HW16 Bruxner Highway Mallanganee Range and Willocks Street S5390-5400 Pavement Rehabilitation

Minor Works Review of environmental factors

Bundjalung Country

Transport for NSW | September 2022

BLANK PAGE

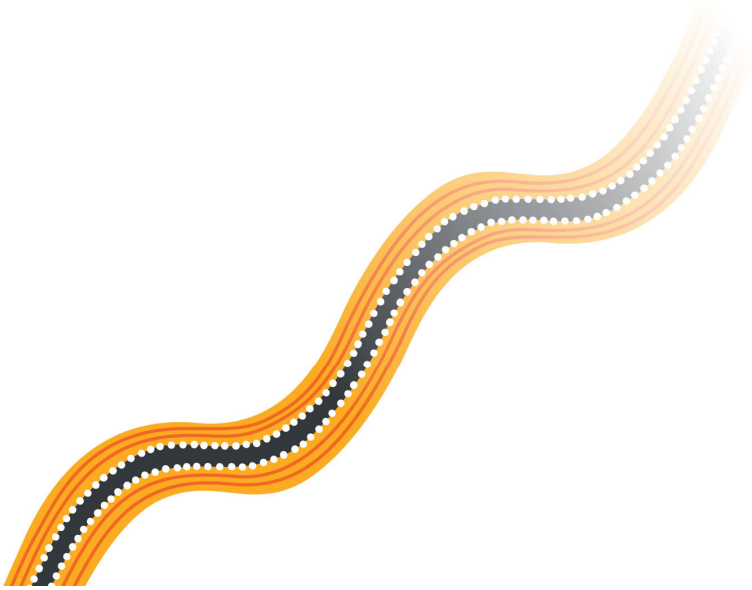
Acknowledgement of Country

Transport for NSW acknowledges Bundjalung Country the traditional custodians of the land on which the HW16 Bruxner Highway Mallanganee Range and Willock Street S5390-5400 Pavement Rehabilitation is proposed.

We pay our respects to Bundjalung Country Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honoring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas and their rich contribution to society.



HW16 Bruxner Highway Mallanganee Range and Willock Street S5390-5400 Pavement Rehabilitation]

Review of environmental factors

Transport for NSW | September 2022

P.0067958

Document controls

Approval and authorisation

Title	HW16 Bruxner Highway-Mallanganee Range and Willock Street S5390-5400 Pavement Rehabilitation Minor works review of environmental factors
Accepted on behalf of Transport for NSW by:	Ross Gersekowski Project Manager Project Services North Regional and Outer Metropolitan Transport for NSW
Signed:	
Dated:	28/9/2022

Document status

Document status	Date	Prepared by	Reviewed by
Draft 1	20/07/2022	Loretta Bray	Ross Gersekowski Lester Piggott Tammie Tribe William Drew Luke Fluechter
Final Draft	28/9/2022	Ross Gersekowski	Tammie Tribe

Contents

Tables

Appendices

1. Introduction

The purpose of the Minor Works review of environmental factors (REF) is to describe the proposal, to document the likely impacts of the proposal on the environment, to detail mitigation measures to be implemented and to determine whether or not the proposal can proceed. For the purposes of this work Transport for NSW (Transport) is the proponent and determining authority under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The description of the proposed works and assessment of associated environmental impacts has been undertaken in the context of section 171 of the Environmental Planning and Assessment Regulation 2021, *Guidelines for Division 5.1 Assessments* (DPE, 2022), the *Biodiversity Conservation Act 2016* (BC Act), the *Fisheries Management Act 1994* (FM Act) and the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

In doing so the REF helps to fulfil the requirements of section 5.5 of the EP&A Act including that Transport examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the activity.

The findings of the REF would be considered when assessing:

- Whether the proposal is likely to have a significant impact on the environment and therefore the necessity for an environmental impact statement to be prepared and approval to be sought from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act
- The significance of any impact on threatened species as defined by the BC Act and/or FM Act, in section 1.7 of the EP&A Act and therefore the requirement for a Species Impact Statement or a Biodiversity Development Assessment Report
- The potential for the proposal to significantly impact a matter of national environmental significance, including nationally listed threatened biodiversity matters, or the environment of Commonwealth land. Where a significant impact is considered likely on nationally listed biodiversity matters, either the proposal must be reconsidered or a Project REF must be prepared.

2. The proposal

2.1 Description

2.1.1 Proposal location

Location details	
Title	HW16 Bruxner Highway Mallanganee Range to Willock Street S5390-5400 Pavement Rehabilitation
File number	P.0067958
Road name and number	Bruxner Highway HW16
Closest crossroad(s):	Willock Street
Chainage of works:	S5390 to 5400 CH37.52 to 39.66km west of Casino
Local government area:	Kyogle Council
Transport for NSW region:	Northern

2.1.2 Description of proposed work

The proposal is for pavement rehabilitation of almost two segments of carriageway:

- S5390 (Part – western end) (Mallanganee Range) and
- S5400 (Willock Street – up to but not including Sandilands St)

The proposal starts 670m into segment 5390 (-28.900271, 152.739146) and extends for approximately 2.15km to a point 270m before the end of segment 5400 (- 28.902206, 152.727954). The proposal will include the use of previously established sites. These sites are located outside the physical start and end points of the proposed pavement works. This proposal is a part of ongoing road maintenance and upgrades provided by Transport for NSW along its main roads and highways and is funded by the Pavement Rehabilitation Program. The proposal is linked to several similar road upgrade and maintenance projects in the local area including the Dyraaba road upgrade and several others further west of Mallanganee on the Bruxner Highway.

The proposal objective is to rehabilitate the pavement, incrementally increase the sealed pavement width area from 7m (in some locations) to 8.5m, provide a minimum 1.0m shoulder (or more where possible), provide new and/or upgrade existing barriers, improve drainage systems and the upgrade of the intersection at Willocks Street to include a BAR treatment layout (widened shoulder for eastbound vehicles to pass a vehicle waiting to turn right into Willock Street).

The need to rehabilitate this 2.15km long project has been identified through the recorded high-level roughness, rutting and observations of heavily cracked pavement. This pavement also has inadequate sub-surface drainage which has resulted in a low remaining life expectancy of the pavement (< 3 years) and high ongoing maintenance costs.

The proposal will also include the use of a pre-existing ancillary/stockpile site situated approximately 85m from the western end of the proposal site (refer **Figure 2.1**). Another site for excess spoil consolidation at Dyraaba, in mtce segment 5225 is subject to a separate MWREF approval and is not part of this document.

The impact footprint covers approximately 5.1 hectares (ha) up to 0.88 ha of which being vegetated, the remaining being the existing road corridor. The regional context and study area are shown in **Figure 1.1** and **Figure 2.1**.

The concept design drawings are provided in Appendix A.

Summary of the proposed works:

- Compound establishment/disestablishment
- Traffic control establishment
- Implement erosion and sediment controls
- Pavement rehabilitation
- Tree removal
- Pavement widening
- Culvert widening and drainage pit improvements
- Placement of networks of subsoil / trench drains
- Installation of safety barriers
- Sealing of pavement
- Line-marking and delineation, not including audio tactile line marking

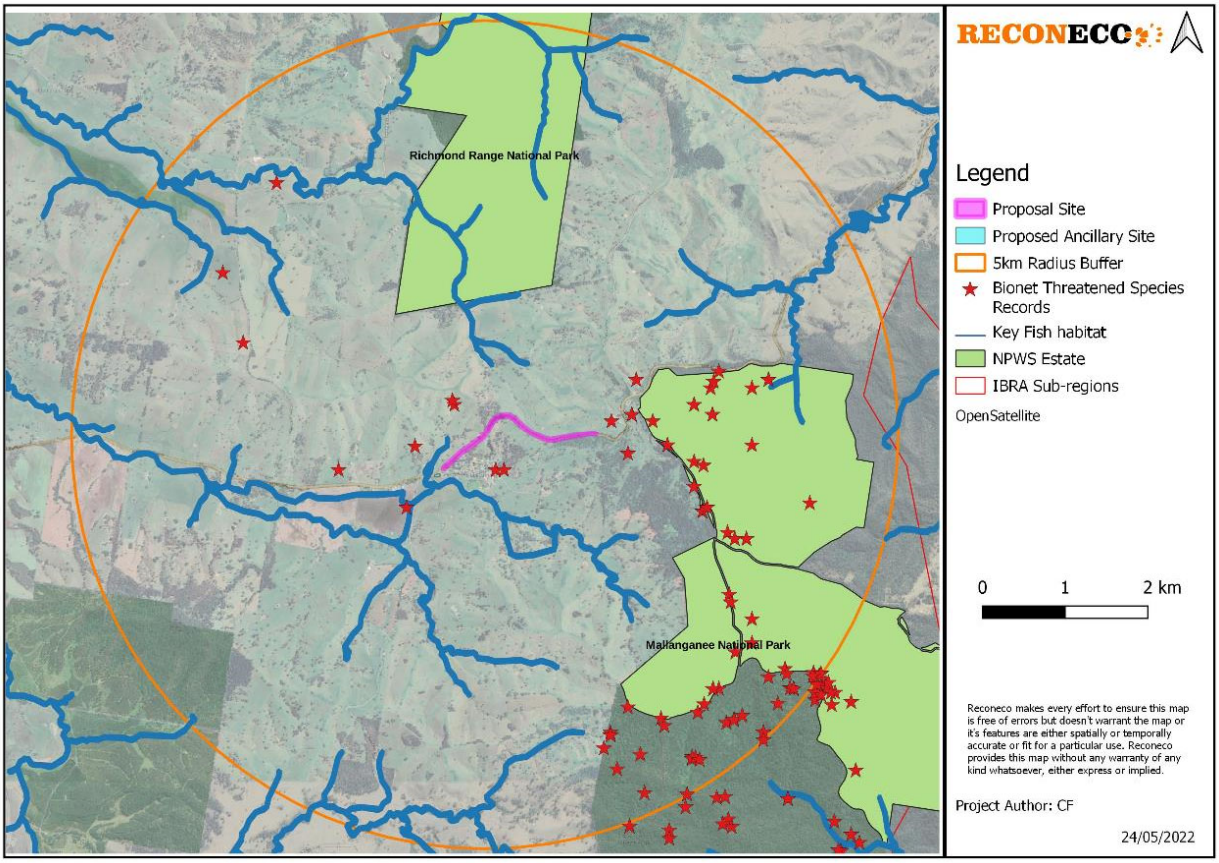


Figure 1.1 – Regional Context of the Proposal

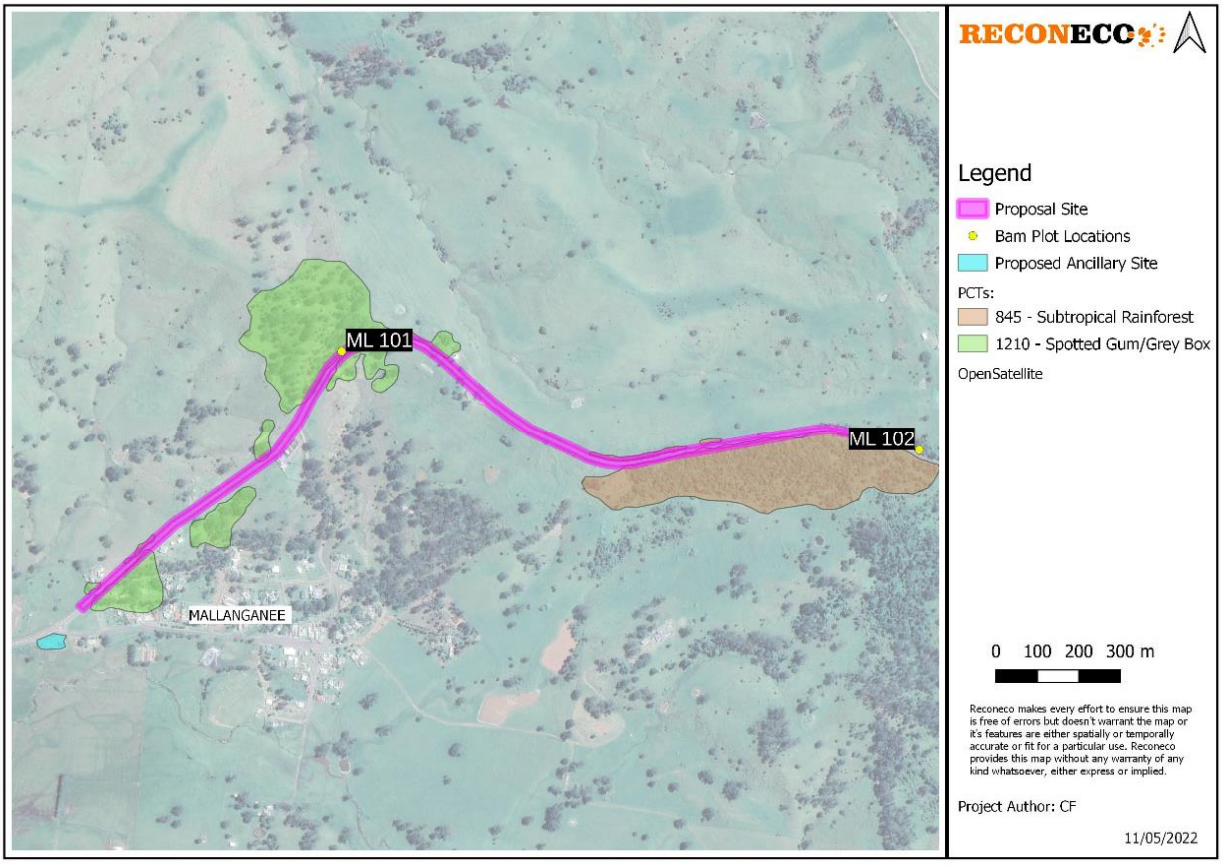


Figure 2.1 – Study Area in context including BAM plots

The majority of impacts to vegetation will be limited to the strips of regularly slashed, non-native vegetation along the road embankments. However, clearing of Spotted Gum/Grey Box woodland vegetation is proposed for the zone approximately mid-way within the proposal site and to the north of the existing roadway (refer **Figure 5-1**). It is proposed to remove ten (10) and trim a number of other trees in this area including trees that are listed as potential koala use trees.

The removal and trimming of these trees has been assessed according to the requirements of the BC Act and EPBC Act with the result that no significant impact on the Koala is expected. This potential impact on Koalas and other potential impacts are quantified and assessed in this report. Based on available background information, the biodiversity impacts of this proposal are expected to be minor due to the limited scope of the proposed works however, these impacts have been assessed in detail by ReconEco in the Biodiversity Assessment Report in Appendix B.

The proposal is expected to be completed in approximately 24 weeks, weather permitting.

The proposal consists of the following works:

CH37525-fill batter northern side and widen carriageway northern side
CH 38050- fill batter and raise headwall
CH 38050-38325 raise guardrail EB carriageway
CH38175-38225 widen carriageway northern side
CH 38325-38600 widen carriageway southern side
CH 38600- 38925 Fill batter northern side and place batter drain.
CH 38950-39375 – widen carriageway northern/southern side in fill
CH39400- 39525 widen carriageway northern/southern side in cut
CH39550-39666 widen carriageway on northern side in fill.

The works methodology for the proposal tasks above consists of the following:

- Establish a temporary compound area
- Establish traffic controls
- Remove vegetation, particularly larger shrubs and trees as identified by TfNSW along the existing shoulder. Plant will be operating from the roadway only.

Where no widening is to take place:

1. De-grass/strip off existing shoulders and contaminated material
2. Rip 150mm off pavement surface
3. Add 50mm DBG20 full width
4. Reshape and compact to a depth of 200mm mixed with 1% slag lime (70:30 blend)
5. The uniform 150mm base course overlay layer is then placed over this (a further 150mm layer is placed in a section between Willock and Taloom Streets).

Where shoulder widening is to take place:

1. excavate 450mm shoulder and verge and remove from site to stockpile site
2. replace with 150mm select material, 150mm subbase quality gravel, 150mm DGB20.
3. Then rip and reshape full width, add 50mm, mix, reshape, compact and trim to FSL -150mm (top of subbase). Slag lime modify 1% 200mm deep.
4. Then place 150mm overlay.

Where new SO gutter is to be constructed and verge infilled:

1. excavate 350mm min under verge and remove from site to stockpile site

2. excavate additional 300mm deep (2m deep on bend above Willock St) trench and construct trench drain
3. recompact with 100mm SMZ, 150mm Granular sub-base
4. pour SO kerb including no fines concrete foundations
5. place 150mm overlay
6. fill verge behind SO kerb or hand place a concrete strip.

Work at slope #17072 – (the downslope batter on the bend above Willock St). The design contains a network of 2m deep trench and transverse drains to intercept groundwater moisture and to dry out the subgrade to provide improved stability of the road formation. There are no structural inclusions.

Disestablish site compound and traffic control.

Leave the site and open the road unrestricted to traffic.

Plant used during construction is anticipated to include:

- Generator at compound site.
- Franna crane or similar at compound site.
- Excavator with bucket, rock hammer/pick and mulching attachment.
- Dump truck / combinations of truck and trailer
- Milling machine / profiler
- Asphalt Paving machine
- Vibratory and static rollers
- Grader
- Stabiliser
- Binder spreading truck
- Water truck
- Skid steer
- Chainsaw.
- Brush cutters.
- Vegetation chipper/mulcher.
- Concrete truck.
- Concrete vibrator.
- Light vehicles.
- Hand Tools.
- Bitumen sprayer and storage tanker.

Storage and disposal of waste material.

It is proposed to take excavated material to the stockpile sites locations as shown on Fig 4.1. The proposed stockpile sites to be used are at the intersection of Bruxner Highway and Sandilands Street (Picture 2) and the stockpile area currently being used for the Mallanganee West Remediation Project (Picture 1).

Standard Working Hours

Monday- Friday: 7.00am to 6.00pm

Saturday: 8.00am to 6.00pm

Sunday and Public Holidays: no work

Pic 1 – Spoil Consolidation Site at seg.5225 Piora

Pic 2 – Stockpile site at Bruxner Highway and Sandilands St

Pic 3- Typical excavation of existing table drain subgrade and replacement with select material

Pic 4 – Typical shoulder widening of cut batter and berm and replacement of SO gutter

The design drawings of the proposal are shown in Appendix A.

2.1.3 Objectives of works

The primary objective of the proposal is to rehabilitate the existing poor-condition pavement and remediate and stabilise an embankment slump to allow the full width of the existing carriageway to be restored to safely carry its full traffic loading.

2.1.4 Ancillary facilities

Ancillary facilities		
Will the proposal require the use or installation of a compound site? This proposal will use the site compound located within the existing adjoining Bruxner Highway Slope remediation project (Mallanganee East) established in the “lookout area” on the corner of Bruxner Highway and Richmond Range Road. (See Figure 4.1)	☑ Yes	☐ No
Will the proposal require the use or installation of a stockpile site? It is proposed to take excavated material to the stockpile sites locations as shown on Figs 3.1 and 4.1. The proposed stockpile sites to be used are at the intersection of Bruxner Highway and Sandilands Street (Fig 3.1) and the stockpile area currently being used for the Mallanganee East Remediation Project in Mtce Seg. 5225. These spoil sites have separate REF’s. The site compound area will consist of: - temporary fencing - security cameras - site office and lunchroom - ablution block - parking for light vehicles - tools containers	☑ Yes	☐ No
Are any other ancillary facilities required (eg temporary plants, parking areas, access tracks)? Parking areas will be provided adjacent to the stockpile site at Sandilands Street,at Willocks Street adjacent to the electricity substation and at Taloom St.	☑ Yes	☐ No

2.1.5 Proposed date of commencement

The project is anticipated to commence in late October 2022 and go for approximately 24 weeks. Commencement dates are subject to weather influences and completion of other projects currently in progress at the time of writing this document.

Figure 3.1 – Location of Stockpile site at Bruxner Highway and Sandilands Street

Figure 4.1 – Location of Proposed Site Facilities

2.1.6 Estimated length of construction period

The period of construction is approximately 24 weeks, weather permitting.

2.2 Need and options

2.2.1 Options considered

The options considered for the proposal included:

- Option 1- 'Do nothing' – Avoids impacts on trees however, the risk to safety of road users from failure of the road pavement remains.
- Option 2- Preferred Option- The preferred option is to construct the proposed works. Varying combinations of widening and alignment shifts were analysed to result in the final design. Shifts to one side are throughout the project and are designed to minimise earthworks and tree removal wherever practically possible.

2.2.2 Justification for the proposal

The proposal is required to:

- Increase the sealed formation from 7m to 8.5m to achieve a 1m sealed shoulder
- Improve road safety.
- Implement a pavement rehabilitation treatment that reduces the need for continual maintenance and delivers an asset that is fit for purpose over the intended 20 year design life.

The proposed works are considered justified in that they are the most suitable options to achieve road rehabilitation and hence improved safety. They have the least environmental impact and represent the most efficient and cost effective method for improving site safety.

2.3 Statutory and planning framework

2.3.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

The State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP (Transport and Infrastructure)) aims to facilitate the effective delivery of infrastructure across the state, including for roads and road infrastructure facilities. Section 2.108 of the SEPP (Transport and Infrastructure) permits development on any land for the purpose of a road or road infrastructure facilities to be carried out by or on behalf of a public authority without consent.

As the proposal is appropriately characterised as development for the purposes of a road or road infrastructure facilities, and is to be carried out by or on behalf of Transport, it can be assessed under Division 5.1 of the EP&A Act. Development consent from council is not required.

The proposal is not located on land reserved under the *National Parks and Wildlife Act 1974* and does not require development consent or approval under State Environmental Planning Policy (Resilience and Hazards) 2021, State Environmental Planning Policy (State Significant Precincts) 2005 or State Environmental Planning Policy (Planning Systems) 2021.

2.3.2 Other relevant legislation and environmental planning instruments

Legislation/Planning Instrument	Statement on Relevancy
Biodiversity Conservation Act 2016	An ecological assessment and review of relevant databases relating to the possible occurrence of State listed threatened species, populations and ecological communities was undertaken for the purposes of this review (refer to Section 3 and Appendix B). The result of this review concluded that there are likely impacts on biodiversity values. Trees that are listed as potential koala use trees occur within the proposal assessment zone of upgrade works as follows: • Two (2) trees that are recognised locally as a primary food tree species were identified within the proposed zone of works and have potential to be impacted (refer Figure 5.1, Plates 1-3). • Eleven (11) trees that are recognised locally as a secondary food tree species were identified within the proposed zone of works and have potential to be impacted. • One (1) tree that is recognised locally as a secondary food tree was identified within the proposed zone of works to the south of the existing roadway but is unlikely to be impacted. • One (1) potential Koala food tree towards the west of the proposal site will likely have overhanging branches trimmed. • The potential impact of the removal of these trees has been assessed according to the requirements of the BC Act with the result that no significant impact on the Koala is expected. Additionally, the proposal site contains the following Plant Community Types (PCTs) and these zones represent the broad habitat types found on site that could possibly be used by threatened species known to occur in the greater locality: • PCT 1210 - Spotted Gum – Grey Box grassy open forest of the Richmond Range of the NSW North Coast. • PCT 845 - Giant Stinging Tree - Fig dry subtropical rainforest on the NSW North Coast Bioregion. • PCT 1210 is not associated with and listed TECs. • PCT 845 is associated with the following TECs: • BC Act Listed, Endangered: Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions. • EPBC Act Listed, Endangered: Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions.
Biosecurity Act 2015	The North Coast Weed Management Plan provides a framework for regional weed management and supports regional implementation of the NSW Biosecurity Act 2015. The plan outlines how land managers can meet requirements under the General Biosecurity Duty. The plan also identifies priority weeds for management. Under this management plan two (2) of the weeds present,

Legislation/Planning Instrument	Statement on Relevancy
	Lantana (Lantana camara) and Cat's Claw Creeper (Dolichandra unguis-cati), are listed as State Priority Weeds and Weeds of National Significance (WONS). Their spread should be minimised to protect priority assets. Further detail is provided in Section 3.7.
Fisheries Management Act 1994	The proposed activities do not impact on any riverbanks or involve dredging and/or reclamation works in water land therefore notification to the Department of Primary Industries (Fisheries) is not required. The nearest waterway (an unnamed creek) is situated approximately 200m to the west of the western extent of the proposal site (refer Figure 1-1) and is listed as Key Fish Habitat according to DPI Fisheries mapping. The proposed works are not predicted to impact this waterway.
Threatened Species Conservation Act 1995	An ecological assessment and review of relevant databases relating to the possible occurrence of State listed threatened species, populations and/or ecological communities was undertaken for the purposes of this Review (refer Section 3.2 -Threatened Ecological Communities in Appendix C). The vegetation of PCT 845 identifies as the BC Act Listed Endangered Ecological Community (EEC) of Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions. It additionally identifies as the EPBC Act Listed Critically Endangered Community of Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions. There will be minimal impact to this as shown in Appendix C.
Heritage Act 1997	Searches of the local LEP, State Heritage Register and Australian Heritage Inventory were undertaken in January 2022 (refer to Appendix D). Both the State Register and Australian Inventory search returned a nil result.
National Parks and Wildlife Act 1974	The provisions of the NPW Act are unlikely to be triggered by the Proposal. An Aboriginal Heritage Information Management System (AHIMS) database search covering land within a 1km radius of the subject sites was undertaken in March 2022 (refer Appendix D). The results of the search were such that no Aboriginal sites or places were listed as occurring within the designated search zone. Additionally, a Stage 1 PACHCI Assessment was completed for the works by TfNSW. In the case that an Aboriginal artefact or place of significance that is not currently listed on the AHIMS database is disturbed as part of the works, works must cease and the Roads and Maritime Environment Manager be notified immediately (refer Section 3.6 — Aboriginal Heritage). Additionally, no National Park estate occurs in the immediate vicinity of the proposed works.

Legislation/Planning Instrument	Statement on Relevancy
State Environmental Planning Policy (Biodiversity and Conservation) 2021	Chapter 3 and 4 'aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline. The Policy applies to Local Government Areas listed under Schedule 2 of the Policy which includes the subject site. The SEPP only applies in relation to activities which require a development application to be made. As Section 2.108(1) of TISEPP precludes the proposal from requiring development consent, the SEPP does not apply to the Proposal. However, it is TfNSW policy to consider all potential environmental impacts of proposed works, including potential impacts to Koalas and/or their habitat.
Environmental Protection and Biodiversity Conservation Act 1999	In September 2015, a "strategic assessment" approval was granted by the Federal Environment Minister in accordance with the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). The approval applies to Roads and Maritime activities being assessed under Part 5 of the EP&A Act with respect to potential impacts on nationally listed threatened species, ecological communities and migratory species. The practical effect of the approval is that Roads and Maritime projects assessed via an REF: ▪ Must address and consider potential impacts on nationally listed threatened species, populations, ecological communities and migratory species, including application of the "avoid, minimise, mitigate and offset" hierarchy. ▪ Do not require referral to the Federal Department of the Environment for these matters, even if the activity is likely to have a significant impact Matters of NES have been considered in Section 4.2 of this Review with the result that no Matters of NES or any impacts on Commonwealth Land are considered likely to be significantly impacted by the Proposal. Additionally, an ecological assessment and review of relevant databases relating to the possible occurrence of Nationally listed threatened species, populations and/or ecological communities was undertaken for the purposes of this Review (refer Section 3 - Biodiversity). A Significant Impact Assessment as per the requirements of the 2015 EPBC Act Strategic Assessment has been completed for the purposes of this Review for those threatened species listed under the Act and with potential to occur at the subject site, namely the Koala (refer Section 3.8 – Biodiversity). The conclusion of this assessment was that a significant impact is considered unlikely (refer Appendix H).

Legislation/Planning Instrument	Statement on Relevancy
Environmental Planning and Assessment Act 1979	The Proposal is located within the Kyogle Local Government Area and is covered by the Kyogle Local Environmental Plan (LEP) 2012.

2.4 Community and agency consultation

2.4.1 SEPP (Transport and Infrastructure) consultation

Part 2.2 of the SEPP (Transport and Infrastructure) contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development. This is detailed below:

Is consultation with Council required under sections 2.10 - 2.12 and 2.14 of SEPP (Transport and Infrastructure)?		
Are the works likely to have a substantial impact on the stormwater management services which are provided by council?	☐ Yes	☑ No
Are the works likely to generate traffic to an extent that will strain the capacity of the existing road system in a local government area?	☐ Yes	☑ No
Will the works involve connection to a council owned sewerage system? If so, will this connection have a substantial impact on the capacity of the system?	☐ Yes	☑ No
Will the works involve connection to a council owned water supply system? If so, will this require the use of a substantial volume of water?	☐ Yes	☑ No
Will the works involve the installation of a temporary structure on, or the enclosing of, a public place which is under local council management or control? If so, will this cause more than a minor or inconsequential disruption to pedestrian or vehicular flow?	☐ Yes	☑ No
Will the works involve more than a minor or inconsequential excavation of a road or adjacent footpath for which council is the roads authority and responsible for maintenance?	☐ Yes	☑ No
Is there a local heritage item (that is not also a state heritage item) or a heritage conservation area in the study area for the works? If yes, does a heritage assessment indicate that the potential impacts to the heritage significance of the item/area are more than minor or inconsequential?	☐ Yes	☑ No
Is the proposal within the coastal vulnerability area and is inconsistent with a certified coastal management program applying to that land?	☐ Yes	☑ No/NA
Are the works located on flood liable land? If so, will the works change flooding patterns to more than a minor extent?	☐ Yes	☑ No

Is consultation with a public authority (other than Council) required under sections 2.13, 2.15 and 2.16 of SEPP (Transport and Infrastructure)?		
Are the works located on flood liable land? (to any extent) (SEPP (Transport and Infrastructure) s2.13) If so, do the works comprise more than minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance?	☐ Yes	☑ No/NA
Are the works adjacent to a national park, nature reserve or other area reserved under the *National Parks and Wildlife Act 1974*, or on land acquired under that Act*?*	☐ Yes	☑ No
Are the works on land in Zone E1 National Parks and Nature Reserves or in a land use zone equivalent to that zone?	☐ Yes	☑ No
Are the works for the purpose of residential development, an educational establishment, a health services facility, a correctional facility or group home in bush fire prone land?	☐ Yes	☑ No
Would the works increase the amount of artificial light in the night sky and that is on land within the dark sky region as identified on the dark sky region map? (Note: the dark sky region is within 200 kilometres of the Siding Spring Observatory)	☐ Yes	☑ No
Are the works on buffer land around the defence communications facility near Morundah? (Note: refer to Defence Communications Facility Buffer Map referred to in clause 5.15 of Lockhart LEP 2012, Narrandera LEP 2013 and Urana LEP 2011).	☐ Yes	☑ No
Are the works on land in a mine subsidence district within the meaning of the *Mine Subsidence Compensation Act 1961*?	☐ Yes	☑ No

2.4.2 [SEPP (Precincts-Central River City) and/or SEPP (Precincts-Western Parkland City) consultation]

N/A

2.4.3 Other agency and community consultation

Consultation was undertaken with adjacent property owners and Essential Energy as the owners and operators of the electricity substation near Willock Street.

3. Environmental assessment

This section provides a detailed description of the potential environmental impacts associated with the construction and operation of the proposal. This includes consideration of the factors specified in section 171 of the Environmental Planning and Assessment Regulation 2021. The matters of national environmental significance under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* are also considered in section 5. Site-specific safeguards are provided to ameliorate the identified potential impacts.

Specialist Input:

Daytime field inspections of the ecological attributes of the subject site were undertaken by a suitably qualified and experienced ecologist from Reconeco Pty Ltd on the 11th February 2022 and 12th April 2022. The objectives of the field survey were to:

- Identify native species and vegetation communities present.
- Describe the quality and value of the vegetation and the flora and fauna habitat at the development site.
- Determine if species, populations or ecological communities listed as threatened under the BC Act, FM Act and/or EP&BC Act are/may be present.
- Determine the significance of impact to any threatened entities present or likely to be present.

Plant Community Types

The study area was found to contain two PCTs namely:

- **PCT 1210** - Spotted Gum – Grey Box grassy open forest of the Richmond Range of the NSW North Coast.
- **PCT 845** - Giant Stinging Tree - Fig dry subtropical rainforest on the NSW North Coast Bioregion.

Threatened Ecological Communities

The vegetation of PCT 845 identifies as the BC Act Listed Endangered Ecological Community (EEC) of Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions. It additionally identifies as the EPBC Act Listed Critically Endangered Community of Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions. Although little to no direct clearing of PCT 845 vegetation (as it occurs towards the eastern extent of the proposed works zone) is proposed, some minimal impacts are possible with the planned clearing of adjacent managed roadside vegetation and drainage areas. As such a BC Act test of significance was completed for this community as a precaution with the results that no significant impact is likely (refer Fig 3-1 in Appendix B).

Threatened Species

A total of 80 threatened flora and fauna species were assessed to determine the likelihood of occurrence (species moderately or highly likely to occur are shown in **Table 3-6**) within the study area based on the PCTs present and habitat attributes observed. Habitat attributes such as the presence of hollow-bearing trees, stags, fallen logs, waterways and riparian woodland indicate that the study area potentially supports numerous threatened species predicted to occur within the area.

The extent of the proposal will not significantly reduce the occupancy of the vegetation communities. Based on the mapped vegetation communities within the wider study area, it is assumed that the habitat attributes recorded within the proposal site are also continuous.

Specifically, the following points have been drawn regarding threatened species with potential to be impacted by the work:

- Fourteen (14) trees that are recognised Koala feed species, consisting of two primary feed tree species and 12 secondary feed tree species occur within the zone of proposed works as it is currently mapped (refer Appendix B **Figure 5-1**). These trees are situated approximately midway within the proposal site and are at the large corner where upgrade clearing works will be concentrated.
- Note that the potential feed tree situated on the southern side of the roadway will not be impacted by the proposal (i.e. 10 of the trees occurring within the mapped survey area are likely to be impacted).
- Additional such trees also occur in the immediate surrounds and in vicinity of the boundary of the proposed works zone as it is currently mapped.
- No Koalas or evidence of recent koala presence in the form of pellets or fresh scratch/pock marks on tree trunks were recorded during the survey.
- One potential food tree towards the west of the proposal site will likely have overhanging branches trimmed.
- Aside from the potential Koala food trees identified above, numerous larger trees that occur within the proposal site and have potential to be cleared have been classified as potential habitat trees (refer Appendix B **Figure 5-1**) in that they provide potential nesting/roosting/feeding resources for a suite of native species including threatened species.
- Note that no evidence of glider feed trees or significant tree hollows, that would provide habitat for hollow dwelling threatened fauna, were noted during the site assessment although some trees had numerous scratches and were obviously well utilised by foraging arboreal mammals.
- No evidence of glider feed trees or significant tree hollows (some smaller, likely very shallow hollows are present) that would provide valuable habitat for hollow dwelling threatened fauna were noted during the site assessment.

The BC Act 5-part-tests of significance and EPBC Act test of significance have been completed for all threatened flora species listed in **Appendix B**

3.1 Soil

Description of existing environmental and potential impacts		
Are there any known occurrences of salinity or acid sulfate soils in the area?	☐ Yes	☑ No
Does the proposal involve the disturbance of large areas (eg >2ha) for earthworks? The proposed widening of the sealed width 1000mm wide by approximately 600mm deep for a section of 1 km would create a 0.6ha disturbed area.	☐ Yes	☑ No
Does the site have constraints for erosion and sedimentation controls such as steep gradients or narrow corridors? The shoulder to be widened has some steep embankments. These will be cleared only as necessary ensure all erosion and sediment controls are implemented prior to commencing works. Safeguards will be employed as outlined below.	☐ Yes	☑ No

Description of existing environmental and potential impacts		
Are there any sensitive receiving environments that are located in or nearby the likely proposal area or that would likely receive stormwater discharge from the proposal? Sensitive receiving environments include (but are not limited to) wetlands, state forests, national parks, nature reserves, rainforests, drinking water catchments). The nearest waterway (an unnamed creek) is situated approximately 200m to the west of the western extent of the proposal site (refer Figure 5-1) and is listed as Key Fish Habitat according to DPI Fisheries mapping. The proposed works are not predicted to impact this waterway.	☑ Yes	☐ No
Is there any evidence within or nearby the likely footprint of potential contamination? A search of the NSW EPA Contaminated Land Record of Notices did not identify any potential sites of contamination within 1km of the proposal area	☐ Yes	☑ No
Is the likely proposal footprint in or nearby highly sloping landform?	☐ Yes	☑ No
Is the proposals likely to result in more than 2.5ha (area) of exposed soil?	☐ Yes	☑ No

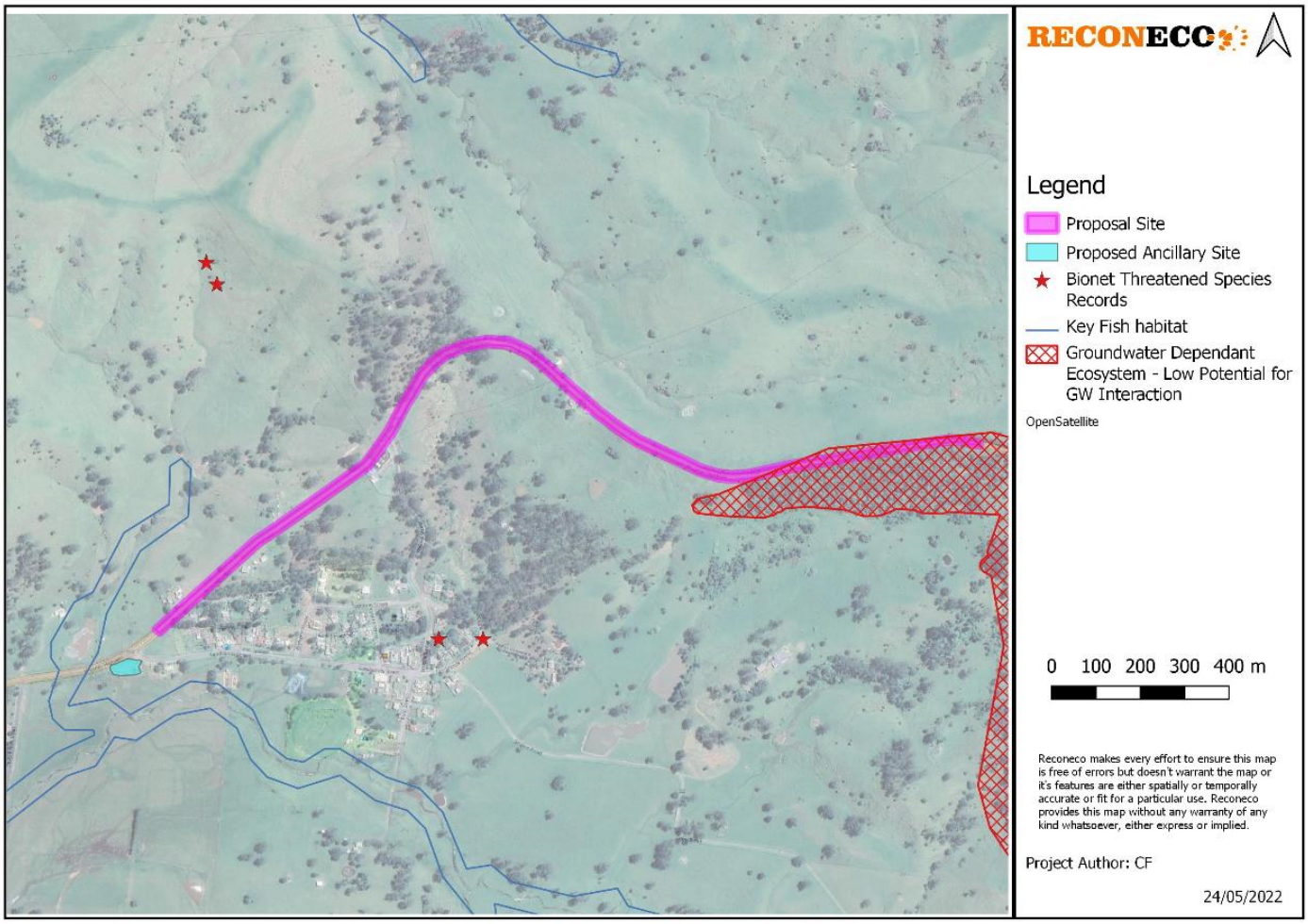


Figure 5.1– Groundwater Dependent Ecosystems

Safeguards

Safeguards to be implemented are:

E1. Erosion and sediment control measures are to be implemented and maintained to:

- Prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets.
- Reduce water velocity and capture sediment on site.
- Minimise the amount of material transported from site to surrounding pavement surfaces.

E2. Erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.

E3. Erosion and sediment control measures are not to be removed until the works are complete, and areas are stabilised.

E4. Work areas are to be stabilised progressively during the works.

E5. A progressive erosion and sediment control plan is to be prepared for the works.

E6. The maintenance of established stockpile sites is to be in accordance with the Transport for NSW Stockpile Site Management Guideline (EMS-TG-10).

3.2 Waterways and water quality

Description of existing environment and potential impacts		
Is the proposal located within, adjacent to or near a waterway? The nearest waterway (an unnamed creek) is situated approximately 200m to the west of the western extent of the proposal site (refer Figure 3-2) and is listed as Key Fish Habitat according to DPI Fisheries mapping. The proposed works are not predicted to impact this waterway. The waterway was assessed during the survey however it was not currently flowing and appeared to have been heavily degraded by cattle movements as well as weed invasion. It is likely that based on the degraded nature of the stream that it likely represents only marginal habitat for threatened aquatic fauna. No additional sensitive aquatic areas were detected during the survey or background searches. Proposed works will not cause significant impacts to aquatic habitat as they are unlikely to alter a watercourse, inhibit water flow or block fish passage. Additionally, no residual impacts are expected given degraded nature of culvert drainage lines and the distance of proposed works zone from Key Fish Habitat.	☑ Yes	☐ No
Is the location known to flood or be prone to water logging?	☐ Yes	☑ No
Is the proposal located within or immediately adjacent to the area managed by WaterNSW covered by chapter 8 of State Environmental Planning Policy (Biodiversity and Conservation) 2021?	☐ Yes	☑ No
Would the proposal be undertaken on a bridge or ferry?	☐ Yes	☑ No
Is the proposal likely to require the extraction of water from a local water course (not mains)?	☐ Yes	☑ No

Safeguards

Safeguards to be implemented are:

W1. There is to be no release of dirty water into drainage lines and/or waterways

W2. Water quality control measures are to be used to prevent any materials (e.g., concrete, grout, sediment etc) entering drain inlets or waterways.

W3. Excess debris from cleaning and washing is removed using hand tools.

W4. All fuels, chemicals and liquids are to be stored in an impervious bunded area a minimum of 50 metres away from:

- Rivers, creeks or any areas of concentrated water flow
- Flooded or poorly drained areas
- Slopes above 10%.

W5. Refuelling of plant and equipment is to occur in impervious bunded areas located a minimum of 50 metres from drainage lines or waterways.

W6. An emergency spill kit is to be kept on site at all times and maintained throughout the construction work. The spill kit must be appropriately sized for the volume of substances at the work site.

W7. All workers will be advised of the location of the spill kit and trained in its use.

W8. If an incident (e.g. spill) occurs, the Transport for NSW Environmental Incident Classification and Reporting Procedure is to be followed and the Transport for NSW Contract Manager notified as soon as practicable.

W9. Visual monitoring of local water quality (i.e. turbidity, hydrocarbon spills/slicks) is to be undertaken on a regular basis to identify any potential spills or deficient silt curtains or erosion and sediment controls.

W10.Timing the works should consider risk of flooding events which are more likely in the wet season which for the area is from December – March. Works undertaken during this period should monitor forecast rainfall and plan for the occurrence of flooding events which may impact construction works.

3.3 Noise and vibration

Description of existing environmental and potential impacts		
Are there any residential properties or other noise sensitive areas near the location of the proposal that may be affected by the work (ie church, school, hospital):		
During construction? A distance-based assessment (Construction scenario) has been completed for the project and identified a potential impact area of 105m during daytime and daytime (OOHW) for isolated dwelling residential receivers and 55m during daytime hours for industrial premise non-residential receivers. There are sixteen (16) residential properties located within 105m of the works, and one (1) industrial premise located within 50m of the works which are affected receivers during daytime periods (refer **Appendix E** which also includes maps showing proximity to proposed works and highlighted properties). For the 105m general impact distance for the residential receivers, the triggered measures require that notification be provided to the 16 properties. Of these, there are six (6) properties less than 30m from the works area which will receive additional mitigation via a phone call and respite offer to the dwelling occupants.	☑ Yes	☐ No
During operation? The proposed works is not expected to increase the overall road noise once operational.	☐ Yes	☑ No
Is the proposal going to be undertaken only during standard working hours? Standard working hours Monday-Friday: 7:00am to 6.00pm Saturday: 8.00am to 6.00pm Sunday and Public Holidays: no work However, work may be undertaken outside of the extended hours on weekends or nights to minimise traffic impacts on the community. If it is	☑ Yes	☐ No

Description of existing environmental and potential impacts		
determined that work outside the nominated hours is required, an assessment would be undertaken to determine the safeguards and mitigations required. Noisy works will be undertaken in accordance with RMS “Construction Noise and Vibration Guideline” (August 2016).		
Is any explosive blasting required for the proposal?	☐ Yes	☑ No
Would construction noise or vibration from the proposal affect sensitive receivers? The Essential Energy Substation is not considered a sensitive receiver after consulting with Essential Energy. However, as it is critical public infrastructure, a condition assessment of the substation infrastructure and buildings will be undertaken in coordination and consultation with Essential energy Staff. Alternative compaction strategies not involving vibration will also be considered for works in the vicinity of this property.	☑ Yes	☑ No
Would operation of the proposal alter the noise environment for sensitive receivers? This might include, but not be limited to, altering the line or level of an existing carriageway, changing traffic flow, adding extra lanes, increasing traffic volume, increasing the number of heavy vehicles, removing obstacles that provide shielding including changing the angle of view of the traffic, changing the type of pavement, increasing traffic speeds by more than 10km/hr or installing audio-tactile line markings.	☐ Yes	☑ No
Would the proposal result in vibration being experienced by any surrounding properties or infrastructure during Construction? There are several properties bordering the project limits of work that fall within the at risk category for potential vibration impacts during vibratory compaction: • Approx. Project Chge 38400 LHS (Dwelling and Sheds) ~12-15m offset from roadway edge. • Approx. Project Chge 38490 RHS (Shed/s) ~12m offset from roadway • Approx. Project Chge 39025 LHS (Essential Energy Substation) ~10m offset from roadway edge. • Approx. Project Chge 39070 LHS (Dwelling) ~10m offset from roadway edge. • Approx. Project Chge 39250 RHS (Concrete Tank) – ~18m offset from roadway. • Project Chge 39375-39425 LHS (Dwelling and outbuildings) - ~15m offset from roadway edge. • Approx. Project Chge 39575 RHS (Dwelling) - ~20m offset from roadway edge. • Approx. Project Chge 39575 LHS (Dwelling) - ~15m offset from roadway edge. • Approx. Project Chge 39600 RHS (Dwelling) - ~15m offset from roadway edge.	☑ Yes	☐ No

Description of existing environmental and potential impacts		
Pre-project and post project condition surveys will be carried out at each identified property by the delivery team / Kyogle Council, as well as vibration monitoring at the above properties for construction activities eg vibratory compaction assessed with a potential to exceed allowable thresholds.		
Would the proposal result in vibration being experienced by any surrounding properties or infrastructure during Operation?	☐ Yes	☑ No

Safeguards

Safeguards to be implemented are:

N1. Works to be carried out during normal work hours (i.e., 7am to 6pm Monday to Friday) except for Saturdays where hours will be 8am to 6pm. Any work that is performed outside normal work hours or on Sundays or public holidays must have additional measures in place to minimise noise impacts. Note extended Saturday work hours 8am to 6pm.

N2. Noise impacts are to be minimised in accordance with Transport for NSW Construction Noise Estimator.

N3. Letter box drops are to be completed to all residents located less than 105 metres from the works. All noise complaints will be addressed if/when received with respite options provided on a case-by-case basis.

N4. Implement measures, including allowing adequate distance that rollers and other vibration producing equipment can come to adjacent buildings and/or using non-vibration producing equipment or techniques, to minimise or prevent vibration impacts.

N5. Condition surveys shall be carried out before and after the project to nine (9) identified properties and their outbuildings and/or other improvements, assessed as being at risk for potential damage as a result of ground vibration.

3.4 Air Quality

Description of existing environmental and potential impacts		
Is the proposal likely to result in large areas (>2ha) of exposed soils?	☐ Yes	☑ No
Are there any dust sensitive receivers located within the vicinity of the proposal during the construction period?	☐ Yes	☑ No
Is there likely to be an emission to air during construction? Emissions to air would be expected for the proposed activities as a result of vehicles and machinery use, however, given the limited amount of equipment to be used and the relatively small scale of works, the emission levels are expected to be negligible and able to be minimised further with the implementation of safeguards as recommended following.	☑ Yes	☐ No

Description of existing environmental and potential impacts

Safeguards

Safeguards to be implemented are:

A1. Measures (including watering or covering exposed areas) are to be used to minimise or prevent air pollution and dust.

A2. Works (including the spraying of paint and other materials) are not to be carried out during strong winds or in weather conditions where high levels of dust or air borne particulates are likely.

A3. Vegetation or other materials are not to be burnt on site.

A4. Vehicles and vessels transporting waste or other materials that may produce odours or dust are to be covered during transportation.

A5. Stockpiles or areas that may generate dust are to be managed to suppress dust emissions in accordance with the Transport for NSW Stockpile Site Management Guideline (EMS-TG-10).

3.5 Aboriginal heritage

Description of existing environmental and potential impacts		
Would the proposal involve disturbance in any area that has not been subject to previous ground disturbances?	☐ Yes	☑ No
Have online Aboriginal Heritage Information Management System (AHIMS) searches been completed? A AHIMS basic search has been carried out and no aboriginal sites or places have been recorded near the project site.	☑ Yes	☐ No
Is there potential for the proposal to impact on any items of Aboriginal heritage?	☐ Yes	☑ No
Would the proposal involve the removal of mature native trees?	☐ Yes	☑ No
Would the proposals impact on any features that may indicate any potential archaeological remains?	☐ Yes	☑ No
Is the proposal consistent with the requirements of the legacy Roads and Maritime Procedure for Aboriginal cultural heritage consultation and investigation (PACHCI)? The PACHCI Assessment is attached in Appendix C.	☐ Yes	☑ No

Safeguards

Safeguards to be implemented are:

B1. If Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find must cease and the Transport for NSW Aboriginal cultural heritage officer and regional environment manager contacted immediately. Steps in the Transport for NSW *Standard Management Procedure: Unexpected Heritage Items* must be followed.

3.6 Non-Aboriginal heritage

Description of existing environmental and potential impacts		
Have online heritage database searches been completed? • Transport (including legacy Roads and Maritime) section 170 register • NSW Heritage database • Commonwealth EPBC heritage list • Australian Heritage Places Inventory • Local Environmental Plan(s) heritage items A search was carried out of the NSW heritage database and Local Environmental Plans and Interim Heritage Order and no heritage sites were located in the vicinity of the proposed project site.	☑ Yes	☐ No
Are there any items of non-Aboriginal heritage or heritage conservation areas listed on relevant heritage databases/registers that are located within the vicinity of the proposal?	☐ Yes	☑ No
Are there any items of potential non-Aboriginal heritage significance which are not listed on relevant heritage databases/registers that are in the vicinity of the proposal?	☐ Yes	☑ No
Is the proposal likely to occur in or near features that indicate potential archaeological remains?	☐ Yes	☑ No

Safeguards

Safeguards to be implemented are:

H1. If unexpected heritage items are uncovered during the works, all works must cease in the vicinity of the material/find and the steps in the Transport for NSW *Standard Management Procedure: Unexpected Heritage Items* must be followed. Transport for NSW Senior Environment Specialist – Heritage must be contacted immediately.

3.7 Biodiversity

Description of existing environmental and potential impacts		
Have relevant database searches been carried out? [eg NSW Bionet and OEH threatened species profile search (including a search by the relevant CMA/s to identify potential EECs present) NSW WeedWise (DPI) website. Commonwealth EPBC Act – Protected matters search tool] Relevant database searches undertaken included the following: Background research: • NSW Government online aerial imagery (**www.maps.six.nsw.gov.au**). • NSW DPI Fisheries Spatial Data Portal: **https://www.dpi.nsw.gov.au/about-us/science-and-research/spatial-data-portal** • SEED datasets including Biodiversity Values Map and available native vegetation community mapping (**https://geo.seed.nsw.gov.au/**) • Core Koala Habitat identified by the Koala Habitat Protection SEPP 2021 Commonwealth datasets: • The DAWE's Protected Matters Search Tool: **http://environment.gov.au/erin/ert/epbc/index.html** • National Flying-fox monitoring viewer. http://www.environment.gov.au/webgis-framework/apps/ffc-wide/ffc-wide.jsf • NSW Government Biodiversity Values Map which identifies land with high biodiversity value, as defined by the Biodiversity Conservation Regulation 2017 (https://www.lmbc.nsw.gov.au). • Flora and fauna records and profiles contained in the NSW Threatened Species Database, EPBC Protected Matters Search Tool and DPI threatened fish distribution maps. • BioNet (www.bionet.nsw.gov.au) Wildlife Atlas and Plant Community Type (VIS) databases. • Flora of NSW (Harden 1991-2002) and Flora NSW Online (**www.plantnet.rbgsyd.nsw.gov.au**). Database searches were undertaken before the field assessment to determine any threatened species, ecological communities, important protected habitat (e.g. Wetlands) or defined areas of biodiversity priority predicted to occur in the study area and those previously recorded within the 10 km search area. The results of these searches led to the identification of key species for field survey effort and targeted searches. Results of the	☑ Yes	☐ No

Description of existing environmental and potential impacts		
database searches are provided in **Appendix B of the Biodiversity report in Appendix B.**		
Did the database searches identify any endangered ecological communities, threatened flora and/or threatened or protected fauna, or migratory species in or within the vicinity of the proposed works? Both Commonwealth and State listed matters must be considered. The vegetation of PCT 845 identifies as the BC Act Listed Endangered Ecological Community (EEC) of Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions. It additionally identifies as the EPBC Act Listed Critically Endangered Community of Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions. Although little to no direct clearing of PCT 845 vegetation (as it occurs towards the eastern extent of the proposed works zone) is proposed, some minimal impacts are possible with the planned clearing of adjacent managed roadside vegetation and drainage areas. As such a BC Act test of significance was completed for this community as a precaution with the results that no significant impact is likely (refer **Appendix B**). Note that the vegetation with potential to be impacted did not meet the threshold for assessment of significance as per the EPC Act and therefore no such assessment was undertaken for the purposes of this report (refer **Figure 3- 1** in Appendix B). A total of 80 threatened flora and fauna species were assessed to determine the likelihood of occurrence (species moderately or highly likely to occur are shown in Appendix B, **Table 3-6**) within the study area based on the PCTs present and habitat attributes observed. Habitat attributes such as the presence of hollow-bearing trees, stags, fallen logs, waterways and riparian woodland indicate that the study area potentially supports numerous threatened species predicted to occur within the area. The extent of the proposal will not significantly reduce the occupancy of the vegetation communities. Based on the mapped vegetation communities within the wider study area, it is assumed that the habitat attributes recorded within the proposal site are also continuous. Specifically, the following points have been drawn regarding threatened species with potential to be impacted by the work: -Fourteen (14) trees that are recognised Koala feed species, consisting of two primary feed tree species and 12 secondary feed tree species occur within the zone of proposed works as it is currently mapped (refer Appendix B **Figure 5-1**). These trees are situated approximately midway within the proposal site and are at the large corner where upgrade clearing works will be concentrated. -Note that the potential feed tree situated on the southern side of the roadway will not be impacted by the proposal (i.e. ten (10) of the trees occurring within the mapped survey area are likely to be impacted).	☑ Yes	☐ No

Description of existing environmental and potential impacts		
-Additional such trees also occur in the immediate surrounds and in vicinity of the boundary of the proposed works zone as it is currently mapped. -No Koalas or evidence of recent koala presence in the form of pellets or fresh scratch/pock marks on tree trunks were recorded during the survey. -One potential food tree towards the west of the proposal site will likely have overhanging branches trimmed. -Aside from the potential Koala food trees identified above, numerous larger trees that occur within the proposal site and have potential to be cleared have been classified as potential habitat trees (refer **Figure 5-1**) in that they provide potential nesting/roosting/feeding resources for a suite of native species including threatened species. -Note that no evidence of glider feed trees or significant tree hollows, that would provide habitat for hollow dwelling threatened fauna, were noted during the site assessment although some trees had numerous scratches and were obviously well utilised by foraging arboreal mammals. -No evidence of glider feed trees or significant tree hollows (some smaller, likely very shallow hollows are present) that would provide valuable habitat for hollow dwelling threatened fauna were noted during the site assessment. -The BC Act 5-part-tests of significance and EPBC Act test of significance have been completed for all threatened flora species listed in **Appendix B.**		
Is the proposal likely to impact nationally listed threatened species, ecological communities or migratory species?	☐ Yes	☑ No
Would the proposal require the removal of any other vegetation? Impacts to native vegetation are anticipated to be relatively minor. Currently TfNSW has proposed a maximum clearing extent that would include up to 0.30 ha of native vegetation. The majority of this clearing will occur within the patch of PCT 1210 (Spotted Gum – Grey Box grassy open forest) immediately north of the Willocks Street intersection with the Bruxner Highway (Appendix B, **Figure 5-1**). As mentioned previously, the vegetation of PCT 845 identifies as the BC Act Listed Endangered Ecological Community (EEC) of Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions. It additionally identifies as the EPBC Act Listed Critically Endangered Community of Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions. Further to this, the vegetation recorded as PCT 845 was not found to meet the relevant TEC thresholds under the EPBC Act (described below) and as such zones containing PCT 845 are not considered TECs under that particular legislation.	☑ Yes	☐ No

Description of existing environmental and potential impacts		
Although little to no direct clearing of PCT 845 rainforest vegetation (as it occurs towards the eastern extent of the proposed works zone) is proposed, some minimal impacts are possible with the planned clearing of adjacent managed roadside vegetation. As such a BC Act test of significance was completed for this community as a precaution with the results that no significant impact is likely (refer **Appendix B**). Note that the vegetation with potential to be impacted did not meet the threshold for assessment of significance as per the EPBC Act and therefore no such assessment was undertaken for the purposes of this report (refer Appendix B, **Figure 3-1**). As the majority of this proposal occurs within the managed road reserve, biodiversity impacts will be limited to the removal and trimming of the koala/habitat trees mapped in Appendix B **Figure 5-1** and a maximum of approximately 0.30 ha of native vegetation (Appendix B, **Table 5-1**) which would not constitute a significant impact.		
Would the proposal affect any tree hollows or hollow logs? There is no evidence of glider feed trees or significant tree hollows, that would provide habitat for hollow dwelling threatened fauna, were noted during the site assessment although some trees had numerous scratches and were obviously well utilised by foraging arboreal mammals. There is no evidence of glider feed trees or significant tree hollows (some smaller, likely very shallow hollows are present) that would provide valuable habitat for hollow dwelling threatened fauna were noted during the site assessment.	☐ Yes	☑ No
Are there any known areas of outstanding biodiversity value or areas mapped as 'littoral rainforest' or 'coastal wetland' under chapter 2 of State Environmental Planning Policy (Resilience and Hazards) 2021 (SEPP (Resilience and Hazards)) in or within the vicinity of the proposed work?	☐ Yes	☑ No
Would the proposal provide any additional barriers to the movement of wildlife?	☐ Yes	☑ No
Would the proposal disturb any natural waterways or aquatic habitat?	☐ Yes	☑ No
Would the proposal disturb any crevices or other locations (such as on bridges and culverts) for potential bat habitat?	☐ Yes	☑ No

Safeguards

Safeguards to be implemented are:

F1. There is to be no disturbance or damage to threatened species or areas of outstanding value.

F2. Works are not to harm threatened fauna (including where they inhabit bridges or other structures e.g. timber fence posts).

F3. Pre-clearing surveys will be undertaken in accordance with *Guide 1: Pre-clearing process* of the *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA 2011). F4. An arborist should be used to remove sections of tree hollows manually to minimise potential impacts to species occupying the trees. Hollow sections should be lowered to the ground in controlled manner and inspected as part of the clearing process. Any animals present should be released under supervision of an ecologist or wildlife carer.

F5. If unexpected threatened fauna or flora species are discovered, stop works immediately and follow the Transport for NSW Unexpected Threatened Species Find Procedure in the Transport for NSW Biodiversity Guidelines 2011 – Guide 1 (Pre-clearing process).

F6. Tree and hollows that require replacement will be identified in accordance with the Tree and Hollow replacement guideline. Where trees and hollows will be replaced within the project boundary prepare a Tree and Hollow Replacement Plan to address the impacts described prior to the commencement of works. Alternatively, where tree and hollow replacement cannot be accommodated locally or can only be partially accommodated, payment must be made to the TfNSW Conservation Fund prior to the commencement of works in accordance with the Tree and Hollow Replacement Guideline".

F7. All pathogens are to be managed in accordance with the Transport for NSW Biodiversity Guidelines - Guide 7 (Pathogen Management), DECC Statement of Intent 1: Infection of native plants by Phytophthora cinnamomi (for Phytophthora) and Arrive Clean, Leave Clean, Commonwealth of Australia 2015.

F8. Weeds are to be managed according to requirements under the Biosecurity Act, 2015 and Guide 6 (Weed Management) of the Transport for NSW Biodiversity Guidelines 2011.

F9. Fauna handling must be carried out in accordance with the requirements the Transport for NSW Biodiversity Guidelines - Guide 9 (Fauna Handling).

F10. Works are not to create an ongoing barrier to the movement of wildlife.

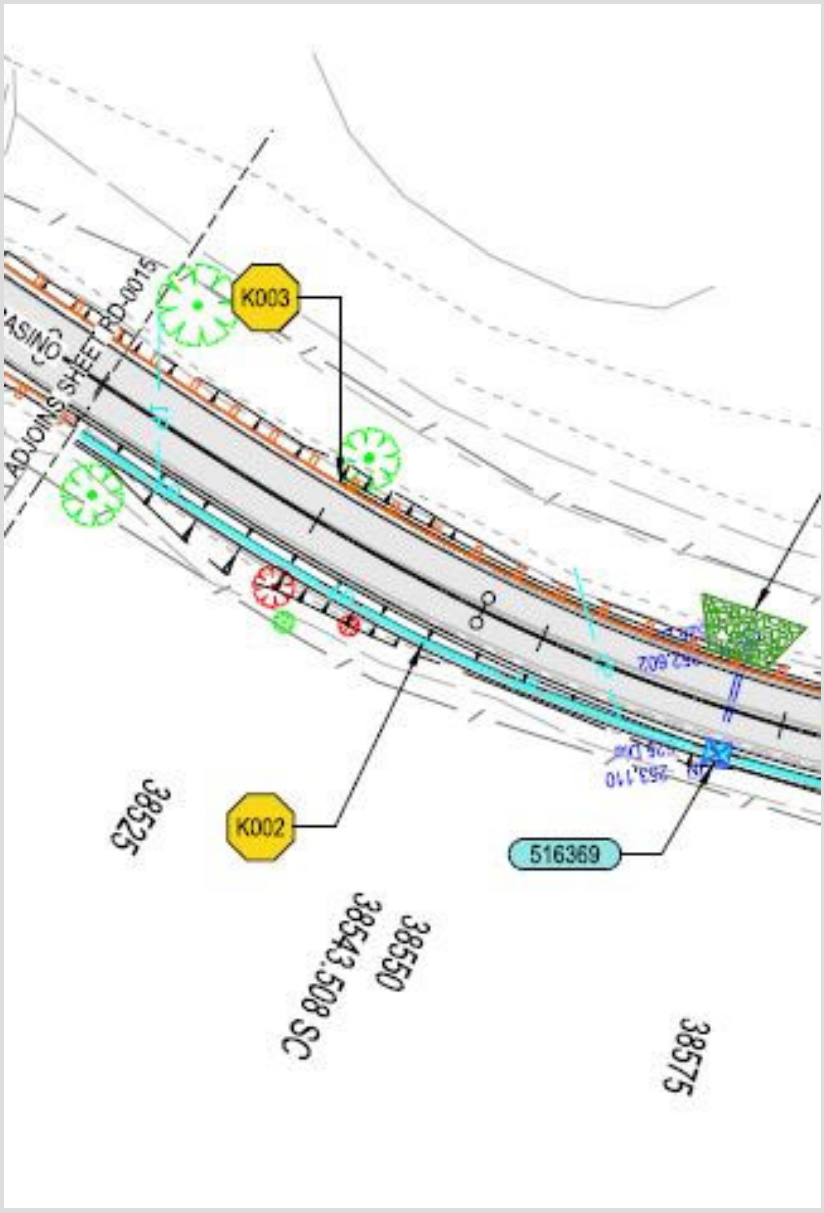
3.8 Trees

Description of existing environmental and potential impacts		
Does the proposal involve pruning, trimming or removal of any tree/s? According the Bionet database there are nearby records for the Koala (refer Appendix B, **Figure 5-1**). In terms of potential impacts on Koalas, as mentioned previously, the proposal will remove a maximum total area of 0.30 ha of vegetation (likely substantially less as the proposed zones of clearing are finalised) that incorporates potential koala 'use trees '. In order to better identify potential impacts on Koalas, trees recognised locally as primary, secondary or tertiary food species were mapped with the result as follows: -Two (2) trees that are recognised locally as a primary food tree species were identified within the proposed zone of works and have potential to be impacted (refer Appendix B, **Figure 5.1, Plates 1-3**). -Eleven (11) trees that are recognised locally as a secondary food tree species were identified within the proposed zone of works and have potential	☑ Yes	☐ No

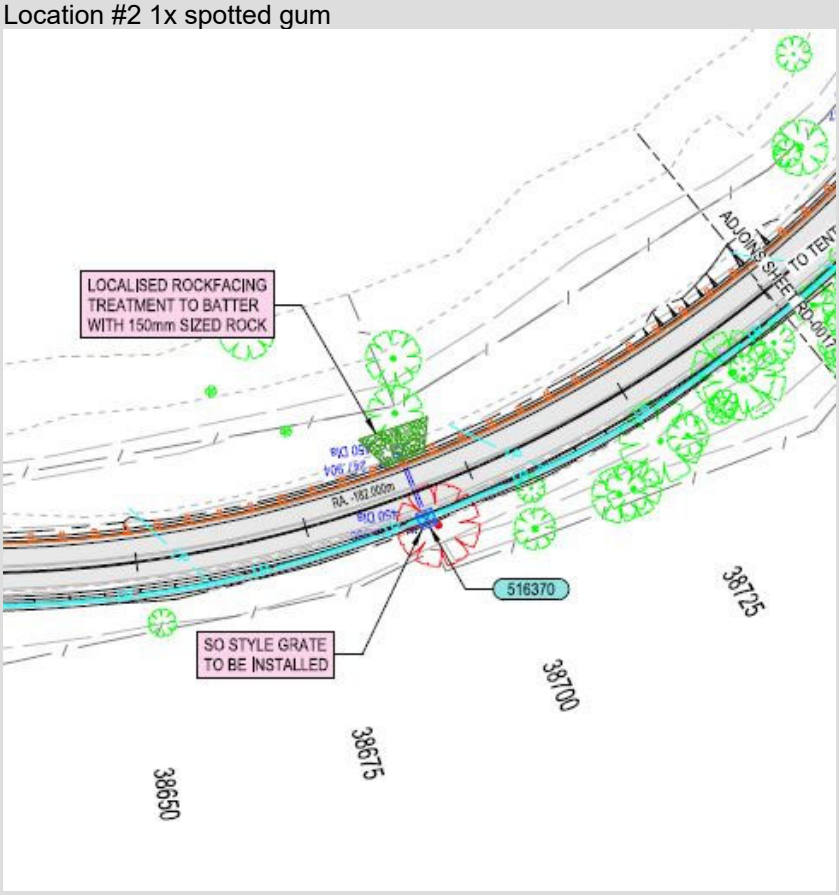
to be impacted. (The drawings in Appendix A show the proposed trees to be removed).
-One (1) tree that is recognised locally as a secondary food tree was identified within the proposed zone of works to the south of the existing roadway but is unlikely to be impacted (i.e. 10 of the trees occurring within the mapped survey area are likely to be impacted).
- One potential food tree towards the west of the proposal site will likely have overhanging branches trimmed.

Of these trees the following summarises trees that require removal (indicated by red coloured trees). There are 10 in total (source: 80% design drawings):

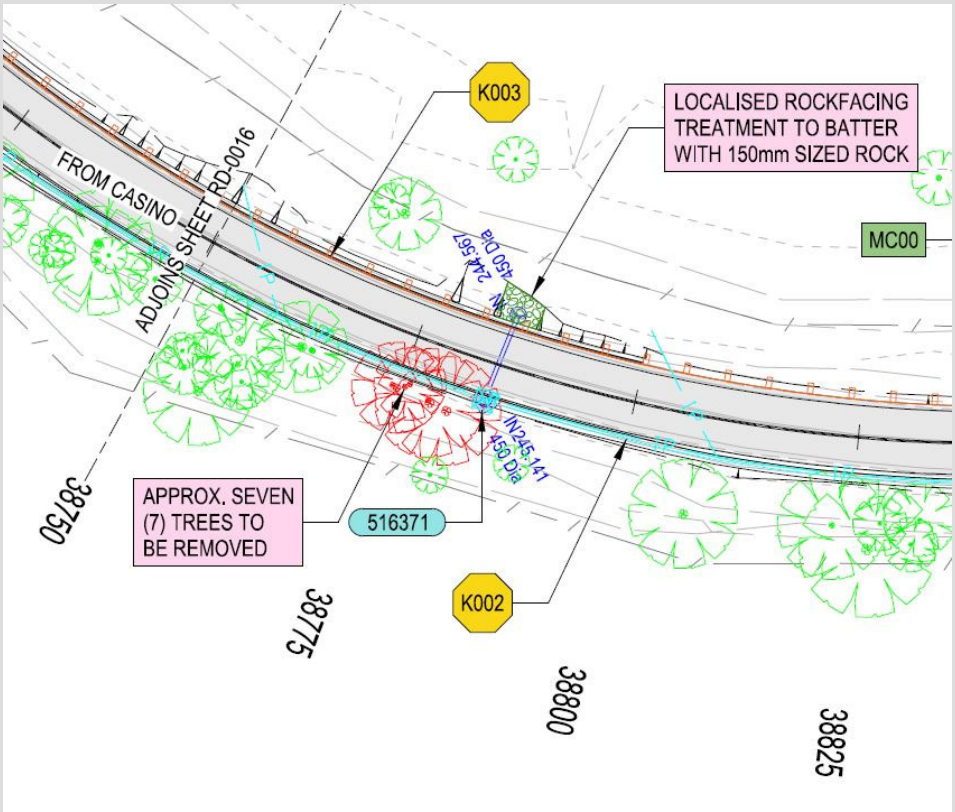
Location #1: 2x Silky Oak



Location #2 1x spotted gum



Location #3 7x (total) Spotted Gums/Forest Red Gums



Do the trees form part of a streetscape, an avenue or roadside planting?	☐ Yes	☑ No
Have the trees been planted by a community group, Landcare group or by council or is the tree a memorial or part of a memorial group e.g. has a plaque?	☐ Yes	☑ No
Do the trees form part of a heritage listing or have other heritage value?	☐ Yes	☑ No

Safeguards

Safeguards to be implemented are:

T1. Pruning of mature trees is to be in accordance with Part 5 of the Australian Standard 4373-2007 Pruning of amenity trees.

T2. Work limits are to be clearly delineated in the field prior to commencement.

T3. There is to be no disturbance beyond the limit of works without prior assessment.

3.9 Traffic and transport

Description of existing environmental and potential impacts		
Is the proposal likely to result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during construction? Temporary lane closures and traffic control would likely be required to undertake the project. A traffic control plan would be required to address any changes to traffic flow.	☑ Yes	☐ No
Is the proposal likely to result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during operation? The proposal is to maintain the safety of the existing roadway. Therefore, no additional ongoing detours or disruptions to traffic flow or access are being introduced to the area as a result of the works.	☐ Yes	☑ No
Is the proposal likely to affect any other transport nodes or transport infrastructure (e.g. bus stops, bus routes) in the surrounding area? Or result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during operation? Northern Rivers Bus Lines runs a service from Casino to Glen Innes for NSW TrainLink for 6 services per week. Casino to Tenterfield 3 times a week (M,W,F) and school bus service to Casino. The Team will keep them informed and updated as part of the communications plan.	☑ Yes	☐ No

Safeguards

Safeguards to be implemented are:

R1. Where possible, current traffic movements and property accesses are to be maintained during the works. Any disturbance is to be minimised to prevent unnecessary traffic delays.

R2. A traffic control plan will be prepared in accordance with the 'Traffic control at work sites manual' (RMS, 2018) and Australian Standard 1742.3 Manual of uniform control devices.

R3. Notify NSW SES where there are likely to be significant delays in the operation of the roads affected by the upgrades. Other stakeholders including bus companies to be informed and updated of the project and any delays that are likely.

3.10 Socio-economic

Description of existing environmental and potential impacts		
Is the proposal likely to impact on local business?	☐ Yes	☑ No
Is the proposal likely to require any property acquisition?	☐ Yes	☑ No
Is the proposal likely to alter any access for properties (either temporarily or permanently)? There are several rural style property accesses that will be tied into with the new road cross section and levels. Property owners will receive notification of works in advance.	☑ Yes	☐ No
Is the proposal likely to alter any on-street parking arrangements (either temporarily or permanently)?	☐ Yes	☑ No
Is the proposal likely to change pedestrian movements or pedestrian access (either temporarily or permanently)?	☐ Yes	☑ No
Is the proposal likely to impact on any items or places of social value to the community (either temporarily or permanently)?	☐ Yes	☑ No
Is the proposal likely to reduce or change visibility of any businesses, farms, tourist attractions or the like (either temporarily or permanently)?	☐ Yes	☑ No

Safeguards

Safeguards to be implemented are:

C1. Notification is to be given to road users and adjacent properties prior to the works taking place. The notification is to include:

•Details of the proposal.

•The duration of works and working hours.

•Any changed traffic or access arrangements.

•How to lodge a complaint or obtain more information.

•Contact name and details.

C2. All complaints are to be recorded on a complaint register and attended to promptly.

C3. Existing access for nearby and adjoining properties is to be maintained at all times during the works unless otherwise agreed to by the affected property owner.

3.11 Landscape character and visual amenity

Description of existing environmental and potential impacts		
Is the proposed work over or near an important physical or cultural element or landscape? (e.g. heritage items and areas, distinctive or historic built form, National Parks, conservation areas, scenic highways etc)?	☐ Yes	☑ No
Would the proposal obstruct or intrude upon the character or views of a valued landscape or urban area. For example, locally significant topography, a rural landscape or a park, a river, lake or the ocean or a historic or distinctive townscape or landmark?	☐ Yes	☑ No
Would the proposal require the removal of mature trees or stands of vegetation, either native or introduced? Ten (10) Trees to be removed along the edge of the carriageway for widening.	☑ Yes	☐ No
Would the proposal result in large areas of shotcrete visible from the road or adjacent properties?	☐ Yes	☑ No
Would the proposal involve new noise walls or visible changes to existing noise walls?	☐ Yes	☑ No
Would the proposal involve the removal or reuse of large areas of road corridor, landscape, either verges or medians?	☐ Yes	☑ No
Would the proposal involve substantial changes to the appearance of a bridge (including piers, girders, abutments and parapets) that are visible from the road or residential areas?	☐ Yes	☑ No
If involving lighting, would the proposal create unwanted light spillage on residential properties at night (in construction or operation)?	☐ Yes	☑ No
Would any new structures or features to be constructed result in over-shadowing to adjoining properties or areas?	☐ Yes	☑ No

Safeguards

Safeguards to be implemented are:

V1. Landscaping is to be managed in accordance with Transport for NSW Landscape guideline, 2013.

V2. Works to be carried out in accordance with Transport for NSW EIA-N04 Guideline for Landscape Character and visual impact assessment.

3.12 Waste

Description of existing environmental and potential impacts		
Is the proposal likely to generate >200 tonnes of waste material (contaminated and /or non-contaminated material)? Waste generated as a result of the proposal will include mulch from the removal of trees, and other general construction waste, such as excess non-contaminated topsoil and general fill. Waste generated as a result of the proposal will include mulch from the removal of trees, and other general construction waste, such as excess non-contaminated topsoil and general fill.	☑ Yes	☐ No
Is the proposal likely to require a licence from EPA? [As described in Schedule 1 of the *Protection of the Environment Operations Act 1997*. If yes, provide details and ensure that EPA is consulted prior to determination of the Minor Works REF.]	☐ Yes	☑ No
Is the proposal likely to require the removal of asbestos? [If yes, provide details]	☐ Yes	☑ No

Safeguards

Safeguards to be implemented are:

M1. A Waste Management Plan must be prepared that follows the Transport for NSW Technical Guide: Management of road construction and maintenance waste.

M2. Resource management hierarchy principles are to be followed:

• Avoid unnecessary resource consumption as a priority.

• Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery).

• Disposal is undertaken as a last resort.

(in accordance with the Waste Avoidance & Resource Recovery Act 2001).

4. Consideration of State and Commonwealth environmental factors

4.1 Environmental Planning and Assessment Regulation 2021 checklist

The following factors, listed in section 171(2) of the Environmental Planning and Assessment Regulation 2021, have been considered to assess the likely impacts of the proposal on the natural and built environment. This consideration is required to comply with sections 5.5 and 5.7 of the EP&A Act.

Environmental factor	Impact
(a) Any environmental impact on a community? The proposed work may cause minor short-term environmental impacts on the community, such as delays to traffic and noise impacts on residents, however the potential impacts would be minimised with the implementation of the safeguards as detailed in this REF. The maintenance works would have no environmental impact on a community in the long-term and road users would benefit from safer travelling conditions.	Negligible- Short term
(b) Any transformation of a locality? The proposed work would not transform the locality, as the works are limited to minor works within the existing road corridor including previously disturbed areas. The works would alter the visual appearance of the area due to vegetation removal and road widening however the changes are not expected to be visually intrusive and would not create significant changes to the locality.	Negligible- Short term
(c) Any environmental impact on the ecosystems of a locality? The proposal would have potential environmental impacts on the ecosystems of a locality, however the potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF	Negligible- Short term
(d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality? The proposal would not reduce the aesthetic, recreational, scientific or other environmental quality or value of the locality, as works would generally be contained with the existing road formation. However, the risk of potential impacts would be minimised with the implementation of the safeguards given in **Section 3** of this REF.	Negative
(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? Minor impacts on native vegetation will occur however it is not considered that the proposal will significantly impact other values listed above.	Negligible
(f) Any impact on habitat of any protected animals (within the meaning of the *Biodiversity Conservation Act 2016*)?	Negative

Environmental factor	Impact
The proposal will impact protected animals as a result of the removal of habitat including koala food trees and habitat trees. Any potential impacts will be minimised through the implementation of the safeguards given in **Section 3** of this REF.	
(g) Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air? The proposal would not endanger any species of animal, plant or other form of life, whether living on land, in water or in the air due to the limited scope of works for the proposed activities and the implementation of the safeguards given in Section 3 of this REF.	None Predicted
(h) Any long-term effects on the environment? The proposal would have positive long-term effects on the environment due to improved safety for road users. There are no anticipated negative long-term effects on the environment from the maintenance works due to the limited scope of these works and the implementation of the safeguards given in Section 3 of this REF.	Positive -Long Term
(i) Any degradation of the quality of the environment? The proposal would potentially degrade the quality of the environment in the short-term, however the potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF.	None Predicted
(j) Any risk to the safety of the environment? The proposal would have minimal risk to the safety of the environment due to the limited scope of works for the maintenance activities covered in this REF, and the potential impacts would be minimised with the implementation of the safeguards given in Section 3 in this REF.	None Predicted
(k) Any reduction in the range of beneficial uses of the environment? The proposal would cause a minor reduction in the use of the road from lane closures, which would potentially increase travelling time for road users in the short-term. There would be no long-term reduction in the range of beneficial uses of the environment as a result of the maintenance works.	Negative-Short term
(l) Any pollution of the environment? The proposal would potentially cause pollution of the environment, however the potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF.	Negative-Short term
(m) Any environmental problems associated with the disposal of waste? The waste generated during the proposal would be contained and removed for disposal to approved recycling facilities or to licensed landfill in accordance with the safeguards in Section 3 of this REF. No environmental problems are anticipated for the disposal of waste.	Negligible
(n) Any increased demands on resources, natural or otherwise which are, or are likely to become, in short supply?	None Predicted

Environmental factor	Impact
The proposal would not significantly increase demands on resources, which are, or are likely to become, in short supply. Relatively small amounts of materials would be required for the proposed work. The safeguards listed in Section 3 of this REF would be implemented to minimise any impacts.	
(o) Any cumulative environmental effect with other existing or likely future activities? The proposal has the potential to have cumulative environmental effects with other existing or likely future activities, however the effects would be minimal due to the limited scope of works for the activities covered in this REF, and the potential impacts on the environment would be minimised with the implementation of the safeguards given in Section 3 in this REF.	Negative-Minor
(p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions? The proposal is not located in an area subject to coastal processes and hazards and is not expected to impact on these processes.	None Predicted
(q) Any impact on applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1? Kyogle Council prepared a Local Strategic Planning Statement (LSPS) that incorporates directions contained within the NSW State Government's *North Coast Regional Plan 2036* and policies in Council's *Community Strategic Plan*. Within the LSPS Kyogle Council outlines specific action that aim to: • deliver a greater supply and variety of housing, • deliver more land for residential and industrial uses, • protect our biodiversity, catchments, and rivers, • address natural hazards and respond to climate change, • improve transport and community facilities, • make our towns and villages great places to live, work and visit, and • grow agriculture and tourism and support existing businesses. Overall, the proposal is in line with the aims of Kyogle Council and the above-mentioned strategic plans, in the sense it will: • support the safe and effective transportation of material to build housing, • protect biodiversity, catchments and rivers from pollution associated with vehicle accidents and degraded roads exposed to erosion, • provide safer travel in the events of natural hazards such as fires, storms, and floods, • make rural living more attractive as roads are safer, more efficient, and more enjoyable to travel along and, • aid the growth of agriculture and tourism and support existing businesses creating more efficient movement within the region.	Positive-Long term
(r) Any impact on other relevant environmental factors?	None-Predicted

Environmental factor	Impact
In considering the potential impacts of this proposal all relevant environmental factors have been considered, refer to Section 3 of this assessment.	

4.2 Matters of National Environmental Significance checklist

Under the environmental assessment provisions of the EPBC Act, the following matters of national environmental significance 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
- For nationally listed threatened species, ecological communities and migratory species, whether the impacts are significant and should be assessed via a Project REF.

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 (often called 'Ramsar' wetlands)?	Nil
(d) Any impact on nationally threatened species, ecological communities or migratory species?	Nil
(e) Any impact on a Commonwealth marine area?	Nil
(f) Does the proposal involve a nuclear action (including uranium mining)?	Nil
Additionally, any impact (direct or indirect) on the environment of Commonwealth land?	Nil

5. Summary of safeguards and environmental management measures

This section provides a summary of the site specific environmental safeguards and management measures identified in described in chapters 3 and 4 of this REF. These safeguards will be implemented to reduce potential environmental impacts throughout construction and operation. A framework for managing the potential impacts is provided with reference to environmental management plans and relevant Transport QA specifications. Any potential licence and/or approval requirements required prior to construction are also listed

Table 5-1: Summary of site-specific safeguards for proposed work

Safeguards for the proposed work	
Soil	**E1.** Erosion and sediment control measures are to be implemented and maintained to: • Prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets. • Reduce water velocity and capture sediment on site. • Minimise the amount of material transported from site to surrounding pavement surfaces. • Divert clean water around the site (in accordance with the Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book)). **E2.** Erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request. **E3.** Erosion and sediment control measures are not to be removed until the works are complete, and areas are stabilised. **E4.** Work areas are to be stabilised progressively during the works. **E5.** A progressive erosion and sediment control plan is to be prepared for the works. **E6.** The maintenance of established stockpile sites is to be in accordance with the Transport for NSW Stockpile Site Management Guideline (EMS-TG-10).
Waterways and water quality	**W1.** There is to be no release of dirty water into drainage lines and/or waterways. **W2.** Water quality control measures are to be used to prevent any materials (e.g., concrete, grout, sediment etc) entering drain inlets or waterways. **W3.** Excess debris from cleaning and washing is removed using hand tools. **W4.** All fuels, chemicals and liquids are to be stored in an impervious bunded area a minimum of 50 metres away from: • Rivers, creeks or any areas of concentrated water flow • Flooded or poorly drained areas • Slopes above 10%. **W5.** Refuelling of plant and equipment is to occur in impervious bunded areas located a minimum of 50 metres from drainage lines or waterways.

Safeguards for the proposed work	
	W6. An emergency spill kit is to be kept on site at all times and maintained throughout the construction work. The spill kit must be appropriately sized for the volume of substances at the work site. **W7.** All workers will be advised of the location of the spill kit and trained in its use. **W8.** If an incident (e.g. spill) occurs, the Transport for NSW Environmental Incident Classification and Reporting Procedure is to be followed and the Transport for NSW Contract Manager notified as soon as practicable. **W9.** Visual monitoring of local water quality (i.e. turbidity, hydrocarbon spills/slicks) is to be undertaken on a regular basis to identify any potential spills or deficient silt curtains or erosion and sediment controls. **W10.** Timing the works should consider risk of flooding events which are more likely in the wet season which for the area is from December – March. Works undertaken during this period should monitor forecast rainfall and plan for the occurrence of flooding events which may impact construction works.
Noise and vibration	**N1.** Works to be carried out during normal work hours (i.e., 7am to 6pm Monday to Friday) except for Saturdays where hours will be 8am to 6pm. Any work that is performed outside normal work hours or on Sundays or public holidays must have measures in place to minimise noise impacts. **N2.** Noise impacts are to be minimised in accordance with Transport for NSW Construction Noise Estimator. **N3.** Letter box drops are to be completed to all residents located less than 115 metres from the works. All noise complaints will be addressed if/when received with respite options provided on a case-by-case basis. **N4.** Implement measures, including allowing adequate distance that rollers and other vibration producing equipment can come to adjacent buildings and/or using non-vibration producing equipment, to minimise or prevent vibration impacts. **N5.** Condition surveys shall be carried out before and after the project to nine (9) identified properties and their outbuildings and/or other improvements, assessed as being at risk for potential damage as a result of ground vibration.
Air quality	**A1.** Measures (including watering or covering exposed areas) are to be used to minimise or prevent air pollution and dust. **A2.** Works (including the spraying of paint and other materials) are not to be carried out during strong winds or in weather conditions where high levels of dust or air borne particulates are likely. **A3.** Vegetation or other materials are not to be burnt on site. **A4.** Vehicles and vessels transporting waste or other materials that may produce odours or dust are to be covered during transportation. **A5.** Stockpiles or areas that may generate dust are to be managed to suppress dust emissions in accordance with the Transport for NSW Stockpile Site Management Guideline (EMS-TG-10).
Non-Aboriginal heritage	If unexpected heritage items are uncovered during the works, all works must cease in the vicinity of the material/find and the steps in the Transport for NSW *Standard Management Procedure: Unexpected*

Safeguards for the proposed work	
	Heritage Items must be followed. Transport for NSW Senior Environment Specialist – Heritage must be contacted immediately.
Aboriginal heritage	If Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find must cease and the Transport for NSW Aboriginal cultural heritage officer and regional environment manager contacted immediately. Steps in the Transport for NSW *Standard Management Procedure: Unexpected Heritage Items* must be followed.
Biodiversity	**F1.** There is to be no disturbance or damage to threatened species or areas of outstanding value. **F2.** Works are not to harm threatened fauna (including where they inhabit bridges or other structures e.g. timber fence posts). **F3.** Environmental protection areas should be established to ensure the boundary of areas to be cleared are clearly identified and all other vegetation is retained. Areas of Bailey's Cypress Pines shown in Figure 6 and Plates 10 to 11 must be included in Environmental Protection Areas. Furthermore, weed control is to be undertaken within the Environmental Protection Area to promote the growth of Bailey's Cypress Pines and reduce weed competition with immature specimens. F4. An experienced, licensed ecologist or appropriately trained Transport for NSW staff is to undertake pre-clearing surveys prior to vegetation removal to inspect trees for the presence of fauna. If fauna is identified a licensed ecologist is to be engaged to perform any spotter catcher duties required. **F5.** An experienced ecologist or appropriately trained Transport for NSW staff is to undertake spotter catcher role during removal of hollow bearing trees. **F6.**Tree limbs containing hollows should be removed by arborist prior to felling trees and lowered to ground undamaged to avoid direct impacts to fauna occupying hollow. **F7.** If unexpected, threatened fauna or flora species are discovered, stop works immediately and follow the Transport for NSW Unexpected Threatened Species Find Procedure in the Transport for NSW Biodiversity Guidelines 2011 – Guide 1 (Pre-clearing process). **F8.** Each tree hollow removed should be replaced at a ratio of 1:2 (i.e., 2 boxes for each hollow removed) to compensate for loss of tree hollows. This can be achieved through installation of nest boxes or sections of tree hollows removed can be modified and installed in surrounding unimpacted vegetation. **F9.** All pathogens (e.g. Chytrid, Myrtle Rust and Phytophthora) are to be managed in accordance with the Transport for NSW Biodiversity Guidelines - Guide 7 (Pathogen Management), DECC Statement of Intent 1: Infection of native plants by Phytophthora cinnamomi (for Phytophthora) and Arrive Clean, Leave Clean, Commonwealth of Australia 2015. **F10.** Weeds are to be managed according to requirements under the Biosecurity Act, 2015 and Guide 6 (Weed Management) of the Transport for NSW Biodiversity Guidelines 2011.

Safeguards for the proposed work	
	F11. Fauna handling must be carried out in accordance with the requirements the Transport for NSW Biodiversity Guidelines - Guide 9 (Fauna Handling). **F12.** Works are not to create an ongoing barrier to the movement of wildlife.
Trees	**T1.** Pruning of mature trees is to be in accordance with Part 5 of the Australian Standard 4373-2007 Pruning of amenity trees. **T2.** Work limits are to be clearly delineated in the field prior to commencement. **T3.** There is to be no disturbance beyond the limit of works without prior assessment.
Traffic and transport	**R1.** Where possible, current traffic movements and property accesses are to be maintained during the works. Any disturbance is to be minimised to prevent unnecessary traffic delays. **R2.** A traffic control plan will be prepared in accordance with the 'Traffic control at work sites manual' (RMS, 2018) and Australian Standard 1742.3 Manual of uniform control devices. **R3.** Notify NSW SES where there are likely to be significant delays in the operation of the roads affected by the upgrades.
Socio-economic	**C1.** Notification is to be given to road users and adjacent properties prior to the works taking place. The notification is to include: • Details of the proposal. • The duration of works and working hours. • Any changed traffic or access arrangements. • How to lodge a complaint or obtain more information. • Contact name and details. **C2.** All complaints are to be recorded on a complaint register and attended to promptly. **C3.** Existing access for nearby and adjoining properties is to be maintained at all times during the works unless otherwise agreed to by the affected property owner.
Landscape character and visual amenity	**V1.** Landscaping is to be managed in accordance with Transport for NSW Landscape guideline, 2013. **V2.** Works to be carried out in accordance with Transport for NSW EIA-N04 Guideline for Landscape Character and visual impact assessment.
Waste	**M1.** A Waste Management Plan must be prepared that follows the Transport for NSW Technical Guide: Management of road construction and maintenance waste. **M2.** Resource management hierarchy principles are to be followed: • Avoid unnecessary resource consumption as a priority. • Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery). • Disposal is undertaken as a last resort. (in accordance with the Waste Avoidance & Resource Recovery Act 2001). **M3.** If vegetation is to be mulched and transported off site for beneficial reuse, it is to be assessed for the presence of weeds, pests, and other

Safeguards for the proposed work	
	diseases, and a Mulch Management Plan prepared in accordance with the Transport for NSW Technical Procedure: Mulch Management. **M4.** Bulk project waste (e.g. fill) sent to a site not owned by the Transport for NSW (excluding EPA licensed landfills and resource recovery facilities) is to have prior formal written approval from the landowner, in accordance with Environmental Direction No. 20 – Legal Off-site Disposal of Transport for NSW Waste. This includes waste transported for reuse, recycling, disposal or stockpiling. **M5.** There is to be no disposal or re-use of construction waste on to other land. **M6.** Waste is not to be burnt on site. **M7.** Waste material, other than vegetation and tree mulch, is not to be left on site once the works have been completed. **M8.** Working areas are to be maintained, kept free of rubbish and cleaned up at the end of each working day. **M9.** Tree mulch can be reused onsite to stabilise soil by spreading on embankments (no more than 100m thick) within the road reserve. Tree mulch will not be spread on the lower slopes of stream banks.

5.1 Licensing and approvals

No additional licensing or approvals required.

5.2 Other requirements

Requirement		
Environmental management plan sent to SMES for review. Delivery Team to prepare Construction EMP for Environment and sustainability officer to review.	☑ Yes	☐ No

6. Certification, review and decision

6.1 Certification

This minor works REF 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.

Prepared by:

(Provided by email)

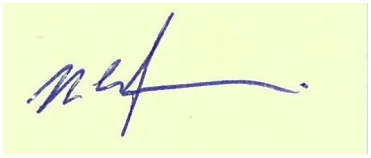
Loretta Bray

Project Engineer

TfNSW

Date:18/9/20222

Minor Works REF reviewed by:



Ross Gersekowski

Project/Contract Manager

TfNSW Project Services North

Date: 28/9/2022

6.2 Environment staff review

The Minor Works REF has been reviewed and considered against the requirements of sections 5.5 and 5.7 of the EP&A Act.

In considering the proposal this assessment has examined and taken into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of that activity as addressed in the Minor Works REF and associated information. This assessment is considered to be in accordance with the factors required to be considered under section 171 of the Environmental Planning and Assessment Regulation 2021.

The proposal described in the Minor Works REF will have some environmental impacts which can be ameliorated satisfactorily. Having regard to the safeguard and management measures proposed, this assessment has considered that these impacts are unlikely to be significant and therefore an approval for the proposal does not need to be sought under Division 5.2 of the EP&A Act.

The assessment has considered the potential impacts of the activity on areas of outstanding value and on threatened species, ecological communities or their habitats for both terrestrial and aquatic species as defined by the *Biodiversity Conservation Act 2016* and the *Fisheries Management Act 1994*.

The proposal described in the Minor Works REF will not affect areas of outstanding value. The activity described in the Minor Works REF will not significantly affect threatened species ecological communities or their habitats. Therefore a species impact statement is not required.

The assessment has also addressed the potential impacts on the activity on matters of national environmental significance and any impacts on the environment of Commonwealth land and concluded that there will be no significant impacts. Therefore there is no need for a referral to be made to the Australian Government Department of Agriculture, Water and the Environment for a decision by the Commonwealth Minister for the Environment on whether assessment and approval is required under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Minor Works REF is considered to meet all relevant requirements.

6.3 Environment staff recommendation

It is recommended that the proposal to widen and rehabilitate a section of the Bruxner Highway (S5440 & 5450) at Sandilands, west of Mallanganee as described in this Minor Works REF proceed subject to the implementation of all safeguards identified in the Minor Works REF and compliance with all other relevant statutory approvals, licences, permits and authorisations.

The Minor Works REF has examined and taken into account to the fullest extent possible all matters likely to affect the environment by reason of the activity and established that the activity is not likely to significantly affect the environment or threatened species, ecological communities or their habitats.

The Minor Works REF has concluded that there will be no significant impacts on matters of national environmental significance or any impacts on the environment of Commonwealth land.

The Minor Works REF determination will remain current for two years until October 2024 at which time it shall lapse if works have not been physically commenced. The pre-construction checklist must be completed prior to the commencement of any works.

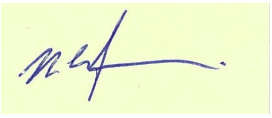
Recommended by:

[Insert signature] Greg Collins 7/10/2022

Greg Collins

Environment and Sustainability Manager

Noted by:



Ross Gersekowski

Project/Contract Manager

Date: 28/9/2022

6.4 Determination

In accordance with the above recommendation and sections 5.5 and 5.7 of the EP&A Act, I determine that Transport for NSW may proceed with the activity.

[Insert signature] 

David Pattison

Senior Manager Project Services North

Date: 12/10/2022