

CHAPTER 4

PLANNING POLICY ASSESSMENT



4.1 INTRODUCTION

This chapter discusses the need and strategic justification for a Planning Scheme Amendment to implement a Public Acquisition Overlay (PAO), to support the Outer Metropolitan Ring and E6 (OMR/E6) Transport Corridor.

As a general matter, the Department of Planning and Community Development has adopted a holistic approach to the planning of urban expansion by having regard to the OMR/E6 Transport Corridor, the Regional Rail Link and protection of grasslands when determining the Urban Growth Boundary. If such an approach were not taken, then this might have resulted in the OMR/E6 Transport Corridor being located largely outside of the proposed urban growth boundary, which would prevent it from achieving its objectives of providing for transport both within and external to the metropolitan area.

As a result of the approach being taken to identify a recommended Urban Growth Boundary, in some locations, that boundary has been extended to meet the OMR/E6 Transport Corridor in circumstances where this extension would not otherwise have occurred had the OMR/E6 Transport Corridor not been proposed - since those locations would not otherwise have been adequately serviced with road transport infrastructure.

In these cases, the expanded Urban Growth Boundary might improve the development potential of some properties which would otherwise not have fallen within the revised Urban Growth Boundary.

4.2 STRATEGIC JUSTIFICATION

4.2.1 WHY WOULD AN AMENDMENT BE REQUIRED?

A Planning Scheme Amendment to provide for a PAO for the OMR/E6 Transport Corridor is required as it is necessary to protect the corridor from adverse development into the future. Such a reservation would also provide affected landowners with rights to compensation that are not available when there is no planning scheme amendment underway or no finalised alignment defined by a PAO.

If the corridor is not protected by a Public Acquisition Overlay then there are a number of potential scenarios that could occur. Development could potentially occur that will either:

- > require substantial areas of property to be demolished at a later date; or
- > require that parts of the corridor be constructed as a tunnel at more than ten times the cost of a surface corridor; or
- > raise the cost of the construction so high that all or significant sections of the corridor cannot be funded for construction with the result that all or some of the benefits cannot be obtained.

4.2.2 STRATEGIC AND POLICY JUSTIFICATION OF AN AMENDMENT

A Planning Scheme Amendment to provide for the OMR/E6 Transport Corridor would require amendment to the Greater Geelong, Wyndham, Melton, Brimbank, Hume, Mitchell and Whittlesea Planning Schemes. The following sections respond to detail the strategic and policy justification for an amendment for each of the municipalities affected.

4.2.2.1 PLANNING IN VICTORIA

Section 4 of the *Planning and Environment Act 1987* sets out a number of objectives that a Planning Scheme Amendment will give effect to. In particular, objectives 4(1) (a), (b), (d) and (e) are relevant to this amendment:

- (a) to provide for the fair, orderly, economic and sustainable use and development of land;
- (b) to provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity;
- (d) to conserve and enhance those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value;
- (e) to protect public utilities and other assets and enable the orderly provision and co-ordination of public utilities and other facilities for the benefit of the community.

The prime purpose of an amendment to support the OMR/E6 Transport Corridor would be to facilitate development in accordance with *Melbourne @ 5 million*. An amendment to provide for a reservation for the OMR/E6 Transport Corridor would enable the orderly provision and coordination of public utilities and other facilities for the benefit of the community.

In considering the package of planning as a whole, and the planning for the OMR/E6 Transport Corridor in particular, strong regard has been given to the need to:

- > provide for the protection of natural and man-made resources and the maintenance of natural processes and genetic diversity through avoiding quarries and large scale areas of grassland; and
- > avoid or minimise impacts on places of special cultural value.

4.2.2.2 STATE PLANNING POLICY FRAMEWORK

The State Planning Policy Framework (SPPF) is a statutory component of all planning schemes in Victoria. It sets out the principles and objectives of land use and development planning. The following clauses have relevance to an amendment relating to the OMR/E6 Transport Corridor.

Clause 11.03 - Principles of Land Use and Development Planning:

This clause elaborates on a number of principles aimed at achieving better planning outcomes including environment management, infrastructure provision and economic well being.

An amendment would support ongoing economic growth of Australia, Victoria and Melbourne by reserving land for a transport corridor that would provide a link between residential and employment growth areas in the north and west of Melbourne. It would also provide improved travel between regional centres and key transport hubs in Melbourne. VicRoads would contribute to the protection of natural ecosystems in the project area by adopting best practice environmental and risk management approaches to minimise environmental impacts.

Clause 12.04 – A More Prosperous City (Transport and Freight):

This clause aims “*to create a strong and innovative economy*” by further developing key transport gateways and freight links that maintain Victoria’s position as a leading logistic centre.

The recommended corridor would enable provision of improved access to intermodal terminals including, Melbourne and Avalon Airports and the Port of Geelong. The recommended transport corridor would also optimise access to the proposed Donnybrook/Beveridge Interstate Rail Freight Terminal proposed to be located between Beveridge and Wallan.

Clause 12.07 – A Greener City:

This clause aims *“to minimise impacts on the environment to create a sustainable future growth and development”*.

An amendment would support strategies to protect native habitat and biodiversity by appropriate land use planning, and air and water quality measures. The preferred alignment for the OMR / E6 Transport Corridor is located to protect critically important flora habitat including regional grasslands. The proposal would incorporate best practice water sensitive design to protect and enhance the natural water systems.

Clause 12.08 – Better Transport Links:

This clause aims *“to create a more sustainable transport system by integrating land use and transport”*.

An amendment would support strategies to make jobs more accessible and provide a comprehensive transport system. It would provide for a combined high capacity freeway standard road and rail facility which has been located in conjunction with the land use planning for the expansion of Melbourne’s Urban Growth Boundary. This would result in a transport network being located between Wyndham and Epping to serve the proposed residential and employment growth area in the northern and western suburbs. It would also provide for improved freight rail access to the planned interstate rail terminal at Beveridge.

Clause 15.09 – Conservation of Native Flora and Fauna:

This clause aims *“to protect and conserve the area’s biodiversity, including native vegetation retention and provision of habitats for native plant and animals and control pest plants and animals”*.

The recommended alignment has been designed to avoid the endangered grasslands as noted in the *Flora and Fauna Guarantee Act 1988*. The recommended alignment has been determined in recognition of technical studies undertaken and in consultation with officers of the Department of Sustainability and Environment. The recommended alignment aims to minimise vegetation removal where possible by implementing appropriate mitigation. Where vegetation loss is unavoidable, appropriate offsets would be identified.

Clause 15.11 – Heritage:

This clause aims *“to assist the conservation of places that have natural, environmental, aesthetic, historic, cultural scientific or social significance or other special value important for scientific and research purposes, as a means of understanding our past, as well as maintaining and enhancing Victoria’s image and making a contribution to the economic and cultural growth of the state”*.

The proposal would protect and conserve places of natural or cultural value from inappropriate development by considering the findings and advice from technical specialist reports and will respond to the requirements of the *Aboriginal Heritage Act 2006*, *Archaeological and Aboriginal Relics Preservation Act 1972* and the *Commonwealth Aboriginal and Torres Strait Islander Heritage Act 1984* and the views of local aboriginal communities.

Clause 18.01 – Declared Highways, railways and tramways

This clause aims “*to integrate land use and transport planning around existing and planned declared highways, railways, principal bus routes and tram lines*”.

An amendment providing for the recommended corridor would:

- > result in the greatest overall benefit to the community;
- > make the best use of existing social, cultural and economic infrastructure;
- > minimise impacts on the environment; and
- > optimise accessibility, safety, emergency access, service and amenity.

This has been possible by planning the OMR/E6 Transport Corridor in conjunction with planning for the Regional Rail Link Project, Urban Growth Boundary and grassland protection projects.

The recommended OMR/E6 transport corridor has been located to minimise impacts on the grasslands and minimise land requirements. Planning has also considered recommendations for a revised Urban Growth Boundary resulting in a recommended alignment that would most effectively serve planned residential and employment growth areas in the northern and western suburbs. The recommended proposal would also provide for grade separation of all rail crossings.

4.2.2.3 LOCAL PLANNING POLICY FRAMEWORK

The Local Planning Policy Framework (LPPF) as set out in municipal planning schemes includes the Municipal Strategic Statement and specific local policies. Seven municipalities would be directly impacted by a proposed amendment. They are the City of Greater Geelong, City of Wyndham, Shire of Melton, City of Brimbank, City of Hume, Shire of Mitchell and City of Whittlesea. The following sections summarise how an amendment would support and assist the directions set out in the particular municipalities’ LPPF’s.

4.2.2.3.1 CITY OF GREATER GEELONG

Clause 21.05 – Planning Principles – This clause details a number of planning principles for land use and development including for Transport. The OMR/E6 Transport Corridor would support the directions of this Clause by:

- > Enhancing accessibility for residents, workers and visitors and the transport of goods;
- > Enhancing Geelong’s economic prospects and maximising opportunities.

Clause 21.19 – Economic Development – This clause aims to *“develop a diverse and healthy local economy by creating and maintaining an enabling investment environment for local businesses and new industry”*. The amendment will support this council objective by providing for high standard, high capacity road infrastructure link between the existing Princes Freeway at Little River and the future growth areas of Melbourne’s western suburbs and to regional Victoria more widely. This link would importantly provide for an alternative to over-reliance on the congested M1 (West Gate Freeway) and M80 (Western Ring Road) routes.

Clause 21.26 – Integrated Transport – This clause aims to *“provide an integrated transport system that serves the needs of residents, visitors, students, business and industry and supports the long-term environmental, economic and social sustainability of the municipality”*.

The proposal supports this by incorporating a corridor catering for a high standard high capacity road and rail service connecting to the Princes Freeway and Geelong – Melbourne rail line respectively. The proposal would improve access for Geelong residents to the growth areas of the western suburbs of Melbourne and also improve access between Geelong and other important centres within regional Victoria. It would also enhance freight transport between Geelong, the Port of Geelong and Avalon Airport and the existing intermodal terminal at Melbourne Airport and the proposed Donnybrook/Beveridge Interstate Rail Terminal proposed to be located between Beveridge and Wallan.

Clause 21.28 – Airfields – This clause aims to *“enhance the role of Avalon Airport and protect its future expansion options”*. The proposal would provide for improved access between Avalon Airport and Melbourne’s western suburbs growth areas and regional Victoria for both commuter and freight traffic. The proposal would not encroach on the land occupied by the Avalon Airport and would not restrict the expansion opportunities of the airport.

4.2.2.3.2 CITY OF WYNDHAM

Clause 21.04-3 - Land Use Planning Objectives – This clause details a number of objectives for land use planning in Wyndham. In particular providing for *“accessible, safe and efficient movement of people and goods within, into, and out of, the municipality”* and the *“Protection and enhancement of significant areas and features of the built and natural environment, and maintenance of environmental and heritage values”*.

An amendment would support the safe and efficient movement of people and goods as it would provide for a high standard / high capacity transport corridor including grade separated rail crossings. It would provide an important component of an alternative connection to the congested M1 (West Gate Freeway) and M80 (Western Ring Road) routes. The proposal also supports the protection of the natural environment as the recommended alignment has been located to minimise the impact on the endangered grasslands, where possible.

4.2.2.3.3 SHIRE OF MELTON

Clause 21.03-2 – Planning Visions and Objectives for Melton – Transport – This clause aims *“to develop an efficient and integrated transport infrastructure that allows people choice about how they move within and through the Shire”* and *“to protect and conserve the environmental resources and assets of the Shire for the benefit of current and future communities”*.

An amendment would provide a major new transport corridor in the Shire, that would enable the provision of improved north-south access within the municipality and to residential and employment growth areas in Melbourne’s western suburbs from Epping to Wyndham and to the wider regional areas of Victoria. Planned interchanges with existing major freeways would also provide for a choice of access to Melbourne’s inner suburbs.

The proposal also supports the protection of environmental resources as the preferred alignment has been located to avoid or minimise the impact on endangered grasslands, where possible.

Clause 22.07 – Transport and Movement – This policy aims *“to provide options for people to use alternative means of travel by maximising access”* and *“to support the integration of transport systems with land use planning, community and economic development”*.

The OMR/E6 Transport Corridor is being planned in conjunction with land use planning for the expansion of Melbourne's Urban Growth Boundary, with the recommended alignment maximising opportunities for additional new railway stations on the Melbourne-Ballarat line. Hence, the planning for the OMR/E6 is supportive of Council's policy of providing options for alternative means of travel. The OMR/E6 would directly support Council's policy for an improved road connection between Melton, Wyndham and Geelong.

4.2.2.3.4 CITY OF BRIMBANK

Clause 21.03-3 – Accessibility – This clause identifies key issues to be addressed by the Municipal Strategic Statement (MSS) in particular *“Residents and visitors should have ready access to different parts of Brimbank and surrounding areas – whether by road, path or rail”*.

The proposal supports this by recommending the provision of interchanges between the Outer Metropolitan Ring Transport Corridor and the Western and Calder Freeways that would improve access for residents of Brimbank to the surrounding region both to the west and north. An additional east-west link is proposed to connect the Western Freeway (Deer Park Bypass) with the OMR/E6 Transport Corridor. This link would improve access between Brimbank and the south-west.

Clause 21.11 – Environment – This clause aims *“to preserve the features of Brimbank which give the city its character, namely the features that matter to the community, not just to the historians”*.

The proposal would have minimal impact on important features in Brimbank.

4.2.2.3.5 CITY OF HUME

Clause 21.02-5 – Broad Planning Objectives – This clause aims to provide for *“a range of safe, efficient, affordable and accessible transportation infrastructure for the movement of people, goods and services within, into and out of the municipality”*.

The OMR/E6 Transport Corridor is being planned in conjunction with a potential future high speed rail project and freight rail proposal that would provide alternative modes of transport for freight through Hume.

The proposal also provides for bus operations along the OMR/E6 Transport Corridor. The OMR/E6 Transport Corridor would directly support Hume Council's Council Plan 2004-2008 which aims to ensure that transport corridors have been identified, created and preserved to allow for the long-term transport needs of Hume City, ensuring integrated north-south and east-west connectivity.

4.2.2.3.6 SHIRE OF MITCHELL

Clause 21.03 – Key Issues – This clause highlights key issues for the Shire including that:

- > In 1996, 34% of the Shire’s workforce was employed in the metropolitan area;
- > Private motor vehicles are likely to remain the principal means of transport for the journey to work;
- > While not specifically mentioned, it may be inferred that the OMR/E6 Transport Corridor would be expected to contribute to increased population pressures within the Shire as access to Melbourne is made easier.

4.2.2.3.7 CITY OF WHITTLESEA

Clause 21.04-1 – Community Plan – This clause discusses a number of objectives of Council’s Community Plan one of which aims to *“Ensure ease of movement within, as well as to and from, the municipality.”*

The OMR/E6 Transport Corridor would support Council’s objective by providing improved access, primarily to and from the municipality, but also within the municipality. Interchanges would be provided at a number of east-west roads including Donnybrook Road, Mason Lane (potentially), Bridge Inn Road (potentially) and Lehmanns Road (potentially). Access would also be provided into the Donnybrook/ Beveridge Interstate Rail Terminal. The OMR/E6 Transport Corridor would also provide ready access to the future northern and western suburbs residential and employment growth areas and beyond to regional Victoria.

Clause 21.06-4 – Employment and Economic Development – This clause aims *“to create a better jobs/housing balance and achieve greater diversity in employment opportunities”*.

Planning for the OMR/E6 Transport Corridor would provide for connectivity between Epping and Wyndham. The recommended alignment has been located in consideration of the planning for the Urban Growth Boundary and would provide greater access from Whittlesea to the employment growth areas in the western suburbs.

Clause 21.06-6 – Transport and Accessibility – This clause aims *“to establish an efficient, interconnected (multi modal) transportation system which increases the level of accessibility and choice within and beyond the City of Whittlesea”*.

An amendment would enable the provision of a major new transport corridor in the city that would provide improved north-south access within the municipality and improved access to residential and employment growth areas in Melbourne’s western suburbs from Epping to Wyndham and to the wider regional areas of Victoria. Interchanges with the Hume Freeway would also provide for a choice of road-based access to the inner suburbs and the Melbourne city centre. The definition of a route for the portion of the OMR/E6 Transport Corridor from Findon Road to the Hume Highway would directly support specific actions in the scheme and would enable resolution of the role and ultimate alignment of the E6 in Whittlesea.

4.2.3 WOULD AN AMENDMENT COMPLY WITH THE REQUIREMENTS OF THE *PLANNING AND ENVIRONMENT ACT 1987*?

Under Section 12(2) of the *Planning and Environment Act 1987* a Planning Authority, in preparing an amendment, must take into account any significant effects which it considers the amendment might have on the environment or which it considers the environment might have on the use or development considered under the amendment. Further the Planning Authority may also take into account the social and economic effects of the amendment. The following discussion sets out the environmental, social and economic effects that have been considered.

Preliminary Fauna and Flora, Cultural Heritage and Geotechnical desk top investigations have been completed and the following sections summaries the key issues identified for the preferred alignment of the OMR/ E6 Transport Corridor.

The long term nature of this proposal means that full consideration of the social and economic impacts is not possible at this time. Initial estimates have been made of the direct properties expected to be affected.

4.2.3.1 ENVIRONMENTAL EFFECTS

The related document “*Strategic Assessment of the Program to Revise Melbourne’s Urban Growth Boundary – Impact Assessment Report*” (DSE, 2009) contains further information on nationally significant protected species and ecological communities, wetlands of international importance, migratory species and national heritage.

FLORA AND FAUNA

A desk top study has been completed by Brett Lane and Associates Pty Ltd for OMR/E6 proposed Right of Way (ROW).

Flora – OMR ROW

A total of 12 different Ecological Vegetation Classes (EVC's) were identified within the ROW. The EVC's include Plains Grassy Woodland (EVC 55), Floodplain Riparian Woodland (EVC 56), Creekline Grassy Woodland (EVC 68), Lignum Swamp (EVC 104), Plains Grassy Wetland (EVC 125), Swampy Riparian Complex (EVC126), Plains Grassland (EVC132), Grassy Woodland (EVC 175), Riparian Woodland (EVC 641), Stony Knoll Shrubland (EVC 649), Stream Bank Shrubland (EVC 851) and Escarpment Shrubland (EVC 895). All EVCs except Stream Bank Shrubland (vulnerable) have an endangered conservation status. Plains Grassland and Plains Grassy Woodland are the dominant EVC's.

Two flora species listed under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* have been recorded in the ROW boundary. The species include Swamp Fireweed (vulnerable) and Large-headed Fireweed (vulnerable).

Three EPBC-listed species have the potential to occur within the ROW boundary. These species include Clover Glycine (vulnerable), Matted Flax-lily (endangered) and Spiny Rice-flower (critically endangered).

Two flora species listed under the *Flora and Fauna Guarantee (FFG) Act 1988* have been recorded in the ROW boundary. The species include Buloke (threatened) and Large-headed Fireweed (threatened).

Four FFG species listed as threatened have the potential to occur within the ROW boundary. These species include Small Milkwort, Small Scurf-pea, Spiny Rice-flower and Tough Scurf-pea.

One ecological community listed as critically endangered under the *EPBC Act*, the Natural Temperate Grassland of the Victorian Volcanic Plain is likely to occur in the proposed OMR/E6 ROW.

Two threatened ecological communities listed under the *FFG Act* are likely to occur throughout the OMR/E6 proposed ROW. The ecological communities include the Western (Basalt) Plains Grasslands Community and the Western Basalt Plains (River Red Gum) Grassy Woodland Floristic Community.

Flora - E6 ROW

A total of 8 different Ecological Vegetation Classes (EVC's) were identified within the ROW. The EVC's include Riparian Scrub/Swampy Riparian Woodland Complex (EVC17), Valley Grassy Forest (EVC47), Plains Grassy Woodland (EVC 55), Creekline Grassy Woodland (EVC 68), Grey Clay Drainage-line Aggregate (EVC 124), Plains Grassy Wetland (EVC125), Plains Grassland (EVC 132) and Grassy Woodland (EVC 175). All EVCs except Grassy Woodland (depleted) and Valley Grassy Forest (vulnerable) have an endangered conservation status. Plains Grassy Woodland and Plains Grassland are the dominant EVC's.

No flora species listed under the *EPBC Act 1999* have been recorded in the ROW boundary. Four EPBC flora listed species have the potential to occur within the proposed ROW. The species include Adamson's Blown-grass (endangered), Clover Glycine (vulnerable), Curly Sedge (endangered) and Matted Flax-lily (endangered).

No flora species listed under the *FFG Act 1988* have been recorded in the ROW boundary. Four FFG flora species listed as threatened have the potential to occur within the proposed ROW. These species include Adamson's Blown-grass, Plump Swamp Wallaby-grass, Small Milkwort and Tough Scurf-pea.

One ecological community listed as critically endangered under the *EPBC Act*, the Natural Temperate Grassland of the Victorian Volcanic Plain is likely to occur in the proposed OMR/E6 ROW.

Two threatened ecological communities listed under the *FFG Act* are likely to occur throughout the OMR/E6 proposed ROW. The ecological communities include the Western (Basalt) Plains Grasslands Community and the Western Basalt Plains (River Red Gum) Grassy Woodland Floristic Community.

A detailed Flora & Fauna Study including survey work along the entire alignment will be undertaken prior to construction.

Fauna – OMR ROW

The Golden Sun Moth listed as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999*, has been recorded within the proposed ROW.

Fourteen EPBC fauna listed species have the potential to occur within the proposed ROW. These species include Australian Grayling (vulnerable), Azure Kingfisher (lower risk near threatened), Bush Stone-curlew (endangered), Common Dunnart (vulnerable), Eastern Dwarf Galaxias (vulnerable), Freckled Duck (endangered), Grey-headed Flying-fox (vulnerable), Growling Grass Frog (vulnerable), Nankeen Night Heron (lower risk near threatened), Plains Wanderer (vulnerable), Southern Toadlet (vulnerable), Striped Legless Lizard (vulnerable), Swift Parrot (endangered) and Yarra Pygmy Perch (vulnerable).

The Golden Sun Moth listed as threatened under the *Flora and Fauna Guarantee Act 1988* (Vic) has been recorded in the proposed ROW.

Fourteen FFG fauna species listed as threatened have the potential to occur within the ROW boundary. These species include Barking Owl, Blue-billed Duck, Brown Toadlet, Bush Stone-curlew, Diamond Dove, Diamond Firetail, Eastern Great Egret, Freckled Duck, Grey-headed Flying-fox, Growling Grass Frog, Plains Wanderer, Red-chested Button-quail, Speckled Warbler and Striped Legless Lizard.

Fauna – E6 ROW

No fauna species listed under the *Environment Protection and Biodiversity Conservation Act 1999*, has been recorded within the proposed ROW.

Ten EPBC listed species have the potential to occur within the proposed ROW. These species include Azure Kingfisher (lower risk near threatened), Common Dunnart (vulnerable), Eastern Dwarf Galaxias (vulnerable), Freckled Duck (endangered), Grey-headed Flying-fox (vulnerable), Growling Grass Frog (vulnerable), Nankeen Night Heron (lower risk near threatened), Southern Toadlet (vulnerable), Striped Legless Lizard (vulnerable) and Swift Parrot (endangered).

No fauna species listed under the *Flora and Fauna Guarantee Act 1988* has been recorded within the proposed ROW.

Eleven FFG listed flora species listed as threatened have the potential to occur within the ROW boundary. These species include Barking Owl, Blue-billed Duck, Brown Toadlet, Diamond Dove, Eastern Great Egret, Freckled Duck, Grey-headed Flying-fox, Growling Grass Frog, Red-chested Button-quail, Speckled Warbler and Striped Legless Lizard.

A detailed Flora & Fauna Study including survey work along the entire alignment will be undertaken prior to construction.

CULTURAL HERITAGE

Desk top studies have been completed by Andrew Long and Associates Pty Ltd for OMR and by Ochre Imprints for E6. VicRoads reviewed the consultants' study area findings to determine the number of sites that will be potentially impacted within the ROW.

OMR ROW

128 Indigenous heritage sites have been previously recorded within the Outer Metropolitan Ring study area. Of these Indigenous heritage sites, 28 are potentially impacted within the ROW boundary. These sites include 2 earth features, 1 scarred tree and 26 artefact scatters. Note one site contained an artefact scatter and earth feature.

On the basis of the nature of the known archaeological record in the wider region and the landforms present in the project area, it has been determined that land within 200m of river and major creek valleys are of high archaeological potential to contain Indigenous cultural heritage sites especially where a large degree of native vegetation survives and relatively undisturbed land surface occurs. Alluvial terraces associated with these rivers and creeks have the potential for cultural heritage to be preserved in a depositional environment.

E6 Transport Corridor Report

57 Indigenous heritage sites have been previously recorded within the study area. 9 Indigenous heritage sites are potentially impacted within the ROW boundary. These sites include one earth feature and 8 artefact scatters.

Creek corridors have been identified as high sensitivity to contain Indigenous cultural heritage sites. Scarred trees and in situ Aboriginal cultural material located in creek corridors are site-types highlighted as having increased significance.

A detailed Cultural Heritage Study including survey work along the entire alignment will be undertaken prior to construction. This will also involve appropriate consultation with each of the relevant Registered Aboriginal Parties. VicRoads will also prepare and submit a Cultural Heritage Management Plan to respond to the recommendations of the detailed cultural heritage studies.

HERITAGE (NON-INDIGENOUS)

OMR ROW

100 non-Indigenous sites have been previously recorded within the study area. Of these non-indigenous sites, 14 are potentially impacted within the ROW boundary. The Rockbank Inn is listed on the Heritage Register and is of State significance. The Rockbank Bridge, Gidney Dam, Gidney Farm, Donnybrook Station Site and two Donnybrook Quarry Dry Stone Walls are listed on the Heritage Inventory and are of local significance. Eight Non-Indigenous cultural heritage sites are listed on Heritage Overlays and are of local significance. These sites include Kerr Farm Site, 'Rocklands' Homestead & Farm, Rockbank Inn, Oakbank, Tulloch Outbuilding, Warlaby and Duncan's Lane Bridge and a house.

No specific areas of known Non-Indigenous cultural heritage sensitivity have been defined. However, historical places such as stone walls, domestic dwellings and historical artefact scatters could occur along the OMR Transport Corridor.

E6 ROW

22 non-Indigenous sites have been previously recorded within the study area. Of these non-indigenous sites 10 are potentially impacted within the ROW boundary. Herhs Pine Park Farm, Donnybrook Station Site, Epping Road Bridge, two bluestone houses, two bluestone and granite foundation sites and one house are listed on the Heritage Inventory and are of local significance. Three Non-Indigenous cultural heritage sites are listed on Heritage Overlays and are of local significance. These sites include Schultz Farm 'Pine Grove Farm', Hehrs Pine Farm Park Farm and one bluestone house.

No specific areas of known Non-Indigenous cultural heritage sensitivity have been defined. However, as yet unrecorded historical places such as stone walls, domestic dwellings, historical artefact scatters and quarries are predicted to occur along the E6 Transport Corridor.

A detailed Cultural Heritage Study including survey work along the entire alignment will be undertaken prior to construction.

GEOTECHNICAL

VicRoads Technical Consulting has completed two separate desk top studies covering the OMR and E6 portions of the transport corridor. These studies considered the geology and geomorphology of the proposed transport corridor and have identified any significant constraints and their potential effect on the OMR/E6 Transport Corridor.

OMR

The proposed OMR ROW will potentially impact the following:

- > SW3 - Kororoit Creek Floodplain – the valley of Kororoit Creek upstream of Beattys Rd bridge is a wide floodplain with abandoned stream channels. The site is of Regional significance as an illustration of the influence of lava flows on drainage patterns and of the hydrological complexity of Kororoit Creek;
- > SW4 – Deans Marsh Intermittent Lakes – enclosed depressions on the surface of the lava plain between Kororoit Creek and the Western Highway. Water is brackish and alkaline, with sulphate concentration. The site is of Regional significance as important remnants to illustrate the formerly complex drainage and surface water distribution of the plains;
- > Bulla Quarry north of Sunbury Road and a quarry site south of Sunbury Road.

The following geotechnical issues have been identified that will warrant further investigation prior to or during construction:

- > High to extremely high strength, slightly weathered to fresh basalt is present at the natural surface level in many areas. As such, any subsurface excavations (even shallow drainage lines) may encounter substantial quantities of “non-rippable” basalt. If blasting of the basalt rock is required then close monitoring of ground vibrations and air blast vibrations would be highly desirable during construction.
- > The bridge structure across the Deep Creek Valley, is likely to be in the order of 1.5km long and the pier heights will be approximately 70-80m high. The number of pier locations required and height will have a substantial impact on the creek valley and likely pose a number of major construction issues to effectively minimise the impact. It may be appropriate in the instance of Deep Creek to investigate the use of alternative types of structures (e.g. large “cable stay” bridge) rather than the normal type of bridge structure. In this way, the impact on the Deep Creek valley and the intersection of difficult pier foundations would be largely avoided. A more detailed study of the bridge structure and foundation options is recommended.
- > The stability of the cut excavations in the Silurian sediments may be a potential issue. A comprehensive defect and cut stability analysis will need to be considered prior to construction.

-
- > On the north side of Bulla-Sunbury Road a substantial land fill area exists. The site was previously used as a quarry. The quality and quantity of the landfill placed is largely unknown and will need to be investigated in more detail, so that the impact and costs of the construction of the transport corridor across this area is more fully understood.
 - > There is a possible risk of contamination via emissions from the previous operation of a refuse incinerator in close proximity to the proposed transport corridor. This will need to be examined prior to construction.
 - > The Department of Defence has previously operated an aircraft gunnery and artillery range adjacent to the transport corridor in the vicinity of Greens Road, Newtons Road and Edgars Road. Unexploded bombs have previously been uncovered in recent excavations in this area. While unlikely that they would be located within the transport corridor this should be investigated prior to construction.
 - > The existing waterways were considered to be in poor condition due to vegetation removal on stream banks, grazing, erosion and sedimentation. In a number of locations this is leading to salinisation. Water quality monitoring and surface runoff control should be incorporated as part of the construction program to minimise potential impacts on these waterways.
 - > Existing borehole data indicates that groundwater is located between 4m and 90m. While groundwater has not been detected at the natural surface it was detected as close as 4m in several bores. It is possible that areas will be encountered where springs emanate at the natural surface. These will need to be considered prior to construction.
 - > There is the likelihood of salinity discharge within existing drainage lines in the northern section of the proposed corridor. Appropriate management measures will need to be developed as part of the detailed design and for implementation during construction to ensure the works will not modify the hydrological balance and/or cause enlargement of the existing saline discharge areas.
 - > There is the risk of increased surface runoff which has the potential to increase erosion and impact on water quality. The protection of existing remnant native vegetation and dense planting of new vegetation, provision of appropriate subsurface drainage and providing suitable waterway structures would minimise these risks.

From a geotechnical perspective, no major impediments exist apart from the presence of possible challenging foundation conditions at some major structure sites and the presence of high to extremely high strength “non-rippable” basalt.

E6

The proposed E6 ROW will potentially impact two current quarry sites - Boral Wollert and Hanson Wollert, and one future quarry site, Hanson Wollert.

The following geotechnical issues have been identified that will warrant further investigation prior to or during construction:

- > High to extremely high strength, slightly weathered to fresh basalt is present at the natural surface level in many areas. As such, any subsurface excavations (even shallow drainage lines) may encounter substantial quantities of “non-rippable” basalt. If blasting of the basalt rock is required then close monitoring of ground vibrations and air blast vibrations would be highly desirable during construction.
- > The stability of the cut excavations in the Silurian sediments may be a potential issue. A comprehensive defect and cut stability analysis will need to be considered prior to construction.
- > Foundation conditions at Darebin Creek and Merri Creek may be less favourable with considerable depths of soft weak material likely within the flood plain requiring further consideration prior to construction.
- > The former “GB Landfill” site is located at the former Boral Bundoora Quarry. It is recommended that a more comprehensive investigation and assessment be undertaken to determine likely issues and impacts.
- > Existing borehole data indicates that groundwater was located at natural surface in several bores around Merriang Road to the north and south of Donnybrook and north of Bridge Inn Road. It is likely that groundwater may be encountered close to the natural surface in other areas. There may also be the possibility of also encountering springs in the existing drainage lines. Further consideration of these matters will required prior to construction.
- > There is the likelihood of salinity discharge within existing drainage lines in the northern section of the proposed corridor. Appropriate management measures will need to be developed as part of the detailed design and for implementation during construction to ensure the works will not modify the hydrological balance and/or cause enlargement of the existing saline discharge areas.

- > There is the risk of increased surface runoff which has the potential to increase erosion and impact on water quality. The protection of existing remnant native vegetation and dense planting of new vegetation, provision of appropriate subsurface drainage and providing suitable waterway structures would minimise these risks.

From a geotechnical perspective, no major impediments exist in regard to the construction of the E6 corridor apart from the common presence of near surface, high to very high strength, basalt (including basalt boulders) and possibly the above mentioned large landfill area.

4.2.3.2 SOCIAL EFFECTS

A total of 488 properties (individual titles) would be directly affected by (that is, they would fall completely or partially within), the proposed ROW for the Outer Metropolitan Ring section of the Transport Corridor. Of these properties, there are 96 dwellings and/or commercial buildings that would be directly affected by the proposed ROW. That is, such buildings would be located completely or partially within the proposed ROW.

In the case of the E6 section of the Transport Corridor, 114 properties (individual titles) are directly affected by (ie. fall completely or partially within) the ROW. Of these properties, there are 56 dwellings and/or commercial buildings that are directly affected by (ie. fall completely or partially within) the ROW.

Detailed social investigations are still to be undertaken. They have been deferred until the outcome of the *Melbourne @ 5 million* study is known as this will have a significant impact on the social fabric of the western and north growth areas of Melbourne long into the future. The OMR/E6 Transport Corridor is considered a long-term infrastructure project and is not likely to be constructed before 2020. The social context will be significantly modified as a result of the growth projected by *Melbourne @ 5 Million* and detailed social impact studies will yield a better result if undertaken closer to the point in time that the transport corridor will actually be constructed. Current social concerns will be identified through the issues raised in the public submissions process.

4.2.3.3 ECONOMIC EFFECTS

Detailed economic studies are still to be undertaken. The OMR/E6 Transport Corridor is expected to bring significant economic benefits when finally constructed. The corridor is being planned in conjunction with planning for changes to the Urban Growth Boundary in response to the Government's policy document "*Melbourne @ 5 million*". The strategy calls for an employment corridor running from Avalon Airport to Werribee, Melton, Melbourne Airport and Donnybrook (Hume-Mitchell). The OMR/E6 Transport Corridor will support the connection of residential and employment growth areas in the employment corridor. This will support a reduction in commuting times between home and work and reduce congestion in the north and west of Melbourne.

4.2.4 NATURE OF AN AMENDMENT

4.2.4.1 GENERAL

Once the Government has made a decision on the alignment, it is expected that a Public Acquisition Overlay will be put into the relevant planning schemes to enable VicRoads to acquire the land in the future. The Public Acquisition Overlay would also require that planning permits be obtained for certain development activities prior to acquisition.

It may also be appropriate to apply a Restructure Overlay to some land and to acquire additional land for access restoration purposes as a result of the effect of the alignment on road and property access.