

8 Conclusion

8.1 Justification

The Princes Highway between Mount Pleasant and Toolijooa Road currently performs relatively poorly with regard to road safety and traffic efficiency. There are limited overtaking opportunities, numerous junctions with rural roads and private uncontrolled accesses. Existing access points to Gerringong are less than desirable, with the northern access point over the South Coast Railway Line identified as number 20 in the NSW Government's top 300 priority list for safety treatment of level crossings. The existing highway is also susceptible to flooding where it crosses Omega Flat at the northern extremity of Gerringong and inadequate cross-drainage contributes to localised flooding at other locations.

The existing alignment within the proposal extent has a high crash history and experiences a poor road safety record. By constructing the Gerringong upgrade, it would be possible to realise the highest possible return in terms of immediate road safety benefits and improved travel efficiency for the level of available funding.

The proposed upgrade of the Princes Highway between Mount Pleasant and Toolijooa Road would:

- Improve road safety and reduce road accidents on the Princes Highway from Mount Pleasant to Toolijooa Road by improving town access points to four-way grade-separated interchanges at Rose Valley Road in the north and Belinda Street in the south.
- Improve traffic flow, reduce travel times and delays and road user costs along the Princes Highway between Mount Pleasant and Toolijooa Road.
- Improve traffic efficiency of the Princes Highway through the construction of 7.5 km of dual carriageway between Mount Pleasant and Toolijooa Road, providing continuity of the four lane carriageway from Mount Pleasant.
- Improve traffic efficiency by providing additional climbing lanes southbound for approximately 800 m from Belinda Street on ramp and northbound between Rose Valley Road and the top of Mount Pleasant.
- Reduce flood vulnerability by providing extensive drainage infrastructure maintaining cross drainage flow in the low lying area of Omega Flat and providing 1 in 100 flood free access to Gerringong via Belinda Street where feasible.
- Incorporate property acquisition to set corridor boundaries for future widening to six lanes and designing the infrastructure to allow for future widening.
- Minimise environmental impacts from the proposal.
- Maintain accessibility to Gerringong's existing and future businesses.

The proposal can be justified against each of its objectives as follows:

Proposal objective	How the proposal meets the objective
Improve road safety	<ul style="list-style-type: none"> • Meets all the required design and safety standards. • Controlled access and grade-separated interchange provisions would improve safety at town access points, local roads and property access.
Improve efficiency of the Princes Highway between Mount Pleasant and Toolijooa Road	<ul style="list-style-type: none"> • Provides two lanes in each direction. • Includes two climbing lanes, one northbound at Mount Pleasant and southbound south of Gerringong.
Support regional and local economic development	<ul style="list-style-type: none"> • Minimises property acquisition and severance of class 2 and class 3 agricultural land. • Consistent with State and Regional strategies.
Provide value for money	<ul style="list-style-type: none"> • Minimises the retention of poorly aligned existing highway corridor. • Minimises property acquisition and severance of class 2 and class 3 agricultural land.
Enhance potential beneficial environmental effects and manage potential adverse environmental impacts	<ul style="list-style-type: none"> • Avoids areas of habitat significance. • Generally follows the existing highway corridor with a reduced greenfield footprint compared to the other options.
Optimise the benefits and minimise adverse impacts on local social environment	<ul style="list-style-type: none"> • Minimises property acquisition and severance of class 2 and class 3 agricultural land. • Optimises town access points and maintains the long-term traffic patterns in Gerringong.

8.2 Ecologically sustainable development

One of the objects of the EP&A Act is to encourage ecologically sustainable development (ESD). The Environmental Planning and Assessment Regulation 2000 provides the principles of ESD that must be considered when justifying the carrying out of a development or activity. In this regard, the following addresses each of the ESD principles as they relate to the proposal.

Application to the proposal	
Precautionary principle	
<p>If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation</p>	<ul style="list-style-type: none"> • The proposal design has considered potential impacts and risks from construction and operation of the proposal. The specialist studies provide a detailed understanding of the existing environment and potential impacts from the proposal. • Significant consideration has been given to the proposal with regard to climate change and ecologically sustainable development this has included both the possible effects of climate change on the proposal as well as the possible effects of the proposal on climate change and the findings suggest that the proposal is unlikely to have a significant impact on or be significantly impacted by climate change. • Some irreversible impacts to heritage items would occur as a result of the proposal. For example, part acquisition of Renfrew Park Estate grounds and removal of some mature fig trees (100+ years) would be required to accommodate the proposed Rose Valley Road interchange. The measures outlined in Section 6.5.5 would be implemented to manage the impacts to heritage items along the proposal. • The implementation of site specific safeguards and management measures as outlined in Chapter 6 would ameliorate potential environmental impacts.
Intergenerational equity	
<p>The present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations</p>	<ul style="list-style-type: none"> • Significant consideration has been given to the minimisation of acquisition of class 2 and class 3 agricultural land in the study area during the design of the proposal. Land acquisition has been limited to approximately 99,3400 m² (99.34 ha) of private class 2 and class 3 agricultural and residential property through strip acquisition and is not expected to cause significant impacts to economic capacity from the land acquired. Strip acquisition potentially affecting the existing effluent reuse scheme is not expected to impact on the operation of the scheme. • Considerable consultation has been undertaken with property owners subject to acquisition with the aim of minimising the potential impact on future plans for their property. • The proposal would provide a safer, more efficient and less fuel / emissions intensive road for use by future generations. • The proposal also minimises impacts to the local environment by providing site specific management measures to ensure the integrity of natural and social values of the environment are maintained for future generations.

Application to the proposal	
Conservation of biodiversity and ecological integrity	
Conservation of biological diversity and ecological integrity should be a fundamental consideration	<ul style="list-style-type: none"> Minimal impact to protected species or their habitats or life cycles are anticipated as a result of the proposal. Site specific safeguards outlined in Section 6.3 and 6.4 would ensure that the proposal minimises impacts on biological diversity or ecological integrity.
Improved valuation, pricing and incentive mechanisms	
Environmental factors should be included in the valuation of assets and services	<ul style="list-style-type: none"> Environmental factors have been included in the cost benefit analyses undertaken for the proposal including costs associated with environmental impact mitigation and degradation management both during construction and operation. Economic cost benefit of climate change adaptation was considered and drainage infrastructure would be designed to withstand future climatic conditions. The proposal provides value to the community in terms of improved road safety travel efficiency.

8.3 Conclusion

In summary, the proposal would include the following key features:

- Widening the Princes Highway to a four lane divided carriageway between Mount Pleasant and Toolijooa Road.
- Grade-separated interchange at Rose Valley Road incorporating four-way traffic access to and from Gerringong via a bridge over the highway, a two-way service road and overbridge spanning the South Coast Railway Line at Fern Street.
- Grade-separated interchange at Belinda Street providing four-way, flood free traffic access to and from Gerringong and incorporating a two-way service road running under the highway connecting to Willowvale Road.
- Extensive drainage structures maintaining cross drainage flow in the low lying area of Omega Flat.
- Bridge structure spanning the Crooked Rover and incorporating, Bailey's Road and an existing cattle underpass.
- Northbound climbing lane between Rose Valley Road and the top of Mount Pleasant.
- Southbound climbing lane for approximately 800 m from Belinda Street on load ramp.
- Property acquisition and the setting of corridor boundaries for the provision of future widening to six lanes (three in each direction).
- Future augmentation to six lanes by widening to the outside of the carriageway at Omega Flat, Rose Valley Road interchange and north of Gerringong Bends.

The proposed Gerringong upgrade is required to improve road safety and efficiency, improve access to Gerringong and local properties and improve the service capacity of the Princes Highway in the future through reduced flood vulnerability and opportunity for future widening. These aspects are addressed in the proposed engineering design and the environmental impacts are addressed in this REF.

Refer to Appendix A for the summary consideration of the environmental factors of this proposal as required by the Environmental Planning and Assessment Regulation clause 228(2) and consideration of the Matters of National Environmental Significance (MNES) as listed under the EPBC Act. Consideration by this REF has found that the proposal would not be expected to have a significant impact on any of these factors.

This REF has concluded that there are not expected to be significant impacts on the environment as a result of this proposal, provided that the management measures provided in Chapter 6 are carried out.

9 Certification

This Review of Environmental Factors provides a true and fair review of the proposal in relation to its potential effects on the environment. It addresses to the fullest extent possible all matters affecting or likely to affect the environment as a result of the proposal.



Jon Williamson
Project Manager
AECOM

Date: 1/06/10

I have examined this Review of Environmental Factors and the certification by insert name from above and accept the Review of Environmental Factors on behalf of the RTA.



Ron de Rooy
Project Manager
RTA Southern Region

Date: 1/06/10

10 References

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Terms and acronyms used in this REF

AADT	Annual average daily traffic
AFG	Aboriginal Focus Group
ANZECC	Australian and New Zealand Environmental and Conservation Council
AQMP	Air quality management plan
ASS	Acid sulfate soil
ASSMP	Acid sulfate soils management plan
ATC	Automatic traffic count
Benefit Cost Ratio (BCR)	A measure of the return received per dollar of costs. The benefit cost ratio is calculated by dividing the present value of all benefits by the present value of all costs. A project with a BCR greater than one would be considered desirable, with the project having the highest BCR being most desirable.
bgl	Below ground level
CEMP	Construction environmental management plan.
DECCW	Department of Environment, Climate Change and Water
DEWHA	Department of the Environment, Water, Heritage and the Arts
DOS	Degree of saturation
ECRTN	Environmental Criteria for Road Traffic Noise
EEC	Endangered ecological community
EGP	Eastern Gas Pipeline
EIA	Environmental impact assessment
EIS	Environmental Impact Statement. Required by section 112 of the EP&A Act.
EMP	Environmental management plan
NSW EPA	NSW Environment Protection Authority
US EPA	United States Environmental Protection Agency
<i>EP&A Act</i>	<i>Environmental Planning and Assessment Act 1979</i> . Provides the legislative framework for land use planning and development assessment in NSW
<i>EPBC Act</i>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth). Provides for the protection of the environment, especially matters of national environmental significance, and provides a national assessment and approvals process.
EMS	Environmental management system
EPL	Environment Protection License
ESCP	Erosion and sediment control plan
ESD	Ecologically sustainable development. Development which uses, conserves and enhances the resources of the community so that ecological processes on which life depends, are maintained and the total quality of life, now and in the future, can be increased.
ESMR	Erosion and sedimentation management report
<i>FM Act</i>	<i>Fisheries Management Act 1994</i>
<i>Freedom of</i>	<i>Freedom of Information Act 1989</i>

<i>Information Act</i>	
GHG	Greenhouse gas
<i>Heritage Act</i>	<i>Heritage Act 1977</i>
I&I NSW	NSW Department of Industry and Investment
IAP	International Association for Public Participation Australasia
Infrastructure SEPP	State Environmental Planning Policy (Infrastructure) 2007
km/h	Kilometres per hour
LALC	Local Aboriginal Land Council
LCSC	Level Crossing Strategy Council
LEP	Local environmental plan. A type of planning instrument made under Part 3 of the <i>EP&A Act</i> .
LGA	Local government area
LoS	Level of service. A qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers.
MNES	Matters of National Environmental Significance
MVKM	Million Vehicle Kilometres
NEPC	National Environment Protection Council
NEPM	National environment protection measures
NES	National environmental significance
NHMRC	National Health and Medical Research Council of Australia
NOW	NSW Office of Water
<i>NPW Act</i>	<i>National Parks and Wildlife Act 1974</i>
<i>NW Act</i>	<i>Noxious Weeds Act 1993</i>
PACHCI	Procedure for Aboriginal Cultural Heritage Consultation and Investigation
PASA	Potential archaeologically sensitive areas
PCF	Penetrating cone fracture
PESA	Preliminary erosion and sedimentation assessment
<i>POEO Act</i>	<i>Protection of the Environment Operations Act</i>
RCE	Riparian channel and environment
REF	Review of Environmental Factors
REP	Regional environmental plan. A type of planning instrument made under Part 3 of the <i>EP&A Act</i> .
RTA	Roads and Traffic Authority
RWMP	Resource and waste management plan
SEPP	State Environmental Planning Policy. A type of planning instrument made under Part 3 of the <i>EP&A Act</i> .
SEPP 14	State Environmental Planning Policy No.14 – Coastal Wetlands
SIS	Species impact statement
SULE	Safe useful life expectancy
SWMP	Soil and water management plan
TMP	Traffic management plan
<i>TSC Act</i>	<i>Threatened Species Conservation Act 1995</i>

VMP	Vegetation management plan
<i>WARR Act</i>	<i>Waste Avoidance and Resource Recovery Act 2001</i>