

# Review of Environmental Factors (REF)

Review of Environmental Factors under PART 5 Division 5.1 ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 and REGULATION 2021 (Section 171)



**Project name and location of the works:**

**Plan No:** BKP430-BR001

## Old Coast Bridge 1 Pine Brush Creek

Old Coast Bridge 1 Over Pine Brush Creek, 6.3km North of Coffs Harbour: Bridge Replacement for existing timber bridge. The Old Coast Bridge 1 crosses Pine Brush Creek on the Old Coast Road, approximately 90m north of the intersection with the Pacific Highway, Korora as shown in **Figure 1**.

## Project Location

Latitude: 30.25°S Longitude: 153.13°E

## Project Site Description:

The proposed activity is located within the Coffs Harbour Local Government Area (LGA) approximately 5km north of the Coffs Harbour CBD, adjacent Korora Nature Reserve. The bridge spans Pine Brush Creek at Korora and is situated on the Old Coast Road, Korora which is an important local road North-East of Coffs Harbour.

Pursuant to *Coffs Harbour Local Environmental Plan 2013 LEP* (Coffs Harbour LEP 2013) the land approaches from the south and part of the waterway and existing bridge area is zoned SP2 Classified Road. The western part of the work site over Pine Brush Creek waterway is zoned W2 Recreational Waterways. The northern approaches of the bridge are within zone C2 Environmental Conservation. The zones as they apply to the area are shown in **Figure 2**.

The Old Coast Road Korora Bridge No. 1 is considered no longer fit for purpose and has been identified for replacement in the NSW Government Fixing Country Bridges Program which aims to better connect regional and rural communities.

## Description of Project:

The proposed activity is to replace Old Coast Road Bridge No. 1 over Pine Brush Creek as part of the Fixing Country Bridges Program. The replacement would provide significant community benefits including improved access and significantly reduce the maintenance and renewal burden for Coffs Harbour City Council.

The existing two span bridge will be demolished. The new bridge will be a single span 20m long, two lane bridge with a 1500mm wide pedestrian walkway and a path along the western road shoulder approximately 55m in length. The works are designed to tie in with the newly constructed rock revetments on the eastern side of the bridge. The design adopts wider lanes, 3.2m wide and 0.6m shoulders, to match with the highway service road at the southern approach. The new bridge will be constructed with a minor shift of alignment to improve traffic safety.

The construction of the proposed bridge would involve 2.2m to 2.5m high abutments with rock pitching at the toe. The work would include new embankment profiling with an overlay of scour protection. The bridge span would comprise Pre-Stressed Concrete (PSC) with cast in-situ deck pour with low performance guardrails. It is not proposed to establish a sidetrack during construction. Instead, traffic detour to be established via the northern end of Old Coast Road and Solitary Islands Way at the south end of Sapphire Beach. A map of the proposed detour is provided as shown in **Figure 3**.

A small extent of rainforest vegetation and roadside grasses will require removal for the bridge replacement, and three large Flooded Gums will require removal for pedestrian access to the footbridge. Some riparian habitat will be temporarily disturbed. No threatened flora species were detected on site, and the site vegetation does not qualify as a Threatened Ecological Community (TEC) under either the NSW BC Act or federal EPBC Act. The minor level of vegetation removal required and low potential for indirect impacts is unlikely to lead to a significant impact on threatened species.

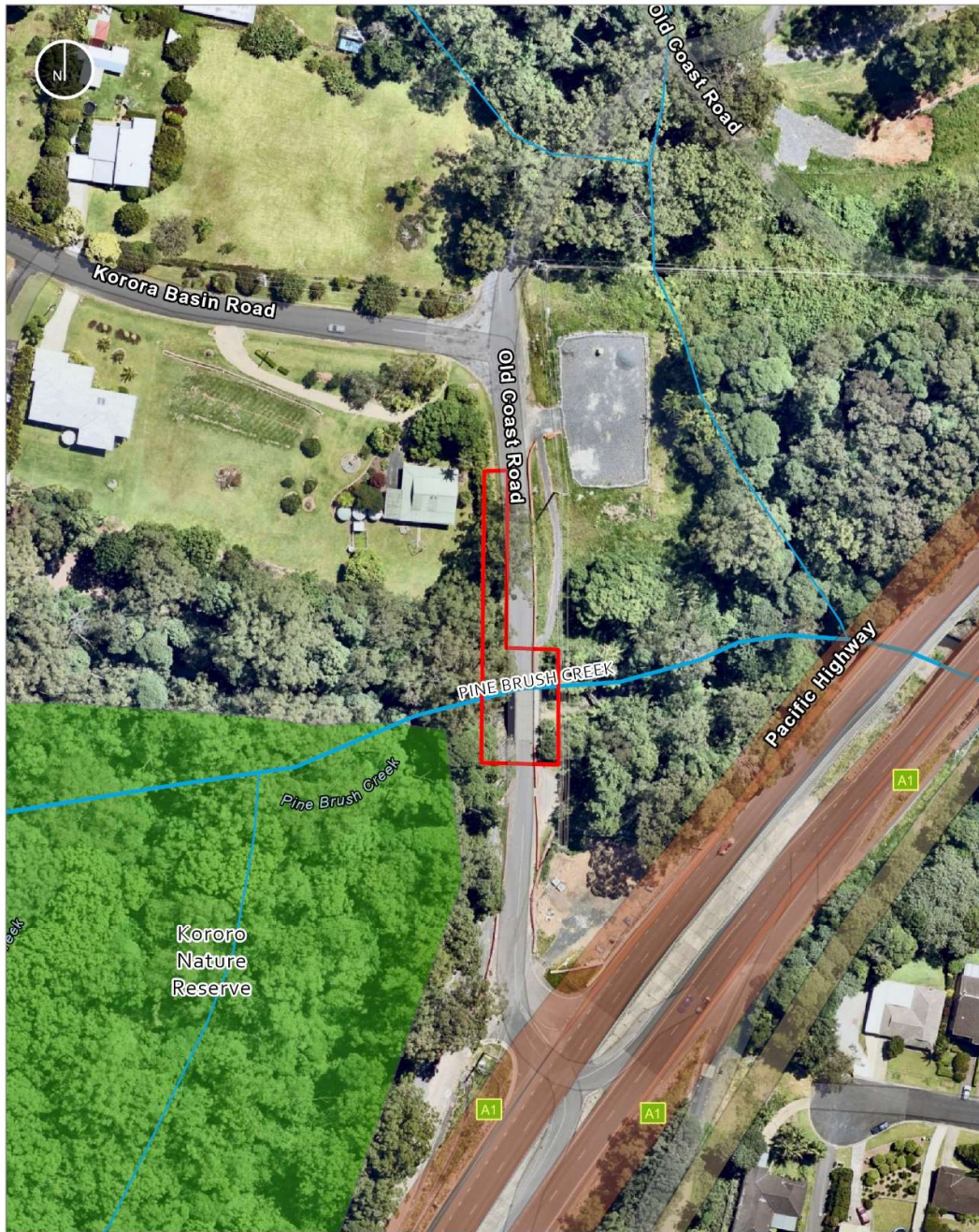
The bridge has bat roosting potential in the southern abutment which contains large cavities, and in the ends of girders with hollows. The inspection of these during the site survey did not detect any bats or evidence of roosting (e.g., guano, urine stains). However, mitigation measures are recommended to manage any potential impacts.

The site is mapped as Key Fish Habitat. Correspondence with NSW Fisheries has determined that a permit is required.

COFFS HARBOUR

CITY COUNCIL

www.coffsharbour.nsw.gov.au



Data Sources: Wolffpeak 2021, Imagery Esri Community Maps Contributors, Spatial Services, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, Foursquare, METI/NASA, USGS, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA  
 0 20 40 80 Meters  
 GDA2020 MGA Zone 56 1:1,406@A4

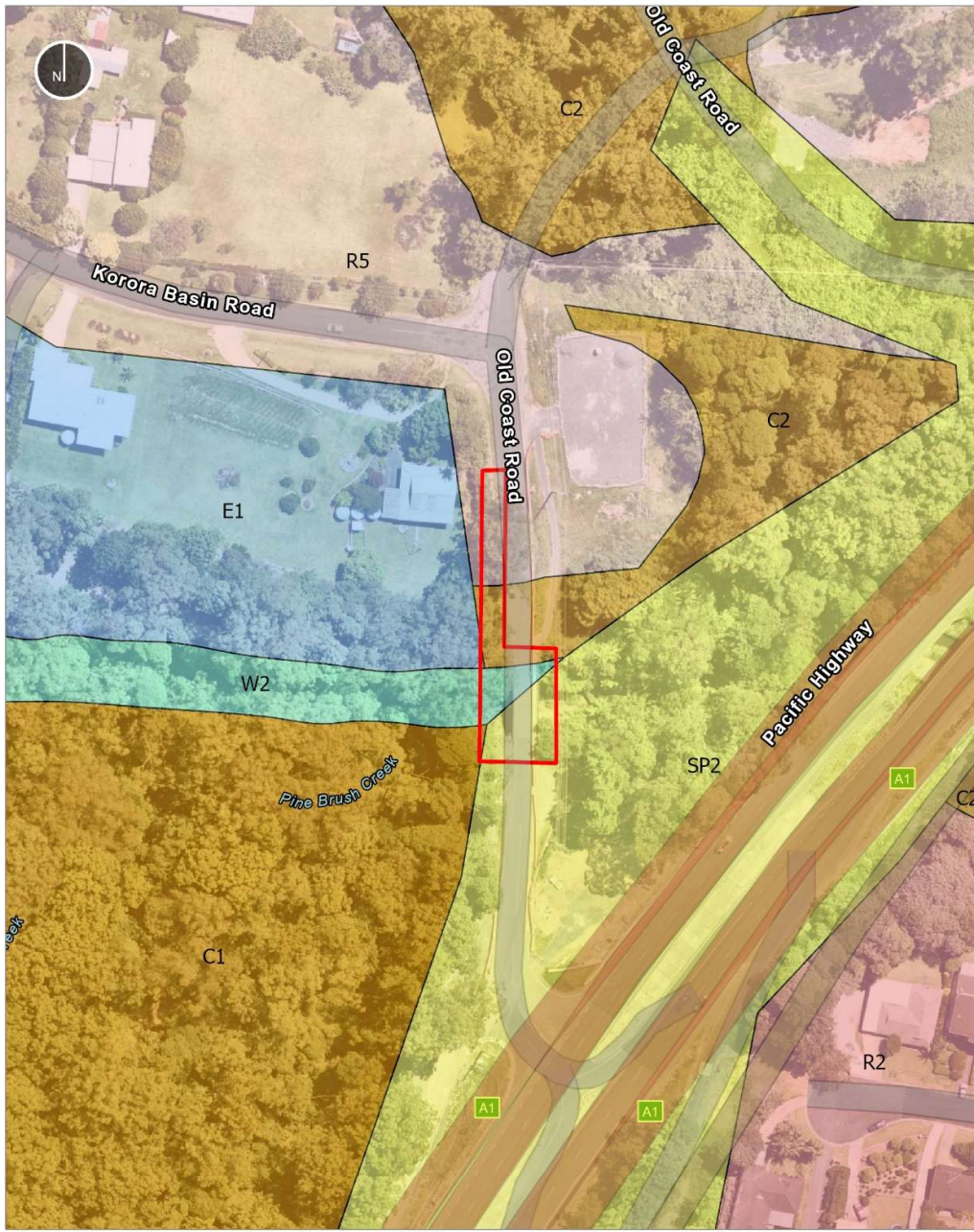
**Legend**

- Bridge Site
- Watercourse
- NPWS Estate
- NATURE RESERVE



**Figure 1:** Location of the proposed activity





Data Sources: Wolfpeak 2021, Imagery Esri Community Maps Contributors, Spatial Services, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, Foursquare, METI/NASA, USGS, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA

GDA2020 MGA Zone 56 1:1,406@A4

**Legend**

	Bridge Site		R2
	R5		C2
	C1		SP2
	C2		W2
	E1		



COMMERCIAL IN CONFIDENCE

**Figure 2:** Land zoning proximate to the proposal





COMMERCIAL IN CONFIDENCE

**Figure 3: Proposed detour route**

## Reasons for the Activity and Consideration of Alternatives

### Objectives of the Proposal

The primary objective of the proposed activity is to replace Old Coast Road Korora Bridge No. 1 as part of the NSW Government Fixing Country Bridges Program which aims to better connect regional and rural communities. Upon completion, the condition and safety of the bridge and approaches will be significantly improved on this section of the Old Coast Road.



**Figure 4:** Examples of current condition of Bridge No.1

### Consideration of Alternatives

#### *'Do Nothing'*

The existing Old Coast Road Bridge No. 1 across Pine Brush Creek is no longer fit for purpose. It will ultimately form part of the Coffs Harbour Bypass service road network and the 'do nothing' option would impact on the safety of motorists and exacerbate the continued deterioration of the bridge. The 'do nothing' approach would not be consistent with the aims and objectives of the NSW Government Fixing Country Bridges Program.

#### **Bridge Replacement (Preferred Option)**

It is proposed that the existing bridge be demolished, and a new bridge will be constructed along the same alignment, with a minor adjustment to the west, thus minimising potential environmental disturbances.

### Justification for Preferred Option

The existing bridge is a combination of timber and concrete construction which is deteriorating, leading to increasing maintenance burdens and safety risk to motorists on this section of the Old Coast Road. Carrying out the required bridge replacement will significantly improve the accessibility and safety for motorists at this location. The bridge replacement would also reduce the maintenance and renewal burden for Coffs Harbour City Council and provide significant community benefits. The design allows for integration with service road works associated with the Coffs Harbour Pacific Highway By-pass **Figure 5**.

Carrying out the required bridge replacement will significantly improve the accessibility and safety for motorists and pedestrians at this location and reduce future maintenance costs for Council.





Data Sources: Wolfpeak 2021, Imagery Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA

GDA2020 MGA Zone 56 1:1,687@A4

**Legend**

- Bridge Site
- Coffs Harbour Bypass service road works



COMMERCIAL IN CONFIDENCE

**Figure 5:** Old Coast Road interface with Coffs Harbour By-pass service road works

## The following works are proposed for the activity:

A survey of the site was undertaken on the 12<sup>th</sup> of July 2023. The inspection involved walking around the bridge site, an opportunistic fauna survey, searches for threatened flora and fauna and an assessment of the aquatic habitat values.

### Pre-Construction:

- A survey of the site was undertaken 12 July 2023. No threatened fauna species were detected during site inspection however several threatened fauna species are considered to potentially occur in the area.
- Following amendments to the Proposal, a further site survey was undertaken on 27 June 2024 by Coffs City Environmental Project Officer and confirmed there were no threatened species present on that day.
- Immediately prior to removal of the existing bridge and removal of identified vegetation, the clearing footprint will be clearly marked out, as well as protection zones established around retained trees and vegetation.
- A qualified ecologist will undertake a pre-clearing survey and clearing supervision of all vegetation to be removed, including the three large Flooded Gums.
- A qualified ecologist will undertake a pre-demolition bridge inspection. The ecologist will thoroughly inspect potential roosting crevices underneath the bridge to determine if any microbats are present. If none are found, the activity may proceed as normal; however, if microbats are identified, the procedures set out in section 5.3 of the supporting Ecological Assessment shall be followed.
- Hygiene protocols to avoid and minimise the spread of Myrtle Rust and Amphibian Chytrid Fungus will be required in accordance with the protocols set out in section 5.4 of the supporting Environmental Assessment and shall be followed.
- Environmental safeguards including the installation of sediment fencing and sediment traps will be implemented in a manner consistent with currently accepted best management practices (i.e., Landcom [2004] Managing Urban Stormwater: Soils and Construction [4<sup>th</sup> Edition]) to prevent the entry of sediment into the adjacent waterway, or mobilisation of sediment within the waterway, prior to any works being undertaken.
  - These controls will be maintained and in good working order for the whole duration of the works and subsequently until the site has been stabilised and the risk of erosion and sediment movement from the site is minimal.
- The area to be cleared/modified should be clearly marked before clearing in order to prevent inadvertent clearance beyond what is required and has been assessed. Laydown areas are to be located in existing clearings nearby on the edge of the road.
- Weed control shall be undertaken in accordance with the recommendations in section 5.7 of the supporting Environmental Assessment for this project, undertaken by WolfPeak Consulting (dated 14/08/2024)

### Site Preparation:

- Bridge removal is to be undertaken by gradually dismantling the bridge and is to be supervised by an ecologist.
- The existing bridge will be demolished using mechanical excavation techniques e.g., plant equipment:
  - Excavation shall only remove the minimum soil necessary to complete the proposed works and the existing abutments will be replaced.
  - Topsoil containing grass roots or other organic matter shall be removed from the area on which the support slabs are to rest.
- Any loose or disturbed material shall be removed from the walls of the existing bridge to ensure no loose soils enter the waterway.
- Vegetation clearing required to undertake the works, includes:
  - The removal of a small number of small rainforest trees and shrubs, including Cheese Tree, Lilly Pilly, Sandpaper Fig, Tree Fern, Tuckeroo and Wavy Pittosporum. A small extent of groundcover will also be removed. No hollow-bearing trees or Koala habitat will be impacted.
  - Environmental safeguards including the installation of sediment fencing and sediment traps will be implemented in a manner consistent with currently accepted best management practices (i.e., Landcom [2004] Managing Urban Stormwater: Soils and Construction [4<sup>th</sup> Edition]) to prevent the entry of sediment into the adjacent waterway, or mobilisation of sediment within the waterway, prior to any works being undertaken: These controls will be maintained in good working order for the whole duration of the works and subsequently until the site has been stabilised and the risk of erosion and sediment movement from the site is minimal.
- Hygiene protocols to be established consistent with Section 5.5 of the supporting Environmental Assessment and maintained for the whole duration of the works.

### Construction:

- Both sides of the riverbank would be regraded accordingly to allow the placement of the scour protection apron, which will be no steeper than 1(V): 1.5(H).



- Two sets of four (4) DN750 bored concreted piles to be installed.
- Nine (9) x 20m long girders installed to support the bridge decking and side footpath.
- Install cast in-situ (2500 x 1000mm) abutments, 2500mm long wing walls and bridge guardrail and handrail barriers.
- The road approaches will be regraded and resurfaced to match the new bridge position and the southern approach will tie into the RMS Bypass intersection design.

All construction and installation sequencing shall follow the approved Engineering Concept Design & Construction documents attached in Appendix A.

**Post-work Remediation:**

- The existing bridge and all waste generated during the activity will be removed from site and recycled/disposed of as necessary.
- Check the bank upstream and downstream is not eroding into waterway – stabilise as required.
- Fully remove all temporary piling rig materials.
- Rehabilitate banks and exposed surfaces to prevent future erosion at the site.
- Monitor for settling and manage as required.

**Description of the Existing Environment**

**Overview of the project area**

Old Coast Road Bridge No.1 is located over Pine Brush Creek at Korora, approximately 5km north of Coffs Harbour, NSW. The closest open meteorological station is the Lower Bucca site located approximately 15km south of the proposal site, and is detailed as follows:

**Site name:** Lower Bucca **Site number:** 059006 **Latitude:** 30.16 °S **Longitude:** 153.10 °E **Elevation:** 112m  
**Commenced:** 1901 **Status:** Open

Mean maximum and minimum temperatures, and mean rainfall statistics for the area are detailed below for all years.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
<b>Mean max temp (°C)</b>	28.3	27.7	26.7	24.4	21.7	19.8	19.2	20.4	22.8	24.7	27.1	28.3	24.3
<b>Mean min temp (°C)</b>	17.3	18.6	17.2	12.9	8.7	6.3	4.2	5.3	8.9	12.0	14.8	16.8	11.9
<b>Mean rainfall (mm)</b>	167.9	207.0	214.7	151.7	134.5	115.8	71.0	55.9	55.8	92.5	113.4	135.7	1524.1

**Natural Values**

**Geology, geomorphology, and topography**

The geology of the subject site and adjacent downstream coastal streams is generally characterised by Terrigenous gravels, sands, silts and clays of Quaternary age. The geology of the area typically comprises clayey, silty and gravelly alluvials of the Quaternary period, with layered gravels, cobbles and stones in some soils. Topography is generally level to gently undulating floodplains, inset floodplains and terraces.

**Soil types and properties (including contamination)**

Soils occurring in the landscape have high organic matter topsoils, low fertility subsoils and strong to very strong acidity. Localised flood hazard, foundation hazard and seasonal waterlogging are characteristic of the immediate soil landscape. Australian Soil Classification (ASC) profiles occurring at the site comprise Kurosols (KU), while adjacent soil profiles upstream comprise Kandosols (KA) as shown in **Figure 6**.

The location of the proposed works adjoins land to the northwest identified as former Banana Cultivation areas 1943-1994 as shown in **Figure 7**. Part of the land adjacent the work site is mapped as BCL7: Council’s Land Contaminated Land Code descriptions states:

*BCL 7 has current or historical use of banana cultivation. Land was partly sampled and is considered suitable for residential or other sensitive use within the sampled area. Land outside the tested area is considered potentially contaminated.*

Coffs City have advised that the sampled levels within BCL 7 were low enough to indicate no expected impacts within the adjacent land. As such, there is minor risk associated with banana contaminated land.





Data Sources: Wolfpeak 2021, Imagery Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA

0 50 100 Meters  
GDA2020 MGA Zone 56 1:1,687@A4

**Legend**

-  Bridge Site
- Dominant ASC - Order
-  Kandosols (KA)
-  Kurosols (KU)



COMMERCIAL IN CONFIDENCE

**Figure 6:** Soil profiles occurring near the proposed activity





Data Sources: Wolfpeak 2021, Imagery Estri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA

0 50 100 Meters  
GDA2020 MGA Zone 56 1:2,300@A4

**Legend**

-  Bridge Site
-  Banana Cultivation 1943-94
-  Banana Contaminated Land BCL7
-  Lot



COMMERCIAL IN CONFIDENCE

**Figure 7:** Banana Cultivation and Banana Contaminated Land in proximity to the proposed activity





### Watercourses, waterbodies and wetlands (including their catchment values)

The proposed bridge replacement is located across Pine Brush Creek, immediately upstream of the Pacific Highway.

Pine Brush creek meets the criteria for a 5<sup>th</sup> order stream under the Strahler stream order, as demonstrated in the ArcGIS NSW Map Layer *Strahler Stream Order*.

Pine Brush Creek is mapped as Key Fish Habitat as shown in **Figure 8** pursuant to the *Fisheries Management Act 1994* (FM Act).

Pine Brush Creek continues under the Pacific Highway to broaden out into a lagoon prior to entry into the Pacific Ocean. The subject creek crossing, and immediate approaches are mapped as Class 5 and Class 4 Potential Acid Sulphate Soils under the Coffs Harbour LEP 2013 as shown in **Figure 9**. Coffs City has advised there has been soil analysis undertaken for the bridge and the results indicate a pH of between 5 and 5.5, at depths of between 3.5m and 12m. This should be noted as it supports the PASS classification.

Land adjoining immediately to the east is mapped as having Biodiversity Values pursuant to Part 7 of the *Biodiversity Conservation Act 2016*.

The nearest Coastal Wetland mapped pursuant to *State Environmental Planning Policy (Resilience and Hazards) 2021* is approximately 650m downstream.

The catchment supports a large diversity of vegetation types and wildlife habitats, with many areas protected in national parks, nature reserves and other types of reserves.



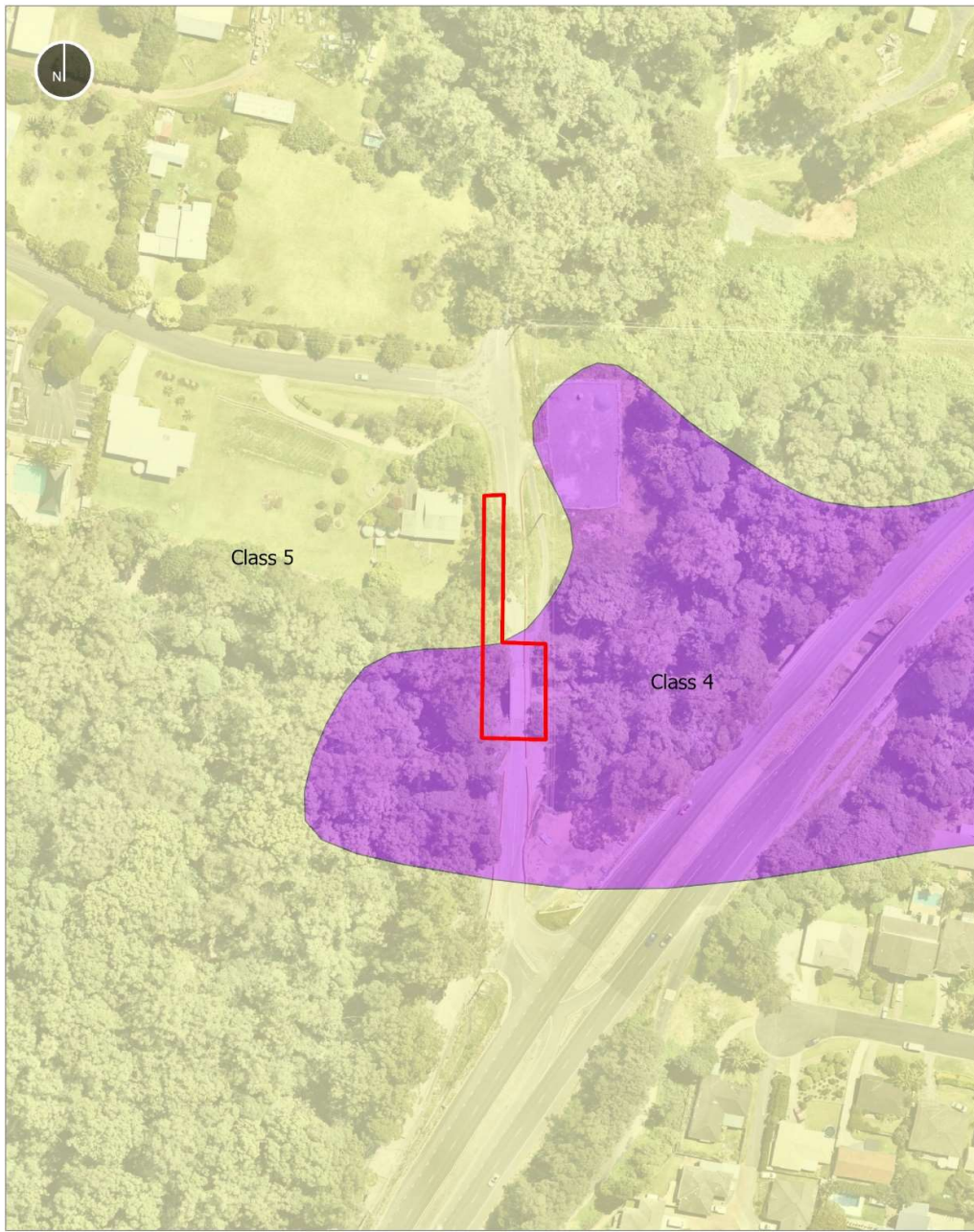


Data Sources: Wolfpeak 2021, Imagery Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA




- Legend**
-  Bridge Site
  -  Watercourse
  -  Key Fish Habitat

**Figure 8:** Watercourses with key fish habitat





**Legend**

-  Bridge Site
- Acid Sulfate Soils
-  Class 4
-  Class 5



COMMERCIAL IN CONFIDENCE

**Figure 9:** Acid Sulphate Soils occurring near the proposed activity

## Biodiversity

### Vegetation Communities

State Vegetation Type Mapping maps the vegetation surrounding the bridge as Northern Turpentine-Brush Box Wet Forest (PCT 3174) as shown in **Figure 10**. Site ground truthing of the vegetation confirmed that the vegetation in the vicinity of the bridge corresponds to this PCT.

The canopy is mid-dense, with dominant species comprising Brushbox (*Lophostemon confertus*), Sydney Blue Gum (*Eucalyptus saligna*) and Tallowwood (*Eucalyptus microcorys*). Flooded Gum (*Eucalyptus grandis*) is also present. Understorey and shrub species include Cheese Tree (*Glochidion ferdinandi*), Lilly Pilly (*Acmena smithii*), Sandpaper Fig (*Ficus coronata*), Tree Fern (*Cyathea sp.*) and Wavy Pittosporum (*Pittosporum undulatum*). The groundcover layer comprises a mix of native and exotic species, including Palm Grass (*Setaria palmifolia*), Crofton Weed (*Ageratina Adenophora*), *Lomandra hystrix*, *Christella dentata*, Billygoat Weed (*Ageratum conyzoides* subsp. *conyzoides*), Broad-leaved Paspalum (*Paspalum mandiocanum*), Wandering Jew (*Tradescantia fluminensis*), Mistflower (*Ageratina riparia*), Gristle Fern (*Blechnum cartilagineum*).

Numerous threatened plants have been recorded in close proximity to the bridge (Biosis 2019, Coffs Harbour Bypass Mapping 2021). These comprise Rusty Plum, Plum Boxwood (*Niemeyera Whitei*), Scented Acronychia (*Acronychia littoralis*), Slender Marsdenia (*Marsdenia longiloba*) and Fine-leaved Tuckeroo (*Lepiderema pulchella*) within 200m of the bridge. None occur within the works footprint.

### Endangered Ecological Communities

The vegetation community on site does not classify as a Threatened Ecological Community (TEC) under the BC Act or EPBC Act.

Bionet records of Threatened Flora in the study area are shown in **Figure 11** and reproduced at **Appendix D**.

### Fauna

The habitats adjacent to the bridge provide fair potential habitat resources for fauna. Rainforest vegetation may offer nectar and fruit resources for a variety of species. The river and associated riparian habitat provide good potential foraging and breeding habitat for amphibians, as well as foraging habitat for Southern Myotis. Good Koala habitat occurs nearby, providing a potential foraging resource for Koalas.

No hollow-bearing trees occur within the vicinity of the bridge, however, are common in adjacent forested areas, including three approximately 120m away from the site. These would provide potential denning/nesting/roosting refuge for arboreal species and hollow-obligate fauna.

The bridge has bat roosting potential in the southern abutment which contains large cavities, and in the ends of girders with hollows (Photos 6 & 7). The inspection of these during the site survey did not detect any bats or evidence of roosting (e.g., guano, urine stains).

Bionet records of Threatened Fauna in the study area are shown at **Figure 12** and reproduced at **Appendix D**.

### Aquatic

Pine Brush Creek is a 5<sup>th</sup> order stream flowing east and draining directly into the ocean 1km to the east. The creek is approximately 3m wide and 0.2m deep at the bridge. The riverbed substrate consists of sand, gravel and rock.

Pine Brush Creek is a freshwater creek and no seagrasses or mangroves occur. No aquatic plants occur in the creek at the bridge site. The Ecological Assessment identifies that Pine Brush Creek would be defined as Type 1 Highly Sensitive Key Fish Habitat under the *Policy and Guidelines for Fish Habitat Conservation and Management (NSW DPI 2013)*.

### Areas of outstanding biodiversity value or critical habitat

The proposed replacement bridge is not within and would not directly or indirectly affect an Area of Outstanding Biodiversity Value.







Data Source: Wolfpeak 2021, Imagery Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA

0 20 40 Meters  
GDA2020 MGA Zone 56 1:976@A4

**Legend**

 Bridge Site

Plant Community Type

 PCT : 3162 - Mid North Lowland Flooded Gum-Palm Wet Forest

 PCT : 3174 - Northern Turpentine-Brush Box Wet Forest



**Figure 10:** Vegetation communities proximate to the site



Data Sources: Wolfpeak 2021, Imagery Maxar

0 250 500 meters  
GDA2020 MGA Zone 56 1:10,601@A4

**Legend**

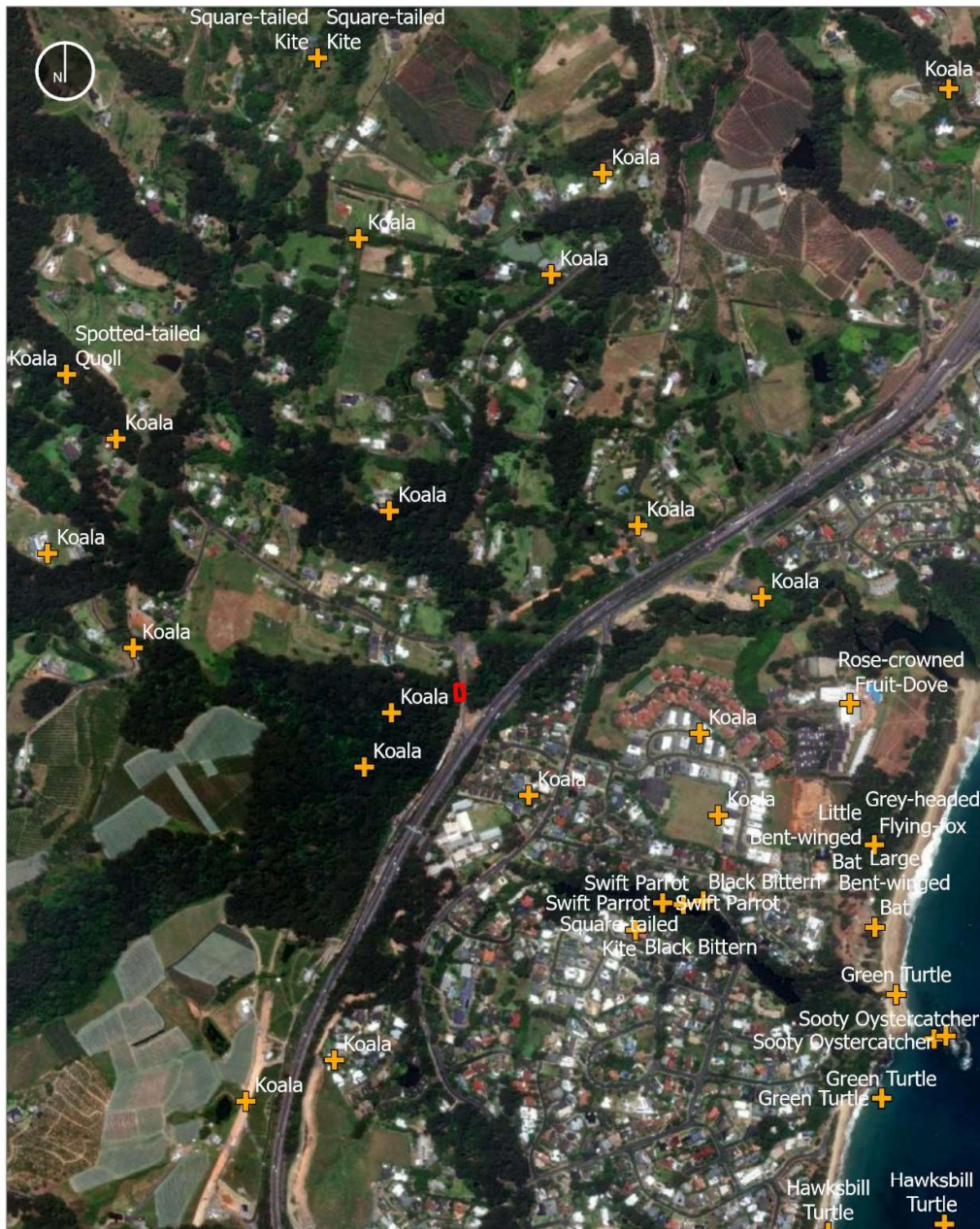
- Bridge Site
- ▲ Threatened Flora Record



COMMERCIAL IN CONFIDENCE

**Figure 11:** Threatened Flora Bionet records in the study area





Data Sources: Wolfpeak 2021, Imagery Maxar

**Legend**

- Bridge Site
- + Threatened Fauna Record

0 250 500 Meters  
GDA2020 MGA Zone 56 1:10,601@A4



COMMERCIAL IN CONFIDENCE

**Figure 12:** Threatened Fauna Bionet records in the study area

## Aboriginal Cultural Heritage Values

The proposal involves undertaking on-ground riverbank works targeted at accommodating the re-orientated bridge alignment. Works on the riverbank include reshaping the bank at a minimum 1 in 5 slope and securing with rip-rap scour protection. Bored piles for the new bridge also impact the on-ground riverbank area.

The existing environment has been extensively disturbed through historic vegetation clearing and the original construction of Old Coast Road Korora Bridge No. 2. A search of the Aboriginal Heritage Information Management System (AHIMS) (Appendix B) was undertaken on 05 September 2023 which did not identify any Aboriginal sites or places within or near the proposed works.

The proposed works will be undertaken within 200m of waters, which is considered a landscape feature indicative of the presence of Aboriginal objects; however, given the proposed activity will occur on land which is previously disturbed by human activity with changes that remain clear and observable, it is considered unlikely that potential Aboriginal objects would be impacted. Notwithstanding, the potential for Aboriginal objects does exist, and the project specific control measures identified in the 'Requirements' section of this REF should ensure that any potential impacts to Aboriginal objects are negated.

## Historic Heritage Values

Searches have been undertaken of Australia's National Heritage List, the NSW State Heritage Register, and Schedule 5 Environmental heritage of the *Coffs Harbour Local Environmental Plan 2013* which did not identify any historic heritage items within or near the proposed activity area.

## Legislative Context:

As part of the REF process, it is necessary to determine whether the proposed activity is permissible under current planning legislation and in accordance with other relevant legislative requirements.

### **Environmental Planning and Assessment Act 1979**

The *Environmental Planning and Assessment Act 1979* (EP&A Act) and *Environmental Planning and Assessment Regulation 20021* (EP&A Regulation) regulate development carried out in NSW. Under the EP&A Act, this is managed through two primary planning approval pathways:

- Part 4: Development applications; or
- Part 5: Activity approvals.

As identified below, the proposed activity is permissible without consent and therefore Part 4 of the EP&A Act does not apply. The proposed activity is therefore subject to the assessment requirements defined under Part 5 of the EP&A Act and Coffs Harbour City Council is required to consider the potential environmental impacts of the proposed activity to the fullest extent possible (section 5.5 of the EP&A Act). In addition, section 171 of the EP&A Regulation identifies factors which must be taken into account when considering the likely impacts of an activity on the environment. These factors have been considered below.

Under the EP&A Act, Coffs Harbour City Council meets the definition of a 'public authority'. In accordance with section 5.2 of the EP&A Act, Coffs Harbour City Council is the proponent and determining authority for the proposed activity.

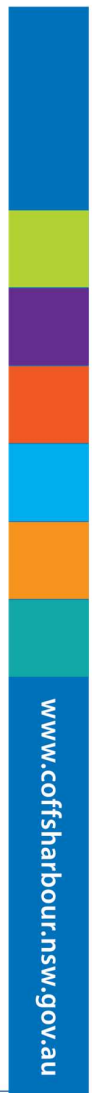
This review takes into account the environmental factors specified in the environmental guidelines in accordance with Sections 170 and 171 of the <i>Environmental Planning and Assessment Regulation 2021</i>		Yes	No
1. Is the proposed work permissible under the LEP or SEPP (Transport & Infrastructure) 2021?  In accordance with s.2.109 of the T&I SEPP: <i>(1) Development for the purpose of a road or road infrastructure facilities may be carried out by or on behalf of a public authority without consent on any land.</i>	<i>If No reject proposal</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Is development consent required?  As identified above, the proposed activity is permissible without consent and therefore Part 4 of the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act) does not apply.	<i>If Yes lodge D/A</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>







<p>3. Does the development comply with exempt requirements under SEPP (Transport and Infrastructure) 2021?</p> <p>The proposed activity does not comply with Division 4 Exempt Development, or s.2.113 Exempt Development of the T&amp;I SEPP. S.2.15 Consultation with authorities other than councils specifies that development adjacent to land reserved under the <i>National Parks and Wildlife Act 1974</i> is to be referred to the authority for comment and that any response received be taken into consideration.</p>	<p><i>If Yes and a Part 5 is not required for any other reason, complete Environmental Checklist</i></p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>4. Are any approvals, permits, licences required under other legislation?</p> <p>The proposed activity will occur within sections of the Pine Brush Creek, a 5th<sup>h</sup> order stream which is mapped as Key Fish Habitat under the <i>Fisheries Management Act 1994</i> (FM Act).</p> <p>The proposal requires works within the watercourse that would be considered dredging and/or reclamation works to demolish and replace the bridge. In accordance with s.200 of the FM Act, a Permit under Part 7 of the FM Act is required to carry out dredging and/or reclamation work prior to commencing works.</p>	<p><i>If yes obtain before commencing works and attach to part 5.</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>5. Do the works constitute an “activity” under Part 5 of the EP&amp;A Act 1979?</p> <p>In accordance with Part 5 of the EP&amp;A Act, the proposed works constitute an “activity”.</p>	<p><i>If Yes complete REF/Part 5</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>6. Are threatened species or Threatened Ecological Communities (TEC’s) present?</p> <p>No TECs occur on site.</p>	<p><i>If YES complete 5 Part Test (Biodiversity Conservation (BC) Act 2016) and SIS.</i></p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>7. Does the REF require publication on the Coffs Harbour City Council website or the NSW Planning Portal?</p> <p>In accordance with Section 171(4) of the EP&amp;A Regulation, this REF must be published on the Coffs Harbour City Council’s website of the NSW Planning Portal as: The activity requires an approval or permit under section 200 of the <i>Fisheries Management Act 1994</i></p>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>8. Describe the likely impacts of the activity as follows:</p>		<p><b>Yes</b></p>	<p><b>No</b></p>
<p>a)</p>	<p>Any environmental impact on a community (<i>e.g., social, economic and cultural impacts</i>).</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact.</i></p> <p>The proposed works require the delivery and storage of plant and materials to the site which would be stored within the road reserve for the duration of the activity. Construction vehicles and staff would be travelling on the Pacific Highway and Old Coast Road daily for the duration of the activity, slightly increasing traffic. Construction activities involve demolishing the existing bridge and replacing the structure within a similar alignment. New embankment profiling with an overlay of scour protection as per the engineering drawings attached as <b>Appendix A</b> is also required. There will be no vehicle access across Pine Brush Creek for the duration of the works and detours will need to be implemented. Detours are likely to direct traffic toward the northern entrance to Old Coast Road, via the southern end of Solitary Islands Way. There is potential for social and economic impacts to motorists using this section of Old Coast Road and Korora Basin Road to travel further north and northeast through the Korora catchment. Upon completion, the condition and safety of the bridge crossing would be significantly improved for travellers in this locality.</p> <p>Cultural impacts are discussed in part e) of this section.</p>			



b)	Any transformation of a locality (e.g., viability of current AND future land uses - human and non-human environment).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No Significant impact.</i></p> <p>The proposed activity is not anticipated to transform the locality of the area in proximity to the works, with the exception of short term access limitations during the construction of the replacement bridge, there would be no change to the viability of current and future land uses to either human or non-human movement. Future completion of the Coffs Harbour Bypass connection to Old Coast Road would potentially impact future land uses and human interactions but are not part of this project.</p>			
c)	Any environmental impact on the ecosystems of the locality (e.g., Marine or terrestrial habitats, flora, fauna, ecological integrity, biological diversity, connectivity/fragmentation, air, water including hydrology and soil).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact.</i></p> <p>The proposed activity is not anticipated to adversely impact on the ecosystems of the locality. Minimal vegetation removal is required to facilitate vehicle/machinery access for replacing and slightly realigning the bridge. The construction activities associated with replacing the bridge are temporary in nature, thus, impacts to fauna movement and habitat fragmentation are not anticipated to be significant.</p> <p>Remediation works will be implemented if required and re-vegetation for bank stabilization is proposed. Natives in the creek line have been noted and will likely be used during re-vegetation.</p> <p>The replacement will result in minor direct impacts to native vegetation and habitat, comprising the removal of a small number of small rainforest trees and shrubs, including Cheese Tree, Lilly Pilly, Sandpaper Fig, Tree Fern, Tuckeroo and Wavy Pittosporum. A small extent of groundcover will also be removed. No hollow-bearing trees or Koala food trees will be impacted.</p> <p>Three large Flooded Gums (approximate height 25m) will require removal to accommodate the pedestrian access to the footbridge on the northern side of the bridge (Photo 7). Works will impede on the structural root zone of all three trees, placing them at risk of failure. The trees do not contain hollows.</p> <p>Aquatic habitat within the creek and riparian vegetation in the vicinity of the construction site will be disturbed due to the removal of the existing bridge footing and potential secondary impacts from soil disturbance. Works will not block or divert the creek but may result in some temporary sedimentation impacting water quality. If this is carried out in a period of low flow, potential water quality impacts would be minimised.</p> <p>Potential roosting cavities in the bridge abutments will be removed, however it appears that these are not active roost sites and there would be numerous alternative roosting opportunities for microbats in the area.</p>			
d)	Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality (e.g., Visual, recreational, scientific and other)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact.</i></p> <p>The proposed activity will occur on a public road frequently used by motorists between the adjacent rural lifestyle areas and Coffs Harbour/Pacific Highway. There will be short-term, temporary impacts to the aesthetic values of the site which are associated with construction activities and the storage of machinery and materials on site.</p> <p>Vegetation clearing required to undertake the works, includes:  The removal of a small number of small rainforest trees and shrubs, including Cheese Tree, Lilly Pilly, Sandpaper Fig, Tree Fern, Tuckeroo and Wavy Pittosporum. A small extent of groundcover will also be removed. No hollow-bearing trees or Koala habitat will be impacted. Three large Flooded Gums (approximate height 25m) will require removal to accommodate the pedestrian access to the footbridge on the northern side of the bridge. Works will impede on the structural root zone of all three trees, placing them at risk of failure. The trees do not contain hollows.</p> <p>Vehicle detours will be required during construction which has the potential to impact on activities requiring the use of the bridge; however, impacts would be temporary and short-term in duration. Upon completion, the condition and safety of the road would be significantly improved for this section of Old Coast Road and for users of Korora Basin Road which would improve access for recreational and scientific values.</p>			







e)	Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations (e.g., <i>Aboriginal heritage including intangible cultural significance</i> ), <i>architectural heritage, social/community values and identity, scenic values and other</i> ).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact.</i></p> <p><b>Aboriginal Cultural Heritage</b> An AHIMS search (<b>Appendix B</b>) undertaken on 05 July 2023 did not identify any Aboriginal sites or Aboriginal places within or near the proposed activity location. Given the proposed activity will occur on land which has been previously disturbed by the installation of the original bridge, that has changed the land’s surface, and those changes remain clear and observable, the proposed works are considered unlikely to impact on Aboriginal objects or Aboriginal places.</p> <p>As a precautionary measure however, if any material suspected to be of possible Aboriginal origin is located, all works must cease immediately in the vicinity of the find and the ‘Procedure for unexpected discovery of an Aboriginal object’ is to be followed. That is, STOP WORK, notify all on site crew, isolate and protect the find area and inform City of Coffs Harbour Environmental Project Officer (EPO) (0455 128 690) and Heritage NSW. Works would not recommence until all clear is given by the EPO following consultation with the relevant RAP.</p> <p><b>Mitigation measures to protect Aboriginal objects and places are outlined in Section 9 of this REF.</b></p> <p><b>Historic Heritage</b> Searches have been undertaken of Australia’s National Heritage List, the NSW State Heritage Register, and Schedule 5 Environmental heritage of the Coffs Harbour LEP 2013 which did not identify any historic heritage items within or near the proposed activity area.</p>			
f)	Any impact on the habitat of any protected fauna (within the meaning of the <i>BC Act 2016</i> , e.g., listed species and habitat requirements/critical habitat).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact as determined by the accompanying Ecological Assessment.</i></p> <p>The proposed bridge replacement has been assessed by a supporting Ecological Assessment (<b>Appendix C</b>), which has determined the proposed activity is unlikely to significantly impact on the habitat of any protected fauna. The Environmental Assessment makes recommendations to minimise and mitigate against any potential environmental impacts.</p>			
g)	Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air (refer to 5-part test under <i>BC Act 2016</i> , <i>FM Act 1994</i> , and Protected Matters under the <i>EPBC Act 1999</i> , e.g., listed species, non-listed species and key threatening processes).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact as determined by the accompanying Ecological Assessment.</i></p> <p>The proposed bridge replacement has been assessed by a supporting Ecological Assessment (<b>Appendix C</b>), which has determined the proposed activity is unlikely to significantly impact or endanger any species of animal, plant or other form of life on land, in water or in the air.</p>			
h)	Any long-term effects on the environment (e.g., <i>ecological, social and economic</i> ).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact.</i></p> <p>Should the mitigation measure outlined in this REF be implemented correctly, long-term adverse ecological effects are considered unlikely. Replacing the existing bridge would prevent premature failure of the structure; thus, significantly limiting potential impacts to the adjacent waterway and riparian areas. The new bridge would provide a sustainable structure which would provide a positive long-term, safe solution for motorists travelling on Old Coast Road and Korora Basin Road, thus, contributing to social and economic values of the area.</p>			
i)	Any degradation of the quality of the environment (e.g., <i>Ecological, social and economic, aesthetics, noise, climate</i> ).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact.</i></p> <p><b>Ecological</b> Minimal vegetation requires removal to facilitate vehicle/machinery access for the minor realignment of the bridge; however, it is unlikely to degrade the quality of the environment in a significant way. Aquatic habitat within the creek and riparian vegetation in the vicinity of the construction site will be disturbed due to the removal of the existing bridge footing and potential secondary impacts from soil disturbance. Works will not block or</p>			



divert the creek but may result in some temporary sedimentation impacting water quality. If this is carried out in a period of low flow, potential water quality impacts would be minimised.

*Social and economic:*

Detours will be required during construction which has the potential to impact on activities requiring the use of the bridge; however, impacts would be temporary and short-term in duration. Upon completion, the condition and safety of the road would be significantly improved for this section of Old Coast Road. Road Safety and associated flow on effects of accidents and vehicle damage represents an important social benefit and reduced maintenance costs represent an economic benefit to Council, which in turn benefits the ratepayers of the LGA.

Short term economic impacts may be felt by any businesses located within the adjacent land to the northwest, which fronts Korora Basin Road and are zoned E1 Local Centre (a small business zone).

*Aesthetics and noise:*

During construction, there would be short-term, temporary impacts to the aesthetic values of the site which are associated with construction activities and the storage of machinery and materials on site. Minor vegetation removal is required to facilitate installation of the new bridge structures and a small extent of groundcover and weeds would be removed to facilitate the construction stage. Upon completion, the site will be rehabilitated as required.

Vehicle and plant would be used to demolish the existing bridge and construct the new bridge. Noise would be generated throughout the construction stages; however, impacts are anticipated to be minimal given the rural location of the proposed works.

There are multiple noise sensitive receivers within the area, most of which are rural lifestyle housing with a mix of other uses such as a squash and swim centre and nature reserve with walking trails. Given the short-term duration of the proposed activity is considered that measures to inform the nearest residents and communicate effectively with them about timing and duration of potentially noisy activities be put in place as part of the CEMP.

*Climate:*

Vehicles and machinery would be used during all stages of the proposal which have the potential to spill oil and/or fuel. The primary sources of airborne particulate matter generated by the activity include vehicle and machinery (exhaust) emissions associated with the delivery and transport of construction vehicles, staff, and materials to the site, and machinery during construction; however, this would not be significant to contribute to long-term degradation of the environment.

j)	Any risk to the safety of the environment (e.g., Public health, contamination, bushfire, sea level rise, flood, storm surge, wind speeds, extreme heat, urban heat and climate change adaptation).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
----	--	--------------------------	-------------------------------------

Notes: *No significant impact.*

The proposed activity is unlikely to generate any adverse risk to the safety of the environment, provided the mitigation measures provided in this REF are implemented. The construction site will be closed off to the public during the duration of the activity.

The proposed works are located within vegetation classed as part Vegetation Category 1 and part buffer under the NSW Rural Fire Service Guide for Bush Fire Prone Land Mapping. Vegetation Category 1 is the highest risk for bush fire and has the highest combustibility and likelihood of forming fully developed fires including heavy ember production. Construction works would include limited ignition risks and would mostly occur within the existing cleared road reserve, and the moist riparian areas of Pine Brush Creek. Sections requiring vegetation removal to facilitate the bridge construction would not occur within heavily vegetated areas. Machinery use would be limited during periods of Very High fire danger rating or higher.

k)	Any reduction of the range of beneficial uses of the environment (e.g., Natural resources, community resources and existing uses).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
----	--	--------------------------	-------------------------------------

Notes: *No significant impact.*

The proposed activity is unlikely to reduce the range of beneficial uses of the environment. Provided the mitigation measures provided in this REF are implemented correctly, impacts to natural resources are considered unlikely. The bridge will be closed temporarily during construction and detours will be implemented for motorists; however, associated impacts are short-term in nature and are not considered significant.

l)	Any pollution of the environment (e.g., Air, (including odours and greenhouse gases); water (including runoff patterns, flooding/tidal regimes, water quality health); soil (including contamination, erosion, instability risks); noise and vibration (including consideration of sensitive receptors) or light pollution).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
----	--	--------------------------	-------------------------------------

Notes: *No significant impact.*

During demolition of the old bridge there is a risk of materials entering the waterway beneath such as dust from chainsaws, oils/fuels from equipment and machinery, pieces of demolished materials. Noise during the demolition phase would also be likely.





<p>There is a minor risk of soils contamination from machinery and equipment oils and fuels, which would be subject to on site management procedures.</p> <p>Noise would be produced during both the construction stages, primarily associated with the use of vehicles and machinery as required to carry out construction works. The process of drilling and installing the bridge piles has potential to generate significant noise over a short period.</p> <p>Provided the mitigation measures provided in this REF are implemented correctly, impact from water runoff, soil erosion and sedimentation, and noise and vibration risks are considered unlikely.</p>			
m)	Any environmental problems associated with the disposal of waste (e.g., Solid or liquid wastes, effluent, ASS/PASS) including transportation, disposal and contamination).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact.</i></p> <p>All waste generated by the proposed activity will be removed from the site and disposed of at a licenced waste facility. No hazardous waste is anticipated to be generation. Minor consumable and putrescible waste would be generated from workers undertaking the activity, and all waste (including excavated natural material) will be categorised and managed in accordance with the NSW EPA Waste Classification Guidelines.</p> <p>In consideration of the Class 4 Acid Sulphate Soils (ASS) the work site is on land above 5m AHD, with the lowest section of Pine Brush Creek mapped at 8m AHD. The nature of the works is such that the water table is not considered likely to be lowered. However, works such as removal of existing piles, and installation of the bored piles would extend more than 2 metres below natural ground surface in discrete locations. Provided the mitigation measures provided in this REF are implemented correctly, impact from waste and impacts associated with disturbance of potential acid sulphate soils are considered unlikely.</p>			
n)	Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply (e.g., Land, soil, air, minerals and energy).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact.</i></p> <p>Any work involving the use of plant and equipment will involve consumption of fuel, oil, water, vehicle and plant depreciation, etc.; however, as a small individual project, it is not anticipated that the works will lead to any increased demands on natural resources that are, or are likely to become, in short supply.</p>			
o)	Any cumulative environmental effect with other existing or likely future activities (e.g., existing and future activities).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact.</i></p> <p>At the time this REF was prepared, other activities identified as occurring within or near the location of the proposed activity include works associated with the Coffs Harbour By-pass. Clearing and other disturbances associated with the road works in this vicinity have and are anticipated. Thus, the proposal is likely to contribute to cumulative impacts, all be it to a minor extent. The environmental impacts of the Coffs Harbour By-pass works are assumed to have been comprehensively assessed as part of that approval process, resulting in a suite of ameliorative measures to mitigate and/or offset impacts on the environment. Overall, the proposed activity is not considered likely to have a significant cumulative impact.</p>			
p)	Any impact on coastal processes and coastal hazards, including those under climate change conditions (e.g., Coastal processes and hazards (impacts arising from the proposed activity on coastal processes and hazards and impacts on the proposed activity from coastal processes and hazards), climate scenarios. Coastal Management Act 2016 mapping and proximity to project area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact.</i></p> <p>The proposed activity is located within the area mapped as Coastal Use Area and Coastal Environment Area under the SEPP (Resilience and Hazards) 2021. In this location there would be associated coastal processes and hazards for example storms, rainfall and runoff, climate change, stormwater and the like. Following consideration of the criteria expressed in Sections 2.10 and 2.11 of the SEPP it is concluded that the proposed works are unlikely to cause an adverse impact on the coastal environment area or the coastal use area, and that the design is satisfactory. No significant coastal process and hazard impacts have been identified for the proposed replacement bridge.</p>			
q)	Any applicable local strategic planning statement, regional strategic plan or district strategic plan made under Division 3.1 of the Act (e.g., Issues, objectives, policies and actions identified in local, district and regional plans).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Notes: <i>No significant impact.</i></p> <p>The proposal would not adversely impact on the objectives identified in the Coffs Harbour Local Strategic Planning Statement 2020 or the Coffs Harbour Regional City Action Plan 2036.</p>			

r)	Any other relevant environmental factors ( <i>e.g., Any other factors relevant in assessing impacts on the environment to the fullest extent, include any consultation details</i> ).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Notes: <i>No significant impact.</i>			
The proposed activity is not anticipated to adversely impact on any other relevant environmental factors.			
8.	Determination	Yes	No
	That the proposed activity is unlikely to have a significant effect on the environment and that the proposed activity proceed without modifications	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	That the proposed activity is unlikely to have a significant effect on the environment and that the activity proceed with the following conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Is further assessment needed to determine the activity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Is an Environmental Impact Statement (EIS) required	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Is a Species Impact Statement (SIS) required	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Is a Biodiversity Assessment Report (BDAR) required	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Is referral to Commonwealth Environment Minister required?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	That an environmental impact statement be required	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	That the activity not to proceed	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.	<p>Conditions of this determination – Permit / Approval / Licence attached</p> <p>Pursuant to s.174 of the EP&amp;A Regulation, this REF must be published on the Coffs Harbour City Council website of the NSW Planning Portal as the proposal requires a permit under s.200 of the FM Act 1994.</p> <p>The proposed activity will occur within a section of Pine Brush Creek, a 5<sup>th</sup> order stream mapped as Key Fish Habitat under the FM Act 1994. The proposal requires dredging and/or reclamation works to demolish and replace the bridge; thus, in accordance with s.200 of the FM Act, a Permit under Part 7 of the FM Act is required to carry out dredging and/or reclamation work prior to commencing works.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>





This Part 5 Assessment is valid for eighteen (18) months from the approval date below – if works have not commenced by this date this assessment is invalid. Contact the Environmental Engineer for reassessment.

## REQUIREMENTS

### General:

- The mitigation measures identified within this REF are to be incorporated into a Construction Environmental Management Plan (CEMP) for the proposed works. The CEMP shall outline how the mitigation measures will be implemented as works are undertaken and who is responsible for their implementation.
- All personnel working on site shall be made aware of the environmental protection requirements to be implemented prior to and during construction.
- The Project Manager is to conduct a pre-start construction meeting and/or induction PRIOR to the commencement of works on site. All staff and contractors are to be made aware of the conditions in this Part 5 during the induction. If the Project Manager is unavailable, then a suitably trained person is to be delegated and authorised to conduct the induction and the induction documented.
  - Records of site inductions are to be kept as part of the CEMP.
- Establish “No Go” zones with signage and pedestrian barriers to temporarily prevent public access to works zones.
- All visitors to the site during works are to be inducted by a suitably trained person and made aware of the conditions of this Part 5
- A copy of the conditions of this Part 5 is to remain on site at all times.
- Generate a Before You Dig Australia (BYDA) document to locate underground services within the vicinity of the works e.g., power, telecommunications, and existing water mains.
- If works are to be conducted within less than 1m from an electrical power pole, the pole will require holding in place during excavation works until site is backfilled and rendered safe.
- Notification is to be issued to the relevant residential homes and/or businesses that may be affected by the works.
- In the event any animal is injured during the project the Environmental Project Officer or WIRES are to be contacted (1300 094 737).
- Tracking dirt onto the road pavement is to be appropriately managed.
- Noise generating works will be limited to the recommended standard hours for construction work outlined in the Interim Construction Noise Guideline which are:
  - Monday to Friday 7:00am to 6:00pm
  - Saturday 8:00am to 1:00pm
  - No works on Sundays or Public Holidays
  - Work outside standard hours would only comprise:
    - The delivery of materials outside standard hours requested by police or other authorities for safety reasons.
    - Emergency work to avoid the loss of lives and/or property.
- Where practicable, plant and machinery which are used intermittently are to have throttle setting reduced or shut down when not in use. Any plant or equipment that is not in use for extended periods of time are to be switched off.
- Minimise the use of machinery where practicable; machinery shall be in good, serviced condition to reduce emissions.
- Use electric machinery instead of diesel/petrol machinery where practicable.
- Store oils and fuels in a suitably bunded, covered and secure area with sufficient capacity to contain at least 110 percent of the volume of the largest container.
  - Spare fuels are to be stored in containers within pre-existing cleared areas and a minimum of 40m from drainage lines or waterways.
- Spills and leaks are to be contained within the worksite and site clean-up to occur.
- Spill kits to be available on site.

### Hygiene:

- Hygiene protocols as per the NSW Hygiene Guidelines: Protocols to protect biodiversity areas in NSW from *Phytophthora cinnamomi*, myrtle rust, amphibian chytrid fungus and invasive plants shall be implemented to reduce the risk of spreading weeds, diseases, and pathogens.
- Hygiene protocols as per the Commonwealth’s Department of Sustainability, Environment, Water, Population and Communities (now DCCEEW) Hygiene protocols for the control of diseases in Australian frogs shall be implemented for works likely to impact frog species.



COFFS HARBOUR

CITY COUNCIL



www.coffsharbour.nsw.gov.au

- Recommended measures required prior to entering the work site or moving to new areas include:
  - Check personnel, clothing, footwear, backpacks and equipment for soil, plant material/propagules and other debris.
  - Shoes/boots to be scrubbed free of dirt and decontaminated. Clothing to be checked for any plant propagules before work commences and cleaned accordingly.
  - Remove all soil, plant material and other debris using a hard brush and (if required) clean water.
  - Ensure plant and machinery is thoroughly cleaned inside and out before entering the site or moving between different areas. Use 70% alcohol wipes or a spray bottle to apply disinfectant to the interior of vehicle. Spray the exterior with disinfectant or hand pressure sprayer. Allow the disinfectant to remain in contact with the surface for at least 30 seconds before rinsing with clean water.
  - All tools/machinery to be cleaned and sterilised prior to transport to site.

#### **Safety & Traffic:**

- Appropriate alternative routes and detours for both road users and pedestrians shall be established.
- Barricades/fencing to exclude traffic and pedestrians from the worksite are to be installed.
- Install appropriate safety and road signage to inform road users and pedestrians of the proposed works, and to safely manage traffic.
- The exhausts of all construction machinery are to be inspected for smoke emissions prior to works, and service machinery if the machinery is producing excessive smoke/emissions.

#### **Vegetation:**

- Timing of works - the bridge replacement works are recommended to be undertaken outside late spring to summer when the potentially occurring threatened frog species (Giant-barred Frog and Green-thighed Frog) may breed. This will reduce the potential to impact the breeding cycle of these species. Alternatively, a qualified ecologist should conduct a minimum of 3 nights of survey of the area to confirm the presence or absence of these frog species. If found and signs of breeding are identified, works should be delayed under the advice of the supervising ecologist.
- Immediately prior to removal of the existing bridge and removal of identified vegetation the clearing footprint will be clearly marked out, as well as protection zones established around retained trees and vegetation.
- The area to be cleared/modified shall be clearly marked before clearing to prevent inadvertent clearance beyond what is required and has been assessed.
- “No Go” areas to be implemented and marked prior to construction commencing to protect adjacent vegetation.
- If threatened flora species are identified during construction, they are to be flagged, and a buffer zone created to protect them.
- Site inductions are to occur to specify that no clearing is to occur beyond the marked area, and vehicles are only to be parked in pre-existing cleared areas.
- A qualified ecologist will undertake pre-clearing survey and clearing supervision. Pre-clearing inspections must include the 3 flooded gums to be removed.
  - The clearing extent is to be inspected for fauna by a qualified ecologist immediately prior to commencement of any vegetation removal involving machinery and/or tree-felling. This is to occur each morning if clearing spans over multiple days/weeks. The ecologist is to flag any habitat features which may contain fauna and trees which contain hollows, nests or dreys.
  - If a Koala is present in an area subject to vegetation removal/modification, works must be suspended until the Koala moves along on its own volition. If the Koala is located in a position that a 50-metre buffer may be established, works may proceed outside this buffer. In this event, the ecologist is to remain on site to monitor the Koala for signs of distress. If the ecologist determines that the Koala is in distress, works must be suspended within this area until a larger buffer is created or the Koala moves along on its own volition.
  - The ecologist is to remain on site to supervise removal of all vegetation. Other than Koalas, any detected fauna is to be relocated off-site. Any bird nest considered active is to be removed in a manner that allows retrieval of eggs/young, and these are to be taken into care by FAWNA.
  - Upon completion of clearing, a post clearance fauna management report is to be prepared and submitted to Council within 14 days of the removal of the vegetation.
- In the event any additional vegetation requires modification OR removal the Environmental Project Officer is to be contacted to undertake a site inspection
- Any removal and/or pruning works are to be conducted by certified arborists in accordance with The Australian Standards Tree Pruning Guidelines.





- Site compound, stockpiles and machinery are NOT permitted under the drip line of any native vegetation.
- A watercart shall be always kept on site to address bush fire risk in Vegetation Category 1 areas.
- Disturbance of vegetation and soils on the site should be limited to the areas of the proposed work and should not extend into adjacent vegetation.
- All vehicles and machinery are to be inspected for the presence of weeds prior to entering the site.
- Invasive weeds within the clearing footprint are to be appropriately treated and collected prior to clearing and disposed of within a landfill facility.
- The area shall be monitored for weeds post construction to ensure weed establishment does not occur. Weeds established shall be treated as necessary.
- Part 5 Biodiversity Offset measures - the removal of three Flooded Gums is recommended to be offset as per the Local Biodiversity Offsets Policy for the City of Coffs Harbour.

#### Microchiropteran bats (Microbats)

- A qualified ecologist shall inspect the bridge for microbats immediately prior to removal of the existing bridge.
- If none are found, works may proceed without any further microbat measures.
- If microbats are detected, they are to be left undisturbed and measures must be taken to prevent bats returning to roost under the bridge.
  - This may include filling cavities or installing geofabric under the entire underside of the bridge at night to block microbats returning to roost under the bridge.
  - Bridge removal is to be undertaken by gradually dismantling the bridge and is to be supervised by a qualified ecologist.

#### Trenching and Excavation:

- An Acid Sulphate Soils Management plan is to be prepared and incorporated into the CEMP.
- When trenching or excavation is to be undertaken within the root zone of any tree, roots are to be exposed first and then cut cleanly with a sharp saw or loppers.
  - Roots are not to be torn with a backhoe or other excavation equipment.
  - Exposed roots are to be kept moist and covered with hessian for the duration of the exposure.
  - Where roots with a diameter larger than 50mm are encountered excavation should be undertaken by hand or small implements to minimise impacts to the roots
  - Roots >40mm are considered to be structural – cutting of these roots may affect the stability of the tree.
  - Roots <40mm are considered to be feeder roots – cutting of these roots may affect the future health of the tree.
- The Environmental Project Officer and/or CHCC arborist are to be consulted if roots of this size require cutting.
- No trenching or excavation shall occur outside the footprint identified in this REF.

#### Sediment and erosion controls:

- Sediment fencing and sediment traps would be implemented in a manner consistent with currently accepted best management practice (i.e. Landcom [2004] Managing Urban Stormwater: Soils and Construction [4<sup>th</sup> Edition]) prior to any earthworks being undertaken. Sediment controls are to:
  - prevent sediment moving off-site and sediment laden water entering the creek, drainage lines or drain inlets.
  - protect bridge embankments from drain discharge.
  - reduce water velocity and capture sediment on site.
  - divert upslope and clean waters around the bridge during construction to ensure the entire system is stable.
- Sediment controls would be maintained and in good working order for the whole duration of the works and subsequently until the site has been stabilised and the risk of erosion and sediment movement from the site is minimal.

#### Hydrology and Water Quality:

- Sedimental and erosion controls as prescribed above shall be implemented to prevent the entry of sediment into the adjacent waterway, or mobilisation of sediment within the waterway, prior to any works being undertaken.
  - These controls would be maintained and in good working order for the whole duration of the works and subsequently until the site has been stabilised and the risk of erosion and sediment movement from the site is minimal.





- Rip-rap material shall comprise only 'clean rock' to facilitate filtration and drainage, and to prevent 'fines' (small particles entering the waterway).
- Only natural material shall be used for rip-rap. Contaminated materials (tyres, building and demolition rubble, acid sulphate soils etc.) shall not be used as fill.
- Visual monitoring of local water quality during periods of flow, (i.e., turbidity, hydrocarbon spills/slicks) to be periodically undertaken to identify any water quality issues.
- All equipment is to be maintained in good working condition and operated according to manufacturer's specification.
- No vehicles or machinery shall enter or work within the creek.
- Refuelling of equipment is to occur a minimum of 40m from drainage lines.
- Stockpile sites are not to be located within 10m of drainage lines, and stockpiles are to be located on previously disturbed/cleared areas away from areas that receive concentrated runoff.
- Stockpiles are to be suitably bunded to prevent material moving off-site.
- As much earth and material as possible is to be excavated from the bridge surface prior to removal of the existing bridge to minimise silt and debris entering the waterway.
- Works are to be undertaken during periods of low flow, and shall not be undertaken during, or immediately following, periods of high rainfall.

**Aboriginal Cultural Heritage:**

- Works to proceed with caution, and if any Aboriginal objects or human remains are identified during the activity, the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW shall be implemented.
- If Aboriginal objects are detected, the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW apply, and consultation with Heritage NSW is required. As the authority for the protection of Aboriginal objects and Aboriginal Places in NSW, the NSW National Parks and Wildlife Service (NPWS) shall also be notified.
- If suspected human remains are discovered and/or harmed in, on or under the land within the activity footprint, the following actions must be undertaken:
  - The remains must not be harmed/further harmed.
  - Immediately cease all works at that location.
  - Secure the area to avoid further harm to the remains.
  - Notify the NSW Police and the Environment Line (Heritage NSW) on 131 555 as soon as practicable and provide any details of the remains and their location.
  - Do not recommence any work at that location unless authorised in writing by Heritage NSW.


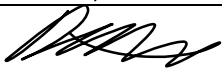
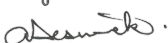
**Waste Management:**

- If surplus excavated material will be generated from the works; however, if material is required to be removed from the site then appropriate documentation for transport and testing of the material for Excavated Natural Material (ENM) and Virgin Excavated Natural Material (VENM) (in accordance with the NSW Environment Protection Authority and the *Protection of the Environment Operations Act 1997*) will be the responsibility of the Project Manager. Otherwise, the material may be disposed of at a licenced waste facility.
- If the material is to be taken from one road reserve to another road reserve – the receiving environment must be previously identified, and a Fill Plan is to be prepared for the site.
  - Stockpiling of material is not acceptable and must be spread out in its final location as per the fill plan.
- Waste material generated by the project will be managed following the principles of waste avoidance by re-use, recycling and removal.
- The site is to be kept clear of rubbish through daily housekeeping and consistent with Councils' waste management system.
  - All waste is to be collected daily and disposed of appropriately.
- Contractors/workers shall be conversant with, and adhere to, the measures and controls outlined in the NSW Government's Code of Practice: Managing risks of hazardous chemicals in the workplace, to ensure gaseous, liquid, or solid wasters or emissions are managed appropriately.

**NB. These conditions will be subject to auditing by Council's Environmental Project Officers.**

**I certify that I have reviewed and endorsed the contents of this REF document and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A regulation, and the Guidelines approved under clause 170 of the EP&A Regulation and the information it contains is neither false nor misleading.**



Prepared by:	Geraldine Haigh		Date:	27/08/2024
Name		Signature		
(prepared this assessment under Part 5 of the EP&A Act 1979)				
Reviewed by:	David Stubbs		Date:	27/08/2024
Name		Signature		
Daniel Stewart		28/08/2024		
Director:	Andrew Beswick		Date:	29/08/2024
Name		Signature		



**COFFS HARBOUR**

**CITY COUNCIL**



[www.coffsharbour.nsw.gov.au](http://www.coffsharbour.nsw.gov.au)

**You must notify the Environmental Engineer who prepared this Part 5 Assessment of any changes in the proposed activity, during works or planned as this may alter the assessment, rendering it invalid.**



COFFS HARBOUR

CITY COUNCIL



[www.coffs Harbour.nsw.gov.au](http://www.coffs Harbour.nsw.gov.au)

Appendix B – AHIMS search results

For Replacement Bridge Old Coast Road Korora Bridge # 1



Your Ref/PO Number : Old Coast Rd Bridge #1  
Client Service ID : 797799

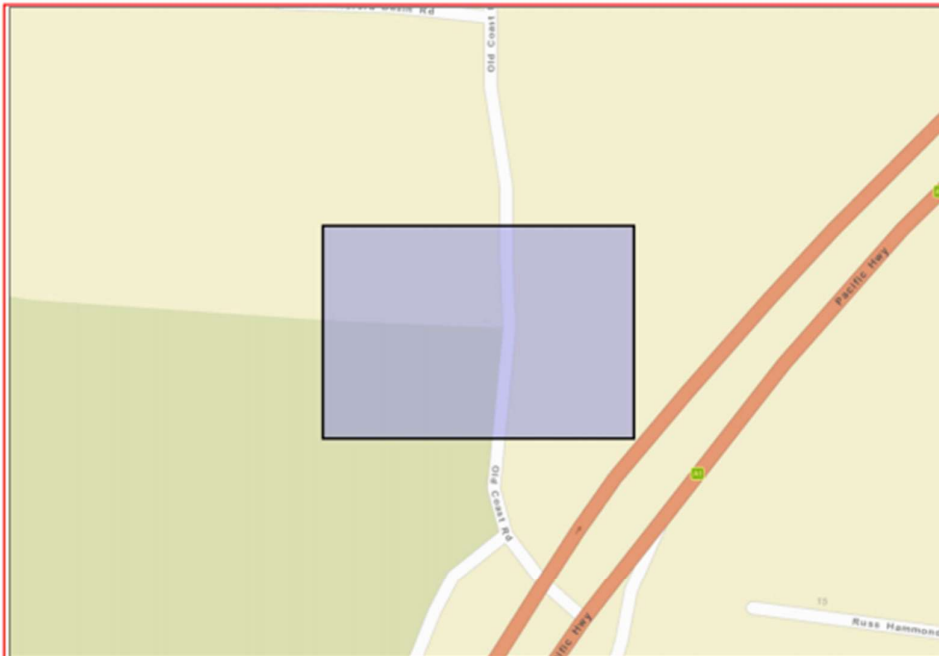
Wolf Peak Pty Ltd - Sydney  
Level 10 189 Kent Street  
Sydney New South Wales 2000  
Attention: David Stubbs  
Email: dstubbs@wolfpeak.com.au

Date: 05 July 2023

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Lat. Long From : -30.252, 153.1312 - Lat. Long To : -30.2514, 153.1322, conducted by David Stubbs on 05 July 2023.**

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

COFFS HARBOUR

CITY COUNCIL



www.coffs Harbour.nsw.gov.au





COFFS HARBOUR

CITY COUNCIL



[www.coffs Harbour.nsw.gov.au](http://www.coffs Harbour.nsw.gov.au)

## Appendix D – Bionet Search Results

Search undertaken on 19/07/2023, 10km radius search area.

Common Name	Scientific Name	BC Act	EPBC Act	Records
<b>Flora</b>				
Slender Marsdenia	<i>Marsdenia longiloba</i>	E1	V	144
Milky Silkpod	<i>Parsonsia dorrigoensis</i>	V	E	1
Cryptic Forest Twiner	<i>Tylophora woolsii</i>	E1	E	4
Stinky Lily	<i>Typhonium sp. aff. brownii</i>	E1,3	-	1
Glenugie Karaka	<i>Corynocarpus rupestris subsp. rupestris</i>	V	V	2
Square-stemmed Spike-rush	<i>Eleocharis tetraquetra</i>	E1	-	3
Red-fruited Ebony	<i>Diospyros mabacea</i>	E1	E	1
Rainforest Cassia	<i>Senna acclinis</i>	E1	-	4
Coast Headland Pea	<i>Pultenaea maritima</i>	V	-	42
Silverbush	<i>Sophora tomentosa</i>	E1	-	49
Crystal Creek Walnut	<i>Endiandra floydii</i>	E1	E	1
Rusty Rose Walnut	<i>Endiandra hayesii</i>	V	V	1
Slender Screw Fern	<i>Lindsaea incisa</i>	E1,3	-	28
Arrow-head Vine	<i>Tinospora tinosporoides</i>	V	-	1
Scrub Turpentine	<i>Rhodamnia rubescens</i>	E4A	CE	112
Native Guava	<i>Rhodomyrtus psidioides</i>	E4A	CE	55
Magenta Lilly Pilly	<i>Syzygium paniculatum</i>	E1	V	2
Peach Myrtle	<i>Uromyrtus australis</i>	E1	E	2
Rough Doubletail	<i>Diuris praecox</i>	V,P,2	V	1
Yellow-flowered King of the Fairies	<i>Oberonia complanata</i>	E1,P,2	-	1
Brown Fairy-chain Orchid	<i>Peristeranthus hillii</i>	V,P,2	-	1
Southern Swamp Orchid	<i>Phaius australis</i>	E1,P,2	E	6
Ravine Orchid	<i>Sarcochilus fitzgeraldii</i>	V,P,2	V	2
Hartman's Sarcochilus	<i>Sarcochilus hartmannii</i>	V,P,2	V	2
Floyd's Grass	<i>Alexfloydia repens</i>	E1	-	17
Hairy Jointgrass	<i>Arthraxon hispidus</i>	V	V	4
Tall Knotweed	<i>Persicaria elatior</i>	V	V	2
Nightcap Oak	<i>Eidothea hardeniana</i>	E1,2	CE	1
Big Nellie Hakea	<i>Hakea archaeoides</i>	V,3	V	1
Macadamia Nut	<i>Macadamia integrifolia</i>	-	V	1
Rough-shelled Bush Nut	<i>Macadamia tetraphylla</i>	V	V	2
Northern Clematis	<i>Clematis fawcettii</i>	V	V	1
Scented Acronychia	<i>Acronychia littoralis</i>	E1	E	4
Orara Boronia	<i>Boronia umbellata</i>	V,P	V	11
Headland Zieria	<i>Zieria prostrata</i>	E1	E	3
Low growing form of Z. smithii, Diggers Head	<i>Zieria smithii</i>	E2	-	2



Common Name	Scientific Name	BC Act	EPBC Act	Records
Austral Toadflax	<i>Thesium australe</i>	V	V	11
Small-leaved Tamarind	<i>^Diploglottis campbellii</i>	E1,2	E	1
Fine-leaved Tuckeroo	<i>Lepiderema pulchella</i>	V		2
Rusty Plum, Plum Boxwood	<i>Niemeyera whitei</i>	V	-	1903
Moonee Quassia	<i>Quassia sp. Moonee Creek</i>	E1	E	596
<b>Amphibians</b>				
Wallum Froglet	<i>Crinia tinnula</i>	V,P	-	18
Giant Barred Frog	<i>^Mixophyes iteratus</i>	E1,P,2	E	56
Sphagnum Frog	<i>Phyloria sphagnicolus</i>	V,P	V	4
Green-thighed Frog	<i>Litoria brevipalmata</i>	V,P	-	3
<b>Reptiles</b>				
Loggerhead Turtle	<i>Caretta caretta</i>	E1,P	E	5
Green Turtle	<i>Chelonia mydas</i>	V,P	V	194
Hawksbill Turtle	<i>Eretmochelys imbricata</i>	P	V	26
Leatherback Turtle	<i>Dermochelys coriacea</i>	E1,P	E	1
Pale-headed Snake	<i>Hoplocephalus bitorquatus</i>	V,P		1
Stephens' Banded Snake	<i>Hoplocephalus stephensii</i>	V,P	-	16
<b>Birds</b>				
Emu population in the New South Wales North Coast Bioregion and Port Stephens local government area	<i>Dromaius novaehollandiae</i>	E2,P	-	2
Red-tailed Tropicbird	<i>Phaethon rubricauda</i>	V,P	C,J	1
Wompoo Fruit-Dove	<i>Ptilinopus magnificus</i>	V,P	-	129
Rose-crowned Fruit-Dove	<i>Ptilinopus regina</i>	V,P	-	36
Superb Fruit-Dove	<i>Ptilinopus superbus</i>	V,P	-	4
White-throated Needletail	<i>Hirundapus caudacutus</i>	P	V,C,J,K	95
Shy Albatross	<i>Thalassarche cauta</i>	E1,P	E	1
Black-browed Albatross	<i>Thalassarche melanophris</i>	V,P	V	1
Flesh-footed Shearwater	<i>Ardenna carneipes</i>	V,P	J,K	1
Northern Giant-Petrel	<i>Macronectes halli</i>	V,P	V	1
Gould's Petrel	<i>Pterodroma leucoptera leucoptera</i>	V,P	E	1
Black-winged Petrel	<i>Pterodroma nigripennis</i>	V,P	-	15
Providence Petrel	<i>Pterodroma solandri</i>	V,P	-	1
Masked Booby	<i>Sula dactylatra</i>	V,P	J,K	1
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>	E1,P	-	20
Australasian Bittern	<i>Botaurus poiciloptilus</i>	E1,P	E	1
Black Bittern	<i>Ixobrychus flavicollis</i>	V,P	-	9
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	V,P	-	100
Little Eagle	<i>Hieraaetus morphnoides</i>	V,P	-	9
Square-tailed Kite	<i>Lophoictinia isura</i>	V,P,3	-	22
Eastern Osprey	<i>Pandion cristatus</i>	V,P,3	-	138





Common Name	Scientific Name	BC Act	EPBC Act	Records
Brolga	<i>Grus rubicunda</i>	V,P	-	2
Pale-vented Bush-hen	<i>Amaurornis moluccana</i>	V,P	-	1
Beach Stone-curlew	<i>Esacus magnirostris</i>	E4A,P	-	5
Sooty Oystercatcher	<i>Haematopus fuliginosus</i>	V,P	-	89
Pied Oystercatcher	<i>Haematopus longirostris</i>	E1,P	-	79
Eastern Curlew	<i>Numenius madagascariensis</i>	P	CE,C,J,K	9
Sooty Tern	<i>Onychoprion fuscata</i>	V,P	-	10
Little Tern	<i>Sternula albifrons</i>	E1,P	C,J,K	17
Gang-gang Cockatoo	<i>Callocephalon fimbriatum</i>	V,P,3	E	1
Red-tailed Black-Cockatoo (inland subspecies)	<sup>^</sup> <i>Calyptorhynchus banksii samueli</i>	V,P,2	-	2
South-eastern Glossy Black-Cockatoo	<sup>^</sup> <i>Calyptorhynchus lathami lathami</i>	V,P,2	V	173
Coxen's Fig-Parrot	<sup>^</sup> <i>Cyclopsitta diophthalma coxeni</i>	E4A,P,2	E	3
Little Lorikeet	<i>Glossopsitta pusilla</i>	V,P	-	54
Swift Parrot	<i>Lathamus discolor</i>	E1,P	CE	24
Barking Owl	<i>Ninox connivens</i>	V,P,3	-	3
Powerful Owl	<i>Ninox strenua</i>	V,P,3	-	40
Eastern Grass Owl	<i>Tyto longimembris</i>	V,P,3	-	8
Masked Owl	<i>Tyto novaehollandiae</i>	V,P,3	-	30
Sooty Owl	<i>Tyto tenebricosa</i>	V,P,3	-	34
Collared Kingfisher	<i>Todiramphus chloris</i>	V,P	-	8
Brown Treecreeper (eastern subspecies)	<i>Climacteris picumnus victoriae</i>	V,P	-	1
Regent Honeyeater	<sup>^</sup> <i>Anthochaera phrygia</i>	E4A,P,2	CE	7
Painted Honeyeater	<i>Grantiella picta</i>	V,P	V	1
Varied Sittella	<i>Daphoenositta chrysoptera</i>	V,P	-	33
Barred Cuckoo-shrike	<i>Coracina lineata</i>	V,P	-	6
Dusky Woodswallow	<i>Artamus cyanopterus cyanopterus</i>	V,P	-	5
Scarlet Robin	<i>Petroica boodang</i>	V,P	-	4
<b>Mammals</b>				
Spotted-tailed Quoll	<i>Dasyurus maculatus</i>	V,P	E	12
Brush-tailed Phascogale	<i>Phascogale tapoatafa</i>	V,P	-	2
Common Planigale	<i>Planigale maculata</i>	V,P	-	4
Koala	<i>Phascolarctos cinereus</i>	E1,P	E	1086
Eastern Pygmy-possum	<i>Cercartetus nanus</i>	V,P	-	2
Yellow-bellied Glider	<i>Petaurus australis</i>	V,P	V	52
Squirrel Glider	<i>Petaurus norfolcensis</i>	V,P	-	20
Southern Greater Glider	<i>Petauroides volans</i>	E1,P	E	6
Long-nosed Potoroo	<i>Potorous tridactylus</i>	V,P	V	1
Black-striped Wallaby	<i>Macropus dorsalis</i>	E1,P	-	1



Common Name	Scientific Name	BC Act	EPBC Act	Records
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	V,P	V	148
Common Blossom-bat	<i>Syconycteris australis</i>	V,P	-	14
Yellow-bellied Sheath-tail-bat	<i>Saccolaimus flaviventris</i>	V,P	-	3
Eastern Coastal Free-tailed Bat	<i>Micronomus norfolkensis</i>	V,P	-	9
Eastern False Pipistrelle	<i>Falsistrellus tasmaniensis</i>	V,P	-	3
Southern Myotis	<i>Myotis macropus</i>	V,P	-	16
Eastern Long-eared Bat	<i>Nyctophilus bifax</i>	V,P	-	4
Golden-tipped Bat	<i>Phoniscus papuensis</i>	V,P	-	12
Greater Broad-nosed Bat	<i>Scoteanax rueppellii</i>	V,P	-	3
Little Bent-winged Bat	<i>Miniopterus australis</i>	V,P	-	57
Large Bent-winged Bat	<i>Miniopterus orianae oceanensis</i>	V,P	-	15
New Holland Mouse	<i>Pseudomys novaehollandiae</i>	P	V	1
Dugong	<i>Dugong dugon</i>	E1,P	-	1
New Zealand Fur-seal	<i>Arctocephalus forsteri</i>	V,P	-	8
Australian Fur-seal	<i>Arctocephalus pusillus doriferus</i>	V,P	-	4
Southern Right Whale	<i>Eubalaena australis</i>	E1,P	E	2
Blue Whale	<i>Balaenoptera musculus</i>	E1,P	E	1
Sperm Whale	<i>Physeter macrocephalus</i>	V,P	-	1
<b>Insects</b>				
Black Grass-dart Butterfly	<i>Ocybadistes knightorum</i>	E1	-	109
Coastal Petaltail	<i>Petalura litorea</i>	E1	-	1

Key: Critically Endangered (CE), Endangered (E), Vulnerable (V), Migratory (M).

Ecological Community	BC Act	EPBC Act
Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3	-
Coastal Swamp Oak ( <i>Casuarina glauca</i> ) Forest of New South Wales and South East Queensland ecological community	-	E
Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3	-
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	-	CE
Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3	-
Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions	E3	-
Lowland Rainforest of Subtropical Australia	-	CE
Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion	E3	-
Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions	E3	-
Subtropical and Temperate Coastal Saltmarsh	-	V
Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion	E3	-
Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3	-

Ecological Community	BC Act	EPBC Act
Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3	-
Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions	E3	-
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and	E4B	-
White Gum Moist Forest in the NSW North Coast Bioregion	E3	-



**COFFS HARBOUR**

**CITY COUNCIL**



[www.coffsharbour.nsw.gov.au](http://www.coffsharbour.nsw.gov.au)