteria (GHD's emphasis). In fact, no plant can meet all four criteria, because they would have to be planted (criterion 3) and naturally regenerated (criterion 4), which are mutually exclusive requirements. There has presumably been a mistake in the way the criteria have been expressed. However, there are more fundamental faults:

- The first criterion is 'Canopy trees were over three metres tall'. Even if there were no overlays involved, there is no exemption from clause 52.17 on the basis of a plant not being a canopy tree or being less than 3 m tall. For example, the project area includes revegetation at Willsmere Park that contains many locally indigenous understorey species, planted and managed for conservation purposes. Even ignoring the SLO that applies, clause 52.17 requires a permit to remove the revegetation. There is no legal basis for GHD to create their own criteria to exclude the revegetation from their assessment;
- The second criterion is, in effect, that species must be considered likely to be locally indigenous. Again, there is no such requirement under clause 52.17 or the overlays, and there is no legal basis for GHD to unilaterally apply it; and

- Regardless of planning controls, the EES Scoping Requirements include the Evaluation Objective ‘To avoid or minimise adverse effects on vegetation (including remnant, planted and regenerated)...’.

GHD’s stated reason for devising its own criteria for exempting planted vegetation is because there is ‘often a difficult distinction’ between purely amenity plantings and ‘vegetation planted or managed with public funding for land protection or enhancing biodiversity’. I think it is often not a difficult distinction and I question what effort was taken to find out.

The misunderstanding about the level of independence between clause 52.17 and overlays is a likely partial cause for an unjustified failure to conduct fieldwork on private lots smaller than 4,000 m². Page 30 of the draft Technical Report refers to ‘Numerous private land holdings not accessed’ during fieldwork, with the explanation, ‘private properties covering less than 0.4 ha were not assessed, as Clause 52.17 of the *Planning and Environment Act* does not apply to these areas’. This argument has the following faults:

- Clause 52.17 is within planning schemes, not the *Planning and Environment Act*;
- Clause 52.17 relates only to vegetation removal whereas the EES is supposed to be looking at fauna as well;
- Clause 52.17 is not the only relevant planning control over vegetation; overlays may also apply;
- The project’s ecological impacts are affected by legal requirements other than just planning schemes and the *Planning and Environment Act*, e.g. other federal and Victorian Acts and the EES Scoping Statement; and
- The EES is supposed to be conducting a complete, risk-based analysis of the project’s ecological impacts, regardless of whether an impact triggers a legal breach or permit requirement.

I believe the draft Technical Report should either provide a valid justification for the omission of fieldwork from private lots smaller than 4,000 m² or else correct the omission.

3.2. Threatened Communities

Page 186 of the draft Technical Report makes repeated erroneous statements that the native vegetation within the project boundary is ‘non-threatened’. In reality, the project area includes eight threatened Ecological Vegetation Classes (EVCs), as indicated in Tables 21, 23 and 25 as well as Appendices J and M. Seven of the EVCs are in the highest possible threat category of ‘endangered’ and one is in the next-highest category of ‘vulnerable’.

There are also misleading statements on pp. iii and 76 that no threatened communities were found to be present within the project boundary. Each of the eight threatened EVCs is a threatened vegetation community or a group of related threatened communities. Page 24 states (without explanation) that the words ‘threatened community’ are taken in the report to exclude threatened EVCs, which is unconventional and, in my view, misleading.

I am also not satisfied that there are no communities listed as threatened under the *Flora and Fauna Guarantee Act* or the *Environment Protection and Biodiversity Conservation Act* (‘EPBC Act’), as claimed in several places in the draft Technical Report, e.g. p. 100. Patches of Plains Grassy Woodland are mapped on the Western Basalt Plains (aka Victorian Volcanic

Plain) within the project area on Figures 10-24 and 10-25 and there is a corresponding entry in Table 23 (p. 99). I would have expected those patches to represent EVC 55-04 – ‘Western Basalt Plains (River Red Gum) Grassy Woodland’, which is listed as threatened under the *Flora and Fauna Guarantee Act*. I would also have expected those patches to meet the broader definition of the EPBC Act-listed community, ‘Grassy Eucalypt Woodland of the Victorian Volcanic Plain’. If there is evidence to the contrary, it should be given in the report; Otherwise, the report should be corrected and there may be consequences under each of the relevant Acts.

3.3. Threatened Species

Table 8 on p. 24 of the draft Technical Report refers to ‘DELWP Advisory List’ (singular). There are actually three such advisory lists: one for plants, one for vertebrates and one for invertebrates. Table 8 only deals with the one for plants, titled ‘*Advisory List of Rare or Threatened Plants in Victoria – 2014*’. Different threat categories are used for fauna.

3.3.1. Dismissal of Certain Categories

Page 25 of the draft Technical Report states that the EES has not included flora whose threat rating in the DELWP ‘Advisory List’ is ‘poorly known’. The reason stated for excluding these species is that ‘the current knowledge of their distribution and abundance is not sufficient to determine whether these species should be considered as rare or threatened in Victoria’. More precisely, the definition of the ‘poorly known category’ is ‘poorly known and suspected, but not definitely known, to belong to one of the above categories [extinct, endangered, vulnerable or rare] within Victoria’. Many of the species in the ‘poorly known’ category are undoubtedly rarer than many in the ‘rare’ category. An example is *Anthosachne kingiana* subsp. *multiflora* (a kind of wheat-grass), which grows on the bank of Willsmere Billabong and several other places near the northern edge of the Eastern Freeway in Kew. Another example is Green-top Sedge, which is recorded at Bolin Bolin Billabong. I believe GHD should have acknowledged that ‘poorly known’ species are suspected to be rare or threatened with good reason, and that the ‘precautionary principle’ should have been applied rather than ignoring the species simply due to the absence of complete scientific knowledge.

Perhaps more seriously, the omission of ‘poorly known’ flora species in the DELWP Advisory List appears to conflict with the EES Scoping Requirements. Page 18 of the EES Scoping Requirements includes the following specification 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.’

No exception is made in this specification for ‘poorly known’ species, so I presume GHD have made a unilateral decision to exclude them from the study.

I believe that ‘poorly known’ plant species in the study area should be assessed using the risk-based approach adopted in the EES. (I do not expect there to be many species.) An assessment can be made of the joint probability that a ‘poorly known’ species actually is threatened (as suspected) *and* will be significantly impacted by North East Link. I cannot tell how important this step is because the draft Technical Report does not even list the ‘poorly known’ species that the consultants decided not to investigate further.

The ‘data deficient’ category of fauna is similar to the ‘poorly known’ category of plants except that it can (in principle) include species for which there is no suspicion of threat. (In practice, I believe the Victorian fauna advisory lists don’t include any species for which there is no suspicion of threat.) In my view, the EES should assess ‘data deficient’ vertebrate and invertebrate species within the study area. It would, of course, be open for GHD to explain why each affected species is under so little threat of extinction in Victoria that the decision to ignore them is justified.

In addition, GHD’s decision to omit ‘data deficient’, ‘conservation dependent’ and ‘near threatened’ fauna species from the report conflicts with the EES Scoping Requirements, which include the ‘Key issue’:

‘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.’

An example of a species listed as ‘near threatened’ is the Nankeen Night Heron, which appears to move between Kew Golf Club (its main local roost), Kew Billabong and Hays Paddock.

Action: To satisfy the EES Scoping Requirements, I believe the draft Technical Report should assess all species in the categories of ‘poorly known’, ‘data deficient’ and ‘near threatened’.

3.3.2. Greenhoods

Page 35 of the draft Technical Report includes an apparently self-contradictory section on orchids. It begins by stating that there was no targeted survey for four orchid species because ‘field investigations were being conducted at a time when these species were observable’. The next sentence but one states that the fieldwork was not done during the flowering time of two of the four species, namely Green-striped Greenhood and Silurian Striped Greenhood. Those two species could not be deemed ‘observable’ outside their flowering period.

This deficiency in the fieldwork is eventually acknowledged on p. 57, where there is a statement that targeted surveys would be done during August 2018. I am unclear how to reconcile that statement with the date of the draft Technical Report being September 2018. I am also unclear why p. 92 appears to pre-empt the planned searches by stating that ‘No individuals [of Green-striped Greenhood] were observed during field assessments and potential suitable habitat is unlikely to be impacted by proposed works’.

Action: After the planned targeted surveys for greenhoods, update and correct the report as necessary. This may require changes to impact assessments, risk assessments and mitigation measures.

3.3.3. Melbourne Yellow Gum

Page 83 of the draft Technical Report describes Box Ironbark Forest as being dominated by Red Ironbark with fewer River Red Gum. In reality, no wild Red Ironbark grow within at least 15 km. I cannot tell whether the mistake is due to a drafting error, misidentification or mistaking planted trees for wild ones. In addition, there is no reference to Melbourne Yellow Gum in the Box Ironbark Forest, even though it is actually common in that community in Yarra Bend Park (Beardsell 2003) – suggesting another possible misidentification.

Melbourne Yellow Gum is easily mistaken for River Red Gum. Such a misidentification would be a problem because Melbourne Yellow Gum is listed as vulnerable in the *Advisory List of*

Rare or Threatened Plants in Victoria – 2014 and is therefore a target for the EES. Appendix E of the draft Technical Report says it was detected during the fieldwork but it is not mentioned in Section 7.3.2 as having been found, or likely to occur, within the project area. This conflicts with my recollections of the Yarra Bend area and with a record by Biosis Research of the species at Fairlea Reserve within the project area. This record can be viewed in the Victorian Biodiversity Atlas and it derived from a targeted survey on 26/6/18. At the very least, it seems unjustifiably optimistic to dismiss the possible occurrence of the rare Melbourne Yellow Gum within the project area, as has been done in Section 7.3.2.

3.3.4. Trinity Grammar Wetlands

Page 36 of the draft Technical Report states:

‘Given the proximity of works within Trinity Grammar, and current uncertainty around the potential for groundwater drawdown associated with the project and subsequent surface water impacts, it is recommended that targeted survey for River Swamp Wallaby-grass be conducted at Trinity Grammar Sporting Complex wetlands, Warringal Parklands and Banyule Flats wetlands in December 2018’.

It therefore appears odd that page 93 states:

‘Despite a high likelihood of occurrence within the project boundary, River Swamp Wallaby-grass is not expected to be significantly impacted as the majority of suitable habitat falls within areas not being directly impacted by surface works. However, potential groundwater drawdown in the vicinity of the southern portal due to tunnelling activities under the Yarra River, could reduce water available to wetlands reliant on groundwater to some degree, and subsequently affect population viability’.

In reality, a cut-and-cover tunnel is to be excavated through ‘Wetland B’ at the Trinity Grammar Sports Complex where River Swamp Wallaby-grass was observed in 2007. This could hardly be regarded as not being within the majority of the habitat for the species in the area, as the only other known occurrences are in a neighbouring wetland at the sports complex and at Bolin Bolin Billabong.

In addition, the population of River Swamp Wallaby-grass at the sports complex is already near the edge of its tolerance of dry conditions and hence quite vulnerable to potential disruption to flood frequency and the height of the water table by North East Link. This vulnerability is exacerbated by climate change, which the draft Technical Report ignores.

Therefore, the draft Technical Report seems unreasonably optimistic to conclude, even before a targeted survey for River Swamp Wallaby-grass, that the species ‘is not expected to be significantly impacted’.

The discussion of the vulnerable-listed Short Water-starwort on the same page (p. 93) repeats the same words as the last quote above, except that the species name is different. This raises similar concerns to the River Swamp Wallaby-grass.

Incidentally, p. 93 cites Practical Ecology (2007b) as a source of information about River Swamp Wallaby-grass but that report was actually by Australian Ecosystems.

3.3.5. *Spurious Plant Records*

Page 77 of the draft Technical Report states that the Victorian Biodiversity Atlas contains a record of the rare Green Scentbark within the project area. That species does not occur naturally any closer than the Yarra Glen area, although it is common for hybrids involving Mealy Stringybark to be misidentified as such. I expect the report's reference is to a record from 1989 before the Eastern Freeway was built over the location. The species was not even described until 1996. The record is completely unreliable.

A similar naivety affects the entries in Table 19 of Venus-hair Fern and Wilga. A simple check of the records would have revealed that they should not have been included in the EES. The Venus-hair Fern record is a specimen of a weed growing in cracks in the brickwork at Hawthorn railway station. The Wilga record is a specimen from a tree grown in the Royal Botanic Gardens.

3.3.6. *Glossy Grass Skink*

No targeted survey was conducted for the Glossy Grass Skink, which is on the DELWP 'Advisory List of Threatened Vertebrate Fauna'. This is despite the acknowledgment on p. 142 of the draft Technical Report that the project area 'is likely to contain potentially suitable habitat along each of the waterways, but particularly along the Yarra floodplain'. In addition, my 2006 'Inventory and Assessment' report stated on p. 50:

'The Glossy Grass Skink: This rare lizard species was recorded at a billabong at the Freeway Golf Course when last surveyed in 1991. There is a strong chance that it persists there and at other secluded swampy habitat where Swamp Paperbarks grow, such as at the Kew Golf Club. A survey for the Glossy Grass Skink would be very valuable.'

and on p. 80:

'The well-vegetated billabong between the 10th fairway and the Carey Grammar Sports Complex deserves particular comment. It supported three broods of Purple Swampphen and large numbers of frogs during the surveys in 2004-5. The same billabong also supported the rare Glossy Grass Skink when inspected in 1991, and the habitat still appears suitable.'

The observer of Glossy Grass Skinks at Freeway Golf Course was Cam Beardsell of Parks Victoria. He visited Freeway Golf Course with me in 2006 and confirmed that suitable habitat remained, including among paperbarks along Koonung Creek within the golf course.

I believe Kew Billabong and the large billabong at the Kew Golf Course are other potential sites.

I do not understand why GHD did not conduct a targeted survey for Glossy Grass Skinks. Unless an explanation can be given, I believe a targeted survey should be done. So far, only 'opportunistic' inspections have been conducted incidentally while searching for Growling Grass Frogs. This approach is no substitute for a targeted survey, which may involve techniques such as laying roof tiles and checking beneath them periodically.

The 'opportunistic' searches were at only three sites, each on one day. The weather was evidently not always appropriate, as p. 44 says appropriate conditions applied only 'as much as possible'. The three sites represent a small fraction of the 'large area of potential habitat'

described on p. 142 of the draft Technical Report. None of the sites were in Boroondara despite the information quoted above. Page 44 of the draft Technical Report states, ‘Another site was identified for assessment (Kew Billabong and banks of the Yarra River), but access permission was not granted by Boroondara City Council in time for the seasonal survey’. I am informed that delayed permission only affected the Boroondara Tennis Centre and Freeway Golf Course. In any case, delayed permission is not an explanation for why no search was done at Kew Golf Course, where Growling Grass Frogs were searched on 6/11/17 and 13/11/17 (p. 132).

I understand that a slide presentation to the EES Technical Reference Group on 13th September 2018 declared the effort to find Glossy Grass Skinks to be a ‘targeted survey’. The draft Technical Report indicates otherwise.

Overall, I regard GHD’s treatment of the Glossy Grass Skink as unsatisfactory in relation to the EES Scoping Requirements.

Action: Conduct a targeted survey for the Glossy Grass Skink, then update and correct the report as necessary. This may require changes to impact assessments, risk assessments and mitigation measures.

3.3.7. Crakes and Rails

Page 136 of the draft Technical Report acknowledges that Lewin’s Rail and Baillon’s Crake may be resident along the Yarra and that there are recent reports of Baillon’s Crake at Trinity Grammar Sports Complex and along Koonung Creek. The report then states, ‘Direct impacts on the most suitable habitat for these species in the project boundary are being avoided by tunnelling’.

Exactly the same sentence is used for Little Egret, Intermediate Egret, Eastern Great Egret.

I cannot reconcile the claim that ‘direct impacts ... are being avoided by tunnelling’ with:

- The fact that there is no tunnel proposed for Koonung Creek, which the report acknowledges to be habitat for the species. Page 197 of the draft Technical Report states that 1 km of the creek will be covered over and another 500 m will be diverted, thereby reducing the habitat available;
- The acknowledgment on p. 36 that ‘Given the proximity of works within Trinity Grammar, and current uncertainty around the potential for groundwater drawdown associated with the project and subsequent surface water impacts...’. The Trinity Grammar wetlands are acknowledged to be habitat for these threatened waterbirds, particularly Baillon’s Crake. Some of the Trinity Grammar wetlands are proposed to be destroyed for a cut-and-cover tunnel and the hydrological impacts of the tunnel through the site threatens to render the remaining habitat unsuitable; and
- The report ignores Kew Billabong and the large billabong at Kew Golf Course next to Simpsons Lake, both within a few metres of the project area and remote from any tunnel. My recollection of these billabongs and their fringing vegetation is that there is suitable habitat for egrets, crakes and rails.

Action: I believe GHD should either explain why these matters should not raise concern or else deal with them through a revised impact assessment, risk assessment and consideration of mitigation measures.

3.3.8. Bitterns

Page 43 concludes that the Australasian Bittern is unlikely to occur at sites such as Koonung Creek (and presumably Kew Billabong and the golf courses lining the Yarra River) because such sites:

‘are typically degraded, disturbed (particularly by people walking dogs) and within urbanised areas. That, in association with the few VBA/e-Bird [*sic.*] records, suggests that those areas are very unlikely to support this species. Assessment for this species was restricted to habitat assessment and opportunistic observations’.

This statement contains a number of contestable elements:

- The absence of records at these sites could be simply due to the species’ secretive behaviour (as acknowledged on p. 137) and the absence of investigation by GHD at Kew Billabong and the golf courses (particularly the large billabong at Kew Golf Course). It is no wonder that a billabong on a private, fenced golf course would have few records in the VBA and eBird;
- Kew Golf Course is not available for walking dogs and the large billabong is somewhat secluded, as are parts of the Kew Billabong;
- I think GHD underestimates the adaptability of the Australasian Bittern to urban water bodies. I have seen wild Australasian Bitterns hunting in clear sight at ponds at Melbourne Zoo in recent years, within a short distance of very busy footpaths between the exhibits. There are other recent records of the species at the zoo. Clearly, the Australasian Bittern can tolerate very urbanised environments in close proximity to heavy pedestrian traffic.

Page 137 of the draft Technical Report concludes that for bitterns on the Yarra floodplain, ‘Direct impacts on this area are being avoided by tunnelling’. This is clearly not true of the Kew Billabong and the Kew Golf Club’s large billabong. It is also contestable at the Trinity Grammar wetlands because the excavation of a cut-and-cover tunnel will destroy part of the wetlands and the rest is at risk, as acknowledged on p. 36.

I believe the draft Technical Report is too dismissive of the likelihood of occurrence of Australasian Bittern and the potential for its habitat to be adversely affected.

Action: I believe GHD should either explain why these matters should not raise concern or else deal with them through a revised impact assessment, risk assessment and consideration of mitigation measures.

3.3.9. Threatened Ducks

Page 138 of the draft Technical Report discusses four threatened duck species, for which possible habitat is identified along Koonung Creek and at golf courses (presumably including Kew Golf Course, on the edge of the project area). It claims, ‘Direct impacts on the most suitable habitat for these species (Yarra floodplain) are being avoided by tunnelling’. Firstly, there is no tunnelling in the vicinity of the golf courses (or the Kew Billabong). Secondly, it is not adequate to simply ‘avoid direct impacts on the most suitable habitat’; the EES should be investigating indirect impacts and to any substantial habitat, not just the ‘most suitable’.

Action: GHD should deal with indirect impacts and all substantial habitat for the four duck species, not just near tunnels. This may precipitate a revised impact assessment, risk assessment and consideration of mitigation measures.

3.4. Aquatic Ecology

Page 44 of the draft Technical Report mentions that Kew Golf Course was not inspected for aquatic ecology. It mentions ‘an amenity dam’, which I gather is Simpsons Lake (even though it is not an amenity dam). The report does not mention the adjacent natural billabong to the northeast, just a few metres outside the project boundary. The latter has clearer water and is better vegetated, much more natural and not so easily dismissed as the report has done with Simpsons Lake. Neither of these wetlands is as disconnected from the Yarra River as a reader of the report might infer: Their banks are at the same elevation as that of the river with flat land between, so they fill whenever the river floods.

I am also unclear why the same page (44) states that Simpsons Lake will experience a ‘lack of direct impacts’, given that it is within the mapped project area and hence is open to construction work and associated activities. If there is evidence to back up this claim, it should be stated.

Page 47 of the draft Technical Report lists the locations where aquatic invertebrates such as insect larvae were sampled for a ‘rapid bioassessment’. Glass Creek is not included, on either side of the Eastern Freeway. If there is a compelling reason for excluding Glass Creek, I believe it should be stated; Otherwise, I believe Glass Creek should be assessed.

Action: Acknowledge Glass Creek and the large billabong next to Simpsons Lake. Either justify why these water bodies will not be adversely impacted or else do the required fieldwork and revise the impact assessment, risk assessment and mitigation measures.

Page 48 of the draft Technical Report includes a section on ‘Environmental Quality of Victorian Lakes’. The section states that the only two still waterbodies assessed in the EES were Bolin Bolin Billabong (a no-go zone) and Banyule Swamp (in a conditional no-go zone). I am left wondering why, of the many wetlands in and adjacent to the project area, the only two that were assessed are in areas that should be unaffected by the project. If there are reasons for excluding wetlands such as the Kew Billabong, the Trinity Grammar wetlands and the large billabong northeast of Simpsons Lake, I believe they should be stated. If no compelling reason can be provided, I believe those wetlands should be assessed.

Action: I believe GHD should either justify why only the two lakes were surveyed or else do additional fieldwork and revise the impact assessment, risk assessment and mitigation measures.

3.5. Groundwater Impacts

It is comforting to some degree to see in Figures 15-2 and 16-2 of the draft Technical Report that one groundwater modelling scenario predicts less than half a metre of water table change around Bolin Bolin Billabong and the Trinity Grammar wetlands. However, the report only gives results from the one scenario, without any information about sensitivity analysis. Another model or another modeller may produce rather different results.

Page 33 of the draft EES Groundwater Technical Report states:

‘It is recognised that groundwater numerical models have their limitations (see Appendix C). Respectful of the limitations of numerical groundwater models, and noting that any proposed changes during detailed design of the project or alternative design proposals can have implications to the predicted groundwater impact, the predictive output nonetheless provides a tool in which Environmental Performance Requirements can be developed.’

The Groundwater report dedicates quite a few pages to the modelling’s assumptions and limitations. Page 26 of Appendix C of the Groundwater document states the model has ‘high sensitivity’ to three groups of adjustable parameters.

Returning to the draft Ecology Technical Report, p. 57 states that ‘this report does not seek to verify the accuracy of modelling or provide an indication of the level of groundwater dependence of a potential GDE [Groundwater Dependent Ecosystem]’. I question the value of modelling that comes with no assurance about its accuracy and no indication about how dependent the existing wetlands and floodplain woodland are upon the groundwater being modelled.

My concerns accord with the following words from the section about Bolin Bolin Billabong on p. 179:

‘However, the groundwater modelling has limited ability to predict the changes to surface water levels in the billabong and floodplain landscape, with variability in topography in the billabong (approximately 8 m drop from upper bank of billabong to base of pool) being considerably greater than the uncertainty in the model across the corresponding distance. Therefore, the ecological significance of lowered groundwater levels is uncertain, although there is no evidence that this pool provides refuge habitat for any threatened aquatic species. However, it does provide habitat for other aquatic species that enter the billabong during the sporadic periods of connectivity with the Yarra River during floodplain inundation, including native and exotic fish. It is also likely to provide important water supply for the native terrestrial fauna. Managed water levels in this wetland may be required to maintain the ecological condition of the billabong.’

The Trinity Grammar wetlands were effectively part of the Bolin Bolin Billabong until they were separated by Bulleen Rd last century. They remain connected through the water table and the flows that occur between them during floods. I can see a substantial likelihood that the tunnel will substantially alter the movement of groundwater and surface water between the Bolin Bolin Billabong and those parts of the Trinity Grammar wetlands not destroyed outright during excavations for North East Link. I expect the alteration of groundwater movement to cause greater uncertainty in the modelled groundwater drawdown of the Trinity Grammar wetlands than described in the quote above regarding Bolin Bolin Billabong. That makes me concerned about the reliability of the modelling of groundwater drawdown at the Trinity Grammar wetlands.

My concerns are mirrored on p. 36, which recognises uncertainties in the groundwater modelling and the potential for ecological impacts at the Trinity Grammar wetlands.

These concerns contribute to my view that the draft Technical Report is unjustified in its repeated assurances that tunnelling will avoid ‘direct impacts’ to a range of threatened flora and fauna species that occur (or are likely to occur) on the floodplain in Bulleen.

I note that changes to groundwater during construction (EC08) and operation (EC30) are identified as a ‘Medium’ risk on pp. 181–182.

The report proposes that if groundwater drawdown is found to be a problem for Bolin Bolin Billabong, water could be pumped into it to compensate. I believe that a mitigation plan should also be in place for the Trinity Grammar wetlands. Such problems may take quite some years to identify. The proposed Environmental Performance Requirements may not remain in force at that time, thereby limiting their value.

Action: Consider a mitigation plan to counter potential changes to the Trinity Grammar wetlands, considered alongside climate change.

While my brief is to focus on Boroondara, it would be remiss of me not to pass on my observations about groundwater modelling above the northern part of the tunnel. Figures 15-3, 16-3, 17-2 and 18-2 show the results of a groundwater modelling scenario, but the contour colouring is abruptly truncated at the edge of the Yarra River floodplain. I would have thought that Banyule Flats and its wetlands would be items of concern, particularly as Figure 16-3 shows a drawdown of 1–2 m abutting the floodplain. I note that Section 10.3.3 claims that Figure 16 shows the Banyule Flats to experience a drawdown of less than 0.1 m, but that conflicts with my interpretation of Figure 16.

Action: Expand the area of colour-coding on Figures 15–18 to include the Banyule Flats and remove the obscuration by vegetation mapping.

3.6. Literature Survey

I think it is odd that the draft Technical Report has evidently not looked at the state government's 'BioSites' register ('BioSites Maps and Reports for Land & Water Management Agencies – Port Phillip Region', 2005). Most of the North East Link project area through Bulleen and west of Bulleen Rd lies within BioSites of State or Regional significance. I will cite these BioSites in the relevant subsections below. I think the draft Technical Report should mention BioSites and their significance ratings wherever they intercept the study area.

Action: Acknowledge the study area's BioSites.

The following subsections skip over areas that are of little or no relevance to the City of Boroondara or about which I have no comments to make.

3.6.1. Yarra Bend Park

Yarra Bend Park occupies BioSite 3558, which the state government rated as being of State significance in 2002.

The last sentence on p. 59 of the draft Technical Report describes the significance of Yarra Bend Park as being of National Significance (on the basis of my 2006 assessment) or of local to state significance on the basis of a 2000 assessment by Parks Victoria. The explanation for the different ratings is that the 2002 BioSites assessment and the 2000 Parks Victoria assessment pre-dated the state government's 'Standard Criteria for Sites of Biological Significance in Victoria' of 2004 and therefore do not meet current standards. As such, I think the draft Technical Report should at least explain the reason for the differences.

Page 60 cites my 2006 report regarding the significance of Valley Grassy Forest in Yarra Bend Park. There is no Valley Grassy Forest in the park and I made no reference to it, so the whole paragraph is spurious. I did, however, mention the other EVCs appearing on p. 60 as well as

Riparian Woodland, which is mapped within the project area on Figure 10-25 but is overlooked on p. 60.

Page 61 refers to ‘Blue Prickly Tussock Grass *Poa labillardieri* (Basalt Plains form)’. The common name is quite informal and has been applied by different people to various forms of Common Tussock-grass (*Poa labillardierei*) of no particular scientific significance. The qualifier ‘(Basalt Plains form)’ is sufficiently similar to the informal entity, ‘*Poa labillardierei* var. (Volcanic Plains)’, that the two have perhaps been confused, but the latter does not occur as far east as the Melbourne area.

Action: *Correct the above errors.*

3.6.2. Yarra Flats Park

‘Yarra Flats Park’ is commonly taken to include the Parks Victoria land on the western side of the river between Banksia Street and Burke Rd, and council reserve on the opposite side of the river between Burke Rd and the Freeway Golf Course. The official ‘VicNames’ register of gazetted place names shows Yarra Flats as comprising both the above areas as well as Kim Reserve behind Bulleen Art and Garden.

The draft Technical Report applies the term ‘Yarra Flats Park’ and ‘Yarra Flats’ to a much larger area but I cannot work out the full area intended. Pages iii and iv say North East Link will be tunnelled beneath the Yarra Flats, which suggests that areas either north of Banksia St and/or in the vicinity of Bulleen Rd have been added to the usual concept of Yarra Flats. Pages 61–62 associate Yarra Flats Park with information from Foreman *et al.* (2004), Practical Ecology (2010) and Van der Ree (2017) regarding Freeway Golf Course, which could hardly be construed as truly part of Yarra Flats Park.

Page 62 states that Manningham City Council’s 2012 Bushland Management Strategy identifies Yarra Flats Park as ‘a high priority with regards to bushland management’. I find that confusing because the strategy does not refer to Yarra Flats Park and it does not appear to give high-priority to any council bushland on the floodplain of the Yarra River within the study area. The draft Technical Report also cites my own 2009 report about wildlife movement in Manningham but I cannot reconcile my report with the draft Technical Report’s concept of Yarra Flats Park. Page 70 even refers to Willsmere Park as being on the Yarra Flats, and p. 178 seems to suggest that the southern portal is within or near Yarra Flats.

While I cannot work out what the draft Technical Report is including as ‘Yarra Flats Park’, it seems unavoidable that most or all of it lies within the BioSite 4860, which the state government rates as being of State significance.

Action: *Edit the report to restrict the use of ‘Yarra Flats’ to the areas officially recognised under that name.*

3.6.3. Kew Golf Club, Kew Billabong, Willsmere Park, Kilby Reserve and Hays Paddock

These sites lie within the Regionally-significant BioSite 5063.

My 2006 report is stated on p. 69 of the draft Technical Report to indicate that rarer waterbirds are frightened off the Kew Billabong and Willsmere Park by humans and dogs. More

accurately, my report states that those species are ‘easily frightened off’ and ‘unlikely to breed there’. That does not mean that rarer waterbirds do not occur there; they do.

Action: Correct the misrepresentation.

3.6.4. Other Sites in Boroondara

The State-significant BioSite 4860 includes Bolin Bolin Billabong, the western part of the Trinity Grammar Sporting Complex wetlands and the section of Koonung Creek downstream of the Boroondara Tennis Centre.

3.7. Risk Assessment

The ecological assessment of North East Link has appropriately taken a risk-based approach at all stages, e.g. in the chosen size of the study area, the amount of effort put into searching for particular species, the locations searched and the efforts taken to avoid or minimise impacts. A risk-based approach essentially means that the effort dedicated to different tasks reflects the likelihood, magnitude and duration of the expected impacts. As the report states, this requires an iterative process to progressively refine the understanding of impacts and possible responses, leading ultimately to the greatest effort being directed toward the most important impacts.

I perceive in the report a lack of clarity about the risk associated with some anticipated impacts and why some of them appear to have been dismissed. For example, I have been left wondering why so little effort has been expended on assessing habitats within Boroondara, despite the (unaddressed) presence of BioSites, threatened fauna and endangered communities (Ecological Vegetation Classes) in and adjacent to the project area. I note the report’s reference to a delay in gaining permission to access council-owned sites in Boroondara but I understand that only applies to the Boroondara Tennis Centre and Freeway Golf Course.

As a more specific example, I see no explanation of what works or impacts are expected at Simpsons Lake (a noted waterbird rookery); just a statement on p. 44 that this lake will experience ‘a lack of direct impacts’ and that a desktop assessment indicated a low risk to aquatic ecology, without any explanation of the risk assessment – not even what the threats are. In many other cases like these, I was left thinking that a proper risk assessment has not been undertaken or it has not been validly explained or a shortcut has been taken.

Action: I believe the reasons for the many dismissals of risks should be explained to a depth that allows a reader to be satisfied that corners have not been cut.

3.7.1. The Risk Matrix

I perceive inconsistencies in the ‘Severity definitions’ used in the risk assessment, listed in Appendix A of the draft Technical Report (p. 360 of the PDF file). For example, two separate situations in the ‘Medium’ category of severity are:

- ‘Measurable change in populations of a state or commonwealth listed threatened species (between 0.05% and 0.5% loss of habitat within Victoria; Substantial change to common species population’; or
- ‘Temporary loss of habitat connectivity associated with planted vegetation’.

I disagree that these are equivalent in severity; The temporary loss of planted vegetation cannot compare with the loss of up to 0.5% of the state-wide habitat of a species that may be nationally listed as critically endangered. By the time a species meets the criteria to be listed as threatened, its survival typically relies on keeping every bit of its remaining habitat. For a highly threatened species to lose up to 0.5% of its remaining habitat is considerably more serious than 'Temporary loss of habitat connectivity associated with planted vegetation', in my view.

More generally, I am concerned that some of the severity ratings on p. 360 of the PDF file downplay the severity of some risks. That would result in less attention being given to mitigate the risks.

Action: I would like the report to explain the origin and basis for the thresholds in the table of severity definitions.

The table of 'Characterisation of consequence' on p. 361 of the PDF file appears to be incomplete. I believe the purpose of the table is to translate a combination of categories of 'Extent', 'Severity of impact' and 'Duration of threat' into a 'Consequence level' (from 'Negligible' to 'Severe'). The 'Consequence level' is then to be used in the table on the subsequent page to yield the risk rating (low to very high). However, the table on p. 361 of the PDF file does not provide the method for determining the 'Consequence level', leaving a gap in the process to complete the risk rating.

Action: Fill the gap in the risk assessment methodology by showing how 'Consequence level' is determined.

3.8. Impact Assessment

Even ignoring the points about the risk assessment above, I question the impact assessments of some of the identified threats in Section 12 of the draft Technical Report, as follows:

EC04 – Construction activities resulting in erosion/sedimentation, dust, litter or release of contaminants leading to loss or degradation of threatened flora and ecological communities

The main ecological threat under this category is from sediment etc. moving out of the construction zone and affecting organisms and habitat. Page 194 of the draft Technical Report only describes impacts within the project boundary but the subsequent page deals with mitigation measures that will also deal with off-site impacts.

I am concerned that nowhere in the report is there any recognition that the proposed tunnel will be digging through an old rubbish tip at and near the southern portal. The rubbish must be embedded within the water table.

EC16 (p. 195) and EC17 (p. 186) are similar to EC04, as they all involve environmental contamination during construction. The risk of contaminant release or mobilisation while excavating the former rubbish tip affects all three.

Action: I recommend that EC04, EC16 and EC17 be reconsidered with a view toward recognising the risk of contaminant release and mobilisation while the former rubbish tip is being excavated. The risk assessments would then need to be re-done. Mitigation measures may need to be added to those already planned.

EC38 – Changes to stormwater drainage resulting in hydraulic impact to waterways that degrades aquatic ecosystems

This risk involves the increased paving and hence runoff caused by the Eastern Freeway modifications, resulting in exacerbation of flow pulses during rainfall events and correspondingly reduced flows between events. Page 225 of the draft Technical Report treats this as inevitable, as I do. However, the table on p. 359 of the PDF document rates it as ‘Unlikely’, defined thus: ‘The event may occur under unusual circumstances but is not expected (i.e. once within a 20-year timeframe)’.

Even raising the estimated likelihood to ‘Possible’ might increase the risk rating from ‘Low’ to ‘Medium’, using the adopted risk matrix. ‘Possible’ means ‘The event may occur once within a five-year timeframe’.

Page 225 acknowledges that ‘Urban stormwater is regarded as one of the two most threatening processes to aquatic ecosystems in the urban environment (Walsh & Webb 2016), with the major mechanisms of impact from flow velocity and scouring of aquatic habitats’. I regard this as important because runoff may flow into significant aquatic habitat such as Kew Billabong, the large billabong at Kew Golf Course, Glass Creek and the Hays Paddock wetland.

Page 225 proposes that various mitigating steps be devised, which I support. These steps could reduce the consequence of the impacts but not their likelihood of occurrence.

Action: Reassess the estimated likelihood of increased stormwater discharge to waterways and hence the associated risk level. Devise appropriate mitigation measures, not just say that they will be devised.

EC39 – Increased road traffic resulting in increased pollutants (metals, hydrocarbons) in stormwater runoff to waterways that degrades aquatic ecosystems

This risk is presumably meant to include pollutants other than metals and hydrocarbons, such as sediment and litter. However, the only consequences mentioned on p. 226 relate to toxicity and pollutant accumulation, not impacts such as those related to turbidity, oxygen demand and wildlife hazards from plastic in litter.

I regard the risk characterisation as inadequate, and hence the risk assessment and mitigation measures. (See also below.)

The report continues with the remarkable paragraph:

‘The design of the road and drainage network should avoid impacts to aquatic habitats (EPR FF4), through placement of drainage inputs to waterways at locations that avoid input of pollutants to aquatic ecosystems. Any works on the drainage network and waterways should include elements that enhance the ecosystem services to build resilience to degradation from pollutants (EPR SW9).’

A waterway is an aquatic ecosystem. It is an oxymoron to suggest that there are locations where polluted stormwater can be discharged to a waterway without the pollutants entering the waterway’s aquatic ecosystem. The second quoted sentence looks as if it’s designed to impress with its use of buzzwords but it offers no meaningful indication of what will actually be done.

As with EC38, the likelihood of EC39 is treated in the risk assessment as ‘Unlikely’, which I reject.

Action: If GHD wishes to argue that water pollution from increased traffic will not enter waterways or wetlands, the mechanisms for prevention should be explained. Otherwise, there should be a proper impact assessment and risk assessment, and appropriate mitigation measures should be clearly explained.

EC42 – Groundwater changes in the vicinity of the tunnel causing long-term detrimental changes in terrestrial and aquatic ecosystems

Action: For the reasons in my Section 3.5, I believe there should be monitoring of groundwater levels and the ecological condition of vegetation in the Trinity Grammar School Sports Complex. The top of p. 227 of the draft Technical Report would have to be modified to include that monitoring.

4. Document Structure, Repetition and Minor Errors

The draft Technical Report includes a ‘Native vegetation removal report’ in Appendix J (PDF page 446–) and an apparently identical ‘Native vegetation removal report’ in Appendix M (PDF page 565). I think cross-referencing instead of duplication would save a lot of time and confusion on the part of readers.

I also wonder whether GHD could avoid having appendices within appendices within appendices; e.g. Appendix M includes Appendix A which, in turn, includes Appendix 1, 2 & 3. That makes it hard to navigate the document; particularly as some of the appendices are duplicates of others.

The paragraph that forms Section 4.3.6 of the draft Technical Report has errors of syntax and punctuation and is poorly written in general.

Section 4.3.8 says the *Wildlife Act 1975* involves native wildlife. In fact, the Act also involves ‘all kinds of deer, non-indigenous quail, pheasants, and partridges and any other taxon of animal which the Governor in Council by Order published in the Government Gazette declares to be wildlife for the purposes of this Act’.

The last paragraph of Section 4.4 is cumbersome. Its intended purpose appears to be to state how the draft Technical Report responds to ‘*Biodiversity 2037*’ but I am left none the wiser.

I encountered many typographical errors and minor errors such as erroneous cross-references. I have marked them in red on a copy of the PDF file, excluding the Appendices.

ANNEXURE B – Response to Schedule 4 of the Regulations and PER Guidelines

North East Link: draft PER
Submission of Banyule, Boroondara and Whitehorse Councils
Annexure B - Response to Schedule 4 of the Regulations and PER Guidelines

Schedule 4 content	High level assessment
<p>General Information</p> <p>1.01 The background of the action including:</p> <ul style="list-style-type: none"> (a) the title of the action; (b) the full name and postal address of the designated proponent; (c) a clear outline of the objective of the action; (d) the location of the action; (e) the background to the development of the action; (f) how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action; (g) the current status of the action; (h) the consequences of not proceeding with the action. <p>Description</p> <p>2.01 A description of the action, including:</p> <ul style="list-style-type: none"> (a) all the components of the action; (b) the precise location of any works to be undertaken, structures to be built or elements of the action that may have relevant impacts; (c) how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts; (d) relevant impacts of the action; (e) proposed safeguards and mitigation measures to deal with relevant impacts of the action; (f) any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action; (g) to the extent reasonably practicable, any feasible alternatives to the action, including: <ul style="list-style-type: none"> (i) if relevant, the alternative of taking no action; (ii) a comparative description of the impacts of each alternative on the matters protected by the controlling provisions for the action; (iii) sufficient detail to make clear why any alternative is preferred to another; (h) any consultation about the action, including: 	<p>The draft PER does not satisfy 1.01(g) of the Regulations (2.1(f) of the PER Guidelines) as it does not include an assessment of whether and if so how the action relates to other future major transport infrastructure projects including:</p> <ul style="list-style-type: none"> • East-West Link • Suburban Rail Loop <p>The draft PER does not satisfy this requirement (and section 2.2 of the PER Guidelines) because the Project is a reference project which the draft PER acknowledges 'represents one possible design of North East Link. The design features of the reference project have been used to help define and assess the potential impacts of the action. The design features outlined...are therefore <i>subject to change</i>' (pg 3-2, draft PER) [emphasis added].</p> <p>As a result, the draft PER:</p> <ul style="list-style-type: none"> - does not show all components of the action; - does not show the precise location (including coordinates) of all works to be undertaken. - fails to adequately show the location of stormwater management infrastructure, or its implications for useable open space or environmental values; - does not show how works are to be undertaken; - does not identify all relevant feasible alternatives, and fails to provide an adequate comparative description of the impacts of each alternative on the relevant MNES; - fails to adequately address the alternative of not taking the action. - lacks sufficient detail to clarify why any alternative is preferred <p>In addition, the timing of the draft PER being released prior to the Victoria surrounding the Environment Effects Statement Inquiry and Advisory Committee (IAC) process, means that it is highly likely that components of the action are likely to change through the IAC process. Therefore the current description in the draft PER is highly <i>unlikely</i> to be an accurate description of the final action.</p>

<p>(i) any consultation that has already taken place;</p> <p>(ii) proposed consultation about relevant impacts of the action;</p> <p>(iii) if there has been consultation about the proposed action—any documented response to, or result of, the consultation;</p> <p>(i) identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.</p>	
<p>3 Relevant impacts</p> <p>3.01 Information given under paragraph 2.01(d) must include:</p> <p>(a) a description of the relevant impacts of the action;</p> <p>(b) a detailed assessment of the nature and extent of the likely short term and long term relevant impacts;</p> <p>(c) a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;</p> <p>(d) analysis of the significance of the relevant impacts;</p> <p>(e) any technical data and other information used or needed to make a detailed assessment of the relevant impacts.</p>	<p>The draft PER does not include adequate details to of each of the matters listed in the PER Guidelines given that a number of shortcomings and uncertainties associated with the assessment in Chapters 6-9 of the draft PER. These issues are discussed in further detail in the body of the submission.</p> <p>In addition, the PER process does not provide the same ability to test the veracity of evidence that is provided by a public inquiry. It is unclear how, if at all, the further analysis of the significance of the relevant impacts that is bound to occur as part of the IAC process will form part of the final PER.</p>
<p>4 Proposed safeguards and mitigation measures</p> <p>4.01 Information given under paragraph 2.01(e) must include:</p> <p>(a) a description, and an assessment of the expected or predicted effectiveness of, the mitigation measures;</p> <p>(b) any statutory or policy basis for the mitigation measures;</p> <p>(c) the cost of the mitigation measures;</p> <p>(d) an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing;</p> <p>(e) the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program;</p> <p>(f) a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action, including mitigation measures proposed to be taken by State governments, local governments or the proponent.</p>	<p>The councils do not accept that the measures to avoid impacts on MNES are sufficiently robust to justify approval. For example, the modelled effects of groundwater drawdown are subject to uncertainties. It may not be possible to effectively mitigate risks to wetlands and aquatic habitat over the construction period, particularly during drought conditions.</p> <p>The proponent has argued that offsets are not required for vegetation which is planted. The actual loss of native vegetation will be much higher than is to be offset.</p> <p>The effectiveness of offsets is a highly contentious among environmental professionals and policy makers. There is limited information available to assess the veracity of many native vegetation offsets.</p> <p>The Environmental Management Framework delegates important threshold issues and design questions to a secondary process, which gives the builder of the North East Link an inappropriate amount of discretion as to how issues are to be addressed.</p>
<p>5 Other approvals and conditions</p> <p>5.01 Information given under paragraph 2.01(f) must include:</p> <p>(a) details of any local or State government planning scheme, or plan or policy under any local or State government planning system that deals with the proposed action, including:</p> <p>(i) what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy;</p> <p>(ii) how the scheme provides for the prevention, minimisation and management of any relevant impacts;</p>	<p>It is premature and illogical to finalise or assess the PER before the EES process concludes in Victoria. The Commonwealth Minister needs to also have the benefit of the evidence before the Victorian Inquiry before him or her.</p> <p>The draft PER should be revised as a result of the outcome of the IAC process in Victoria and reissued for further public comment.</p>

<p>(b) a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the Act), including any conditions that apply to the action;</p> <p>(c) a statement identifying any additional approval that is required;</p> <p>(d) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.</p>	
<p>6 Environmental record of person proposing to take the action</p> <p>6.01 Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:</p> <p>(a) the person proposing to take the action; and</p> <p>(b) for an action for which a person has applied for a permit, the person making the application.</p> <p>6.02 If the person proposing to take the action is a corporation--details of the corporation's environmental policy and planning framework.</p>	<p>The Victorian government's failure to make significant progress in the delivery the Western Grasslands Reserve should be taken into account. This has been the subject of recent media interest in Victoria.</p>
<p>7 Information sources</p> <p>7.01 For information given in a draft public environment report or environmental impact statement, the draft must state:</p> <p>(a) the source of the information; and</p> <p>(b) how recent the information is; and</p> <p>(c) how the reliability of the information was tested; and</p> <p>(d) what uncertainties (if any) are in the information.</p>	<p>The PER process does not provide a sufficient opportunity to independently test the information in the draft PER given the short exhibition period. . This process can be contrasted with the Victorian EES process, where the EES information which will be tested by a public Inquiry and Advisory Committee to be convened between late July and throughout August by Planning Panels Victoria.</p> <p>The Commonwealth Minister must have proper regard to the evidence before the IAC, as relevant to the decision to be made under the EPBC Act.</p>

ANNEXURE C - BANYULE CITY COUNCIL COMMENTS

North East Link: Draft PER
Submission of Banyule, Boroondara and Whitehorse City Councils
Annexure C - Banyule City Council – Issues and Concerns

Topic of Concern	Draft PER Reference	Issue/Concern	Council's position/Recommended approach
Loss of vegetation and offsets	Chapter 11	Extent of loss of native vegetation	Further consideration should be given to avoiding impacts and protecting sensitive and endangered vegetation and reducing the loss of vegetation.
	Technical Report	High priority planting locations (as defined) outside the project boundary are very likely to already be targets for tree planting programs, especially on Council managed land. Availability of replacement locations is therefore likely to be a limiting factor.	Require NELP to focus off-project canopy replacement in areas not available for Council programs. In particular this would apply to State authority land such as VicRoads roads, especially centre medians of main roads, public schools and hospitals, railway land. Improved planning controls for private land could also be used to deliver increase in canopy by creating appropriate planting space and requirements in new developments. Planning control changes likely to be outside the scope of NELA but this is a State level project to be approved by the Minister so is relevant and within the Minister's authority.
	Offset on Commonwealth Land	There is a VicRoads offset under Banyule permit P933/06 that offsets just under 1000 trees on the Simpson Army barracks due to the construction of a shared use path. NELP has been notified of this matter and Banyule has written to VicRoads seeking their input without response. 200 of the trees are in a narrow strip on Barracks land between Drysdale ST and Strathallan Rd. This area is shown as cut and cover and totally destroyed. It is currently shown by NELP as EVC55 but not as an existing offset.	<ul style="list-style-type: none"> Confirm status of offset with regard to Commonwealth land and the State level (VicRoads /DELWP) Confirm if an offset in perpetuity can be offset again? No known precedent
Studley Park Gum	Ecology, Ground water numerous references	<p>Groundwater dependency. Eucalyptus studleyensis an FFG Advisory list hybrid taxon may become functionally extinct within Banyule due to tree removal and potential long-term water draw down across the Simpson Army Barracks (Commonwealth land).</p> <p>Studley Park Gum is a globally significant hybrid taxon between River Red gum and Swamp gum that exists between Studley Park in Fairfield and the Simpson Army Barracks, where the only functionally intact stand remains. (1999 Cameron report) for Banyule).</p> <p>NELP has acknowledged in the Ecology Report that they have not adequately surveyed the Simpson Army Barracks for the extent of Studley Park Gum. They are also undertaking additional groundwater modelling to better understand the extent of drawdown immediately and to 2075.</p> <p>Ground water report shows current drawdown extent but further modelling required, which must be cross referenced to identification of new Studley Park Gum locations likely across the Barracks, which will be in the area of greater drawdown.</p> <p>As not enough information is available on the extent of the taxon across the Barracks, nor on the extent of groundwater impact, the precautionary principle must apply. Worst case outcome: possible extinction of a globally significant taxon. (Advisory list FFG).</p> <p>Banyule Flats vegetation including Studley Park gum-- again extent not assessed by NELP - and River Red gums onsite treated as amenity planting not remnants</p> <p>The extended tunnelling reservation along Greensborough Highway option between Greensborough and Lower Plenty Road, if supported, should be used as a location to host and recruit Studley Park Gum. Proof that an offset approach will be effective and be in accordance with the EPBC Offsets Policy is required. Before any works occur it must be demonstrated that any translocation efforts will be effective.</p>	<ul style="list-style-type: none"> Establish full locations of Studley Park Gum across the Simpson Army Barracks and Banyule Flats (NELP – occurring on Barracks only) Better drawdown model (NELP – occurring) Share this information with all parties prior to panel to allow informed decision making on matter of global significance If appropriate : <ul style="list-style-type: none"> Abandon Route A or require longer term groundwater modelling and recharge with monitoring of Barracks population of Studley Park Gum

		NELP provided the following response: <i>Closed – no action – Risk-based approach used for fauna assessment. Historical records and habitats to be retained versus lost suggest that impacts would be minor. It is acknowledged that impacts may occur, but given the landscape and history of disturbance, the impacts are expected to be minor and not jeopardize the persistence, distribution or recovery of the species</i>	
Adequacy of surveys	Chapter 5, Page 5-25	<p>Chapter 5 sets out a number of disclaimers that apply to the field surveys. Council has the following concerns:</p> <p><i>Point one: That the need for targeted species for listed threatened species was considered for species identified as having a moderate or greater likelihood of occurrence in the study area.</i></p> <p><i>Point three: The monitoring of waterways and lakes was undertaken in a particularly dry period which may impact the assessment of aquatic ecosystems. The results may not be representative of conditions during wet periods.</i></p> <p><i>Point four: Targeted fauna surveys that do not detect the subject species cannot provide conclusive evidence that threatened species do not or would not occur.</i></p> <p>Given the limited number of surveys undertaken, and the fact that a number of nearby ecological sites were not assessed and that the authors decided not to undertake targeted surveys for a number of EPBC listed threatened species, Council questions the validity of the following conclusion:</p> <p><i>Despite these limitations, the authors are confident that the extent of field surveys and information available from other sources was considered adequate for the purpose of identifying potential impacts from the action on ecological values.</i></p>	Further assessment should be undertaken, including of the billabongs in Freeway Golf Course and the billabong adjacent to Simpson's Lake and additional surveys could be warranted at Willsmere Billabong which sits adjacent to the project area.
	Technical Report A, Exec Summary	Golf courses adjacent to the Eastern Freeway at Bulleen Road - text says it provides limited habitat for native fauna. Unsurprisingly, there are few historical fauna surveys at the golf courses and NEL only assessed Simpson's Lake and the water storage dam at Freeway Golf Course which are in the project boundary and likely to be used for water treatment.	Carry out further survey work in this area
Social Impacts	Chapter 16, Table 16-1	<p>The ecological values of all golf courses along the Eastern Freeway and Yarra River in Boroondara were documented in the <i>Inventory of Indigenous Flora and Fauna in Boroondara</i> (2006) and since that document was published, there has been significant work to protect and restore habitat at Freeway Golf Course in particular.</p> <p>This summary of social and economic issues glosses over key issues and our officers consider that it does not accurately reflect social impacts. For example:</p> <p>The NEL reference design requires acquisition of the Boroondara Tennis Centre which is a major regional tennis facility and acquisition of the front 4-5 holes of Freeway Golf Course - an 18 hole golf course. These are thriving and vibrant community facilities incorporating management, coaching and pro-shop businesses.</p> <p>The southern interchange as shown in the NEL reference design will result in significant visual impacts (raised flyovers etc.) especially for nearby residents of North Balwyn, and users of local facilities (Bellevue Primary School) and local parks. The anticipation around the construction of the NEL and the impact this will have on visual and neighbourhood amenity, and local character is creating heightened anxiety in residents. Some residents are concerned that NEL has already resulted in property prices dropping in North Balwyn and that it may now be too late to try to sell their homes..</p> <p>The impact of shading from giant noise walls is not mentioned in this table.</p> <p>Function and viability of community infrastructure facilities - Bellevue Primary School is in close proximity to the Southern Interchange. It should be mentioned in the list of community infrastructure facilities. It will be very exposed during construction to increased noise etc. This is acknowledged in Appendix E of the Technical Report Social.</p>	<p>Acknowledge the social impacts of property acquisition on major sporting facilities in Boroondara - Freeway Golf Course and Boroondara Tennis Centre which are both businesses. NELP should aim to find a design option which, as a minimum, provides suitable replacement facilities for the sport and recreation users and facilities in the Bulleen Park area, which are potentially impacted by the North East Link.</p> <p>Acknowledge the impacts of the southern interchange (visual amenity) and the acquisition of 19% of Koonung Creek Reserve (amenity and character).</p> <p>Acknowledge Bellevue Primary School and impacts described in Appendix E of the Social report - increased noise, etc.</p> <p>Acknowledge temporary and permanent impacts on access to open space.</p>
Map inaccuracies	Chapter 5, Figure 5-11(f), (m)	Figure 5-11 is confusing and inaccurate. It looks like the authors have taken the maps from the Technical Report without amendment. The map label says maps show known or potential habitat for MNES within the project boundary. It seems a bit selective. The Glossy Grass Skink is not a MNES but a FFG Act listed vulnerable species and habitat for this species is shown	The authors should revisit the maps and check that they reflect - known or potential habitat for MNES within the project boundary. Further surveys should be undertaken if necessary.

Swift Parrot	Chapter 7	Banyule places great importance on preserving habitat for swift parrots. Banyule commissioned a study on the Swift Parrot, titled <i>Swift Parrots in Banyule and Surrounds</i> (Practical Ecology 2017) which has previously to NELP during the preparation of the Ecology technical report for the EES.	Explore option of Marigold Reserve as recipient site for Banyule.
Matted Flax Lilly	Chapter 7	Translocation Sites - Marigolds reserve, South East Cnr of the Simpson Army Barracks is a Council Conservation Reserve that should be considered a priority recipient site for translocated Matted Flax Lilly. Harry potage is on the list but it would be better to have Marigolds on there as first pick as the diversity of understory isn't as high as Harry Potage. Mostly dominated by <i>Microlaena stipoides</i> therefore less disturbance to diversity.	The table should better reflect this statement because minimum 3 months feels like too short a time for any appropriate site preparation.
	Technical report summary schedule for translocation of Matted Flax Lilly.	<u>Adjustments to Translocation Schedule</u> Would like to see site prep at minimum 6 months instead of 3. It states a little further down that "Establishing a nursery population will also provide an appropriate amount of time to prepare the recipient site".	Include Council in long term consultation to the ongoing future management of this project.
	Technical Report summary schedule for translocation of Matted Flax Lilly.	<u>Adjustments to Translocation Schedule</u> As part of this schedule could Council be consulted periodically or annually in regard to monitoring of successes or failures at nominated Council reserves.	All habitats should be surveyed and reviewed regardless of size or location.
Survey results	Technical Report	There is limited information provided in the survey results due to smaller habitats or those with restricted access not being surveyed. This gives rise to insufficient data to support conclusive results. This concern has previously been raised with NELP who responded that the information obtained is sufficient to satisfy legislative requirements and that historical record documents fauna in the Melbourne area well, and habitat assessment determines where fauna have the potential to be. This response is insufficient and does not address the Council's concern.	Further investigation and testing required.
Tunnel Vibration	Technical Report	Limited explanation of risks related to vibration and sediment disruption caused by construction of tunnel under 'Conditional No Go Zone Areas'. This concern has previously been raised with NELP. Their response is insufficient and does not address the Council's concern.	The groundwater assessment is inadequate and should not be accepted as being fit for purpose.
Groundwater impact within Banyule Wetlands	Surface Waters – Chapter 8 Technical report C	The groundwater model assesses drawdown of the aquifer. It does not attempt to model the reduction in water levels of any Groundwater Dependent Ecosystem (GDE) or wetland. The effect of drawdown may be more pronounced on a GDE or wetland, than across the aquifer generally. Further evidence is required that mapped wetlands such as "Banyule Flats" (Banyule Swamp and Banyule Billabong) will not be impacted.	Consultant to recheck runoff information and design of Borlase Reserve retarding basin to confirm flows to Banyule creek and potential for overtopping to Banyule Swamp
	Ecology Surface Waters Groundwater multiple references.	1% AEP overtopping of Banyule Creek may impact on Banyule Flats, which is a state significant wetland and contains a population of the migratory Latham's Snipe that qualifies under the EPBC Act as a Matter of National Environmental Significance (MNES). NELP consistently argue no impact to Banyule Flats because of tunnelling, but there may be surface water issues due to the undergrounding of Banyule Creek. Review any groundwater drawdown impacts to Banyule Swamp and Banyule Billabong following additional NELP modelling	As per Groundwater feedback further targeted bores across the project area are required to understand, monitor and mitigate potential impacts on vegetation, GDEs, waterways and waterbodies.
	Technical Report B	The Groundwater Report refers to the Ecology Report for discussion of ecological impacts from groundwater drawdown, but the Ecology report dismisses ecological impacts as negligible without further modelling or investigation in some areas - e.g. Banyule Flats.	Ensure sufficient measures to prevent direct or indirect impacts on the nationally significant population of Latham's Snipe at Banyule Flats. The current EPRs are not considered adequate.
	Technical Report A	The EPBC indirect impacts guidance note lists downstream impacts of road projects as a specific example that should be addressed. Indirect impacts from polluted stormwater on the population of Latham's Snipe (noted as a Matter of national Environmental Significance) from overbank flows from Banyule Creek are not adequately considered. Other concerns from uncertain groundwater drawdown, noise and vibration exist for this species as well. Relevant EPRs are not considered strong enough.	Undertake targeted surveys for species in No Go and conditional No Go areas that may be impacted stormwater pollution, groundwater drawdown, noise and vibration to better determine presence.
	Technical Report A	Lewins Rail, Bailions Crake, Little, Intermediate and Eastern Great Egrets, Little and Australasian Bitterns, Australian Painted Snipe, Australasian Shoveler, Hardhead, Blue-billed Duck and Musk Duck. It is considered that FFG and EPBC impacts from polluted stormwater, uncertain groundwater drawdown, noise and vibration exist for these species in the Banyule Flats area. EPRs are not considered strong enough.	Further groundwater investigation and modelling required.
	Chapter 8	Given the Groundwater modelling is only Class 1 and the impact of groundwater drawdown at this site is subject to further groundwater investigations currently being undertaken, it is not acceptable to assert definitively that there will	

Groundwater modelling and monitoring	Technical Appendix B	<p>be no impact. Council is concerned that the modelling may give rise to sufficient uncertainty that could result in adverse impacts on MNES if the modelling is approved as a basis for granting an approval.</p> <p>Council believes that a higher degree of certainty is required in order to ensure that the ecological integrity of receiving waters and their dependent ecological values are not undermined. Reliance on a reactive management process, through the project Environmental Performance Requirements is taking a gamble with the ecology of the area, contrary to the principles of ecologically sustainable development</p> <p>Raw data should be supplied to allow review of conclusions, not just the model.</p>	<p>NELP to provide raw data and report on this modelling and implications (Ecology, Drawdown) before Panel</p>
Surface Water Impacts	Technical Report	<p>Further modelling in being undertaken for the Project in Banyule Borlase reserve to Banyule Flats. The findings from the modelling should be provided.</p> <p>Groundwater monitoring for 2 years after opening is insufficient as the Ecology Report indicates that the water drawdown impact on trees is much longer.</p> <p>The impact of stated groundwater mounding is not explained although it could impact downstream watercourses including Banyule Creek.</p>	<p>Investigate effects of potential groundwater mounding on the east side of the trench near the Simpson Barracks that may alter the flow and/or source of the northern stretch of Banyule Creek above Lower Plenty Rd.</p>
	Chapter 8 - Surface Water	Piping of Banyule Creek through barracks totally destroys ecological value of this reach and may impact downstream environments	Consultant to recheck runoff information and design of Borlase Reserve retarding basin to confirm flows to Banyule creek and potential for overtopping to Banyule Swamp
	Chapter 8 - Surface Water	Impacts to flows restriction to South of Borlase retarding basin. Outflows to Creek Bend section of Banyule creek compromised altering current annual flows and impact on ecological values for creek line vegetation community.	Consultant to recheck runoff information and design of Borlase Reserve retarding basin to confirm flows to Banyule creek.
Water Sensitive Urban Design		NELP's assertion that Project scale WSUD will meet SEPP (Waters of Victoria) requirements does not appear to protect local streams, notably Banyule Creek, Plenty River. Details on the location and stormwater quality treatment performance of WSUD for each municipality has not been supplied by NELP, despite repeated requests from Councils and Melbourne Water. The very large wetland at the end of the M80 that may over-treat that part of the catchment where other parts of the Project are discharging untreated into receiving waters. For example the NEL that drains into the Kempston and Yando drains and then into Kalparin Gardens without additional WSUD (identified in the NEL Surface Waters EES as expected to have higher pollution levels.) This is also a potential EPBC issue because of the EPBC Listed aquatic potential species or habitat found within a 1km buffer of the outlet to the Plenty River on this drainage line.	Provide further detail regarding WSUD for each municipality and demonstrate that the SEPP is being met for each receiving waterway
Vegetation on Land Bridges		Capacity of land bridges to support deep rooted canopy trees.	
1.1 Social and Community			
Topic of Concern		Council's position/Recommended approach	
Methodology and Best Practice	Issue/Concern	There has been no peer review of the Social Impact Assessment (SIA) which is inconsistent with the recommended approach of the International Association of Impact Assessment (IAIA) process (which NELP claim to have adopted).	Lack of peer review calls into question the quality and validity of the SIA.
		There is no proposal to establish and monitor social indicators during construction or post project completion. IAIA guidelines recommend development of social indicators for use during construction and post project. The EES proposes on-going community consultation & engagement (EPR SC2) during construction to address concerns but no use of social indicators.	Further protections for community wellbeing (or other indicators) required before, during and after the project.
Understatement / averaging of potential impacts		Identification of risks and social impacts are averaged across municipalities resulting in understatement of impacts on residents and businesses that will be most affected. The Study Scope for Social & Community requires the identification of communities. The EES has identified cohorts of people (e.g. age groups) but has not identified the specific geographic neighbourhood communities most affected by the project.	Propose that EPR SC2 is amended to require the identification of geographical neighbourhoods (at street level) significantly impacted and to provide a case manager for each of these neighbourhoods.

	New infrastructure (e.g. noise walls) close to residential properties may impact on perceptions of safety, reductions in opportunities for children to play outside, unpleasant views, increased graffiti etc. Ch. 17 of the EES has averaged social impacts over a large area and paid no attention to small communities, particularly those affected by new infrastructure.	Propose that EPR SC2 is amended to require the identification of geographical neighbourhoods (at street level) significantly impacted and to provide a case manager for each of these neighbourhoods.
Social cohesion	Loss of neighbours in streets where properties are acquired may impact social cohesion & sense of community and reduce community wellbeing. No data has been provided on the number or location of households that are likely to lose neighbours, face a noise wall or have views of other project structures.	Propose that EPR SC2 is amended to require the identification of geographical neighbourhoods (at street level) significantly impacted and to provide a case manager for each of these neighbourhoods.
Impact on community facilities	Many community facilities will be impacted during construction and/or operation of the NEL outside of the 100m project boundary (or 400 m boundary where applied). There are a number of community facilities that will be impacted within a short distance of the project that have not been assessed.	Propose that these facilities are consulted and assessed. Reasonable requests that may help minimise impacts should be considered and actioned.
	Table 9-4 identifies that there will be 12 open space reserves within the municipality temporarily occupied during construction. Further information is required showing the area of occupation for each site including vehicular access points.	To understand what facilities are impacted further information is required (i.e. plans) showing the area of occupation for each site inclusive of vehicular access points. e.g.: There are playgrounds at Gillingham Reserve and Winsor Reserve are these inside or outside the occupation area?
Impact on sports and recreation reserves	Several sporting reserves will be occupied by NELP during construction and other recreational reserves will be impacted during construction and operation.	Provision is required for affected sporting clubs to be relocated during construction and for alternative recreation and community facilities to be provided. Alternative recreational facilities to be provided where they are permanently lost.
Impact on passive users	Work has been undertaken regarding the displacement of clubs, however there is a considerable amount of passive use of sporting grounds and open space that will be lost and have an impact on the social wellbeing of the community. The allocation of land bridge for open space are good but they are not suitable replacement land for various informal sporting activities, picnics or social gatherings.	Propose to ensure enhancement of existing facilities (or provision of new facilities) to counteract the temporary and/or permanent removal of open space with the municipality.
Sports and Recreation Relocation Plan	The relocation of a number of local and regional sporting clubs has the potential to have a significant social impact. Insufficient details are currently available as to proposed relocation sites.	•
1.2 Business Topic of Concern	Issue/Concern	Council's position/Recommended approach
Impact on key activity centres	The Hurstbridge Railway line will be closed for an extended 6 week period during the lengthening of the tunnel for the widening of Greensborough Road. The impact on Greensborough Activity Centre is not addressed.	This is a significant social and economic impact
	NELP makes reference to businesses being impacted during construction, however fails to assess the extent of impact over an extended 7 year construction period, including temporary occupation timeframes.	Include the extent of impact and the proposed timeframes for temporary occupation.
	NELP acknowledges changes to traffic conditions outside the 200m radius could cause a loss of trade and is an indirect impact. Anticipated loss of trade will directly and adversely impact on local industry and employment and can't be considered as indirect.	Change the direct impact area to link in with the transport report to give recognition to the customers, suppliers and employees that need to access local businesses.
	There is no need to identify a 200m cut-off for the assessment precinct – it hasn't really served any purpose except to make readers uneasy about what is being missed. Each potential impact has its own radius of operation. For example, those businesses within 200m would be affected by noise and dust. Traffic congestion will affect a much wider area.	Replace the 200m assessment precinct with the recognition that each impact will have its own sphere of influence. There are businesses within 500m that will be significantly impacted by traffic and access changes during construction.
	The impact on noise and amenity during the construction phase has not been adequately considered or identified as a risk.	A risk relevant to the noise and amenity impacts during construction should be included.

Watsonia Activity Centre access and connectivity	<p>It is indicated that some parking areas in Watsonia will be taken over for construction purposes. The viability of businesses is highly dependent upon the provision of suitable parking.</p> <p>It is indicated that sites around Watsonia Shopping Centre will be occupied during construction but fails to acknowledge the impact of construction areas will have on the viability of the shopping centre.</p>	
	<p>The risk of the operational impact and loss of passing trade is likely to be significant due to changes to reduced visibility and access arrangements.</p>	<p>Businesses likely to be impacted should be identified and an appropriate business efficiency strategies developed, including consideration of permanent relocation and/or potential acquisition.</p>
Consultations with affected businesses	<p>Previous versions of the EES Business Technical Report have made reference to a Real Estate Market Analysis to support businesses that are being displaced. The current report includes an EPR to work with Council's to identify alternative location options for displaced businesses. Banyule is not resourced to deliver this level of support for displaced businesses.</p>	<p>State that businesses in a particular radius, such as 500m will be offered support and that it will be from now until the project's completion.</p>

**ANNEXURE D – CITY OF BOROONDARA
COMMENTS**

North East Link: Draft PER
Submission of Banyule, Boroondara and Whitehorse City Councils
Annexure D – City of Boroondara – Issues and Concerns

Topic of Concern	Draft PER Reference	Issue/Concern	Council's position/Recommended approach
Inaccurate Description of Action	Chapter 3	Key design element - Southern portal and Bulleen Road - no mention of the impacted Freeway Golf Course and acquisition of Boroondara Tennis Centre at the southern interchange. In terms of the EPBC Act, both have Koonung Creek to the north with potential habitat for EPBC listed aquatic species and Freeway Golf Course has potential habitat for EPBC listed fauna species which was not investigated	Acknowledge the major facilities at the southern portal - Freeway Golf Course and Boroondara Tennis Centre
Property Acquisition	Chapter 3.2.8 – Property Acquisition	The draft PER comment that new public open space would be provided on land bridges built over the North East Link at Watsonia is very specific. Insufficient consideration is given to the impact on or the need for further public open space elsewhere along the project corridor.	The proponent should include more information about new public open space.
Construction Methods	Table 3-8	Relocation of the main sewer on the east side of Bulleen Road. The report text mentions the crossing of the dam adjacent to Trinity Grammar School. It is unclear whether this is wetland B - or the sediment pond on the west side of Bulleen Road. This needs clarification. If it is wetland B then it is important in the context of the EPBC Act listed River Swamp Wallaby-grass. If it is the sediment pond on the other side of Bulleen Road then this is part of the Bolin Bolin Integrated Water Management project and the impacts on this project should be considered.	Confirm if the dam referred to in table 3.8 is actually the wetland B at Trinity Grammar School.
Potential construction compounds	Figure 3-19	Figure 3-19 and 3-20 ha potential construction compounds along the Eastern Freeway. Sites 3, 4, 5 are supported by Council. Site 6 (Yarra Flats), Site 7 (Musca Street Reserve), Site 9 (Yarra Flats) and 10 (Koonung Creek Reserve) - are not supported by Council as construction laydown areas. Use of 85,000 m2 of Koonung Creek would necessitate the removal of native vegetation that forms the Koonung Creek Ecological Corridor. Yarra Flats is a significant biodiversity site that forms part of the Yarra River Corridor. Vegetation at Yarra Flats provides potential habitat for threatened species for example Grey-headed Flying Fox (MNES), Swift Parrot (MNES), Powerful Owl (FFG Act listed vulnerable species).	The use of Site 6 (Yarra Flats), Site 7 (Musca Street Reserve), Site 9 (Yarra Flats) and 10 (Koonung Creek reserve) should not be used for construction laydown areas. The labelling of the figures should be consistent - they should all be called 'Potential construction sites'.
Alternative alignments to the action	Chapter 4	Council supports Corridor C	
Eastern Freeway Widening – Alternative Design	Chapter 4	Adding additional lanes, even within the road reserve west of Bulleen Road will mean cars and the Doncaster Bus will be in close proximity to valuable biodiversity areas along the Yarra River Corridor. Freeway widening and expansion into Koonung Creek Reserve will remove native vegetation and habitat at Koonung Creek Reserve.	Support rationalised road design to avoid and minimise effects on the open space along Koonung Creek Reserve.
Loss of native vegetation	Chapter 5, Page 5.15	The action will result in the loss of over 52 hectares of native vegetation across the project area (143 patches of native vegetation comprising 52,109 hectares) as well as more than 25,000 trees across the project area - the majority of which are native and indigenous species in the road reserve (see Arboriculture Report - Xii and Xiii). While the report notes the already degraded nature of the project area and study area, it would be respectful to acknowledge the ongoing work to protect and restore native vegetation and revegetation across this area by local governments and community groups. Much of this work is guided by local policies and strategies to address urban habitat degradation and previous clearing and increase the extent of habitat.	This section of the report should be more explicit about the actual impacts e.g. including numbers and figures.
River Swamp Wallaby-grass	Chapter 5, section 5.11	Dr Lorimer noted in feedback to NELP on the draft Ecology Report that 'The species is usually undetectable except when it is in flower or seed, arising from the mud of a wetland that is drying out slowly during the warmer months - something that happens only sporadically.'	Provide clarification in the report that it is not always easy to survey the River Swamp Wallaby-grass as the flowering only occurs sporadically - or words to that effect. Note that on that basis, the species should be assumed to be present.
	Chapter 7, section 7.3.2	The authors say that despite the assumed presence of River Swamp Wallaby-grass at Trinity Grammar Wetland B, it is not expected to be significantly impacted as the majority of the potentially suitable habitat that falls within the project area would not be significantly impacted by surface works.	The report needs to be explicit about the impacts of the cut and cover tunnel and the realignment of the main Yarra sewer (if this impacts on wetland B).
		The reference design shows that a cut and cover tunnel will be excavated below Trinity Grammar wetland B. A	

		<p>description of the construction method is shown in Fig 3-16 and the tunnel will be constructed through the wetland leading to a major disturbance to the ecosystem.</p> <p>Table 3-8 - page 3-29 of the PER report notes that construction activities include the realignment of the Yarra East Main sewer. Wording suggests that it might also impact Wetland B.</p> <p>"It would be constructed using a combination of pipe jacking and an open trench method (including a cofferdam) which crosses the dam adjacent to Trinity Grammar.</p> <p>These works, if they are to impact wetland B would also contribute to degradation of the wetland and threaten the River Swamp-Wallaby-grass..</p>	<p>The authors have not given full consideration to the construction impacts on Trinity Grammar Wetlands B and therefore the assessment of the significant impact for River Swamp Wallaby -grass should be revised.</p> <p>Review Table 7-3 - Assessment of the impacts of River Swamp Wallaby-grass</p>
	Chapter 7, section 7.3.2	<p>This report (see paragraph 3) suggests that there is expected to be mounding of 0.1 to 0.5 metres. The use of alternative modelling may yield a different result and there maybe a drawdown of water rather than mounding. Guidance from the Federal Department of Environment and Energy recognises that changing water regimes are the main identified threat to the River Swamp Wallaby-grass.</p> <p>Graeme Lorimer suggested in his report on the draft EES Technical report that:</p> <p><i>'The population of the River Swamp Wallaby-grass is already near the edge of its tolerance of dry conditions and hence quite vulnerable to potential disruption to flood frequency and the height of the water table by the North east Link.</i></p> <p><i>This vulnerability is exacerbated by climate change which the draft Technical Report ignores.'</i></p> <p>See Dr Lorimer's report for more comments However potential groundwater drawdown (0.1 to 0.5 metres) in the vicinity of the southern portal due to tunnelling activities beneath the Yarra River could reduce water available to wetlands reliant on groundwater to some degree and potentially affect the River Swamp Wallaby-grass.</p>	
	Chapter 7, mitigation measures	<p>The mitigation measures appear to focus on addressing the groundwater drawdown at Bolin Bolin billabong only. There is a reference to controlling weeds immediately adjacent to wetland B at Trinity Grammar School. Given the likely construction impacts on the wetland from the cut and cover tunnel, actions need to be considered for mitigating or reducing construction impacts on the River Swamp Wallaby-grass at wetland B and any ongoing impacts from groundwater drawdown during operation. The report suggests there may be mounding at Trinity Grammar wetland, however we hold concerns about uncertainties around the groundwater modelling conducted in relation to assessment of this action.</p>	<p>Include options for protecting and mitigating against impacts on the River Swamp Wallaby-grass at Trinity Grammar School wetland B.</p>
Swift Parrot	Section 7.5.2	<p>Concern that the loss of planted amenity trees for foraging by Swift Parrots is not considered in this section of the report.</p> <p>Project authors suggest that Swift Parrots may visit trees in and around the study area occasionally and opportunistically, but the project boundary does not appear to offer Swift parrots a particular foraging resource that is not present and widely available in the suburbs surrounding the sites. Table 7-5 notes that no habitats within the study area are identified on the Register of Critical Habitat, but indeed that register does not include any habitat listing for the Swift Parrot.</p> <p>Please note the following advice from Dr Graeme Lorimer.</p> <p>'Swift Parrots fly across Bass Strait, and have to refuel on arrival in southern Victoria, including metro Melbourne. They also have to fuel up before flying back to Tasmania. I therefore think that food trees in the Melbourne area have an important role in the species' migration and survival.</p> <p>If thousands of planted amenity trees along the project corridor are removed along with large flowering indigenous eucalypts (as part of the native vegetation clearance), will this impact on foraging resources for the Swift Parrot?</p>	<p>Consider and assess the impact of the removal of thousands of flowering eucalypts in the project area on foraging opportunities for the critically endangered Swift Parrot.</p>
Grey-headed Flying Fox	Chapter 7, section 7.8	<p>According to the DSE Flying Fox campsite management plan, the management area covers 26 hectares up to the Eastern Freeway. Works will encroach ten metres into the management area. The management plan includes as one of its goals; to enhance vegetation and other environmental values in or near the campsite. The clearing of trees planted for amenity values along the project area - may have an impact on foraging opportunities for these animals. The summary EPR table 10-1 talks about the Flying Fox campsite being a no go zone - but this should actually read the 'Flying Fox management area' beyond the project area is a 'no-go-zone.</p> <p>Dr Rod Van der Ree has commented on the sensitivity of flying foxes to light and noise impacts. The report comments that the area already is already noisy and well-lit and that there will be no impacts from construction activities. Is this a fair comment? I would expect that there would be more noise and activity especially if works are undertaken overnight. Would this impact the dispersal of Grey-headed Flying Foxes.</p> <p>The assessment of the size of the Flying Fox campsite may not take into account the increase in number of animals over recent years at the Yarra Bend Park camp and the extension of the camp further towards the Eastern Freeway</p>	<p>NELP should comment on the loss of amenity trees along the project area and the impact this may have on foraging opportunities.</p> <p>The EPR Table 10-1 should be amended to say the Grey-headed Flying Fox management area outside the project boundary is a no-go zone. (as stated on page 7-29).</p> <p>Will the impacts on the Grey-headed Flying Fox camp be monitored when the construction works are underway? An ecologist should be engaged to do this.</p>

		as noted below by Dr Rod Van der Ree. 'maximums of around 40,000 – 50,000 and maybe up to 60,000 have been reached the last couple of summers. Numbers are always a bit rubbery because of error in the different counting approaches/methods, but 30,000 would be the minimum summer max, and 40,000 – 50,000 have been recorded the last few summers. It would seem to me, based on my gut feel, that the maximum Yarra Bend population is increasing, but don't know if the last couple of years is a new trend, or an anomaly.' I also wonder what the impacts of tree loss across the project area might be? I don't see anywhere mentioned in this section the proposed removal of 25,000 planted amenity trees across the project area. Dr Van der Ree also noted, 'As for the impact of the tree removal, it is hard to say without looking at a map. But, from memory, assume this means that the eastern freeway will be made 10 m wider. During summer/autumn peaks in ghiff numbers, the colony extends much further along the Yarra river towards the eastern freeway, and I don't think the bats would be directly, but I would need to compare a map of that and a map of the summer distribution. An issue is that this clearing and noise/light etc, might put a limit on how far they can extend northwards, which means, if numbers continue to grow, the bats may start to push further south towards houses. It also maybe disruptive during construction?'	Given tree loss within the project area, should funding be provided for additional monitoring of the Flying Fox colony.
	Chapter 5, Page 5-14	The description should note the increase in numbers of animals at the camp over the last few summers.	Text should acknowledge that over the last few years there has been a significant increase in the number of animals at the Flying Fox colony.
Latham's Snipe	Chapter 5, Page 5-14	Latham's Snipe has been recorded at Freeway Golf Course. Billabongs at Freeway Golf Course (which may be disturbed as part of the Freeway Golf Course redesign/reinstatement), and the billabong next to Kew Golf Course's, Simpsons Lake, should be assessed for habitat for Latham's Snipe. These waterbodies (other than one wetland/dam at Freeway Golf Course) were not visited for habitat surveys or for targeted surveys.	Report authors/NELP should undertake assessments for Latham Snipe/Australasian Bittern habitat at Freeway Golf Course billabongs and the billabong next to Simpsons Lake at Kew Golf Course.
Growing Grass Frog	Chapter 7, section 7.9	The Growing Grass Frog is likely extinct in Boroondara, however surveys of areas previously not assessed should still be undertaken to confirm this hypothesis.	NELP should survey wetlands and billabongs not checked as part of the target surveys for Growing Grass frog habitat. This includes the billabongs on Freeway Golf Course and the billabong next to Simpsons Lake that may be impacted by stormwater works at the lake.
Australian Bittern	Chapter 5, Page 5-23	In Graeme Lorimer's response to the draft Technical Report Ecology, he contested the report author's view that the Australasian Bittern was unlikely to occur at various sites within the project area and study area. The text that we provided the below response to - has been included unchanged in the PER. <i>Page 43 concludes that the Australasian Bittern is unlikely to occur at sites such as Koonung Creek (and presumably Kew Billabong and the golf courses lining the Yarra River) because such sites: 'are typically degraded, disturbed (particularly by people walking dogs) and within urbanised areas. That, in association with the few VBA/e-Bird [sic.] records, suggests that those areas are very unlikely to support this species. Assessment for this species was restricted to habitat assessment and opportunistic observations.'</i> <i>This statement contains a number of contestable elements:</i> <ul style="list-style-type: none"> • The absence of records at these sites could be simply due to the species' secretive behaviour (as acknowledged on p. 137) and the absence of investigation by GHD at Kew Billabong and the golf courses (particularly the large billabong at Kew Golf Course). It is no wonder that a billabong on a private, fenced golf course would have few records in the VBA and eBird; • Kew Golf Course is not available for walking dogs and the large billabong is somewhat secluded, as are parts of the Kew Billabong; • I think GHD underestimates the adaptability of the Australasian Bittern to urban water bodies. I have seen wild Australasian Bitterns hunting in clear sight at ponds at Melbourne Zoo in recent years, within a short distance of very busy footpaths between the exhibits. There are other recent records of the species at the zoo. Clearly, the Australasian Bittern can tolerate very urbanised environments in close proximity to heavy pedestrian traffic. <i>Page 137 of the draft Ecology Technical Report concludes that for bitterns on the Yarra floodplain, 'Direct impacts on this area are being avoided by tunnelling'. This is clearly not true of the Kew Billabong and the Kew Golf Club's large billabong. It is also contestable at the Trinity Grammar wetlands because the excavation of a cut-and-cover tunnel will destroy part of the wetlands and the rest is at risk, as acknowledged on p. 36.</i> <i>I believe the draft Technical Report is too dismissive of the likelihood of occurrence of Australasian Bittern and the potential for its habitat to be adversely affected.</i>	Targeted surveys should be undertaken for the Australasian Bittern

		<p>on the map.</p> <p>Latham's Snipe is an MNES fauna species and has been recorded at the Freeway Golf Course but has not been marked on the maps even though potential habitat occurs in the study area.</p> <p>There may be other examples of MNES species potential or known habitat missing from the map.</p>	
	Figure 5-11	<p>There appears to be a map missing. Figure 5-11 (I) shows the section of Koonung Creek near to Bulleen Road, but there is no map showing the remainder of Koonung Creek within the City of Boroondara municipal boundary. This is important as 6 hectares of vegetation in Koonung Creek is within the project boundary.</p>	Insert the missing map

ANNEXURE E - RECOMMENDTIONS

**North East Link: Draft PER
Submission of the Banyule, Boroondara and Whitehorse Councils**

ANNEXURE E – Recommendations

1. Process

- 1.1 The Minister should suspend the PER process until after the IAC report is available. The Proponent should then be required to exhibit an amended draft PER and interested parties should be given an opportunity to make submissions to the amended PER.
- 1.2 The Minister should exercise discretion under section 90 of the EPBC Act to require that the future assessment of this Project proceeds by way of a public Inquiry.
- 1.3 The Minister should require further information from the proponent to address the issues identified by the Councils, to ensure compliance with Schedule 4 of the EPBC Regulations and the PER Guidelines for the Project.

2. The action should not be approved

- 2.1 The Project should not be approved for the following reasons:
 - 2.1.1 the draft PER does not demonstrate that the ecological integrity of the Yarra River floodplain and MNES on Commonwealth land will be maintained;
 - 2.1.2 the action does not satisfy the Offsets Policy in force under the EPBC Act;
 - 2.1.3 the action is inconsistent with the ESD principles as defined in the EPBC Act;
 - 2.1.4 the economic and social consequences of the action count against approval of the Action; and
 - 2.1.5 the alleged benefits of the action are overstated, and in any event, do not justify the adverse environmental, social and economic implications of the action.

3. Interchanges Design

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- 3.1 That the proponent consider alternative designs tabled during the IAC process to rationalise the road design to minimise the land take.
- 3.2 Complementary projects be approved to enhance the performance of this interchange.

Lower Plenty Road to Grimshaw Street

- 3.3 Include the option to extend the tunnel from Watsonia Station to the Grimshaw Street interchange, funded by toll revenue.
- 3.4 That the distance of extended tunnels and land bridged by optimised by reference to an approved Value Capture Strategy.

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- 3.5 That all proposed urban design upgrades around Watsonia Station be delivered and funded by the Proponent.
- 3.6 That a precinct structure plan be developed to guide future development around Watsonia, in a manner that protects the residential outskirts of the activity centre. Growth should focus on the Watsonia Train station and land owned or controlled by the State.
- 3.7 An associated Urban Design Strategy should be tested through a Development Planning process and associated advisory committee process under the *Planning and Environment Act 1987*.

Lower Plenty Road Interchange

- 3.8 The interchange should be redesigned with a more conventional interchange to minimise the ecological impact on trees, open space and local amenity.

Bulleen Road Interchange

- 3.9 Improve the interchange design by:
 - 3.9.1 provision of tunnelled exit/entry ramps to minimise impacts on adjacent public open space;
 - 3.9.2 avoiding land to the west of Bulleen Road that is affected by the Significant Landscape Overlay; and
 - 3.9.3 shifting the alignment of the Bulleen Interchange to the north-east to prevent constraints on the future use and development of the land occupied by the Boroondara Tennis Centre.
- 3.10 To minimise the social impacts of the Project adopt the City of Boroondara Plan for the replacement of the Boroondara Tennis Centre and reconfiguration of the Freeway Golf Course.
- 3.11 The Project Authority reserve, acquire and deliver the land required for the delivery of the replacement open space assets in Bulleen Park as a condition of any approval.

Eastern Freeway Upgrades

- 3.12 The scale of the capital works programme in the Eastern Freeway be rationalised to avoid and minimise impacts on open space corridors, vegetation and open space, having regard to the evidence to be presented to the IAC.
- 3.13 Alternatively, defer the upgrades to the Eastern Freeway so that the future planning for the duplication of the Mullum Mullum Tunnel and East West Link is resolved through a strategic assessment process approved by the Minister.
- 3.14 Any decision on the future upgrades to the Eastern Freeway be deferred until there is a funding commitment to duplicate the Eastlink Tunnels.

Impact on local roads

- 3.15 A package of measures be funded to mitigate impacts to local arterial road networks (e.g. measures to address increased queuing on roads like Springvale Road and near the M80 to access the North East Link).

ANNEXURE F – KPMG/ARUP/#3 REPORT

Uploaded separately

ANNEXURE G – BAB-ENG REPORT