

Appendix A

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

Clause 228(2) Checklist

In addition to the requirements of the *Is an EIS required?* guideline (DUAP 1995/1996) and the *Roads and Related Facilities EIS Guideline* (DUAP 1996) 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
a) Any environmental impact on a community?	
The Proposal would require total and partial acquisition of land within the Proposal area. Property acquisition would be carried out in accordance with the Land Acquisition Information guide (Roads and maritime, 2013) and the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> .	Short term negative
Construction of the Proposal would result in environmental impacts, including altered visual amenity, traffic, and access for some residents, noise and air quality impacts. These impacts would be temporary and managed with the mitigation measures outlined in the REF.	Short term negative
The Proposal would result in a loss of around 0.89 ha of native vegetation and 1.28 hectares of non-native/miscellaneous ecosystems. The ancillary sites would lead to the potential loss of 3.24 hectares non-native/miscellaneous ecosystems including landscape plantings, highly disturbed areas with limited or no native vegetation and maintained mixed native exotic ground cover. There is sufficient presence of intact native vegetation nearby the Proposal including Wamberal Lagoon Nature Reserve.	Short term negative
The intersection upgrade from a two-lane roundabout at the Tumby Road junction to a signalised intersection, and upgraded lane configurations including the provision of adequate turning bays would provide improved travel efficiency and safety to the intersection. The Proposal would improve the performance of the intersection at Tumby Road and the Central Coast Highway. Similarly, the Proposal would improve journey reliability and improve driver safety by through the provision of dedicated turning lanes, improved drainage and street lighting. Improved shared path connections would be installed as part of the Proposal, including the re-establishment of footpaths to facilitate the new intersection and road widening.	Long-term positive
b) Any transformation of a locality?	
During the construction of the Proposal there would be amenity impacts including traffic, noise and air quality impacts which would temporarily transform the locality. Management measures contained in the CEMP would be implemented to minimise these effects.	Short-term negative
The Proposal would result in a permanent change in land use from the existing land uses to a road corridor. This would remove the ability of the land to be developed for residential or agricultural purposes in the future. The Proposal would also result in minimal visual impacts for nearby residents due to the widened road. Landscaping and urban design elements have been incorporated into the design to minimise these impacts.	Long-term negative

Factor	Impact
c) Any environmental impact on the ecosystems of the locality?	
<p>Most of the Proposal is located in a modified landscape, subject to previous land disturbance. However, the Proposal would result in 0.89 ha of native vegetation clearance consisting of PCT 1564, PCT 1589, PCT 1625 and PCT 1716. Native vegetation to be removed within the Proposal area east of the Central Coast Highway and north of Tumbi Road is adjacent to large areas of intact native vegetation.</p> <p>Fauna would likely utilise these areas of native vegetation, including Wamberal Lagoon Nature Reserve. There is also potential to impact species that traverse the roadway however the Proposal would only contribute a marginal increase to the distance biota would need to traverse to connect between vegetation patches.</p> <p>Vegetation to be removed for establishment of the ancillary facilities consist of disturbed native and exotic ground cover devoid of mid-storey and canopy and planted / maintained mixed vegetation patches which do not form a coherent native plant community.</p> <p>A Flora and Fauna Management Plan would be prepared as part of the CEMP. According to Tests of Significance, the Proposal would not have a significant impact on these species or ecological communities as the Proposal is unlikely to place a local occurrence of any of these species or ecological communities at risk of extinction.</p>	Short-term negative
d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?	
There are no anticipated reductions in aesthetic, recreational, scientific or other environmental quality or value of a locality.	Long-term neutral
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?	
The Wamberal Lagoon Nature Reserve is located east of the Central Coast Highway and is protected as a place of high environmental quality under the <i>National Parks and Wildlife Service Act 1974</i> . No access, work or storage would take place on any land within the boundaries of this Nature Reserve, with appropriate safeguards in place to minimise any potential off-site impacts to this land (see Section 7). Furthermore, the inclusion of fencing/handrails in front of this boundary may discourage unwanted entry into Wamberal Lagoon Nature Reserve.	Nil
f) Any impact on the habitat of protected fauna (within the meaning of the <i>National Parks and Wildlife Act 1974</i>)?	
Fourteen threatened species were determined to have potential habitat present within the Proposal area and would be directly affected as part of the Proposal. Tests of Significance concluded the Proposal would not have a significant impact on these species or ecological communities as the Proposal is unlikely to place a local occurrence of any of these species or ecological communities at risk of extinction.	Nil

Factor	Impact
<p>There is the potential that the Proposal may further impact the ability of certain species to traverse the roadway and further isolate these populations. Species most affected by this would include arboreal mammals, frogs and reptiles. However, the Proposal would only contribute a marginal increase to the distance biota would need to traverse to connect between vegetation patches.</p> <p>The removal of vegetation adjacent to the Wamberal Lagoon Nature Reserve would affect the vegetation within the reserve due to edge effects. Edge effects in this case would include the potential for localised alterations to species assemblages, including through weed invasion. It is difficult to determine the extent to which these effects would intrude into the reserve, though it is noted that the edge effect observed within the existing vegetation was highly localised, being approximately 2-3 m on average. The impact of edge effects would be managed as part of the construction of the Proposal through the application of a planting regime of native vegetation reflective of the affected PCT and a weed control and bush regeneration program for disturbed roadside areas adjacent to the Wamberal Lagoon Nature Reserve.</p> <p>This impact has been assessed as being of low magnitude and additional mitigation measures deemed unnecessary.</p>	Long-term negative
g) Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?	
It is not anticipated that the Proposal would endanger any species of animal, plant or other form of life.	Long-term neutral
h) Any long-term effects on the environment?	
Operation of the Proposal would improve traffic flow, travel efficiency and safety through Wamberal by reduced congestion at the intersection of the Central Coast Highway and Tumby Road and improve the movement for motorists, freight vehicles, as well as pedestrians and cyclists using the shared path.	Long-term positive
The Proposal would result in 0.89 ha of native vegetation clearance. Specific mitigation measures including tree planting/landscaping efforts to address these impacts.	Long-term negative
i) Any degradation of the quality of the environment?	
The Proposal would have some temporary impacts during construction associated with visual amenity, traffic, dust and noise and vibration. These impacts would be short term and minimised through the implementation of the safeguards provided in the REF.	Short-term negative
j) Any risk to the safety of the environment?	
<p>During construction, an increase in heavy vehicle movements associated with the transportation of equipment and materials may decrease road safety. The increased transportation of dangerous goods and hazardous materials may also impact safety risk. This is considered minor given the current levels of heavy vehicles using the Central Coast Highway. Nevertheless, traffic management safeguards are provided in the REF to reduce traffic impacts.</p> <p>Potential impacts could occur where some working area occur within areas subject to inundation during a flood event, leading to changes in flood patterns or redistributing flows. However, flood behaviour within and surrounding the</p>	Short-term negative

Factor	Impact
Proposal area is well understood, with adequate advance flood warning available to evacuate equipment and protect the work prior to inundation.	
<p>Operation of the Proposal would improve safety for road users, especially through Wamberal by providing dedicated turning lanes and providing an extra traffic lane for through traffic. This would improve traffic flow and travel times. The Proposal would also see an increase in safety for pedestrians and cyclists.</p> <p>Raising the road levels increases the height at which floodwaters need to reach before overtopping the road. This, in combination with the increased hydraulic capacity of the upgraded culvert crossings, provides a greater level of flood immunity to the road.</p>	Long-term positive
k) Any reduction in the range of beneficial uses of the environment?	
The Proposal would result in the acquisition and a permanent change in land use from the existing land uses to a road corridor. This would remove the ability of the land to be developed for residential or agricultural purposes in the future.	Long-term negative
l) Any pollution of the environment?	
The Proposal would have some temporary impacts during construction associated with visual amenity, increased traffic, dust and noise and vibration. The Proposal could also result in minor impacts to water quality from erosion and sedimentation impacts and from potential oil or fuel spills from construction machinery. These impacts would be short-term and minimised through the implementation of the safeguards provided in the REF.	Short-term negative
Operational pollution is likely to be consistent with the existing Central Coast Highway	Long-term neutral
m) Any environmental problems associated with the disposal of waste?	
Construction of the Proposal would result in a number of waste streams to be generated, including the potential for asbestos and other hazardous waste. Mitigation measures for the disposal of waste streams likely to be produced during construction are detailed in the REF. Waste streams would be managed in accordance with <i>Management of Wastes on Roads and Maritime Services Land</i> procedure.	Short-term negative
Waste generation during operation of the Proposal is likely to be minor consistent with the operation of the existing Central Coast Highway.	Long-term neutral
n) Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply?	
The Proposal is unlikely to affect any resources that are or are likely to become in short supply.	Nil
o) Any cumulative environmental effect with other existing or likely future activities?	
There is potential for cumulative impacts to occur as a result of the construction of the Proposal occurring simultaneously with other projects, including traffic, noise, air quality and visual impacts. The impacts would be temporary during the construction period and would be minimised with the mitigation measures provided in the REF.	Short-term negative

Factor	Impact
<p>The operation of the Proposal would have a positive cumulative impact on travel times, road safety and efficiency. The Proposal would result in improved safety for Wamberal by reducing congestion and enhancing efficiency throughout the area. As part of the broader program of works (Central Coast Highway upgrade - Wamberal to Bateau Bay) this positive cumulative impact will be even more effective.</p>	<p>Long-term positive</p>
<p>p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions?</p>	
<p>The Proposal is located about one kilometre from the coast. The Proposal is unlikely to impact coastal processes or hazards including those predicted under climate change conditions.</p>	<p>Nil</p>

Matters of National Environmental Significance and Commonwealth land

Under the environmental assessment provisions of the EPBC 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 Agriculture, Water and the Environment.

A referral is not required for proposed actions that may affect nationally listed threatened species, endangered ecological communities and migratory species. Impacts on these matters are still assessed as part of the REF in accordance with Australian Government significant impact criteria and taking into account relevant guidelines and policies.

Factor	Impact
a) Any impact on a World Heritage property?	Nil
b) Any impact on a National Heritage place?	Nil
c) Any impact on a wetland of international importance?	Nil
<p>d) Any impact on a listed threatened species or communities?</p> <p>Five TECs were identified to potentially occur within the Proposal area:</p> <ul style="list-style-type: none"> • Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community • Coastal Upland Swamps in the Sydney Basin Bioregion • Posidonia australis seagrass meadows of the Manning-Hawkesbury ecoregion • River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria • Subtropical and Temperate Coastal Saltmarsh <p>Observations made during survey confirmed that none of these communities were present within the study area.</p> <p>During the frog survey a Green and Golden Bell Frog, which is listed as vulnerable under the EPBC Act, was identified outside of the Proposal area, about 60 metres north east of ancillary facility 1.</p> <p>Two threatened species listed under the EPBC Act, one with potential to occur within and one identified within the Proposal area, were assessed for significant impact in accordance with the <i>EPBC Act Policy Statement 1.1 Significant Impact Guidelines</i> (Department of Environment, 2013) to determine if the Proposal would have a significant impact on these species. Both were found to be unlikely to be significantly affected.</p> <p>No other threatened or migratory species listed under the EPBC Act were recorded during the surveys. Some threatened and/or migratory species may utilise habitat within the study area for foraging or movement on occasion, however, it is noted abundant and better quality habitat is located both adjacent to the Proposal area and within the broader locality.</p> <p>The biodiversity report is located in Appendix C.</p>	Unlikely

Factor	Impact
<p>e) Any impacts on listed migratory species?</p> <p>No migratory species listed under the EPBC Act were recorded during the surveys (WSP, 2020). Some threatened and/or migratory species may utilise habitat within the study area for foraging or movement on occasion, however, it is noted abundant and better quality habitat is located within the broader locality (see Appendix C).</p>	Nil
f) Any impact on a Commonwealth marine area?	Nil
g) Does the Proposal involve a nuclear action (including uranium mining)?	Nil
h) Additionally, any impact (direct or indirect) on the environment of Commonwealth land?	Nil