REFERRAL OF A PROJECT FOR A DECISION ON THE NEED FOR ASSESSMENT UNDER THE *ENVIRONMENT EFFECTS ACT 1978*

REFERRAL FORM

The *Environment Effects Act 1978* provides that where proposed works may have a significant effect on the environment, either a proponent or a decision-maker may refer these works (or project) to the Minister for Planning for advice as to whether an Environment Effects Statement (EES) is required.

This Referral Form is designed to assist in the provision of relevant information in accordance with the *Ministerial Guidelines for assessment of environmental effects under the Environment Effects Act 1978* (Seventh Edition, 2006). Where a decision-maker is referring a project, they should complete a Referral Form to the best of their ability, recognising that further information may need to be obtained from the proponent.

It will generally be useful for a proponent to discuss the preparation of a Referral with the Department of Planning and Community Development (DPCD) before submitting the Referral.

If a proponent believes that effective measures to address environmental risks are available, sufficient information could be provided in the Referral to substantiate this view. In contrast, if a proponent considers that further detailed environmental studies will be needed as part of project investigations, a more general description of potential effects and possible mitigation measures in the Referral may suffice.

<u>In completing a Referral Form, the following should occur:</u>

- Mark relevant boxes by changing the font colour of the 'cross' to black and provide additional information and explanation where requested.
- As a minimum, a brief response should be provided for each item in the Referral Form, with a more detailed response provided where the item is of particular relevance. Cross-references to sections or pages in supporting documents should also be provided. Information need only be provided once in the Referral Form, although relevant cross-referencing should be included.
- Responses should honestly reflect the potential for adverse environmental effects. A Referral will only be accepted for processing once DPCD is satisfied that it has been completed appropriately.
- Potentially significant effects should be described in sufficient detail for a reasonable conclusion to be drawn on whether the project could pose a significant risk to environmental assets. Responses should include:
    - a brief description of potential changes or risks to environmental assets resulting from the project;
    - available information on the likelihood and significance of such changes;
    - the sources and accuracy of this information, and associated uncertainties.
- Any attachments, maps and supporting reports should be provided in a secure folder with the Referral Form.
- A CD or DVD copy of all documents will be needed, especially if the size of electronic documents may cause email difficulties. **Individual documents should not exceed 2MB.**

- A completed form would normally be between 15 and 30 pages in length. Responses should not be constrained by the size of the text boxes provided. Text boxes should be extended to allow for an appropriate level of detail.
- The form should be completed in MS Word and not handwritten.

The party referring a project should submit a covering letter to the Minister for Planning together with a completed Referral Form, attaching supporting reports and other information that may be relevant. This should be sent to:

Postal address

Minister for Planning
PO Box 500
EAST MELBOURNE VIC 3002

Couriers

Minister for Planning
Level 17, 8 Nicholson Street
EAST MELBOURNE VIC 3002

In addition to the submission of the hardcopy to the Minister, separate submission of an electronic copy of the Referral via email to ees.referrals@dpcd.vic.gov.au is encouraged. This will assist the timely processing of a referral.

PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

1. Information on proponent and person making Referral

Name of Proponent:	**VicRoads**
Authorised person for proponent: **Position:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	Ewen Nevett **Project Director – Western Highway** **PO Box 148, Wendouree VIC 3355** ewen.nevett@roads.vic.gov.au **(03) 5309 1050** **(03) 5309 1099**
Person who prepared Referral: **Position:** **Organisation:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	Matt Grigg **Planning Engineer** **VicRoads** **PO Box 148, Wendouree VIC 3355** matt.grigg@roads.vic.gov.au **(03) 5309 1050** **(03) 5309 1099**
Available industry & environmental expertise: (areas of 'in-house' expertise & consultancy firms engaged for project)	**Ecology Partners Pty Ltd was appointed to conduct a standard assessment of the existing flora and fauna, and make a Net Gain assessment.** **URS Australia Pty Ltd developed the initial route alignment options.**

2. Project – brief outline

Project title: Western Highway Project – duplication Burrumbeet to Beaufort

Project location: (describe location with AMG coordinates and attach A4/A3 map(s) showing project site or investigation area, as well as its regional and local context)

This section of the Western Highway Project begins around Carpenter Road approximately 1.5 kilometres east of Burrumbeet, to approximately 1.0 kilometres east of Beaufort in central Victoria.

	Latitude			Longitude		
location point	degrees	minutes	seconds	degrees	minutes	seconds
Eastern end	37	47	52	145	26	12
Western end	37	24	45	143	19	30

The Western end latitude and longitude are approximate. Please refer to the Attachment 1 map.

Short project description (few sentences)**:**

The section of the Western Highway that this referral relates to begins approximately 128 kilometres west of Melbourne near Burrumbeet, and finishes approximately 25 kilometres away near Beaufort in central Victoria. The works will include an overpass over Spring Hill Creek and Mount Emu Creek, a duplicated carriageway in the vicinity of the existing carriageway and an appropriate drainage system. Concept designs are currently being developed for the four alignment options under investigation. The adopted alignment will be subject to detailed design through a design and construct contract let by VicRoads.

3. Project description

Aim/objectives of the project (what is its purpose / intended to achieve?):

Overall objectives for the duplication of the Western Highway between Ballarat and Stawell have been endorsed corporately by VicRoads and include:

- Duplication to 'M' road standard;
- Reduction in travel time;
- Improved safety at intersections;
- Improved safety of access to adjoining properties;
- Provision of adequate rest areas;
- Provision for high productivity vehicles (e.g. B-Triples), and;
- Complementing future bypasses of Beaufort and Ararat.

Background/rationale of project (describe the context / basis for the proposal, eg. for siting):

The Australian Government made a commitment to fund this Project under its Nation Building Program with an initial contribution of $404 million on the basis that the Victorian Government contributes 20% of the total project cost. The Victorian Government included a funding commitment of $101 million towards the Project in the Victorian Transport Plan, released in December 2008.

Main components of the project (nature, siting & approx. dimensions; attach A4/A3 plan(s) of site layout if available):

The duplication of the Western Highway will result in a road facility with two lanes in each direction, separated by a central median. The individual elements of the duplicated highway are expected to require a nominal overall road reserve width of 80m. Approximately 25 kilometres of highway will be duplicated. Please refer to Attachment 1.

Ancillary components of the project (eg. upgraded access roads, new high-pressure gas pipeline; off-site resource processing):

Local access roads may require upgrading as part of the Project. Utility services may need to be relocated.

Key construction activities:

Pavement construction and bridge/major culvert construction.

Key operational activities:

The duplicated Western Highway will be used for the same purpose as the current highway, that being to enable efficient passenger vehicle and freight transport movements between cities and towns.

Key decommissioning activities (if applicable):
N/A

Is the project an element or stage in a larger project?

☐ No ☒ Yes If yes, please describe: the overall project strategy for delivery of all stages and components; the concept design for the overall project; and the intended scheduling of the design and development of project stages).

The proposed action, the Burrumbeet to Beaufort section, forms stage two of the Western Highway Project (Ballarat to Stawell). The previous stage, Ballarat to Burrumbeet is to shortly commence construction under a design and construct contract. The subsequent stages, Beaufort to Ararat and Ararat to Stawell are currently in planning, with alignment options having been developed and now being investigated in detail. Construction of the duplicated highway to Stawell is scheduled for completion in late 2017.

Is the project related to any other past, current or mooted proposals in the region?

☐ No ☒ Yes If yes, please identify related proposals.

The Pyrenees Shire Council completed a preliminary feasibility study for an eventual bypass of Beaufort during 2009. If a bypass is constructed, it will connect into the western end of this project.

4. Project alternatives

Brief description of key alternatives considered to date (eg. locational, scale or design alternatives. If relevant, attach A4/A3 plans):

Ten route alignment options were developed for the duplication of the Western Highway from Burrumbeet to Beaufort. These were then reviewed internally based on consultant's reporting and community feedback before recommendations were made to the VicRoads Project Review Committee. Four alignments were approved for further investigation, and are currently being developed to concept design detail by GHD Pty Ltd.

Brief description of key alternatives to be further investigated (if known)**:**

Four route alignment options continue to be investigated. Please refer to Attachment 1.

5. Proposed exclusions

Statement of reasons for the proposed exclusion of any ancillary activities or further project stages from the scope of the project for assessment:

Due to the length and prolonged timeframe for the overall project to duplicate the Western Highway between Ballarat and Stawell, VicRoads has divided the project into four stages. These stages are based on corridor availability, environmental assessments and communities of interest.

The Ballarat to Burrumbeet section of the project takes advantage of the highway duplication planning that took place under the Ballarat Bypass project during the early 1990's and enables VicRoads to meet funding requirements for construction to start at the earliest opportunity.

The Burrumbeet to Beaufort section of the project, which this referral specifically relates to encompasses relatively flat rural farmland with minor undulations. The native vegetation of the area has been extensively modified due to farming operations associated with grazing and cropping. Forestry plantations are also in abundance throughout this section. The Trawalla State Forest is positioned at the western end of this section; however it is expected that highway duplication can occur with little or no impact to the State Forest.

The Beaufort to Ararat and Ararat to Stawell sections of the Western Highway pass through changing terrain and regions of native vegetation far more extensive and significant than exist between Ballarat and Beaufort. Water crossings and heritage sites are also far more prevalent within those sections. Examples of such constraints are the Langi Ghiran State Park, a significant number of very large old trees including red gums, and "Sisters Rocks" an Aboriginal ceremonial place.

Given the distinctly varied conditions along the project corridor, it is recommended that the Burrumbeet to Beaufort section is subjected to assessment independent of the other sections.

6. Project implementation

Implementing organisation (ultimately responsible for project, ie. not contractor)**:**

VicRoads is the implementing organisation for this project.
Implementation timeframe:

Construction is estimated to commence during Summer 2011/2012.
Proposed staging (if applicable):

The duplication of the Western Highway between Burrumbeet and Beaufort is expected to occur in a single stage, and as the second of four stages for the entire duplication of the Western Highway between Ballarat and Stawell.

7. Description of proposed site or area of investigation

Has a preferred site for the project been selected?

☒ No ☒ Yes If no, please describe area for investigation.
If yes, please describe the preferred site in the next items (if practicable).

Four route alignment options remain under investigation for the duplication of the Western Highway between Burrumbeet and Beaufort. These encompass both the use of existing highway and a possible new alignment.

General description of preferred site, (including aspects such as topography/landform, soil types/degradation, drainage/ waterways, native/exotic vegetation cover, physical features, built structures, road frontages; attach ground-level photographs of site, as well as A4/A3 aerial/satellite image(s) and/or map(s) of site & surrounds, showing project footprint):

Not applicable at this time, due to a preferred site/alignment being yet to be determined.

Site area (if known): …Unknown (hectares)

Route length (for linear infrastructure) Approx. 25 (km) **and width** Nominal 80 (m)

The cross section width will vary depending on the need for grade separation interchanges, and service roads to maintain local road connectivity.

Current land use and development:

Some of the impacted land is currently used as road reserve for the existing Western Highway. Surrounding land also impacted by the project is predominantly used for various forms of farming, including grazing, cropping and plantations. Isolated dwellings exist along the Highway either within minor townships, on farm land or within a small rural subdivision.

Description of local setting (eg. adjoining land uses, road access, infrastructure, proximity to residences & urban centres):

The local setting consists of a rural environment with two minor townships (Burrumbeet and Trawalla) over a 25km length. Adjoining land use is for farming activities. Local roads and property accesses exist at grade with the existing Western Highway. Overhead powerlines exist throughout the area as does a passenger rail line. An Avenue of Honour commemorating deceased soldiers from the First World War intersects the existing Highway.

Planning context (eg. strategic planning, zoning & overlays, management plans):

The land use within the reservation of the Western Highway is classified as a Category 1 Road (RDZ1). The land use (outside the road reservation) is predominantly classified as Farming Zone (FZ) which provides for the use of land for agriculture and to encourage the retention of productive agricultural land. Other land use zones in the vicinity of the Western Highway between Burrumbeet and Beaufort include:

- Public Conservation and Resource Zone (PCRZ) providing for the Trawalla State Forest;
- Public Park and Recreation Zone (PPZ2) providing for Lake Burrumbeet;
- Public Use Zone – Other Public Use (PPZ7) providing for the Langi Kal Kal prison facility;
- Rural Conservation Zone (RCZ) encompassing Mount Callender, and;
- Rural Living Zone (RLZ) providing for a rural residential subdivision.

Local government area(s):

This project encompasses two local government municipalities, City of Ballarat and Pyrenees Shire Council.

8. Existing environment

Overview of key environmental assets/sensitivities in project area and vicinity
(cf. general description of project site/study area under section 7)**:**

Lake Burrumbeet represents the most significant environmental asset in the project area, even though it has been dry for several years due to the prolonged drought conditions in the district. Significant flora, fauna and Aboriginal cultural heritage are known to exist in close proximity to the lake.

Mount Emu Creek, located to the immediate west of Trawalla, is another key environmental asset, with significant fauna species known to be present and Aboriginal cultural heritage likely to exist.

9. Land availability and control

Is the proposal on, or partly on, Crown land?

☐ No ☒ Yes If yes, please provide details.

One of the route alignments (option 2) would pass through a small parcel of Crown land that exists on the eastern side of Trawalla – Waterloo Road, to the immediate north-west of Trawalla township. Please refer to Attachment 2.

Current land tenure (provide plan, if practicable):

Land status checks will be formally completed as part of the review process with each route alignment option.

Intended land tenure (tenure over or access to project land):

No intended changes to land tenure for the project area are currently known by VicRoads.

Other interests in affected land (eg. easements, native title claims):

The Department of Sustainability and Environment has given preliminary advice that there are no current native title claims on land within the project area between Burrumbeet and Beaufort. Land status checks will be formally completed as part of the review process with each route alignment option.

10. Required approvals

State and Commonwealth approvals required for project components (if known):

It is known that an approval will be required under the Victorian Flora and Fauna Guarantee Act, for which the Department of Sustainability and Environment are the agency. It is also known that approvals will be required under the Australian Environment Protection and Biodiversity Conservation Act, for which the Department of the Environment, Water, Heritage and the Arts are the agency.

Approvals are also likely to be required for heritage and other matters; however the specific requirements have yet to be determined.

Have any applications for approval been lodged?

☒ No ☐ Yes If yes, please provide details.

Approval agency consultation (agencies with whom the proposal has been discussed):

The project proposal has been discussed with the Department of Sustainability and Environment and the Department of the Environment, Water, Heritage and the Arts.

Other agencies consulted:

PART 2 POTENTIAL ENVIRONMENTAL EFFECTS

11. Potentially significant environmental effects

Overview of potentially significant environmental effects (identify key potential effects and comment on their significance and likelihood, as well as key uncertainties):

The flora, fauna and net gain assessment conducted by Ecology Partners Pty Ltd during November 2009 identified the following remnant vegetation loss and offset details for each of the four alignment options (known as Options 2, 5, 6 and 7).

The area of native vegetation to be cleared for each route alignment option has been based on assessing the preliminary alignment option width of 80m plus an additional 50m each side, making a total assessment width of 180m. This extra width ensures VicRoads has sufficient vegetation information for areas where grade separated interchanges might be required, given that the location of such interchanges had not been determined prior to the flora and fauna investigations being undertaken.

The native vegetation investigations have also assumed a complete loss of all vegetation within the nominated 80m Right of Way (road reserve). This is the unrealistic, worst case scenario as a significant amount of native vegetation that exists within the current road reserve should be able to be retained in either the median or verge of the duplicated highway.

- **Option 2**

  Remnant vegetation proposed for removal within alignment Option 2 consists of **1.21 habitat hectares** of high conservation significance Plains Grassland within the Central Victorian Uplands and **0.02 habitat hectares** of high conservation significance Plains Grassy Wetland within the Victorian Volcanic Plain.

  The number of trees proposed to be cleared from remnant patches consists of **2 very large old trees (VLOT)** and **2 large old trees (LOT)**. The number of scattered trees proposed to be cleared consists of **3 VLOTs** and **3 LOTs**.

  The loss would need to be offset through the generation of at least **1.82 habitat hectares** of high conservation significance Plains Grassland from the Central Victorian Uplands bioregion, **0.03 habitat hectares** of high conservation significance Plains Grassland from the Victorian Volcanic Plains bioregion, to protect **16 LOTs** and to recruit **80 new trees** for losses from remnant vegetation patches. For scattered tree losses, there would be a requirement to protect **24 LOTs** and to recruit **120 new trees** or to recruit **900 new trees** through the recruitment – only option.

- **Option 5**

  Remnant vegetation proposed for removal with alignment Option 5 consists of approximately **0.02 habitat hectares** of high conservation significance Valley Grassy Forest, **10.46 habitat hectares** of very high conservation significance Valley Grassy Forest, **3.79 habitat hectares** of high conservation significance Plains Grassland, **0.02 habitat hectares** of high conservation significance Plains Grassy Wetland (all within the Central Victorian Uplands region) and **0.07 habitat hectares** of high conservation significance Plains Grassland within the Victorian Volcanic Plains bioregion.
  The number of trees proposed to be cleared from the remnant patches consists of **35 VLOTs** and **113 LOTs**. The number of scattered trees proposed to be cleared consists of **20 VLOTs**, **34 LOTs** and **4 medium trees.**

  The loss would need to be offset through the generation of at least **0.03 habitat hectares** of high conservation significance Valley Grassy Forest, **20.92 habitat hectares** of very high conservation significance Plain Grassland and **0.03 habitat hectares** of high conservation significance Plains Grassy Wetland from the Central Victorian Uplands bioregion and **0.11 habitat hectares** of high conservation

significance Plains Grassland from the Victorian Volcanic Plains bioregion. There would be a requirement to protect **1,136 LOTs** (1,128 from the Central Victorian Uplands bioregion, 8 from the Victorian Volcanic Plains bioregion) and to recruit **5,680 new trees** (5,640 from the Central Victorian Uplands bioregion, 40 from the Victorian Volcanic Plains bioregion) from losses of remnant vegetation. For scattered trees losses, there would be a requirement to protect **136 LOTs** and **4 medium old trees** and to recruit **700 new trees** or to recruit **4,850 new trees** through the recruitment – only option.

- **Option 6**

  Remnant vegetation proposed for removal with alignment Option 6 consists of approximately **0.02 habitat hectares** of high conservation significance Valley Grassy Forest, **10.46 habitat hectares** of very high conservation significance Valley Grassy Forest, **3.64 habitat hectares** of high conservation significance Plains Grassland within the Central Victorian Uplands bioregion and **0.34 habitat hectares** of high conservation significance Plains Grassland within the Victorian Volcanic Plains bioregion.

  The number of trees proposed to be cleared from the remnant patches consists of approximately **35 VLOTs** and **113 LOTs**. The number of scattered trees proposed to be cleared consists of **20 VLOTs**, **34 LOTs** and **4 medium trees**.

  The loss would need to be offset through the generation of at least **0.03 habitat hectares** of high conservation significance Valley Grassy Forest, **20.92 habitat hectares** of very high conservation significance Valley Grassy Forest and **5.46 habitat hectares** of high conservation significance Plains Grassland from the Central Victorian Uplands bioregion and **0.51 habitat hectares** of high conservation significance Plains Grassland from the Victorian Volcanic Plains bioregion. There would be a requirement to protect **1,136 LOTs** (1,128 from the Central Victorian Uplands bioregion, 8 from the Victorian Volcanic Plains bioregion) and to recruit **5,860 new trees** (5,640 from the Central Victorian Uplands bioregion, 40 from the Victorian Volcanic Plains bioregion) for losses from remnant vegetation. For scattered tree losses, there would be a requirement to protect **136 LOTs** and **4 medium old trees** and to recruit **700 new trees** or to recruit **4,850 new trees** through the recruitment – only option.

- **Option 7**

  Remnant vegetation proposed for removal within alignment Option 7 consists of approximately **0.02 habitat hectares** of high conservation significance Valley Grassy Forest, **10.46 habitat hectares** of very high conservation significance Valley Grassy Forest, **3.79 habitat hectares** of high conservation significance Plains Grassland, **0.02 habitat hectares** of high conservation significance Plains Grassy Wetland (all within the Central Victorian Uplands bioregion) and **0.46 habitat hectares** of high conservation significance Plains Grassland within the Victorian Volcanic Plains bioregion.

  The number of trees proposed to be cleared from remnant patches consists of **35 VLOTs** and **113 LOTs**. The number of scattered trees propose to be cleared consists of **20 VLOTs**, **34 LOTs** and **4 medium trees**.

  The loss would need to be offset through the generation of at least **0.03 habitat hectares** of high conservation significance Valley Grassy Forest, **20.92 habitat hectares** of very high conservation significance Valley Grass Forest, **5.69 habitat hectares** of high conservation significance Plains Grassland and **0.03 habitat hectares** of high conservation significance Plains Grassy Wetland from the Central Victorian Uplands bioregion and **0.69 habitat hectares** of high conservation significance Plains Grassland from the Victorian Volcanic Plain bioregion. There would be a requirement to protect **1,136 LOTs** (1,128 from the Central Victorian Uplands bioregion, 8 from the Victorian Volcanic Plains bioregion) and to recruit **5,860 new trees** (5,640 from the Central Victorian Uplands bioregion, 40 from the Victorian Volcanic Plains bioregion) for losses of remnant vegetation patches. For scattered tree losses, there would be a requirement to protect **136 LOTs** and **4 medium old trees** and to recruit **700 new trees** or to recruit **4,850 new trees** through the recruitment – only option.

12. Native vegetation, flora and fauna

Native vegetation

Is any native vegetation likely to be cleared or otherwise affected by the project?

☐ NYD ☐ No ☒ Yes If yes, answer the following questions and attach details.

What investigation of native vegetation in the project area has been done? (briefly describe)

A desktop flora and fauna assessment of the Western Highway between Burrumbeet and Stawell was completed by Ecology Partners Pty Ltd during July 2008. With route alignment options being developed for the Burrumbeet to Beaufort section during 2009 a standard assessment (spring survey) for flora, fauna and net gain requirements was conducted for this section during November 2009. Recommendations were made in this report for targeted surveys of certain flora and fauna species, which were accepted and the surveys commenced.

What is the maximum area of native vegetation that may need to be cleared?

☐ NYD Estimated area …Option 2: 1.23 hectares
Option 5: 14.36 hectares
Option 6: 14.45 hectares
Option 7: 14.75 hectares

The area of native vegetation to be cleared for each route alignment option has been based on assessing the preliminary alignment option width of 80m plus an additional 50m each side, making a total assessment width of 180m. This extra width ensures VicRoads has sufficient vegetation information for areas where grade separated interchanges might be required, given that the location of such interchanges had not been determined prior to the flora and fauna investigations being undertaken.

The native vegetation investigations have also assumed a complete loss of all vegetation within the nominated 80m Right of Way (road reserve). This is the unrealistic, worst case scenario as a significant amount of native vegetation that exists within the current road reserve should be able to be retained in either the median or verge of the duplicated highway.

Another possible route alignment option exists, this being a combination alignment of Options 5 and 6. This would be expected to have a reduced area of native vegetation clearance then either of those options on their own.

How much of this clearing would be authorised under a Forest Management Plan or Fire Protection Plan?

☐ N/A …… approx. percent (if applicable)

Yet to be determined.

Which Ecological Vegetation Classes may be affected? (if not authorised as above)

☐ NYD ☒ Preliminary/detailed assessment completed. If assessed, please list.

The following Ecological Vegetation Classes have been identified within the project area between Burrumbeet and Beaufort and are impacted by all four of the route alignment options remaining under investigation:

- Valley Grassy Forest;
- Plains Grassland, and;
- Plains Grassy Wetland.

Have potential vegetation offsets been identified as yet?

☒ NYD ☐ Yes If yes, please briefly describe.

VicRoads have taken the worst case scenario for native vegetation offsets (14.75 hectares) and entered it into the net gain register to begin searching for potential offset sites.

Other information/comments? (eg. accuracy of information)

NYD = not yet determined

Flora and fauna

What investigations of flora and fauna in the project area have been done?
(provide overview here and attach details of method and results of any surveys for the project & describe their accuracy)

Ecology Partners Pty Ltd have completed both a desktop assessment of the project area between Burrumbeet and Beaufort and a flora, fauna and net gain assessment of proposed route alignment options for this project. Instead of repeating the results of the latter assessment in this Section, please refer to Section 11 of this report.

Have any threatened or migratory species or listed communities been recorded from the local area?

☐ NYD ☐ No ☒ Yes If yes, please:

- List species/communities recorded in recent surveys and/or past observations.
- Indicate which of these have been recorded from the project site or nearby.

Three nationally significant fauna species were recorded in the project area during recent detailed assessment. All three of these species were recorded within Mount Emu Creek and are as follows:

- Growling Grass Frog *Litoria raniformis*;
- Dwarf Galaxias *Galaxiella pusilla*, and;
- Yarra Pygmy Perch *Nannoperca obscura*.

Twelve nationally significant fauna species have previously been recorded from the local area, or are predicted to occur. These species include:

- Regent Honeyeater *Anthochaera Phrygia*
- Eastern Barred Bandicoot *Perameles gunnii*
- Golden Sun Moth *Synemon plana*
- Australian Grayling *Prototroctes maraena*
- Australian Painted Snipe *Rostratula australis*
- Grey-headed Flying-fox *Pteropus poliocephalus*
- Macquarie Perch *Macquaria australasica*
- Murray Cod *Maccullochella oeelii peelii*
- Southern Brown Bandicoot *Isoodon obesulus obesulus*
- Spot-tailed Quoll *Dasyurus maclatus*
- Striped Legless *Lizard Delma impar*
- Swift Parrot *Lathamus discolor*

A number of other species of regional and/or local significance have also been recorded in the local area.

Targeted surveys for the Golden Sun Moth on 23 December 2009 and 7, 8 and 15 January 2010 (Ecology Partners 2010 Electronic Correspondence) determined that no Golden Sun Moths were located in remnant grassland within the study area. Other targeted surveys remain ongoing.

The EPBC listed Natural Temperate Grassland of the Victorian Volcanic Plain was recorded within the project area. The EPBC listed Grassy Eucalypt Woodland of the Victorian Volcanic Plain is known to occur within a 10 kilometre radius of the project area however it was not observed during the recent detailed assessment.

If known, what threatening processes affecting these species or communities may be exacerbated by the project? (eg. loss or fragmentation of habitats) Please describe briefly.

Exacerbating processes have not yet been determined.

Are any threatened or migratory species, other species of conservation significance or listed communities potentially affected by the project?

☒ NYD ☐ No ☐ Yes If yes, please:

- List these species/communities:

• Indicate which species or communities could be subject to a major or extensive impact (including the loss of a genetically important population of a species listed or nominated for listing) Comment on likelihood of effects and associated uncertainties, if practicable.
Potential affects on species or communities will be accurately determined upon receipt of the detail concept designs of the four remaining route alignment options, which are due in early to mid April.
Is mitigation of potential effects on indigenous flora and fauna proposed? ☐ NYD ☐ No ☒ Yes If yes, please briefly describe.
Mitigation measures to be determined following adoption of the final route alignment, and final assessment of the impacts to indigenous flora and fauna.
Other information/comments? (eg. accuracy of information)

13. Water environments

Will the project require significant volumes of fresh water (eg. > 1 Gl/yr)?
☒ NYD ☐ No ☐ Yes If yes, indicate approximate volume and likely source.

Will the project discharge waste water or runoff to water environments?
☐ NYD ☒ No ☐ Yes If yes, specify types of discharges and which environments.

Are any waterways, wetlands, estuaries or marine environments likely to be affected?
☐ NYD ☐ No ☒ Yes If yes, specify which water environments, answer the following questions and attach any relevant details.

A bridge or major culvert structure will need to be constructed over Mount Emu Creek as all of the route alignment options that remain under investigation cross this creek. Potential affects on the creek will depend on the type of structure chosen, which will be investigated after adoption of a final alignment.

Are any of these water environments likely to support threatened or migratory species?
☐ NYD ☐ No ☒ Yes If yes, specify which water environments.

The Mount Emu Creek has been confirmed as supporting the Growling Grass Frog through the results of standard assessment and targeted survey. Dwarf Galaxias and Yarra Pygmy Perch were also observed in the Creek during the standard assessment.

Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?
☐ NYD ☒ No ☐ Yes If yes, please specify.

Could the project affect streamflows?
☒ NYD ☐ No ☐ Yes If yes, briefly describe implications for streamflows.

Could regional groundwater resources be affected by the project?
☒ NYD ☐ No ☐ Yes If yes, describe in what way.

Could environmental values (beneficial uses) of water environments be affected?
☒ NYD ☐ No ☐ Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)

Could aquatic, estuarine or marine ecosystems be affected by the project?
☒ NYD ☐ No ☐ Yes If yes, describe in what way.

Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?
☒ No ☐ Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.

Is mitigation of potential effects on water environments proposed?
☒ NYD ☐ No ☐ Yes If yes, please briefly describe.

Other information/comments? (eg. accuracy of information)

14. Landscape and soils

Landscape

Has a preliminary landscape assessment been prepared?

☒ No ☐ Yes If yes, please attach.

Is the project to be located either within or near an area that is:

- **Subject to a Landscape Significance Overlay or Environmental Significance Overlay?**

  ☐ NYD ☐ No ☒ Yes If yes, provide plan showing footprint relative to overlay.

A Significant Landscape overlay exists over Lake Burrumbeet towards the eastern end of the project area between Burrumbeet and Beaufort. A Environmental Significance overlay exists over the Mount Emu Creek to the immediate west of Trawalla township. Please refer to Attachment 3 for maps showing these overlays.

- **Identified as of regional or State significance in a reputable study of landscape values?**

  ☒ NYD ☐ No ☐ Yes If yes, please specify.

- **Within or adjoining land reserved under the *National Parks Act 1975* ?**

  ☐ NYD ☒ No ☐ Yes If yes, please specify.

- **Within or adjoining other public land used for conservation or recreational purposes ?**

  ☐ NYD ☐ No ☒ Yes If yes, please specify.

Lake Burrumbeet is zoned PPRZ for Public Park and Recreation, and the Trawalla State Forest is zoned PCRZ for Public Conservation and Resource.

Is any clearing vegetation or alteration of landforms likely to affect landscape values?

☒ NYD ☐ No ☐ Yes If yes, please briefly describe.

Is there a potential for effects on landscape values of regional or State importance?

☒ NYD ☐ No ☐ Yes Please briefly explain response.

Is mitigation of potential landscape effects proposed?

☒ NYD ☐ No ☐ Yes If yes, please briefly describe.

Other information/comments? (eg. accuracy of information)

Note: A preliminary landscape assessment is a specific requirement for a referral of a wind energy facility. This should provide a description of:

- The landscape character of the site and surrounding areas including landform, vegetation types and coverage, water features, any other notable features and current land use;
- The location of nearby dwellings, townships, recreation areas, major roads, above-ground utilities, tourist routes and walking tracks;
- Views to the site and to the proposed location of wind turbines from key vantage points (including views showing existing nearby dwellings and views from major roads, walking tracks and tourist routes) sufficient to give a sense of the overall site in its setting.

Soils

Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils?

☒ NYD ☐ No ☐ Yes If yes, please briefly describe.

Are there geotechnical hazards that may either affect the project or be affected by it?

☒ NYD ☐ No ☐ Yes If yes, please briefly describe.

Other information/comments? (eg. accuracy of information)

15. Social environments

Is the project likely to generate significant volumes of road traffic, during construction or operation?

☐ NYD ☒ No ☐ Yes If yes, provide estimate of traffic volume(s) if practicable.

Construction activities will result in numerous vehicles being in the project area however these will make a negligible impact on the overall traffic volumes. Duplication of the Western Highway is not expected to generate significant extra traffic volumes of its own accord, however the corridor is a major National route with predicted growth factors of 3.47% for light vehicles and 2.20% for heavy vehicles.

Is there a potential for significant effects on the amenity of residents, due to emissions of dust or odours or changes in visual, noise or traffic conditions?

☐ NYD ☐ No ☒ Yes If yes, briefly describe the nature of the changes in amenity conditions and the possible areas affected.

The presence of raised dust and increased noise are synonymous with civil construction sites and will be managed under an Environmental Management Plan developed by the Contractor upon award of the construction contract. Existing traffic conditions may be affected at times when construction occurs in close proximity to the existing highway.

Is there a potential for exposure of a human community to health or safety hazards, due to emissions to air or water or noise or chemical hazards or associated transport?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the hazards and possible implications.

The level of environmental impact caused by the project is considered highly unlikely to create health or safety hazards to human communities.

Is there a potential for displacement of residences or severance of residential access to community resources due to the proposed development?

☐ NYD ☐ No ☒ Yes If yes, briefly describe potential effects.

The duplication of the Western Highway between Burrumbeet and Beaufort is being planned to a full freeway standard, and land required for the final adopted alignment will be subject to the implementation of a Road Development Zone 1, and a Public Acquisition Overlay. Under a freeway outcome all access points to the freeway will need to be grade-separated, meaning no direct property access to the freeway.

The existing conditions do not warrant construction of a freeway therefore a duplicated highway will be constructed initially. It is likely that VicRoads will only acquire sufficient land to construct the duplicated highway. Some direct highway access may be removed based on design guidelines and the VicRoads Access Management Policy, however under this configuration most of the existing direct accesses will remain.

Are non-residential land use activities likely to be displaced as a result of the project?

☐ NYD ☐ No ☒ Yes If yes, briefly describe the likely effects.

Potential displacement depends on the adopted route alignment, with facilities in Burrumbeet and Trawalla being at greatest risk.

Do any expected changes in non-residential land use activities have a potential to cause adverse effects on local residents/communities, social groups or industries?

☐ NYD ☐ No ☒ Yes If yes, briefly describe the potential effects.

Communities may be separated if the highway duplication occurs through Burrumbeet and/or Trawalla. A hotel, primary school, Country Fire Authority facility and community halls are the sites of community interaction within these townships.

Is mitigation of potential social effects proposed?

☒ NYD ☐ No ☐ Yes If yes, please briefly describe.

Possible mitigation measures will be considered after a route alignment is adopted.

Other information/comments? (eg. accuracy of information)

Cultural heritage

Have relevant Indigenous organisations been consulted on the occurrence of Aboriginal cultural heritage within the project area?

☐ No If no, list any organisations that it is proposed to consult.
☒ Yes If yes, list the organisations so far consulted.

The Wathaurung Aboriginal Corporation is the Registered Aboriginal Party for the project area and are aware of the project, having been involved with planning and the salvage of artefacts prior to the duplication of the Western Highway between Ballarat and Burrumbeet.

What investigations of cultural heritage in the project area have been done?
(attach details of method and results of any surveys for the project & describe their accuracy)

A preliminary due diligence assessment (incorrectly labelled as a desktop assessment) has been completed by Dr Vincent Clark & Associates to provide an initial overview of cultural heritage sites that have either been recorded or are immediately obvious within the corridor of interest. Please refer to the supplied document "Western Highway Duplication: Burrumbeet to Stawell – Cultural Heritage Desktop Study".

Is any Aboriginal cultural heritage known from the project area?

☐ NYD ☐ No ☒ Yes If yes, briefly describe:

- Any sites listed on the AAV Site Register
- Sites or areas of sensitivity recorded in recent surveys from the project site or nearby
- Sites or areas of sensitivity identified by representatives of Indigenous organisations

Known Aboriginal cultural heritage within this project area include:

1. 12.3-9: Burrumbeet Cliffs Spiritual Place. This is an area of cliffs and caves on the northwest short of Lake Burrumbeet that has spiritual meaning for Aboriginal people. The known Aboriginal archaeological sites associated with this lake confirm the significance of this area for Aboriginal people.

2. 1.1-12: Trawalla Station. Located at Trawalla, between the township and White Stone Lagoon, this site is a historic place that relates to a significant contact between Aboriginal people and a European woman in 1839 on the "Trawalla" station.

It is expected that further Aboriginal cultural heritage will be discovered in the vicinity of Lake Burrumbeet and/or Spring Hill Creek and Mount Emu Creek.

Are there any cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the *Heritage Act 1995* within the project area?

☐ NYD ☐ No ☒ Yes If yes, please list.

Known cultural heritage sites within this project area include:

1. CB HO154: Ballarat Avenue of Honour. The Avenue of Honour (subject to Heritage Overlay HO154) is located along the Ballarat – Burrumbeet Road and Avenue Road found near the eastern end of this section. This Avenue commemorates the soldiers of Ballarat who fought in the First World War and was established through community fundraising. Tree planting commenced on 3 June 1917 with 3,912 trees eventually being planted over a 14-mile length, each tree having a name plaque commemorating a Ballarat soldier.

The first recorded Avenue in Victoria, Ballarat's Avenue is the longest in Australia and, together with the associated Arch of Victory memorial located within Ballarat, is classified by the National Trust of Australia (Victoria), the Australian Heritage Commission, and has been included on the Victorian Heritage Register by Heritage Victoria.

2. 12.9-13: Structural ruins. Just north of Lake Burrumbeet are substantial structural ruins, which are considered to be the remnants of a Cobb & Co staging station. These ruins are positioned within very close proximity to the existing Western Highway alignment.

Is mitigation of potential cultural heritage effects proposed?

☒ NYD ☒ No ☒ Yes If yes, please briefly describe.

Mitigation measures will be determined as the full effects on cultural heritage are determined.

Other information/comments? (eg. accuracy of information)

Once a route alignment is adopted for the duplication of the Western Highway between Burrumbeet and Beaufort, VicRoads will then undertake desktop and complex assessments of the specific project area, which will then determine the requirement to develop a Cultural Heritage Management Plan (CHMP). VicRoads expects that a CHMP will be required for this project.

16. Energy, wastes & greenhouse gas emissions

What are the main sources of energy that the project facility would consume/generate?

- × Electricity network. If possible, estimate power requirement/output ……..
- × Natural gas network. If possible, estimate gas requirement/output ……...
- × Generated on-site. If possible, estimate power capacity/output ……..
- ✕ Other. Please describe.

Please add any relevant additional information.

The main source of energy that would be consumed during the duplication of the Western Highway is fossil fuels in such forms as diesel, oil and hydraulic fluid.

What are the main forms of waste that would be generated by the project facility?

- × Wastewater. Describe briefly.
- × Solid chemical wastes. Describe briefly.
- ✕ Excavated material. Describe briefly.

There is the potential for an amount of excavated material to be surplus to construction requirements. The quantity of such waste might only be known upon adoption of the final route alignment, assessment of earthworks quantities, and completion of geotechnical studies on site.

- × Other. Describe briefly.

Please provide relevant further information, including proposed management of wastes.

What level of greenhouse gas emissions is expected to result directly from operation of the project facility?

- ✕ Less than 50,000 tonnes of CO_2 equivalent per annum
- × Between 50,000 and 100,000 tonnes of CO_2 equivalent per annum
- × Between 100,000 and 200,000 tonnes of CO_2 equivalent per annum
- × More than 200,000 tonnes of CO_2 equivalent per annum

Please add any relevant additional information, including any identified mitigation options.

Greenhouse gas emissions are not expected to directly increase from the operation of the duplicated Western Highway as traffic volumes are not expected to increase as a simple function of the project.

17. Other environmental issues

Are there any other environmental issues arising from the proposed project?

✕ No × Yes If yes, briefly describe.

None that VicRoads are currently aware of.

18. Environmental management

What measures are currently proposed to avoid, minimise or manage the main potential adverse environmental effects? (if not already described above)

☒ Siting: Please describe briefly

☒ Design: Please describe briefly

☒ Environmental management: Please describe briefly.

☒ Other: Please describe briefly

Add any relevant additional information.

19. Other activities

Are there any other activities in the vicinity of the proposed project that have a potential for cumulative effects?

☒ NYD ☒ No ☒ Yes If yes, briefly describe.

20. Investigation program

Study program

Have any environmental studies not referred to above been conducted for the project?

☒ No ☒ Yes If yes, please list here and attach if relevant.

Has a program for future environmental studies been developed?

☒ No ☒ Yes If yes, briefly describe.

Targeted surveys for flora and fauna species remain ongoing. Flood studies will be required on both Spring Hill Creek and Mount Emu Creek. Other studies will be completed as their need is identified.

Consultation program

Has a consultation program conducted to date for the project?

☒ No ☒ Yes If yes, outline the consultation activities and the stakeholder groups or organisations consulted.

A formal consultation program has not been developed or conducted to date, however extensive consultation with the community and stakeholders has taken place. The project to duplicate the Western Highway from Burrumbeet to Beaufort was introduced to the community and stakeholders through separate meetings in July 2009, with VicRoads asking for advice regarding potential constraints in the area. A subsequent meeting was held in September 2009 to display the nine route alignment options that were developed by URS Australia Pty Ltd. Community and stakeholder feedback on these options, as well as the reporting related to the alignments resulted in only four options being considered for further investigation.

Has a program for future consultation been developed?

☒ NYD ☒ No ☒ Yes If yes, briefly describe.

Another community meeting will occur in late April 2010 to display the four route alignment options after they have been developed to concept design standard. Feedback from this meeting, and reporting related to the designs will assist in the VicRoads adoption of one route alignment. This alignment will then go on public exhibition towards an expected Planning Scheme Amendment process.

Authorised person for proponent:

I, ……(full name),

……(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature _____

Date

Person who prepared this referral:

I, ……(full name),

……(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature _____

Date