

# **Yallourn Coal Field Re-alignment Project Environment Report**

## **Assessment**

**Minister for Planning**

**June 2010**

## Glossary

AHD	Australian Height Datum
CHMP	Cultural Heritage Management Plan, prepared under <i>Aboriginal Heritage Act 2006</i>
dB	Decibels
DEWHA	Commonwealth Department of the Environment, Water, Heritage and the Arts
DPCD	Victorian Department of Planning and Community Development
DPI	Victorian Department of Primary Industries
DSE	Victorian Department of Sustainability and Environment
EES	Environment Effects Statement
EMP	Environmental Management Plan
EPA	Victorian Environment Protection Authority
EP Act	<i>Environment Protection Act 1970</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ERC	Environmental Review Committee
ESD	ecologically sustainable development
EVC	Ecological Vegetation Class
FFG Act	<i>Flora and Fauna Guarantee Act 1988 (Vic.)</i>
GHG	Greenhouse Gases
GL	gigalitres
ha	hectares
hha	habitat hectares
km	kilometres
LPPF	Local Planning Policy Framework
m, m <sup>3</sup>	metres, cubic metres
MEA	maximum extent achievable
MRSD Act	<i>Mineral Resources (Sustainable Development) Act 1990</i>
Mt	Mega tonnes (million tonnes)
NVMF	Victoria's Native Vegetation Management Framework
P&E Act	<i>Planning and Environment Act 1987</i>
PM <sub>10</sub>	particles or "particulate matter" with equivalent aerodynamic diameter of 10 micrometers or less
SEPPs	State Environment Protection Policies
SPPF	State Planning Policy Framework

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# 1 Introduction

## 1.1 Purpose of this Document

This document is the Minister for Planning's environmental assessment ("Assessment") of TRUenergy's proposed Work Plan Variation for the Yallourn Coal Field re-alignment, in the Latrobe Valley, Victoria. It is provided to the Minister for Energy and Resources under section 42A(3)(c) of the *Mineral Resources (Sustainable Development) Act 1990* (MRSD Act) to inform the statutory decision on the required Work Plan Variation for the Yallourn Coal Mine. It also responds to conditions set by the Minister for Planning under the *Environment Effect Act 1978* (EE Act) in response to referral of the proposed mine re-alignment.

This introductory section outlines the background and legislative context for this project and the assessment process. The Appendix provides further details on the key approvals required for the project to proceed.

Section 2 presents the assessment of the environmental effects of the mine re-alignment in accordance with both section 42A(3) of the MRSD Act and conditions set under the EE Act.

## 1.2 Background

TRUenergy Yallourn Pty Ltd ('TRUenergy') owns and operates the Yallourn W Power Station and the adjacent brown coal mine in the LaTrobe Valley, Victoria, approximately 150 km east of Melbourne. The power station supplies approximately 22 percent of Victoria's electricity needs and 8 percent nationally.

In 1999 the Maryvale Project Environment Effects Statement (EES) was prepared under the EE Act for the development of the Maryvale Coal Field. This EES was required to address the proposed mine and associated Morwell River Diversion. In November 1999 the then Minister for Planning issued an Assessment under the EE Act to inform approval decisions for this project.

Subsequent to the assessment and approvals process, the proponent put forward an alternative development option for the Maryvale Coal Field that it considered would provide better environmental, social and economic outcomes. This new proposal (shown in black in Figure 1) was named the Yallourn Coal Field Development Project. In 2000, the then Minister for Planning required that a Supplementary Report be prepared in order to assess the environmental effects of the proposed variation (i.e. Yallourn Coal Field Development Project). The project was also referred to the Commonwealth under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as there were potential impacts<sup>1</sup> on a species of national significance *Eucalyptus strzeleckii*. In 2001, the Commonwealth Minister decided that the Yallourn Coal Field Development Project was not a controlled action and did not require Commonwealth approval under the EPBC Act.

The Supplementary Report was prepared in accordance with Section 42A(3) of the MRSD Act and was exhibited from 7 July 2001 to 7 August 2001. Following public submissions by the then Minister for Planning provided an Assessment of the project to the Minister for Energy and Resources in November 2001. The Work Plan Variation was then approved under the MRSD Act on 25 March 2002.

This existing approval enables TRUenergy to implement its current mine Work Plan for brown coal supply to the Yallourn Power Station until 2032, based on the current rate of coal extraction.

TRUenergy is seeking to vary the current approved Work Plan in order to maintain the volume of coal resource for extraction while avoiding the need to remove an estimated 14 million cubic metres of overburden that would be required under the current mine plan (see Figure 1). The most significant change to the existing approved plan is the proposed relocation of the crest of the mine approximately 600 metres (m) eastward. The proposed re-alignment would also reduce the separation of the mine crest from Residential Zone land from approximately 1200 m to 1000 m.

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<sup>1</sup> The terms 'effects and 'impacts' respectively under the EE Act and EPBC Act have generally equivalent meanings.

Prior to seeking approval from the Department of Primary Industries (DPI) to vary the Maryvale mine Work Plan under the MRSD Act, TRUenergy submitted referrals under the EE Act and EPBC Act in September 2008, seeking determinations on whether assessment would be required under those Acts. The Minister for Energy and Resources also wrote to the Minister for Planning seeking advice under Section 42A of the MRSD Act.

On 7 January 2009 the Minister for Planning determined that the proposed Work Plan Variation did *not* require an EES under the EE Act, subject to the following conditions being met:

- i. TRUenergy Yallourn Pty Ltd is to prepare a report that:
  - describes in detail the likely impacts of the proposed mine re-alignment on the flora and fauna of areas that are outside the area currently approved for mining, as well as the proposed mitigation and offset measures, to the satisfaction of the Department of Sustainability and Environment;
  - details modelling results and proposed mine design and management measures, including buffer separation, to ensure compliance with both noise and dust requirements under State Environment Protection Policy at residences to the east of the proposed mine boundary as well as at the Morwell town boundary, to the satisfaction of the Environment Protection Authority;
  - details proposed measures to minimise other off-site effects, including visual amenity and waterway drainage;
- ii. The report prepared by TRUenergy Yallourn Pty Ltd is to be made available for public comment for a period of 20 business days, following public notices being placed in at least one local newspaper and in a nationally distributed newspaper. Submissions are to be provided to the Department of Planning and Community Development and will be treated as public documents. The Minister for Planning will then provide an assessment to the Minister for Energy and Resources.
- iii. TRUenergy Yallourn Pty Ltd, prior to the removal of any native vegetation, is to prepare a native vegetation offset plan, consistent with Victoria's Native Vegetation Management – A Framework for Action (2002), to provide permanent net gain offsets, including for *Eucalyptus strzeleckii*, to the satisfaction of the Minister for Environment and Climate Change.

The Minister for Planning's "no EES" conditions requiring TRU energy to prepare an environmental report were aligned with the Minister's requirement under Section 42A(3) of the MRSD Act for TRU energy to prepare to prepare and exhibit a report <sup>2</sup>.

The proposed mine variation is also a 'controlled action' requiring assessment and approval under the Commonwealth EPBC Act, as the proposal is likely to have a significant impact on a listed species, Strzelecki Gum, (*Eucalyptus strzeleckii*), under Sections 18 and 18A of the EPBC Act. The TRUenergy Environment Report has also addressed the Commonwealth requirements for assessment under this Act.

The Environment Report was placed on public exhibition for 20 business days, ending on 3 July 2009. Sixteen public submissions were received in response. Key concerns raised in submissions related to noise, dust and buffer separations between the mine and residences. Other concerns included ground subsidence and visual impacts.

Copies of the submissions were forwarded to the proponent as well as to the Commonwealth Department of Environment, Water, Heritage and the Arts (DEWHA), to comply with EPBC Act assessment requirements.

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<sup>2</sup> Section 42A(3) of the MRSD Act enables a project requiring a Work Plan Variation to be exempted from the need for a planning permit where a Work Plan that has been approved subsequent to an EES process and Minister's Assessment, and the relevant Minister considers that there is a potential for the project variation to cause significant additional environmental impacts. This section of the MRSD Act stipulates that a report addressing the additional impacts is to be prepared and exhibited, and then the Minister for Planning is to provide an assessment. It further stipulates that the Work Plan Variation approved by the relevant Minister is to substantially comply with any requirements recommended by the Minister for Planning's Assessment. See Appendix here.

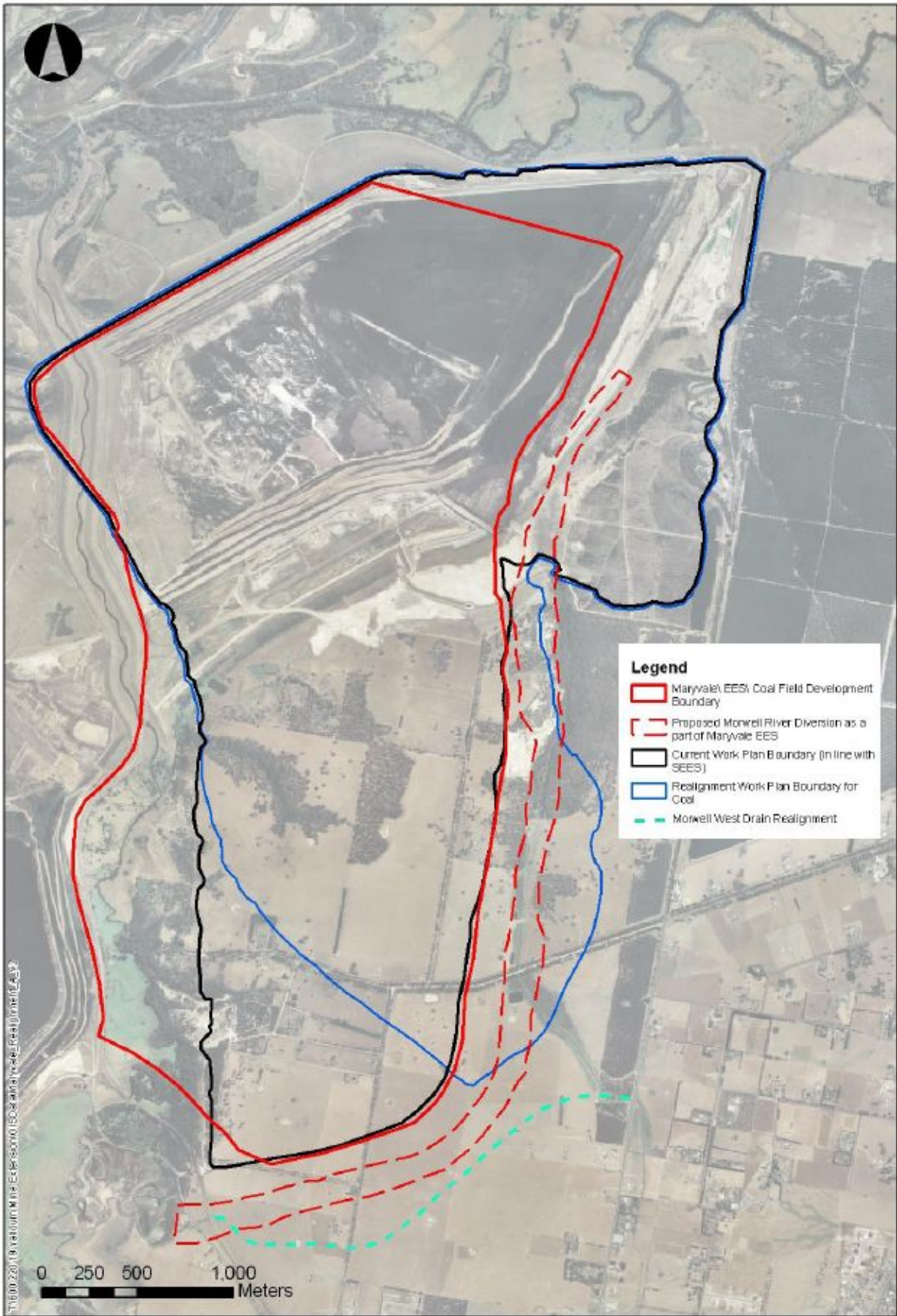


Figure 1. Maryvale Coal Field's existing development boundary and proposed extent of re-alignment (source: TRUenergy Environment Report, 2009)

### 1.3 Project Description

TRUenergy is currently seeking approval of a Work Plan Variation, in order to alter the alignment of the previously approved Maryvale Mine. The two main components of the re-alignment project include:

- A re-alignment of the shape of the Coal Field along its south east boundary and excavating the upper reaches of the Morwell West Drain.
- Diversion of the Morwell West Drain to the south of Coal Field across land owned by TRUenergy Yallourn, and within Mining Licence Nos. 5216 and 5304.

The Yallourn Coal Field Development Project approved in 2002 is sited on gently undulating terrain from which a large quantity of overburden has to be removed in order to access the coal resource. In the East Field Mine, currently being mined, the overburden thickness ranges from 15 m to around 22 m (with some limited sections up to 45 m). However, in the Maryvale Coal Field the thickness of the overburden increases to 48 m. The proposed re-alignment of the Yallourn Coal Field Development Project to move the eastern mine boundary in the Maryvale Field into a valley will reduce the total amount of overburden to be removed by approximately 14 million cubic metres.

In this context, the stated objectives of the re-alignment project are to:

- Maintain a reliable and cost effective coal supply to the Yallourn Power Station for its projected life to 2032.
- Minimise the amount of overburden removal required to extract coal within the mine boundary.
- Implement the most economic mining method and mine sequencing programme to ensure the cost-effective provision of coal in a competitive national electricity market.
- Reduce greenhouse gas emissions as a result of the reduced overburden removal.

### 1.4 Project Setting

Geologically, the Latrobe Valley forms the onshore portion of the Gippsland Sedimentary Basin. The Basin stretches from Darnum in the west and passes into the Latrobe Valley (from Yallourn to Sale), before reaching the coast between Gelliondale and Orbost.

The Maryvale or Yallourn Coal Field is one of three major brown coal fields within the Latrobe Valley currently being extracted. The other two major fields supply the Loy Yang and Hazelwood power station complexes.

Planning policy for land use in the Latrobe Valley has developed over time to have regard to the need to protect both the coal resource in order that it remains available for future exploitation and to define areas to be developed for sensitive residential and township uses. The joint goals of identifying coal production areas while protecting the amenity of residential areas from excessive noise and dust from mining operations were defined by the Interdepartmental Committee on Brown Coal Resource Boundaries in their 1984 report. Recommendations from that Committee have provided the basis for defining coal production areas, township boundaries and hence urban buffers.

Figure 2 shows the proposed mine plans overlaid with the existing Special Use Zone - Brown Coal for coal production, the Urban Buffer Environmental Significance Overlay (ESO) and the Residential Zone as they are currently reflected within Latrobe Planning Scheme.

The proposed mining area is bounded to the west by the Township (Coal) Field and to the north by the East (Coal) Field. Latrobe Road forms the eastern boundary and the southern boundary generally runs in a north west to southeast direction (see Figure 3). The area comprises flat to gently rolling terrain with a mixture of open paddocks, variously sized stands of eucalypt forest, a pine plantation, several sand and gravel pits and linear tree rows. Much of the area is currently used for beef cattle grazing.



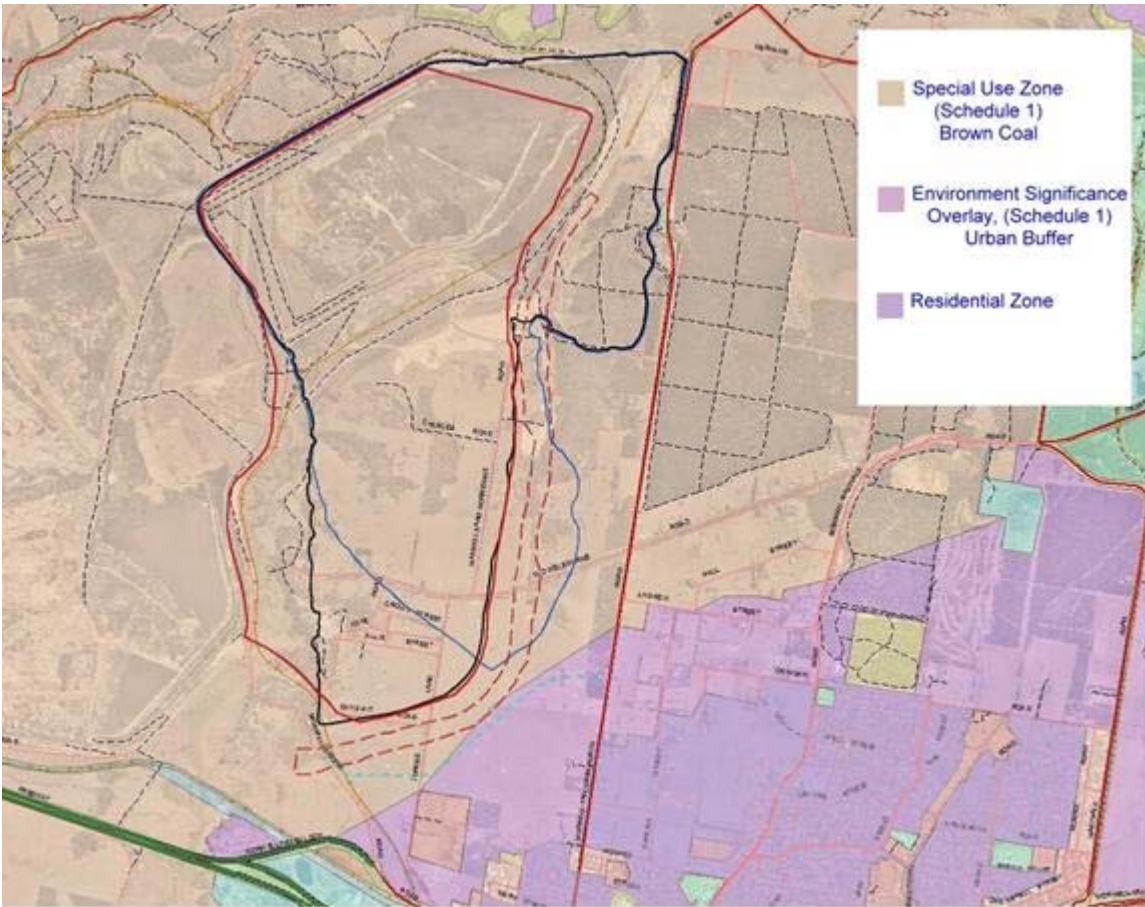


Figure 2. Planning context and zoning for project area



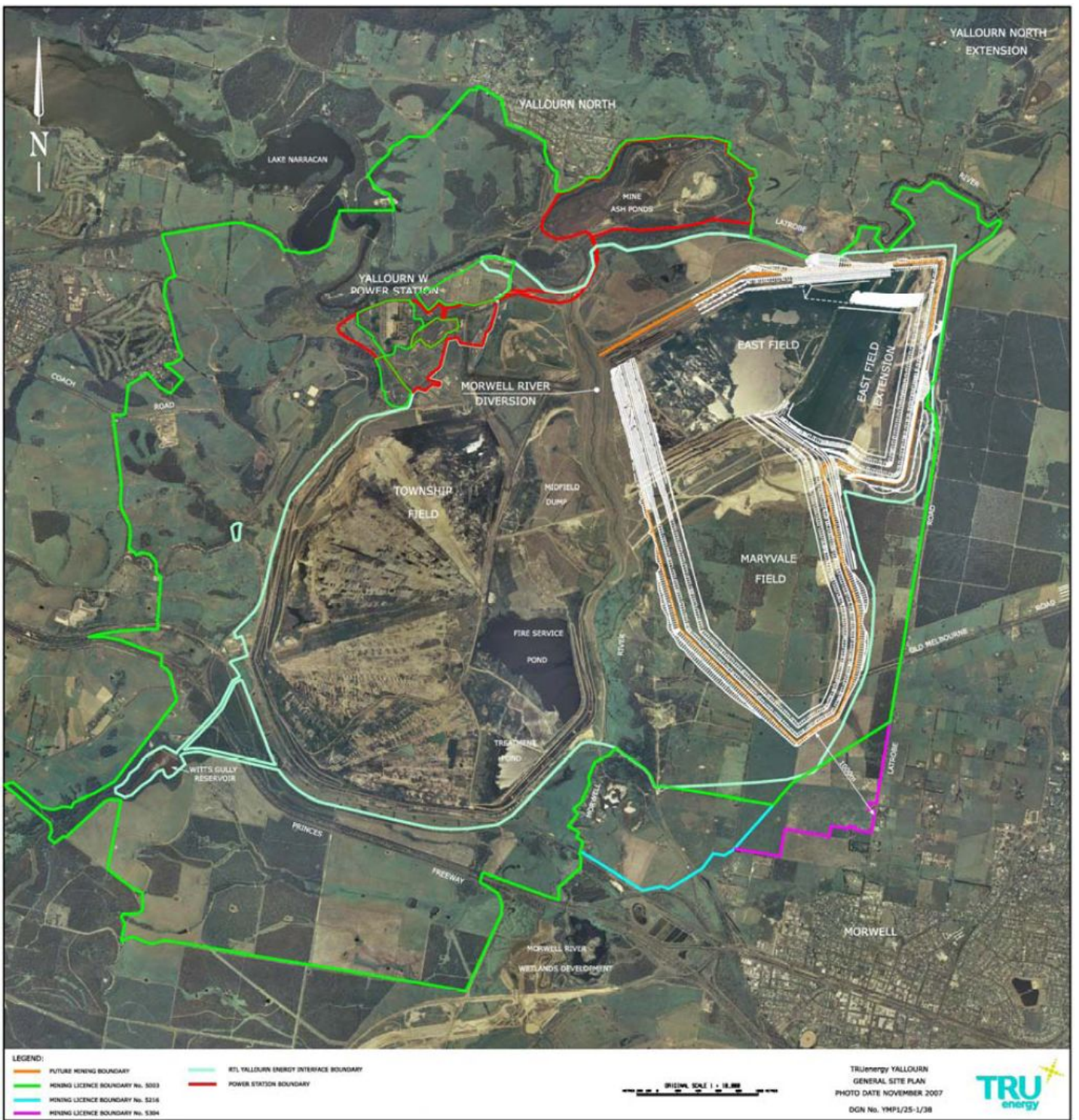


Figure 3. TRUenergy Yallourn general site plan and surrounds (source: TRUenergy Environment Report, 2009)

## 2 Environmental Assessment

### 2.1 Native Vegetation, Protected Flora and Fauna

#### Statutory and Policy Context

Key statutes, policies and strategies related to the protection of native vegetation and biodiversity in Victoria are the:

- *Flora and Fauna Guarantee Act 1988* (FFG Act) and *Victoria's Biodiversity Strategy* made under the Act.
- *Planning and Environment Act 1987* (P&E Act)
- *Victoria's Native Vegetation Management: A Framework for Action* (NVMF).
- *Wildlife Act 1975*
- EPBC Act (Commonwealth)

The NVMF is of particular relevance. It is the principal document that sets out Victorian Government policy for the protection of native vegetation. In the case of mining proposals, the principles and requirements of the NVMF are implemented through the approval process under the MRSD Act<sup>3</sup>. The policy set out in the NVMF establishes a sequential hierarchy of principles to be applied to the consideration of native vegetation losses, in terms of the priority to be given to avoiding the removal of vegetation where practicable, then minimising unavoidable losses, and then offsetting expected losses. The NVMF states that Ecological Vegetation Classes (EVCs) of Very High Conservation Significance are not to be cleared unless "exceptional circumstances apply", and the Minister for Environment and Climate Change (or delegate) gives approval having regard to the project's social and economic significance in a Statewide context<sup>4</sup>.

#### Native Vegetation

The proposed mine variation would require the removal of approximately 24 hectares (ha) of remnant native vegetation, which consists of 16 patches of five different EVCs: Plains Grassy Forest (EVC 151), Riparian Forest (EVC 18), Plains Grassy Woodland (EVC 55), Swampy Riparian Complex (EVC 126) and Swamp Scrub (EVC 53). The conservation status of the EVCs proposed to be removed ranges from Vulnerable to Endangered. In terms of the area/quality measure of "habitat hectares" used in implementing the NVMF, a total of 10.37 habitat hectares is proposed to be cleared.

The table below sets out details of the losses of remnant native vegetation patches that would occur through development of the proposed mine Work Plan variation.

The largest patch of remnant vegetation proposed to be removed is 7.21 ha and considered to be of High Conservation Significance. Seven patches of Very High Conservation Significance native vegetation patches are also proposed to be removed, in total approximately 3.34 ha. Moreover, within the project area 315 old trees (both scattered and within remnant patches) have been identified for removal.

The proposal would impact on existing offset sites established following the 2001 Assessment under the EE Act (including Blocks 4,7,8,9,10,12,38 and 39), which are actively managed under the Yallourn Mine Conservation Management Program (YMCMP). In addition, a proportion of net gain required for the current project is proposed to be achieved within the existing YMCMP offset sites (including Blocks 28, 34 and 37).

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<sup>3</sup> In May 2009 DPI released the *Native Vegetation Management Guidelines for the Earth Resources Industries*, which amongst other things clarifies the application of the NVMF through the MRSD Act and *Extractive Industries Development Act 1995* processes.

<sup>4</sup> Table 6, Appendix 4 (page 54), *Victoria's Native Vegetation Management: A Framework for Action* (DSE, 2002).

EVC	Conservation Status	Area (ha)	Habitat hectares (hab ha)	Overall Conservation Significance	Net Gain Target (hab ha)
Plains Grassy Forest	Vulnerable	3.47	0.69	MEDIUM	0.69
Plains Grassy Forest	Vulnerable	5.68	2.78	HIGH	4.17
Plains Grassy Forest	Vulnerable	1.05	0.43	HIGH	0.65
Plains Grassy Forest	Vulnerable	0.60	0.25	HIGH	0.37
Plains Grassy Forest	Vulnerable	0.44	0.29	VERY HIGH	0.57
Plains Grassy Forest	Vulnerable	7.21	3.53	HIGH	5.30
Plains Grassy Woodland	Endangered	1.83	0.70	HIGH	1.04
Plains Grassy Woodland	Endangered	0.12	0.06	VERY HIGH	0.12
Plains Grassy Woodland	Endangered	0.13	0.05	HIGH	0.07
Plains Grassy Woodland	Endangered	0.12	0.04	HIGH	0.07
Riparian Forest	Vulnerable	1.02	0.51	VERY HIGH	1.02
Swampy Riparian Complex	Endangered	0.17	0.08	VERY HIGH	0.16
Swampy Riparian Complex	Endangered	1.09	0.62	VERY HIGH	1.24
Swampy Riparian Complex	Endangered	0.20	0.09	VERY HIGH	0.18
Swampy Riparian Complex	Endangered	0.32	0.11	VERY HIGH	0.22
Swamp Scrub	Endangered	0.50	0.14	HIGH	0.21
<b>TOTALS</b>		<b>23.9</b>	<b>10.37</b>	-	<b>16.08</b>

**Table 1.** Summary of native vegetation patches proposed to be removed (source: TRUenergy Yallourn Environment Report 2009, p.37)

In order to offset the proposed loss of remnant native vegetation in accordance with the NVMF, TRUenergy will need to provide offsets equivalent to a total of 16 habitat hectares. In addition, TRUenergy will need to replace the loss of YMCMP offsets established in 2002 (and revised in 2005).

The requirements for old tree offsets are to be met through the protection of 928 existing trees and the planting recruitment of 5670 new trees.

The options to achieve required offsets were presented in the Environment Report and native vegetation offset plan, which included: i) potential offset areas or sites within TRUenergy Yallourn land; ii) large trees to be protected (in remnant patches and scattered trees); and iii) assignment of an enhanced level of security for blocks of the previous offsets that are not part of the current proposed Work Plan Variation.

TRUenergy's proposed native vegetation offset plan (outlined in the Environment Report) has been considered and endorsed by the Department of Sustainability and Environment (DSE), including in terms of adequately meeting the principles of avoid, minimise and offset set out within the NVMF. Further to this, Minister for Environment and Climate Change has considered the Environment Report and supporting documents in order to assess TRUenergy's proposed clearance of native vegetation of Very High Conservation Significance – the Minister approved this under the NVMF<sup>5</sup> in October 2009.

### Protected Flora

The Environment Report prepared by TRUenergy identifies two significant species of flora within the vegetation to be removed: *Eucalyptus strzeleckii* (Strzelecki Gum) and *Cardamine tenuifolia* (Slender Bittercross).

<sup>5</sup> Under the NVMF, the Minister for Environment and Climate Change considers whether the impacts are an "unavoidable part of a development" project, as well as the project's significance in social and economic terms from a State wide perspective.

Strzelecki Gum is protected as a listed species under the FFG Act and the EPBC Act. The proponent's ecological assessment identified 523 Strzelecki Gum's within the proposed Work Plan Variation that would need to be removed, of which most are located within the area of the Morwell West Drain. TRUenergy has proposed to protect the remaining (unaffected) population of Strzelecki Gum that are within the Morwell West Drain environs, along the Latrobe River and along the Morwell River. Indeed there are significant numbers of this species outside the proposed mining area, so a substantial commitment to protect and recruit additional replacement trees at these appropriate locations will help ensure their ongoing presence within the area.

Slender Bittercress is a perennial herb and is included in the advisory list for rare and threatened species published by DSE (in 2005). The species is found both within and north of the area proposed to be mined. The proponent's investigations determined that there is significant seasonal variability in relation to the numbers of this species found through successive surveys in this area and that this may be linked to moisture levels within the gully system.

## Protected Fauna

The ecological assessments undertaken for the proponent occurred during November 2006 and March 2007. They identified 42 species of native fauna, including 16 mammals, six reptiles, six amphibians and 36 birds, within and adjacent to the proposed project area. No rare or threatened species were recorded during the investigation. The investigation did discover evidence of the Long-nosed Bandicoot in the area. While this species does not exist in large numbers, it has a wide range across Victoria and is not listed as rare or threatened.

The amphibian survey undertaken in November 2006 identified six native species of frog within the proposed mine area, although none are considered to be rare or threatened.

Previous studies within the nearby area undertaken by Biosis Research for the 2001 Supplementary Environment Report for the Yallourn Coal Field Development Project found one State significant species, Great Egret, *Ardea alba*, which is listed under the FFG Act. This species is an aquatic bird found in wetlands west of the mine and is not considered likely to be present in the area of the proposed Work Plan Variation.

The proposed removal of native vegetation would have adverse indirect impacts on native fauna in the area, largely through the loss of habitat. There is some potential that the habitat proposed to be removed, and the wider area of native vegetation to be retained, may periodically be used for feeding by the Powerful Owl (*Ninox strenua*). This species is listed as vulnerable under the FFG Act. The majority of the area that potentially could be used by this species for feeding will however be retained under the proposed Work Plan Variation.

The majority of the native vegetation along and abutting the existing Morwell West Drain gully is proposed to be retained and will continue to provide habitat for native fauna. The loss of this fauna habitat along the existing Morwell West Drain should, over time, be offset through new revegetation programs along the new course of the Morwell West Drain.

Re-vegetation projects, particularly along the new Morwell West Drain diversion can be optimised for fauna habitat values through the selection of species and planting layout to increase its value for the key native fauna of this area.

## Conclusion

The net proposed loss of native vegetation will be 10.37 habitat hectares of which 3.34 habitat hectares is regarded as being of Very High Conservation Significance. While significant native vegetation is proposed to be removed, this vegetation loss can be adequately offset through implementation of the proposed native vegetation offset plan that has been accepted by DSE as meeting the requirements of the NVMF. Further, the Minister for Environment and Climate Change has approved the removal of the Very High Conservation Significance native vegetation under the NVMF.

The potentially significant impacts on the EPBC Act and FFG Act listed Strzelecki Gum within the project area would be addressed through the protection of other existing populations of the species and through the commitment within the vegetation offset plan to plant additional Strzelecki Gums to the area.

The populations of Slender Bittercress extend north of the area that is proposed to be mined. While the populations of this species are likely to be variable, measures should be set in place to monitor their numbers in order that to ensure that remedial actions can be implemented if a decline in the population is observed.

The proposed removal of native vegetation will lead to some loss of habitat and potential indirect impacts on native fauna, although no protected species frequent this area. Therefore the protected species that may occur in the area on a rather infrequent basis are very unlikely to be impacted by this removal of habitat.

Further habitat suitable for native fauna and amphibians could potentially be developed over time through revegetation works associated with the diversion of the Morwell west Drain.

In conclusion, it is my assessment that:

- The proposed Work Plan Variation and associated loss of native vegetation will not significantly impact on biodiversity or substantially diminish any significant habitat.
- The associated impacts on native vegetation habitat and any protected native fauna are therefore unlikely to lead to any direct or indirect impacts on these species.

Further to this, I recommend that:

- The final version of the Vegetation Offset Management Plan either be endorsed by DSE and DPI prior to the Work Plan Variation being approved or, if appropriate, included as a condition of the Work Plan.
- An annual report setting out the progress of the Vegetation Offset Management Plan be prepared as a condition of the mining licence and that a copy of that report be provided to the DSE for comment in a timely manner over a period of 10 years from the commencement of clearing of the vegetation. This report is to describe the condition of the native vegetation in the remaining portion of the Morwell West Drain.
- Where native vegetation offsets (within the Vegetation Offset Management Plan) fall outside the TRUenergy Mining Licence areas, TRUenergy is to protect these areas in perpetuity by legal covenants or other means that are to the satisfaction of DSE and DPI.
- Revegetation design works associated with the Morwell West Drain diversion be undertaken in consultation with TRUenergy's Environmental Review Committee and DSE, such that the revegetation improves the habitat values of the wider area. This should be a condition of the Work Plan Variation.



## 2.2 Hydrology and Aquatic Environments

### Statutory and Policy Context

The primary statutory and policy context for the protection and management of water resources and associated aquatic environments is provided under:

- *Environment Protection Act 1970* (EP Act) and the *State Environment Protection Policies (SEPP): 'Groundwaters of Victoria' and 'Waters of Victoria'*.
- *Water Act 1989*.

SEPPs made under the EP Act provide for the maintenance of environmental quality in water environments (surface and groundwater), sufficient to protect existing and anticipated beneficial uses (e.g. maintenance of aquatic ecosystems and associated wildlife, primary contact recreation, stock watering, industrial water use).

The *Water Act 1989* guides the allocation, use and works on water resources including to protect the environment. Indeed the Act's primary purposes include ensuring that water resources are conserved and sustainably used and that values of surface water environments are protected and enhanced.

### Surface Water Impacts

The potential impacts on surface water and associated environmental values arising from the Work Plan Variation would stem from the proposed relocation and diversion of the Morwell West Drain (MWD). Currently, this temporary diversion runs from Morwell between the Maryvale and East Coal Fields, and then discharges into the new Morwell River diversion south of the East Coal Field. The new Morwell River diversion then discharges into the Latrobe River. The current and proposed courses of the MWD are set out within Figure 4.

The proposed relocation and diversion of the MWD would result in it being divided into southern and northern portions. The proposed southern portion of the diversion is within Mining Licences 5216 and 5304, whereas the northern portion lies within Mining Licence 5003. The proposed course of the MWD follows the re-alignment path that was proposed and assessed for the larger scale diversion of the Morwell River and which was assessed within the EES process undertaken for the Maryvale Coal Field in 1999.

The proposed southern diversion would collect water from a catchment of 700 ha lying north of Morwell and east of Latrobe Road and then discharge into a wetland system linked to the Morwell River. The existing flows of the MWD east of Latrobe Road have been diverted under the Latrobe Road via two culverts for many years. However, the volumes of water that flow through this MWD during different seasons is unknown, except that flows are largely intermittent. The precise scale and final design of the proposed diversion/waterway would need to be guided by up-to-date runoff data, from the Council prepared in consultation with the West Gippsland Catchment Management Authority, in order to ensure current changes to the catchment runoff resulting from a new housing estate are addressed.

The proponent's concept plan for the southern diversion encompasses best practice measures for establishing aquatic and riparian ecological values within a reconstructed waterway. Appropriate design and implementation of a revegetation program associated with the waterway development should, over time, enhance the environmental biodiversity and habitat values of the waterway and riparian fringe, and more than likely the downstream environment.

Residual flows of water into the northern portion of the MWD are proposed to flow into the mine and, after treatment, be channelled through a diversion built into overburden batters of the East Field Mine extension and directed to flow into the Latrobe River, or alternatively be redirected into the Morwell River. The northern portion of the MWD re-alignment has been designed to accommodate a once in a hundred year rainfall event that would have peak flows of three cubic metres per second.



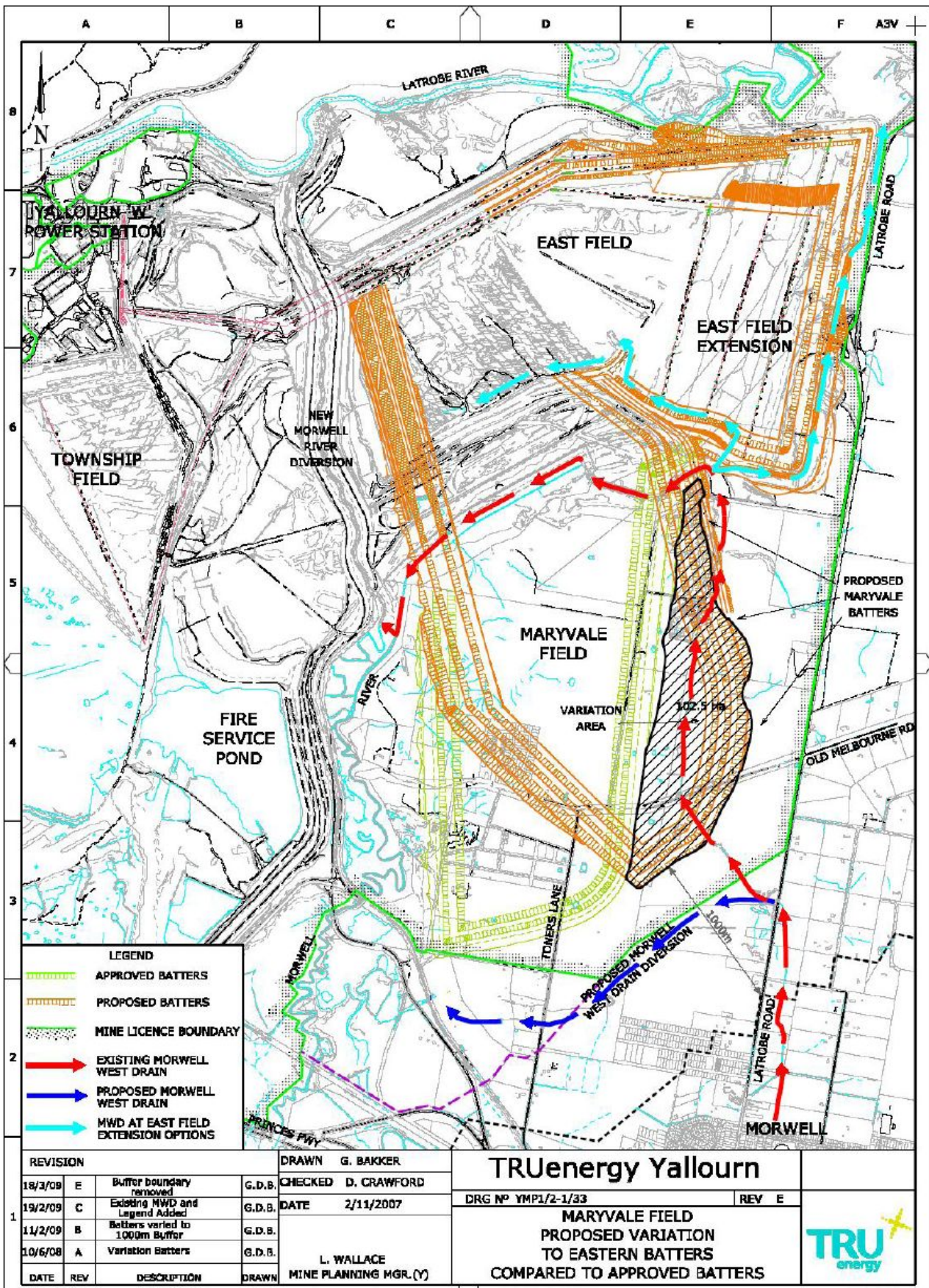


Figure 4. Morwell West Drain Current and Future Courses (source: TRU energy Environment Report)

The Ministerial Assessments of this project and its first variation in 1999 and 2001 respectively recommended that a permanent supply of water be provided for the MWD. This permanent supply of water was seen at the time as necessary to maintain the population of Strzelecki Gums. Subsequent ecological assessments and specialist advice have determined that the numbers of Strzelecki Gums have thrived on slopes and well drained soils without permanent water being present in the MWD. The maintenance of a permanent water supply to support the population is no longer considered to be necessary to sustain this Strzelecki Gum population. However, periodic monitoring of the health and recruitment of Strzelecki Gums within the MWD environs will be appropriate in case management action is needed.

Following a preliminary assessment of the proposed diversion concept plan the West Gippsland Catchment Management Authority (CMA) provided its in-principle support, subject to further detailed design plans being prepared to their satisfaction. In light of its role in granting a works on waterways permit, West Gippsland CMA will be able to address any residual concerns and impacts prior to authorisation of diversion works.

### ***Conclusion***

The scale of the proposed MWD works is much smaller than proposed for the diversions of the Morwell River that were presented in the 1999 and 2001 EES documentation. However, the diversion of the MWD will require land forming and revegetation works to be undertaken in accordance with an approved design plan.

The MWD diversion will diminish flows that currently supply the portions of the existing gully system not proposed to be mined. The reduced water flow regime is unlikely to adversely affect the viability and health of the remaining Strzelecki Gum population in this gully.

It is my assessment that:

- The proposed MWD works can be undertaken without significant adverse environmental impacts occurring.
- An appropriate detailed design as determined by the West Gippsland CMA can address any residual environmental impacts.

Further to this, I recommend that:

- Works be undertaken in accordance with the concept plan for the waterway diversion, which form part of the Maryvale Work Plan Variation that is to be approved under the MRSD Act.
- Detailed design plans for the MWD diversion works, including the composition of native revegetation plantings and the water management regime, be prepared to the satisfaction of West Gippsland CMA and DPI.
- A program for monitoring riparian and aquatic ecological conditions within the MWD be established in consultation with DSE, and associated reports provided to DSE and the Environment Review Committee convened by TRUenergy.

## **2.3 Air Quality**

### **Statutory and Policy Context**

The *SEPP (Ambient Air Quality)* and *SEPP (Air Quality Management)* under the EP Act provide for the protection and management of air quality and its beneficial uses (e.g. life, health and well-being of humans, local amenity, visibility). The applicable assessment processes for the mining industry to demonstrate compliance with SEPP are set out in the *Protocol for Environmental Management (PEM) for Mining and Extractive Industries* (EPA Publication 1191, 2007), which is an incorporated document under the SEPP (Air Quality Management) that needs to be complied with.

The Urban Buffer ESO within the Latrobe Planning Scheme responds to the objective under the *Planning and Environment Act 1987*: "to secure a pleasant, efficient and safe working, living and recreational environment ... ", in relation to the amenity and well-being of people living near operating coal fields.

## Air Quality Impacts

TRUenergy is required to comply with the *SEPP (Air Quality Management)* and the requirements of the PEM through an accredited licence administered by the EPA and through the DPI Work Plan.

Assessment criteria under the PEM apply to both modelling assessments and monitoring. The assessment criteria apply at the nearest sensitive receptors, which in the case of this project are the houses closest to the mine boundary. These criteria are not to be exceeded in order to ensure that the beneficial uses of the air environment are protected. If they are exceeded additional mitigation measures must be applied in accordance with best practice (as defined by the SEPP (AQM))<sup>6</sup>. The assessment criteria relevant to this site (based on intervention levels specified in SEPP(AQM)) are 60 µg/m<sup>3</sup> 24 hour average, 36 µg/m<sup>3</sup> 24 hour average and 3 µg/m<sup>3</sup> annual average for PM<sub>10</sub><sup>7</sup>, PM<sub>2.5</sub> and Respirable Crystalline Silica (RCS) respectively.

In addition to the PEM criteria, dust emission limits were also specified, using the Department of Human Services (DHS) limits from the Maryvale Coal Field development assessment and approvals process. All of these criteria are displayed in the table below.

**Table 2.** Air quality (dust) limits applicable to this project

Source	Maximum Concentration (24hr Average)	Annual Average Concentration
DHS	50 µg/m <sup>3</sup> - PM <sub>10</sub>	20µg/m <sup>3</sup> - PM <sub>10</sub>
SEPP (AQM) & PEM	60 µg/m <sup>3</sup> - PM <sub>10</sub>	
SEPP (AQM) & PEM	36 µg/m <sup>3</sup> - PM <sub>2.5</sub>	
SEPP (AQM) & PEM		RCS 3µg/m <sup>3</sup>

### Notes:

µg/m<sup>3</sup> = Microgram per cubic metre

PM<sub>10</sub> = Particulate matter with equivalent aerodynamic diameter of 10 micrometres or less

PM<sub>2.5</sub> = Particulate matter with equivalent aerodynamic diameter of 2.5 micrometres or less

RCS = Respirable Crystalline Silica

The air pollution modelling undertaken for TRUenergy predicts dust dispersion scenarios for work seasons in the years 2017-18 and 2023-24. The 2017-18 season is the period projected to have the most potential for dust plume generation due to overburden removal through truck and shovel operations, with the season 2023-24 being judged to be the season by which these works will have been completed.

The consultant report that supported TRUenergy's Environment Report utilised the most recent version of the AUSPLUME modelling software, which is the EPA approved air dispersion model for predicting air emissions from industrial sources. The modelling results were plotted on a map as contours, showing the distribution of ground level concentrations (GLC) of PM<sub>10</sub> during the worst year (2017-18). Different plots were done using: i) the predicted seventh highest 24-hour average from operations with normal dust control conditions; ii) the first highest 24-hour average from operations with normal dust control conditions; and iii) the annual average from operations with normal dust control conditions.

The 50 µg/m<sup>3</sup> contour for the seventh highest 24-hour average extends beyond the proposed mine boundary, though it does not reach sensitive receptors.

The 60 µg/m<sup>3</sup> contour for the first highest 24-hour average extends beyond the proposed mine boundary in two places to the east and towards Yallourn North, though it also does not reach sensitive receptor locations.

The 20 µg/m<sup>3</sup> contour for the annual average is also predicted to extend beyond the proposed mine boundary, but again does not reach any sensitive receptors.

Further to this, the proponent's assessment also included time-series plots of 24-hour average GLCs of PM<sub>10</sub>, for six representative sensitive locations. The PM<sub>10</sub> limits were met at all six locations.

<sup>6</sup> Protocol for Environmental Management: (PEM), Mining and Extractive Industries, EPA, 2001 (pg 4)

<sup>7</sup> PM<sub>10</sub> = particles or "particulate matter" with equivalent aerodynamic diameter of 10 micrometers or less.



The core conclusion drawn from the modelling predictions is that the required limits will be met at sensitive residential locations for the duration of the project, through the application of normal dust control measures. The proponent's assessment also concluded that if PM<sub>10</sub> requirements were able to be met, then the PM<sub>2.5</sub> limits would also be met.

Dust and impacts on air quality was a key matter raised in submissions received in response to the Environment Report, largely in relation to the closer proximity of mining activities to the residential areas adjacent to the buffer zone.

The Latrobe City Council submission included a technical peer review of the TRUenergy's air quality assessment. The peer review generally confirmed the technical soundness of the TRUenergy report, but raised some issues. In particular, the peer review noted that the TRUenergy report did not include references to the role of monitoring of PM<sub>10</sub> or PM<sub>2.5</sub> at the mine site (required by the PEM<sup>8</sup>), either for compliance or as a basis for re-active management response to abnormally high dust events. Further, the peer review report noted that no reference had been made to any environmental management plan or framework<sup>9</sup> within which a dust management and monitoring would be addressed. It was asserted that it is best practice to include a dust management plan for a large scale mine such as Maryvale Mine, including the provision for real time monitoring of PM<sub>10</sub> and PM<sub>2.5</sub> particles.

The PEM does require monitoring to be undertaken for both compliance purposes and reactive management, largely because modelling is only able to provide general guidance about the potential impacts for large premises<sup>8</sup>. The monitoring conducted to confirm the modelling predictions would only be conducted for a limited period of time (e.g. 12 to 24 months) and the ongoing need for this monitoring would be reviewed by regulators (i.e. DPI in consultation with EPA). Compliance monitoring required under the PEM<sup>10</sup> would also normally be overseen by the Environment Review Committee (ERC).

The PEM also requires that monitoring be undertaken to enable real-time reactive management practices to be implemented, to ensure emissions do not adversely impact on beneficial uses. This type of monitoring needs to be implemented for developments like Maryvale project and be incorporated into a "site environmental management plan"<sup>9</sup>. In particular, this type of monitoring allows site managers to identify when a problem has arisen on the site that may lead to an exceedance of the general air quality criteria (for 24 hours) and therefore enable dust management practices to be implemented in response to this – i.e. with the use of hourly trigger levels (e.g. of 80ug/m<sup>3</sup>)<sup>11</sup>. The type of equipment used for this monitoring is not the same as that used for compliance purposes.

The EPA currently undertakes broad area particulate PM<sub>10</sub> monitoring of the Latrobe Valley within the NEPM Ambient Air Quality Monitoring Plan but this monitoring is not designed to detect specific emission sources within the Latrobe Valley but rather provide broad area data of ambient air quality for the six pollutant classes covered within the Ambient Air Quality NEPM.

The provision of a monitoring program by TRUenergy, that meets the requirements of the PEM and is implemented through the environmental management mechanisms required through the Work Plan, would enable the residual uncertainties associated with the modelling results to be addressed readily.

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<sup>8</sup> PEM, Section 6 – Monitoring of particles for the Mining and Extractive Industries (page 13)

<sup>9</sup> PEM, Section 6 – "The monitoring would be incorporated as part of the *site environmental management plan*. The need for ongoing monitoring would be reviewed at the end of each 12-month period and the *site environment management plan* amended if required." page 13)

<sup>10</sup> As set out in the PEM, "this compliance monitoring requires the use of monitoring equipment for PM<sub>2.5</sub> and PM<sub>10</sub> that complies with the Australian Standards for monitoring these particles. Monitoring should be conducted on a daily basis (24-hour periods) or in real-time. Some gravimetric sampling should also be conducted to allow for analysis of the particles for components such as RCS and heavy metals. The filters used for this purpose must be consistent with the analysis technique. Sampling for RCS must be conducted for a period of up to 1 week each month for an entire year to allow calculation of an annual average (total 12 samples per year)" (PEM, page 13).

<sup>11</sup> PEM, Section 6 – "This may involve increased use of water sprays, use of chemical suppressants, or under unfavourable meteorological conditions the relocation of active works away from sensitive locations or ceasing works for a few hours until more favourable conditions are experienced. Hourly trigger levels will be provided by EPA that will allow site managers to identify when a problem may be arising on site" (page 13).

## Conclusion

It is my assessment that:

- The air particle emission criteria for this development are likely to be met with standard dust suppression practices. However, if the need for further enhanced practices is demonstrated they would also enable the criteria to be met.
- TRUenergy through its accredited EPA licence will need to comply with the requirements of the PEM by implementing both compliance and reactive monitoring programs for PM<sub>10</sub> and PM<sub>2.5</sub> and RCS. This will enable the modelling results to be confirmed and residual impacts on the nearest and nearby sensitive receptors to be addressed.

Further to this, I recommend that:

- TRUenergy establish background levels (over 12 months) for PM<sub>10</sub>, PM<sub>2.5</sub>, RCS and heavy metals at sites located near junction of Latrobe Road and Old Melbourne Road at the most affected receptors within the mine boundary and near Residential Zoned land west of Latrobe Road near the intersection of Leonard Street.
- The TRUenergy dust management plan include provision for real time-time monitoring of PM<sub>10</sub> & PM<sub>2.5</sub> dust near sensitive receptors that are most likely to be impacted by mine works as they are progressively undertaken, in accordance with the requirements of the PEM.
- The TRUenergy dust management plan set out response mechanisms to be deployed at times when elevated dust levels are found to be present.
- The output results of the real-time dust monitoring be provided to the EPA at not less than six monthly intervals and dust monitoring data be treated as public information to be made available upon request through TRUenergy and the EPA in conjunction with DPI
- The real-time monitoring approach needs to utilise suitable technology and methods that are endorsed by the EPA, to enable provision of equivalent continuous air sampling capability.

## 2.4 Noise

### Statutory and Policy Context

The EPA has established policy guidance to aid the implementation of the EP Act and minimise impacts from noise:

- *Interim Guidelines for Control of Noise from Industry in Country Victoria*, EPA Publication N3/89 (1989).
- *Noise Control Guidelines*, EPA Publication 1254 (2008).

There is no subordinate legislation or SEPP for industrial noise in regional Victoria that specifies maximum allowable noise levels for new development, such as SEPP N-1 for metropolitan Melbourne. However, in 1989 the EPA published the *Interim Guidelines for Control of Noise from Industry in Country Victoria N3/89*, which provides the guidance on what noise levels are acceptable for industry at sensitive receptors in regional Victoria. Where background noise levels are comparable to those in metropolitan Melbourne, noise limits are to be determined using *State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1* (SEPP N-1).

Based on N3/89, where background noise levels are very low (i.e. less than 25 dB(A) at night or 30 dB(A) at all other times) the limits contained within N3/89 apply. Otherwise industry noise levels need to be determined and assessed in accordance with SEPP N-1.

### Noise Impacts

The nearest noise sensitive locations that have potential to be affected by industrial noise from development of the mine are the residential areas located along Latrobe Road to the east and south-east of the proposed Maryvale mine re-alignment. The period of highest likely noise propagation and impact to those houses is projected to be during 2020 and 2024, due to the proximity and type of above ground earthworks being undertaken at those times.

Three of the properties along Latrobe Road were chosen as the most noise sensitive receptors for the purposes of the proponent's environmental noise assessment. It was considered that if the noise criteria were able to be met at these three locations, then compliance with the maximum noise limits would be able to be achieved at all other potential noise sensitive receptors in the area.

Based on the proponent's background noise assessment SEPP N-1 is the appropriate policy for this area. This policy framework controls noise impacts from industrial and commercial activities by determining the environmental noise limits required to protect beneficial uses (i.e. domestic and recreational activities, amenity and sleep at night) at noise sensitive areas (i.e. residences, hospitals, hotels and motels). The 'noise limits' are the maximum levels of noise that may be emitted from commercial, industrial and trade premises, which are determined using the procedures set out within SEPP N-1. Typical maximum noise limits are provided in the SEPP N-1 as a guide, for example, 50-54dB(A) for day time, 44-48dB(A) for the evening and 39-43dB(A) for night time for mainly residential areas.

The noise assessment undertaken for the proponent calculated the maximum SEPP N-1 noise limits for this proposal to be: 49dB(A) for the day time, 46dB(A) for evening and 41dB(A) for the night time as measured at noise sensitive areas (i.e. day-time is 7am-6pm, evening is 6pm-10pm, and night-time is 10pm-7am). TRUenergy intends to operate heavy earth moving machinery to development the mine on a 24 hour basis, so as outlined in the Environment Report, it is planning for the mine to operate within the lower night-time limit of 41dB(A) across 24 hours a day. This should enable the round the clock operation of heavy equipment to continuously meet the SEPP N-1 noise limits.

The proponent had computer noise modelling undertaken to predict the likely noise levels at year 2020 and 2024, for both neutral and worst-case atmospheric conditions. The predicted noise levels from the modelling during these worst case periods (2020 and 2024), under both atmospheric scenarios, will comply with the 41dB(A) noise limit. However, the proponent's noise assessment also highlighted that mining operations in 2020 may only be just compliant under the worst-case atmospheric conditions.

Concerns relating to noise generated through the operation of the overburden system and general functioning of the mine was a matter raised within 13 of the 16 submissions received on the exhibited Environment Report.

A technical peer review of the proponent's noise assessment was undertaken on behalf of Latrobe City Council, which formed part of Council's submission on the Environment Report. The Council's peer review raises concerns about the proponent's noise assessment.

There was criticism of the proponent's background noise assessment, based on a continuous noise source being included in the measurements, and therefore whether this constitutes a valid background level to enable determination of whether SEPP N-1 or N3/89 should apply<sup>12</sup>. Whilst there may be some uncertainty regarding the proponent's measurement of background, the conservative nature of the noise modelling (the inclusion of some sources that may not actually operate at night and the inclusion of safety alarms in the assessment<sup>13</sup>) means that a lower night period noise limit, due to a potentially low background level, will not be significant or difficult to comply with.

The peer review also queried whether the proposed noise limits would be able to be met by the specific excavation equipment likely to be employed by TRUenergy, and suggested that, in the absence of acoustic shielding, the noise levels could reach in excess of 50dB at the nearby noise sensitive locations (residences). Additionally, the peer review raised concerns regarding ongoing noise levels beyond the peak times (i.e. 2020 and 2024) identified within the TRUenergy report.

It is true that some uncertainty may exist regarding whether noise levels from the project will always meet the relevant limits, including in relation to the noise levels likely to be generated from specific excavators to be used. The proponent did not have the data for this excavator at the time of the assessment, so data from a similar excavator was used instead. However, these concerns and indeed uncertainty are not likely to elevate the predicted potential impacts to a level not able to be readily addressed through appropriate monitoring and mitigation. A complaints system, tied to the

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<sup>12</sup> The proponent's background assessment concluded that the average LA90 noise levels for day, evening and night were 37 dB(A), 37 dB(A) and 36 dB(A) respectively.

<sup>13</sup> It is noted that the proponent proposes to use 'attenuated' type reversing and motion beepers, which operate at a low sound level except when a detection system associated with the warning beeper detects people, vehicles, or other objects near to the path of the vehicle



Work Plan and regulated by DPI together with the proponent, should enable effective monitoring and mitigation of any residual impacts related to these uncertainties.

The previous noise assessments undertaken as part of the earlier Environment Effects Statement and Supplementary Report for Maryvale Coal Field Development (undertaken in 1999 and 2001) established that EPA needed to determine the relevant noise performance and monitoring requirements to operate under approvals for the mine, to enable residual impacts to be managed, which still applies through existing approvals.

### ***Conclusion***

In conclusion, it is my assessment that:

- SEPP N-1 is the relevant noise policy standard to be applied to this project.
- Noise generated by mine works associated with the proposed Work Plan Variation is likely to have the most impact on the nearest noise sensitive locations around 2020, although the noise is not likely to exceed the maximum noise limits determined using the SEPP N-1 procedures.
- There is some uncertainty regarding the likelihood that these noise levels (i.e. 2020) will exceed the maximum noise limits at the three sensitive locations when there are worst case atmospheric conditions.
- The works for the rest of the project's duration are more than likely to comply with the maximum noise limits.

Further to this, I recommend that:

- The TRUenergy Work Plan make provision for noise complaints to be received and responded to, and for environmental sound logging equipment to be placed at sensitive residential locations where complaints remain unresolved.
- Data from the sound logging equipment be forwarded to DPI in order to inform the determination (in consultation with EPA) as to whether the noise exceeds the noise limits derived from SEPP N-1 (set-out in the Maryvale Mine Environmental Noise Assessment Prepared by Bassett Acoustics for TRUenergy Yallourn Pty Ltd dated 21 December 2007).
- Should compliance with night time sound limits be not be reliably met, then earthworks during night hours be discontinued until further best practice measures can be implemented to reduce noise levels to acceptable levels in the context of applicable legislation that protects beneficial uses and noise sensitive locations.

## **2.5 Visual and Landscape**

The proponent's Environment Report describes the existing visual setting and provides an assessment of the visual impacts of the proposed re-alignment on the surrounding areas, as well as outlining measures to manage and mitigate potential adverse visual impacts.

Latrobe Road runs north from the developed urban area of Morwell to the Latrobe River, a distance of approximately seven kilometres. For approximately six kilometres of that distance Latrobe Road also forms the eastern boundary of land owned by TRUenergy. The existing East Field Coal mine and that of the proposed Maryvale Field is currently screened by overburden mounds and hardwood plantations.

Further screening through placement of overburden with native vegetation cover, combined with the revegetation works associated with the MWD, will cumulatively provide a substantial visual barrier to the mine and it's daily operation for users of Latrobe Road and rural residents along Old Melbourne Road and Andrew Street..

The report finds that mounds and tree planting with landscaping associated with the MWD diversion would sufficiently block views into the mine but would not screen views of distant features such as the Baw Baw ranges.

Similarly, views from the urban areas of Morwell would be screened through the placement over overburden mounds, as well as by the landscaping and re-vegetation works associated with the MWD re-alignment.

## ***Conclusion***

It is my assessment that:

- The proposed realignment project will not significantly affect visual or landscape values.
- Adequate provision has been provided within proposed screening to satisfactorily ameliorate likely adverse visual impact of the future mine development.

Further to this, I recommend that:

- TRUenergy should confer with the ERC, Latrobe City Council and the West Gippsland CMA when finalising the design of screening mounds and the placement of associated vegetation.

## **2.6 Other Matters**

Some submissions on the proposed mine re-alignment and Environment Report raised issues that were outside the required scope of the report to be prepared by TRUenergy in response to the "No EES" conditions and Section 42A(3) of the MRSD Act.

The views of submitters, and of TRUenergy, in relation to these matters raised have been provided to the DPI to inform drafting of the final Work Plan Variation for the proposed mine re-alignment.

The two most substantive issues are summarised below.

### **Ground Subsidence.**

Ground subsidence associated with mining of brown coal resources occurs as a result of depressurization of ground water aquifers through pumping of ground water. This pumping needs to occur to stabilize the mine and prevent heaving of the mine floor. Depressurization can have the effect of inducing broad area subsidence within the vicinity of the mines. For example, the southern edge of Morwell has experienced significant subsidence as a result of the 40 year operation of the Hazelwood coal mines.

Potential subsidence associated with the Maryvale coal field was addressed in the EES prepared in 1999 for the Maryvale Coal Field Development, which concluded that while de-watering associated with the mine operations will result in some level of aquifer depressurization and connected subsidence, this will be of a low order, gradual and uniform in nature and would not lead to structural damage of houses within the vicinity of an extended mine.

### **Rehabilitation**

The final rehabilitation plan for the mine will not differ in its basic form from that endorsed for the approved Yallourn Coal Field Development Project. The Work Plan drawings approved on 18 January 2002 following the Supplementary Environment Report and then Minister for Planning's Assessment allow for permanent side batters of 1:1. This would not change under the proposed mine re-alignment. The Rehabilitation Master Plan for the project adopts the final concept of flooding the mine to form a large lake with interconnection to the local river systems. The depth of the lake will depend upon water availability at the end of the project.

## 2.7 Overall Conclusion

I conclude that the project will have some direct and indirect effects. These are not likely to be significant, having regard to the mitigation and management measures that can and should be implemented, on the basis of consultation with the relevant statutory authorities and agencies.

The project should be implemented in accordance with the measures recommended in this Assessment.

A handwritten signature in black ink, appearing to read 'JM', is written over the printed name and title of Justin Madden.

**JUSTIN MADDEN MLC**  
Minister for Planning

## Appendix - Required Statutory Approvals

In addition to approval of the Work Plan Variation under the MRSD Act, the proposed mine re-alignment requires approval, consent or specific requirements to be met under the following legislation:

- EPBC Act;
- *Planning and Environment Act 1987*;
- *Environment Protection Act 1970*;
- *Flora and Fauna Guarantee Act 1988*; and
- *Water Act 1989*.

The statutory approval requirements for the proposed re-alignment project are discussed in detail below.

### **EPBC Act 1999 (Commonwealth)**

Due to potential impacts on *Eucalyptus strzeleckii*, which is listed as a threatened species under the EPBC Act, the project was referred under this Act on 8 September 2008. On 11 October 2008 it was determined that the project is a 'controlled action' likely to have a significant impact on listed threatened species and communities, under Sections 18 and 18A of the EPBC Act. It therefore requires approval under the EPBC Act.

DEWHA has required assessment of the re-alignment on the basis of "preliminary documentation", which has been addressed through the preparation of the TRUenergy Environment Report and supporting studies. Amongst other things, the assessment document was required to further detail the proposed mitigation and offset measures agreed with the Victorian Department of Sustainability and Environment (DSE) to address impacts on the *Eucalyptus strzeleckii*.

### **Mineral Resources (Sustainable Development) Act 1990**

Mining in Victoria is controlled by the MRSD Act, which is administered by DPI and the Minister for Energy and Resources. The MRSD Act requires two stages of approval for a mining proposal to proceed:

- Mining Licence; and
- Work Plan and Authority to Commence Work.

The proposed Yallourn Coal Field re-alignment area is within Mining Licence Nos. 5003, 5216 and 5304 for Yallourn Mine, and therefore no further mining licence needs to be obtained for the mining operation or associated works. However a variation to an approved Work Plan is required in order to change the mine alignment. A Work Plan Variation application was submitted to DPI in December 2008.

Under Section 42A of the MRSD Act, in some instances Work Plan Variations are able to proceed without a planning permit, specifically when an EES was previously prepared and assessed, albeit that a permit would otherwise be required under the local planning scheme. This section of the MRSD Act applies to the proposed realignment, as an EES and assessment have previously been prepared (see section 1.2) and the potential for a planning permit is triggered due to the Environmental Significance Overlay (ESO1) and Land Subject to Inundation Overlay (LSIO) under the Latrobe Planning Scheme.

The Minister for Planning has determined that the new work may cause some additional environmental impacts, and hence a report was required under Section 42A to address these additional environmental impacts. In accordance with s.42A(3), a planning permit is not required if: a report on those impacts is prepared by the proponent; the report is made available for public comment for at least 28 days; after considering any comments, the Minister for Planning submits an Assessment to the Minister for Energy and Resources; and the latter Minister approves a Work Plan Variation that substantially complies with the recommendations of the Assessment (i.e. this document).

## **Planning and Environment Act 1987**

The project area is covered by the Latrobe Planning Scheme, under the provisions of which the Yallourn Mine site and areas to the east extending as far as Morwell-Maryvale Road are included in Special Use Zone 1 (SUZ1) – Brown Coal. The purpose of this zone is:

- *To provide for brown coal mining and associated uses;*
- *To provide for electricity generation and associated uses; and*
- *To provide for interim and non-urban uses which protect brown coal resources and to discourage the use or development of land incompatible with future brown coal mining and industry.*

The use of land within this zone for mining is permitted without the need for a planning permit provided that the top of the excavation is at least 1,000 m from specified zones and uses, including paper mills, residential zones, land used for a hospital or school or land in a Public Acquisition Overlay for a hospital or school. The top of the excavation of the proposed re-alignment is at least 1,000m from the specified zones and uses (see Figure 2).

An ESO1 applies to a mining buffer area, which consists of rural land to the south and south east of the re-alignment area, between the Yallourn Mining Licence boundary and the township of Morwell. The purpose of this ESO1 is to:

- *Provide for mutual protection of urban amenity and coal resource development and the continued social and economic productive use of land; and*
- *Provide for development which is compatible within a buffer area including reservations and for services ancillary to a Brown Coal Open Cut outside the buffer area.*

The proposed redirection of the Morwell West Drain will traverse the Farming Zone and Special Use Zone 1 and the ESO1 and Land Subject to Inundation Overlay (LSIO).

A planning permit is normally required for works under the ESO1 and LSIO in the planning scheme. However, the MRSD Act enables an exemption from the need for a planning permit, as per the except from the Act below:

- "(3) If the Minister is not so satisfied, the licensee is still not required to obtain a permit for that work if-*
- (a) the Minister administering the Environment Effects Act 1978 directs that a report be prepared on the additional environmental impacts that the new work may have; and*
  - (b) the report is made available for public inspection and comment for at least 28 days; and*
  - (c) after considering any comments made during that period, that Minister submits an assessment of the report to the Minister; and*
  - (d) the variation, in the form that it is approved by the Minister, substantially complies with any requirements recommended by that assessment."*

## **Aboriginal Heritage Act 2006**

Assessments of aboriginal cultural heritage impacts were undertaken for the previous EES and subsequent assessments. The results of the surveys and assessments were submitted to AAV prior to the commencement of the *Aboriginal Heritage Act 2006*. The activity proposed in the Environment Report does not alter the potential impacts on aboriginal heritage (i.e. the loss of one isolated artefact). So under the transitional provisions of the Act, a Cultural Heritage Management Plan (CHMP) is not required.

## **Water Act 1989**

TRUenergy will need to obtain a permit to undertake works on a waterway under the *Water Act 1989*, prior to commencement of works to divert the Morwell West Drain. The West Gippsland Catchment Management Authority (CMA) administers this permit process under delegation from the Minister for Water.

## **Flora and Fauna Guarantee Act 1988**

Conservation of Victoria's native flora and fauna is protected under the *Flora and Fauna Guarantee Act 1988* (FFG Act). In particular it provides for the protection and conservation of threatened species and communities, as well as the management of potentially threatening processes.

The one species listed under the FFG that is known to be impacted by the proposed realignment project is *Eucalyptus strzeleckii*. However, under a special Order a permit is not required for the taking of this special as a result of the proposed mining works<sup>14</sup>.

## **Environment Protection Act 1970**

The *Environment Protection Act 1970* regulates emissions to the environment in Victoria. TRUenergy has an accredited discharge licence from the Environment Protection Authority (EPA) and it expects that the re-alignment of the Yallourn coal mine to comply with legislative and policy requirements under the *Environment Protection Act 1970* in within the framework of its accredited discharge licence.

The proposed works requiring a Work Plan Variation do not require a Works Approval from EPA. However, to ensure compliance with relevant policies, as a matter of normal practice DPI will consult with the EPA in assessing and overseeing the Work Plan Variation and its implementation.

There key regulations and policies that have been prepared under this Act which are relevant to the Yallourn Coal Field Re-alignment Project include:

- EPA Interim Guidelines for Control of Noise from Industry in Country Victoria, N3/89;
- *State Environment Protection Policy* (Control of Noise from Commerce, Industry and Trade) No. N-1;
- *State Environment Protection Policy* (Air Quality Management) 2001; and
- *State Environment Protection Policy* (Waters of Victoria).

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<sup>14</sup> The Governor in Council made a *Flora and Fauna Guarantee (Mineral Resources Development) Order* ('Order') on 20 September 1994. In general, this Order authorises any person who undertakes authorised mining works, which have been the subject of an EES, to take protected flora, if the taking is as a result of or incidental to the carrying out of those works. The Order applies to restricted Crown land, unrestricted Crown land, freehold land owned by a public authority, or private land and therefore can apply to the proposed works by TRUenergy.