

# 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.

In completing a Referral Form, the following should occur:

- 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](mailto:ees.referrals@dpcd.vic.gov.au) is encouraged. This will assist the timely processing of a referral.

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## PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

### 1. Information on proponent and person making Referral

<b>Name of Proponent:</b>	VicRoads
<b>Authorised person for proponent:</b>	Ewen Nevett
<b>Position:</b>	Project Director – Western Highway
<b>Postal address:</b>	PO Box 148, Wendouree VIC 3355
<b>Email address:</b>	ewen.nevett@roads.vic.gov.au
<b>Phone number:</b>	(03) 5309 1050
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<b>Person who prepared Referral:</b>	Grant Deeble
<b>Position:</b>	Team Leader Planning
<b>Organisation:</b>	VicRoads
<b>Postal address:</b>	PO Box 148, Wendouree, Vic 3355
<b>Email address:</b>	grant.deeble@roads.vic.gov.au
<b>Phone number:</b>	03 5309 1071
<b>Facsimile number:</b>	03 5309 1099
<b>Available industry &amp; environmental expertise:</b> (areas of 'in-house' expertise & consultancy firms engaged for project)	<ul style="list-style-type: none"> <li>Ecology Partners – desktop flora and fauna assessment (Burrumbeet to Stawell)</li> <li>CPG Australia – traffic analysis (Ballarat to Stawell)</li> </ul>

### 2. Project – brief outline

<b>Project title:</b>	Western Highway Project – Stage 2 (Beaufort to Ararat)
<b>Project location:</b> (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)	<p>The project area is between the railway crossing west of Beaufort and Heath Street, Ararat. A notional 1500m either side of the existing Western Highway was identified as the width of the study area corridor. The township of Buangor is situated approximately half way along the 40km corridor.</p> <p>Railway crossing, Beaufort:      709390 N      5854983 E (approx.)  Heath Street, Ararat:              673476 N      5871472 E (approx.)</p> <p>The project area is shown in Figure 1.</p>
<b>Short project description</b> (few sentences):	<p>The section of the Western Highway subject to this referral, between Beaufort and Ararat, commences about 160km west of Melbourne, and covers 40km between the two towns. The works will include the construction of a two-lane, dual carriageway freeway containing one railway crossing, five creek and river crossings, and potentially a bypass of the township of Buangor halfway along the corridor.</p> <p>The areas of interest for the potential alignment options are shown in Figure 2 to Figure 6, the alignments would comprise of either a new single carriageway beside the existing highway, or a dual carriageway realignment which deviates from the existing road reserve.</p>

### 3. Project description

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

The overarching objectives of the Western Highway Project are to:

- Allow safe overtaking at all times and eliminate traffic queuing
- Decrease travel time
- Improve safety for motorists
- Better efficiency of freight movements between important manufacturers in regional areas

In meeting these objectives the following project deliverables should be achieved:

- Minimise delays for all traffic
- Reduce crash rate
- Minimise impact on environment, vegetation and cultural heritage
- Minimise impact on services
- Minimise maintenance costs

**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.

The Beaufort to Ararat section of the highway is the middle of three segments. The study does not include bypasses of either town, as these are intended to be addressed separately if and when the need arises.

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

The corridor is considered in four zones for planning and design development purposes, as shown in the attached figures.

The project is likely to comprise of a combination of the following, the extent of which will be determined by the options selected through further ongoing assessment:

- Duplication - adding a second carriageway adjacent to the existing highway (existing highway retained and used as one of the two carriageways) and
- Realignment - construction of a dual carriageway on a new alignment (existing highway retained as a service road providing access to properties and local roads).

The two carriageways will be separated by a central median. The Right-of-Way (ROW, or road reservation) requirements assumed for this project are an additional 50m width for duplication, and approximately 80m width for realigned dual carriageway.

The township of Buangor sits within Zone 3. Options are currently being considered to either construct a bypass to the north or south of the town. Bypass options to the south are constrained by the railway line.

The existing railway crossing adjacent to Langi-Ghiran State Park is currently below standard for an M-class freeway and the environmental impact associated with realigning the existing road to achieve geometric requirements in this area is likely to be significant. Therefore all options consider a realignment of the highway and a new crossing nearby. The southern Buangor bypass option requires a new crossing east of Buangor and then rejoins the existing highway west of the current crossing. Railway crossings will be grade-separated.

Intersection treatment with local roads will be designed appropriate to the traffic volumes. Based on current information, there will be a limited number, if any traditional grade separated intersections between Beaufort and Ararat as the current intersecting traffic volumes are very low.

Each of the five named watercourses (identified below) will need to be crossed, either by a newly constructed duplication, or a dual carriageway realignment.

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

Services such as communication wires may need to be relocated depending on the alignment route ultimately selected for construction. This may include the reconfiguration of towers supporting the high-voltage wires linking the Challicum Hills wind farm to the Pacific Hydro operated sub-station which sits within the study area adjacent to the highway west of Buangor. There is potential that this may need to be relocated subject to final route selection.

An Access Strategy will be developed and implemented to ensure that access to properties and local roads is retained through the use of service roads where necessary.

**Key construction activities:**

Construction of new pavement, stream crossings and railway overpasses will predominately occur separate to the existing carriageway for the majority of the corridor. Some modifications to the existing highway close to Ararat may occur to accommodate two lanes in each direction. The construction methodology will be designed to minimise the duration and extent of disruption to traffic utilising the existing road.

Works on the new pavement(s) will involve excavation, cut and fill (where necessary) and construction of new foundations. Traffic management measures will be introduced where applicable for construction vehicles.

A number of new bridges will be constructed:

- A dual carriageway railway overpass to replace the existing sub-standard crossing near Langi-Ghiran State Park
- Single or dual carriageway crossings of the watercourses, depending on the options adopted.

Following the construction of the pavement, minor construction activities include line marking, installation of signage, landscaping and final clean up.

**Key operational activities:**

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

**Key decommissioning activities** (if applicable):

The project will not be decommissioned; rather an on-going program of maintenance will be implemented.

One section of the existing highway may potentially be decommissioned following construction, however this is yet to be determined. If this proceeds, it would occur between the Langi-Ghiran State Park and the forested property to its south. This could allow for revegetation of the corridor to link the State Park and the property improving the local biodiversity. However implications for local access and fire safety will need to be considered.

**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 Western Highway Project is divided into three sections for planning purposes:

Section 1: Ballarat to Beaufort

Section 2: Beaufort to Ararat

### Section 3: Ararat to Stawell

Section 1 is further considered in two stages: 1A (Ballarat to Burrumbeet) and 1B (Burrumbeet to Beaufort). Section 1A is under construction following reinstatement of a Planning Scheme Amendment. Discussions with DPCD are underway regarding the other sections.

A referral for Section 1B was submitted on 25 June 2010.

A referral for Section 3 (Ararat to Stawell) has been prepared concurrently with this referral.

The project has been divided into stages to streamline the planning of the project. Staging for construction of the project has not yet been confirmed. This will be determined based on future funding availability and attainment of relevant approvals. Current timeframes seek approvals to be obtained through 2012, with construction completed by 2017.

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

No  Yes If yes, please identify related proposals.

Two other concurrent proposals as per previous question:

- Section 1B (Burrumbeet to Beaufort)
- Section 3 (Ararat to Stawell).

## 4. Project alternatives

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

Within each of the four zones shown in Figure 1, a number of high level preliminary alignment options have been identified for further assessment. The areas of interest are shown in Figure 2 to Figure 6.

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

Zone 1 – Old Shirley Road (Beaufort) to Fiery Creek:

- Duplicate along one of two alignments to the north of the existing carriageway, and a southern duplication opposite the existing service station

Zone 2 – Fiery Creek to Anderson Road:

- Duplicate to the north or south of the existing carriageway
- Realignment to the south to avoid the acquisition of houses

Zone 3 – Anderson Road to Hillside Road:

- Dual carriageway bypass of Buangor to the north
- Dual carriageway bypass of Buangor to the south of the railway line
- Note: Duplication through Buangor was identified as a preliminary option however this will not be investigated further based on community feedback.

Zone 4 – Hillside Road to Heath Street (Ararat):

- Duplicate or realign south of existing carriageway adjacent to Langi-Ghiran State Park
- Realign dual carriageways further to the south rejoining the existing highway between Langi-Ghiran State Park and the existing Hopkins River crossing
- Realign dual carriageways and cross the Hopkins River 1.2km south of existing crossing

## 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:**

As stated above, the overall project (Stages 1, 2 and 3) does not include bypasses of Beaufort or Ararat. These bypasses are subject to a separate needs assessment and provision of funding for potential construction at a later date subject to the appropriate consultation and planning processes. The need for bypasses would be identified by the relevant local authority.

The overall project – Ballarat to Stawell – has been separated into three sections to reflect the different environmental conditions (east and west of Beaufort in particular), but also the capacity of VicRoads to manage and coordinate the design, approvals and delivery of each stage.

## 6. Project implementation

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

VicRoads

**Implementation timeframe:**

VicRoads is proposing the following indicative timeframes for key milestones:

- Approvals obtained: Late 2011
- Construction completed: 2016

**Proposed staging** (if applicable):

Construction will be ongoing following receipt of relevant approvals through to the completion of construction. It is envisaged that construction will be completed by 2016, as the third of four stages for the Western Highway Project. Construction is unlikely to impede on the existing operation of the highway as works will either occur on a new carriageway adjacent to the existing highway or on a new alignment.

As stated in Section 3, the construction phasing of the project, in terms of where works will occur at what time is yet to be determined and will be subject to funding availability and relevant approvals.

## 7. Description of proposed site or area of investigation

<p><b>Has a preferred site for the project been selected?</b></p> <p><input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If no, please describe area for investigation. If yes, please describe the preferred site in the next items (if practicable).</p> <p>The study corridor has been identified as 1500m either side of the existing highway, and an area of interest encompassing the existing road reservation and possible new alignments has been identified for further investigation.</p>
<p><b>General description of preferred site</b>, (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 &amp; surrounds, showing project footprint):</p> <p>The study corridor varies from undulating to predominately flat rural land. The township of Buangor is approximately halfway along the corridor, and to the west of this is the Langi-Ghiran State Park which is not affected by any alignment option. Aerial photography of the study area is shown in each of Figure 2 to Figure 6.</p> <p>A significant proportion of the area comprises introduced vegetation for agricultural land use, however there are areas of roadside vegetation and significant ecological vegetation classes (EVCs) within and outside the existing ROW. Relevant EVCs are identified in Section 12 of this referral. There are also scattered red gums across the farmland predominantly south and west of the State Park.</p> <p>The study area passes over a number of geological units including the Ordovician/ Cambrian aged sandstones, siltstones and mudstones of the Pyrenees Formation and the Warrak Formation, Quaternary basalt flows, alluvial sediments and colluviums. Some granite may be present at or near the surface near the Langi-ghiran State Park.</p> <p>There are five named water courses crossed by the existing highway (east to west):</p> <ul style="list-style-type: none"> <li>• Fiery Creek</li> <li>• Middle Creek</li> <li>• Charliecombe Creek</li> <li>• Billy Billy Creek</li> <li>• Hopkins River</li> </ul> <p>Along the existing highway, a number of residences have direct access to the highway, with the dwelling and associated buildings often located within 50m of the existing ROW.</p>
<p><b>Site area</b> (if known): N/A..... (hectares)</p> <p><b>Route length</b> (for linear infrastructure) approximately 40km <b>and width</b> 3,000m (broad study area)</p> <p>Within the identified area of interest for potential alignment options, the nominal width of individual alignment option ROWs is either 50m (for single carriageway duplication) or 80m (for dual carriageway realignment).</p>
<p><b>Current land use and development:</b></p> <p>Predominately farming, with some rural residential along the corridor and Township Zone in Buangor. A small area of industrial land is adjacent to the existing highway in Ararat.</p> <p>This is discussed in more details throughout this section (Section 7) of this referral.</p>
<p><b>Description of local setting</b> (eg. adjoining land uses, road access, infrastructure, proximity to residences &amp; urban centres):</p>



Along the corridor, the land use is predominately privately owned rural land, with some recreational and industrial sites closer to Ararat. Buangor contains recreational, business and residential land uses immediately adjacent to the existing road reserve.

The existing Western Highway is the only direct road linking Beaufort and Ararat, and therefore carries all traffic between these centres and local roads which intersect the highway. Outside of township areas, there are a number of residences which have direct access to the highway.

Between Buangor and Ararat is the Langi-Ghiran State Park on the north side of the highway. This is declared under Schedule 2 of the *National Parks Act 1975* (Vic). On the south side of the highway adjacent to the State Park is a forested private property which has previously been subject to Extractive Industry Work Authority 1110 (now expired) for the extraction of sand/gravel.

Telstra and Optus telecommunication cables are present within the corridor, and Hydro Pacific infrastructure (high voltage cables and a sub-station) is present west of Buangor to connect the Chalicum Hills windfarm to the grid.

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

The study corridor for Beaufort to Ararat lies across two local government areas and their respective planning schemes. The 'area of interest' is covered by the land use zones and overlays identified below. The existing road reserve for the Western Highway is designated Road Zone within both planning schemes, and the surrounding land is predominately Farm Zone

Pyrenees Shire Council

- Farm Zone
- Public Use Zones 4
- Road Zone 1
- Rural Living Zone
- Environmental Significance Overlay 2
  - Implements requirements for the protection of applicable watercourses within the local government area.
- Restructure Overlay 27
  - Identifies an area to the north west of Beaufort as an old and inappropriate subdivision to be restructured,
- Wildfire Management Overlay
  - Identifies areas where the intensity of wildfire is significant and likely to pose a threat to life and property, and requires a Fire Management Plan to be developed prior to works in these areas proceeding.

Rural City of Ararat

- Farm Zone
- Industrial 1 Zone
- Public Parks and Recreation Zone
- Public Use Zone 4 and 6
- Road Zone 1
- Township Zone
- Design Development Overlay 1
  - Identifies the Ararat Airfield as an area which is affected by specific requirements relating to the design and built form of new development.
- Environmental Significance Overlay 3
  - Defines habitat protection areas

- Heritage Overlay 115
  - Imposes heritage controls on the Cobb and Co site in Buangor.
- Vegetation Protection Overlay 1 and 2
  - Protects areas of significant and remnant vegetation, and significant roadside vegetation.

The area of these zones intersected varies between each alignment across the four zones.

In addition, there are a number of permanent and temporary reserves some of which are covered under planning scheme overlays:

- One permanent reserve: Vicinity of Hopkins River, south of the existing Western Highway, permanently reserved for public purposes (GG.1881 P. 1389)
- Six temporary reserves, with VicRoads parcel numbers:
  - 1272: Reserved for conservation of an area of natural interest (GG.1992 P. 640)
  - 1636 & 1638: Hopkins River south of the existing Western highway is reserved for public park (GG.1982 P. 2606)
  - 1304: North of highway east of coach house, temporarily reserved for watering purposes (GG.1876 P. 893)
  - 1232A and 1269A: North and south of the existing highway respectively, subject to the 1905 Water Act (Bed and Banks) (GG.1992 P. 640)

The proposed project cannot practicably avoid the permanent reserve.

#### **Local government area(s):**

Two local government areas:

- Pyrenees Shire Council
- Ararat Rural City 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):

The study corridor between Beaufort and Ararat contains a number of environmentally sensitive assets, most predominately the Langi-Ghiran State Park midway along the corridor.

**Topography and land use** – the topography of the study area is predominately flat with some undulations. The eastern end of the corridor contains a forested hill bisected by the highway in Box's Cutting before opening out onto flat open land through to Buangor. Box's Cutting is surrounded by low density rural residential in forested land. West of Buangor the terrain becomes hillier in the vicinity of the Langi-Ghiran State Park which abuts the northern side of the existing highway. Further west, the terrain flattens again. The land is predominately used for agricultural purposes, punctuated by the State Park, the township of Buangor, and rural residential and community facilities close to Beaufort and Ararat. Land surrounding the approach to Ararat is occupied by the Ararat Airfield and the racecourse, as well as land zoned for industrial use.

**Water** – the existing highway, and potential alignment options, cross five named water courses: Fiery Creek, Middle Creek, Charliecombe Creek, Billy Billy Creek and the Hopkins River.

**Flora and fauna** – the study area predominately comprises introduced vegetation for agriculture, however there are significant areas of Ecological Vegetation Classes both within the existing road reserve and across private land, see Section 12. Significant flora and fauna species have been recorded along the Beaufort to Ararat corridor as identified within a desktop study undertaken by Ecology Partners (2008) which reviewed online databases and the Atlas of Victorian Wildlife. Species of national, state and regional significance have been recorded across the wider study

area, with some species recorded in the immediate vicinity of the existing highway. These are identified below in Section 12.

**Archaeological and cultural heritage** – areas of potential Aboriginal heritage significance have been identified through discussions with Aboriginal Affairs Victoria within 250m of the named water courses. The presence of individual sites (or artefacts) of significance, where currently known, has been discussed in a desktop assessment between Burrumbeet and Stawell, undertaken by Dr Vincent Clark and Associates. VicRoads has initiated discussions with the relevant Registered Aboriginal Parties - Wathaurung Aboriginal Corporation and Martang Pty Ltd. Additionally, one post-European site is known to exist within the study area – the Cobb & Co Staging Stables in Buangor which is listed on the Victorian Heritage Register (H0259) and the Register of the National Estate (Place ID 3986)

## 9. Land availability and control

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

No  Yes If yes, please provide details.

The Hopkins River riparian strip is designated Crown Land (permanent reserve), as discussed above in Section 7 (Planning Context, pg 8 of this referral).

### Current land tenure (provide plan, if practicable):

The road reserves adjacent to the existing Western Highway and relevant local roads are publicly owned. The Langi-Ghiran State Park is Crown Land but will be unaffected by the proposed alignment options. The rail reserves and infrastructure are owned and managed by VicTrack. Other land will be privately owned.

Pacific Hydro occupy a site west of Buangor upon which is a sub-station connecting the Challicum Hills wind farm to the grid. It is not known whether they own or lease this land.

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

The land ultimately required to develop the preferred alignment option will likely need to be acquired by VicRoads and be zoned Road Zone for use as a public freeway.

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

Adjacent to the existing highway, but outside the road reserve, Telstra and Optus have installed fibre-optic communication lines, and Pacific Hydro have a transmission line running north-south into the substation referred to above.

VicTrack own the rail reserve and infrastructure which needs to be crossed.

## 10. Required approvals

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

Approvals may potentially be required under the following legislation:

- *Flora and Fauna Guarantee Act 1988* (Vic)
- *Heritage Act 1995* (Vic)
- *Aboriginal Heritage Act 2006* (Vic)
- *Planning and Environment Act 1987* (Vic)
- *Water Act 1989* (Vic)
- *Wildlife Act 1975* (Vic)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth)

### 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):

Ararat Rural City Council  
 Department of Environment, Water, Heritage and the Arts (Cwlth)  
 Department of Sustainability and Environment  
 Department of Planning and Community Development  
 Pyrenees Shire Council  
 Wathaurong Aboriginal Corporation  
 Martang Pty Ltd  
 CMA

### Other agencies consulted:

Parks Victoria  
 EPA  
 Police, CFA.  
 Department of Transport.

## 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 following potential impacts may occur (but are not necessarily predicted to occur) during the construction and operation of the project.

- Damage to native flora, fauna and habitat areas including spreading of noxious weeds and pests. Impacts will be reduced by minimising the width of the footprint, developing offset measures and implementation of various strategies. Such strategies may include an EMP, flora and fauna translocation plans, and conservation management plans for specific species if necessary. However, some flora will require removal (it should be noted that initial estimates are based on extant DSE mapping which has not been ground truthed).
- Damage to flora and fauna by fragmentation of habitat. This is especially relevant for road- and creek-side vegetation and the forested property contiguous with Langi-Ghiran State Park. Alternatives such as the re-alignment of the road and design features to provide fauna linkages will be considered in this area. The design of the project will aim to avoid and minimise potential impacts.
- Damage to aquatic fauna and habitat, through physical disruption or water quality. This will be relevant at the creek crossings identified in Section 7 of this referral. Impacts will be reduced by appropriate bridge design including best practice water sensitive urban design treatments for freeway and stormwater runoff and implementing an EMP during construction which may include erosion and sediment control measures where appropriate.
- Damage to cultural heritage. Impacts will be reduced by developing and implementing a Cultural Heritage Management Plan. At this stage only desktop consideration has been given to areas of potential Aboriginal heritage significance, and no field surveys have been undertaken to identify the presence of particular sites. One European site listed on the Victorian Heritage Register and the Register of the National Estate (The Cobb and Co Staging Stables in Buangor) would be impacted by the alignment options which bisect Buangor.
- Reduction of water quality from sediment and toxicant runoff from the site and roads. Impacts will be reduced by implementation of best practice water sensitive urban design treatments for freeway and stormwater runoff and implementing an EMP during construction.
- Groundwater contamination and salinity. If road construction results in groundwater seepage, a drainage system will be designed to capture and channel groundwater from beneath the road.
- Noise nuisance to residents. In cases where the noise levels increase over +12dba or more than 63dba for residential developments, noise attenuation may be implemented in accordance with VicRoads noise policy. During Construction, VicRoads will comply with the requirements of the EPA Guidelines for Noise during Construction.
- Visual impacts. Impacts will be minimised by implementation of a Landscape Plan.
- Reduction in air quality, particularly in relation to dust during construction. Impacts will be reduced by implementing dust control measures such as stabilising disturbed soil through watering or sowing, undertaking rehabilitation of disturbed areas as soon as possible and the use of defined haul routes.
- Property severance and acquisition. A land acquisition overlay has not previously been developed or incorporated in planning schemes and therefore is a new impact for local

communities. In addition, impacts will be reduced by implementing a land acquisition program in accordance with relevant legislative requirements

- Social impacts. VicRoads will undertake independent social impact assessments to understand the true impact of the route alignment options. VicRoads will consider any mitigation measure suggested that will have an overall benefit to reducing overall social impact to communities. VicRoads have undertaken extensive consultation with members of the community and have adjusted route alignment options to minimise the overall impact.
- Traffic disruption and traffic control. Traffic disruption will be minimised as far as practicable and detailed traffic plans will be put in place during construction which will include advance warning of traffic management measures causing temporary inconveniences.
- The presence of contaminated sites is not known, however desktop a geotechnical assessment and discussions with councils have indicated they are unlikely to be encountered.

**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 ecology assessment has been undertaken for the full corridor between Ballarat and Stawell. A preliminary evaluation of initial options has been undertaken based on DSE's EVC mapping. Ground truthing has not yet been undertaken within the identified area of interest.

Additionally, an as-yet undetermined number of scattered red gums will require clearing depending on the alignment option selected.

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

NYD Estimated area .....25 ha to 45 ha (hectares)

The area of native vegetation to be cleared has not yet been determined, however based on DSE extant EVC mapping and Arial photography (which has not yet been ground-truthed for this proposed project); it is possible that over 25 ha of vegetation may need to be cleared.

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

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

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

NYD  Preliminary ~~assessment~~ completed. If assessed, please list.

The following EVCs have been identified within the project area between Beaufort and Ararat based on desktop review of the extant DSE EVC mapping and may be impacted:

<b>Bioregion: Central Victorian Uplands</b>		
Least Concern	EVC 20	Heathy Dry Forest
Depleted	EVC 48	Heathy Woodland
Vulnerable	EVC 71	Hills Herb-rich Woodland
Endangered	EVC 55	Plains Grassy Woodland
	EVC 67	Alluvial Terraces Herb-rich Woodland
	EVC 68	Creeklane Grassy Woodland
	EVC 132	Plains Grassland
	EVC 152	Alluvial Terraces Herb-rich Woodland / Plains Grassy Woodland Complex

	EVC 896	Grassy Woodland / Heathy Dry Forest Complex
	EVC 897	Plains Grassland / Plains Grassy Woodland Mosaic
<b>Bioregion: Victorian Volcanic Plain</b>		
Endangered	EVC 55	Plains Grassy Woodland
	EVC 68	Creekline Grassy Woodland
	EVC 132	Plains Grassland
	EVC 152	Alluvial Terraces Herb-rich Woodland / Plains Grassy Woodland Complex
	EVC 896	Grassy Woodland / Heathy Dry Forest Complex
	EVC 897	Plains Grassland / Plains Grassy Woodland Mosaic

**Have potential vegetation offsets been identified as yet?**  
 NYD  Yes If yes, please briefly describe.

Once net gain offset requirements have been identified VicRoads will firstly utilise the native vegetation within its Net Gain bank to meet the requirements. If there are not enough matches within this bank, addition sources will be obtained through Bushbroker, Trust for Nature and discussion with relevant Councils.

**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)

A desktop assessment of flora and fauna was undertaken by Ecology Partners Pty Ltd in 2008 which identified the locations of previously recorded significant species (both terrestrial and aquatic, where applicable). The study also mapped EVCs based on DSE mapping. No field surveys have been undertaken to determine the presence of significant species, or the absence of species sighted as far back as the early 1990's.

Ecology Partners (2008) recommend targeted surveys be undertaken in regard to national and state significant species and ecological communities.

**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.

Ecology Partners (2008) identified a number of species as having been previously recorded within the Burrumbeet to Stawell study area (referencing the Atlas of Victorian Wildlife). Table 3.7 of this report identifies the significant flora and fauna previously recorded within 10km of the existing highway between Beaufort and Ararat. The relevant section of this table is reproduced as follows:

	<b>Flora species (date of sighting)</b>	<b>Fauna species (date of sighting)</b>
<b>National (EPBC)</b>	Button Wrinklewort <sup>1,2</sup> (1990, 2003) Spiny Rice-Flower <sup>1</sup> (2003) Large-headed Fireweed <sup>1,2</sup> (2003)	n/a
<b>State</b>	Small Milkwort <sup>2</sup> (2003) Emerald Lip-greenhood <sup>3</sup> (1993) Golden Cowslips <sup>4</sup> (2003)	Musk Duck <sup>5</sup> (2001) Australasian Shoveler <sup>5</sup> (2001) Elegant Parrot <sup>5</sup> (1999) Square-tailed Kite <sup>5</sup> (1984) Brush-tailed Phascogale <sup>5</sup> (2001) Eastern Great Egret <sup>6</sup> (2001)

<b>Regional</b>	n/a	Bearded Dragon (1994)
Note 1) Listed as Endangered on EPBC Act Note 2) Species are listed, not classified under FFG Act Note 3) Species Listed as Rare on the Advisory List of Threatened Flora (2007) Note 4) Species Listed as Vulnerable on the Advisory List of Threatened Flora (2007) Note 5) Species Listed as Vulnerable on the Advisory List of Threatened Fauna (2007) Note 6) Identified by Ecology Partners (2008) as being of state significance, however species not listed under FFG Act or on DSE Advisry List		

The report states that the Button Wrinklewort, Large Headed Fireweed, Small Milkwort and Golden Cowslips could possibly occur within the area, whilst the Spiny Rice Flower and Emerald Lip-Greenhood have a low likelihood of occurring.

Of the fauna species, only the Brush-tailed Phascogale is identified as a possible resident, with other species frequent, occasional or rare visitors.

Figures 5, 6 and 7 of that report show the locations and significance of fauna sightings. The report does not identify which species have been recorded at which location.

One biosite of National significance (Site no 3915 - Dobies Bridge Rail Reserve) and a biosite of State significance (Site no 3914 – Dobie Rail Reserve) occur within the study area. The extent and substance of these biosites is not known at this time.

Potentially affected EVCs, and their level of significance, are identified above in regard to Native Vegetation.

**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.

Loss of habitat and/or fragmentation of habitat and wildlife corridors, particularly along watercourses and roadside vegetation.

**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 effects on species or communities will be determined once alignment options have been identified.

**Is mitigation of potential effects on indigenous flora and fauna proposed?**

NYD  No  Yes If yes, please briefly describe.

VicRoads will seek to avoid and minimise impacting on native flora and fauna. Where impacts are unavoidable, vegetation offsets will be sought and implemented in accordance with the *Victorian Native Vegetation Management Framework – A Framework for Action*. A Construction Environmental Management Plan and and relevant Conservation Management Plans (including translocation of species, as appropriate) will be prepared and implemented to manage potential impacts to species where identified as necessary. This may include scheduling appropriately to avoid clashing with sensitivities at certain times of year (i.e. breeding seasons)

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



### 13. Water environments

<p><b>Will the project require significant volumes of fresh water (eg. &gt; 1 GI/yr)?</b>  <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, indicate approximate volume and likely source.</p>
<p><b>Will the project discharge waste water or runoff to water environments?</b>  <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, specify types of discharges and which environments.</p> <p>Runoff from road pavements will occur, however this is no different to any other duplicated freeway.</p>
<p><b>Are any waterways, wetlands, estuaries or marine environments likely to be affected?</b>  <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, specify which water environments, answer the following questions and attach any relevant details.</p> <p>The corridor crosses five named water courses, as identified above in Section 7. Detailed design, construction methods and environmental management during construction will minimise or avoid the likelihood of adverse impacts to these watercourses.</p>
<p><b>Are any of these water environments likely to support threatened or migratory species?</b>  <input checked="" type="checkbox"/> NYD <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, specify which water environments.</p>
<p><b>Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?</b>  <input checked="" type="checkbox"/> NYD <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, please specify.</p>
<p><b>Could the project affect streamflows?</b>  <input checked="" type="checkbox"/> NYD <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, briefly describe implications for streamflows.</p>
<p><b>Could regional groundwater resources be affected by the project?</b>  <input checked="" type="checkbox"/> NYD <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, describe in what way.</p>
<p><b>Could environmental values (beneficial uses) of water environments be affected?</b>  <input checked="" type="checkbox"/> NYD <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)</p>
<p><b>Could aquatic, estuarine or marine ecosystems be affected by the project?</b>  <input checked="" type="checkbox"/> NYD <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, describe in what way.</p>
<p><b>Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?</b>  <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.</p>
<p><b>Is mitigation of potential effects on water environments proposed?</b>  <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please briefly describe.</p> <p>Although no works within (or affecting) waterways are proposed, significant species have been previously recorded in local waterways and have potential to be present. If impacts are unavoidable on watercourses, targeted surveys for significant species will be required and if identified, appropriate mitigation measures will be put in place to avoid or minimise impacts to those species.</p> <p>An Environmental Management Plan and Conservation Management Plans will be developed where necessary to manage the potential residual risks to water courses during construction, following incorporation of design features to ensure that bridge piles and footings are not located within the watercourse.</p>
<p><b>Other information/comments?</b> (eg. accuracy of information)</p>

## 14. Landscape and soils

### Landscape

<p><b>Has a preliminary landscape assessment been prepared?</b>  <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please attach.</p>
<p><b>Is the project to be located either within or near an area that is:</b></p> <ul style="list-style-type: none"> <li>• <b>Subject to a Landscape Significance Overlay or Environmental Significance Overlay?</b>  <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, provide plan showing footprint relative to overlay.</li> </ul> <p>Alignment options intersect Environmental Significance Overlays within both planning schemes. None of the alignment options intersect any area covered by a Landscape Significance Overlay in either planning scheme.</p> <ul style="list-style-type: none"> <li>• <b>Identified as of regional or State significance in a reputable study of landscape values?</b>  <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please specify.</li> <li>• <b>Within or adjoining land reserved under the <i>National Parks Act 1975</i> ?</b>  <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please specify.</li> </ul> <p>Part 16 of Schedule 2B (State Parks) of the <i>National Parks Act 1975</i> reserves the Langi-Ghiran State Park. This State Park is adjacent to the existing highway west of Buangor. The State park will not be directly affected by any of the alignment options.</p> <ul style="list-style-type: none"> <li>• <b>Within or adjoining other public land used for conservation or recreational purposes ?</b>  <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please specify.</li> </ul> <p>All options are adjacent to the Ararat Airfield and Ararat Racecourse. Options which bisect Buangor will either lie within or adjoining the recreation reserve on the north side of the highway.</p> <p>In addition, public land reserved for conservation and recreational purposes are identified above in Section 7 (Planning Context, pg 8). Specifically, temporary reserves with VicRoads parcel numbers 1272 (conservation), 1636 and 1638 (public park).</p>
<p><b>Is any clearing vegetation or alteration of landforms likely to affect landscape values?</b>  <input checked="" type="checkbox"/> NYD <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, please briefly describe.</p> <p>The landscape values have not been determined at this stage. Based on the absence of a Significant Landscape Overlay, landscape values are unlikely to be affected.</p>
<p><b>Is there a potential for effects on landscape values of regional or State importance?</b>  <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Please briefly explain response.</p> <p>Based on the absence of Significant Landscape Overlays in both planning schemes, the study area is not within an area of defined regional or state landscape significance</p>
<p><b>Is mitigation of potential landscape effects proposed?</b>  <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please briefly describe.</p>
<p><b>Other information/comments?</b> (eg. accuracy of information)</p>

**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

<p><b>Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils?</b>  <input checked="" type="checkbox"/> NYD   <input type="checkbox"/> No   <input type="checkbox"/> Yes   If yes, please briefly describe.</p>
<p><b>Are there geotechnical hazards that may either affect the project or be affected by it?</b>  <input type="checkbox"/> NYD   <input checked="" type="checkbox"/> No   <input type="checkbox"/> Yes   If yes, please briefly describe.</p> <p>The geotechnical conditions of the area have been reviewed. No geotechnical hazards that may affect the constructability of the project have been identified to date.</p>
<p><b>Other information/comments?</b> (eg. accuracy of information)</p> <p>Geotechnical investigations will be undertaken to inform pavement design. This will identify whether any hazards exist.</p>

### 15. Social environments

<p><b>Is the project likely to generate significant volumes of road traffic, during construction or operation?</b>  <input checked="" type="checkbox"/> NYD   <input type="checkbox"/> No   <input type="checkbox"/> Yes   If yes, provide estimate of traffic volume(s) if practicable.</p> <p>Construction activities will result in additional vehicles being in the project area. The volume of construction traffic has not yet been determined however it is expected that this will result in a negligible impact on the overall traffic volumes.</p> <p>Duplication of the Western Highway between Ararat and Stawell is not expected to generate significant extra traffic on its own, however the corridor is a major National route with a predicted growth factor of 2.4% annual growth rate for the total Western Highway corridor (based on the 2007 Melbourne-Adelaide Corridor strategy).</p>
<p><b>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?</b>  <input type="checkbox"/> NYD   <input type="checkbox"/> No   <input checked="" type="checkbox"/> Yes   If yes, briefly describe the nature of the changes in amenity conditions and the possible areas affected.</p> <p>Increased noise levels are likely to occur for a small number of residents along the corridor due to the construction of one or two new carriageways in closer proximity to their residence. A number of residences are likely to experience a slight decrease in noise levels due to a new carriageway carrying traffic further from their house than the existing highway. Mitigation measures will be implemented in accordance with the VicRoads noise policy. Noise measurement and modelling will be undertaken on the adopted alignment.</p> <p>Traffic conditions will change for residents with direct driveway access onto the existing highway. Alternative access arrangements will need to be developed for these residents.</p> <p>Dust emissions are likely to occur during construction which will require the implementation of dust suppression measures as part of the Construction Environment Management Plan.</p>
<p><b>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?</b>  <input checked="" type="checkbox"/> NYD   <input type="checkbox"/> No   <input type="checkbox"/> Yes   If yes, briefly describe the hazards and possible implications.</p> <p>Some residences may be exposed to increase levels of noise as a result of the project depending</p>

on the location of duplicated carriageways or new alignments. Additionally, some residents will experience decreased noise levels. Investigation to quantify the change in noise levels has not been undertaken.

**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.

There is potential for a number of residences to be displaced subject to the selection of the preferred alignment within each zone. As the number and location of dwellings is dependent on the selection of preferred alignment options, this cannot yet be confirmed. The preliminary option evaluation identifies up to eight affected dwellings, depending on the option under consideration.

**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.

Agricultural land will be unavoidably acquired for the delivery of the project. Alignment options which bisect Buangor will affect either recreation or commercial/business land. A small area (less than 0.5ha) of industrial land near Ararat may require acquisition.

**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.

It is acknowledged that non-residential land uses will be impacted by the proposal, however an investigation to determine whether this will adversely affect local communities, social groups or industries has not been undertaken.

**Is mitigation of potential social effects proposed?**

NYD  No  Yes If yes, please briefly describe.

Dust suppression measures will be implemented during construction as part of the Environmental Management Plan to be constructed.

Noise walls will be installed in accordance with the VicRoads *Traffic Noise Reduction Policy*.

**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.

VicRoads have approached Aboriginal Affairs Victoria (AAV) to discuss the project area and identify whether areas of potential significance may be affected. AAV have subsequently provided a desktop dataset that highlights areas of potential significance within 250m of watercourses.

Furthermore, VicRoads have consulted the relevant Registered Aboriginal Parties (Wathaurang Aboriginal Corporation and Martang Pty Ltd) to discuss the project area and initiate future discussions regarding the project.

**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 desktop assessment of cultural heritage was completed by Dr Vincent Clark & Associates in

2008. This survey identified the existing records of Aboriginal and European heritage places and sites. This assessment involved a 1km wide corridor (500m both sides) along the Western Highway from Burrumbeet to Stawell.

VicRoads has utilised the dataset provided by AAV showing areas of potential significance as part of the preliminary evaluation of alignment options.

An online search of the Victorian Heritage Register and the Register of the National Estate was undertaken.

No further investigations have been undertaken.

**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

Vincent Clark and Associates (2008) identifies the location of one artefact scatter (VAHR 7523-0149) within Buangor, approximately 60m north of the highway adjacent to Billy Billy Creek. An additional site, known as Jacky's Grave is known to exist in Buangor but the exact location was not disclosed in the report..

**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.

The Cobb and Co Staging Stables in Buangor is listed on:

- Victorian Heritage Register – site H0259
- Register of the National Estate – place ID 3986

This site would be affected by those alignment options which bisect Buangor.

**Is mitigation of potential cultural heritage effects proposed?**

NYD  No  Yes If yes, please briefly describe.

A mitigation strategy will be developed within a Cultural Heritage Management Plan if Aboriginal heritage sites are identified within the construction footprint.

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

## 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.

Fossil fuels (such as diesel, oil and hydraulic fluid) will be consumed during construction, however this cannot be quantified as the number and duration of construction vehicles has not yet been determined.

The completed project will not consume sources of energy.

**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.
- Other. Describe briefly.

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

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

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

- Less than 50,000 tonnes of CO<sub>2</sub> equivalent per annum
- Between 50,000 and 100,000 tonnes of CO<sub>2</sub> equivalent per annum
- Between 100,000 and 200,000 tonnes of CO<sub>2</sub> equivalent per annum
- More than 200,000 tonnes of CO<sub>2</sub> equivalent per annum

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

One of the key objectives of the project is to improve the efficiency for the various road uses in term of reduction in operating cost for freight operators and reduction in travel times. A result of having a more efficient road will be a reduction in CO<sub>2</sub> emissions. The project has set a target which will see a reduction in CO<sub>2</sub> emissions by 5% over 30 years.

## 17. Other environmental issues

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

- No  Yes If yes, briefly describe.

Not yet identified.

## 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  
The major environmental and social constraints were identified prior to the preliminary identification of options which have been developed where possible to avoid and minimise the potential impacts on these assets.
- Design: Please describe briefly  
Concept and detailed designs are yet to be developed however environmental and social issues will be considered during design processes in order to avoid and minimise effects (i.e. avoid placing piles within stream beds, avoiding seasonal sensitivities for significant species)
- Environmental management: Please describe briefly.  
A Construction Environmental Management Plan and /or Project Environmental Protection Strategy will be implemented. Where necessary, Conservation Management Plans will be prepared and include translocation provisions.
- 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.

VicRoads acknowledge a windfarm is proposed near Ararat which may potentially have a similar construction window as this proposal. While this is uncertain, if the two programs coincide there would be an increase in construction traffic.

## 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.

VicRoads will, where necessary, engage specialists to undertake the studies and investigations deemed necessary as a result of this referral. It is currently anticipated that the following investigations may be required:

- Traffic and Transport
- Business and Tourism
- Land Use Planning
- Social
- Landscape and Visual
- Flora and Fauna
- Cultural Heritage
- Noise
- Surface water monitoring
- Hydrology and Hydraulics
- Geotechnical, Groundwater and Salinity

### 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.

Initial community consultation sessions have been conducted in Buangor and Ararat on 7<sup>th</sup> and 8<sup>th</sup> December 2009, respectively. This was prior to the preliminary identification of options to gain an understanding of the likely opportunities and constraints which could be considered in developing the options.

Further consultation was undertaken in Buangor on 30<sup>th</sup> June 2010 to present the preliminary alignment options and provide opportunity for feedback.

During the initial identification and evaluation of alignment options, the project team consulted with Ararat Rural City Council and Pyrenees Shire Council on 16<sup>th</sup> March 2010, and DSE and Parks Victoria on 24<sup>th</sup> March 2010.

In addition to the consultation through public meetings and with our stakeholders, VicRoads officers regularly undertake one on one meetings with land holders and other interested members of the community. The one on one consultation is a valuable tool to understand the individual interests of the community which may be directly or indirectly impacted.

**Has a program for future consultation been developed?**

<input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes   If yes, briefly describe.  Additional consultation with stakeholders and the general public will be required, however the timing and scope of this has not yet been identified.
--

**Authorised person for proponent:**

I, Ewen Nevett.....(full name),

**Project Director – Western Highway**.....(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature

Date 3/9/2010

**Person who prepared this referral:**

I, Grant Deeble.....(full name),

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

Signature

.....

Date 3/9/2010



# FIGURES

Figure 1 Project Location

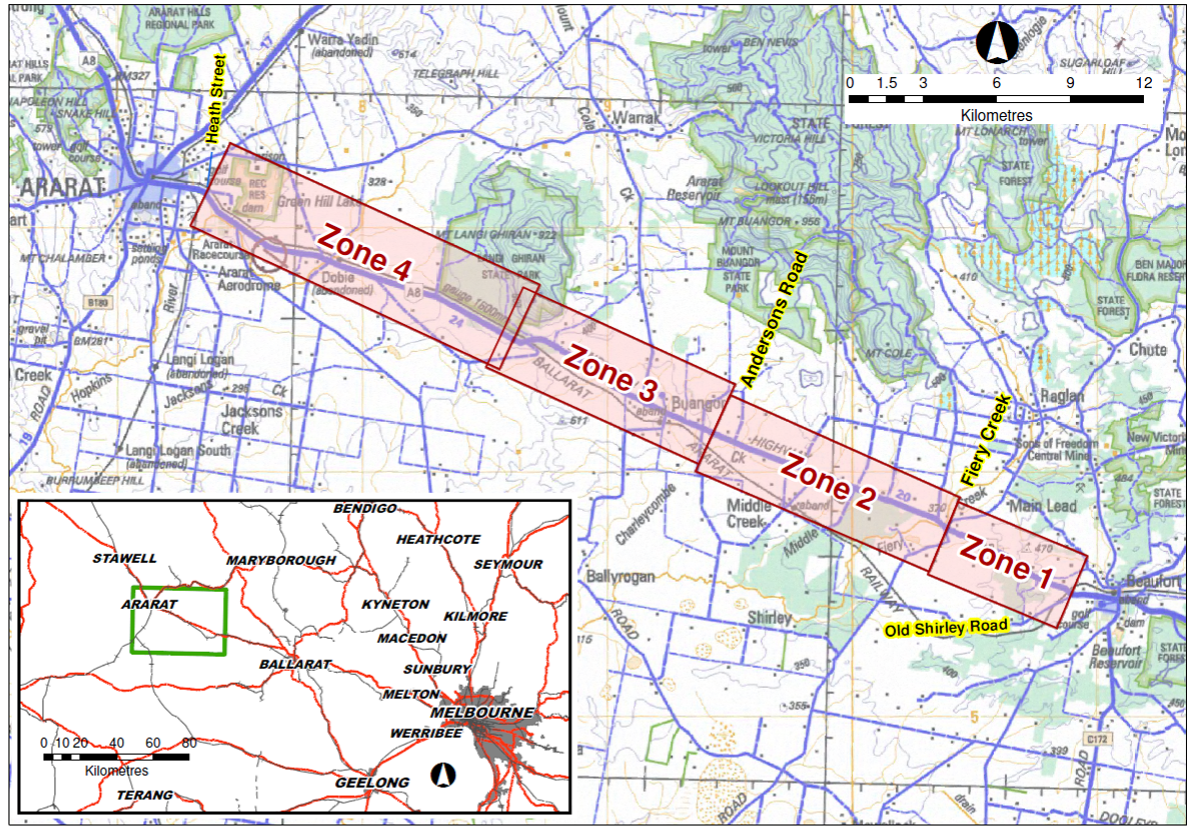


Figure 2 Area of interest for potential alignment options – Zone 1





Figure 3 Area of interest for potential alignment options – Zone 2

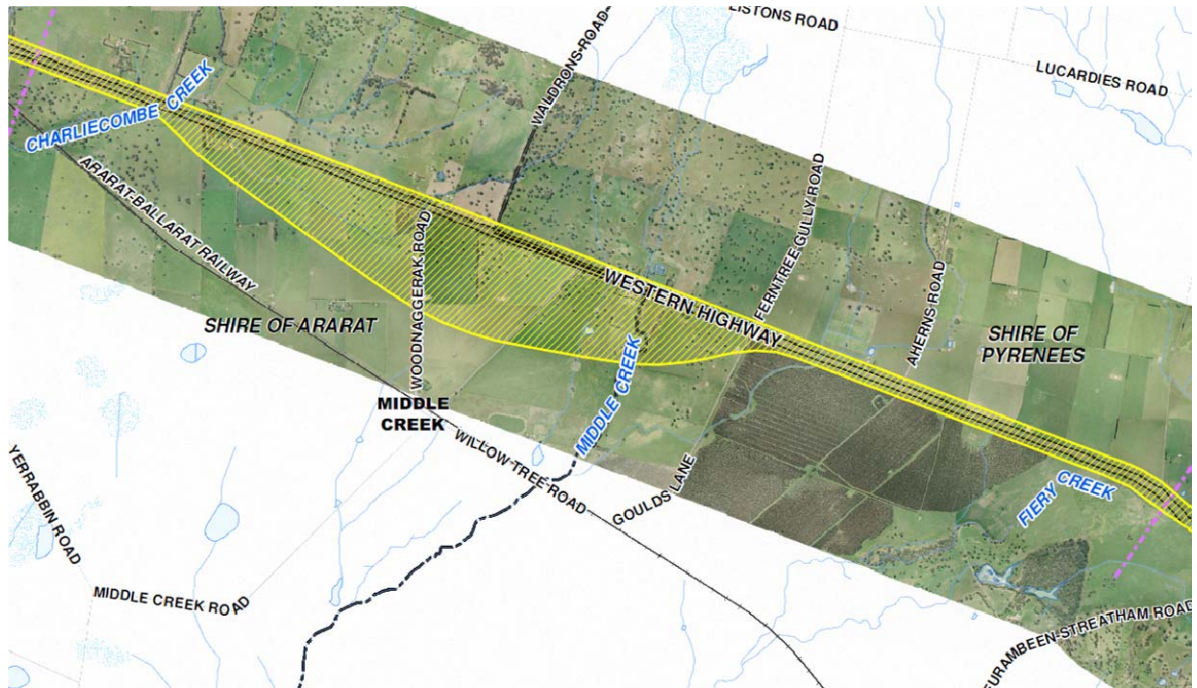


Figure 4 Area of interest for potential alignment options – Zone 3

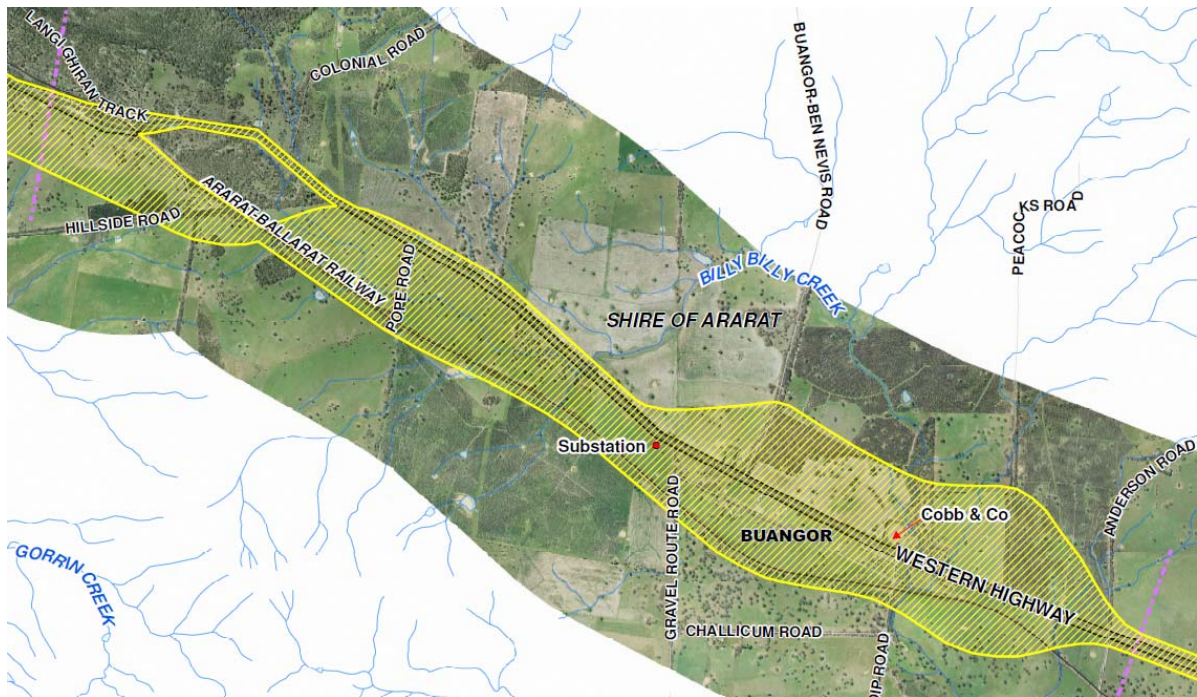




Figure 5 Area of interest for potential alignment options – Zone 4 (east)

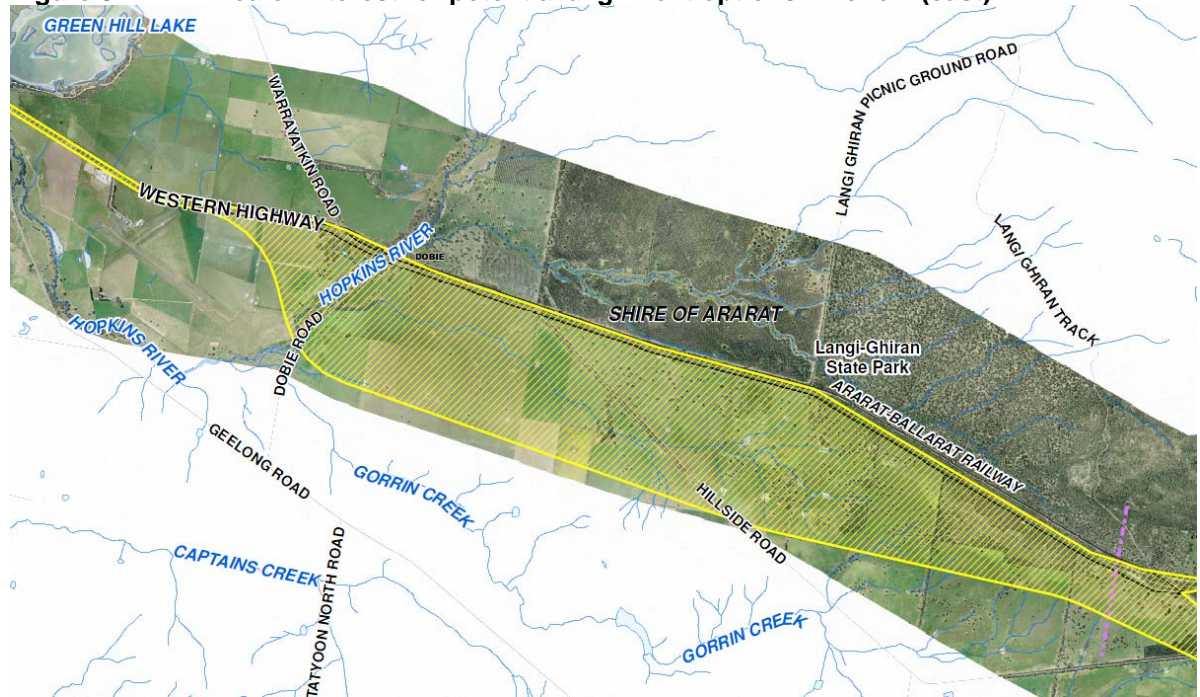


Figure 6 Area of interest for potential alignment options – Zone 4 (west)

