APPENDIX E: EXTRACT OF EXPERT RESPONSE TO SUBMISSIONS ON THE DRAFT EIS

MARINUS LINK

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

Appendix E Extract of expert response to submissions on the draft EIS

Extract of expert response to submissions on the draft EIS, responses tabled as part of the expert reports for the proponent in the Victorian IAC process.

Expert reports addressing most areas of technical assessment reflected in the draft EIS were tabled in the Victorian IAC process, although aspect of these focussed on the Victorian EES.

This EIS Addendum, and the finalised EIS, includes the following extracts being the responses of each expert to submissions on the draft EIS (including EES):

- Extract of expert witness statement of M Green: aboriginal cultural heritage, dated 28 August 2024.
- Extract of expert witness statement of S Welchman: air quality, dated 28 August 2024.
- Extract of expert witness statement of S Chidgey: benthic ecology, dated 28 August 2024.
- Extract of expert witness statement of N Kearnes: bushfire, dated 28 August 2024.
- Extract of expert witness statement of C Miller: climate change and greenhouse gas, dated 27 August 2024.
- Extract of expert witness statement of B Tiddy: contaminated land and acid sulfate soils, dated 28 August 2024.
- Extract of expert witness statement of R Urban: electromagnetic fields, dated 28 August 2024.
- Extract of expert witness statement of J Darras: geomorphology and geology, landslip, dated 28 August 2024.
- Extract of expert witness statement of J Sweeney: groundwater, dated 28 August 2024.
- Extract of expert witness statement of A. Boag: land use and planning, dated 27 August 2024.
- Extract of expert witness statement of H Burge: landscape and visual, dated 29 August 2024.
- Extract of expert witness statement of J Adcock: noise and vibration, dated 28 August 2024.
- Extract of expert witness statement of S Cleven: surface water, dated 28 August 2024.
- Extract of expert witness statement of S Davies: traffic and transport, dated 23 August 2024.
- Extract of expert witness statement of C Coroneos: underwater cultural heritage, dated 27 August 2024.

- Close engagement with the First Peoples groups will also improve knowledge sharing and build relationships for future work and the protection of cultural heritage values.

- The assessment has found that the Project will meet the evaluation objective specified in Section 4.3 of the EES scoping requirements:

  Protect, avoid and, where avoidance is not possible, minimise adverse effects on historical heritage values, and tangible and intangible Aboriginal cultural heritage values, in partnership with Traditional Owners.

8 Submissions

I have been requested to review the public submissions provided to me by Herbert Smith Freehills as relevant to my area of expertise.

8.1 Submissions received

Herbert Smith Freehills advised me on 18 July 2024 that no submissions had been received in relation to the Aboriginal and Historical Cultural Heritage Assessment as of the public exhibition closing date of 12 July 2024.

I was subsequently advised by Herbert Smith Freehills on 19 July 2024 that in response to an invitation from the Inquiry and Advisory Committee, Bunurong Land Council Aboriginal Corporation had submitted a document and accompanying letter summarising the 12 recommendations contained in their Marinus Link Aboriginal Cultural Values Assessment (BLCAC, 24 May 2024).

8.2 Summary of issues raised

The issues addressed in Section 8 relate solely to the recommendations contained in the BLCAC submission and include only those responses that I consider are relevant to my area of expertise. being:

(a) Recommendation 1:

- "…that Marinus Link negotiates for and organises the preservation of [geotechnical] core samples and, further, investigates the potential for future research and grant opportunities where BLCAC can participate in this analysis."

(b) Recommendation 2:

- "…that Marinus Link undertakes a more intensive and targeted examination of the palaeoenvironments of Bass Lake, with a focus on the northern palaeocoastline close to the current Victorian coastline of Waratah Bay, Sandy Point and Wammum.[1]"
- "…further assessments of the proposed underwater route of Marinus Link, especially close to the [Victorian] palaeoshorelines, to reduce the likelihood of damaging previously unknown Aboriginal cultural heritage…Without further analysis of the geotechnical samples (Recommendation 1), this assumption [that disturbance will be confined to deposits less than 1.5m from the seabed postdating submergence of the land bridge] cannot be confirmed without knowing more about the depths of the Holocene and Pleistocene deposits."

[1] *Wammum* is the *Bun wurrung* name for Wilsons Promontory

(c) Recommendation 3:

- BLCAC is consulted when the results of further research arising under Recommendations 1 and/or 2 are disseminated.

(d) Recommendation 5:

- BLCAC provide cultural awareness training to all Marinus Link project employees.

(e) Recommendation 8:

- BLCAC is consulted regarding the development of an archaeological salvage program relating to the Aboriginal cultural heritage management plan (CHMP) being prepared in the non-RAP portion of the Project area.

8.3 Response to issues raised

Set out below are my comments and responses to the issues raised in BLCAC's written submission relevant to the area of my expertise:

(a) BLCAC Recommendation 1:

- This recommendation relates to further research using existing data sources that will potentially enhance our understanding of the Bassian Plain[2] and its relationship to Aboriginal cultural heritage. As the Aboriginal and Historical Cultural Heritage Assessment and my statement relate only to terrestrial cultural heritage, Recommendation 1 is not specifically relevant to the Aboriginal and Historical Cultural Heritage Assessment.

(b) BLCAC Recommendation 2:

- This recommendation relates to the need for further investigations into the potential for the Project to impact on Pleistocene subsea deposits that may contain Aboriginal cultural heritage in the form of archaeological materials. However, the Aboriginal and Historical Cultural Heritage Assessment relates only to terrestrial cultural heritage, and on this basis Recommendation 2 is not specifically relevant to the Aboriginal and Historical Cultural Heritage Assessment.
- My understanding is that geotechnical cores drilled to date have identified a sediment profile in which the uppermost 1.5 m of deposit across Bass Strait was laid down during the Holocene period, after the Bassian Plain land bridge was submerged. I am instructed that the subsea cables will be confined to the uppermost 1.5 m of deposit except where horizontal direction drilling (HDD) will be used to underbore the Victorian coastline. On this basis there is an extremely low potential for the Project to impact submerged Aboriginal archaeological materials, given that disturbance of land surfaces and subsurface deposits that were in place prior to the land bridge being submerged, and hence potentially occupied by Aboriginal people in the past, will be limited to the areas of HDD.

(c) BLCAC Recommendation 3:

- This recommendation is not specifically relevant to the Aboriginal and Historical Cultural Heritage Assessment as it requires Marinus Link Pty Ltd (MLPL) to consult with BLCAC regarding the dissemination of research results arising from the implementation of Recommendations 1 and/or 2, both of which relate to underwater heritage.

(d) BLCAC Recommendation 5:

- CHMP18244, currently being prepared for the Project, will include a general management condition requiring the Sponsor (MLPL) to deliver formal CHMP inductions to all staff and contractors managing or undertaking ground disturbing

[2] The Pleistocene land bridge that previously connected Tasmania to mainland Australia

activities, in partnership with the three First Peoples groups consulted during the preparation of the Aboriginal and Historical Cultural Heritage Assessment (including BLCAC).

(e) BLCAC Recommendation 8:

- The three First Peoples groups consulted during the preparation of the Aboriginal and Historical Cultural Heritage Assessment (including BLCAC) will also be consulted regarding site-specific management conditions that will be included in CHMP 18244 currently being prepared for the Project. These management conditions will specify archaeological salvage requirements.

9 Environmental Performance Requirements

As described at section 6 above, the Aboriginal and Historical Cultural Heritage Assessment recommended EPRs as relevant to terrestrial Aboriginal and historical cultural heritage.

I have reviewed the following EPRs and confirm that I have nothing further to add by way of amendments or additions:

CH01 Develop and implement a historical heritage management plan to avoid and minimise impacts to historical cultural heritage values

CH02 Comply with the Cultural Heritage Management Plans (CHMPs) 18201 and 18244

EM05 Develop and implement a land decommissioning management plan

EM08 Develop and implement a strategy for ongoing engagement with First Peoples

NV02 Develop and implement a construction noise and vibration management plan (including specific reference to the Moores Road, Buffalo underground brick cistern).

With regard to EPR CH03, I recommend that it is amended to properly reflect the technical and documentary relationship that will exist between CVAs and the CHMPs, such that the preparation of the CHMPs is informed by CVAs where they have been prepared.

10 Declarations

I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Inquiry and Advisory Committee.

If I am presenting evidence from a different location by video conference, I confirm that:

(a) I will be alone in the room from which I am giving evidence and will not make or receive any communication with another person while giving my evidence except with the express leave of the Panel.

(b) I will inform the Panel immediately should another person enter the room from which I am giving evidence.

(c) during breaks in evidence, when under cross-examination, I will not discuss my evidence with any other person, except with the leave of the Panel.

(d) I will not have before me any document, other than my expert witness statement and documents referred to therein, or any other document which the Panel expressly permits me to view.

08. Extract of witness statement of Simon Welchman - Air Quality (responses to submissions)

Where there are sites that could have a cumulative impact, the IAQM guidance recommends that the following additional mitigation measure is implemented:

“Hold regular liaison meetings with other high risk construction sites within 500 m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes”.

Provided this liaison and coordination takes place, dust emission should be adequately managed such that there will be no significant cumulative impacts.

8 Submissions

I have been requested to review the public submissions provided to me by Herbert Smith Freehills as relevant to my area of expertise. Relevant submissions have been responded to below.

8.1 Submissions received

I have read the public submissions and identified those that are relevant to the Air Quality Assessment and my area of expertise. The following submissions are relevant to the Air Quality Assessment:

- Submission #5
- Submission #18.

Submission #5 raises air quality issues, in particular points 1, 2 and 7 of the following:

Comments: reference to 7.13 and 7.15.
1. There is no mention of traffic and noise impact to the Certified Organic Farm next to my property. The pollution from trucks using this road my lose their organic certification and therefore their business.
2. There is no mention anywhere of the effect of truck exhaust pollution on people, livestock, crops or water (including drinking tank water)
3. What physical tests and equipment was used to assess the "minimal to low impact" statement of noise and vibration affecting persons on our property.
4. Did the test, load a truck with it's potential load and have it go past and electronically test the effect on the people and property?
5. Does the assessment include noise from trucks fully loaded and going up or down steep narrow roads and using air brakes or noisy first gear?
6. What roads will be used as no communication has been done to potential properties affected, the drop in sessions don't supply that information.
7. It appears that most conclusions are based on an assessment done at a desk but not any on site proper tests at the properties affected. I request proper physical tests be done.
8. How do you compensate/help people who have medical problems or others that may need to sleep during the day.

Submission #18 raises issues regarding air quality mitigation, in particular, regarding EPR-AQ01, as follows:

Mitigation measures

EPR AQ01 includes the measure to "*Describe inspection requirements for construction areas to monitor implementation of controls*". However, it is considered that the measures not only need to assess implementation but also its effectiveness and then continuous improvement of such controls.

EIS/EES Recommendation #10

Volume 5 Chapter 2 Environmental Management Framework Table 2-10 Section 2.83, - EPR-AQ01

Update EPR AQ01 as follows:

- Describe **processes to ensure the measures are implemented appropriately, are regularly assessed for effectiveness, including regular** inspection requirements **in** ~~for~~ construction areas**, and as a result are subject to continuous improvement** ~~to monitor implementation of controls~~.

8.2 Summary of issues raised

Submission #5 has raised the following issues relevant to my area of expertise:

(a) Potential impact of traffic emissions on organic farm

(b) Potential impact of traffic emissions organic certification

(c) Potential impact of traffic emissions on people, livestock, crops and water

(d) Conclusions based on desktop assessment without physical tests.

Submission #18 has recommended that EPR-AQ01 is amended in a particular way so that it requires that the construction dust management plan describes processes to ensure the dust control measures are implemented appropriately, are regularly assessed for effectiveness and that the dust control measures are subject to continuous improvement.

8.3 Response to issues raised

My comments and response to the issues raised by Submission #5 that are relevant to my expertise are as follows:

(a) Potential impact of traffic emissions on organic farm

The Air Quality Assessment evaluated the potential impact of the Project on agricultural activities. The key air pollutant generated by the project is dust during the construction phase.

The Air Quality Assessment makes the following statements regarding the potential for agricultural impacts:

There are three main agricultural activities within the project area; dairy production, beef production and horticultural operations. Dairy and beef production are unlikely to be affected by dust. In terms of horticultural operations, the primary crop in the area is potatoes. There is also one organic farm. Advice from the agricultural technical specialist indicates that the risk of dust affecting potatoes is low, particularly due to standard

management practices proposed for the project. Further detail will be provided in the agriculture technical report for the project.

The EIS/EES (Volume 4, Chapter 6, Agriculture and forestry) has considered the potential impact of the Project on agriculture including organic farming. The Agriculture and Forestry Assessment was informed by the Air Quality Assessment.

The Agriculture and Forestry Assessment determined the residual impact of construction of the Project following the application of EPRs. The residual impact was determined to be low.

Impact – construction	Activity type	Initial impact	Justification of residual rating	Recommended EPRs	Residual impact assessment		
					Sensitivity	Magnitude	Impact
Reduced amenity or reduced productivity or yields from dust emissions and deposition	Dairying	Moderate	Monitoring dust generating conditions, inspecting for dust deposition and suppressing dust reduces adverse effects of dust and dust deposition.	A02, A03, A04	High	Negligible	Low
	Beef production	Low		A02, A03, A04	Moderate	Negligible	Low
	Horticulture	Low		A02, A03, A04	Moderate	Negligible	Low
	Organic farming	Moderate		A02, A03, A04, A05	High	Negligible	Low
	Horse breeding, training and spelling	Moderate		A02, A03, A04	High	Negligible	Low

Other air pollutants that are associated with traffic are caused by fuel combustion and include:

- Very fine particles such as $PM_{2.5}$
- Oxides of nitrogen
- Oxides of sulfur (mainly SO_2)
- Carbon monoxide (CO).

These air pollutants have a lower risk of affecting agricultural activities than dust.

Whilst it is known that elevated long-term concentrations of SO_2 and NO_2 can adversely affect vegetation, the levels of these combustion related air pollutants due to construction and operations will be insignificant. Further, construction and operational activities due to the Project will be short-term and transient and consequently have a low potential to affect long-term concentrations of these air pollutants.

Dust and combustion related air pollutants due to traffic and machinery are already present in the environment due to roads, agricultural activities, residential activities in nearby towns and industrial activities. Local farms including the organic farm, will be a source of emissions of dust and combustion related air pollutants.

During operation, the traffic emissions will have a lower potential to impact agriculture than during construction because operational activities will be significantly less intensive.

(b) Potential impact of traffic emissions on organic certification

The EIS/EES (Volume 4, Chapter 6, Agriculture and forestry) deals with issues surrounding organic farming certification and provides an EPR to avoid impacts on organic farming certification, as follows:

> ***A05 Avoid impacts on organic farming certification***
>
> *Prior to commencing project works on each certified organic farming property, develop measures to be implemented in construction to avoid impacts on organic farming and organic farming certification. These measures must be informed by advice provided or guidelines published by approved organic certifying bodies registered by the Commonwealth Department of Agriculture, Fisheries and Forestry and be developed in consultation with organic farm landholders.*

The Commonwealth Department of Agriculture, Fisheries and Forestry has produced the *National Standard for Organic and Bio-Dynamic Produce – Edition 3.8* (Commonwealth of Australia, 2022) (National Organic Standard).

The National Organic Standard stipulates minimum requirements for products placed on the market with labelling that states or implies they have been produced under organic or bio-dynamic systems. In the Standard, the production procedures are an intrinsic part of the identification and labelling of, and claims for, such products.

The scope of the National Organic Standard excludes environmental contaminants such as those that may be generated by the Project, as follows:

> *In itself, this Standard cannot guarantee that organic or bio-dynamic products are free of non-allowed residue material, or other environmental contaminants as they may be subjected to pollution sources beyond the control and/or detection by the certified operator. However, the procedures practiced in accordance with this Standard by the certified operator will ensure the lowest possible risk of contamination of organic and bio-dynamic produce.*

It, therefore, follows that the generation of dust and other contaminants by activities beyond the control of a farm would not be a reason to deny or discontinue certification.

Notwithstanding the above, the EPRs identified in the Air Quality Assessment will ensure that there will be a negligible to low risk associated with the Project.

(c) Potential impact of traffic emissions on people, livestock, crops and water

The Air Quality Assessment considered the risk of dust and traffic emissions on people (described as sensitive receptors) and determined the risk with EPRs in place to be negligible to low. Dust is the key air pollutant in terms of the relative magnitude of emissions. Other traffic related air pollutants will have a lower risk of impact due to their emissions being low.

Risks to agriculture are discussed above.

(d) Conclusions based on desktop assessment without physical tests

The desktop assessment is appropriate given the nature of the Project, that key potential impacts are associated with dust during construction and that mitigation measures can be readily adopted to ensure negligible to low risk of impacts. The assessment has been conducted in accordance with the IAQM guidance and has adopted relevant dust management and mitigation measures from EPA Victoria guidance documents 1943, 1820 and 1834.

The existing conditions of the environment have been characterised based on measurements by the Bureau of Meteorology, EPA Victoria and others. There is no other measurement or physical test that would result in more reliable conclusions regarding the potential impact of the Project and the EPRs that should be adopted.

My comments and response to the issues raised by Submission #18 that are relevant to my expertise are as follows:

- Whilst I agree with the sentiment that the construction dust management plan should describe processes to ensure the dust control measures are implemented appropriately, are regularly assessed for effectiveness and that the dust control measures are subject to continuous improvement, I disagree with the suggested amendments because they result in a degree of redundancy in EPR-AQ01 and recommend the following underlined amendments instead to resolve the issues raised in Submission #18:

  EPR-AQ01: Develop and implement a construction dust management plan

  Prior to commencement of project works, develop a construction dust management plan that documents measures to avoid, minimise and mitigate dust emissions. The construction dust management plan must:

- Identify sources of dust and airborne pollutants, including diffuse sources and the location of sensitive receptors in accordance with EPA Victoria *Publication 1943 – Guideline for assessing nuisance dust*.
- Describe dust management measures to be adopted in construction considering:
  - Earthworks, exposed areas and stockpiles
  - Access tracks and haul routes
  - Construction vehicles and equipment
  - Construction materials, transport, handling and storage
  - Waste management transport, handling and storage
- Describe measures to avoid and, where avoidance is not practicable, reduce the risk of harm from air emissions so far as reasonably practicable to minimise impacts on health, safety or amenity in accordance with EPA Victoria *Publication 1820.1 – Guide to preventing harm to people and the environment*.
- Describe inspection requirements and processes for construction areas to regularly monitor the correct and effective implementation of controls.
- Define roles and responsibilities of the contractors, and how implementation of dust management measures will be communicated.
- Outline a process to address complaints related to dust and dust events and identify opportunities for continual improvement of air quality impacts from construction.
- Outline a process for review and continual improvement of dust and emission reduction and management measures.
- Consider the mitigation measures presented in the Air Quality impact assessment prepared for the Marinus Link EIS/EES including mitigation for cumulative impacts.

9 Environmental Performance Requirements

As described at section 6 above, the Air Quality Assessment recommended EPRs that are relevant to Air Quality.

I have reviewed EPRs recommended by the Climate Change, Terrestrial Ecology, Agriculture and Forestry; and Traffic Assessments and have no recommendations.

09. Extract of witness statement of Scott Chidgey - Benthic Ecology (responses to submissions)

Areas of cobble and some patches or rock were scattered on the otherwise sandy seabed on and to the west of 2021 alignment and east of the 2022 alignment. The cobble habitat at around 15 m and 18 m was characterised by sponges and ephemeral, filamentous red, filamentous green algae, the green alga *Caulerpa* spp and the seagrass *Amphibolis antarctica*. The larger rock was characterised by sponges and ephemeral (seasonal) seaweeds.

Attached kelps were absent from the rock reef on the alignments at Waratah Bay. Unattached drifting kelps, including *Ecklonia radiata*, were observed accumulated along the reef edges in places. Accumulations of macroalgae drifting across the seabed may result in misidentification of nearshore reef, macroalgae and seagrass from aerial imagery. More substantial and extensive rock reefs occur on the western shore or Waratah Bay and around Cape Liptrap to the west of the cable alignment.

The habitats and associated marine biota along the Waratah Bay alignment to around 50 m depth were characteristic of the national Flinders Bioregion to the east and the Central Victorian Bioregion to the west. The marine biota associated with the seabed habitats described in the survey are therefore expected to be representative of similar seabed habitat, water depth, wave exposure and water quality conditions within these bioregions that, in combination, extend approximately 400 km west from McGaurans Beach on the 90 Mile Beach, around Wilsons Promontory and westward to Apollo Bay. At a finer spatial scale bioregional character, the same habitats and associated marine biota were characteristic of the Victorian Cape Liptrap and West Wilsons Promontory Biounits that extend around in combination, extend approximately 65 km west from the southern tip of Wilsons Promontory to 14 km northwest of Cape Liptrap.

Submissions

I have been requested to review the two public submissions provided to me by Herbert Smith Freehills as relevant to my area of expertise.

Herbert Smith Freehill's provided two submissions to CEE that may have been relevant to CEE's involvement in the Project as documented in the " Benthic Habitat Characterisation report ".

These include submissions number 8 (Seafood Industry Victoria) and number 21 (DEECA). I have read the submissions considered relevant to the report and my area of expertise.

Submission number 8. Seafood Industry Victoria

- Seafood Victoria’s submission related to the impact assessment in the Marine Ecology and Resource Use impact assessment (Appendix H of the EIS/EES). That is another consultant's report, with which I had no involvement. The Submission did not mention and is not relevant to the Benthic Habitat Characterisation Report.
- I therefore have no response to the submission.

Submission number 21. Victorian Department of Energy, Environment and Climate Action (DEECA).

Summary of issue raised

- The Marine Environment, DEECA stated (my underlining):
    - *38) The marine ecology surveys were adequate to describe the general physical environment, and marine habitats likely to be present in the survey area.*
    - *39) The EES has suitably identified the presence of and impacts to seagrass. The project will impact seagrass within Victorian waters. Seagrass is defined as native vegetation in Victoria. The project will directly impact approximately 0.3 hectares of seagrass with additional temporary indirect impacts through sedimentation possible. It is unlikely these impacts will result in the long-term reduction in the extent of occurrence of seagrass within Waratah Bay.*
    - *40) The seagrass present within the project area is the Tasman grass-wrack* Heterozostera tasmanica *which is a listed species under the FFG Act, a permit under the FFG Act will be required for any impact to this species.*

Response to Submission Number 21

- The underlined sentences relate to my report. The non-underlined sentences relate to the Marine Ecology and Resource Use impact assessment (Appendix H of the EIS/EES)
- DEECA considers that the CEE approach to the benthic marine ecology surveys and the descriptions of the benthic habitats and associated marine ecological values described in the Marine Benthic Habitat Characterisation Report were adequate and appropriate **;**
- Our documentation of the presence of FFGA listed seagrass (*Heterozostera tasmanica*)in the Victorian marine segment of the Project Area was identified as appropriate by the DEECA;
- Our advice that a Permit will be required for any impact to this species was considered correct by DEECA;
- I conclude that DEECA is unlikely to require further information relevant to seabed habitat as characterised in the Benthic Habitat Characterisation report.

Environmental Performance Requirements

My role in the project does not involve consideration of, or contribution of advice on, draft Planning Scheme Amendment and Environmental Performance Requirements.

Declarations

I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Inquiry and Advisory Committee.

If I am presenting evidence from a different location by video conference, I confirm that:

> I will be alone in the room from which I am giving evidence and will not make or receive any communication with another person while giving my evidence except with the express leave of the Panel.

10. Extract of witness statement of Nathan Kearnes - Bushfire (responses to submissions)

The EPRs recommended cover bushfire ignition avoidance and management, provision of bulk static water capacity, access, operations maintenance, design (Asset Protection Zones (APZs)) and bushfire emergency management planning. The specific EPRs are:

- Develop and implement measures to avoid and manage ignition of fires during construction
- Provide onsite firefighting water capacity in high fire risk areas
- Prepare and implement a bushfire emergency management plan
- Develop and implement measures to avoid and manage ignition risks during operation

Ultimately, it was assessed that there is a low risk of fire ignition and then escape from Project activities (construction, operation and decommissioning). Furthermore, the risk of fire ignition and escape can be effectively avoided or at least significantly mitigated through implementation of the recommended EPRs.

The Bushfire Assessment concludes that given the initial risk along with the introduction and implementation of EPR's, the risk of potential impacts from the Project is insignificant.

The Bushfire Assessment also considered cumulative impacts for the project along with others in the region. In assessing other relevant projects within the region that could trigger cumulative impacts, in combination with required EPRs and associated mitigation measures for each project, the cumulative impacts were assessed to be insignificant and warrant no further consideration.

8 Submissions

I have been requested to review the public submissions provided to me by Herbert Smith Freehills as relevant to my area of expertise. A total of two submissions relating to the Bushfire Assessment have been provided to me and are responded to in the following subsections.

8.1 Submission 11

Submission 11 raised the following matter.

> ***Bushfire (Volume 4 Chapter 12, Appendix M)***
>
> *The koala is not mentioned in these documents, despite the devastating impacts of bushfires on the Strzelecki population.*

Set out below are my comments and response to the matter raised by the above written submission, as relevant to the area of my expertise:

(a) The Bushfire Assessment concluded that there is a low risk of fire ignition and then escape from Project activities (construction, operation and decommissioning).

(b) The risk of fire ignition and escape can be effectively avoided or at least significantly mitigated through implementation of the recommended EPRs.

(c) Should a fire start and escape from the Project, noting the low likelihood of this occurring, the Bushfire Assessment identified that the impact would not be significant.

(d) With specific regard to the Strzelecki koala population, should a fire start and spread from the Project, impact on the population (if any) would be temporal in nature and very unlikely to affect the entire population. Therefore, impact on the Strzelecki koala population from bushfire originating from the Project, to the severity and extent that would place the population at risk of extinction, is not considered plausible.

(e) More detailed assessment of the Strzelecki koala population is a matter for the ecology assessment for the Project, to the extent that it is required by relevant legislation, policy and guidelines.

8.2 Submission 27

Submission 27 raises concern that the Project could result in "*heighted fire risk*" and suggests that this could present health and safety risks to personnel as well as pose a threat to the forestry resource and/or to harvesting operations.

Set out below are my comments and response to this submission, as relevant to the area of my expertise:

(a) Bushfire risk from the Project to the forest resource, operation and/or personnel predominately relates to the construction phase and the cabling route, as the transmission line will be underground and therefore there is negligible bushfire risk to these matters during the operational phase of the Project.

(b) Bushfire risk during the construction phase to the matters raised in the submission, primarily relates to the potential for fire ignition and spread. This risk will be temporally variable depending on the time of construction. Specifically, whether construction occurs within the bushfire season or not, and if so, the Fire Danger Rating applicable on each day. There will be many days of construction where the risk of fire spread from an ignition (should one occur) and broader impacts, is negligible, such as on days not within the bushfire season or within the bushfire season but with a Low-Moderate Fire Danger Rating. The fire risk is also spatially variable, depending on the location of construction activities with regard to the type and proximity of vegetative fuels. For a fire ignition from construction activities to present an elevated risk, the ignition would need to be within vegetation that could promote fire spread further afield. It would also need to be on a day with elevated Fire Danger Rating, otherwise it could be expected that fire suppression activities are likely to be effective at limiting spread and extinguishing the fire. It is further noted that construction activities will only occur on a small portion of the cabling route at any one time, gradually moving though the project footprint. Thus, the fire risk is spatially contained, as well as being easier to mitigate. Given these variables, along with the nature of the construction activities, fire ignition risk is not high.

(c) The fire ignition risk can also be very effectively avoided (entirely) or significantly mitigated through risk reduction measures triggered by the EPRs. This includes measures to mitigate the ignition risk (i.e. avoidance of activities with an ignition risk on days of elevated fire danger rating) as well as provision of fire suppression resources for use should a fire ignition occur.

(d) Given the above context, the Bushfire Assessment concluded that the bushfire risk is insignificant, based on the characteristics of the Project, subject sites, and risk avoidance and mitigation opportunities triggered by the identified EPRs.

9 Declarations

I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Inquiry and Advisory Committee.

If I am presenting evidence from a different location by video conference, I confirm that:

11. Extract of witness statement of Craig Miller - Climate change and greenhouse gas (response to submissions)

8 Submissions

I have been requested to review the public submissions provided to me by Herbert Smith Freehills as relevant to my area of expertise.

8.1 Submissions received

I have read the public submissions and identified one that is relevant to the Greenhouse Gas Assessment and my area of expertise. This is submission #18.

I have read the public submissions and identified those that are relevant to the Climate Change Assessment and my area of expertise. These are submissions #4, #12, and #18.

8.2 Summary of issues raised

The submission raised the following issues relevant to my area of expertise in Greenhouse Gases:

(a) Statement that EPA is helping business to comply with the GED and to identify, assess and minimise risks from their greenhouse gas emissions.

(b) Statement that EPA will adapt its approach to regulating risk as regulatory capabilities grow.

The submissions have raised the following issues relevant to my area of expertise in Climate and Climate Change:

(a) General statements about climate change

(b) Possibility of extreme drought leading to water running out in Hydro Tasmania storages

8.3 Response to issues raised

Set out below are my comments and response to the issues raised by the written submissions relevant to the area of my expertise in Greenhouse Gases:

(a) The Greenhouse Gas assessment applies current best regulatory practice under Australian and State jurisdictions.

(b) The EPRs are current best practice for emissions management and mitigation.

Set out below are my comments and response to the issues raised by the written submissions relevant to the area of my expertise in Climate and Climate Change:

(a) The existing climate and climate change pose risks to the safe and successful construction and operation of the Project and the EPR requires that design and governance measures be implemented to address the potential impacts of climate change on the project.

(b) The likelihood of drought and extreme/extended drought conditions occurring in Tasmania is increased under climate change and this is likely to affect water availability in Tasmanian storages. This poses a material risk to Hydro Tasmania's operation but is not relevant to the construction or operation of the Marinus Link Project.

9 Environmental Performance Requirements

As described at section 7.1 above, the Greenhouse Gas Assessment recommended EPRs as relevant to Greenhouse Gases.

12. Extract of witness statement of Bryden Tiddy - Contaminated soils and acid sulfate soils (response to submissions)

EPR-CL03 was developed to manage potential impacts from ASS and the uncertainty in the extent of ASS within the project study area. The EPR requires undertaking an ASS assessment to confirm the location and extent of ASS (or potential ASS) that will be disturbed by the project and develop an ASS management plan to manage the potential risks from ASS. The ASS management plan is to be developed in accordance with guidance from EPA Publication 655.1 *Acid sulfate soil and rock* and the *Victorian Best Practice Guideline for Assessing and Managing Coastal Acid Sulfate Soils* (DSE, 2010). The ASS management plan development is to be informed by the Groundwater Technical Assessment EPR GW07.

The application of EPR CL03 was considered to reduce the risk of impact to the environment from potential ASS to 'low'.

Cumulative impacts

No potential cumulative impact effects from contaminated land or ASS were considered likely to result from the proposed project due to the limited extent and highly localised nature of potential contamination and/or ASS that may be disturbed by the project.

Contamination during operation

During the operation of the project, various operational and maintenance activities have the potential to result in spills or leaks resulting in contamination of the study area that may lead to impacts to the environment or human health. The potential risks to the environment from operational spills or leaks, or from waste management was considered to be 'low'.

EPR CL04 was developed to include measures within the ongoing environmental management plan (OEMP) to be prepared for the project to detail how chemicals, hazardous materials and wastes (including waste soils) are to be managed to reduce potential impacts to the environment or human health. The application of EPR CL04 was considered to reduce the risk of impact to the environment from operational impacts to 'very low'.

8 Submissions

I have been requested to review the public submissions provided to me by Herbert Smith Freehills as relevant to my area of expertise.

8.1 Submissions received

I have read the public submissions and identified those that are relevant to the Contaminated Land and Acid Sulfate Soil Assessment and my area of expertise.

The submissions with comments or queries pertaining to Contaminated Land or Acid Sulfate Soils include the following:

- Submission 18.

I have reviewed other submissions, including the following:

- Submission 20
- Submission 25

And whilst these submissions use various language that includes the words 'toxic', 'heavy metal leachates' and 'bisphenyl A', the submissions are referring to other projects including wind farms or battery storages, and do not have any elements that are relevant to the Contamination and Acid

Sulfate Soil Assessment for this project. Consequently, I have not prepared a response to these submissions.

8.2 Summary of issues raised

The submissions have raised the following issues relevant to my area of expertise:

Submission 18:

(a) EIS/EES Recommendation #1: The submission made several comments noting the wording used in various sections of the EIS/EES (specifically Volume 5, Chapter 2, and in one instance Appendix N) was not strictly aligned with the wording used in the *Environment Protection Act* 2017 (Vic) (the "Act") and subordinate legislation and guidelines. The submitter provided suggested alternative wording that did align with the wording provided in the Act and subordinate legislation.

(b) EIS/EES Recommendation #2: The submission refers to the proposed Construction Environmental Management Plan (CEMP) and suggests additional specific detail is provided to ensure that the measures to be contained within the plan minimises the risks associated with construction activities. This submission is relevant to the Contaminated Land and Acid Sulfate Soil Assessment as it refers to recommendations to include additional detail on how all ***substances are handled, stored, used, or transported in accordance with EPA guidelines and to minimise the risk of harm from pollution and waste***. The Contaminated Land and Acid Sulfate Soil Assessment includes this requirement in EPR-CL02.

(c) EIS/EES Recommendation #3: The submission includes several suggestions to amend and provide more details to the proposed Waste Management Plan (as required by EPR-EM07). The submission corrects some of the wording utilised to ensure it aligns with the Act, and the Environment Protection Regulations (2021). The submission also included suggested additional details to be added to the Waste Management Plan pertaining to how wastes are tracked and documented, as well as a recommendation to incorporate a continuous improvement approach to waste management.

(d) EIS/EES Recommendation #4: The submission noted that the Environment Protection Authority (EPA) has been included in several EPRs (notably EPR CL02), to be consulted with in the preparation of various environmental management sub-plans under the Environmental Management Framework for the EIS/EES. The submission recommends that EPA is consulted on an 'as-needs' basis and not automatically consulted in the preparation of the proposed Contaminated Land Management Plan.

(e) EIS/EES Recommendation #5: The submission includes several recommended changes to the EPRs CL01 and CL02 to specifically reference relevant properties where additional investigations are required (as detailed in Appendix N), as well as a recommendation to include in CL02 for the development of a spoil management plan to document how spoil is to be managed (in accordance with EPR EM07), and measures to manage soil stockpiles to limit environmental impacts.

(f) EIS/EES Recommendation #6: The submission includes suggested changes to the wording of EPR-CL03 to reference the specific EPA guidance document to be used in undertaking additional acid sulfate soil assessment, and development of the acid sulfate soil management plan. The submission also recommends removing the requirements for the acid sulfate soil management plan to be approved by EPA.

8.3 Response to issues raised

Set out below are my comments and response to the issues raised by the written submissions relevant to the area of my expertise.

Submission 18:

EIS/EES Recommendation #1 a to d:

I reviewed the amendments proposed to Section 21, Section 2.8.1 and Section 2.4 of the Environmental Management Framework (Volume 5, chapter 2 of the EIS/EES) and considered that proposed amendments relating to minor changes to correcting how various aspects of the Environment Protection Act (2017) are specifically referred to (including that environmental values are maintained and not protected, that there are various duties relating to reportable priority wastes and not just reportable wastes, a typographic error, and that risks of harm can be minimised so far as reasonably practicable instead of to the extern reasonably practicable) are reasonable and adds clarity to the EIS.

EIS/EES Recommendation #2 a:

I reviewed the amendments proposed to EPR-EM02 and consider that including a protocol for ensuring all substances are handled, stored, used, or transported in accordance with EPA guidelines and to minimise risk of harm from pollution and waste in the EMP and sub-plans is similar to the requirement in EPR-CL02 which requires preparation of a plan to manage hazardous substances, excavated soils and asbestos contaminated soils to minimise risks to human health and the environment. However, I considered the recommended amendments are reasonable in that they require the proponent to manage all substances appropriately, rather than just the narrow sub-set included in EPR-CL02.

All other recommended amendments under Recommendation #2 a) and b) are not within my area of expertise and I have not considered them.

EIS/EES Recommendation #3:

I reviewed the amendments proposed to EPR-EM07 and I consider that the proposed amendments:

- specifying that the wastes to be identified should include priority waste and/or reportable priority waste, rather than the superseded term of prescribed wastes
- specifying the Environment Protection Regulations, instead of referring to generic regulations
- correcting the typographic error in the requirement that refers to how wastes are to be managed
- specifying that planning for managing wastes should include how wastes are transported, and any permissions required to be obtained, rather than the superseded requirement to licence waste management, and
- specifying how the tracking of wastes generated, managed, transported and disposed of are to be documented,

are reasonable in that they specify the minimum requirements that the proponent is to implement in planning to managed wastes.

All other recommended amendments under Recommendation #3 are not within my area of expertise and I have not considered them.

EIS/EES Recommendation #4, f.

I reviewed the amendments proposed to EPR-CL02 and I consider that EPA are not specifically required to review or endorse plans for management of contaminated land by the Environment Protection Act (2017) or the Environment Protection Regulations (2021) and I consider that the contaminated land management plan is not required to be automatically prepared in consultation with the EPA.

All other recommended amendments under Recommendation #4 are not within my area of expertise and I have not considered them.

EIS/EES Recommendation #5 a.

I have reviewed the amendments proposed to EPR-CL01 and I consider a reference to the specific land parcels where additional inspections are to be undertaken to inform the potential presence of contamination should be included to specify the scope of the requirement.

EIS/EES Recommendation #5 b.

I have reviewed the amendments proposed to EPR-CL02 and I consider a reference to the specific land parcels where additional inspections are to be undertaken to inform the potential presence of contamination, as well as the specified potential contaminants to be considered should be included to specify the scope of the requirement.

I consider that the recommended amendment proposed to EPR-CL02 to develop a spoil management plan is not required as the EPR-CL02 includes a requirement to prepare a Contaminated Land Management Plan to managed excavated soils that includes measures for the "*Handling, transport, storage and disposal of spoil, excavated or generated wastes in accordance with EM07 to protect human health and the environment.",* which encompasses the details that would be required to be included in a spoil management plan. I also consider that including specific measures to minimise dust generation, sediment and stormwater runoff and seepage from stockpiled materials is not required as these are already included in EPR-CL02.

I have reviewed the amendment to EPR-CL02 and consider that the recommendation that non-soil materials that are excavated (i.e. wastes) are included in the unexpected finds protocol is reasonable.

EIS/EES Recommendation #6:

I have reviewed the amendments proposed to EPR-CL03 and I consider that the inclusion of the reference to the EPA Publication 655.1 is reasonable as it provides direction as to the minimum requirements for assessment of ASS required under EPR-CL03. I also consider that the removal of the reference to the Industrial Waste Management Policy (Waste Acid Sulfate Soils) and replacement with the *National Acid Sulfate Soils Guidance - National acid sulfate soils sampling and identification methods manual June 2018* reference is reasonable as the Industrial Waste Management Policy has been revoked, and whilst the sections of the Policy provide guidance on what is required in an ASS management plan and is still relevant, the recommended guideline provides a more comprehensive guide to preparing ASS management plans and is nationally recognised as current best practice for assessing and managing ASS.

I have reviewed the amendments proposed to EPR-CL02 and I consider that the removal of the requirement to seek EPA approval of the required ASS Management Plan is reasonable given that the Industrial Waste Management Policy (Waste Acid Sulfate Soils) that required the approval by

EPA has been revoked, and whilst the *Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils* still refers to requiring an EPA approval of an ASS Management Plan, the EPA have provided guidance that approvals are no longer required.

9 Environmental Performance Requirements

As described at section 6 above, the Contaminated Land and Acid Sulfate Soils Assessment recommended EPRs as relevant to Contamination and Acid Sulfate Soil.

I have reviewed EPRs recommended by the Groundwater Technical Assessment, the Surface Water Technical Assessment, and the Geomorphology and Geology Assessment and have no recommendations.

On 21 August 2024 Herbert Smith Freehills provided me with a copy of constructability-related discipline EPRs and I have no further comments on these EPRs.

On 14 August 2024 Herbert Smith Freehills provided me with a copy of the EPRs CL01 to CL04, the version of which I am instructed Herbert Smith Freehills provided to the EPA Victoria on 14 August 2024.

I consider that the version of the EPRs provided by MLPL to EPA aligned with my consideration of the proposed changes recommended under Submission 18 (as detailed in Section 8.3 above).

10 Declarations

I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Inquiry and Advisory Committee.

If I am presenting evidence from a different location by video conference, I confirm that:

(a) I will be alone in the room from which I am giving evidence and will not make or receive any communication with another person while giving my evidence except with the express leave of the Panel.

(b) I will inform the Panel immediately should another person enter the room from which I am giving evidence.

(c) during breaks in evidence, when under cross-examination, I will not discuss my evidence with any other person, except with the leave of the Panel.

(d) I will not have before me any document, other than my expert witness statement and documents referred to therein, or any other document which the Panel expressly permits me to view.

13. Extract of witness statement of Rodney Urban - Electromagnetic fields (response to submissions)

and EMI testing was proposed near key sensitive receiver locations within the project area to verify the efficacy of the design, construction and mitigation measures (EPR EMF01).

I am satisfied that the proposed mitigation measures and residual impact controls adequately address the Project's EES Scoping Requirements and are appropriate for the assessed level of impact during the construction, commissioning, operation, and decommissioning of the Project.

Two Environmental Performance Requirements (EPRs) were recommended as controls to ensure that the Project's Electromagnetic Fields Scoping Requirements will be met. The first EPR (EPR EMF01) involves the development of an EMF and EMI management plan that will ensure that the project infrastructure is designed and constructed to reduce the EMF and EMI along the onshore project alignment to below the reference levels derived in the Assessment or as low as reasonably practicable to avoid and minimise impacts. The second EPR (EPR EMF02) defines the protocols for investigating and resolving EMF and EMI complaints during the operation of the project infrastructure.

I am satisfied that the proposed Environmental Performance Requirements (EPRs) are appropriate and sufficient to ensure that the Project's EES Scoping Requirements for the Electromagnetic Fields impacts to terrestrial, aquatic and marine biodiversity and ecology, and community amenity, health and safety are met during the construction, commissioning, operation, and decommissioning of the Project.

The supplementary Electromagnetic Fields Assessment report, which considered the impact of a change to the timing for delivery of stages 1 and 2 on the assessment described in, or conclusions of, the Assessment. The supplementary report confirmed that a change to the proposed timing for delivery of stages 1 and 2 will have no material implications for the assessment described in, or conclusions of, the Electromagnetic Fields Assessment. Accordingly, no additional mitigation measures or EPRs are recommended and no changes to the mitigation measures and EPRs recommended in the Electromagnetic Fields Assessment were required.

8 Submissions

I have been requested to review the public submissions provided to me by Herbert Smith Freehills as relevant to my area of expertise. Those submissions have been grouped and responded to below.

8.1 Submissions received

I have read the public submissions and identified those that are relevant to the Electromagnetic Fields Assessment and my area of expertise. These include submissions 7. 8, 19 and 20.

8.2 Summary of issues raised

The submissions have raised the following issues relevant to my area of expertise:

(a) The impacts of electromagnetic fields on earthworms, microbes and soil bacteria, which were not specifically identified in the Electromagnetic Fields Assessment.

(b) The lack of research and knowledge into the potential impacts of electromagnetic fields on the behavior, migration and recruitment of bony fish, elasmobranchs and invertebrate species in Victorian coastal waters and the Bass Straight region.

(c) The potential physiological or behavioural impacts of EMF, mortality of threatened species, long-term population decrease and disruption to lifecycle habits at population levels.

(d) The cumulative electromagnetic field impacts of the Hawaiki Nui Submarine Cable (EPBC 2024/09814) and the 'Subsea Fibre Optic Data Cable System'.

(e) The cumulative thermal impacts of the Delburn Wind Farm cables along approximately 6 km of shared underground cable alignment between Ten Mile Creek Road, Delburn, and Kings Road, Driffield.

8.3 Response to issues raised

Set out below are my comments and response to the issues raised by the written submissions relevant to the area of my expertise:

(a) Whilst there is no published research on the potential impact of electromagnetic fields on earthworms, microbes and soil bacteria, the Electromagnetic Fields Assessment has cited research that concluded that there was no conclusive evidence of an impact on crop yields and plant health from elevated electromagnetic field levels. Given that earthworms, microbes and soil bacteria directly impact crop yields and plant health, it is concluded that any such effects are negligible.

(b) The issues raised in submission 8 relate to the impact of the EMF on specific marine species in Victorian coastal waters and the Bass Straight region. They do not relate to the calculation of the EMF emissions from the project operation, which is covered in this statement. The marine biodiversity and ecology impact assessment (Technical Appendix H of the EIS/EES) considered the impact of EMF on marine specifies. As such, I confirmed during a meeting with the marine biodiversity and ecology expert witness, David Balloch, which was facilitated by Herbert Smith Freehills, that the response to the issues raised in submission 8 will be provided in Mr Balloch's statement as informed by the Electromagnetic Fields Assessment.

(c) The configuration and depth of burial of the onshore HVDC cables will limit the generated magnetic field to only marginally discernible above the background ambient magnetic field in a small area directly above the cables. Furthermore, the Electromagnetic Fields Assessment has not identified any long-term disruptions to the lifecycle habits of threatened species at a population level.

(d) I have considered the potential cumulative impacts of the Project with the Hawaiki Nui Submarine Cable and Subsea Fibre Optic Data Cable System, both individually and collectively, and I am satisfied that these impacts will be negligible based on the EMF emissions from the proposed infrastructure. The subsea fibre optic cable would include DC power supply cabling near the centre of the submarine cable that powers the fibre repeaters along the cable. The magnitude of the DC current flowing in these conductors would be approximately 1000 times smaller than that of the Project's HVDC subsea cable. The cumulative effect of the two cables on the local environment will therefore not be discernible from that of the Project's HVDC subsea cable alone. I am also satisfied that the EPRs proposed by the Electromagnetic Fields Assessment will manage the risk of any potential cumulative effects.

(e) Whilst the electromagnetic fields assessment does not specifically mention cumulative thermal impacts, it does identify the Delburn Wind Farm and the Project's cables as potentially having cumulative effects on each other and proposes an EPR that places obligations on the Project to manage the cumulative EMF and EMI effects in the design of the onshore HVDC cables. The EMF and EMI management plan required by EPR EMF01 must be informed by an assessment, including having regard to existing sensitive receptors and committed future developments within the study area (which would include Delburn Wind Farm), and therefore will outline any design measures or coordination requirements between the Project and the Delburn Wind Farm required to avoid or minimise adverse impacts.

9 Environmental Performance Requirements

As described at section 6 above, the Electromagnetic Fields Assessment recommended EPRs as relevant to Electromagnetic Fields.

I have reviewed the EPRs recommended in respect of Marine Ecology and Resource Use and have no comments or recommendations.

The Electromagnetic Fields Assessment proposed two EPRs that place obligations on the Project to: reduce electric and magnetic fields (EMF) and electromagnetic interference (EMI) for the Project alignment onshore to below the reference levels identified in the Assessment or as low as

14. Extract of witness statement of Jules Darras - Geomorphology and geology, landslip (response to submissions)

- Amend EPR GM01 to reflect typical site assessment, investigation and analysis from a geotechnical perspective.
- Amend EPRGM02 to provide more concrete actions to develop design and construction methodology from a geotechnical perspective
- Amend EPR GM03 with minor clarifications to address surface erosion during construction and management of Acid Sulfate Soils if encountered during construction
- Amend EPR GM04 with minor clarifications to include provisions for management of erosion and potential groundwater during earthworks.
- Amend EPR GM05 with minor clarifications
- Amend EPR GW06 with minor clarifications to more broadly address potential trench instability during construction
- Amend EPR GM07 with minor clarifications to more broadly address potential slope instability as a result of trenching
- Amend EPR GM08 with minor clarifications to more broadly address potential impacts of and management of surface water during construction relative to slope and trench stability.
- Amend EPR GM09 on requirements for a waterway crossing plan for both trenchless and trenched constructing across waterways.
- Addition of EPR GM10 to manage potential impacts to and from ground instability during construction.

9 Public Submissions

I reviewed Public Submissions Nos. 1 through 27. Either erosion, stability or HDD operations are mentioned in public submissions numbered 1, 12, 20 and 27. My opinion is that application of the EPRs can sufficiently mitigate concerns.

10 Declarations

I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Inquiry and Advisory Committee.

If I am presenting evidence from a different location by video conference, I confirm that:

(a) I will be alone in the room from which I am giving evidence and will not make or receive any communication with another person while giving my evidence except with the express leave of the Panel.

(b) I will inform the Panel immediately should another person enter the room from which I am giving evidence.

(c) during breaks in evidence, when under cross-examination, I will not discuss my evidence with any other person, except with the leave of the Panel.

(d) I will not have before me any document, other than my expert witness statement and documents referred to therein, or any other document which the Panel expressly permits me to view.

15. Extract of witness statement of John Sweeney - Groundwater (response to submissions)

8 Submissions

I have been requested to review the public submissions provided to me by Herbert Smith Freehills as relevant to my area of expertise. Those submissions have been grouped and responded to below.

8.1 Submissions received

I have read the public submissions that were identified by Herbert Smith Freehills as relevant to the Groundwater Assessment and my area of expertise and which were provided to me. They were submissions 12, 18, and 25.

8.2 Summary of issues raised

The submissions have raised the following issues relevant to my area of expertise:

(a) Outdated regulator terminology (Submission 18)

(1) Volume 4 Chapter 4 Groundwater (the EES chapter) includes the use of outdated/incorrect terminology when discussing groundwater environmental values by referring to “beneficial uses”.

“… Although the chapter recognises environmental values, two sections appear to try to explain the distinction between environmental values and beneficial uses as if they are both current applicable concepts.”

“… No actions are recommended at this time except for the use of outdated terminology and risk of confusion to be noted.”

(b) EPA consultation requirements (Submission 18)

(1) Amend the following EPRs to remove the requirement for consultation with EPA:

(A) Amend EPR GW05 “The measures must be developed in consultation with relevant water authorities ~~and EPA Victoria~~, and comply with relevant legislation and guidelines, including but not limited to:..”

Amend EPR GW06 – “The monitoring program must:

Be developed in consultation with EPA Victoria to confirm the extent and duration of monitoring required prior to, during and post construction.”

(c) Impacts to the aquatic ecosystem of Little Morwell River (Submission 12)

(1) “They fail to identify numerous minor water ways and subterranean flows into the river, fail to identify wetlands and swamp adjacent to the proposed trench through the Little Morwell River and along the Ten Mile Creek road.”

(2) “The proposed route transects at right angles a subterranean water flow running parallel with the Darlimurla road. Trenching across this spring line will permanently and adversely impact the water flow into the only stored ground water source on the property, namely the dam immediately below the spring.”

(3) "The trench through the Little Morwell River will produce dewatering of the adjacent swamp situated between the river and Pleasant Valley road which is currently home to numerous native species including the endanged [sic] Narracan Cray. This [sic] wetlands are not acknowledged in the reports. Nor is the adjacent freshwater spring arising in this swamp."

(d) Ecological and agricultural risks (Submission 25)

I have reviewed this submission and identified the following points that are relevant to the Project and have some relevance to groundwater:

(1) "The planned subsea cables, shore crossings, and extensive underground infrastructure will mar Tasmania's pristine environment and disrupt Victoria's delicate ecosystems."

(2) "Article 2, Section 1(b) of the Paris Agreement specifically aims to foster climate resilience without threatening food production. By sacrificing productive farmland and vital resources for intermittent and unreliable energy, the RenewaBULL (sic) Swindle - including unnecessary& diabolical Marinus Link directly contravenes this principle."

8.3 Response to issues raised

Set out below are my comments and response to the issues raised by the written submissions relevant to the area of my expertise:

(a) Outdated regulator terminology (Submission 18)

(1) The use of this outdated terminology in the EES Chapter is noted and was also identified during my review of the relevant EES Chapter, which I have documented in Section 4.

This outdated terminology was not used in the Groundwater Assessment.

(b) EPA consultation requirements (Submission 18)

(1) The request to remove the requirement to consult with EPA when developing specific mitigation measures is supported and has been removed in my recommended revisions to groundwater EPR05 and EPR06 presented in Section 8.

(c) Impacts to the aquatic ecosystem of Little Morwell River (Submission 12)

(1) **Little Morwell River.** Regarding comments relating to the subsurface flow of water to Little Morwell River and identification of swamps and wetlands adjacent to the proposed trench along Little Morwell River and Ten Mile Creek Road, I offer the following responses:

(A) Subsurface flow to Little Morwell River. Table 5-8 in Section 5.5.6.2 - Aquatic GDEs of the Groundwater Assessment identifies both the aquatic ecosystem of Little Morwell River and the riparian terrestrial vegetation as having moderate and high likelihood of groundwater dependence, respectively. This assessment is based on the published assessments in the BoM GDE Atlas. The Groundwater Assessment, therefore, has not failed to identify that groundwater (or subsurface flow) is likely to contribute to surface water flow in Little Morwell River.

In Section 7.3.2.2 of the Groundwater Assessment, I noted that in the absence of HDD construction, the cable trench is assumed to pass through Little Morwell River using temporary flow diversion or damming/retainment of the standing water during construction (if it is present).

Dewatering of the open cable trench would be required at these locations.

The results of the analytical groundwater drawdown assessment (presented in Section 7.3.2.2 of the Groundwater Assessment) identified that temporary construction dewatering of the cable trench passing through the drainage line of Little Morwell River would likely create an approximately 50 m zone of reduced groundwater levels that might cause temporarily reduced surface water levels or flow rates.

In Section 7.3.2.2, assessed that without mitigation, a minor impact magnitude might exist from trench dewatering, corresponding to a low impact significance.

I concluded that the potential flow and level impacts associated with temporary groundwater dewatering would be secondary to the direct impacts associated with either blocking or diverting flow during trenching activities. The direct impact on surface water falls outside of the scope of the groundwater assessment and reference is made to the surface water impact assessment report for the assessment of direct potential impact to Little Morwell River.

I have been instructed on 27/08/2024 that Marinus Link proposes conduct further investigations to verify the feasibility of adopting HDD for crossing Little Morwell River, which is now the preferred method.

(B) Numerous minor waterways. I have used BoM GDE Atlas mapping to assess that these minor waterways and drainage lines are unlikely to receive groundwater discharge. These minor drainage features are therefore not considered by the Groundwater Assessment as impacts via a groundwater pathway would not be expected.

(C) Wetlands and swamps. Similarly, no wetlands or swamps are mapped by the BoM GDE Atlas as likely to be groundwater dependent within the vicinity of Little Morwell River or along Ten Mile Creek Road. Therefore, an impact pathway via groundwater is unlikely to affect these features.

(2) **Darlimurla Road dam**. Regarding the reported spring fed dam near Darlimurla Road, I have completed further desktop assessment and make the following comments:

(A) In locating the dam, I used the description that “subterranean water flow running parallel with the Darlimurla road” would be crossed “at right angles” by the cable trench, and which supplies water to a “dam immediately below the spring”. Based on the information provided, it appears that the comment relates to a dam at the intersection of Darlimurla Road and Ten Mile Creek (**Figure 4**).

(B) No springs are mapped by publicly available data and the location of the reported spring cannot be made based on aerial photography alone.

(C) The surrounding vegetation is not mapped as potentially groundwater dependant by BoM GDE Atlas, which may occur if a consistent water source (such as a spring) was present.

(D) Analysis of the available topographic contours and observations of the dam and surrounding area made using Google Street View images (**Figure 4**) suggest that the dam may be supplied by a source of water draining from the forested area to the south of Darlimurla Road as well as potentially roadside runoff, both entering the southeastern corner of the dam (Photo (a) in Figure 4). An overflow point appears to exist at the southwestern corner of the dam (Photo (b) in **Figure 4**), which drains westerly away from the dam towards the proposed cable trench alignment.

(E) The source of water flowing to the dam in the forested area to the south of the dam is undefined, but is unlikely to be disturbed by proposed cable trenching.

Figure 4 – Preliminary analysis of Darlimurla Road dam

(3) **Pleasant Valley Road swamp**. From the description provided I believe the comment refers to a water body and swampy area shown in Figure 5. This dam is located approximately 200 m

east of the proposed cable trench, south of Little Morwell River. Temporary dewatering was expected at the section of trench passing through lower elevations and across the river, shown on Figure 5.

(A) I have been instructed on 27/08/2024 that Marinus Link proposes to conduct further investigations to verify the feasibility of adopting HDD for crossing Little Morwell River, which is now the preferred method. I expect this will remove most of the zone of trench construction that may require dewatering.

Should dewatering still be required in this zone:

(B) Neither the dam nor the drainage line is identified by BoM GDE Atlas as likely to be groundwater dependent.

(C) Based on the submitter's statement that this swampy area is likely to be dependent on groundwater, I offer the following assessment:

- The geology of this area is mapped as Thorpdale Volcanics.
- Based on the reported aquifer properties of this geology, groundwater level may be drawn down by approximately 0.1 m at the dam (a distance of 200 m) for approximately 100 days during trenching. Drawdown of less than 0.1 m might extend to the swampy area further to the northeast.
- Dewatering would not be required during subsequent Stage 1 or Stage 2 cable pulling.
- Drawdown of 0.1 m is likely to be within the natural range of groundwater level fluctuations and is unlikely to have a measurable effect on water levels or the associated ecosystem in this area.
- If unmapped alluvial sediments are present, the predicted drawdown may be up to 0.6 m. Drawdown of this magnitude may feasibly start to have an effect on water levels or spring flow rates.
- EPR GW01 requires that local hydrogeological investigations are required in this area where dewatering is expected. I recommend that this investigation specifically consider potential impacts to the dam and swamp once site specific aquifer hydraulic properties are available.

Figure 5 – Pleasant Valley Road dam and swamp

(d) Ecological and agricultural risks (Submission 25)

(1) The Groundwater Assessment identified locations where the construction and operation of the shore crossing and underground cable trench could interact with groundwater and cause effects, particularly to GDEs. These impacts are associated primarily with temporary construction dewatering that might reduce water supply or flow rates in baseflow-dependent streams, and cause changes to groundwater quality should groundwater acidification occur.

Based on the assessment criteria presented in Section 4.4 of the Groundwater Assessment, I believe there is a low impact significance to GDEs via the groundwater pathway if mitigations are implemented to achieve the recommended EPRs.

(2) The Groundwater Assessment considered potential impacts to existing and future groundwater users, including three agricultural (including stock and domestic) water supply bores.

The Groundwater Assessment concluded that registered bores within the vicinity of the project were unlikely to be adversely affected by groundwater level drawdown. A low impact significance has been assessed as a result of temporary construction dewatering and other potential impacts (Section 7.3.1.2 of the Groundwater Assessment).

16. Extract of witness statement of Alisanne Boag - Land use and planning - (response to submissions)

8.7 The draft PSA GC217 utilises the statutory planning controls currently available in the Victoria Planning Provisions (VPP). Given the scale and importance of Marinus Link, and the EES assessment process, the position was adopted to deliver the Project via application of specific controls and application of an Incorporated Document providing conditions for the project specific planning control. In my opinion, this is an appropriate approach for the Project. In this scenario, the Incorporated Document effectively acts like a planning permit, whereby it exempts the project from further planning approval, subject to conditions that are to be satisfied prior to commencement of development.

8.8 Conditions include a requirement to prepare Alignment Plans and Development Plans, which are to be approved by the Minister for Planning. I note that the Project must be developed generally in accordance with the approved Alignment Plans and Development Plans, unless the Minister for Planning provides further written consent.

8.9 In my opinion, the proposed specific planning controls would ensure that the environmental impacts anticipated through the construction and operation of Marinus Link would be acceptably managed. It does so through the conditions in the Incorporated Document where prior to the commencement of development an Environmental Management Framework (EMF) must be submitted to and approved by the Minister for Planning. The condition sets out the requirements for the EMF, which is to include a set of EPRs. Conditions also require that the Victorian guidelines for native vegetation removal are addressed, including the securing of offsets.

8.10 This specific control is applied to the area as shown in the accompanying mapping as Specific Controls Overlay (SCO3). The SCO3 area includes the Project Land (being the approximately 200m wide survey area corridor assessed under the EIS/EES, including access roads, laydown areas, HDD drill pad sites, transition station site and converter station site), and Additional Land. Additional Land has been identified by MLPL as areas that may be required to accommodate changes to the project alignment, for example, if considered appropriate following development of a Property Management Plan with a particular landowner, or to further minimise other environmental impacts. Additional Land has not been assessed to the same level of detail as the Project Land. The process for alignment changes and use of the Additional Land is outlined in *EIS/EES Volume 5, Chapter 2 – Environmental Management Framework*, and is implemented via conditions in the Incorporated Document.

8.11 Given the national and State significance of the project, I consider it is necessary to ensure consistency across the two affected planning schemes in how the project is implemented. It is appropriate therefore that the Minister for Planning be the responsible authority for the administration and enforcement of the planning controls governing further design, development, use and decommissioning.

8.12 In my opinion, it is therefore appropriate that the Minister for Planning prepare, adopt and approve draft planning scheme amendment GC217 under sections 20(4), 29 and 35 of the P&E Act following conclusion (and subject to the outcomes) of the EIS/EES assessment process.

9. SUBMISSIONS

9.1 I have been requested to review the public submissions provided to me by Herbert Smith Freehills as relevant to my area of expertise. Those submissions have been grouped and responded to below.

9.2 Public submissions that are relevant to the LUPI Assessment and PSA and my area of expertise, as provided to me include submissions 7, 10, 11, 18, 20, 21, and 27.

9.3 The submissions have raised the following issues that I will respond to within the parameters of my area of expertise:

a) Future changes to planning policy

b) Implementation of EPRs and associated sub plans
c) Cumulative Impacts
d) Design changes
e) Assessment of design changes
f) Native vegetation removal for preparatory works
g) Ministerial Direction No 1 and 19
h) Reference to energy targets

9.4 Set out below are my comments and response to the issues raised by the written submissions relevant to the area of my expertise.

Future changes to planning policy

9.5 Relevant to Submission #11, I am aware (from a meeting conducted with Latrobe Council in the preparation of the LUPI Assessment (September 2022, LUPI Assessment page 33)), that that there are plans by a working group to implement strategies to better protect a Strzelecki-Alpine Bio-Link. I understand that the Biolink will recognise habitat corridors within an area extending from the Strzelecki Ranges to the Baw Baw Alpine ranges, to benefit the koala and other species. At the time of the preparation of the LUPI Assessment, and at the time of preparing this evidence, the Biolink had not been reflected in any planning guideline or planning overlay, though the Latrobe Planning Scheme mentions that "*There are opportunities to strengthen a corridor of remnant vegetation clusters between the Strzelecki ranges bioregion to the Southern Fall bioregion*" (Latrobe Clause 02.03-2). Clause 12.1-1L of the Latrobe Planning Scheme further strategises, "*Facilitate the creation of a biolink from the Strzelecki Ranges bioregion to the Southern Fall bioregion, as shown on the Rural Framework Plan in Clause 02.04*". The Biolink area is shown in Figure 1 and is consistent with the extent shown in Clause 02.04 of the Latrobe Planning Scheme (Figure 2). The Biolink is not referenced in the South Gippsland Planning Scheme.

9.6 Accordingly, I understand that it is likely in the future, that a Biolink may be recognised within planning controls, subject to a future Planning Scheme Amendment. This was confirmed by Latrobe Council during the consultation undertaken in the preparation of the LUPI Assessment. The Planning Scheme confirms that Latrobe Council will prepare future strategic work comprising, "*A plan and facilitate the formal recognition of the Strzelecki-Alpine Biolink, incorporating plantation, public, private, road reserve land and mining areas ready or scheduled for rehabilitation through the application of zones and overlays*." (Latrobe Clause 74.02 schedule 1.0). In my opinion, this future strategic work will confirm the extent of the Biolink and the associated planning controls for buildings and works, and vegetation protection and removal within the area.

9.7 EPR LUP1 requires, "*Prior to submission of Alignment Plans, identify any material changes to relevant strategic land use plans and planning policies that provide for current and future land use in the project area and that have occurred after planning approval for the project, and consider whether the Alignment Plans can respond to any such change*." The intention of LUP1 is that if a new policy or policy change such as that mooted for the Biolink is implemented, that this is considered as part of the finalisation of the Project design.

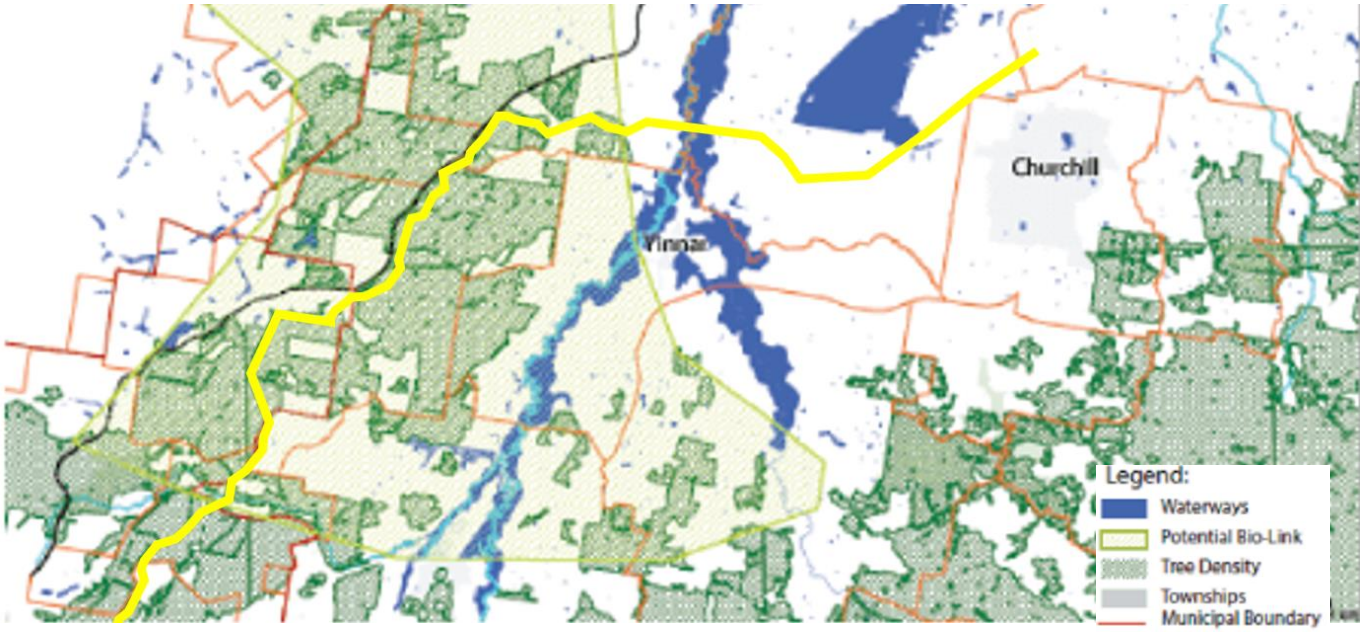
9.8 Submission #20 noted that nuclear energy is being promoted by the policy of the federal Liberal and National Parties and that, "*in all probability, the northern extent of the Project will be in a zone declared for nuclear activities*". The submission then questions the project rationale, and submits that any zoning changes now would be short-lived. It is noted that there is no planning or land use policy relating to nuclear power, though the Latrobe Planning Scheme generally supports alternative energy generation industries in Latrobe (Clause 02.03-7) – "*Encourage alternative energy industries, including renewable energy and clean coal in locations with convenient access to existing energy distribution infrastructure*", though the focus of the Latrobe Planning Scheme policy promotes a transition to renewable energy. It is noted that no zoning changes are proposed for the Project, though project specific controls will be applied via an overlay.

9.9 I am not aware of any current land use or planning policy specific to nuclear energy or power generation. In relation to nuclear energy, and any potential future nuclear power facility in Latrobe, in my opinion from a

land use perspective, I would expect that the proposed Marinus Link power transmission infrastructure could co-exist with any alternative power generation facilities at Loy Yang or elsewhere in the region, that may be adopted in the future.

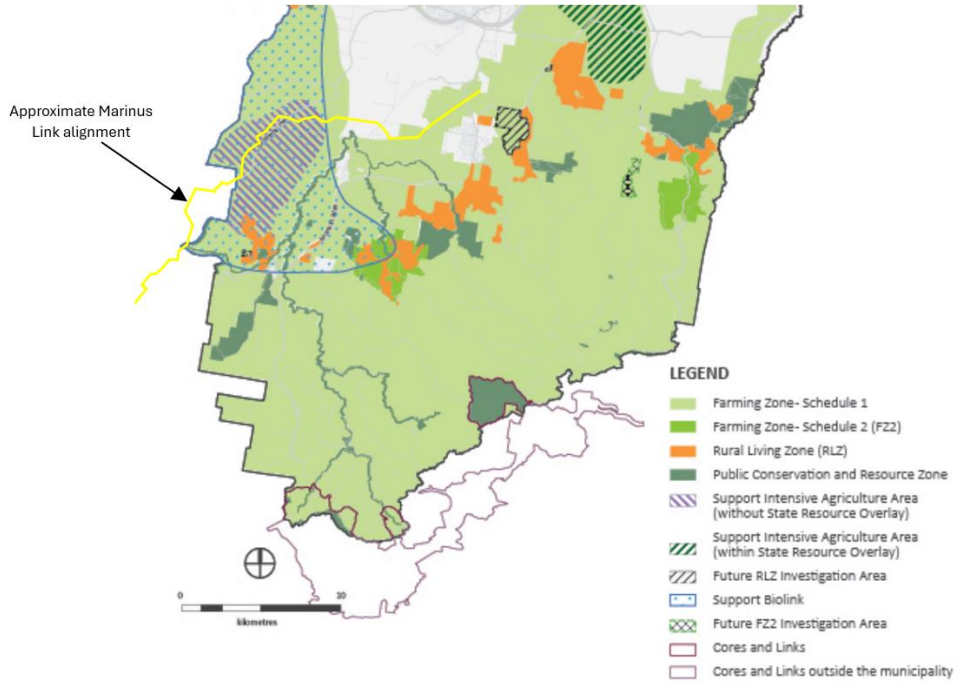
9.10 In my opinion, the application of a SCO for the project would not be affected by any future nuclear land use proposition. Additionally, as noted above, LUP1 facilitates consideration of any material changes to planning policy and strategic plans in the finalisation of the Project design.

Figure 1: Approximate Marinus Link alignment overlain on the potential Strzelecki-Alpine Biolink



Source: Excerpt from mapping available at https://strzelecki-alpine-biolink.com.au/where-is-the-biolink/ overlain with appropriate Marinus Link project alignment

Figure 2: Approximate Marinus Link alignment overlain on Latrobe Rural Framework Plan (Clause 02.04)



Source: Excerpt from Latrobe Planning Scheme, Clause 02.04, Rural Framework Plan overlain with approximate Marinus Link project alignment

Implementation of EPRs and associated sub plans

9.11 I have noted that a number of submissions refer to matters requiring specific management measures.

9.12 In the absence of any current planning controls or guidelines for works within the Biolink, or any specific planning controls relating to protection of koala habitat, I note that the *EIS/ EES Technical Appendix V Terrestrial Ecology* includes consideration of the specific values of the Strzelecki Ranges and the role that the large areas of interconnecting vegetation play in providing habitat for flora and fauna. The project in some locations proposes HDD construction methods to avoid impacts on sensitive habitat corridors. The technical report provides recommended EPRs to manage impacts on flora and fauna and habitat, including EPR EC02 which requires preparation of a Biodiversity Management Plan prior to commencement of works, and that this must be a sub-plan of the Construction Environment Management Plan (CEMP). Sections of the project within the Biolink area are identified as EPR priority areas.

9.13 Relevant to Submission #7 and Submission #20, I have reviewed *EIS/EES Technical Appendix A Electromagnetic Fields* and have noted that it considers impacts on fauna, including bee colonies. The report concludes that the proposed land cables will not impact the general health of livestock and wildlife along the project alignment, although it does note that the HVDC land cables could have some impact on the behaviour of honeybees within 5 metres of the cable trench and recommends that apiaries located within 5 metres of the trench be relocated outside the impact zone during construction (page 64 and 75). The technical report provides recommended EPRs to manage impacts, including EMF01 which proposes an electric and magnetic fields (EMF) and electromagnetic interference (EMI) management plan be prepared to inform the design and commissioning of the project, and that this include consideration of beehives within 5 metres of the alignment.

9.14 Submission #7 also raises concerns regarding soil biosecurity, a matter which is considered in the *EIS/EES Technical Appendix K Agriculture and forestry*, and which recommends EPR A02 for Property Management Plans to be developed and EPR A03 for a Soil Management Plan to be developed, to avoid and minimise impacts on agriculture and forestry land.

9.15 Submission #21 seeks preparation of a Fauna Management Plan via an EPR to be included in the CEMP, and I note that EPR EC02 as recommended by *EIS/ EES Technical Appendix V Terrestrial Ecology* requires management measures for fauna to be included in the Biodiversity Management Plan as a sub plan to the CEMP.

9.16 Submission #10 seeks assurance that the project community benefit scheme will return benefits to the impacted local community and urges that environmental offsets similarly be invested locally. I note that *EIS/EES Technical Appendix U Social* includes a recommendation to develop a Community Benefits Sharing Scheme that considers how the project can add value in the local area and potentially generate positive outcomes for community infrastructure and services, and a requirement to prepare this prior to commencement of works is reflected in the EPR S04.

9.17 Submission #27 raised a number of concerns including a need for additional safety measures to manage fire risk within plantation land, the need for more proactive and specific measures for biosecurity within plantation land during all phases of the project (including soil testing, machinery sterilisation, and strict movement controls within the plantations), measures to manage erosion risk during construction (particularly near waterways within the plantation land), and measures to ensure that temporary works and construction activities can coexist with plantation road maintenance and timber storage. Measures associated with these aspects of the project are recommended within *EIS/EES Technical Appendix M Bushfire*, *EIS/EES Technical Appendix K Agriculture and forestry, EIS/EES Technical Appendix O* Geomorphology and Geology, and include requirements for Bushfire Management Plans, Property Management Plans, Soil Management Plans, and other measures to be included within a CEMP to manage potential risks.

9.18 Whilst many of these submissions and associated technical reports primarily relate to areas outside of my area of expertise, I do note that the draft PSA includes conditions within the Incorporated Document, which requires

that an Environmental Management Framework (EMF) be submitted to and approved by the Minister for Planning (refer 5.3, Incorporated Document). As per the draft condition, the EMF must include a set of EPRs that must be achieved during the design, construction, operation and decommissioning of the Project, and will set out the process, timing and responsibilities for the preparation of a CEMP and any other sub-plans and procedures required by the EMF, as well as monitoring and reporting processes. The recommended EPRs are set out in the *EIS/EES Volume 5 Chapter 2 Environmental Management Framework*.

9.19 In this way, the requirement for a Biodiversity Management Plan as per EC02, an EMF/EMI Management Plan as per EMF01, a Community Benefits Sharing Scheme as per S04, Property Management Plans and Soil Management Plans as per A02 and A03, a Bushfire Emergency Response Plan as per BF03, as well as other measures identified in EPRs, will be implemented, addressing concerns raised in Submission #7, #10, #20, #21, and #27.

9.20 In my opinion, I do not consider any changes necessary to the LUPI Assessment, its associated EPRs, or to the PSA, to address these matters, and am of the view that the proposed planning controls are sufficient to implement the recommendations of other technical specialists.

Cumulative Impacts

9.21 Submission #20 notes that the Hawaiki Nui subsea cable project has not been referenced within cumulative assessments, and refers to EPBC referral 2024-09814.

9.22 I have looked at the EPBC referral in question[1], and I note that the Project Area for referral 2024-09814 does not include a connection to Victoria. I am therefore not able to assess the potential cumulative land use impacts as it is unknown as to the location of the project as it affects the Marinus Link project.

Design changes

9.23 Submission #27 raised concerns regarding the impacts of the Project on plantation land, namely the loss of woodstock and flow through severance, whereby plantations would be split and result in isolated pockets, and the loss of productive plantation due to the easement restrictions on forestry land use. These matters were considered within the *EIS/EES Technical Appendix K Agriculture and Forestry*, and acknowledged within the LUPI Assessment.

9.24 Severance occurs on linear infrastructure projects when the alignment isolates an area of land from use through its passage across a property. The effects of severance can be significant especially if a property is being intensively run or when the crop value is high. For this project, severance may occur during construction, when access across the construction area may be limited, noting that it would be fenced. As noted in the LUPI Assessment (page 57), the project would provide for crossings of the alignment by stock and machinery where required by and in negotiation with the landowner. The LUPI Assessment notes (page 58) that operational impacts to forestry and agricultural properties during construction would be addressed through the preparation and implementation of Property Management Plans (as referenced in the *EIS/EES Technical Appendix K Agriculture and Forestry* and associated EPRs.

9.25 During operation access across the easement would be reinstated, however because replanting of forest within the easement would not be permitted, Submission #27 submits that the severance would have impacts to plantation efficiency and consistency in production. The LUPI Assessment primarily proposes that these matters be dealt with through appropriate compensation.

[1] https://epbcpublicportal.awe.gov.au/all-referrals/project-referral-summary/?id=f5a64b3c-9fd7-ee11-904c-00224891f57d

9.26 An alternative route to reduce impacts on plantation is proposed by Submission #27, though there is insufficient information to allow me to review the alternative route or its potential impacts. Generally though, I am of the opinion that impacts of severance caused by linear infrastructure projects, can be limited by locating alignments close to or adjacent to existing boundaries and fence lines.

9.27 Submission #27 also highlighted that the alignment passes through land that is proposed to be utilised as an offset site and that is intended to be protected by a conservation covenant that will ensure that no vegetation is cleared. I note that the submission does not specifically identify this land parcel, though I note that as part of the LUPI Assessment, a summary of covenants on affected land parcels was provided to me and reviewed. None identified a relevant conservation or offset covenant. Notwithstanding, I understand from the submission that the covenant for the land in question is not yet in place.

9.28 Once approved, a covenant is registered on the title and cannot be removed, where the vegetation is to be conserved and maintained in perpetuity. I am aware that registering an offset site can take up to two years. In my opinion, where the project alignment passes through a proposed offset site that is in the process of being registered, it should be reviewed, ideally to avoid impacts.

9.29 In considering the potential design changes contemplated in this section, I note that the draft PSA allows for some variations to the alignment whereby the Incorporated Document at Condition 5.2.1 requires that the Alignment Plans be 'generally in accordance with' the Map Book provided as Attachment 6 of the EIS/EES. This provides for a degree of flexibility in the detailed design of the alignment. In my opinion, provided that any minor variations to the alignment are located within the Project Land, they could be considered generally in accordance with the Map Book.

9.30 Further, the Incorporated Document includes at Condition 5.2.3, the requirements for an alignment design that extends outside of the Project Land, but within identified Additional Land. In this circumstance, the Alignment Plans submitted to the Minister under Condition 5.2.1 must include a report to the satisfaction of the Minister setting out the reasons for the proposed location of Project infrastructure within the Additional Land and demonstrating that this will not give rise to any material adverse increase in impacts compared to location within the relevant Project Land.

9.31 I am of the opinion that the draft Incorporated Document provides flexibility to allow for realignment in certain circumstances. The location of the proposed offset site, and the alternative alignment mooted by Submission #27, and whether this is located within Project Land, or Additional Land, or external to both, will determine the necessity for any changes to the draft PSA should an alternative alignment be adopted in these locations.

Assessment of design changes

9.32 Submission #21 highlighted concern regarding the extent of assessment of impacts being limited to the Area of Disturbance (AoD) and that the potential for design changes and any changes in construction methodology should require additional on ground impact assessments. Submission #21 notes that the offset requirements for the project are therefore indicative only at this stage and that the total extent of native vegetation to be removed has not been identified in accordance with the Guidelines, leaving uncertainty regarding the final offset requirements and whether the offsets are available. I note that the Incorporated Document requires (Condition 5.2.1) the submission of final Alignment Plans which are to be approved by the Minister for Planning, and that those plans should be generally in accordance with the plans in the Mapbook at Attachment 6 to the EIS/EES. The Mapbook shows the AoD and the final plans should therefore be generally in accordance with this. This provides some degree of certainty though it is acknowledged that there may be some design changes to the AoD at the detail design stage, and changes to construction methodology. It will be at the Minister's discretion to determine if the final AoD is generally consistent with the Mapbook. I note that Conditions at 5.4 of the Incorporated Document require assessment of native vegetation in accordance with the Guidelines, to the satisfaction of DEECA, and require the securing of offsets prior to removal of vegetation. Accordingly the Incorporated Document appropriately provides for assessment of any changes to the AoD.

Other measures within the draft EMF, to be implemented by the Incorporated Document could further reduce the impacts to native vegetation, and this is acknowledged and supported by Submission #21.

9.33 Should design changes result in the Project extending into Additional Land, Submission #21 submits that alignment plans should be assessed for biodiversity impacts. I note that Condition 5.2.3 of the Incorporated Document requires that If the Alignment Plans show Project infrastructure within the Additional Land, the Alignment Plans submitted to the Minister must include a report to the satisfaction of the Minister setting out the reasons for the proposed location of Project infrastructure within the Additional Land and demonstrating that this will not give rise to any material adverse increase in impacts compared to location within the relevant Project Land. It is implied that the report will include consideration of *all* relevant matters as considered in the assessment of impacts in the EIS/EES in order to consider *any* material change. I do not consider it necessary to amend the wording to specify the assessments required to inform this report to the Minister.

Native vegetation removal for preparatory works

9.34 Submission #21 submitted that additional information is required for preparatory works to determine whether the extent of native vegetation to be impacted has been accurately identified in accordance with the Guidelines.

9.35 In relation to Preparatory Works, the Incorporated Document allows for certain early 'preparatory' works to be undertaken prior to the approval of Alignment Plans, Development Plans and other documents (Condition 5.6.1). Condition 5.6.2 however requires that certain information about any native vegetation to be removed, destroyed or lopped for this purpose, be prepared in accordance with requirements 1, 3, 5 and 9 of the Guidelines. Submission #21 submits that this be amended to include requirements 2, 4, and 10 of the Guidelines – these are:

- *2) Topographic and land information relating to the native vegetation to be removed, showing ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate. This may be represented in a map or plan.*
- *4) Details of any other native vegetation approved to be removed, or that was removed without the required approvals, on the same property or on contiguous land in the same ownership as the applicant, in the five year period before the application for a permit is lodged.*
- *10) A site assessment report of the native vegetation to be removed, including: • A habitat hectare assessment of any patches of native vegetation, including the condition, extent (in hectares), Ecological Vegetation Class and bioregional conservation status. • The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any large trees within patches. • The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any scattered trees, and whether each tree is small or large*

9.36 I am of the view that items 2 and 4 are not relevant and item 10 can be addressed as appropriate as part of the assessment of total biodiversity impacts when determining the offset(s) in accordance with Condition 5.4. Sufficient information will be captured within the requirements of 1, 3, 5 and 9.

9.37 The limited approach is the same approach taken within the recent planning scheme amendments and associated Incorporated Documents for North East Link, Warren-Cranbourne Road Upgrade and Barwon Heads Road Duplication Project which included requirements 1, 5 and 9; while Suburban Rail Loop and Warrnambool Line Upgrade only included requirement 1. It is appropriate to limit the information to only those aspects that are relevant to the project for the preparatory works and that will ensure sufficient information is captured to meet offset calculation requirements.

9.38 It is important to avoid wording this condition with a general requirement to meet the Guidelines 'as relevant' to avoid disagreements regarding what relevant requirements are for preparatory works and to minimize delays. The clear specification of what information is required for preparatory works is critical, to prevent

circumstances where there may be a difference of opinion between the Project and DEECA about what information is practically available prior to preparatory works.

9.39 Submission #21 also states that If the EES and EIS is approved, an application for consent under the *Marine and Coastal Act 2018* addressing all seven principles of the *Marine and Coastal Policy 2020*, will be required to be submitted for DEECA's consideration. I note that Appendix B to the LUPI Assessment includes an assessment of the project against the *Marine and Coastal Policy 2020*. The LUPI Assessment also identifies the *Marine and Coastal Act 2018* as relevant legislation and identifies the need for consent. The LUPI Assessment confirms at section 3.2 that, subject to outcome of the Minister's assessment of the EES, a consent under the M&C Act will be sought for the project.

Ministerial Direction No 1 and 19

9.40 Submission #18 recommends that the Explanatory Report is updated to reflect that Ministerial Direction No. 1 (MD1) does not apply to this PSA, because MD1 applies to planning scheme amendments, which would allow potentially contaminated land to be used for a sensitive use, children's playground, secondary school, agriculture or public open space. Therefore, Submission #18 submits that MD1 does not apply to this PSA.

9.41 It is noted that the purpose of MD1 is to ensure that potentially contaminated land is suitable for a use which is proposed to be allowed under an amendment to a planning scheme and which could be significantly affected by any contamination. Paragraph 2 of MD1 states that "*This Direction applies to potentially contaminated land*."

9.42 The *EIS/EES Technical Appendix N Contaminated land and acid sulfate soils* identified land within the study area that is potentially contaminated, and concluded that, "*the assessment did not identify any areas of contamination that potentially represented a risk to human health or the environment and that the risks to the environment identified can be managed via the application of standard construction measures and additional environmental performance requirements*." A number of EPRs are proposed to manage the risks, including to avoid disturbing the areas of waste or contamination via micro-realignment of the cable routing.

9.43 As per the recommendation from Submission #18, that the Explanatory Report be amended to remove reference to MD1 on the basis that it does not apply to this PSA, it is contested that the MD1 does in fact apply. However it is agreed that there are no requirements to be met for under MD1 given that the amendment, and notably the Incorporated Document, does not allow any sensitive use, including playground, secondary school, open space, agriculture or public open space requirements. Accordingly it is considered that it is appropriate to amend the Explanatory Report to include a statement that "*there are no requirements to be met for under MD1 given that the amendment, and notably the Incorporated Document, does not allow any sensitive use, including playground, secondary school, open space, agriculture or public open space requirements*".

9.44 Submission #18 also confirms that the requirements of Ministerial Direction No. 19 (MD19) have been met through EPA's participation in the TRG for the EES, and by way of a letter dated 16 April 2024 titled "Marinus Link Project – Planning Scheme Amendment GC217", EPA has provided its views on the potential impacts of the PSA on the environment, amenity, and human health. In my opinion, no further changes are required to the PSA in this regard.

Reference to energy targets

9.45 Submission #21 submits that the draft PSA notes the former renewable energy target of 50% by 2030, which has now been revised to 65% by 2030.

9.46 I note that the Strategic Assessment Report sets out in section 3, the strategic basis for the project, and refers to the former renewable energy target of 50% by 2030. I am aware that in May 2024, subsequent to the

preparation of the report, the *Renewable Energy (Jobs and Investment) Act 2017* was updated to reflect a new target of 65% by 2030 and 95% per cent renewable electricity generation by 2035. Accordingly, whilst the supporting Strategic Assessment Report could be updated to reflect the updated targets, it is noted that the Explanatory Report as containing in the draft PSA refers to the targets but does not specify what the targets are, and therefore does not require updating.

10. ENVIRONMENTAL PERFORMANCE REQUIREMENTS

10.1 As described in section 6 above, the LUPI Assessment recommended EPRs as relevant to Land Use and Planning.

- Aboriginal and Historical Cultural Heritage (EIS/EES Technical Appendix J)
- Agriculture and Forestry (EIS/EES Technical Appendix K)
- Air Quality (EIS/EES Technical Appendix L)
- Bushfire (EIS/EES Technical Appendix M)
- Landscape and Visual (EIS/EES Technical Appendix R)
- Noise and Vibration (EIS/EES Technical Appendix T)
- Social (EIS/EES Technical Appendix U)
- Terrestrial Ecology (EIS/EES Technical Appendix V)
- Traffic and Transport (EIS/EES Technical Appendix W)

10.2 In addition to those included in the LUPI Assessment, I have reviewed EPRs recommended by the following technical reports:

- Electromagnetic Fields (EIS/EES Technical Appendix A)
- Geomorphology and Geology (EIS/EES Technical Appendix O)
- Contaminated land and acid sulfate soils (EIS/EES Technical Appendix N)

10.3 I have no recommendations and consider the EPRs are sufficiently adequate to address Land Use and Planning matters.

11. DECLARATIONS

10.4 I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Inquiry and Advisory Committee.

10.5 If I am presenting evidence from a different location by video conference, I confirm that:

(a) I will be alone in the room from which I am giving evidence and will not make or receive any communication with another person while giving my evidence except with the express leave of the Panel.
(b) I will inform the Panel immediately should another person enter the room from which I am giving evidence.
(c) during breaks in evidence, when under cross-examination, I will not discuss my evidence with any other person, except with the leave of the Panel.
(d) I will not have before me any document, other than my expert witness statement and documents referred to therein, or any other document which the Panel expressly permits me to view.

Alisanne Boag
Manager Planning, Beveridge Williams
27 August 2024

2. Submissions received

Two submissions have been made in response to the Project, and the EES that are relevant to LVIA and my area of expertise.

The concerns raised in Submission 20 are that:

In the era of the 'deep fake' and artificial intelligence, the use of 'photomontages' should be viewed with a high degree of scepticism!

The concerns raised in Submission 25 were broader in their concern stating that:

Instead of pursuing destructive and ecocidal renewable schemes, we should invest in reliable, base-load Coal power and Nuclear energy. These solutions will safeguard our energy security, food production, economic prosperity& national security while preserving our beautiful landscapes and ensuring that our environmental stewardship is grounded in logic and true sustainability.

These concerns are responded to below, which are repeated from the relevant sections of the LVIA.

3. Photomontages

Section 4.8 of the LVIA sets out the photomontage methodology, including a description of the process for constructing photomontages, and reproduction methods (printed scale) for viewing the imagery.

4.8 Photomontages

Photomontages can assist in the assessment by illustrating the scale of the project. The assessment of views and visual impact at each viewpoint is based partly on photomontages prepared from representative locations that demonstrate the range of distances, viewing angles and landscape character types within the study area to support observations made at each viewing location.

The change in views is based upon a 60-degree horizontal field of view, which provides a consistent reference for project visibility and prominence over varying distances. The horizontal field also represents the central cone of view in which symbol recognition and colour discrimination can occur. The vertical field of view is between 10 to 15.

Each photomontage is accompanied by a wireframe view illustrating the technical alignment and registration of the model in views. In these views, registration markers such as poles, cylinders, boxes, or fences align points of reference in the landscape, such as a group of trees, existing structures, or edges of features such as planted hedgerows. The wireframe view showing topography demonstrates the vertical alignment of the model in view. These reference points allow the computer model and the photograph to be aligned and ensure that project features are accurately located within the photograph before compositing the project into the image.

Photomontages have been prepared to assist in the assessment of the visual impact of the project and are appended to the LVIA report (refer to Appendix A for A3 size photomontages).

It is recognised that the small photographs and the A3 photomontages included within this assessment, whilst technically accurate, are not perceptually accurate. The A3 images, which are annexed to this report (Appendix A), are clearer than the smaller images in the body of the assessment, as these are larger. However, A0 photomontages clearly indicate the actual visual impact – these are perceptually accurate.

The method for collecting background photographs from site for use in the construction of photomontages is set out in Section 4.8.1 Camera Data. The UK Landscape Institute Technical Guidance Note, 06/19 Visual Representation of Development Proposals (LI-TGN-06-19) sets out guidance on the preparation of photomontages for use in LVIA. Section 3.8.4 of LI-TGN-06-19 describes preferred lens lengths and reproduction limitations. The method set out in LI-TGN-06-19 relies on the use of a 50mm lens, which is also widely accepted and referred to in other jurisdictions.

The method adopted by the LVIA for Marinus Link overcomes the limitations on reproduction and the need to enlarge single frames utilising a 60mm lens on Nikon D850 Full Frame Digital Camera. The reasoning for this is explained in Section 4.8.1 of the LVIA and reproduced below.

4.8.1 Camera Data

A 60 mm lens on a Nikon D850 digital camera has a picture angle of 33 and a horizontal angle of view of approximately 22°.1 i

Figure 3-1 shows the principles of photomontage construction and image overlap, which have been used to create the photomontages.

[1] https://shotkit.com/field-of-view.

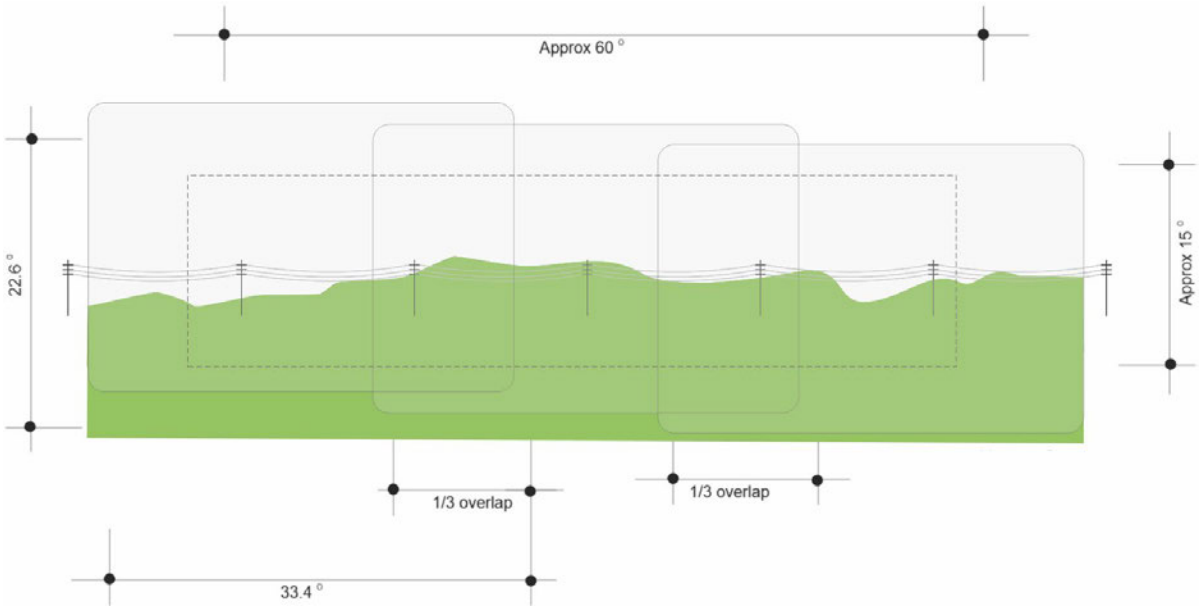


Figure 3-1 Photomontage construction

The camera is held at eye level, approximately 1.75 m above ground level. Three photographs overlapped 1/3 to create approximately the same image as the central cone of view of human vision, i.e., 50 to 70 horizontal and 15° vertical.

This relationship to the parameters of the human vision being 60 ° in the horizontal field of view and 15 in the vertical field are also shown. The relevance of this is discussed in Chapter 5.

4.8.2 GPS Co-ordinates

The Nikon D850 records the GPS coordinates, viewing direction and image field of view, which are embedded in the image metadata via a Solmeta GMAX GPS Geotagger.

GPS coordinates are also taken based on a separate handheld GPS, and the locations from which the photographs were taken are marked on a digital map within Memory Map or Google Earth Pro.

4.8.3 Photomontage development

Computer modelling of the project was prepared using the following software:

- *Geotagger ™ ;*
- *Autodesk AutoCAD 2017 ™ ;*
- *Autodesk 3D Studio Max 2016 ™;*
- *Adobe Photoshop CC ™;*
- *Corel Draw ™.*

Cadastral data and project features are modelled within a computer program (3D Max). A virtual camera is set up in the model at the GPS coordinates for each photograph used within the panorama.

The digital model or wireframe view is then overlaid on the photographic panorama. Features and points within survey information such as topography, building locations or other infrastructure, are registered into the base photographs (or other predetermined points). For technical accuracy, these points must align. This verifies the location and apparent height and scale of the proposed development.

Wider panoramas are used to provide a greater number of reference points for the computer model. These wide-angle views are shown in the wireframe views where reference points were aligned outside of the final 60° view. In addition, if the panorama includes many project features, these are also included in the analysis. However, wide-angle views, whilst technically correct, do not represent a perceptually accurate representation of the change to a landscape.

Following the alignment of the background reference points, the wireframe is removed, leaving the project features only. The project features are rendered to match the lighting conditions at the time the photographs were taken or to increase contrast enhancing the visibility of project features.

The following datasets were used in preparing the photomontages:

- *VicMap Contour data to 5.0 m resolution*
    - *VIC_LiDAR_20210219.dwg*
    - *Contours_DXF_0.5 m.dxf*
- *project design files:*
    - *500kV_HAZELWOOD_HV_3D_georeferenced_GDA2020_mAHD.dwg*
    - *TRANSITION_STATION_HV_georeferenced_GDA2020_mAHD-revA.dwg*
    - *Hazelwood 3d triangles rev A.dwg*

4. Landscape and Visual Impact Assessment

The LVIA assessed the landscape and visual impacts of project features and activities against the EES scoping requirements.

The scoping requirements outlined the key issues to be considered by the landscape and visual impact assessment, including the:

- *Potential effects on significant landscape values and landforms in the vicinity of the project, especially national parks, state parks or other reserves and areas identified for their landscape values, such as within South Gippsland and Latrobe Shire planning schemes.*
- *Potential for nearby residents or communities to experience significant effects to visual amenity from project infrastructure.*

4.1 LVIA Methodology

The methodology adopted to review and assess the Project's Landscape and Visual Impacts is set out in Chapter 4 of the LVIA.

The assessment methodology is based on guidelines prepared in Australia and overseas, which include:

- *Environmental impact assessment practice note EIA-NO4*, *Roads and Maritime Services, NSW, December 2018* is an established guideline for determining landscape character and visual impact assessment for road projects in NSW. This Guideline assesses visual sensitivity, which is derived from the qualities of an area, and the magnitude of the change derived from the scale or prominence of the project in a matrix framework to assess the level of impact.
- *The Guidelines for Landscape and Visual Impact Assessment, Third Edition, Landscape Institute and Institute of Environmental Management and Assessment (2013) (UK Guidelines). The UK Guidelines, widely referred to internationally, combine scale, duration, and reversibility to evaluate magnitude. Viewer sensitivity and landscape character inform sensitivity. These factors are combined to assess the overall visual impact. The UK guidelines also discuss the benefit of theoretical mapping visibility or the area from which projects may be visible. These* are *referred to as the Zone of Theoretical Visibility (ZTV). The UK guidelines do not consider visual scale or prominence over distance. The UK Guidelines prefer professional judgement be employed in preference to the use of matrices.*
- *Similar to the UK Guidelines, the Guidance Note for Landscape and Visual Assessment, AILA Queensland, June 2018 recognises that the "Landscape and Visual Assessment (LVA) should be scoped to reflect the scale of the project".*
- *New Zealand Institute of Landscape Architects, NZ (2010) Best Practice Note: Landscape Assessment and Sustainable Management 10.1. Landscape characterisation is a process of interpreting how attributes such as geomorphology, natural ecosystems, vegetation cover and land-use history come together to distinguish landscapes. The NZ Guidelines recognise that landscapes are dynamic and continually changing and that landscape assessment should reflect project scale.*

- *Further, the NZ Guidelines seek to manage the direction and consequences of change and how to sustain landscape values and attributes over time instead of 'freezing' a landscape in a particular state.*

The methodology of these guidelines and others have overlapping similarities. One point of divergence is the use of matrices, which are still in the NSW Guideline but are not recommended in the UK guidelines. The reasoning for this is set out in section 3.34 of those guidelines. Matrices are not used in this LVIA.

Key steps and their role in the assessments are reproduced below.

Study Area

The study area is the area that may be visually affected by project features. The extent of the study area is not the same as the extent of visibility, as it may be possible to see project features from areas outside the study area. The study area is where the proposed development could create a recognisable impact.

The extent of the study area for the public domain is established at a distance where the tallest components along the proposed project alignment will occupy less than five per cent of the "Normal" vertical field of view or 0.5° in the vertical plane.

Landscape Character and Viewer Sensitivity

Landscape character units are based on physical and natural attributes within the study area. Characteristics that assist in defining the landscape units include geology, topography, vegetation, and drainage patterns as well as modifications to areas from a natural setting, land-use, and policy considerations.

Policy and guidelines implemented within the study area also provide guidance in recognising landscape character areas and their sensitivity to change.

Policy Review

A detailed review of government policies was undertaken to identify key objectives and considerations for the landscape and visual impact assessment of the project. The focus of this review was to objectively characterise the landscape, features, and values of the project area of interest and its environs.

The review examined relevant legislation and policy to identify significant landscapes and landforms that are recognised by policy, residential areas and communities, prominent lookouts, roads, and tourist attractions. This review has assisted in developing an objective understanding of landscape character, features, and values through schedules to planning overlays that recognise landscapes and areas for the contributions to the environment, landscape and heritage values that are added to local planning schemes. A detailed review of policies relevant to this impact assessment is provided in Appendix B of the LVIA.

Viewpoint Assessment

The potential visual impact of the project was undertaken through views selected from locations within the public domain and from neighbouring residential properties. Further detail regarding the selection of views is provided below.

Publicly Accessible Locations

Viewpoints included in the assessment were selected from locations that are representative of the range of viewing angles, distances, and landscape character types within the study area, from places familiar to the local community and key users, and areas where the project will be visible from. This approach supports the EES scoping requirements, which seek to describe the potential impacts on landscape character, which is assessed through views from publicly accessible locations.

Each selected location's assessment of the overall visual impact was based on several criteria. Their relevance to the assessment of the overall visual impact from the public domain is set out below:

- **Visibility:** The visibility of the project elements can be affected by topography, vegetation, built form and infrastructure.
- **Distance:** Infrastructure visibility and dominance will decrease with distance. The ZVI provides an indication of visual dominance and potential impact based on distance.

- **Duration:** The duration of a view is also relevant and must be considered when assessing the overall visual impact. For example, a project will be more noticeable from locations where views are static or stationary due to the increased duration in which a project will be visible. Conversely, project visibility will be shorter in duration from views that are in transit, and therefore reduced. An example of a static view may include a private residence, reserve or recreation areas. Transitory views may include locations such as roadways, vegetated trails or public transport.
- **Landscape character and sensitivity:** The landscape character of an area is based upon visual features such as topography, vegetation and the use of the land, the naturalness of the area and planning provisions. Specific landscape studies and assessments within the study area may also influence sensitivity. Typically, a modified landscape prevalent within the study area or the region is less sensitive than one ostensibly natural.
- **Viewer numbers:** The overall visual impact level will decrease when fewer people can view the project. Conversely, the level of visual impact may also increase where the viewing location is a recognised key vantage point or tourist route where a greater number of people may view the change.

Viewer sensitivity is based on the nature or purpose of the viewing location. For example, the sensitivity of a person viewing a project from a recreation reserve, public lookout or trail will be higher than the same viewer travelling the local road network or from a town.

The overall visual impact is not assessed numerically or through a matrix, rather it is the examination of the qualitative aspects observed at each selected viewpoint, which is supported by the relevant quantitative (measurable) criteria listed above. This is shown in Figure 4-1.

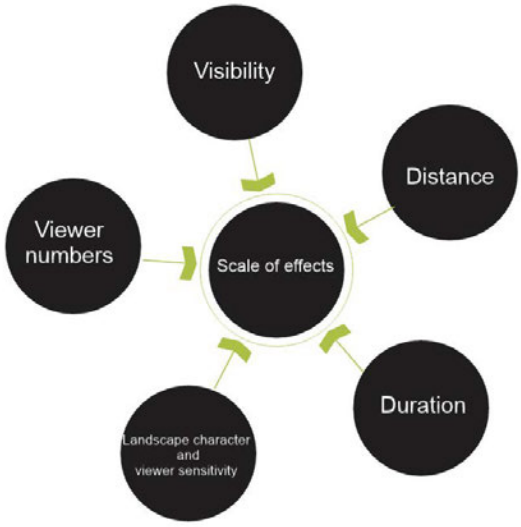


Figure 4-1: Visual impact – public realm

This quantitative and qualitative approach is supported by the UK Guidelines for *Landscape and Visual Impact Assessment, Third Edition* published by the Landscape Institute, Institute of Environmental Management and Assessment 2013 (GLVIA3).

The overall visual impact at each viewpoint will range from Nil to High. The definition for each scale is discussed in 0 below.

Scale of effects

The following table outlines the scale of effects used to assess the overall visual impact for each viewpoint from Nil, where the project is not visible, to High.

Table 4-1 Scale of effects

Overall Visual Impact	Definition
Nil visual impact	An overall assessment of **Nil** will be arrived at where the project will be screened by topography, vegetation, buildings and other structures or

	project features are at such a distance that they will no longer be a readily discernible feature in views.
Negligible visual impact	An overall assessment of **Negligible** is a minute effect barely discernible over ordinary day-to-day views. A 'negligible' level of visual impact would typically occur where the project will be at a distance that it would be a minute element in views or will be filtered by vegetation or partially screened by features such as topography or buildings. An overall assessment of negligible may also be where the project is added to views that already include many similar features.
Low visual impact	An overall assessment of **Low** will be arrived at where the project is noticeable but will not cause significant adverse impacts. For example, a "low" level of visual impact will be assessed if the rating of several, but not all, assessment criteria (visibility, distance, viewer numbers and landscape sensitivity) is assessed as low. Examples of a low level of visual impact are where the project is visible in a highly modified landscape, few people will see the project, or where views are transient rather than stationary.
Moderate visual impact	An overall assessment of **Moderate** may occur where several criteria are higher than "low", or the visual effects would be mitigated/remedied from an initial rating of High.
High visual impact	An overall assessment of **High** will be arrived at where significant adverse effects cannot be avoided, remedied, or mitigated. For example, a highly sensitive landscape, viewed by many people, with the project in close proximity and largely visible, will lead to an assessment of a high level of visual impact.

5. Impact Assessment Key Findings

The project's impacts was assessed from 17 locations in the public domain.

The majority of the above-ground infrastructure will be located in farming areas, which has a low sensitivity to changes in views or the landscape.

The project avoids sensitive landscapes and areas of National Park or State Forests.

In sensitive coastal landscapes and areas protected by schedules to the Significant Landscape Overlay impacts are avoided or minimised by constructing the transmission line through HDD, which will minimise ground disturbance and vegetation removal. The majority of operational infrastructure will be below-ground.

There were no locations identified where the project's landscape and visual impacts will be greater than low. This is due partly to the following:

- Locating the majority of the project underground
- directly avoiding townships and communities or areas of residentially zoned land.
- minimising distances where the project will run parallel to major roads, highways, and tourist routes.
- In farming land, the easement has been designed to minimise vegetation along property boundaries and fence lines; and
- The easement has been located alongside existing tracks and cleared easements in forested areas.

For landholders, visual impacts have been reduced by:

- maximising setbacks to individual dwellings where possible.
- micro-siting of structures, and
- co-locating project features with existing transmission lines and similar elements.

Above-ground infrastructure will be limited to permanent features required at the terminal station adjacent Waratah Road, cable pits located along the easement and the preferred converter station to the north.

In coastal areas, permanent above-ground elements will be limited to the transition station at Waratah Bay, which will have limited to no visibility from publicly accessible locations.

The majority of the project's visual impacts have been avoided through the undergrounding of the proposed transmission lines.

There were no locations identified along the proposed easement where a new easement is required to be cleared in elevated forestry or heavily vegetated areas that would be visible from low view angles or vantage points. In these areas, vegetation removal would be limited to locations along existing easement or tracks, and generally not discernible.

In sensitive areas, vegetation removal has been avoided through HDD. In farming areas, vegetation removal would be limited to planted wind breaks and hedgerows, and generally not discernible.

Construction impacts on coastal areas and sensitive landscapes will be mitigated through HDD rather than open-cut trenching, avoiding surface disturbance and clearing. Operational visual impacts, particularly locations in sensitive landscape coastal and hinterland areas, have been managed by undergrounding and rehabilitation of easements and construction compounds.

Residual and above-ground infrastructure will be limited to permanent features required at the terminal station adjacent Waratah Road, features of the transition station if required, cable pits located along the easement and the preferred converter station to the north. Lighting will be limited to motion-activated and therefore limited to no effect on the area's Dark Skies.

A Converter station is proposed in farming land to the south of the existing Hazelwood terminal station, south of the existing 500 kV Hazelwood to Melbourne single circuit transmission line. Lighting will be limited to motion-activated and a background element to light glow from Traralgon further to the north.

5.1 Cumulative impact considerations

The Projects Convertor Station will be added to views that include similar infrastructure to the proposed converter station.

Cumulative visual impacts have been managed by:

- Reducing visual clutter through structure placement and design where co-location of easements and infrastructure is to occur.
- Locating terminal stations away from key viewing locations or dwellings and settled areas

This will limit the distance between features, thereby reducing the potential for sequential views along roadways and trails, simultaneous views from static locations and impacts through the fragmentation of landscapes.

The project's visual impacts are not greater than low and can be managed through the proposed mitigation measures set out in Chapter 10 of the LVIA. Environmental Performance Requirements (EPR's) setting the performance outcomes required of mitigation measures applied to the Project are set out in Chapter 11 of the LVIA.

5.2 Environmental Performance Requirements

Four EPRs have been identified to assist with managing the project's visual impacts.

- LV01 seeks to - Reduce the prominence of the converter station
- LV02 seeks to - Screen views from public roads
- LV03 seeks to - Manage views of the transition station.
- LV04 supports LV02 and LV03 for the successful establishment of landscape screening.

The strategies identified to assist with these objectives are set out in Table 11 in Chapter 11 of the LVIA and Section 4 of this report.

6. Environmental Performance Requirements

I have reviewed EPRs and have no further recommendations or proposed amendments.

Environmental Performance Requirements (EPRs) set out the environmental outcomes that must be achieved during the project's design, construction, operation and decommissioning.

Table 6-1 LVIA Environmental Performance Requirements

EPR ID	Environmental Performance Requirement	Project Phase
LV01	**Design converter station buildings to minimise visual impacts from public locations** During the design of the converter station buildings, incorporate design outcomes to reduce the visual prominence of the buildings in views from the public roads. Design of the building facades will be documented in a Development Plan(s) and may include, but not be limited to: ▪ Tapering of leading edges of the building and roofline. ▪ Articulation of building facades. ▪ Using colours such as dark greens, reflecting existing vegetation, or muted tones minimises contrast and prominence.	Design
LV02	**Implement measures to establish and maintain a vegetative screen for public views of above ground components** During the design of the converter station and transition station, develop measures to ensure a vegetative screen is established to shield views from public roads. Strategies to achieve this may include, but not be limited to: ▪ Ensuring sufficient setbacks along the road frontages. ▪ Layered landscaping using endemic species.	Design
LV03	**Design transitions station to minimise visual impacts from public locations** During the design of the transition station, develop measures to provide screening from Waratah Road that is similar to, or better than that which is provided by existing vegetation and landforms. Strategies to achieve this may include, but not be limited to: ▪ Retaining existing vegetation within the site. ▪ Including vegetation or landscaping within the site boundaries to screen or filter views of project features using endemic species. Locating perimeter fencing behind landscape plantings or landforms.	Design
LV04	**Develop and implement measures to manage potential visual impacts in operation** As part of the OEMP, develop and implement measures to minimise visual impacts during the operation. The measures should address: ▪ Monitoring vegetation screening and landscaping with site boundaries for at least two years ensuring establishment and long-term viability of landscaping. ▪ Replacement of any failed vegetation screens or landscaping with endemic species.	Operation

7.0 SUBMISSIONS

I have been requested to review the public submissions provided to me by HSF as relevant to my area of expertise. Those submissions have been grouped and responded to below.

7.1 Submissions received

I have read the public submissions provided to me by HSF and identified those that are relevant to the Noise and Vibration Assessment and my area of expertise. These include submissions 5 and 18.

I note that submissions 1 and 11 address matters relating to the effects of noise and vibration on fauna. The Noise and Vibration Assessment only addresses the effects of noise and vibration at receivers where people reside. The effects of noise on fauna (marine and terrestrial) are outside of my areas of expertise and are addressed in separate technical studies prepared by others. I have therefore not addressed submissions 1 and 11.

I also note that submission 25 refers to the subject of noise, but only in relation to operational wind turbines which do not form part of the project I have assessed. I have therefore also not addressed submission 25.

7.2 Summary of issues raised

A summary of the issues relevant to my area of expertise that were raised by the submissions are presented in Table 4.

Table 4: Summary of issues raised

Submission no.	Subject	Issues raised
5	Construction traffic noise	The effects of noise on a farm as a result of construction traffic generated by the project.
18	Regulator consultation during the development of management plans	The necessity of consulting with EPA Victoria during the development of the management plans including those prepared to address construction noise and vibration and operational noise.
18	Construction noise in natural areas	The effects of noise on natural areas as a result of construction of the shore crossing, particularly the effects of noise characteristics such as low frequency noise.
18	Construction activity outside of normal working hours	The adequacy of the proposed EPRs for the assessment, approval and management of construction activity which may need to occur outside of normal working hours.
18	Decommissioning	The adequacy of the proposed EPR for the preparation of a decommissioning management plan to address matters relating to noise and vibration during the decommissioning of the project.

7.3 Response to issues raised

Set out below are my comments and responses to the issues raised by the written submissions relevant to the area of my expertise.

7.3.1 Construction traffic noise

Submission 5 suggests that construction traffic noise was not assessed. The submission subsequently notes that construction noise was not specifically assessed for the submitter's address, and questions matters relating to the noise assessment method (desktop versus measurement-based studies), the potential noise impact of airbrakes and the potential for sleep disturbance during the day as a result of construction traffic noise.

A high-level assessment of noise associated with construction traffic on public roads was presented in Section 7.1.6 of the Noise and Vibration Assessment. This included a description of the proposed construction traffic routes, the peak number of daily truck movements and predicted construction traffic noise levels for varying setback distances from the road. The key points from Section 7.1.6 of the Noise and Vibration Assessment are as follows:

- Truck movements from Port of Melbourne to the project area would occur via the Princes Highway and the South Gippsland Highway, before branching off to laydown areas along the project route. The majority of the routes to the project site are along rural highways, which pass through sparsely populated land and several towns.
- Most heavy vehicle movements in the vicinity of the project are expected to occur during normal working hours. Exceptions would apply for the delivery of oversized materials that need to be transported out of hours to reduce disruption and potential hazards on the road network.
- At the stage in the project when the greatest traffic is expected to be generated, the highest movement numbers for a single element of the project relate to the converter station and transition station, each equating to 40 heavy vehicles per day (equating to an average of 4 heavy vehicles per hour, based on all movements occurring over a 10-hour window within normal working hours).
- The predicted average noise levels from heavy vehicle movements range from 48 to 56 dB L_{Aeq} (an average based on the equivalent noise level over a 10-hour window of movements) at distances of 15 to 100 m from the road. The predictions indicate that the receivers located closest to the road network would experience noise levels above day period reference level from the ERS. This is however a very stringent benchmark for construction related traffic, and the noise of existing traffic movements is also likely to be above the ERS level in many instances.

There are no specific assessment requirements or objective criteria which apply to noise levels from off-site construction traffic in Victoria. In lieu of specific requirements, and in recognition of the key points noted above, the high-level assessment is sufficient to conclude that off-site construction traffic is unlikely to warrant dedicated noise mitigation measures, particularly given the temporary nature of the associated impact.

Notwithstanding the above, the GED applies to construction traffic and public roads, and reasonable and practicable measures must be implemented to minimise this risk of harm associated with construction traffic related noise. The measures noted in the Noise and Vibration Assessment comprise:

- scheduling the majority of heavy vehicle movements during normal working hours
- utilising arterial roads to the greatest extent practicable to minimise movements on local roads
- promoting considerate driving practices (restricted speed and limiting engine break usage in populated areas)
- secure loading of materials to limit impact noise on uneven roads.

Additionally, under NV02 (requirement to prepare a CNVMP), there is a requirement to document reasonable and practicable measures to minimise the risk of harm as a result of noise. This requirement is stated to apply to both onsite and off-site sources of noise during construction, including heavy vehicle movements on local roads.

Adhering to the recommended requirements will not prevent noise impacts from construction traffic noise. Heavy vehicle movements will result in an audible change in road traffic noise levels at receivers along the proposed construction traffic route. This includes the potential for sleep disturbance during the day period, as queried in the submission, for the nearest receivers along local routes where existing road traffic movements and traffic noise levels are low. However, construction related road traffic noise is an unavoidable consequence of new developments, particularly for an infrastructure project of national significance. Established noise assessment practice also places greater emphasis on protection from sleep disturbance during the night period.

The measures listed above from the Noise and Vibration Assessment represent reasonable and practicable measures which can be implemented to minimise the risk of harm as a result of construction traffic noise. With these measures in place, construction traffic noise would be managed to an acceptable level.

7.3.2 Regulator consultation during the development of management plans

Submission 18 proposes the removal of all requirements for consultation with EPA Victoria during the preparation of management plans for the project, including the CNVMP proposed under NV02 and the ONMP proposed under NV05.

The required content of the CNVMP and ONMP is guided by:

- clear legislated requirements for the control of noise and vibration in Victoria
- EPA Victoria publications which provide detailed recommendations for minimising the risk of harm from noise as a result of construction and operation of the project
- project-specific EPRs which reiterate the noise and vibration assessment requirements for the project in accordance with Victorian legislation and guidelines.

Therefore, while EPA Victoria consultation is generally preferable, the content that must be included in the noise and vibration management plans is clearly defined, and EPA consultation is not strictly required. Further, the proposed EPRs include control mechanisms in the form of:

- a requirement for the proposed CNVMP to be reviewed by an IEA (an IEA review is a general requirement of the Construction Environment Management Plan and all associated sub-plans, with the CNVMP being one of the relevant sub-plans)
- a requirement for the CNVMP and ONMP to be submitted to the EPA on request.

The suggestion to remove the requirement for consultation with EPA Victoria is therefore considered acceptable.

7.3.3 Construction noise in natural areas

Submission 18 suggests the inclusion of a dedicated EPR to protect the section of the Waratah Bay – Shallow Inlet Coastal Reserve (coastal reserve) from noise associated with construction activities at the proposed shore crossing. In suggesting this measure, the submission acknowledges the potential benefits afforded to the coastal reserve as a result of the measures that will be required to minimise the risk of harm from construction noise at residential locations in the area surrounding the shore crossing. The submission then suggests that the Noise and Vibration assessment mainly relates to overall noise emissions, and identifies concerns about noise with audible character and energy concentrated in the low frequency range. These concerns are cited as a basis for suggesting that it is unclear how these issues would be managed without:

> *either a dedicated EPR, or additions to the existing EPR*

Based on the above, the submission suggests a dedicated EPR to address the risk of harm to the environmental value of human tranquillity and enjoyment outdoors in natural areas, including proposed qualitative requirements for the assessment of low frequency noise.

As discussed in Section 6.2 of this statement, while the EPRs are primarily directed at addressing noise and vibration levels at sensitive locations where people may reside (i.e. receivers such as residential locations), the types of measures required to comply with the EPRs would also benefit the environment more broadly, including natural areas. This is because of residential locations which are critical receiver locations for the control of noise from construction activities at the shore crossing (i.e. the same construction activities which are relevant to noise levels in natural areas).

Further, in addition to overall noise levels, the subject of audible characteristics, including low frequency noise, was addressed in the Noise and Vibration Assessment. The proposed EPRs also include dedicated clauses for the control of audible characteristics including low frequency noise. In particular, NV02 specifies that the CNVMP must contain details of all reasonable and practicable measures that are proposed to minimise the risk of harm as a result of construction noise and vibration. These measures address a range of considerations including timing, duration, noise levels and noise character. In relation to noise character, NV02 states that the CNVMP must include:

> *Measures for the control of potentially annoying characteristics such as tonality, impulsive and low-frequency noise (accounting for frequency spectrum as a prescribed characteristic where applicable).*

Further, under NV02, a protocol for preparing DNVIAs is required which must consider all project works in determining when a DNVIA is required, and must specifically address certain sites including the shore crossing. The requirements of the DNVIAs are specified in NV03 which states that the assessments must:

> *Include information to demonstrate the selection, or the processes for selection, of low noise equipment, including consideration of any potentially annoying characteristics of the noise such as tones, impulses or prominent low frequencies.*

The proposed controls that apply to construction noise at the shore crossing therefore address a range of considerations including audible characteristics such as low frequency noise. I am therefore of the opinion that a dedicated EPR, or modifications to the existing EPRs, are not required to address audible noise and audible characteristics, including low frequency noise, at the coastal reserve. Importantly, given the proposed 24-hour operation of the HDD works to construct the shore crossing, the residential receivers in the surrounding area are the decisive locations which would define the controls needed to minimise the risk of harm as a result of both overall noise levels and character.

Based on the above, it is my view that the measures implemented to address noise levels and audible characteristics at residential receivers will represent reasonable and practicable measures for controlling the risk of harm to the environmental value of human tranquillity and enjoyment outdoors in natural areas as a result of construction noise.

In reaching this view, I have considered the potential for the measures implemented to control noise at residential receivers to either not benefit, or inadvertently exacerbate, noise at the coastal reserve. This could theoretically occur in a situation where local noise barriers were placed near a source to reduce noise levels in one direction, leading to a potential increase in noise levels in the opposite direction as a result of reflected noise from the barrier. In my opinion, this type of theoretical risk is not relevant in this situation for the reasons discussed below.

Firstly, given that the nearest residential receivers to the shore crossing are located several hundred metres away, barriers are unlikely to be a viable or effective noise control option. This is due to:

- the effect of curved paths of noise transmission over several hundred metres (i.e. favourable sound propagation conditions which increase noise levels, such as downwind conditions)
- the significant attenuation afforded by ground effects (the change in noise which occurs when sound travelling directly to a receiver interacts with the sound reflected from the ground) which can be negated by the construction of barriers (i.e. resulting in a limited net reduction in noise levels following the introduction of a barrier).

Secondly, if barriers were ultimately able to provide beneficial reductions in noise levels at receiver distances, the potential for slight increases in noise levels in the direction of the coastal reserve would not provide a clear basis to forgo beneficial noise reductions at permanently occupied receivers where noise levels at night are the primary consideration.

I am therefore of the opinion that the measures needed to address noise levels and audible characteristics at residential receivers will primarily involve selection of low noise emission equipment, accounting for noise emission characteristics, and the use of engineering controls and mitigation measures (e.g. exhaust silencers and non-tonal audible alarm systems). These measures will inherently afford noise benefits to the coastal reserve.

7.3.4 Construction activity outside of normal working hours

Submission 18 suggests that significant additional detail should be added to NV02's requirement for a protocol to be developed and documented in the CNVMP for the assessment, approval and management of construction activity which may need to occur outside of normal working hours. The stated reasons for the suggested changes are that NV02 does not provide any direction for how the process is to be developed and that, while the project is located in rural area, noise levels in rural areas must also be addressed.

The noise and vibration requirements detailed in the EPRs are for the protection of all receivers in the vicinity of the project, the majority of which are located in rural areas.

In terms of the protocol for works outside of normal workings hours, NV02 states that the CNVMP must include:

> *Details of the location, duration and type of unavoidable works, which may need to occur outside of normal working hours and the protocols that will apply for the management of unavoidable works outside normal working hours. These protocols must include a process for the justification and approval of any unavoidable works, managed-impact works, or low noise impact works that may be planned to occur outside the normal working hours.*
>
> …
>
> *Details of any low-noise or managed-impact works which may need to occur outside of normal working hours and the protocols that will apply to the management of these works outside of normal working hours.*
>
> …
>
> *The protocol for preparing detailed noise and vibration impact assessments (EPR NV03) including when they are required, the format, timing and process for review. The protocol must address all project works and specifically:*
>
> - *The shore crossing.*
> - *Locations where there is prolonged unavoidable works, managed-impact works, or low noise impact works outside of normal working hours.*
> - *The converter station.*

NV02 also states that the CNVMP must address the requirements of EPA Victoria Publication 1834.1.

The requirement for a protocol which addresses works outside of normal working hours is therefore clearly established in the EPR proposed in the Noise and Vibration Assessment. Further, EPA Victoria Publication 1834.1, which the CNVMP must address, contains detailed guidance on the justifications that are required for construction activity to occur outside normal working hours. The detailed guidance of EPA Victoria Publication 1834.1 would therefore direct the development of the protocol. As an additional measure, the protocol documented in the CNVMP would ultimately be subject to review by an IEA.

In light of the above, and the significant level of detail already contained in the EPRs for the control of construction noise and vibration, I am of the opinion that the additional level of detail proposed in the submission is not warranted. The detailed guidance contained in EPA Victoria Publication 1834.1 provides appropriate direction for the development of a protocol for construction activity outside normal working hours.

7.3.5 Decommissioning

Submission 18 suggests that the Environmental Management Framework for the project should include a dedicated EPR for addressing noise and vibration from activities associated with decommissioning of the project.

The subject of noise and vibration control associated with decommissioning activities is addressed in Section 7.5 of the Noise and Vibration Assessment, which notes the following:

> *The EMF establishes a requirement for a land decommissioning management through a dedicated EPR. The plan is required to document how decommissioning activities would be undertaken and potential impacts managed. The objective of the plan is to minimise impacts during removal of infrastructure. The decommissioning management plan prepared to address the EPR would need to address environmental noise and vibration impacts and would be approved by the Minister for Planning. An additional and separate EPR for noise and vibration associated with decommissioning activities has therefore not been documented in the EPRs presented subsequently in this section.*

The decommissioning EPR referred to above is EM05, as documented in Volume 5 Chapter 2 of the EES, and states the following:

> ***EM05 Develop and implement a land decommissioning management plan***
>
> *Prior to the commencement of decommissioning, prepare a land decommissioning management plan with the objective of leaving a safe, stable and non-polluting environment, and minimising impacts during the removal of infrastructure.*
>
> *The land decommissioning management plan must:*
>
> - *Identify above-ground and below-ground infrastructure proposed to be removed or left in situ.*
> - *Assess potential impacts of decommissioning activities for the removal or retention of infrastructure.*
> - *Describe measures to be implemented to avoid or reduce impacts from the removal or retention of infrastructure.*
> - *Include a rehabilitation and monitoring program to return the land surface to a condition consistent with pre-construction conditions or a condition consistent with the proposed land use.*
> - *Consider management measures adopted in construction and apply these where similar impacts could occur.*
> - *Comply with the requirements of relevant legislation and guidelines at the time of decommissioning.*
> - *Apply the waste management hierarchy for removed materials.*
> - *Be consistent with the Marinus Link Sustainability Framework.*
> - *The land decommissioning management plan is to be developed in consultation with landholders, relevant stakeholders and regulator/s. The plan must meet the relevant requirements of legislation and guidelines at the time of decommissioning and be approved by the Minister for Planning.*
> - *The plan will be prepared and approved 6 months prior to decommissioning or at a time as agreed with the relevant authority.*

- *The land decommissioning management plan must be implemented during decommissioning.*

In my view, the broad scope of the assessment requirements established by EM05 means that any potential environmental impact associated with decommissioning activities, including that noise and vibration would need to be addressed in order to comply with EM05. Further, bullet points 2, 3, 5, 6, 9, 10 and 11 of EM05 are directly relevant to the potential noise and vibration impacts of decommissioning activities, and establish requirements to manage noise and vibration from decommissioning in a comparable way to construction. Specifically, in order to comply with EM05, it would be necessary for the land decommissioning management plan to include:

- an assessment of the potential noise and vibration impacts of decommissioning activities
- a description of the measures to be implemented to avoid or reduce the noise and vibration impacts of decommissioning
- details of the noise and vibration controls implemented during construction, in accordance with NV02 and NV03, which would be implemented to address decommissioning activities where the predicted impacts are similar
- measures for the control of noise and vibration which comply with the requirements of relevant legislation and guidelines at the time of decommissioning.

Under EM05, the land decommissioning management plan must be approved by the relevant authority and subsequently implemented. All noise and vibration controls documented in the land decommissioning management plan would therefore be subject to review and approval of the relevant authority, and would then need to be implanted during the decommissioning phase of the project.

Based on the above, I believe that EM05 establishes appropriate obligations for the control of noise and vibration during the decommissioning stage of the project. I therefore do not believe an additional EPR that is specific to noise and vibration during the decommissioning of the project is required. My view is that this would simply repeat obligations which already apply under EM05.

Further, the proposed wording of the EPR suggested in the submission makes reference to current legislation and guidelines for the assessment of noise and vibration. Given that the operational lifespan of the project is anticipated to be at least 40 years, the regulatory requirements and guidelines for noise and vibration from decommissioning activities could differ from current requirements. I therefore believe that any proposed EPR which addresses decommissioning noise and vibration, whether via a general requirement such as EM05, or an EPR that is specific to noise and vibration, should refer to relevant requirements and guidelines at the time of decommissioning (as specified in EM05) rather than specific examples of current legislation and guidelines.

19. Extract of witness statement of Stuart Cleven - Surface water (response to submissions)

flood modelling through the design phase should be undertaken to confirm the flood impact of the final design on adjacent infrastructure (such as roads), refine migration options and seek acceptance from WGCMA (as per EPR SW02 and SW03).

In my opinion the implementation of the EPRs proposed within the Surface Water Impact Assessment report directly addresses the impacts identified and provides a means to manage the identified risks associated with the construction and operation phases to a low risk level.

Cumulative Impact Assessment

A cumulative impact assessment has been completed for the project which identified four credible projects that each might have potential the potential to affect surface water values in close proximity to the and/or within the project alignment. The assessment found that while these nearby projects have the potential to impact waterways in their vicinity during construction, it is not expected these projects will generate impacts that will affect the waterways in the project area due to their location.

In addition, it is expected that these nearby projects will adhere to standard management measures such as those outlined in the Marinus Link project EPRs, which will mitigate their impacts. As such it is considered unlikely that there will be potential for cumulative impacts to surface water values (flooding, water quality and geomorphology) or pose an increased health and safety risk to tunnel workers or operational staff within the project area.

Supplementary Report

As per section 6.1 of this Statement (in relation to the Supplementary Report) no additional mitigation measures or EPRs to those in the Surface Water Impact Assessment report are required.

However, it is recommended that that EPRs SW01, SW03 and SW04 are revised to include consideration of the timing and duration of mitigation measures for any proposed interim periods between construction staging.

8 Submissions

I have been requested to review the public submissions provided to me by Herbert Smith Freehills as relevant to my area of expertise. Those submissions have been grouped and responded to below.

8.1 Submissions received

I have read the public submissions and identified those that are relevant to the Surface Water Impact Assessment and my area of expertise. These include submissions 12, 17, 18, 21, 25 and 27.

8.2 Summary of issues raised

The submissions have raised the following issues relevant to my area of expertise:

Submission Number	Issue
12	The proposed trench/route through the Little Morwell River has potential to: • 'worsen and alter the course of flooding across the valley flood plan aggravating existing instabilities in the land form',

	• 'impact on the structure of the river bed and surrounding banks', • 'construction pads, and disturbance zones within the flood zone of the river increasing the likelihood of sediment pollution adversely impacting aquatic flaura and fauna'.
17	No issues identified – West Gippsland Catchment Management Authority endorsement of EPRs provided within submission
18	Suggested change to wording within EPR SW04 "The monitoring program must: Be developed in consultation with ~~the EPA Victoria and~~ West Gippsland Catchment Management Authority"
21	Submission raises concern around the removal of aquatic habitat and potential to impact threatened aquatic values at the proposed waterway crossings where open trench excavation is proposed. The submission also raises concern in regards to reinstatement activities described in the EES, which include watercourse crossings reinstatement by reconstructing channel form and banks and stabilising watercourse bed and banks using appropriate methods such as rock armouring, geotextile fabric and plantings – and that these actions are also likely to result in impacts to aquatic values.
25	Concern raised about the project in general, with no specific issues identified in relation to Surface Water
27	Concern raised on the specific implications of erosion within the context of forestry and its associated operations. These concerns surround the presence of several waterways that intersect with the project route on [redacted] land and that potential erosion could adversely affect these waterways, potentially impacting the flora and fauna that rely on them for habitat.

8.3 Response to issues raised

Set out below are my comments and response to the issues raised by the written submissions relevant to the area of my expertise:

Submission Number	Issue	Response	Recommend New or Modified EPR
12	The proposed trench/route through the Little Morwell River has potential to: • 'worsen and alter the course of flooding across the valley flood plan aggravating existing instabilities in the land form', • 'impact on the structure of the river bed and surrounding banks', • 'construction pads, and disturbance zones within the	The following issue is adequately addressed in Section 6.2, 6.6 and 6.7 of the Surface Water Impact Assessment and EPRs SW01, SW02 and SW03. In my opinion the EPR SW01 is framed appropriately in requiring the Project to identify controls to: • Describe sediment and erosion controls and monitoring requirements in accordance with EPA Victoria Publication 1834.1 Civil construction, building and demolition guide, and with reference to the IECA Best Practice Erosion and Sediment Control Guidelines 2008. • Maintain the key hydrologic and hydraulic functionality and reliability of	No

	flood zone of the river increasing the likelihood of sediment pollution adversely impacting aquatic flaura and fauna'.	existing flow paths and drainage channels. • Retain existing flow characteristics to maintain waterway stability downstream of construction. • Minimise erosion and acceleration of stream processes to protect bank stability of waterways and drainage channels that could be affected by directly or indirectly affected by construction activities, in accordance with West Gippsland Catchment Management Authority requirements. In my opinion the EPRs SW02 and SW03 are framed appropriately requiring demonstration (prior to construction) on how the project has been designed to mitigate the overall flood risk and incorporate flood protection measures where required for both permanent infrastructure and during construction.	
17	No issues identified – West Gippsland Catchment Management Authority endorsement of EPRs provided within submission	No response required	No
18	Suggested change to wording within EPR SW04 "The monitoring program must: Be developed in consultation with ~~the EPA Victoria and~~ West Gippsland Catchment Management Authority"	In my opinion the suggested wording change is appropriate to EPR SW04, as it will have no fundamental change to the residual risk assessment and environmental outcomes.	Yes, change to wording within EPR SW04 to: "The monitoring program must: Be developed in consultation with West Gippsland Catchment Management Authority"
21	Submission raises concern around the removal of aquatic habitat and potential to impact threatened aquatic values at the proposed waterway crossings where open trench excavation is proposed. The submission also raises concern regarding reinstatement activities described in the EES, which include watercourse crossings	In my opinion the EPR SW01 is framed appropriately in requiring the Project to identify controls to: • Document the existing condition of all waterways and drainage lines potentially affected by construction (including their immediate surrounds) to establish baseline conditions and inform development of measures to manage potential impacts. • Detail measures for revegetation and reinstatement of the beds and banks of waterways and drainage lines in accordance with West Gippsland Catchment Management Authority requirements. The measures should be	Yes, change to wording within EPR SW01 to include recommendations for documentation of aquatic habitat. (See section 10)

	reinstatement by reconstructing channel form and banks and stabilising watercourse bed and banks using appropriate methods such as rock armouring, geotextile fabric and plantings – and that these actions are also likely to result in impacts to aquatic values.	appropriate for the different categories of waterways and drainage channels considering if they are subject to shear stress that exceeds the boundary material resistance thresholds, and the extent of existing native vegetation in and around the stream that will be impacted. • Be developed in consultation with West Gippsland Catchment Management Authority. However, dot point one above could be further expanded to include documentation of aquatic habitat.	
25	Concern raised about the project in general, with no specific issues identified in relation to Surface Water	In my opinion no issues have been identified specifically in relation to Surface Water, thus no changes are deemed necessary.	No
27	Concern raised on the specific implications of erosion within the context of forestry and its associated operations. These concerns surround the presence of several waterways that intersect with the project route on [redacted] land and that potential erosion could adversely affect these waterways, potentially impacting the flora and fauna that rely on them for habitat.	In my opinion the EPR SW01 is framed appropriately (with recommendations from submission 21) in requiring the Project to identify controls to: • Document the existing condition of all waterways and drainage lines potentially affected by construction (including their immediate surrounds) to establish baseline conditions and inform development of measures to manage potential impacts. • Detail measures for revegetation and reinstatement of the beds and banks of waterways and drainage lines in accordance with West Gippsland Catchment Management Authority requirements. The measures should be appropriate for the different categories of waterways and drainage channels considering if they are subject to shear stress that exceeds the boundary material resistance thresholds, and the extent of existing native vegetation in and around the stream that will be impacted. • Be developed in consultation with West Gippsland Catchment Management Authority.	No (noting inclusion of recommendation for submission 21)

9 Expert Constructability Workshop

Since the Surface Water Impact Assessment was finalised, on 17 May 2024, I was requested to attend an Expert Constructability Workshop on the 2nd August 2024. The purpose of the workshop was to:

20. Extract of witness statement of Simon Davies - Traffic and transport (response to submissions)

3. EES Submissions Review

3.1 Preamble to Submissions

The *EES* was publicly released on 31 May 2024 and was available for community review and comment until 12 July 2024. Two submissions relevant to transport (unique submission IDs 5 and 11) were received. I have responded to matters raised relevant to transport in the following subsections.

3.2 Response to Submission 5

Submission 5 in its entirety, as well as my response to each matter raised, is provided at Table 3.1.

Table 3.1: My Responses to Matters Raised Within Submission 5

Submission 5 Matter Raised	My Response
1. There is no mention of traffic and noise impact to the Certified Organic Farm next to my property. The pollution from trucks using this road my lose their organic certification and therefore their business.	Matters relating to noise and pollution are outside of my area of expertise. Regarding the traffic impact to the Certified Organic Farm next to 605 Mardan-Dumbalk Road, Mardan, the TTTR indicates that: • **Mardan-Dumbalk Road:** Construction traffic is not expected to use Mardan-Dumbalk Road. Indeed Mardan-Dumbalk Road was specifically excluded from the assessment as listed in Table 4.10 of the TTTR due to the tight, narrow bends and local traffic. • **Mardan Road:** Although Mardan Road is expected to be used by light vehicles (i.e. passenger cars and utes), it is not expected to be used by trucks or other heavy construction vehicles. Based on the above, it is expected that the Project will have no direct traffic impact to Mardan-Dumbalk Road. There will potentially be some use of Mardan Road by light vehicles associated with employees travelling to-from home noting this is a sealed road between Strzelecki Highway and Meeniyan-Mirboo North Road. Mardan Road currently carries in the order of 238 vehicles per day (including 18% heavy vehicles) with an indicative capacity of 1,000 vehicles per day.
2. There is no mention anywhere of the effect of truck exhaust pollution on people, livestock, crops or water (including drinking tank water)	Matters relating to pollution are outside of my area of expertise.
3. What physical tests and equipment was used to assess the "minimal to low impact" statement of noise and vibration affecting persons on our property.	Matters relating to noise and vibration are outside of my area of expertise.

4. Did the test, load a truck with its potential load and have it go past and electronically test the effect on the people and property?	I consider it overly onerous to expect testing of trucks with their potential loads to be undertaken at this planning stage of the Project. Nonetheless, I am satisfied that the likely effects of Project construction have been satisfactorily responded to within the TTTR and that impacts from truck movements can be managed through the required construction traffic management plans, measures and processes that will be further developed once relevant contractors have been engaged. Many of the roads providing access to laydown areas already carry significant proportion of heavy vehicles noting Mardan Road has 18% heavy vehicles. In addition to the above, I consider that EPR T01 items 6 and 12 address a need to manage impacts from truck movements on residents and businesses. These EPR items are reproduced below for ease of reference: ***"EPR T01 Develop a transport management plan*** *6. Include requirements for limiting the amount of construction heavy vehicles and haulage during the peak traffic periods with specific regard for sensitive land uses such as schools, school bus routes and during any local public events.* *12. Identify construction vehicle staging areas and/or construction methodologies to minimise potential impacts of truck movements on residents and businesses.*
5. Does the assessment include noise from trucks fully loaded and going up or down steep narrow roads and using air brakes or noisy first gear?	Matters relating to noise are outside of my area of expertise.
6. What roads will be used as no communication has been done to potential properties affected, the drop in sessions don't supply that information.	I am satisfied that the construction routes likely to be used for Project construction have been satisfactorily documented within the TTTR. In addition to the above, I consider that EPR T01 item 21 addresses a need to engage with the relevant local authorities, landholders and the community. This EPR is reproduced below for ease of reference: ***"EPR T01 Develop a transport management plan*** *21. Include a consultation plan for the engagement with local authorities, impacted landholders and the broader community. This consultation will include, but not be limited to:* *a. Informing affected parties of the level of traffic generated by the project construction and any road closures.*

	b. Engaging with local road authorities to coordinate construction vehicle movements to avoid school bus routes during their time of operation. *c. Engaging with road authorities and emergency services about any partial or full road closures.*
7. It appears that most conclusions are based on an assessment done at a desk but not any on site proper tests at the properties affected. I request proper physical tests be done.	A comprehensive site inspection of relevant roads and intersections was undertaken by the TTTR team from Monday 22nd to Wednesday 24th August 2022. This site inspection informed the TTTR. I also undertook a separate site inspection of key locations on Monday 19 August 2024.
8. How do you compensate/help people who have medical problems or others that may need to sleep during the day.	Matters relating to compensation relating to medical or sleep related issues are outside of my area of expertise.

3.3 Response to Submission 11

3.3.1 Summary of Matters Raised

Relevant to transport, Submission 11 raised concerns regarding the following matters:

- **Cumulative impacts:** that the EES documentation did not consider the Strzelecki Highway road widening and overtaking lane project and subsequent cumulative impacts on koalas in the Strzelecki region.
- **Impacts to koalas:** that the TTTR is silent on impacts to koalas, with the submission going on to state that this is *'despite the high probability of road kill.'*

3.3.2 Response to Matters Raised

Cumulative Impacts on Koalas

There are a number of other projects in the immediate surrounds of the subject site that may have an impact on the construction of the Marinus Link Project. I am satisfied that the cumulative impact of the Marinus Link Project and these other relevant projects has been adequately considered in the exhibited TTTR. I note that these other projects relate to land use projects and not projects involving upgrades to transport infrastructure.

While the submission appears to relate to the cumulative impact on wildlife (koalas), for the avoiding of doubt, from a traffic and transport engineering perspective, I consider it acceptable that the TTTR did not have specific regard for the Strzelecki Highway road widening and overtaking lane project as this project proposes to increase road network capacity and as such, could only be expected to improve the operation of the road network once complete.

In addition, I consider that EPR T01 item 9 addresses a need to manage impacts of project construction with other major projects. This EPR is reproduced below for ease of reference:

"EPR T01 Develop a transport management plan

9. Outline measures to manage impacts and coordinate activities where necessary with other relevant major projects occurring at the same time.

Specific cumulative impacts to koalas in the Strzelecki region is outside my area of expertise. Notwithstanding, the major road in the area is the Strzelecki Highway which carries on the order of 3,300 vehicles per day. It is anticipated that the project will generate a maximum of 103 vehicles per day on Strzelecki Highway which equates to a 3% increase in traffic volumes. Such an increase in traffic volumes will have a negligible statistical impact and is less than the typical daily variation in traffic volumes.

Impacts to Koalas

Impacts to koalas as part of the Project is outside of my area of expertise.

21. Extract of witness statement of Cosmos Coroneos - Underwater cultural heritage (response to submissions)

In summary, to mitigate the potential impacts of the proposed works this UCH&A Assessment presents the following Environmental Performance Requirements:

- EPR-UCH01 which requires the undertaking of a magnetometer survey for the final Victorian shore crossing project alignment and additional geophysical during the project design stage
- EPR – UCH02 which requires during the project design stage avoiding impacting unverified seabed anomalies identified in the marine geophysical survey
- EPR – UCH03 which requires minimising potential impacts to the submerged beach ridge landforms during both the project design and construction stages
- EPR – UCH04 which requires the management of impacts and unexpected finds by developing and implementing a management plan for Underwater Cultural Heritage during the project construction stage.

This assessment has identified that all potential impacts can be avoided and or minimised – ranging from low to very low residual impacts – with the successful implementation of the EPRs. As such, no cumulative impacts are expected between Marinus Link and other known future projects.

There were no amendments arising from Supplementary Report.

8 Submissions

I have been advised by Herbert Smith Freehills that at the close of the public exhibition period for the EIS/EES on 12th July 2024 they had not received any public submissions as relevant to my area of expertise. There were however two documents received in response to an invitation by the Inquiry and Advisory Committee (IAC) which will form part of the compendium of documents that the IAC will have regard to. These documents are:

- Letter 1 : Shani Blyth, Strong Country Manager, BLCAC 30th May 2024 RE : Marinus Link Project – Inquiry and Advisory Committee
- Letter 2 : Dr Caroline Hubschmann, BLCAC May 2024 *Marinus Link; Aboriginal Cultural Values Assessment. Recommendations*

The letter from the Bunurong Land Council Aboriginal Corporation (BLCAC) summarises the recommendations made in the *Marinus Link; Aboriginal Cultural Values Assessment Recommendations* also from BLCAC. As such the response below addresses the points raised in both documents using the wording from Letter 2 : Dr Caroline Hubschmann, BLCAC May 2024 *Marinus Link; Aboriginal Cultural Values Assessment. Recommendations*

Recommendation 1: Further investigation of the geotechnical core samples
The geotechnical core samples that were collected during the Underwater Cultural Heritage Assessment have the potential to reveal significant information about the palaeoenvironment of the Bassian Land Bridge, largely through radiocarbon and eDNA analysis. This includes:

- *A good cross section of submerged sediments which can show dramatic or gradual changes to the landscape;*
- *The flora and fauna that were present and how this changed over time;*
- *The nature of Bass Lake and how this changed over time (for example, salinity levels and changes in the lake's size, shorelines and composition); and*
- *The ages of these sediment layers, both in the Pleistocene and Holocene Epochs.*

BLCAC recommends that Marinus Link negotiates for and organises the preservation of these core samples and, further, investigates the potential for future research and grant opportunities where BLCAC can participate in this analysis. This allows Bunurong peoples to contribute to protecting Bunurong cultural values by being part of the decision-making and research conducted about Country associated with Marinus Link.

There maybe information contained within these cores which could contribute to the understanding of the environment within which First Nations peoples lived towards the end of the Late Pleistocene. Environmental data related to the period of human occupation is not UCH as defined in this assessment however it is recognised that such data, where it has survived, can have cultural value not only to the descendants of First Nations peoples who traversed the area but to the wider Australian polity and the international scientific community.

Recommendation 2: Continued research of Bass Lake

The Underwater Cultural Heritage Assessment confirmed the existence of Bass Lake during the Pleistocene Epoch, prior to the rising sea levels that inundated the Bassian Land Bridge. This is a momentous discovery, not only for its potential for further insights into the environment of the Bassian Land Bridge when the Ancestors of Bunurong peoples lived there, but also for the research opportunities that provide new opportunities for Bunurong peoples to continue to forge connections with Bunurong Land Country and their deep time Ancestors.

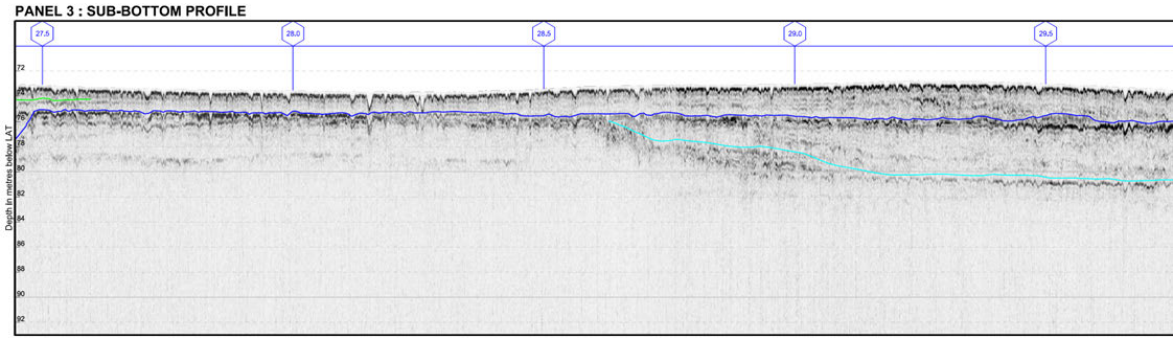
BLCAC recommends that Marinus Link undertakes a more intensive and targeted examination of the palaeoenvironments of Bass Lake, with a focus on the northern palaeocoastline close to the current Victorian coastline of Waratah Bay, Sandy Point and Wammum. BLCAC is particularly interested in gathering deeper core sample data from the Pleistocene Epoch when the Ancestors of Bunurong peoples lived and walked across the Bassian Land Bridge, as well as the locations of submerged freshwater Springs which are likely to have attracted human activity. This research has the potential to uncover more ground-breaking data which can be used to justify grant applications for further research involving BLCAC.

BLCAC is aware that the Underwater Cultural Heritage Act (2018) does not protect undiscovered or unknown Aboriginal Cultural Heritage within Commonwealth waters.1 Aboriginal underwater cultural heritage is not specifically mentioned in the Act and will only be protected if it has been the subject of a Ministerial declaration under Sections 17-19.2 Once the subject of a protection declaration, no adverse impact can occur to Underwater Cultural Heritage without a permit (Section 23). However, a permit is only needed on 'specified underwater heritage'. Essentially, this means that only known Aboriginal cultural heritage in Commonwealth waters are protected and there are no penalties for damaging previously unknown Aboriginal cultural heritage.

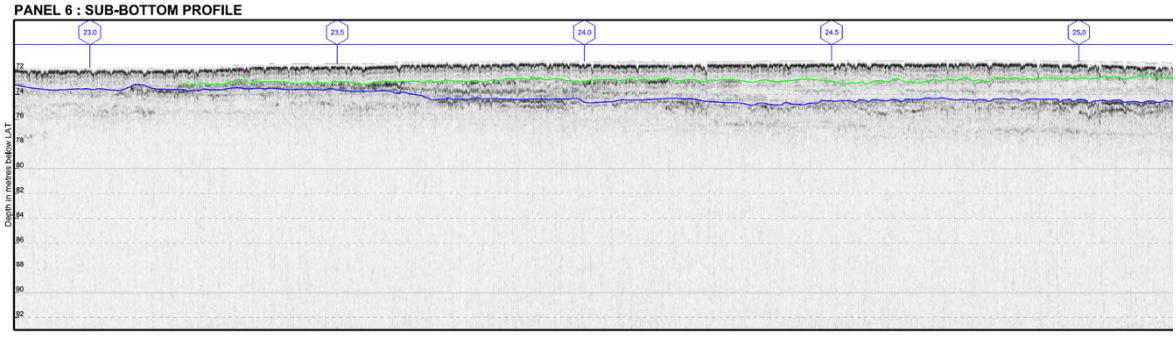
As such, BLCAC strongly recommends further assessments of the proposed underwater route of Marinus Link, especially close to the palaeoshorelines, to reduce the likelihood of damaging previously unknown Aboriginal cultural heritage. The underwater infrastructure for the cable is to be dug and laid approximately 1.5 metres from the surface of the seabed, through what is assumed to be Holocene Epoch deposits. However, without further analysis of the geotechnical samples (Recommendation 1), this assumption cannot be confirmed without knowing more about the depths of the Holocene and Pleistocene Epoch deposits.

Evidence relating to Bass Lake is presented in Section 6.6.3.6 of the UCH &A Assessment. Figure 6-24 shows which cores have been identified as having laminated sediments indicative of a lake. These cores are situated in the CME. The example core provided in Figure 6-25, MAR – V 039, has a 1.5 m thick layer of sediment above the lake sediments. This has been described as Carbonate, a sandy/muddy silt with trace gravel with an abundance of poorly sorted shell fragments. [1] The surface of this sediment layer forms the seabed in the central part of Bass Strait and is characteristically formed in a marine environment.

The northern most core which shows laminated sediments suggestive of a lake bed is WAR-V-02. [2] The approximately 1.6 m of sediment above the laminated sediments is defined as Carbonate sand or silty sand/mud with abundant poorly sorted shell. This core is located at approximately KP 30.5. The sub bottom profiling imagery north of this location shows what appear to be dips or cuts suggestive of the edge of a lake basin at KP 28.6 and KP 23.6 (see figures below). At these locations the overlaying Carbonate sediments which form the seabed and have interpreted as marine (Holocene) sediments range in thickness from 1.5 m to 2 m.



156491-064-DRN-0005Rev0 Heybridge 2, Option 1 (Rev 1.8) Alignment Drawing KP 27.445To KP 36.879



156491-064-DRN-0004Rev0 Heybridge 2, Option 1 (Rev 1.8) Alignment Drawing KP 18.255 To KP 27.696

It should be noted that there would have been a succession of lake shorelines since human occupation of SE Australia. The maximum possible lake level and therefore maximum aerial extent of Bass Lake was governed by a low sill located SW of Cape Woolamai. Sill height is -75 m and

[1] **MMA Subsea Services Pty Ltd, December 2022,** Project Marinus Geotechnical Survey : Megsi Factual Report. Core ID : MAR-V-039, pg 1508

[2] **MMA Subsea Services Pty Ltd, December 2022,** Project Marinus Geotechnical Survey : Megsi Factual Report. X-ray of Cores WAR-V-023, pg 243

where lake levels exceeded this level the sill became a spillway which drained the lake to the west between King Island and Cape Otway.

Lake levels and by association shoreline position, likely oscillated below this level depending on the season or prevailing hydro climate regime. Distinct shorelines features may have formed along the margins of Bass Lake at its maximum extent shorelines less likely to preserve at lower lake levels due to the more ephemeral nature of the shoreline position and the possible erosion of shorelines when the lake expanded during wetter periods.

More mature shorelines are predicted to have formed along the -75 m bathymetric contour, around KP 24, which represents margin of Bass Lake when it was at its maximum areal extent. Positive relief feature that may represent beach ridges were not observed in either the multibeam bathymetry or sub bottom profile data as can be seen in the above sub bottom profiles. It should be noted that a possible lake margin could be inferred based on an observed landward rise in the lakebed reflector, again there was no evidence of a beach ridge(s) having been preserved over the landward edge of this rise.

The above noted features are in the same area as the Estuarine channel observed and assessed in Section 6.6.3.2 of the UCH &A Assessment. It was assessed that given its context and depth below the current seabed there was very low confidence in archaeological sites associated with such landforms - artefact scatters and middens – being present.

It is believed that there has been significant erosion at the interface between Holocene (marine) sediments and late Pleistocene surface at this location due to the rising sea levels and as such sediments containing archaeological evidence of occupation would have been almost certainly truncated and the artefacts that composed such archaeological sites would be present in lag deposits.

Furthermore it is believed that the trenching will not penetrate below the recent marine sediments where there would be a very low confidence of archaeological sites still be present, Any artefacts within the marine sediments would be locally dislocated by the trenching process which would not be any different in magnitude and consequence to existing conditions.

Recommendation 3: BLCAC is consulted when the research is disseminated

If any of the findings, data and/or analysis of the results of the Underwater Cultural Heritage Assessment are prepared for public knowledge (for example, in an academic publication, conference or news article), BLCAC recommends that the authors consult with BLCAC prior to publishing so that they can consider providing a statement about the significance of the research findings to Bunurong peoples today.

No comment on this recommendation other than this is reasonable and expected for all archaeologists and other specialists working with First Nations UCH.

Recommendation 4: Developing employment opportunities

Marinus Link is a large and diverse project that is projected to be implemented over more than 10 years and with over 1,400 jobs during construction. BLCAC recommends that Bunurong peoples be provided the opportunity for employment with the project so that members of the community have the opportunity to learn, develop skills and work on Country. It also allows for Bunurong people to identify any important or significant plant resources and recommend how they might be collected prior to disturbance.

This may involve developing a proactive employment plan for contractors and service providers on the project, as well as specialised and targeted training, especially concerning opportunities for Bunurong peoples to participate in work on Bunurong Sea Country.

The content and aim of this recommendation is outside my area of expertise.

Recommendation 5: Cultural awareness and cultural values training

BLCAC recommends undertaking a session/or sessions on Country (perhaps at Waratah Bay or a similarly significant location) to discuss the cultural significance of the project area to Bunurong peoples.

No comment on this recommendation other than this it is reasonable and appropriate.

Recommendation 6: Working with the Tarbuk Biik (Strong Country) team

Engage BLCAC's Tarbuk Biik (Strong Country) environment team to undertake work within the project area, as needed. This could include work on Country such as land clearing prior to heritage or other types of assessments, as well a post-project remediation. The team can also consult on larger and longer term projects, for example developing environmental initiatives such as offset programs.

The content and aim of this recommendation is outside my area of expertise.

Recommendation 7: Using Boon wurrung language

Consult with BLCAC to help incorporate Boon wurrung language into signage and publications.

The content and aim of this recommendation is outside my area of expertise

Recommendation 8: Consulting about tangible cultural heritage matters

BLCAC recommends that if salvage is required for the non-RAP area CHMP, BLCAC is consulted to help develop a salvage methodology. This allows for Bunurong peoples to be involved in decisions about the collection, protection and preservation of tangible cultural heritage.

No comment on this recommendation other than this it is reasonable and appropriate. The UCH &A Assessment does not propose any salvage excavation based on available information. EPR-UCH04 relates to the development of a management plan for Underwater Cultural Heritage which may require to be updated with a salvage plan in the event of an unexpected find. This management plan is to be informed by engagement with First Peoples (EPR EM08).

Recommendation 9: Ongoing meaningful communication

BLCAC recommends that this communication continues after the CVA is completed so that the consultation continues to be meaningful and useful to Bunurong peoples.

In practical terms, this means providing BLCAC with the results of studies and reports (where feasible) that are generated throughout the project such as the non-RAP area CHMP and the Underwater Cultural Heritage Assessment, as well as environmental and technical reports. It also means allowing BLCAC enough time so that Bunurong Elders and the wider membership have time to discuss and consult.

No comment on this recommendation other than the dissemination of the findings of studies such as the UCH&A Assessment to First Nations peoples and the general public conforms with one of the main principles of the UNESCO Convention for the Protection of Underwater Cultural Heritage which is to "…*promote public awareness regarding the value and importance of underwater cultural heritage*." (see Section 3.5.1).

Recommendation 10: Protecting Bunurong biocultural values

If any native vegetation is proposed to be harmed by the activity, BLCAC recommends that they are consulted prior to the activity and provided with a plant list of the species that are to be affected. This allows BLCAC the opportunity to collect the native vegetation, including seeds, for cultural and conservation purposes.

The content and aim of this recommendation is outside my area of expertise.

Recommendation 11: Connecting on Country

Much of Marinus Link is on Country that is currently jointly managed by BLCAC, BWF and GLaWAC. BLCAC would like the opportunity to meet with members of GLaWAC on Country, for example at significant creek crossings, to negotiate together on the shared boundary impacts.

The content and claims made in this recommendation is outside my area of expertise.

Recommendation 12: Recognition

B L C A C requests that Marinus Link recognise the 'disturbance to the Land Bridge, acknowledgement that it is there and that it holds the tracks of our Ancestors and our songlines' (author's email communication with Aunty Gail Dawson, 22 April 2024). The manner in which this recognition takes place, for example in signage and written materials, can be negotiated with BLCAC.

No comment on this recommendation other than this it is reasonable and appropriate.

9 Environmental Performance Requirements

As described at section 6 above, the UCH&A Assessment recommended four EPRs as relevant to underwater cultural heritage and archaeology. The UCH&A Assessment does not recommend any EPR/EPRs which are relevant to any other specialisation in this EES.

I have reviewed EPRs recommended by the Aboriginal Cultural Heritage assessment (CH02 and CH03) and have no recommendations.