

Appendix A

Consideration of clause 228(2) factors and matters of national environmental significance

Clause 228(2) Checklist

In addition to the requirements of the guideline '*Is an EIS required?*' as detailed in the REF, the following factors, listed in clause 228(2) of the *Environmental Planning and Assessment Regulation 2000*, have also been considered to assess the likely impacts of the proposal on the natural and built environment.

Factor	Impact
<p>a. Any environmental impact on a community?</p> <p>Two residences would be affected during construction by noise from construction plant, machinery and vehicles. These impacts would be minimised through implementation of safeguards in Section 6.2.</p> <p>These residences would also be affected by visual impacts relating to earthworks, stockpiling, the site compound and machinery. Air quality impacts during construction would result from dust, vehicle emissions, and odour production. Construction may cause minor changes for traffic on local roads. These impacts would be short-term and would be minimised through the implementation of safeguards detailed in Sections 6.4, 6.6 and 6.9.</p> <p>The proposal has the potential to have long-term noise impacts at two residences close to the alignment. Safeguards to minimise operational noise impacts have been developed in Section 6.2. The proposal would also require permanent acquisition of 21.74 hectares of land from eight landowners. Safeguards detailed in Section 6.5 would minimise the impacts of land acquisition.</p>	<p>Short-term moderate negative</p> <p>Short-term minor negative</p> <p>Long-term minor negative</p>
<p>b. Any transformation of a locality?</p> <p>The proposal would result in a transformation of the locality through the construction of a new bridge and the construction of a new road alignment. The proposal would require substantial cut and fill. This transformation is considered to be moderate; however the proposal would be in keeping with the surrounding land uses which include the existing highway and bridge, and would be consistent with roads at other locations in the region.</p> <p>The proposal has the potential to have long-term visual impacts at two residences close to the alignment. These residences would be affected by impacts such as the closer proximity of the highway, loss of vegetation and the construction of road embankments. A range of mitigation measures to reduce visual impacts would be implemented (refer to Section 6.4).</p>	<p>Long-term moderate negative</p> <p>Long-term moderate negative</p>

Factor	Impact
<p>The construction of a new road alignment would result in disturbance to topography, vegetation and soils; however the visual impacts would be appropriately remediated as described in Section 6.4.</p> <p>The overall driving experience would be improved with the removal of the abrupt changes in the alignment of the highway at the existing bridge. The general alignment of the road is considered to be in keeping with the undulating landscape of the surrounding area. The cutting would create a sense of drama.</p>	<p>Long-term moderate negative</p> <p>Long-term positive</p>
<p>c. Any environmental impact on the ecosystems of the locality?</p> <p>During construction there is an increased risk of impacts such as chemical and fuel spills, construction noise and spread of pathogens. These risks would be minimised through the implementation of safeguards detailed in Section 6.1.</p> <p>The proposal would remove 12.8 hectares of Box-Gum Woodland, listed under the TSC Act and EPBC Act. The ecological assessment found that the proposal would affect Box-Gum Woodland through the removal and fragmentation of woodland, removal of hollow-bearing trees and spread of weeds. Mitigation measures and an offsetting strategy would be developed in consultation with OEH and DoE to reduce these impacts as much as possible. These and other safeguards would be implemented as described in Section 6.1. Due to the likely significant impact that the proposal is likely to have on Box-Gum Woodland, a species impact statement has been prepared and the concurrence of the Director-General of the Office of Environment and Heritage is required. The proposal has also been referred to the Australian Government DoE under the EPBC Act. DoE has determined that the proposal is a 'controlled action' requiring the approval of the Minister for the Environment.</p> <p>The proposal provides habitat for the Squirrel Glider population in the Wagga Wagga LGA, and threatened birds and bats listed under the TSC Act and EPBC Act. The ecological assessment found that the proposal would affect all of these through the removal and fragmentation of woodland, removal of hollow-bearing trees and spread of weeds. Mitigation measures and an offsetting strategy would be developed in consultation with OEH and DoE to reduce these impacts as much as possible. These and other safeguards would be implemented as described in Section 6.1.</p> <p>The removal of habitat is unlikely to be significant for listed fauna species due to their mobility, the relatively small proportion of habitat removed, and the unlikelihood that the fragmentation of habitat would significantly affect these species.</p>	<p>Short-term minor negative</p> <p>Long-term significant negative</p> <p>Long-term negative</p> <p>Long-term minor negative</p>

Factor	Impact
<p>During operation there would be an increased risk of fauna collisions due to the increased speed of traffic, and the potential for lighting of the proposal to impact on nocturnal fauna. Provided safeguards detailed in Section 6.1 for minimising lighting impacts are implemented, these impacts would be unlikely to be significant.</p>	<p>Long-term minor negative</p>
<p>d. Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?</p> <p>During construction, the proposal would reduce the aesthetic quality of the locality as a result of visual impacts, dust generation and traffic movements. These impacts would be minimised through implementation of safeguards outlined in Section 7.2.</p> <p>The proposal has the potential to have long-term visual impacts at two residences close to the alignment. These residences would be affected by impacts such as the closer proximity of the highway, loss of vegetation and the construction of road embankments. A range of mitigation measures to reduce visual impacts would be implemented (refer to Section 6.4).</p> <p>Noise impacts would occur at two residences from construction plant, machinery and vehicles. These impacts would be minimised through implementation of safeguards in Section 6.2.</p> <p>The proposal would acquire about 9.9 hectares of land from the Planning Agreement Areas that have special value for biodiversity conservation. Consultation would be undertaken with OEH on this issue, with mitigation and offsetting, as detailed in Sections 6.1 and 6.5.</p>	<p>Short-term minor negative</p> <p>Long-term moderate negative</p> <p>Short-term minor negative</p>
<p>e. Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?</p> <p>The proposal would be unlikely to impact on heritage sites or cultural heritage values. Sites of Aboriginal heritage significance in the study area would be protected through the measures described in Section 6.7. The existing bridge at Kapooka, listed under Heritage Schedule 5 of the Wagga Wagga LEP, would be unlikely to be further affected by the proposal.</p> <p>The proposal would acquire about 9.9 hectares from the Planning Agreement Areas as detailed in (d) above.</p>	<p>Nil</p> <p>Long-term minor negative</p>

Factor	Impact
<p>f. Any impact on the habitat of protected fauna (within the meaning of the National Parks and Wildlife Act 1974)?</p> <p>The proposal would remove about 12.8 hectares of Box-Gum Woodland, which provides habitat for a number of native fauna species protected under the NPW Act, including species listed as threatened under the TSC Act, as described in (g) below. The ecological assessment found that the proposal would be likely to impact fauna species through the removal and fragmentation of woodland habitat, removal of hollow-bearing trees and spread of weeds. Mitigation measures and an offsetting strategy would be developed in consultation with OEH and DoE to reduce these impacts as much as possible. The strategy and other safeguards would be implemented as described in Section 6.1.</p>	<p>Long-term negative</p>
<p>g. Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?</p> <p>The proposal would remove about 12.8 hectares of Box-Gum Woodland, listed under the TSC Act and EPBC Act. The ecological assessment found that the proposal would affect Box-Gum Woodland through the removal and fragmentation of woodland, removal of hollow-bearing trees and spread of weeds. Mitigation measures and an offsetting strategy would be developed in consultation with OEH and DoE to reduce these impacts as much as possible. These and other safeguards would be implemented as described in Section 6.1. Due to the likely significant impact that the proposal is likely to have on Box-Gum Woodland, a species impact statement and referral to DoE are required.</p> <p>The proposal provides habitat for the Squirrel Glider population in the Wagga Wagga LGA, and threatened birds and bats listed under the TSC Act and EPBC Act. The ecological assessment found that the proposal would affect all of these through the removal and fragmentation of woodland, removal of hollow-bearing trees and spread of weeds. Mitigation measures and an offsetting strategy would be developed in consultation with OEH and DoE to reduce these impacts as much as possible. These and other safeguards would be implemented as described in Section 6.1.</p> <p>The removal of habitat is unlikely to be significant for other listed species due to their mobility, the relatively small proportion of habitat removed, and the unlikelihood that the fragmentation of habitat would significantly affect these species.</p>	<p>Long-term significant negative</p> <p>Long-term negative</p> <p>Long-term minor negative</p>

Factor	Impact
<p>h. Any long-term effects on the environment?</p> <p>The proposal would cause long-term ecological impacts as described in (g) above. The offsetting and mitigation strategy and other safeguards would be implemented as described in Section 6.1.</p> <p>The proposal would cause long-term visual impacts as described in (b) above. The detailed landscape and visual assessment would develop specific safeguards to minimise visual impacts.</p> <p>The proposal would cause long-term noise impacts as described in (a) above. These impacts would be minimised through implementation of safeguards in Section 6.2.</p> <p>Long-term positive impacts would include improved road safety by upgrading the road geometry and alignment of the Olympic Highway, improved road freight efficiency by upgrading the alignment of the Olympic Highway and removing the restriction to higher mass limit vehicles at the existing bridge at Kapooka and improved travel times on the Olympic Highway by removing the constraints posed by the existing bridge and approaches.</p>	<p>Long-term negative</p> <p>Long-term moderate negative</p> <p>Long-term minor negative</p> <p>Long-term positive</p>
<p>i. Any degradation of the quality of the environment?</p> <p>Two residences would be affected during construction by noise from construction plant, machinery and vehicles. These impacts would be minimised through implementation of safeguards in Section 6.2.</p> <p>The proposal would degrade the quality of the environment during construction through visual impacts relating to earthworks, stockpiling, the site compound and machinery. Air quality impacts during construction would result from dust, vehicle emissions, and odour production. These impacts would be short-term and would be minimised through the implementation of safeguards detailed in Sections 6.4 and 6.7.</p> <p>The proposal would degrade the quality of the environment through the ecological impacts described in (g) above. The offsetting and mitigation strategy and other safeguards would be implemented as described in Section 6.1.</p> <p>The proposal would degrade the quality of the environment during operation through the visual impacts described in (b) above. These impacts would be minimised through implementation of safeguards in Section 6.4.</p> <p>The proposal would cause long-term noise impacts as described in (a) above. These impacts would be minimised through implementation of safeguards in Section 6.2.</p>	<p>Short-term moderate negative</p> <p>Short-term minor negative</p> <p>Long-term negative</p> <p>Long-term moderate negative</p> <p>Long-term minor negative</p>

Factor	Impact
<p>j. Any risk to the safety of the environment?</p> <p>There is potential for road safety to be reduced during construction when new roads are connected to existing roads. Traffic management safeguards described in Section 6.6, including the preparation of a Traffic Management Plan, would address safety risks.</p> <p>The proposal would result in improved road safety by upgrading the road geometry and alignment of the Olympic Highway. The construction of the new bridge would remove the safety risks posed by the existing bridge. A number of crashes have occurred on the existing bridge.</p>	<p>Short-term minor negative</p> <p>Long-term positive</p>
<p>k. Any reduction in the range of beneficial uses of the environment?</p> <p>The proposal would result in traffic impacts during construction, including an increase in the volume of heavy vehicles, and interruptions to traffic flow and temporary changes in speed limit when new roads are connected to existing roads.</p> <p>The proposal would require permanent acquisition of about 20.14 hectares of land from nine landowners. This would include acquisition of about 9.9 hectares from the Planning Agreement Areas. Safeguards detailed in Section 6.5 would minimise the impacts of land acquisition.</p> <p>The proposal would increase the range of beneficial uses of the environment by removing the restriction to higher mass limit vehicles at the existing bridge, and by providing for the potential future duplication of the Sydney to Melbourne Rail Line and double-stacking of containers.</p>	<p>Short-term minor negative</p> <p>Long-term minor negative</p> <p>Long-term positive</p>
<p>l. Any pollution of the environment?</p> <p>Two residences would be affected during construction by noise from construction plant, machinery and vehicles. These impacts would be minimised through implementation of safeguards in Section 6.2.</p> <p>During construction the proposal could potentially result in soil and water pollution, including pollution of existing drainage lines. Pollution could result from chemical and fuel spills. Management of soil and water quality impacts would be undertaken in accordance with the safeguards outlined in Section 6.3.</p> <p>Waste generated during construction could pollute the environment. Waste would be managed in accordance with the safeguards outlined in Section 6.11.</p>	<p>Short-term moderate negative</p> <p>Short-term minor negative</p> <p>Short-term minor negative</p>

Factor	Impact
<p>The proposal would result in minor short-term air pollution from plant and machinery and the generation of dust during construction. Management of air quality impacts would be undertaken in accordance with the safeguards outlined in Section 6.7.</p>	Short-term minor negative
<p>The proposal would cause long-term noise impacts as described in (a) above. These impacts would be minimised through implementation of safeguards in Section 6.2.</p>	Long-term minor negative
<p>m. Any environmental problems associated with the disposal of waste?</p> <p>The proposal would be unlikely to generate contaminated waste. Other waste streams generated during construction are common and would pose no difficulty in their disposal. Waste would be recycled wherever possible. This includes the use of excess cut material as fill. Waste would be managed in accordance with the safeguards outlined in Section 6.11.</p>	Nil
<p>n. Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply?</p> <p>All resources required for the proposal are readily available and are not in short supply. Refer to Section 6.13.</p>	Nil
<p>o. Any cumulative environmental effect with other existing or likely future activities?</p> <p>The cumulative effects of the proposal are discussed in Section 6.15. The proposal would remove woodland from the Planning Agreement Areas that has the specific purpose of offsetting the loss of woodland in other parts of the Wagga Wagga LGA. The proposal would therefore reduce the effectiveness of the Planning Agreement Areas in mitigating the impacts of residential development in the Wagga Wagga LGA.</p> <p>The construction of a second railway line has the potential to increase ecological impacts in the study area through removal and fragmentation of habitat.</p> <p>Other cumulative impacts relate to heritage, soils and water quality, noise and vibration, traffic and access, visual amenity and air quality impacts. The realignment of the utilities and construction of a second railway would be likely to have a relatively minor cumulative impact in relation to these factors.</p>	<p>Long-term negative</p> <p>Long-term negative</p> <p>Short-term minor negative</p>
<p>p. Any impact on coastal processes and coastal hazards, including those under projected climate change conditions?</p> <p>The proposal is not located within a coastal area, and would not cause any impact on coastal processes and coastal hazards.</p>	Nil

Matters of National Environmental Significance

Under the environmental assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999*, the following matters of national environmental significance and impacts on Commonwealth land are required to be considered to assist in determining whether the proposal should be referred to the Australian Government Department of the Environment.

Factor	Impact
<p>a. Any impact on a World Heritage property? The proposal would not have any impact on a World Heritage property. There are no World Heritage properties within 10 kilometres of the proposal.</p>	Nil
<p>b. Any impact on a National Heritage place? The proposal would not have any impact on a National Heritage place. There are no National Heritage places located within 10 kilometres of the proposal.</p>	Nil
<p>c. Any impact on a wetland of international importance? The proposal would not have any impact on a wetland of international importance. The proposal is located upstream of wetlands of international importance, but these are located in South Australia.</p>	Nil
<p>d. Any impact on a listed threatened species or communities? The proposal would remove 12.6 hectares of Box-Gum Woodland, listed under the EPBC Act as critically endangered. The ecological assessment found that the proposal would be likely to have a significant impact on the ecological community through the removal and fragmentation of woodland habitat, removal of hollow-bearing trees and spread of weeds. An offsetting and mitigation strategy would be developed in consultation with DoE to reduce these impacts as much as possible. The strategy and other safeguards would be implemented as described in Section 6.1.</p> <p>The proposed removal of habitat is unlikely to have significant impacts on threatened species due to their mobility, the relatively small proportion of habitat removed, and the low likelihood that the fragmentation of habitat would significantly affect these species.</p>	Significant – referral is required
<p>e. Any impacts on listed migratory species? The proposed removal of habitat is unlikely to have significant impacts on migratory species due to their mobility, the relatively small proportion of habitat removed, and the unlikelihood that the fragmentation of habitat would significantly affect these species.</p>	Minor

Factor	Impact
<p>f. Any impact on a Commonwealth marine area? The proposal is not located near a marine area and would be unlikely to have an impact on a marine area.</p>	Nil
<p>g. Does the proposal involve a nuclear action (including uranium mining)? The proposal does not involve a nuclear action.</p>	Nil
<p>h. Additionally, any impact (direct or indirect) on Commonwealth land? The Kapooka Military Area is located on Commonwealth land west of, and adjacent to, the proposal. A temporary stockpile/compound site is proposed on agricultural land owned by the Department of Defence. This component of the proposal does not trigger the need for a referral but requires Commonwealth approval.</p> <p>The proposal has the potential to indirectly impact Commonwealth land through the fragmentation of woodland in the study area. This is unlikely to be a significant impact to the ecological community on Commonwealth land primarily because the definition of the ecological community under the EPBC Act is limited to flora (not fauna) and the proposal would be unlikely to create a barrier that would prevent the transfer of flora genetic material through the study area. An offsetting and mitigation strategy would be developed in consultation with DoE to reduce the impacts on Box-Gum Woodland as much as possible. The strategy and other safeguards would be implemented as described in Section 6.1.</p>	Minor
<p>i Any impact on the Great Barrier Reef Marine Park? The proposal would not result in any impacts to the Great Barrier Reef Marine Park due to its distance from the park.</p>	Nil