Title of Proposal – Ballarat Line Upgrade

Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

1.1 Project Industry Type: Transport - Land

1.2 Provide a detailed description of the proposed action, including all proposed activities.

Use 2 or 3 sentences to uniquely identify the proposed action and its location. It is important clearly describe the scope of the action accurately because this description lays the basis for the assessment and approval decision-making processes. For the purposes of the EPBC Act, an action includes:

- a project; and
- a development; and
- an undertaking; and
- an activity or series of activities; and
- an alteration of any of the above.

An action does not include:

- a decision by a government body to grant a governmental authorisation for another person to take an action; and
- grant funding from a government body,

where, a government body is the Commonwealth, a Commonwealth agency, a State or self-governing Territory; an agency of a State or a self-governing Territory or an authority established by a law applying in a Territory that is not a self-governing Territory.

The description should refer, as appropriate, to relevant maps. You should obtain your own advice on whether the action you propose to refer constitutes an 'action' for the purposes of the EPBC Act.

1.2.1 Project summary

The Ballarat Line Upgrade comprises a series of rail and station upgrades to the existing Ballarat railway line between Deer Park West, in Melbourne's outer western suburbs and Warrenheip, outside Ballarat to improve transport services. The rail and station upgrades involve duplication of track and installation of passing loops, station upgrades, new stabling facilities and associated works.

The Ballarat Line Upgrade is being delivered by the Melbourne Metro Rail Authority (MMRA), an administrative office established under the *Public Administration Act 2004* in relation to the Department of Economic Development, Jobs, Transport and Resources (DEDJTR).

1.2.2 MSA area project area

Part of the Ballarat Line Upgrade involves rail upgrades located between Deer Park West and Toolern Creek in Melton West. These works lie within the Melbourne Strategic Assessment (MSA) area and fall within the definition of '*actions associated within the urban development in the western growth corridor (Melton and Wyndham)'*. Such actions have already been assessed and approved under an EPBC Act S146B decision and when undertaken in compliance with that approval, do not require separate referral, assessment or approvals under the EPBC Act.

The MMRA intends to undertake works in the MSA area in accordance with the conditions of the S146B decision and associated requirements. Therefore, works in the MSA area are not included in the scope of the referred project area and the ecological values identified in the MSA area are excluded from consideration in this referral.

1.2.3 Referred project area

The rail and station upgrades subject to this referral are located between west of Toolern Creek in Melton South and Warrenheip Road, Warrenheip. The Ballarat Line Upgrade does not require works along the entire length of the railway line, with rail and station upgrades at five discrete locations referred to as *'Elements'*. The rail and station upgrades occurred at five discrete Elements within the existing VicTrack rail reserve and broadly include:

- Approximately 18 km of track duplication between Deer Park West and Melton
- Approximately 3 km of track duplication at Warrenheip
- station upgrades at Rockbank, Bacchus Marsh and Ballan

- new stabling facilities at Kerrs Road, Maddingley
- decommissioning of the Bungaree loop. The existing rail infrastructure will remain in place and no physical works are required for the decommissioning.

To support safe construction in a live rail environment, a number of temporary secondary construction areas are required within and adjacent to the rail corridor. Site selection for the secondary construction areas prioritised VicTrack land currently used for railway activities in the existing railway corridor. Where there were no suitable sites within the rail corridor, potential secondary construction areas were evaluated using a set of criteria including desktop ecological assessments which assessed the potential presence of significant habitat and listed flora and fauna species (Refer to Section 2.3 of AJM Summary of Ecological Results for the Ballarat Line Upgrade). Other evaluation criteria included accessibility, practicality, safety, land ownership and the potential presence of significant habitat and listed flora and fauna species. As a result of the evaluation process, secondary construction areas are located in:

- Vacant and/or leased VicTrack land
- VicRoads road reserves and VicRoads vacant land adjacent to the rail corridor
- Portions of up to 16 privately owned properties that are currently used as farm access tracks, farming activities such as animal grazing and holding.

Details of the scope of work for the rail and station upgrades, and use and locations of the secondary construction areas, in the five Elements are provided in Table 1. Construction activities will occur within the rail corridor and the secondary construction areas. Secondary construction area DM#09 lies between Paynes Road and Mount Cottrell Road and it forms part of this referral as it is outside the MSA.

Table 1: The referred project scope of work by Element

Element	Scope of work for referred project	Use and location of the secondary construction areas[1]
Element 1 outside MSA: West of Toolern Creek to Melton	• Duplicate approximately 2.6 km of rail line on the northern side of the existing line to the west of Melton Station	• #DM09 Laydown area for stockpiles (0.72 ha) – This construction area is outside the MSA and east of Toolern Creek. • #DM13 Laydown area across Toolern Creek (0.14 ha) • #DM14 Laydown area (0.40 ha) • #DM15 Turnout preassembly pad (0.23 ha) • #DM18 Laydown area and stabling facilities (0.54 ha) • #DM19 Layout area (0.39 ha) • #DM20 Laydown area (0.07 ha) • #DM22 Laydown area (0.76 ha) • #DM23 Turnout preassembly pad (0.20 ha)
Element 2: Bacchus Marsh Second Platform / Maddingley Stabling	• Remove all overnight stabling roads at Bacchus Marsh • Construct a second platform at Bacchus Marsh station and provide a pedestrian link between original and new platforms • Construct a new sealed carpark on the southern side of Bacchus Marsh station • Construct a six road stabling yard at Kerrs Road, Maddingley, with driver facilities within existing rail reserve	• #BM01 Construction pad for turnout preassembly (0.15 ha) • #BM02 Construction pad for turnout preassembly (0.15 ha) • #BM03 Site compound and high value stock storage (0.65 ha) • #BM04 Laydown area (0.17 ha) • #BM05 Turnout preassembly pad (0.18 ha) • #BM06 Stabling Amenities and temporary site compound (0.27 ha) • #BM07 Stabling Amenities and temporary site compound (1.64 ha) • #BM08 Laydown area (0.26 ha) • #BM09 Stabling amenities and temporary site compound (1.31 ha)
Element 3: Ballan Loop	• Construct a 5 km long crossing loop at Ballan • Construct a new platform at Ballan and new pedestrian link between new and original platforms	• #BP01 Laydown area(0.17 ha) • #BP02 Laydown area and turnout preassembly pad (0.18 ha) • #BP03 Potential bridge construction area on former track formation (1.93 ha) • #BP04 Turnout preassembly area, site compound,

Element	Scope of work for referred project	Use and location of the secondary construction areas[1]
		high value shock items and bulk materials (1.44 ha) • #BP05 Station construction laydown area (0.20 ha) • #BP06 Laydown area (0.09 ha) • #BP07 Laydown area (0.09 ha) • #BP08 Laydown area (0.20 ha) • #BP09 Laydown area (0.27 ha) • #BP10 Laydown area (0.19 ha) • #BP11 Laydown area (1.02 ha) • #BP12 New haul road (1.13 ha) • #BP13 Bulk material laydown road access (0.49 ha)
Element 4: Spreadeagle (new Bungaree) Loop	• Construct a new 4 km crossing loop between West Moorabool River and Old Melbourne Road • Widen two roads over rail bridges at Peerewerrh and Spreadeagle Roads • Decommission the Bungaree loop including the removal of infrastructure at level crossings and the turnouts at each end of the loop to prevent trains entering the loop.	• #SP01 Turnout preassembly pad (0.33 ha) • #SP02 Laydown area (1.60 ha) • #SP03 New Haul Road (0.97 ha) • #SP04 Laydown area (0.32 ha) • #SP05 Construction and bulk material laydown (0.31 ha) • #SP06 Turnout preassembly pad (0.33 ha) • #SP07 Turnout preassembly pad (0.24 ha)
Element 5: Warrenheip Duplication	• Duplicate approximately 3 km of rail line east of Warrenheip Road	• #WD01 Laydown area (0.28 ha) • #WD02 Turnout area preassembly pad (0.75 ha) • #WD03 New haul road for future maintenance access (3.67 ha) • #WD04 Construction and bulk material laydown (1.09 ha) • #WD05 Culvert construction laydown area (0.99 ha) • #WD06 Former Warrenheip yard site compound and bulk storage yard (2.52 ha)

[1]Areas identified are approximate only and a number of them are within the rail corridor. Refer to Attachment B.

The scope of works for the referred project area also includes preparatory works that may be completed ahead of the commencement of the main project construction works in January 2018. These preparatory works include items such as temporary site barriers and buildings, road diversions, removal of disused rail infrastructure (such as culverts and poles) and relocation and upgrade of utilities. These preparatory works will be undertaken within the referred project area defined in Section 1.3.

The scope of the referred project includes operation of the new railway and station upgrades following construction. MMRA is responsible for delivery of construction of the project, with operational responsibility then handed over to V/line. V/line currently has responsibility for operation of the existing Ballarat Line.

This referral focuses on the construction phase of the project. Use of the new railway and station upgrades will be consistent with the current operation of the Ballarat Line and no new or different impacts to MNES are anticipated. No specific Environmental Performance Requirements for the operational phase are necessary in this context.

1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.

Latitude and longitude

Latitude and longitude details are used to accurately map the boundary of the proposed action. If these coordinates are inaccurate or insufficient it may delay the processing of your referral.

Coordinates supplied as Attachment A indicate the areas along the railway corridor for the five elements and potential secondary construction areas.

1.4 Please upload images of the proposed area and if available a compliant GIS file. The accepted file types are: zip .kml, .kmz, .shp, .pdf, .png, .gif, .jpg

Maps supplied as Attachment B indicate the areas along the railway corridor for the five elements and potential secondary construction areas.

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).

Locality and property description

Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).

The rail and station upgrades in the five Elements are located in the existing rail reserve which is owned by VicTrack and managed by V/Line. The rail reserve was established in the 1860s and has been disturbed for over a century by railway related activities. The terrain within the five Elements is generally flat agricultural land with no ridges or crests and passes through several regional towns including Melton, Bacchus Marsh, Ballan, Dunnstown and Warrenheip.

Two main waterways intersect the area, Toolern Creek to the east of Element 1 outside the MSA and the Bostock Reservoir in Element 3. There are also a number of waterbodies and waterways located within close proximity to the referred project area, including farm dams, drainage lines and small wetlands adjacent to Element 5.

The landscape changes from emerging residential areas in the east through extensive agricultural areas and regional town centres further west, and as such land uses directly adjacent to the alignment are predominantly used for residential and farming purposes.

1.6 What is the size of the development footprint or work area?

The total project area that include our rail and station upgrade is 116.5 hectares.

1.7 Is the proposed action a street address or lot?

N/A

1.8 Primary Jurisdiction.

Victoria

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

No

1.10 Is the proposed action subject to local government planning approval?

No – in consultation with the two local government authorities responsible for planning (Melton City Council and Moorabool Shire Council), a Planning Scheme Amendment is being sought from the Victorian Minister for Planning to apply an Incorporated Document to the project land to address the local planning requirements.

1.11 Provide an estimated start and estimated end date for the proposed action.

Time frame

Specify the time frame in which the action will be taken including the estimated start date of construction/operation.

The proposed timeline is provided in Table 2 and includes the estimated start date of construction and commencement of operations. These timeframes are indicative only and may be subject to change once the Alliance delivery partner has been selected. Preparatory works may be undertaken in September subject to commercial agreement with the Alliance delivery partner.

Table 2 Indicative timeframes

Indicative timelines	Project program

July - December 2017	Award Alliance delivery partner contract
January 2018	Commence construction
2019	Expected completion of construction
2019	Commence operation

1.12 Provide details of the context, planning framework and State and/or Local government requirements.

If the project is subject to local government planning approval, provide the name of the relevant council contact officer.

DEDJTR has developed five priority areas to support sustained jobs and economic growth; including building more livable and productive cities and regions through transport, infrastructure, land-use planning and creative investments. The Ballarat Line Upgrade is a key project in achieving the provision of sustained jobs and economic growth through:

- Creating employment opportunities through the development and funding of a large infrastructure project
- Providing training opportunities within the project to contribute to developing a highly skilled workforce
- Positive influence on Victoria's economy through funding a major infrastructure project, including procurement of goods and services
- Improving access to jobs for regional Victorians and access to workers for business and industry through improvement in efficiency and reliability of transport services
- Better transport services will attract increased visitors and deliver an improved experience for those who visit and reside in regional Victoria.

Victorian State context

Regional Network Development Plan

Public Transport Victoria, in partnership with DEDJTR, has developed a Regional Network Development Plan (RNDP) to guide future investment in Victoria's regional rail network. The RNDP sets out priorities for regional public transport services, infrastructure and investment over the next 20 years. The RNDP sets out a vision for regional Victoria's public transport network that is supported by a set of strategic priorities and desired outcomes to determine the network a particular region should have. The three strategic priority areas that are network-wide are:

- Strategic priority 1 – Improving customer experience
- Strategic priority 2 – Developing local transport solutions
- Strategic priority 3 – Delivering a better public transport network.

The RNDP will be closely aligned with the state-wide Transport Network Development Strategy, which provides an overarching framework for all transport network planning, particularly over the medium to longer term. The strategy focuses on transport's role in supporting economic development and employment growth and also has a strong emphasis on Victoria's liveability. The Ballarat Line Upgrade is one of the key projects outlined in the RNDP to transform the regional rail network.

Relevant Legislation

State Approvals

The Ballarat Line Upgrade is being referred to the Victorian Minister for Planning under the *Environment Effects Act 1978* (EE Act). A Planning Scheme Amendment is being sought for the use and development of land for the Ballarat Line Upgrade under the *Planning and Environment Act 1987* and the Melton and Moorabool Planning Schemes. Approval of three Cultural Heritage Management Plans are being sought under the *Aboriginal Heritage Act 2006.* The following permits also are anticipated to be required for the delivery of the Ballarat Line Upgrade:

- *Flora and Fauna Guarantee Act 1988*
- *Road Management Act 2004*
- *Water Act 1989*

The Ballarat Line Upgrade will also comply with the relevant state rail legislation.

Planning framework

The Ballarat Line Upgrade is located within two municipalities, the City of Melton and the Shire of Moorabool. The land required for the rail and station upgrades is located within the rail corridor in Public Use Zone 4 – Transport, pursuant to the Melton and Moorabool Planning Schemes. The MMRA will seek a Planning Scheme Amendment to the Moorabool and Melton Planning Schemes under the *Planning and Environment Act 1987*. The Planning Scheme Amendment includes an Incorporated Document that will regulate the development, management and use of land for the project. MMRA will be requesting the Victorian Minister for Planning to approve the Planning Scheme Amendment.

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.

Your referral must include a description of any public consultation that has been, or is being, undertaken. Where Indigenous stakeholders are likely to be affected by your proposed action, your referral should describe any consultations undertaken with Indigenous stakeholders. Identify the relevant stakeholders and the status of consultations at the time of the referral. Where appropriate include copies of documents recording the outcomes of any consultations.

A program of community and stakeholder engagement has been undertaken by the MMRA to investigate potential social effects of the project and to inform design and planning controls for the project. A detailed community engagement framework outlining activities over the life of the project has been developed to guide the program. This framework captures MMRA's commitment to meaningful consultation with stakeholders and communities to capture issues and gather input into both the Ballarat Line Upgrade's design and the construction methodology to deliver it.

In setting the foundation for engagement, the Ballarat Line Upgrade adopted the following principles:

- **Direct:** direct (i.e. two-way channels such as face-to-face, direct mail, email, or phone calls) is the preferred means of communicating major issues to affected community members and stakeholders.
- **Open**: communications will be open, transparent, inclusive, accessible, accurate and consistent in its content, and will be planned, coordinated and timely in its delivery, to both internal and external audiences.
- **Proactive:** proactive communications and early engagement are integral parts of all project and operational planning processes.
- **Tailored**: messages and delivery channels must be tailored to the communication and information needs of their intended audiences.

A program of engagement with key stakeholders, local residents, businesses and public transport users commenced in November 2016 and will continue through 2017 to seek feedback on aspects of the Ballarat Line Upgrade.

In initiating consultation on the project, a range of channels were established to enable direct communications and facilitate timely information and updates to interested stakeholders and community members. These channels included a project specific 1800-information line, email address and website. Specific materials, including maps and fact sheets were also developed to provide introductory information about the Ballarat Line Upgrade .

To ensure proactive communications, in January 2017 a letter and accompanying factsheet was distributed to properties adjacent to the proposed Ballarat Line Upgrade. Early engagement was also initiated with regulatory stakeholders, local councils, Registered Aboriginal Parties, key institutions and community groups along the project alignment to brief them on the project design and development. In June 2017, MMRA has sent an additional letter to owners of the properties identified in this referral as potential secondary construction areas.

In delivering open engagement, the MMRA visited communities along the project's proposed alignment, attending local community events and hosting pop-ups sessions to provide further information, answer questions and gather feedback. This included manning information stands at the Ballan Autumn Festival and the Bacchus Marsh Harvest Festival and pop up sessions in May and June 2017 at Rockbank, Melton, Bacchus Marsh, Ballan and Ballarat stations. Surveys were also developed to gather feedback on travel behaviours, communication preferences and issues and topics of interest. Surveys have been made online and in hardcopy at community events and pop up sessions.

To support interactions, the project has provided information posters and fact sheets to stations along the Ballarat rail line to keep train users up-to-date on the project. Presentations have also been given to local councils, peak

bodies and stakeholder groups, including the Committee for Ballarat, Public Transport Users Association and Ballarat Rail Advocacy Committee.

As part of the planning process with regards to the secondary construction areas in private land, directly affected landowners have been identified and engaged about potential access to their land / property. Engagement included direct mail, phone calls and 1:1 meetings with affected landowners along the project corridor. Where concerns were raised by landowners, this feedback has been considered in refining the secondary construction areas. For example one landowner raised concerns about impacts to trees and vegetation on the property in the area identified for the project. As a result of this feedback, the secondary construction area has been shifted to protect the trees and fencing will be installed to protect the vegetation. Engagement will continue with landowners throughout the planning, design and delivery of the Ballarat Line Upgrade.

Specific stakeholder consultation has been undertaken and is ongoing with the following parties:

- Aboriginal Victoria;
- City of Melton
- Shire of Moorabool
- Commonwealth Department of the Environment and Energy
- Department of Economic Development, Jobs, Transport and Resources
- Department of Environment, Land, Water and Planning
- Heritage Victoria
- Melbourne Water
- Corangamite Catchment Management Authority
- Public Transport Victoria
- Registered Aboriginal Parties:
  - Wathaurong Aboriginal Corporation (Wathaurung)
  - Wurundjeri Tribe Land Compensation and Cultural Heritage Council (Wurundjeri)
- Victoria Environment Protection Authority
- VicRoads
- VicTrack
- V/Line.

The Ballarat Line Upgrade extends through the areas where members of the Bunurong Land Council Aboriginal Corporation (BLCAC) and the Boon wurrung Foundation (BWF) are recognised Traditional Owners (Deer Park West to Toolern Creek, Melton South), the Wurundjeri Registered Aboriginal Party (Toolern Creek to Werribee River/Melton Reservoir) and Wathaurong Registered Aboriginal Party (Werribee River to Warrenheip). The Ballarat Line Upgrade is subject to an assessment and approval from Registered Aboriginal Parties (RAPs) and Aboriginal Victoria for potential impacts on Aboriginal cultural heritage under the Aboriginal Heritage Act 2006. Under this Act, three Cultural Heritage Management Plans are currently being prepared for each these areas in consultation with these RAPs and Traditional Owners.

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.

If you have identified that the proposed action will be, is being or has been subject to a Commonwealth, State or Territory environmental impact statement (in section 1.11), please complete this section. Please describe any environmental assessment of the relevant impacts of the proposed action that has been, is being, or will be carried out under Commonwealth, State or Territory legislation. Specify the **type and scope** of the assessment (for example, whether the assessment relates to part or the whole of the proposed action, or the proposed action, as a component of a larger action), the **relevant legislation** and the current **status** of any assessments or approvals. Where possible, provide contact details for the relevant assessment contact officer. Further, please **describe or summarise any public consultation undertaken**, or to be undertaken, during the assessment. Attach copies of relevant assessment documentation and outcomes of public consultations (if available).

Environmental assessments have been undertaken for the project to support this EPBC referral and a State referral under the *Environment Effects Act 978.* The following studies have been undertaken to inform the impact assessments;

- Ecological assessment
- Land Use and Planning assessment

- Noise Impact assessment
- Surface Water Flooding assessment
- Greenhouse Gas assessment
- Cultural Heritage assessment
- Historic Heritage site assessment
- Contaminated land desktop assessment.

Assessments have been carried out in accordance with, or with reference to, the following Victorian legislation and associated regulations and guidelines:

- *Flora and Fauna Guarantee Act 1988*
- *Planning and Environment Act 1987*
- *Catchment and Land Protection Act 1994*
- *Wildlife Act 1975*
- *Permitted Clearing of Native Vegetation Biodiversity Assessment Guidelines* (DELWP, 2013).
- *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (DELWP, 2013).

For Element 1 inside the MSA, the flora and fauna assessments have also considered the Melbourne Strategic Assessment (MSA), made pursuant to Section 146(1) of the EPBC Act and the framework already in place for the mitigation of impact from vegetation removal in Victoria. Further information is provided in AJM JV (2017a).

The EES referral will be submitted to:

Mr Geoff Ralphs, Principal Advisor

Impact Assessment Unit – Department of Environment, Land, Water and Planning.

Phone: 03 8392 5475

Email: geoff.ralphs@delwp.vic.gov.au

1.15 Is this action part of a staged development (or a component of a larger project)?

If you have identified that the proposed action is a component of a larger action (in section 1.12), please complete this section. Please provide information about the larger action and details of any interdependency between the stages/components and the larger action. You may also provide justification as to why you believe it is reasonable for the referred action to be considered separately from the larger action (e.g. the referred action is 'stand-alone' and viable in its own right, there are separate responsibilities for component actions or approvals have been split in a similar way at the state or local government levels).

No

1.16 Is the proposed action related to other actions or proposals in the region?

No

Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

- Profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;
- Significant Impact Guidelines 1.1 – Matters of National Environmental Significance;
- Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies.

2.1 Is the proposed action likely to impact on the values of any World Heritage properties?

No

2.2 Is the proposed action likely to impact on the values of any National Heritage places?

No

2.3 Is the proposed action likely to impact on the ecological character of a Ramsar wetland?

No

2.4 Is the proposed action likely to impact on the members of any listed threatened species (except a conservation dependent species) or any threatened ecological community, or their habitat?

No

2.5 Is the proposed action likely to impact on the members of any listed migratory species, or their habitat?

No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

No

2.7 Is the proposed action likely to impact on any part of the environment in the Commonwealth land?

No

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

No

2.9 Will there be any impact on a water resource related to coal / gas / mining?

No

2.10 Is the proposed action a nuclear action?
No

2.11 Is the proposed action to be taken by the Commonwealth agency?
No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?
No

2.13 Is the proposed action likely to impact on any part of the environment in the Commonwealth marine area?
No

2.14 Upload any technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral.

Attachment C – AJM JV (2017a) Ballarat Line Upgrade – Summary of Ecological Results for the Ballarat Line Upgrade

Attachment D – Ecology and Heritage Partners (2017) Existing Ecological Conditions Report – Ballarat Line Upgrade

Attachment E - AJM JV (2017b) Ballarat Line Upgrade – Ecology Assessment Additional Areas

Attachment F – AJM JV (2017c) Ballarat Line Upgrade – Secondary Construction Areas

Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

3.1 Describe the flora and fauna relevant to the project area.

Setting

The new railway and station upgrades are located predominantly in the existing rail reserve. The rail reserve was established in the 1860s and has been disturbed for over a century by railway related activities. In general vegetation within the rail reserve is dominated by exotic pasture grasses, with scattered native vegetation patches which have been intermittently cleared and largely disturbed due to the continued use as a rail corridor. The quality and floristic composition of native vegetation patches present in rail corridor varies according to disturbance and clearing regimes.

Land adjacent to the rail corridor is predominantly farming land and generally devoid of native vegetation. The secondary construction areas located outside of the railway reserve are either vacant sites owned by VicTrack and VicRoads or highly modified farming land.

Terrestrial Habitat

Overall, the quality of grassland and grassy woodland native vegetation within the referred project area is low, as they are highly fragmented and dominated by introduced grass species. Native woodland habitat covers approximately 1% of the total referred project area in small fragmented patches, located predominantly within Element 4.

Planted trees and shrubs also occur in several areas along the rail reserve. Overall, the observed remnant woodland and non-indigenous trees and shrubs are of low to moderate habitat value for fauna, as the patches are generally structurally deficient, lacking hollows and other key structural components. However, the patches are likely to act as ‘stepping stone’ habitat for mobile species (principally birds). Patches of habitat are also likely to facilitate fauna movement between habitats throughout the otherwise cleared landscape.Some larger trees (e.g. Sugar Gums), are potentially used as roost sites for birds and microchiropteran bats. Fallen bark and ground debris around the base of such trees provide habitat for reptiles and small mammals. Species observed utilising planted trees and shrubs included White-plumed Honeyeater, Superb Fairy-wren *Malurus cyaneus*, Sulphur-crested Cockatoo *Cacatua galerit*, and New Holland Honeyeater *Phylidonyris novaehollandiae*.

Waterways and waterbodies

Species recorded utilising creeks, farms damns and wetlands included birds such as Australian Wood Duck *Chenonetta jubata*, Golden-headed Cisticola *Cisticola exilis*, Black-fronted Dotterel *Elseyornis melanop*, and amphibians, including Common Froglet *Crinia signiferai*, Eastern Banjo Frog *Limnodynastes dumerilii*, and Brown Tree Frog *Litoria ewingii.*

The two main waterways and neighbouring water bodies provide a level of habitat for fringing vegetation and aquatic species. The section of Toolern Creek within the referred project area is highly modified. The banks are dominated by exotic grasses, overshadowed by scattered native and exotic trees. The creek provides habitat for several native fish, frogs and waterbird species, although the overall habitat quality within and directly adjacent to the study area is considered low. An aquatic survey of the creek was completed, utilising dip netting and baited fish traps. No significant species were identified (EHP 2017).

The railway line crosses the Bostock Reservoir and the creek that drains into Bostock Reservoir. There is little riparian overstorey on the creek which passes through an agricultural area prior to discharging into Bostock Reservoir immediately downstream of the site. Riparian vegetation includes pasture species and weed species (i.e. blackberries) with sedges (*Carex sp, Cyperus sp*.) and rushes (*Juncus sp*.) present on the margins of the creek. Instream vegetation includes extensive stands of emergent species (sedges *Eleocharis* sp., *Cumbungi Typha* sp., and Knotweed *Persicaria* sp.) around the margins of the creek and a small cover of instream vegetation (Parrots feather *Myriophyllum sp*., Arrowgrass *Triglochin sp*., and invasive Waterweed *Elodea sp*.). Waterbodies and waterways located in proximity to the referred project area were identified as potentially suitable habitat for the

nationally significant species, as well as a range of other native frogs and waterbirds. Several common frog species were heard calling from these waterbodies including Common Froglet, Easter Banjo Frog, and Southern Brown Tree Frog (EHP 2017).

Listed Threatened Ecological Communities

The Protected Matters Search Tool (PMST) identified six threatened ecological communities as having potential to occur within the referred project area. A review of the likely presence of these communities within the referred project area was completed, based on previous reports and modelled mapping of native vegetation communities. From the review, it was determined that three listed ecological communities are highly likely to be present within the referred project area.

Synonymous EVCs identified as potentially occurring within the project area and threshold criteria for each listed ecological community as identified in the relevant guidelines are provided in Table 3. It was considered there was only a low likelihood of the other three ecological communities being present within the referred project area.

Table 3 Vegetation Community Synonyms

EVC	EPBC
EVC 132_61: Plains Grassland	Natural Temperate Grasslands of the Victorian Volcanic Plain – condition thresholds apply including: Patch must be at least 0.05 ha in size 50% of the perennial tussock grass cover is native there is less than 30% cover of broad leaf weeds (DSEWPaC, 2011)
EVC 55_61: Plains Grassy Woodland	Grassy Eucalypt Woodland of the Victorian Volcanic Plain – condition thresholds apply including: Patch must be at least 0.05 ha in size 50% of the ground layer is perennial native species There are at least 3 trees per hectare with a DBH of greater than 70 cm (DSEWPaC, 2011)
EVC 803: Plains Woodland	Grey Box Grassy Woodland – condition thresholds apply including: Patch must be at least 0.05 ha in size 50% of the ground layer is perennial native species Less than 30% ground cover of non-grass weeds (DSEWPaC, 2012)

A field assessment was completed to map the presence and extent of native vegetation classified as the EVCs listed in Table 3. Where these EVCs were identified, an assessment of the quality parameters of the community was undertaken in accordance with the relevant community guidelines, to determine whether the patch of EVC met condition thresholds as a listed community under the EPBC Act.

Two patches of the threatened ecological community, Natural Temperate Grasslands of the Victorian Volcanic Plain (NTGVVP) were identified in element 1 within the referred project area:

- 0.13 ha southwest of Melton station, at the western extent of the carpark in Element 1
- 0.07 ha north of secondary construction area DM23 in Element 1, at the western end of Torrington Circuit, Melton South

These patches of NTGVVP will not be directly or indirectly impacted during the construction or operation of the project. These areas will be fenced and clearly marked on all maps and construction drawing as a ‘No Go’ area. These mitigation measures are included as an Environmental Performance Requirement (EPR) which is further described in Section 4.

EPBC Listed Threatened Flora Species

A desktop study was completed for the referred project area resulting in the identification of four EPBC listed species with known, high or moderate likelihood of occurrence (Table 4). General ecological field assessments were carried out following the desktop assessment, during which the extent of potentially suitable habitat was identified for threatened flora. The results of these general field assessments were used to inform the need, location, and timing for targeted flora surveys.

Targeted surveys were conducted for the four species listed in Table 4, within potentially suitable habitat throughout the referred project area. Potentially suitable habitat included native vegetation patches mapped during the initial general ecological survey effort, and included an additional focus on fence lines and beneath trees. Targeted surveys resulted in the confirmed presence of only one nationally listed species within the study area; the endangered Matted Flax-lily. None of the remaining seven threatened flora species presented in Table 4 were identified, despite surveys being undertaken during the appropriate survey seasons.

Targeted surveys identified four clumps of Matted Flax-lily within the study area:

- two clumps located within Element 2 (Maps 9 and 11).
- two clumps located within Element 3 (Map 14).

These clumps of Matted Flax-lily will not be directly or indirectly impacted during the construction of the project. The areas where these patches are located will be fenced with high visibility mesh bunting or temporary construction fencing (including erosion fencing if necessary) and clearly marked on all maps and construction drawings as a 'No Go' areas. Additionally, the southern extent of the project footprint on the south side of Ballan Station (Element 3, Map 11) has been altered to avoid or Matted Flax-lily at this location. Therefore only three of the four clumps occur within the referred project area. Mitigation measures to ensure avoidance of direct and indirect impacts to this species are included as an Environmental Performance Requirement which is further described in Section 4.

On this basis, it is considered highly unlikely that any of the species listed in Table 4 will be impacted by the referred project. Therefore no significant impact is predicted to any listed threatened flora species as a result of the referred project. Table 4 provides a summary of the results of the desktop assessment, and conclusions drawn with regards to likelihood of potential impacts.

Table 4 Summary of assessment results and conclusions for flora species identified during the desktop assessment as having a high to moderate likelihood of occurrence within the referred project area

Common Name	Scientific Name	Results	Likelihood of Potential Impacts
Matted Flax-lily	*Dianella amoena*	**Recorded** Targeted surveys undertaken during November and December 2016 detected four clumps of the species.	**No direct or indirect impacts, therefore Low Risk.** Based on the following: Given the extensive survey effort undertaken, the favourable seasonal conditions (i.e. surveys were undertaken when the species was known to be flowering and readily detected), and lack of suitable habitat across the majority of the study area, there is a low likelihood that this species will be impacted by the project. The identified clumps are outside of the proposed construction footprint and avoidance will be achieved through use of exclusion fencing. A complete discussion of avoidance and mitigation measures (including fencing) to be implemented is specified in Section 3.4.2.
Small Golden Moths	*Diuris basaltica*	**Not recorded** Surveys undertaken during October 2016 did not detect the species. And targeted surveys undertaken during November and December 2016 did not detect the species.	**No direct or indirect impacts, therefore Low Risk.** Based on the following: As there are no records of this species in the study area and potential habitat is low quality, small and fragmented, the species is unlikely to be present and therefore the project will not have a significant impact on the species.

Common Name	Scientific Name	Results	Likelihood of Potential Impacts
Spiny Rice-flower	*Pimelea spinescens subsp. spinescens*	**Not recorded** Targeted surveys undertaken during August 2016 did not detect the species.	**No direct or indirect impacts, therefore Low Risk.** Based on the following: Given the extensive survey effort undertaken, the favourable seasonal conditions (i.e. surveys were undertaken when the species was known to be flowering and readily detected), and lack of suitable habitat across the majority of the study area, there is a low likelihood that this species will be impacted by the project.
Large-fruit Groundsel	*Senecio macrocarpus*	**Not recorded** Targeted surveys undertaken during November and December 2016 did not detect the species.	**No direct or indirect impacts, therefore Low Risk.** Based on the following: There are no known records of this species in the study area. Given the extensive survey effort undertaken, the favourable seasonal conditions (i.e. surveys were undertaken when the species was known to be flowering and readily detected), and lack of suitable habitat across the majority of the study area, there is a low likelihood that this species will be impacted by the project.

EPBC Listed Threatened Fauna Species

A desktop study was completed for the referred project area resulting in the identification of seven EPBC listed species with high, moderate, or low likelihood of occurrence (Table 5). General ecological field assessments were carried out following the desktop assessment, during which the extent of potentially suitable habitat was identified for threatened fauna. The results of these general field assessments were used to inform the need, location, and timing for targeted fauna surveys.

Targeted surveys were conducted for four of the seven species listed in Table 5 (Dwarf Galaxias, Golden Sun Moth, Growling Grass Frog, and Striped Legless Lizard) within potentially suitable habitat throughout the referred project area. In addition, waterbodies in close proximity to the project were subject to targeted Growling Grass Frog survey. Targeted surveys did not identify the presence of any EPBC listed fauna species despite surveys being undertaken in accordance with survey guidelines, in areas of potentially suitable habitat. Mitigation measures to ensure avoidance of potential indirect impacts to fauna species are included as an Environmental Performance Requirement which is further described in Section 4.

On the basis of these results, it is considered highly unlikely that any of the species listed in Table 5 will be impacted by the referred project. Therefore no significant impact is predicted to any listed threatened fauna species as a result of the referred project. Table 5 provides a summary of the results of the desktop assessment, and conclusions drawn with regards to likelihood of potential impacts.

Table 5 Summary of assessment results and conclusions for flora species identified during the desktop assessment as having a high to low likelihood of occurrence within the referred project area

Common Name	Scientific Name	ELEMENTS targeted surveys	Results	Likelihood of Potential Impacts
Dwarf Galaxias	*Galaxiella pusilla*	1, 3	**Not recorded -** No Dwarf Galaxias were identified. There are no records of Dwarf Galaxias within 10 kilometers of the study area, and targeted surveys undertaken during February 2017 did not detect the species. Targeted surveys were undertaken in	**Low Risk -** It is considered highly unlikely that Dwarf Galaxias occurs in Toolern creek or upstream of the Bostock Reservoir. It is possible that Dwarf Galaxias are present elsewhere within the Bostock Reservoir waterway where potentially suitable habitat is available. Given the low likelihood of the species occurring in these waterbodies it is highly

Common Name	Scientific Name	ELEMENTS targeted surveys	Results	Likelihood of Potential Impacts
			accordance with existing survey guidelines.	unlikely that the project will impact Dwarf Galaxias. For any proposed works that may occur within or in the vicinity of these waterbodies, specific Environmental Performance Requirements (EPRs) will be included in the Environmental Management Framework that the Alliance contracting partner will be required to comply with. The procedures to ensure that the specific EPRs will be met appropriately will be included in the Construction Environment Management Plan.
Golden Sun Moth	*Synemon plana*	1, 2, 3	**Not recorded -** No Golden Sun Moth were detected, and the species has not previously been recorded within the study area. Habitat within the project area is of low quality, being small and fragmented and interspersed with less desirable pasture species. Targeted surveys were undertaken in accordance with existing survey guidelines.	**Low Risk -** As there are no records of this species in the study area and potential habitat is low quality, small and fragmented, the species is unlikely to be present and therefore the project will not have a significant impact on the species.
Grey-headed Flying-fox	*Pteropus poliocephalus*	None	This species is likely to fly over much of the alignment, whilst foraging. However the species roosts in large camps, with permanent camps located at Yarra Bend and Dowell Creek near Mallacoota. The referred project area does not contain significant habitat for this species.	**Low Risk -** As significant habitat for this species is not present within the referred project area and the referred project area is remote from recorded camp sites, the species is unlikely to be present and therefore the project will not have a significant impact on the species.
Growling Grass Frog	*Litoria raniformis*	1, 3, 5	**Not recorded -** No evidence of Growling Grass Frog (adults, juveniles and tadpoles) was detected during the targeted nocturnal surveys or heard calling during auditory surveys adjacent and in proximity to the referred project area.	**Low Risk** - Given the extensive nature of targeted surveys across all areas likely to be directly or indirectly impacted by the project, low likelihood the referred project area provides permanent and/or important habitat for the species, the project will not result in a significant impact to the species.
Striped Legless Lizard	*Delma impar*	1	**Not recorded** - No Striped Legless Lizards were detected within the study area. Six locally common reptile species; Eastern Brown Snake Pseudonaja textilis, Little Whip Snake Rhinoplocephalus flagellum, Blue-tongue Lizard Tiliqua scincoides scincoides, Bougainvillii's Skink Lerista bougainvillii, Eastern Three-lined Skink Bassiana duperreyi, Southern Grass Skink Pseudemoia entrecasteauxii, one unidentified skink, and one introduced mammal species (House Mouse Mus musculus) were recorded under tiles during the tile checks.	**Low Risk -** Suitable habitat for the species was only identified within the MSA area. Targeted surveys were completed to inform potential Salvage and Translocation Requirements. DELWP has recently conducted an evaluation which outlines salvage and translocation of the Striped Legless Lizard (SLL) is not a feasible activity under the program. Salvage of SLL has been suspended pending the finalisation of the evaluation. The Striped Legless Lizards is unlikely to be present outside of MSA. Grassland identified outside of the MSA area is considered unsuitable to support a significant population of the SLL.

Common Name	Scientific Name	ELEMENTS targeted surveys	Results	Likelihood of Potential Impacts
Swift Parrot	*Lathamus discolor*	1, 3	This species is migratory, breeding in Tasmania in spring and then moving to mainland Australia in autumn for the non-breeding season . Large Yellow Gum and Grey Box recorded at Kerrs Road, Maddingley provide suitable feeding trees for the parrot. Golden Wattle, also a favoured species of the Parrot was also identified within the area. Two annual censuses (May and August) are conducted for Swift Parrot across eastern Australia. Based on the results of these censuses the surrounding area has not been utilised by the Swift Parrot as key habitat in recent years. Rather the trees present may be used occasionally by the species; it is known that the species disperses widely on the mainland, as they follow the blossoming of various Eucalypt species.	**Low Risk -** As this area is unlikely to be a significant feeding ground for the species, the minor removal of vegetation associated with the referred project area will not constitute a significant impact under the EPBC Act. Clearing of vegetation (namely trees) will be minimised, where possible. Should habitat trees require removal, pre-clearance fauna assessments will be completed by a qualified spotter/handler. This requirement will be reflected in the EPRs and the Construction Environmental Management Plan.

Attach copies of any flora and fauna investigations and surveys (if applicable).

Attachment C – AJM JV (2017a) Ballarat Line Upgrade – Summary of Ecological Results for the Ballarat Line Upgrade

Attachment D – Ecology and Heritage Partners (2017) Existing Ecological Conditions Report – Ballarat Line Upgrade

Attachment E - AJM JV (2017b) Ballarat Line Upgrade – Ecology Assessment Additional Areas

Attachment F – AJM JV (2017c) Ballarat Line Upgrade – Secondary Construction Areas

3.2 Describe the hydrology relevant to the project area (including water flows).

There are two main waterways intersecting the referred project area are crossed via large bridges and they are Toolern Creek at Melton (located in Element 1) and Bostock Reservoir (located in Element 4). There are several smaller waterbodies and waterways located in proximity to the referred project area, including farm dams and drainage lines which cross through the rail reserve via 12 culverts and three small bridges.

The referred project area is not subject to any Flooding Overlays in the Melton or Moorabool Planning Schemes. Investigations did not find evidence of historic flooding in the referred project area. Flood flows that could be generated from the relatively small catchments of the waterways within the referred project area are relatively minor.

3.2.1 Attach copies of any hydrological investigations.

None

3.3 Describe the soil and vegetation characteristics relevant to the project area.

The topography between Deer Park West and Melton is relatively flat, becoming generally steeper in the section between Melton and Ballarat. There are no identified landscape values of regional or State significance in or adjacent to the referred project area.

The referred project area has been used as an operational rail corridor since the construction of the existing alignment. The referred project area is predominantly underlain by the Newer Volcanics basalt, with Quaternary swamp and alluvial deposits observed to locally overlie the basalt. The soil types in this region are sodic (high in sodium) and non-sodic texture contrast, closer to Ballarat the soils are better known for heavy cracking clays soils which underlie dark clayey loams and heavy clayey topsoils which are slightly acidic.

Native vegetation occurring in the rail reserve is generally scattered, intermittently cleared and largely disturbed due to one hundred years of use as a rail corridor. Most remnant patches are small and fragmented, and surrounded by extensive areas dominated by introduced vegetation. The assessed referred project area is considered to provide low quality habitat for threatened species (as would be expected in an operational rail corridor). Some larger patches of native vegetation are mapped between Geelong-Ballan Road and the Bostock Reservoir, near Ballan station. The remainder of the referred project area has been predominantly cleared of native vegetation, aside from small isolated patches of remnant native vegetation.

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.

There are no outstanding features on or near the referred project area.

3.5 Describe the status of native vegetation relevant to the project area.

Remnant native vegetation in the study area is representative of five EVCs: Creekline Grassy Woodland (EVC 68), Plains Grassland (Heavier Soils) (EVC 132), Plains Woodland (EVC 803), Tall Marsh (EVC 821) and Plains Grassy Woodland (EVC 55). Most remnant patches are small and fragmented, and surrounded by extensive areas dominated by introduced vegetation. Due to past land disturbance, some elements only contain very small isolated patches of remnant native vegetation. The presence of EVCs within the project area is generally consistent with the modelled pre-1750s native vegetation mapping, particularly the extent of Plains Grassland in east of the study area.

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The referred project area is generally flat, with no ridges or crests within or immediately adjacent to the study area.

3.7 Describe the current condition of the environment relevant to the project area.

The rail and station upgrades are located predominantly in the existing rail reserve. In general vegetation within the rail reserve is dominated by exotic pasture grasses, with scattered native grassland patches which have been intermittently cleared and largely disturbed due to the continued use as a rail corridor. Most remnant patches are small and fragmented, and surrounded by extensive areas dominated by introduced vegetation.

Land adjacent to the rail corridor is predominantly farming land and generally devoid of vegetation. The secondary construction areas that are located outside of the railway reserve are either vacant sites owned by VicTrack and VicRoads or highly modified farming land. The quality and floristic composition of the grasslands varies according to disturbance and clearing regimes.

Disturbed areas are dominated by environmental weeds such as Toowoomba Canary-grass *Phalaris aquatica*, Rye-grass *Lolium spp*., Meadow Fox-tail *Alopecurus pratensis*, Galenia *Galenia pubescens var. pubescens*, Ribwort *Plantago lanceolata*, Couch *Cynodon dactylon var. dactylon* and Wild Oat *Avena fatua.*

3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.

There are no Commonwealth Heritage Places within the referred project area. Places of Victorian heritage value present within the referred project area are provided below (Biosis 2017):

- VHI H7822-2356 Rockbank Station and Ward's Chaffmill Site
- VHI-H7822-2334 Cobbled Roadway, Greigs Road
- HO93 Melton South Railway Station

- HO18 Ballan Railway Station
- HO168 Bacchus Marsh Railway Station

3.9 Describe any Indigenous heritage values relevant to the project area.

Desktop assessment identified:

- One Aboriginal place was identified in Element 1 within the MSA, just east of Rockbank Station where there was extensive ground surface disturbance as a result of the railway construction and maintenance activities. The Standard Assessment identified a further four Aboriginal places (VAHR 7822-3692, -3693, -3694 and -3704). However, these places were identified atop exposed ground within areas of extensive disturbance.
- No VHI or VHR places were located within Element 2 or 3.
- Two previously recorded Aboriginal places lie 200 m of the referred project area in Element 4. Both Aboriginal places are artefact scatters located within the rail reserve along the floodplains of the Moorabool River. VAHR 7722-0545 consists of an isolated silcrete flake located within a subsurface context, which shows signs of modern disturbance with one potential green bottle glass flake also recorded. VAHR 7722-0546 is an artefact scatter consisting of 4 silcrete flakes, a silcrete core, and 3 quartz flaked fragments that were located within a subsurface context across three shovel probes.
- A few archaeological assessments have been completed within 200 m of the referred project area in Element 5 with the majority of assessments completed further out across Ballarat. Several CHMPs (13046, 13791 and 13982) are currently in progress within 200 m of Element 5. This includes a CHMP (13982) which is being prepared to evaluate the Aboriginal cultural heritage associated with the Ballarat Railway Station covering a section of the Site 5 study area.

Three Cultural Heritage Management Plans are being prepared for the whole project, as the project crosses the Wurundjeri and Wautharong RAP areas and is partially within an area where the members of the Bunurong Land Council Aboriginal Corporation (BLCAC) and the Boon wurrung Foundation (BWF) are recognised Traditional Owners (hence Aboriginal Victoria would be the approving authority).

Salvage of cultural significant artefacts found during the complex assessments will be undertaken prior to the commencement of construction works. The conditions of the approved Cultural Heritage Management Plans will form part of the Construction Environmental Management Plan and compliance monitored during the project by the MMRA as the sponsor.

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.

The construction works will be undertaken with the rail reserve owned by Victrack and managed by V/Line. Roads are managed by either VicRoads or the local Council. Up to 16 privately owned properties that are currently used as farm access tracks and farming activities such as animal grazing and holding are adjacent to the rail corridor within the referred project area will be utilised for temporary construction purposes. These properties are located at: Maddingley, Ballan, Truganina, Melton South, Dunnstown, Warrenheip, Millbrook, Brookfield and Thornhill Park.

3.11 Describe any existing or any proposed uses relevant to the project area.

The referred project area is includes an existing, operating rail line. The area of proposed action within the rail corridor will continue to be used a rail line. The secondary construction areas located outside of the railway reserve are mostly sited in heavily disturbed cultivated farming land. These sites will be returned to their original purpose unless the landowner specifically requests the MMRA leave the area in the condition it was used for by the MMRA. This may be the case for example when land used for haul roads remain an access track on the request of the landholder.

Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.
Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.

An Environmental Management Framework will be developed by the MMRA that outlines clear accountabilities for the delivery and monitoring of the implementation of the Project Environmental Performance Requirements (EPRs). The EPRs will be a suite of performance-based standards/outcomes that will be developed based on the outcomes of a risk assessment to be prepared as part of detailed design of the project. The EPRs will apply to the design and construction of the Ballarat Line Upgrade.

The Project will be delivered in accordance with the EPRs, and this will be facilitated through Project contracts between the State of Victoria and the alliance contracting partner, referred to as the Delivery partner.

Roles and responsibilities for implementation of the EPRs will lie with both the MMRA, as the Project Owner and the Delivery Partner. The delivery contract will specify which EPRs are the responsibilities of the Project Owner and the Delivery Partner.

Demonstration of compliance with the relevant EPRs and applicable management plans will be a key performance indicator for the Delivery Partner. Compliance with the EPRs will be enforced by MMRA as Project Owner through the contractual arrangements for design and delivery of each project, and monitored by way of periodic audits.

It is also intended that the Environmental Management Framework (EMF) and EPRs will be given statutory weight through the provisions of the Incorporated Document that is proposed as the primary planning control for the project. MMRA proposes that the EMF including EPRs will be prepared by the MMRA in conjunction with the Delivery Partner based on a risk assessment to be prepared as part of detailed design. The process for finalising the EMF and EPRs would include consultation with relevant councils and will be approved by the Victorian Minister for Planning. The EMF will also set out the process and timeframe for the preparation of a Construction Environmental Management Plan (CEMP) and any sub-plans required by the EPRs. Indicative EPRs in relation to management of potential impacts on ecological matters are set out below, and MMRA will refine these in finalising the EMF and EPR for approval by the Minister for Planning.

This referral focuses on the construction phase of the project. Use of the new railway and station upgrades will be consistent with the current operation of the Ballarat Line and no new or different impacts to MNES are anticipated. No specific Environmental Performance Requirements for the operational phase are necessary in this context.

Table 6 Indicative Flora and Fauna Environmental Performance Requirements

Environmental Performance Requirement	Timing
The delivery partner must develop and implement measures to avoid the spread or introduction of weeds and pathogens during construction, including vehicle and equipment hygiene.	Construction
The Delivery Partner will prepare a CEMP to protect environmentally sensitive areas and will provide details of: • construction and micro-siting techniques, including fencing of environmentally sensitive 'No Go' areas • staff site inductions of the importance of sensitive environmental areas, and activities which are prohibited from these areas (No-Go areas). • Signage and fencing along the south edge of the referred project area at Ballan station (Element 3) and along the rail corridor west of Ballan station on the north side (Element 3), to avoid the patches of NTGVVP community and Matted Flax-lily. • Storage locations of equipment during construction • Pre-clearance surveys in areas of identified native vegetation including areas in MCA to avoid Matted Flax-lily • Habitat Zones (areas of sensitivity) to be included as a mapping overlay on any construction plans	Construction

Table 7 Aquatic Ecology Environmental Performance Requirements

Environmental Performance Requirement	Timing
The project will be designed and constructed to ensure that that stormwater entering a receiving water body complies with State Environmental Protection Policy (Waters of Victoria).	Design/Construction
The project must apply best practice sedimentation and pollution control measures to protect waterways in accordance with *Best Practice Environmental Management: Environmental Guidelines for Major Construction Sites – EPA publication 480 (1996)*	Construction

Table 8 Environmentally Significant Habitat Trees Environmental Performance Requirements

Environmental Performance Requirement	Timing
The delivery partner must implement tree protection measures to enable the retention of as many trees as possible north of Kerrs Road in Maddingley, prioritising the retention of identified habitat trees. Where clearing of vegetation is required, it must be completed outside of the foraging season of the Swift Parrot in Victoria (May through to August)	Construction
Where trees are required to be cleared north of Kerrs Road in Maddingley, a pre-clearance fauna assessment will be completed by a qualified fauna spotter/handler.	Construction
Where relevant, the delivery partner must develop and implement a Tree Management Plan in accordance with AS4970-2009 Protection of Trees on Development Sites in consultation with key stakeholders that provides details of: a) Trees to be removed or retained as part of the works, including their condition and significance. b) Condition and significance of the trees to be removed. c) Where appropriate and practical, options for temporary re-location of significant trees and reinstatement at their former location or another suitable location. d) Any tree protection plans and process that will ensure that trees proposed to be retained are adequately protected from the impact of construction or related activities, prior to those works being undertaken.	Design/Construction

4.2 protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.

The Ballarat Line Upgrade will avoid any direct or indirect impacts to known Matters of National Environmental Significance (MNES). This environmental outcome has been achieved by:

1. Undertaking targeted surveys of the new railway, stations and secondary construction areas to verify the presence of potential MNES identified from desktop assessments.

2. Where the presence of MNES is known the referred project area and railway design was altered to avoid known MNES.

3. Where the referred project area and railway design could not be altered the Delivery Partner will adopt project specific Environmental Performance Requirements, to protect the MNES from direct and indirect impacts during construction and operation.

The MMRA will adopt a set of project specific Environmental Performance Requirements (outlined in section 4.1) in a MMRA Environmental Management Framework (EMF). The MMRA EMF and associated EPRs are intended to be approved by the Victorian Minister for Planning as a condition of the Planning Scheme Amendment. The EPRs will be also incorporated into contractual requirements and implemented prior to commencement of main construction activities in a Construction Environmental Management Plan (CEMP). The Environmental Performance Requirements will ensure impacts to the environment are avoided where possible and minimised during the Ballarat Line Upgrade.

By applying this process the following identified MNES in the referred project area will not be directly or indirectly impacted by the proposed project:

- Two patches of NTGVVP (listed as Critically Endangered) in Element 1, totalling approximately 0.20 ha. Environmental Performance Requirements listed in Section 4.1 will be implemented, to further protect the MNES from direct and indirect impacts during construction.

- Three clumps of Matted Flax-lily (listed as Endangered) in Elements 2 and 3. Environmental Performance Requirements listed in section 4.1 will be implemented, to further protect the MNES from direct and indirect impacts during construction.
- Potential foraging habitat for the Swift Parrot (listed as Critically Endangered) is present within less than approximately 1% of the referred project area. The area is not considered a critical feeding resource and so minor removal of vegetation within a few select areas within the referred project area will not constitute a significant impact to the species. Environmental Performance Requirements in section 4.1 will be implemented, to further protect the MNES from direct and indirect impacts during construction and operation.

Attach copies of any supporting documents.

Attachment C – AJM JV (2017a) Ballarat Line Upgrade – Summary of Ecological Results for the Ballarat Line Upgrade

Attachment D – Ecology and Heritage Partners (2017) Existing Ecological Conditions Report – Ballarat Line Upgrade

Attachment E - AJM JV (2017b) Ballarat Line Upgrade – Ecology Assessment Additional Areas

Attachment F – AJM JV (2017c) Ballarat Line Upgrade – Secondary Construction Areas

Section 5 – Conclusion on the likelihood of significant impacts

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact. Review the matters you have identified below.

5.1 In Section 2 you indicated the below checked boxes to be of significant impact and therefore you consider the action to be a controlled action.

It is not considered that the referred project will have a significant impact on any of the below listed Matters of NES.

5.1.1 World Heritage Properties – No

5.1.2 National Heritage Places – No

5.1.3 Wetlands of international importance – No

5.1.4 Listed threatened species and communities – No

5.1.5 Listed migratory species – No

5.1.6 Commonwealth marine environment – No

5.1.7 Protection of the environment from actions involving Commonwealth land – No

5.1.8 Great Barrier Reef Marine Park – No

5.1.9 A water resource, in relation to coal/gas/mining – No

5.1.10 Protection of the environment from nuclear actions - No

5.1.11 Protection of the environment from Commonwealth actions – No

5.1.12 Commonwealth Heritage places overseas – No

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.

Specify the key reasons why you think the proposed action is NOT LIKELY to have significant impacts on a matter protected under the EPBC Act by reference to each relevant matter protected by the EPBC Act.

Based on the background information provided in Section 3, and the Environmental Performance Requirements described in Section 4, it is considered that the proposed action is not likely to have a significant impact on any MNES for the following reasons:

- The referred project will avoid direct and indirect impacts to the two identified MNES known to occur within the project area;
    - Two patches of NTGVVP in Element 1, totalling approximately 0.20 ha. Environmental Performance Requirements will be implemented to further protect the MNES from direct and indirect impacts during construction and operation.
    - Three clumps of Matted Flax-lily in Element 2 and 3. Environmental Performance Requirements will be implemented to further protect the MNES from direct and indirect impacts during construction and operation.
- Given the extensive survey effort undertaken in accordance with flora and fauna survey guidelines, the predominantly modified condition and lack of moderate or high quality habitat across the majority of the study area, there is a low likelihood that any other EPBC listed species will be impacted by the project.
- Potential foraging habitat for the Swift Parrot is present within less than approximately 1% of the referred project area. The area is not considered a critical feeding resource and so minor removal of vegetation within a few select areas within the referred project area will not constitute a significant impact to the

species. Environmental Performance Requirements in section 4.1 will be implemented, to further protect the MNES from direct and indirect impacts during construction and operation.

- The implementation of project-specific Environmental Performance Requirements will ensure all potential direct and indirect impacts to MNES will be avoided.

In light of the conclusion that the action will not impact EPBC listed species, it is been considered that the significant impact criteria do not apply.

Section 6 – Environmental record of the person proposing to take the action

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.

The MMRA has a sound environmental management record, and promotes sustainable development within its projects. The MMRA will develop an extensive Environmental Management Framework with Environmental Performance Requirements that contractors must undertake on its projects and the MMRA oversees. The Delivery partner will be required to prepare a CEMP that complies with MMRA Environmental Management Plan and is endorsed by the MMRA. These requirements will include vegetation management, cultural heritage and stakeholder engagement obligations.

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application.

N/A

6.3 Will the action be taken in accordance with the corporation's environmental policy and planning framework?

Yes

6.3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.

All works will be undertaken in accordance with the MMRA environmental and sustainability policies.

The MMRA's Environmental Vision is to be an industry leader in the managing the environmental impacts of delivering major infrastructure projects. In addition, the MMRA is committed through the delivery of major projects to connecting communities in the healthiest, most sustainable way possible. The MMRA will help to ensure a lasting legacy for present and future generations for a more liveable Victoria - environmentally, socially and economically.

As an Administrative Office of DEDJTR, MMRA is required to take into account decision-making and planning principles of the *Transport Integration Act 2010*. The Act requires the MMRA to consider the principles of economic prosperity, social and economic inclusion, transport resource efficiency and environmental sustainability in the planning and delivery of major transport projects. These principles are also integrated with the requirements of key Victorian statutory planning legislation such as the *Planning and Environment Act 1987*.

6.3.2 Attach copies of any environmental policy and planning framework (If applicable).

Please see Attachment G and H.

Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

Yes

6.4.1 EPBC Act No and/or Name of Proposal.

2015/7549 Melbourne Metro Rail Authority/Transport – Land/Melbourne/Victoria/Melbourne Metro Rail Project, Vic

Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
AJM JV (2017a) Ballarat Line Upgrade – Summary of Ecological Results for the Ballarat Line Upgrade (Attachment C) Ecology and Heritage Partners (2017) Existing Ecological Conditions Report – Ballarat Line Upgrade (Attachment D) AJM JV (2017b) Ballarat Line Upgrade – Ecology Assessment Additional Areas (Attachment E) AJM JV (2017c) Ballarat Line Upgrade – Secondary Construction Areas (Attachment F)	Information used in the preparation of this referral is based on a number of reports and studies previously developed to inform compliance with Commonwealth, Victoria and local government approval processes. Ecological studies have been undertaken by professional consultants who are qualified ecologists with practical experience in surveying and monitoring the local environment. Methods followed during field surveys were in accordance with relevant guidelines published by State and Commonwealth departments. References that have been cited in preparation of this referral and supporting documentation (include databases and documents) that have been produced and maintained by State and Commonwealth departments, and as such are considered highly reliable. Other documents included entries in scientific journals that have been subject to peer-review prior to publication, and are therefore also considered reliable sources of information. Fauna surveys were conducted under the Ecology and Heritage Partners Pty Ltd Research Permit (#10006893) issued by DELWP under the Wildlife Act 1975.	Data and information held within the ecological databases and mapping programs reviewed in the desktop assessment (e.g. VBA, PMST, Biodiversity Interactive Maps etc.) are unlikely to represent all flora and fauna observations within, and surrounding, the study area. It is therefore important to acknowledge that a lack of documented records does not necessarily indicate that a species or community is absent. Ecological field survey reports are based on conditions encountered and information reviewed at the date of preparation of the report. The opinions, conclusions and any recommendations in the field survey reports are based on information obtained from specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points. Investigations undertaken in respect of these reports are constrained by the particular site conditions, such as access restrictions and vegetation. As a result, not all relevant site features and conditions may have been identified. Site conditions may change after the date of preparation of these reports. The uncertainties identified do not have a material impact on the conclusions in this referral or reliability of this information relied on in preparing this referral.

Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

8.0 Provide a description of the feasible alternative?

The Ballarat Line Upgrade has been developed to improve the provision of transport services between Ballarat and Melton to support future population growth. Several different options were assessed to address this problem. Options assessed included:

- **Option 1**: Do Nothing
- **Option 2**: Travel Demand Reduction focuses on initiatives such as strategic land use intervention, and transport mode switches to reduce reliance on public transport services.
- **Option 3**: Improve Productivity of Existing Assets focuses on making the best use of the existing transport network so that it functions to required operating standards.
- **Option 4**: Rail Infrastructure Upgrades (this project) focuses on improving the condition of the existing rail network to increase rail capacity and performance.
- **Option 5**: Road Infrastructure improvements focuses on improving the existing road network to increase rail and road freight efficiency and productivity, without addressing connectivity issues.

A cost benefit analysis of each of the five options was completed. The cost benefit analysis indicated that Option 4 provided the greatest benefit for the lowest risk, and delivered a superior and more predictable solution to the identified alternatives.

8.1 Select the relevant alternatives related to your proposed action.

There are no alternative timeframes, locations, or activities associated with this project

8.2 Do you have another alternative?

There is no alternative option associated with this project

Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

9.0 Is the person proposing to take the action an Organisation or an Individual?
Organisation

9.0.1 Job Title
Chief Executive Officer

9.0.2 First Name
Evan

9.0.3 Last Name
Tattersall

9.0.4 E-mail
Evan.tattersall@melbournemetro.vic.gov.au

9.0.5 Postal Address
Level 13, 121 Exhibition Street, Melbourne, 3000

9.0.6 ABN/ACN
69 981 208 782

9.0.7 Organization Telephone
(03) 9027 5750

9.0.8 Organization E-mail

9.0.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Person proposing the action - Declaration

I,_____Evan Tattersall_____, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature:…… Date: ……

I,_____Evan Tattersall_____, the person proposing the action, consent to the designation of__Melbourne Metro Rail Authority_____as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature:…… Date: ……

9.3 Is the Proposed Designated Proponent an Organisation or Individual?

9.4 Individual

9.4.1 Job Title

9.4.2 First Name

9.4.3 Last Name

9.4.4 E-mail

Proposed designated proponent - Declaration

I, Evan Tattersall of Melbourne Metro Rail Authority, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature:…… Date: ……

9.6 Is the Referring Party an Organisation or Individual?

9.7 Individual

9.7.1 Job Title

9.7.2 First Name

9.7.3 Last Name

9.7.4 E-mail

Referring Party - Declaration

I, Evan Tattersall, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature:…… Date: ……

Appendix A - Attachments

- Attachment A – GIS Co-ordinates
- Attachment B – Maps Showing MNES Relevant to The Project Area
- Attachment C – AJM JV (2017a) Ballarat Line Upgrade – Summary of Ecological Results for the Ballarat Line Upgrade
- Attachment D – Ecology and Heritage Partners (2017) Existing Ecological Conditions Report – Ballarat Line Upgrade
- Attachment E - AJM JV (2017b) Ballarat Line Upgrade – Ecology Assessment Additional Areas
- Attachment F – AJM JV (2017c) Ballarat Line Upgrade – Secondary Construction Areas
- Attachment G – MMRA Environmental policy
- Attachment H – MMRA Sustainability policy