NSW Public Works

Department of Regional NSW

North Bourke Bridge Restoration

Stage 1 Works

Review of Environmental Factors

Report Number: P-FY20231814-PWO-ENV-RP-001-A0

June 2024

Prepared for:

BOURKE SHIRE COUNCIL

Document Control

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Des Andersen
Environmental Scientist

122 – 132 Mossman Street (Old Teachers College)
Armidale NSW 2350

M: 0448 746 401

E: derryn.andersen@pwa.nsw.gov.au | W: www.publicworks.nsw.gov.au

*Cover Photo: **Southern elevation of North Bourke Bridge from the Mitchell Highway***
*Focus Bridge Engineering, 2024 and **Google Maps, 2022***

Certification

This Review of Environmental Factors (REF) has been prepared by NSW Public Works (a division of the Department of Regional NSW) on behalf of Bourke Shire Council. The REF presents the investigations undertaken into the Proposal to demolish the existing timber bridge approaches of the North Bourke Bridge as part of the Stage 1 bridge restoration works (hereafter referred to as the Proposal).

The Stage 1 restoration works will involve the demolition of the eastern and western bridge approaches. The reconstruction of these approaches and restoration of the existing bridge iron lift and lattice girder support structures will be undertaken at a later date subject to receipt of further grant funding and will be subject to a separate assessment.

Bourke Shire Council is a public authority and determining authority as defined in Division 5.1 of the *Environmental Planning & Assessment Act 1979* (EP&A Act). The Proposal satisfies the definition of an activity under the EP&A Act, and as such BSC must assess and consider the environmental impacts of the Proposal before determining whether to proceed.

The Proposal is permitted without consent pursuant to the *State Environmental Planning Policy (Transport and Infrastructure)2021*. Activities permitted without consent still require Environmental Assessment pursuant to Division 5.1 of the EP&A Act. This REF assesses any potential significant environmental impacts expected as part of the Proposal. Based on the information presented in this REF it is concluded that:

1) The proposed activity is not likely to have a significant impact on the environment and therefore an Environmental Impact Statement is not required.
2) The proposed activity is not likely to significantly affect threatened species, populations, ecological communities, or critical habitat. Therefore, a Species Impact Statement (SIS) / Biodiversity Development Assessment Report (BDAR) is not required.
3) The proposed activity is not likely to affect any Commonwealth land, is not being carried out on Commonwealth land, or significantly affect any matters of national environmental significance.

Subject to implementation of the measures to avoid, minimise or manage environmental impacts listed in this REF, the proposed activity is recommended to proceed.

Author & Qualifications	Des Andersen (MEnvMgt)
Designation	Environmental Scientist
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 Section 170 of the EP&A Regulation, and the information it contains is neither false nor misleading.	
Reviewer & Qualifications	Liz Mathieson (BSc)
Designation	Principal Scientist
Organisation	NSW Public Works, Department of Regional NSW
Signature	

Author & Qualifications	Des Andersen (MEnvMgt)
Date	21/06/2024

Decision Statement

I, DWAYNE WILLOUGHBY, as an authorised person on behalf Bourke Shire Council, have examined and considered the REF for the proposed timber bridge approach demolition works to be undertaken as Stage 1 of the North Bourke Bridge Restoration works, prepared in accordance with section 5.5 of the *Environmental Planning and Assessment Act 1979*.

I have reviewed the contents of the REF and I have gained an understanding of the impacts of the proposed activity. Based on the findings of the REF:

1) The proposed Activity is not likely to have a significant impact on the environment and therefore an Environmental Impact Statement is not required.
2) The proposed Activity will not be carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species, populations or ecological communities, or their habitats or impact biodiversity values, meaning a Species Impact Statement and/or Biodiversity Development Assessment Report is not required.
3) The proposed Activity is not likely to affect any Commonwealth land, is not being carried out on Commonwealth land, or significantly affect any matters of national environmental significance.
4) The proposed Activity may proceed subject to the implementation of the mitigation measures identified in the REF.

Authorised Representative	DWAYNE WILLOUGHBY
Designation	MANAGER ENVIRONMENTAL SERVICES
Organisation	Bourke Shire Council
Signature	
Date	23/7/24

Executive Summary

This REF has been prepared by NSW Public Works, Department of Regional NSW on behalf of Bourke Shire Council. The REF presents the investigations undertaken into the environmental impacts that may result from a Proposal to demolish the existing North Bourke Bridge timber approaches prior to future reconstruction of the approaches and bridge restoration works.

The REF assesses the Stage 1 for the of the North Bourke Bridge Restoration Project (the Project). The Stage 1 works will include the demolition of the existing timber bridge approaches (the Proposal). Future stages of the Project, which will be subject to a separate assessment, will comprise the reconstruction of the bridge approaches and restoration works to the existing iron lift and lattice girder bridge spans and the bridge deck (carriageway).

Environmental Planning

The applicable environmental planning instrument for the Proposal is *State Environmental Planning Policy (Transport and Infrastructure)* 2021 (SEPP (Transport and Infrastructure)2021).

Section 2.109(1) of SEPP (Transport and Infrastructure) 2021 allows development for the purpose of road infrastructure facilities to be carried out without consent by a public authority on any land. Therefore, the proposed works are permissible without development consent under the SEPP (Transport and Infrastructure) 2021.

Works permitted without consent require an assessment under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). A Review of Environmental Factors (REF) is required for the Proposal and Bourke Shire Council will be the determining authority.

Impacts and Mitigation

A number of short-term construction impacts are predicted, associated predominantly with amenity, dust, traffic, noise and waste. It has been assessed that these impacts can be either managed or avoided altogether by implementing appropriate mitigation measures. The impacts associated with the construction works will be short term and can be managed so as not to result in adverse environmental impacts. No adverse operational impacts are anticipated as a result of the works.

The Proposal will not significantly affect the historic heritage value of the bridge, any Aboriginal heritage sites, listed threatened species, fauna populations or communities provided appropriate mitigation measures are implemented.

Based on the outcomes of the assessment presented in this REF, it is concluded that by adopting the identified safeguards it is unlikely that the Proposal will result in significant adverse environmental impacts.

Contents

LIST OF FIGURES

LIST OF TABLES

Abbreviations and Notation

Item	Description
ADDA	Aboriginal Due Diligence Assessment
AHIMS	Aboriginal Heritage Information Management System
BC Act	*Biodiversity Conservation Act 2016*
BSC	Bourke Shire Council
DEMP	Demolition Environmental Management Plan
DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
DPHI	NSW Department of Planning, Housing and Infrastructure
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2021*
EPA	Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ESCP	Erosion and Sediment Control Plan
LEP	Local Environmental Plan
LGA	Local Government Area
NPW Act	*National Parks and Wildlife Act 1974*
POEO Act	*Protection of the Environment Operations Act 1997*
REF	Review of Environmental Factors
SEPP	State Environmental Planning Policy
TCP	Traffic Control Plan
WMP	Waste Management Plan

1 Introduction

This section provides an overview of the Proposal.

1.1 Background and Proposal Description

The historic North Bourke Bridge (the bridge), located approximately 5 km north of Bourke, was constructed in 1883 and is the oldest moveable span bridge in Australia and the oldest remaining example in NSW. The bridge incorporates a wrought iron lifting span flanked by two wrought iron lattice girder spans and timber beam approaches.

The bridge was decommissioned in 1997 after the completion of the new 'gateway bridge' and has since fallen into a state of disrepair. After closure of the North Bourke bridge to vehicular traffic, ownership and management of the NB bridge was subsequently transferred from Transport for NSW (TfNSW) to Bourke Shire Council (BSC).

BSC has identified the restoration of the bridge as a priority within the Bourke Shire Community Strategic Plan, with the vision to restore both the wrought iron lift bridge section and also renew the entire timber structure that comprise the road approaches to the bridge (the Project). Upon completion of the restoration, the bridge will be a destination for visitors through pedestrian / cyclist accessway adaptive reuse and will also be able to be used by emergency service vehicles in the event of the closure of the new road bridge located to the south.

The first stage of the North Bourke Bridge restoration works comprises the demolition of the timber bridge approach structures on the eastern and western sides of the iron bridge lift and span structure (the Proposal).

Subsequent stages of bridge restoration works, which are subject to future grant funding, will involve the reconstruction of the demolished bridge approaches, restoration of the existing bridge support structure including the iron lift and lattice girder bridge spans and replacement of the timber and asphalt carriageway (deck). These future works will from part of a separate impact assessment and are not assessed in his REF.

1.2 Proposal Objective

The objective of the Proposal is to ultimately restore the existing heritage listed vehicular bridge to facilitate the adaptive reuse of the redundant bridge as a shared pedestrian and bicycle bridge.

1.3 Site Description

North Bourke is located in the Far North-West region of New South Wales, approximately 750km north-west of Sydney. The Proposal site is within the Bourke Shire Local Government Area.

The North Bourke Bridge spans the Darling-Baaka River and was formerly a vehicular road bridge crossing which formed part of the Mitchell Highway (also identified as Tancred Drive). The bridge is located on the south-eastern edge of the North Bourke township.

The bridge is constructed within Lot 7300 DP 1173913 on the western bridge approach, the bridge span foundations are within Darling-Baaka River waterway, and the Mitchell Highway road reserve on the eastern bridge approach. The Proposal works site consists of the sloping banks and surrounding land on either side of the Darling-Baaka River, comprising Crown Reserve on the western side (Lot 7300 DP 1173913) and Crown Reserve (North Bourke Bridge Reserve – Lot 113 DP 751867) and classified road reserve (Mitchell Highway) on the eastern side of the bridge. The replacement Mitchell Highway 'Gateway Bridge' crossing of the Darling-Baaka River is located approximately 60 m to the south of the bridge.

A location map and aerial view of the Proposal site are provided in Figure 1-1: North Bourke Bridge locationand Figure 1-2, and photos of the site in Figure 1-3 to Figure 1-6.

1.4 Land Ownership

The land parcels adjoining the bridge and ownership/management where the Proposal works will take place are detailed in Table 1-1 below.

Table 1-1: Land ownership

Works Location	Land Parcel (Lot)	Land Owner/Manager
Western Bridge Approach	Crown Reserve, Bogan Street, North Bourke (Lot 7300 DP 1173913)	Department of Planning, Housing and Infrastructure (DPHI) – Crown Lands/The Minister (Note: no crown land manager has been appointed). (Reserve #R1003375: Bridge)
Eastern Bridge Approach - North of Bridge	Crown Reserve North Bourke Bridge Reserve – (Lot 113 DP 751867)	DPHI – Crown Lands /Bourke Shire Council (North Bourke Boat Ramp, Reserve # R78045: Public Reserve)
Eastern Bridge Approach - South of Bridge	Road Reserve (Mitchell Highway)	Transport for NSW (TfNSW) (Classified Road State Hwy # 7 – Mitchell Highway)

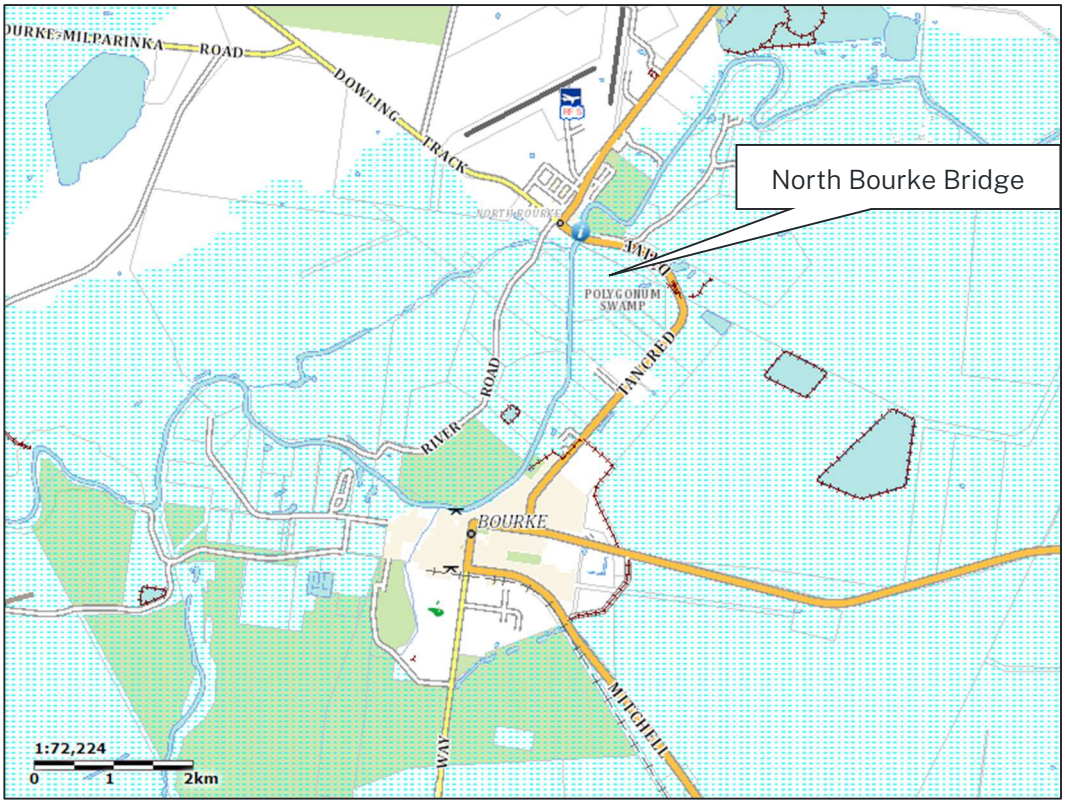

Figure 1-1: North Bourke Bridge location
Source: SIX Maps, 2024

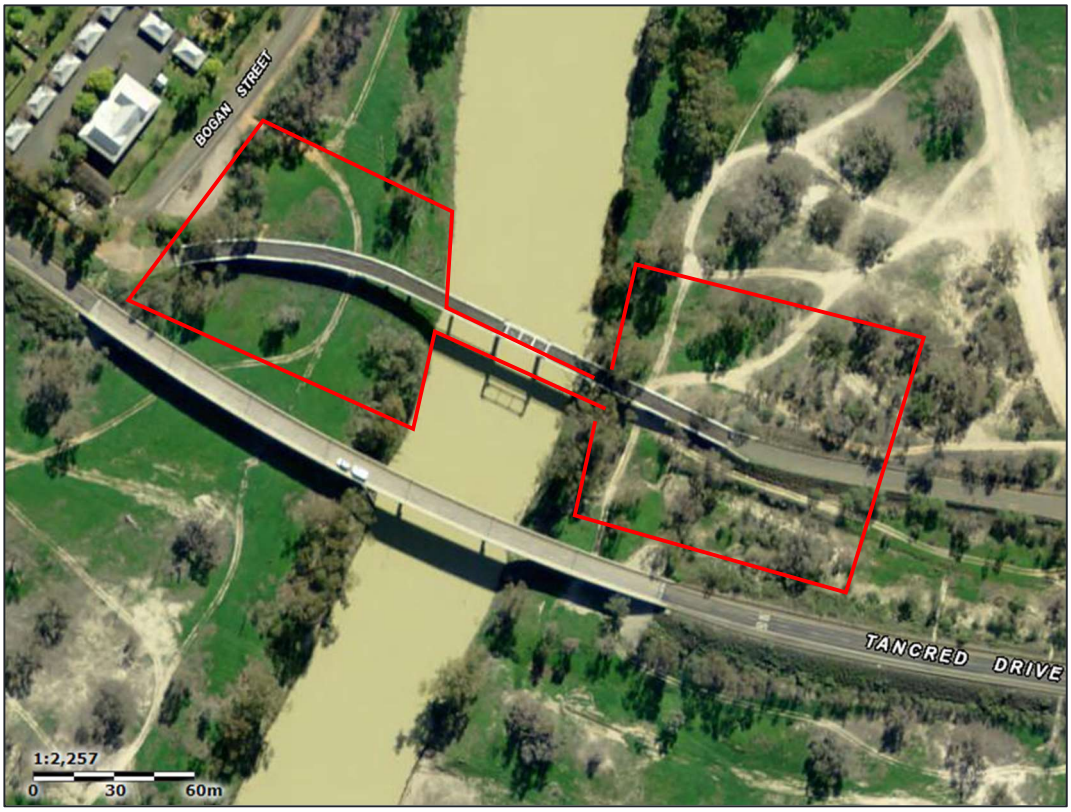

Figure 1-2: Aerial view of the Proposal site and bridge approach works locations
Source: SIX Maps, 2024

Figure 1-3: General view of the North Bourke Bridge, looking south.
Source: Focus Bridge Engineering (FBE), 2024

Figure 1-4: View of North Bourke Bridge iron lift and lattice girder spans, looking north.
Source: FBE, 2024

Figure 1-5: View of North Bourke Bridge timber approach girder span, looking south.
Source: FBE, 2024

Figure 1-6: North Bourke Bridge Western Approach
Source: FBE 2024

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2 Statutory Planning Framework

This section presents the statutory planning and strategic policy context for the Proposal.

2.1 Environmental Planning Instruments

2.1.1 Bourke Local Environmental Plan 2012

The Proposal will traverse land zoned RU1 Primary Production and W1 Natural Waterways under the *Bourke Local Environmental Plan* 2012 (LEP) (see Figure 2-1).

Bridges are not a defined land use in the *Bourke Local Environmental Plan* 2012. The closest type of specified development will be a 'road', which are permitted without consent in the two land use zones under the LEP.

However, *State Environmental Planning Policy (Transport and Infrastructure)2021* is the relevant environmental planning instrument for the Proposal and is discussed in Section 2.1.2. Section 5.12(1) of the Bourke LEP 2012 states that the LEP does not restrict or prohibit, or enable the restriction or prohibition of, the carrying out of any development, by or on behalf of a public authority, that is permitted to be carried out with or without development consent, or that is exempt development, under *State Environmental Planning Policy (Transport and Infrastructure)2021, Chapter 2*.

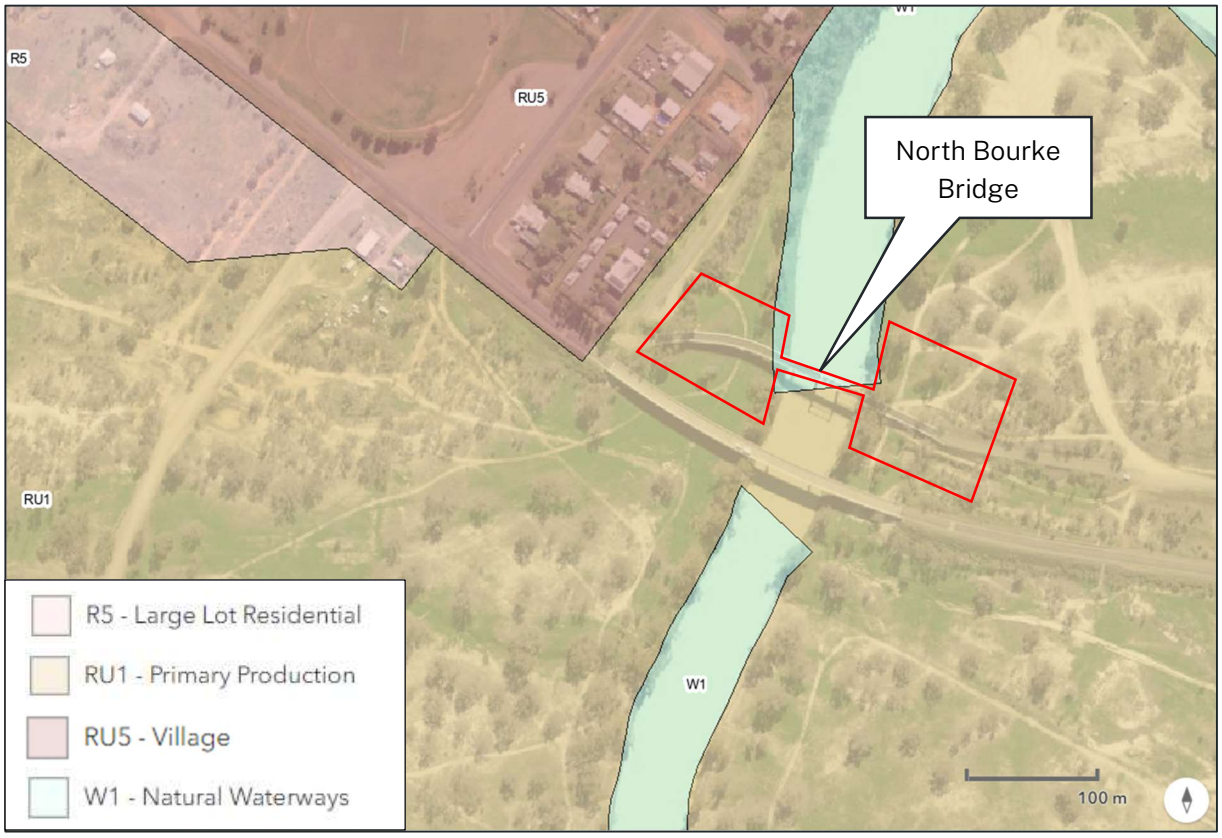

Figure 2-1: Bourke LEP 2012 Zoning Map Extract (Proposal site outlined in red)
Source: NSW Planning Portal ePlanning Spatial Viewer, accessed March 2024

Flood Planning Area

The Proposal site is located on land identified within a flood planning area (refer to Figure 2-2). Under Section 5.21 of the Bourke LEP 2012, development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development:

(a) is compatible with the flood function and behaviour of the land, and

(b) will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and

(c) will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and

(d) incorporates appropriate measures to manage risk to life in the event of a flood, and

(e) will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of riverbanks or watercourses.

Development consent is not required for the Proposal and therefore these provisions do not apply. However, consideration of flooding in relation to the Proposal is discussed in Section 4.1.2.

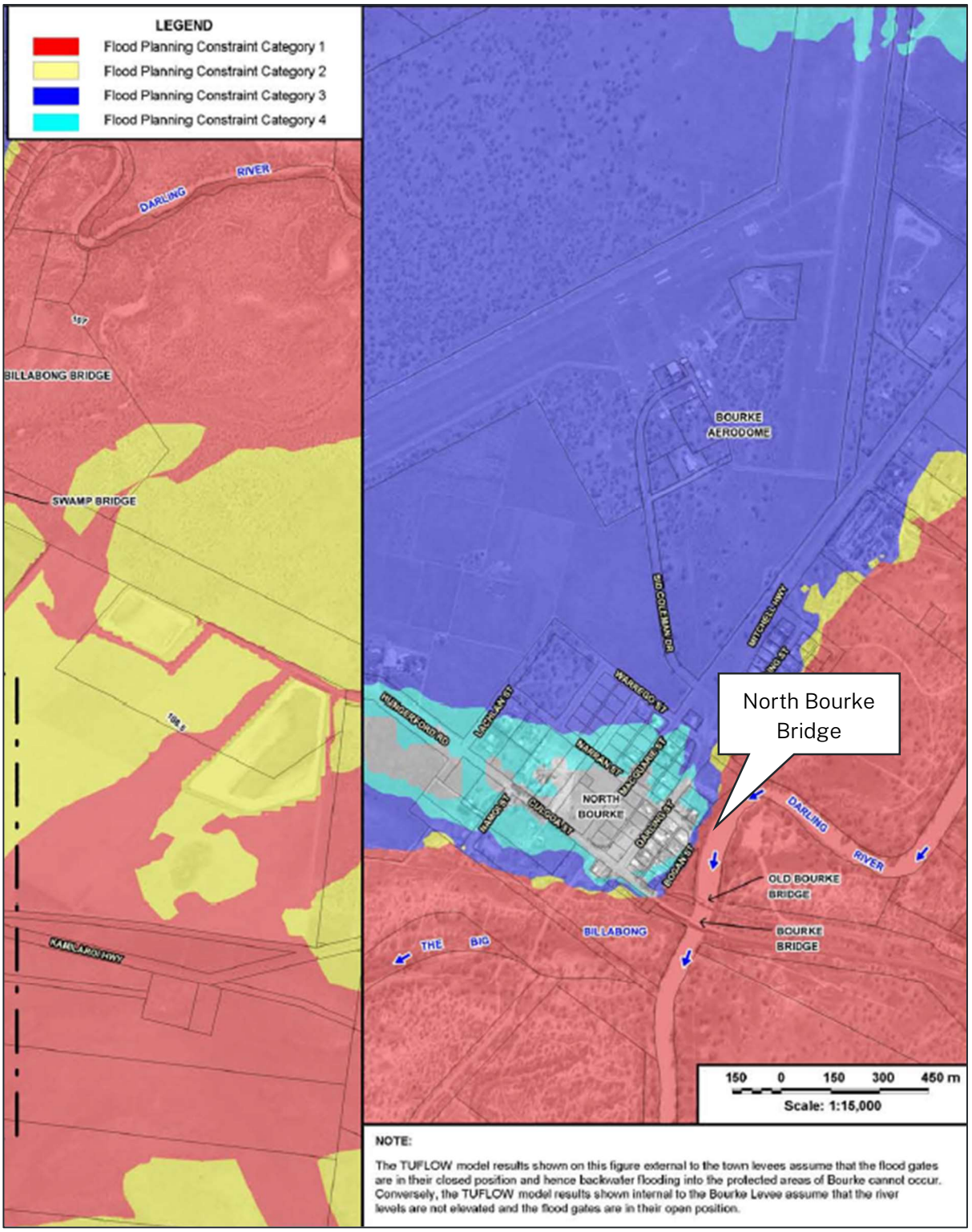

Figure 2-2: Bourke Floodplain Risk Management Plan Map Extract
Source: Bourke Shire Council, 2022

Heritage

Heritage Conservation is subject to the provisions of Section 5.10 of the Bourke LEP 2012. The objectives of this clause are as follows:

- to conserve the environmental heritage of Bourke,
- to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,
- to conserve archaeological sites,
- to conserve Aboriginal objects and Aboriginal places of heritage significance.

The Proposal site is subject to a heritage listing under the Bourke LEP 2012, as shown in Figure 2-3. Accordingly, a Statement of Heritage Impact (SOHI) has been prepared for the Proposal. Discussion of heritage impacts associated with the Proposal and outcomes of the SOHI is discussed in Section 4.1.9.

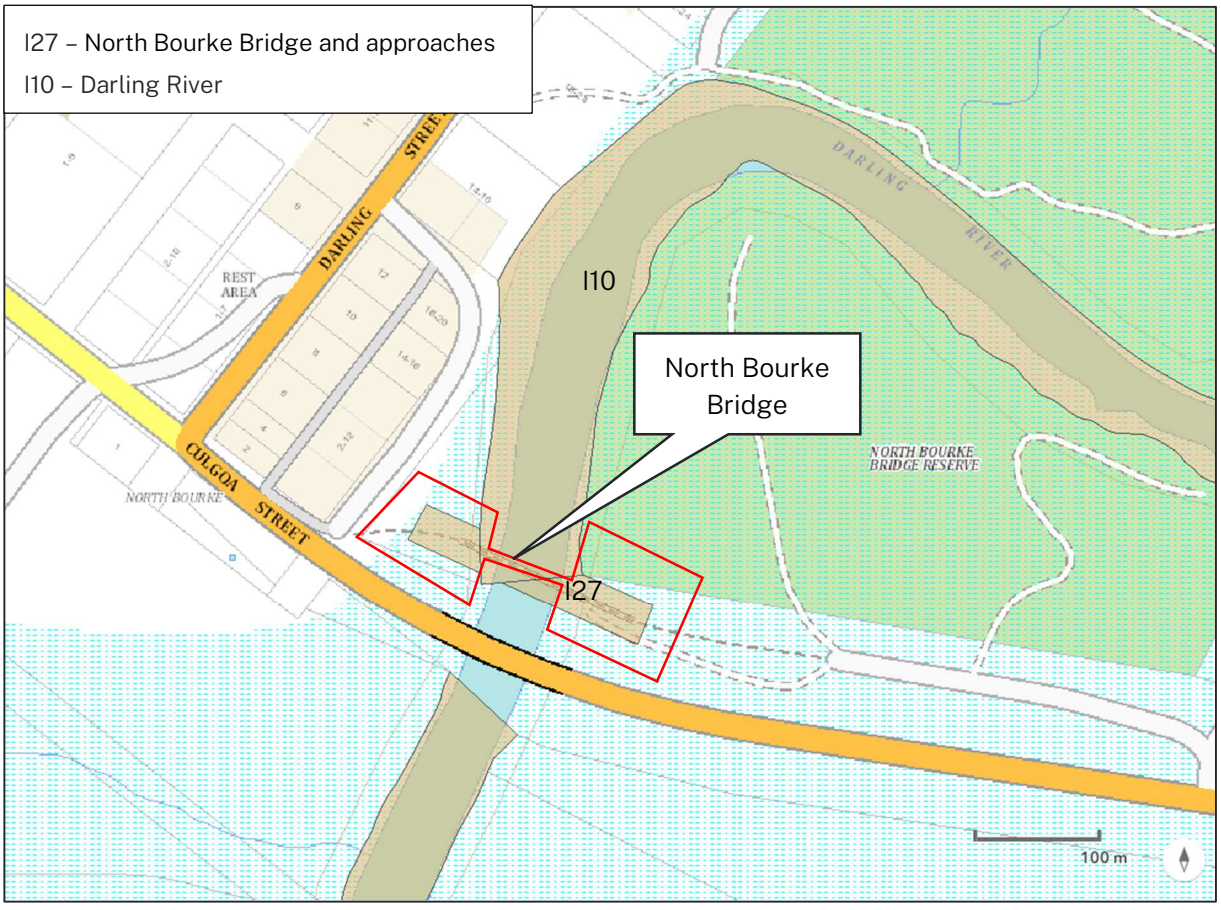

Figure 2-3: Bourke LEP 2012 Heritage Map Extract (Proposal site is outlined in red)
Source: NSW Planning Portal ePlanning Spatial Viewer, accessed March 2024

Biodiversity Values

The Darling-Baaka River is mapped as containing biodiversity values (see Figure 2-4). Tree removal and ground cover clearing and disturbance will be required within the land adjacent to the river to facilitate the works. A Biodiversity Assessment and Bat Survey has been undertaken for the Proposal. Outcomes of these assessments is discussed in Section 4.1.7 and copies of the assessments are provided in Appendix B.

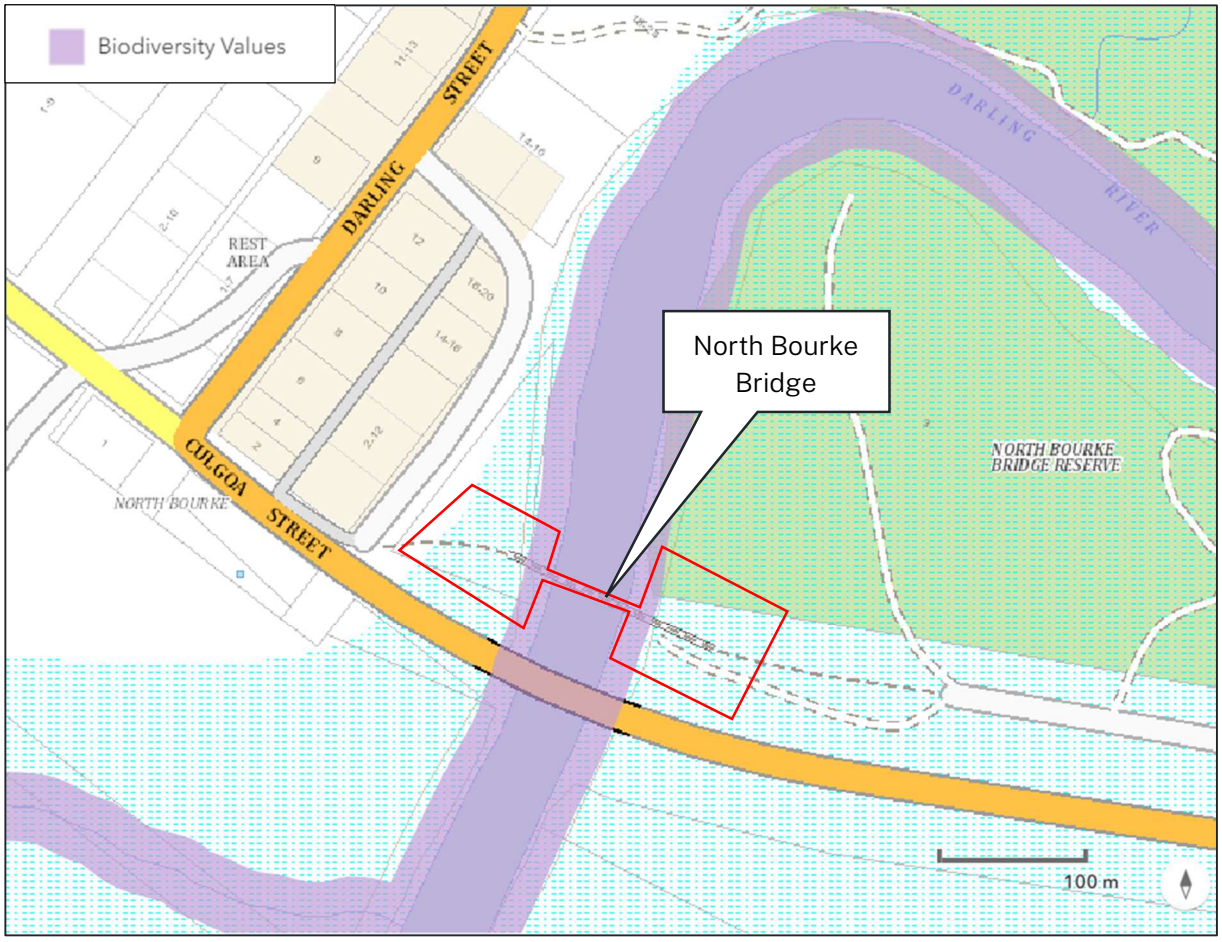

Figure 2-4: Biodiversity Values Mapping (Proposal site outlined in red)
Source: NSW Planning Portal ePlanning Spatial Viewer, accessed March 2024

Bushfire

The eastern area of the Proposal site is identified as bushfire prone land on the Bushfire Prone Land Map, certified by the NSW Rural Fire Services (Vegetation Category 3 and Vegetation Buffer) (see Figure 2-5). The bushfire hazard associated with the Proposal is discussed in Section 4.1.10.

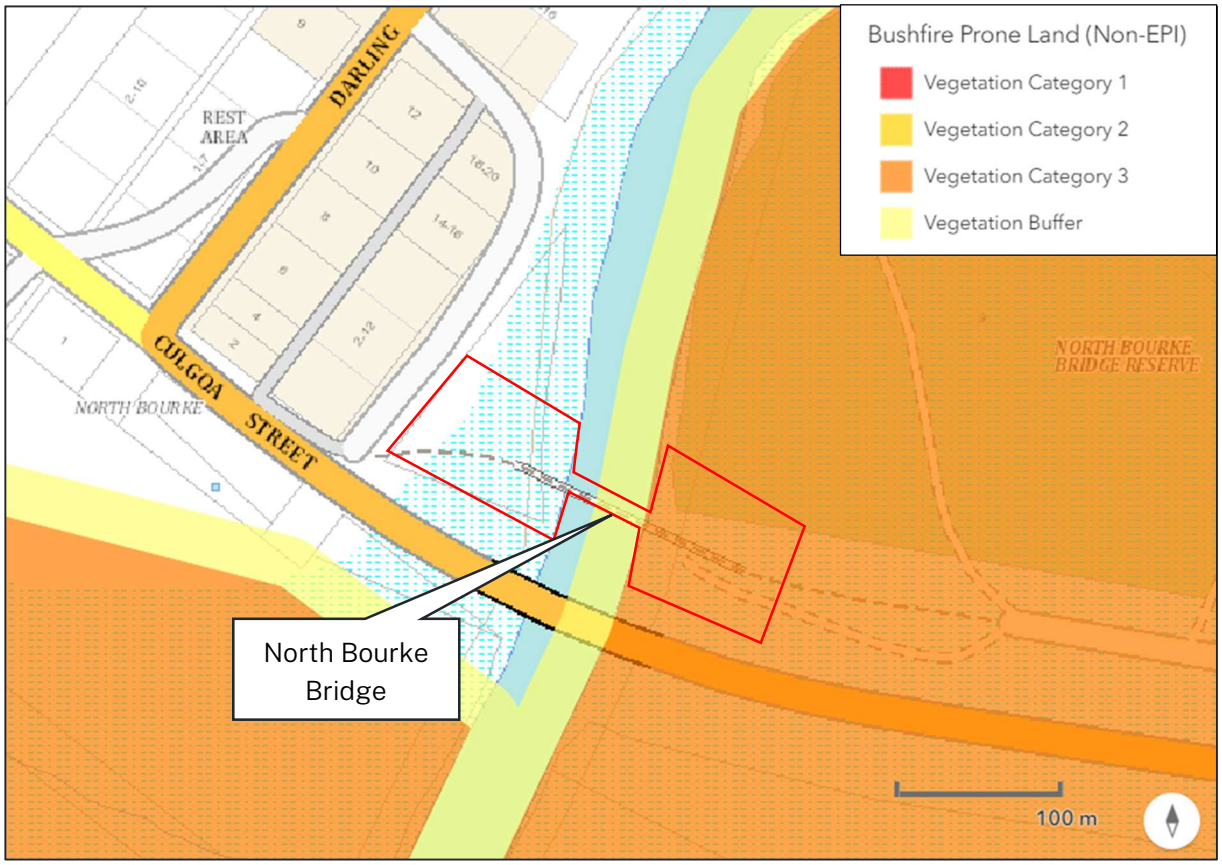

Figure 2-5: Bushfire Prone Land Mapping (Proposal site outlined in red)
Source: NSW Planning Portal ePlanning Spatial Viewer, accessed March 2024

2.1.2 State Environmental Planning Policy (Transport and Infrastructure)2021

The applicable environmental planning instrument for the Proposal is SEPP (Transport and Infrastructure) 2021.

Under Section 2.108 of SEPP (Transport and Infrastructure) 2021, 'road infrastructure facilities' are defined to include 'vehicle or pedestrian bridges'. Section 2.109(1) of SEPP (Transport and Infrastructure)2021 allows development for the purpose of a road or road infrastructure facilities to be carried out without consent by a public authority on any land. Under Section 2.109(3), development in connection with a road or road infrastructure facility includes construction works (whether or not in a heritage conservation area) including temporary roads used solely during construction and alterations and additions to an existing road.

As the Proposal meets the definition of a road infrastructure facility, involves construction works consisting of reconstruction and strengthening of the bridge and is being undertaken by a public authority, the SEPP removes the need for development consent and the works can be assessed under Division 5.1, Part 5 of the E*nvironmental Planning and Assessment Act 1979* (EP&A Act). BSC will be the proponent and the determining authority.

2.1.3 State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 3 and Chapter 4 of *SEPP (Biodiversity and Conservation) 2021* applies to Part 4 assessments which require development consent. These chapters of the SEPP aim to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas by requiring plans of management, identification of core koala habitat and protection zones prior to development consent being issued. Schedule 2 of the SEPP lists LGAs to which these Chapters apply and includes the Bourke Shire LGA.

As the Proposal is being assessed under Division 5.1 of the EP&A Act and does not require development consent, the provisions of these chapters of the SEPP do not apply. However, the provisions relating to koala habitat protection have still been considered as best practice.

The Proposal site was assessed as providing potential habitat for the koala. A Biodiversity Assessment Report (GeoLINK 2024) indicated no evidence of Koala usage was detected during opportunistic scat searches below mature trees. Primary koala feed trees are abundant in the surrounding environment.

2.2 Relevant Legislation

2.2.1 Environmental Planning and Assessment Act 1979

The applicable environmental planning instrument for the proposed activity is SEPP (Transport and Infrastructure)2021 (refer to Section 2.1.2) which removes the requirement to obtain development consent. Therefore, the Proposal has been assessed pursuant to Division 5.1 of the EP&A Act.

This REF has been prepared in accordance with Sections 5.5 and 5.7 of the EP&A Act, which requires that the proponent take into account to the fullest extent possible all matters affecting or likely to affect the environment due to the proposed activity. Consideration of the factors listed under Section 171 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) has been used to assist in assessing the significance of the Proposal, and is provided in Appendix A of this REF.

Ecologically Sustainable Development Principle

The encouragement of ecologically sustainable development (ESD) is one of the objects of the EP&A Act. The principles of ESD are:

The reasons justifying the carrying out of the development or activity in the manner proposed, having regard to biophysical, economic and social considerations, including the following principles of ecologically sustainable development:

(a) the precautionary principle, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In the application of the precautionary principle, public and private decisions should be guided by:

i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and

ii) an assessment of the risk-weighted consequences of various options,

(b) inter-generational equity, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,

(c) conservation of biological diversity and ecological integrity, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,

(d) improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services, such as:

i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,

ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,

iii) environmental goals, having been established, should be pursued in the most cost-effective way, by establishing incentive structures, including market mechanisms that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

The Proposal is consistent with these ESD principles. Environmental safeguards have been proposed to be implemented during demolition works to prevent long term and irreversible environmental degradation in accordance with the precautionary principle and inter-generational integrity.

2.2.2 Heritage Act 1977

The *Heritage Act 1977* protects and aims to conserve the environmental heritage of New South Wales. Environmental heritage is broadly defined under Section 4 of the *Heritage Act 1977* as consisting of "those places, buildings, works, relics, moveable objects, and precincts, of State or local heritage significance" (Heritage Branch DoP 2009:4). Aboriginal places or objects that are recognised as having high cultural value (potentially of local and State significance) can also be listed on the State Heritage Register and protected under the provisions of the *Heritage Act 1977.*

The North Bourke Bridge and approaches and the Darling River are listed local heritage items under the Bourke LEP 2012 (see Figure 2-3). Neither the bridge nor waterway are listed as State heritage items under the *Heritage Act 1977*. A SOHI has been prepared for the Proposal.

2.2.3 National Parks and Wildlife Act 1974

The National Parks and Wildlife Act 1974 (NP&W Act) provides for the protection of Aboriginal heritage values, national parks and ecological values. It is an offence to harm Aboriginal objects, places or sites without permission.

The *National Parks and Wildlife Act 1974* (NPW Act) provides for the statutory protection of Aboriginal cultural heritage places, objects and features. One of the objects of the NPW Act is the conservation of places, objects and features of significance to Aboriginal people (Section 2A). The NPW Act provides for the management of both Aboriginal Objects and Aboriginal Places and is administrated by Heritage NSW.

The Proposal site is not located on or adjacent to land reserved under the NP&W Act. An Aboriginal Due Diligence Assessment (ADDA) was carried out by OzArk Environment and Heritage (2024) (refer to Section 4.1.8 and report in Appendix C). The ADDA indicated that the no Aboriginal sites were recorded in the Proposal area and concluded that no further archaeological assessments or Aboriginal Heritage Impact Permit (AHIP) is required and that the Proposal can proceed with caution subject to the implementation of the ADDA recommendations.

2.2.4 Crown Land Management Act 2016

The aim of the *Crown Land Management Act* 2016 (CLM Act) is to reduce complexity and duplication with regards to the management of Crown land.

Section 9.2 of the CLM Act relates to the unauthorised use of Crown land, and states that it is an offence to erect a structure, clear or dig up Crown land without a lawful authority.

Section 5.21 of the CLM Act allows for the granting of licences to occupy and use Crown land for a particular purpose.

The western bridge approach and the land to the north of the eastern bridge approach are mapped as Crown Land. The Darling-Baaka River is also mapped as a Crown waterway however further investigations have confirmed that the site has 'Ad Medium Filum Aquae' which means that the land ownership extends to the centre thread of the creek and any interest by the Crown is nullified (as per correspondence from DPE Crown Lands – see Appendix D). A licence to occupy and use Crown Land on the western and eastern bridge approaches will be required to facilitate the Proposal.

2.2.5 Roads Act 1993

Under Section 138 of the *Roads Act 1993* (Roads Act) a person must not erect a structure or carry out a work in, on or over a public road, otherwise than with the consent of the appropriate roads authority. Schedule 2, Section 5(1) states that a public authority is not required to obtain a roads authority's consent under Section 138 to exercise the public authority's functions in, on or over an unclassified road other than a Crown road.

The Mitchell Highway is a classified road and works for the eastern approach will be required within the Mitchell Highway road reserve. Accordingly, a road occupancy licence may be required under Section 138 of Roads Act for works within TfNSW road reserve. In addition, any works undertaken by Council within the Crown road reserve will require notice to the DPHI - Crown Lands under Section 175 of the Roads Act.

2.2.6 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) protects species of threatened flora and fauna, endangered populations and endangered ecological communities and their habitats in NSW. It also lists Key Threatening Process that adversely affects threatened species, populations or ecological communities or that may cause species, populations or ecological communities that are not threatened to become threatened.

The Proposal will require clearing of up to:

- 0.4 ha of PCT 40 - Coolabah open woodland wetland with chenopod/ grassy ground cover on grey and brown clay floodplains – Moderate condition.
- 0.8 ha of PCT 36 - River Red Gum tall to very tall open forest/ woodland wetland on rivers on floodplains mainly in the Darling Riverine Plains Bioregion – Moderate condition.
- 0.3 ha of PCT 36 - River Red Gum tall to very tall open forest/ woodland wetland on rivers on floodplains mainly in the Darling Riverine Plains Bioregion – Low condition (derived grassland).

While the Darling-Baaka River is mapped as Biodiversity Value ('BV') land, there is no statutory requirement to prepare a BDAR for the Proposal under part 5 of the EP&A Act where BV land is impacted. However, as a public authority, BSC has the opportunity to 'opt

in' to the BOS and prepare a BDAR if they so choose. As the Biodiversity Assessment indicated that the Proposal will not have a significant impact on threatened flora and fauna species and their habitat, further consideration in the form of a BDAR and/or Species Impact Statement is not required for the Proposal (refer to Section 4.1.7 and Appendix A).

2.2.7 Biosecurity Act 2015

The *Biosecurity Act 2015* guides the management of weeds at the regional level throughout NSW. Under the Act, all plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant who knows or ought to know of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable. Individual land holders and managers are required under the Act to control priority weeds for their area according to the relevant biosecurity toolset.

No priority weeds or Weeds of National Significance (WoNS) were identified at the site. Large infections of Noogoora Burr (Xanthium occidentale) occur throughout the site and will be managed along with other exotic species at the site under the general biosecurity duty.

2.2.8 Fisheries Management Act 1994

The objects of the *Fisheries Management Act 1994* (FM Act) are to conserve, develop and share the fishery resources of the State for the benefit of present and future generations. In particular, the objects of this Act include:

To conserve fish stocks and key fish habitats, and

To conserve threatened species, populations and ecological communities of fish and marine vegetation, and

To promote ecologically sustainable development, including the conservation of biological diversity.

The Act includes schedules of threatened aquatic species, populations and ecological communities, which must be considered in accordance with Section 5A of the EP&A Act.

Section 198A of the FM Act defines dredging works as:

(a) *any work that involves excavating water land, or*

(b) any work that involves moving material on water land or removing material from water land that is prescribed by the regulations as being dredging work to which this Division applies.

Reclamation works mean any work that involves:

(a) using any material (such as sand, soil, silt, gravel, concrete, oyster shells, tyres, timber or rocks) to fill in or reclaim water land, or

(b) depositing any such material on water land for the purpose of constructing anything over water land (such as a bridge), or

(c) draining water from water land for the purpose of its reclamation.

The Proposal works will not enter into the waterway and will not involve dredging and reclamation works in waterland. Therefore, a permit under Part 7, Division 3, Section 200 of the FM Act will not be required for the Proposal.

2.2.9 Rural Fires Act 1997

The Proposal traverses land identified as bushfire prone (Vegetation Category 3 and Vegetation Buffer) as identified on the Bushfire Prone Land Map, certified by the NSW Rural Fire Service (NSW RFS) (see Figure 2-5).

Section 100B of the *Rural Fires Act* 1997 requires NSW RFS approval for development on bush fire prone land for a special fire protection purpose. The Proposal is not categorised as a special fire protection purpose and therefore, approval from the NSW RFS is not required for the Proposal.

Nevertheless, bushfire risks at the site will be considered during the works outlined under the Proposal (refer to Section 4.1.10).

2.2.10 Water Management Act 2000

The objects of the *Water Management Act 2000* (WM Act) are to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations.

Section 91E(1) of the WM Act states that a person must not carry out a controlled activity in, on or under waterfront land otherwise than in accordance with a controlled activity approval.

A controlled activity is defined under the WM Act as;

- The erection of a building or the carrying out of a work (within the meaning of the EP&A Act 1979), or
- The removal of material (whether or not extractive material) or vegetation from land, whether by way of excavation or otherwise, or
- The deposition of material (whether or not extractive material) on land, whether by way of landfill operations or otherwise, or
- The carrying out of any other activity that affects the quantity or flow of water in a watersource.

However, Section 38 of the *Water Management (General) Regulation 2011* states that public authorities (including local councils) are exempt from section 91E(1) of the Act in relation to all controlled activities that they carry out in, on or under waterfront land. Therefore, as the Proposal will be undertaken by a Public Authority, a controlled activity approval is not required for the Proposal.

Section 91(F) of the WM Act states that an aquifer interference activity cannot be carried out without, or otherwise than as authorised by, an aquifer interference approval. Should groundwater be encountered and dewatering is required during work activity (highly unlikely), consultation with the DCCEEW - Water to confirm whether an aquifer interference approval or a water supply works approval (if groundwater is to be pumped) are required for the works.

2.2.11 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) regulates air, noise, land and water pollution. The Environment Protection Authority (EPA) is generally responsible for implementing the POEO Act and will be the appropriate regulatory authority for the Proposal.

The Proposal does not constitute a scheduled activity listed under Schedule 1 of the POEO Act and therefore an environment protection licence is not required. Furthermore, as management measures will be implemented to prevent water pollution, it is considered unlikely that a licence will be required under Section 120 of the POEO Act for the pollution of waters.

Other relevant provisions of the POEO Act that the Proposal will need to comply with include:

Section 115 – It is an offence to dispose of waste in a manner that harms or is likely to harm the environment; and

Section 116 – It is an offence to cause any substance to leak, spill or otherwise escape (whether from a container or not) in a manner that harms or is likely to harm the environment.

BSC and its contractors will comply with POEO Act, including the requirement to notify EPA under Section 148 if a pollution event occurs that causes or threatens material harm to the environment.

2.2.12 Protection of the Environment Operations (Waste) Regulation 2014

The *Protection of the Environment Operations (Waste) Regulation 2014* sets out the provisions with regards to non-licensed waste activities and non-licensed waste transporting, in relation to the way in which waste must be stored, transported, and the reporting and record-keeping requirements. The proposed works will be undertaken to be consistent with the requirements of this regulation.

The classification, management, transportation and disposal of waste from the Proposal works is to be undertaken in accordance with the relevant provisions of the POEO Act and the *Protection of the Environment Operations (Waste) Regulation 2014* (POEO (Waste) Reg) and *Waste Classification Guidelines Part 1: Classifying Waste* (EPA, 2014) *and Addendum* (EPA, 2016). It is an offence to transport waste to a place that cannot lawfully receive that waste, or cause or permit waste to be so transported (under section 143 of the POEO Act).

2.2.13 Work Health and Safety Act 2011 and Regulation

Demolition works for the eastern and western approaches to the bridge are required to comply with the relevant provisions of the *Work Health and Safety Act 2011* (WHS Act) and the *Work Health and Safety Regulation 2017* (WHS Reg), for the protection of the safety and health of workers and the public.

As part of the Act, the safety of on-site workers is of paramount importance. The Demolition Environmental Management Plan (DEMP) (section **Error! Reference source not found.**) outlines safety requirements and the enforcement of legislation including:

WHS Regulation clause 34 - Duty to identify hazards

WHS Regulation clause 35 - Managing risks to health and safety

WHS Regulation clause 36 - Hierarchy of control measures

WHS Regulation clause 37 - Maintenance of control measures

WHS Regulation clause 38 - Review of control measures

WHS Regulation clause 297- Management of risks to health and safety

2.3 Commonwealth Legislation

2.3.1 Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides for Commonwealth involvement in development assessment and approval in circumstances where there exist 'matters of national environmental significance'. Matters of National Environmental Significance include:

World heritage properties;

National heritage places;

Wetlands of international importance;

Nationally threatened species and ecological communities;

Migratory species;

Commonwealth marine areas;

The Great Barrier Reef Marine Park;

Nuclear actions (including uranium mining); and

A water resource, in relation to coal seam gas development and large coal mining development.

The Biodiversity Assessment (GeoLINK, 2024) noted that PCT 40 (Moderate condition), recorded within the Activity site, was considered to meet the final determination of one

EPBC Act listed TEC – Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregion' listed as Endangered under the EPBC Act. The site investigation also notes that the Proposal site provides potential habitat for 12 fauna species listed under EPBC Act.

An Assessment of Significance was prepared for the Threatened Species and Ecological Communities likely to occur within the Proposal site and is included in Appendix C. Mitigation measures for likely impacts on the EPBC listed communities and their attributes are discussed in section 5.2.7

2.3.2 Native Title Act 1993

The *Native Title Act* 1993 sets up processes to determine where native title exists, how future activities impacting upon native title may be undertaken, and to provide compensation where native title is impaired or extinguished. The Act gives Indigenous Australians who hold native title rights and interests or who have made a native title claim, the right to be consulted and, in some cases, to participate in decisions about activities proposed to be undertaken on the land.

A search of the National Native Title Register found no Native Title claims or determinations which include the Proposal area.

2.4 Relevant Policies, Guidelines and Standards

The following policies and guidelines are of relevance to the Proposal:

- Code Of Practice - Demolition Work. (SafeWork NSW, 2019).
- Australian Standard AS2601-2001: The Demolition of structures (Standards Australia, 2001).
- Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014) and Addendum (2016).
- Guidelines for Controlled Activities on Waterfront Land – Guidelines for riparian corridors works on waterfront land (NOW, 2012);
- Interim Construction Noise Guidelines (DECC, 2009);
- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW, 2010a);

2.4.1 Summary of Approvals

The approvals required to undertake the Proposal are listed in Table 2-1.

Table 2-1: Required Approvals

Approval Authority	Approval/ Licence/ Permit	Reference
Bourke Shire Council	Determination of the activity	Part 5 of the EP&A Act
TfNSW	Road occupancy licence	Section 138 of the Roads Act
DPHI – Crown Lands	Notification of works within Crown road reserve (if required)	Section 175 of the Roads Act
	Crown Lands licence will be required for Lot 7300 DP 1173913, Lot 113 DP 751867.	Section 5.21 of the CLM Act
SafeWork NSW	Notification of demolition works	Section 142 of the WHS Regulation 2017
	License to carry out high risk work	Section 81 of the WHS Regulation 2017

2.5 Consultation

Statutory Consultation

Chapter 2, Part 2, Division 1 of the SEPP (Transport and Infrastructure)2021 specifies consultation requirements for development permitted without consent under the SEPP, including consultation with Council and other public authorities. As Bourke Shire Council is the proponent of the activity, consultation under Sections 2.10, 2.11, 2.12 and 2.14 is not required as per Section 2.17(1)(b) of the SEPP.

Consultation with other public authorities is also required for 'specified development' under Section 2.15. The Proposal is not considered a specified development as defined under the SEPP.

Non-Statutory Consultation

Relevant government agencies were consulted during the preparation of the REF. Consultation was undertaken with the following agencies listed in Table 2-2. Responses received are provided in Appendix D.

Table 2-2 Non-Statutory Consultation Summary

Agency	Requirements	Comments
DPHI - Crown Lands	Crown Land Licence will be required as works are not consistent with reserve purposes.	Noted
TfNSW	Concurrence with TfNSW is required for works within classified road (Mitchell Highway)	Noted

Community Consultation

Bourke Shire Council will undertake consultation with the affected community regarding the Proposal, as required.

3 Description of the Proposal

3.1 Need and Justification for the Proposal

This section provides the need and justification for the Proposal.

3.2 Options Assessment

Option 1: Do-nothing

The “do nothing” option may result in increased public safety risk and loss of an item of European heritage value associated with the ongoing deterioration of the bridge. The existing bridge suffers from structural issues and the bridge approaches and lift span are unsafe and at risk of failing and therefore, not considered to be in adequate condition to serve as a shared pedestrian footbridge and bicycle pathway bridge. Accordingly, the “do nothing” option is not the preferred option.

Preferred Option – Bridge Restoration for Adaptive Reuse

The preferred option is to undertake works to repair and restore the North Bourke Bridge, as it will achieve the Proposal’s objective of adaptive reuse of the currently redundant heritage-listed vehicular bridge, to be repurposed and utilised by the public as a shared pedestrian and bicycle bridge. It is noted that achievement of this restoration objective is dependent on the receipt of grant funding by Council.

3.2.1 Justification

Restoration and adaptive reuse of the bridge will facilitate future use of currently ‘mothballed’ public infrastructure for public recreational use. Furthermore, restoration of the bridge will ensure the long-term survival of a unique heritage structure, as the bridge is the sole surviving Balranald type vertical lift span road bridge in Australia and the oldest surviving first generation movable span bridge in NSW (FBE, 2024) .

3.3 Description of the Proposal

This section provides a description of the Proposal which is assessed in this REF.

3.3.1 Overview of the Proposed Works

Stage 1 works for the North Bourke Bridge Restoration project will include the complete demolition of the eastern and western North Bourke bridge approach structures and removal of all demolition waste materials to ensure that the site is free of debris.

The eastern and western bridge approach demolition works will involve the following general procedure and tasks:

- Preparation of Demolition Plan
- Preparation of a Demolition Environmental Management Plan (DEMP)
- Undertake dilapidation survey and reporting
- Provision of signage, safe access, security, safe storage of hazardous materials, amenities, etc. to meet SafeWork NSW requirements and current Australian Standards;
- Establishment of a site boundary, temporary fencing, works compound, amenities, laydown areas, and entry/exit points within the adjacent Crown reserve/ road reserve land on both eastern and western bridge approaches.
- Establishment of environmental controls including erosion and pollution management controls; temporary tree/identified sensitive area protection measures (fencing etc.)
- Identification of the location of existing services in the works area
- Installation of environmental controls, temporary site fencing and tree/identified sensitive area protection measures
- Undertake vegetation clearing (specified trees and ground cover) to provide safe access and working conditions;
- Establishment of:
    - demolition areas;
    - truck loading areas;
    - Loading/unloading, transportation and placement of demolition equipment;
- Safe demolition of the eastern and western timber bridge approaches
- Classification and removal of demolished timber and iron bridge approach materials, and miscellaneous waste
- Stabilise and make good all areas disturbed by the works.

Concept plans of the Proposal are provided in Figures 3-1 to 3-3.

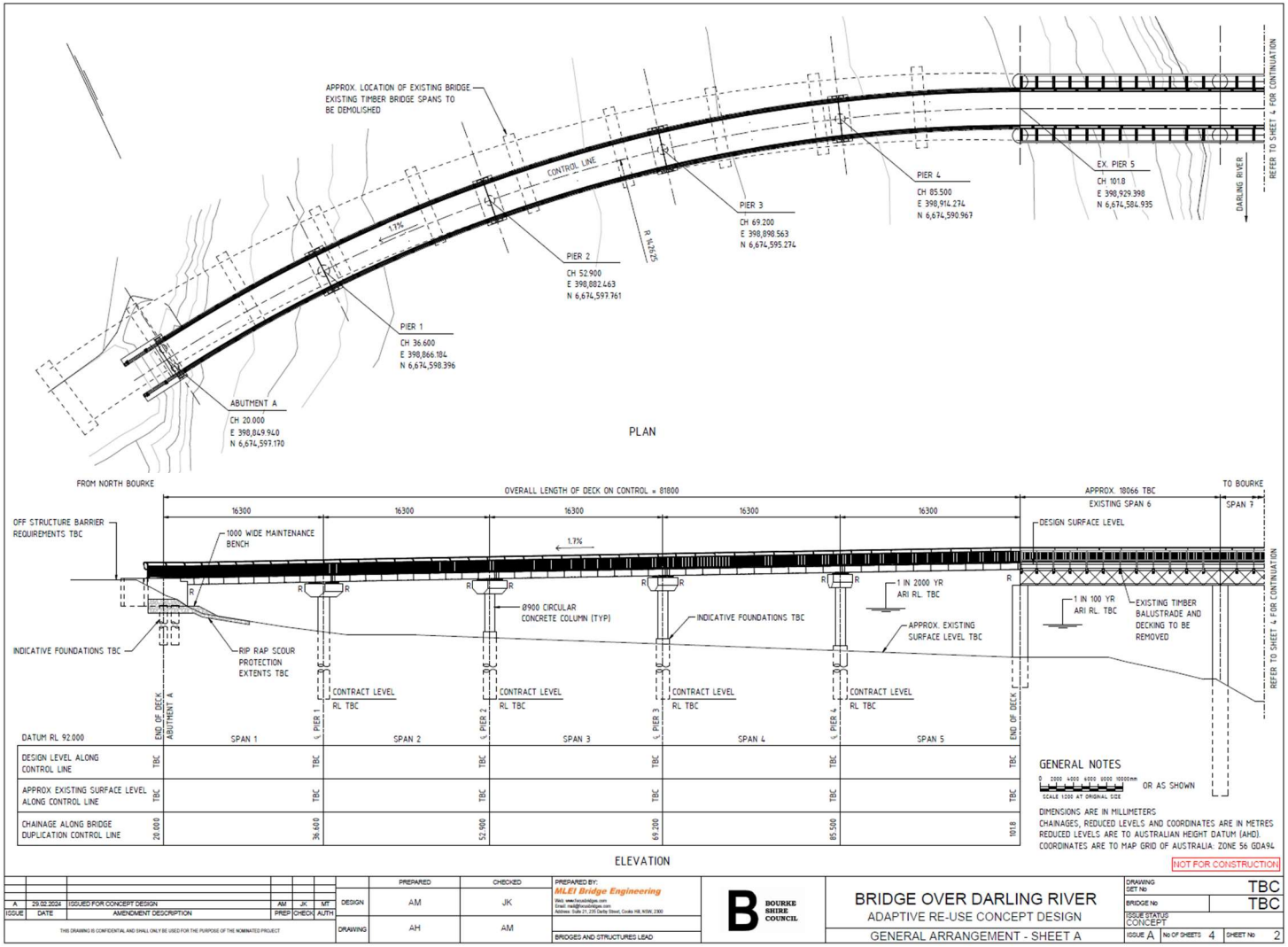

Figure 3-1: Western approach and elevation
Source: MLEI Bridge Engineering

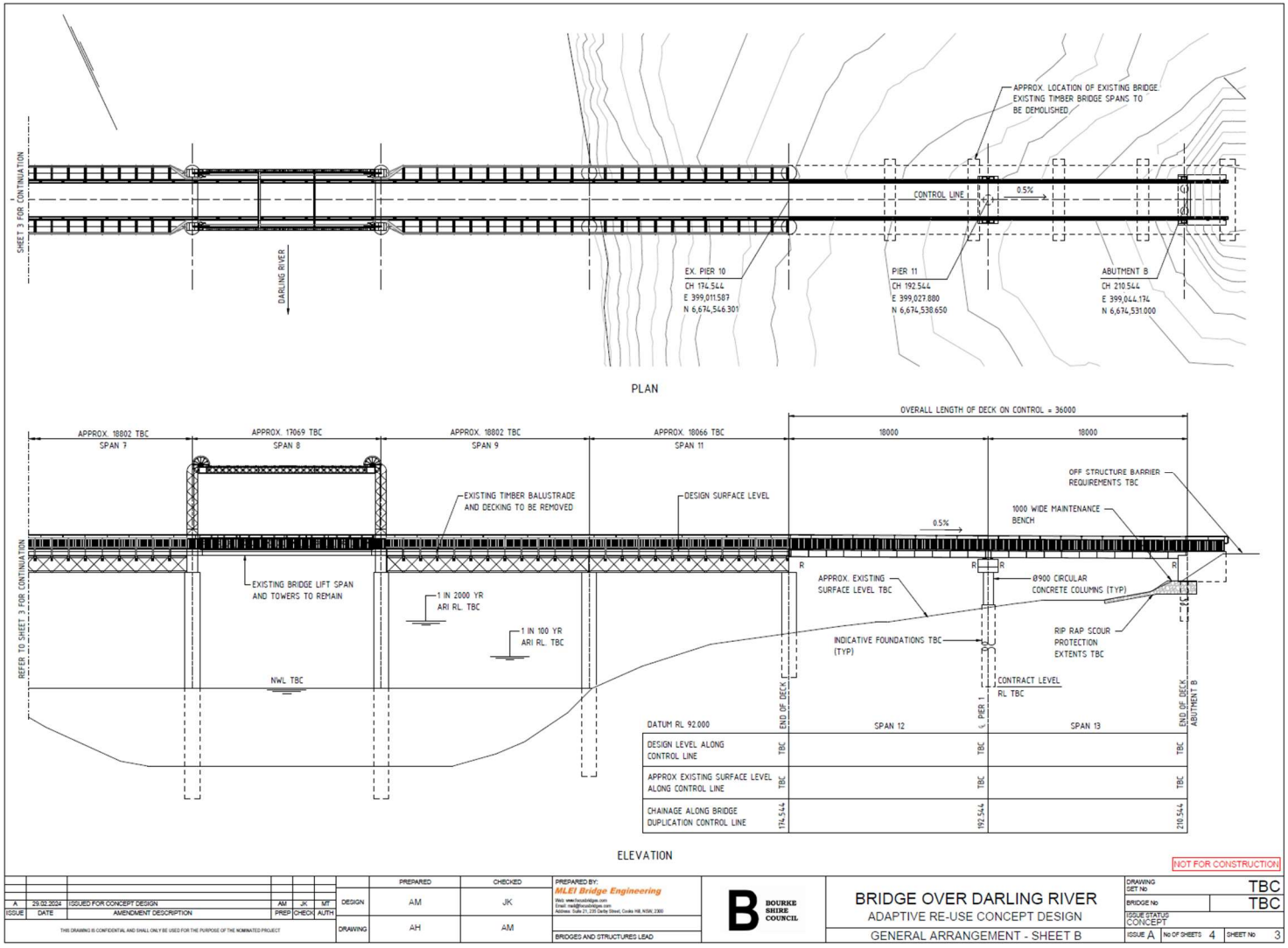

Figure 3-2: Eastern approach and elevation
Source: MLEI Bridge Engineering

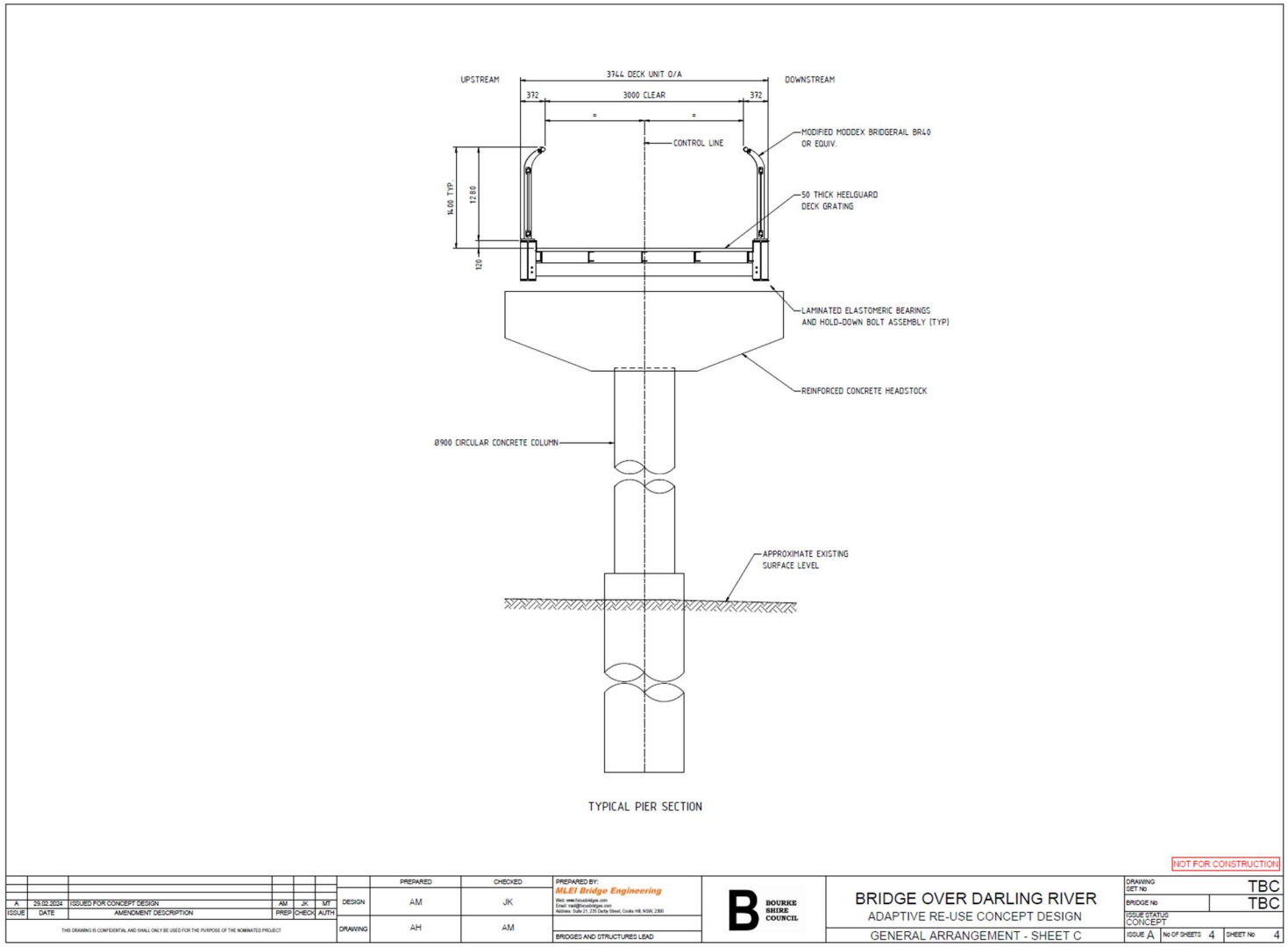

Figure 3-3: Typical Pier section
Source: MLEI Bridge Engineering

3.4 Demolition Methodology

The proposed demolition works method will depend on a number of factors including the contractor's method, equipment and program. Restoration of all disturbed areas surrounding the demolished bridge approaches will be required post demolition works.

The proposed works will involve the complete demolition of the existing eastern and western timber bridge approach structures and include removal of all debris. Debris will predominantly include timber materials including bridge supports, timber framing, and minor bridge approach ironwork components.

The general methodology for the proposed demolition works is likely to involve the following steps:

- Preparation of a Demolition Environmental Management Plan (DEMP)
- Undertake dilapidation survey and reporting
- Provision of signage, safe access, security, safe storage of hazardous materials, amenities, etc. to meet SafeWork NSW requirements and current Australian Standards;
- Establishment of a site boundary, temporary fencing, works compound, amenities, laydown areas, and entry/exit points within the adjacent Crown reserve/ road reserve land on both eastern and western bridge approaches.
- Establishment of environmental controls including erosion and pollution management controls; temporary tree/identified sensitive area protection measures (fencing etc.)
- Identification of the location of existing services in the works area
- Installation of environmental controls, temporary site fencing and tree/identified sensitive area protection measures
- Undertake vegetation clearing (specified trees and ground cover only) to provide safe access and working conditions;
- Establishment of:
    - demolition areas
    - truck loading areas
    - Loading/unloading, transportation and placement of demolition equipment
    - Safe demolition of the eastern and western timber bridge approaches
- Classification and removal of demolished timber and iron bridge approach material and miscellaneous waste
- Stabilise and make good all areas disturbed by the works.

3.5 Demolition Equipment

Demolition equipment will include the following or similar equipment as required:

- Light commercial and passenger vehicles, which may include a light truck for delivery and removal of materials, utility vehicles and trailers
- Excavator/backhoe
- Chainsaw
- Generator
- Pneumatic/electrical and oxy-acetylene hand tools; for hammering, cutting, and breaking up materials such as timber and metals;
- Lifting crane
- Bulldozer D9
- Grader
- Material transport/haulage vehicles (demolition and waste materials)

3.6 Demolition Environmental Management Plan

The proposed works will be undertaken in accordance with a site-specific Demolition Environmental Management Plan (DEMP) prepared and implemented by the contractor and approved by BSC prior to the commencement of works. The DEMP should include provision of the regulations provided in Section 2.2.13 and Australian Standard 2601.

The DEMP will incorporate a labelled site plan showing all laydown areas, storage, work compound, access and haul tracks. The DEMP will also include all the mitigation measures identified in this REF, and any additional mitigation measures identified as a result of the contractor's risk assessment and demolition methodology as well as any conditions of the project determination and other licences/approvals, including but not limited to, the following:

- Details for site preparation, staging of demolition, segregation of materials, soil handling and waste disposal, and backfilling procedures;
- A plan for the identification of and recovery, storage and re-purposing of heritage items
- The location of above ground and underground essential services such as electricity, telecommunications, gas, liquid fuel lines, drainage and sewage etc.
- Workplace guidelines and protocols providing WH&S guidelines for working at heights, working near water etc.
- Detailed plan for the location and condition and handling of hazardous materials
- Knowledge of the general condition of the structures marked for demolition and those surrounding the demolition site

- Any conditions of consent and any other licence/approval conditions;
- Emergency response plan in case of injury or a pollution incident;
- Complaints handling procedure and a 24-hour telephone contact number;
- Waste Management Plan, identifying appropriate procedures for handling and disposal of waste, in accordance with the *Protection of the Environment Operations Act 1997, the Protection of the Environment Operations (waste) Regulation 2014 and* TfNSW *Bridge Timber Purchase Agreement* and *Recycling of Bridge Timber* specifications (TfNSW, 2016).
- Erosion and Sediment Control Plan, prepared in accordance with "*Managing Urban Stormwater, Soil and Construction, 2006* (Landcom)";
- A Noise and Vibration Management Plan incorporating feasible and reasonable construction noise and vibration management measures in accordance with the *Interim Construction Noise Guideline (DECCW, 2009);*
- A Demolition Traffic Management Plan (DTMP).

3.6.1 Schedule and Working Hours

The Interim Construction Noise Guidelines (DECC 2009) outlines recommended standard working hours as:

- Monday to Friday 7:00 am to 6:00 pm;
- Saturdays 8:00 am to 1:00 pm; and
- No work on Sundays or public holidays.

3.6.2 Timeframe

The Proposal works timeframe is anticipated to be up to 8 weeks, commencing in mid-2024.

4 Environmental Assessment

This section identifies and characterises the existing environment, the likely potential impacts associated with the demolition and operational phases of the Proposal and any associated mitigation measures. Where considered necessary, feasible mitigation measures are identified for implementation as part of the proponent's environmental management.

4.1 Assessment Methodology

The key objectives of this assessment are to:

- Identify those facets of the environment likely to be affected by the Proposal during demolition works and post demolition works;
- Identify the sensitivity of the site;
- Identify and characterise the associated impacts; and
- Identify and evaluate feasible mitigation measures for the identified impacts.

Environmental issues of potential relevance to the Proposal include:

- Land use
- Geology, soils and water
- Traffic and access
- Air quality
- Noise and vibration
- Waste management
- Biodiversity
- Heritage (Aboriginal and historic)
- Bushfire
- Visual amenity
- Utilities and services
- Public Safety/ Hazards and risks

4.1.1 Land Use

The North Bourke Bridge is located on the south-eastern edge of North Bourke, spanning the Darling-Baaka River (refer to Figure 1-1: North Bourke Bridge location**Error! Reference source not found.** and Figure 1-2). The bridge approach foundations (piers) are located within Crown Reserve on the western side (Lot 7300 DP 1173913) bounded by Bogan Street to the west; and the Mitchell Highway (Tancred Drive) road reserve on the eastern side, with North Bourke Bridge Crown Reserve, managed by BSC, to the north of the road reserve (Lot 113 DP 751867).

Land use in the vicinity of the bridge consists of cleared public parkland reserves, a public roadway, a major waterway, mixed residential and commercial development within the North Bourke township and surrounding large lot rural properties, undeveloped bushland land and livestock grazing land.

4.1.1.1 Impact Assessment

The North Bourke Bridge is currently closed to traffic, and the demolition works will not include any activity on an open trafficable road. It is proposed to utilise a section of the Crown Reserve land as site compound area incorporating storage yards, parking for machinery and vehicles and amenities. The use of this land during the demolition works will temporarily restrict the public use of this land.

Due to the temporary nature of the works, these impacts are not anticipated to be significant, assuming implementation of the mitigation measures listed in Section 4.1.1.2. Measures to minimise impacts from traffic, noise and vibration, air quality and waste generation are also provided in Sections 4.1.3 to 4.1.6 of this REF.

Any impacts to surrounding land use resulting from work vehicles accessing the site will be relatively minor, localised and short-term.

4.1.1.2 Mitigation Measures

- The contractor will be required to take all necessary steps to prevent damage to Council and private property, facilities and operations including roadways, fences and gates. A dilapidation report shall be prepared prior to works starting and include photos pre and post demolition. Should damage occur to private or public property it shall be restored to a condition equivalent to the original condition.
- Temporary fencing will be installed where necessary to exclude the public and animals from the work site and compound area. Any temporary fencing or gates no longer required will be removed at the completion of the works.
- Restoration of the areas disturbed during demolition works shall be undertaken during and post-works.

4.1.2 Geology, Soils and Water

Geology and soils

The underlying geology of the site consists of Quaternary alluvial deposits and the lithology comprises of recent mud, silt, sand and gravel deposited by river (alluvial) systems. The widespread distribution includes the western plains near Warren and Walgett and the extensive Darling River floodplain.

Soil types within the study area comprises of Vertosol soils under the Australian Soil Classification (ASC) 1996. These soils are characterised by black cracking clays with a dominant clay texture throughout the profile; display strong cracking when dry and shrink and swell considerably during wetting and drying phases.

Surface water flow on the site is dominated by the Darling River and its tributaries. Surface water within the site catchment will flow naturally toward the Darling River to the east of the western approach and to the west of the eastern approach to the bridge.

Acid Sulfate Soils

Acid Sulfate Soils (ASS) are unlikely to occur in the Proposal area and are not mapped within the Site in the Bourke LEP 2012 or Murray Darling Basin Authority ASS maps.

4.1.2.1 Impact Assessment

The main work activity impacts to the Site will be from:

Ground excavation;

Temporary stockpiling of demolition materials and equipment;

Vegetation removal of weedy groundcover in the work activity corridor;

Onsite vehicle movements;

There is the potential for demolition works to cause sedimentation and/or pollution of the Darling River due to the slope of the bank and proximity of works to the waterway. Effective control measures will be established prior to commencement of works to prevent any pollutants being washed offsite. Any temporary works such as stockpiles, equipment and material storage and the like will be located away from waterways and drainage lines at the top of the site and bunded. In addition, as the works are located in a flood prone area, measures will be implemented to prevent adverse impacts in the event of flooding.

The *Guidelines for Controlled Activities on Waterfront Land - riparian corridors* (NRAR, 2018) are considered relevant to the Proposal. The guidelines state that the design and work activity within a watercourse or adjoining waterfront land should protect and enhance water flow, water quality, stream ecology and existing riparian vegetation and establish and preserve the integrity of riparian corridors. Impacts on the hydrologic, hydraulic and geomorphic functions of a watercourse should also be minimised. With the implementation of mitigation measure provided in Section 4.1.2.2, it is considered that the Proposal will be consistent with this guideline.

Accidental spillage of fuels, hydraulic fluids and lubricating oils used in the operation of demolition equipment could result in the release of hydrocarbons and metals which may be transported to nearby watercourses. The significance of the impact will depend on the type of fuel or oil used, the quantity spilt, the prevailing weather conditions and rate of flow of the watercourse. Several mitigation measures are recommended below to manage and mitigate potential spill incidents.

If groundwater is encountered during the demolition works, it will need to be managed so that it does not result in pollution, including sedimentation, of the adjoining waterway. Groundwater devoid of sediment or contaminants shall be disposed of in a way that does not cause erosion.

Overall, it is assessed that the impacts of ground disturbance associated with the Proposal can be adequately managed through the implementation of appropriate management measures. Therefore, the overall water quality impact is assessed to be low.

4.1.2.2 Mitigation Measures

- Minimise exposure of bare soil to reduce opportunity for erosion and weed growth.
- Prepare and implement a site-specific Erosion and Sediment Control Plan for the entire work activity period. This shall incorporate erosion and sediment control measures which are appropriate for the site conditions and demolition methodology in line with Landcom's *Managing Urban Stormwater, Soils & Construction Guidelines* (The Blue Book). The ESCP will include measures to:
    - Prevent sediment moving off-site and sediment laden water entering local drainage lines and small creeks.
    - Reduce water velocity and capture sediment on site.
    - Divert clean water around the site.
- 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.
- Visual monitoring of local water quality (ie 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.
- All fuels, chemicals and liquids are to be stored away from natural drainage line.
- Ensure a well-stocked spill kit, incorporating silt curtains and other materials for use in waterways, is available on site throughout the duration of the works.
- Vehicle wash down is to occur in a designated bunded area only.
- Works shall not be scheduled when heavy rainfall is forecast and works involving soil disturbance shall not take place during heavy rainfall periods, other than work necessary to stabilise the site.
- In the event of flooding, demolition works in affected areas shall cease and shall not re-commence until floodwaters have receded. Weather forecasts will be checked regularly so that equipment and materials in flood areas can be secured prior to heavy rainfall events.
- The contractor will develop a monitoring and flood response plan to detail procedures for monitoring rainfall (stormwater) and waterway flows and to identify subsequent response actions that will be taken to ensure the protection of personnel, equipment and water quality during the demolition works.

- Bureau of Meteorology site to be checked daily and if a rain event is forecasted, time needs to be allocated to prepare the site for a rain event.
- Mitigation measures to manage groundwater (should it be encountered during work activity) will be incorporated into the DEMP which shall include:
    - Dewatering techniques during excavation;
    - Measures to ensure groundwater quality is not impacted during work activity;
    - Techniques to settle, treat or filter groundwater encountered during excavation works i.e., diverting groundwater through baffle tanks or filter membranes; and,
    - Appropriate treatment and monitoring regimes should be established in the event that groundwater flows come to the surface, including disposal of groundwater in such a way as to prevent adverse impacts (such as erosion and water pollution). Groundwater should not be discharged to a waterway during work activity.

4.1.3 Traffic and Access

Existing traffic levels in the surrounding road network are considered to be moderate to low and associated with local rural traffic. The existing bridge is currently closed to vehicular traffic.

4.1.3.1 Impact Assessment

Access to the worksite is likely to be via Bogan Street for the western approach and the Mitchell Highway for the eastern approach. The Proposal may cause some minor inconvenience to private properties, waterfront land and neighbouring vehicle rest areas and parking areas during work activity. For the duration of the proposed works there will be a minor increase in vehicle movements using local road networks for delivery of materials, the arrival and departure of workers, equipment delivery and the removal of waste.

Vehicle movements may impact on road surfaces. A dilapidation report of traffic routes will be undertaken to ensure that all road surfaces are returned to a condition equivalent to pre-demolition condition.

Whilst some inconvenience to local residences and road users are possible during demolition of the Proposal, due to the limited duration of the works, these impacts are manageable and are not considered to be significant. Traffic related impacts will be mitigated through the development of a Traffic Control Plan (TCP), which will include measures to minimise impacts to other road users.

Given the proper implementation of mitigation measures provided below, and the temporary nature of the Proposal, it is assessed that the Proposal will not have a

significant impact on traffic or access in the Proposal area, and it is not predicted to have a significant impact on traffic flow to local roads and adjoining road network.

Under the current Proposal, the purpose of Stage 1 of the works is to provide the initial improvements to the wooden framework of the bridge in anticipation that further works will allow pedestrian traffic to use the bridge. Accordingly, no expected change to traffic volumes will be likely following Stage 1 demolition works.

4.1.3.2 Mitigation Measures

- The contractor will prepare a Traffic Management Plan (TMP) as part of the DEMP, to be reviewed by Bourke Shire Council prior to commencement of works. The TMP will include measures to minimise traffic impacts ensure public safety and will be prepared in accordance with:
    - RMS's Traffic Control at Work Sites Manual, Issued February 2022; and
    - Australian Standard 1742.3 - 2019 Traffic Control for Works on Roads.
- The TMP will detail mitigation measures to manage traffic related issues associated with the demolition works including:
    - All materials deliveries are to avoid school zones during school bus hours, i.e. 7.30am to 9.30am and 3pm to 5pm;
    - Appropriate and site-specific pedestrian management.
- Prior to the commencement of demolition works the contractor shall consult with the adjacent Bridge Inn Motel and those residential premises likely to be affected by truck movements, or in the immediate vicinity of the proposed works to determine any community concerns and provide advice as to where concerns can be directed. If during consultation community concerns are not readily resolved by agreement, The Department/council staff are to be contacted who will endeavour to assist in resolving any outstanding issues of concern.
- Any disturbance to the adjacent Bridge Inn Motel and residents as a result of vehicle movements and noise will be minimised by adhering to the standard working hours (i.e. Monday to Friday 7am to 6pm; Saturdays 8am – 1pm and no work on Sundays or public holidays).
- Trucks will not access the sites in weather conditions that will cause damage to ground surface or the environment.
- All sealed roads shall be kept clean and free of dust and mud at all times. Where material is tracked onto sealed roads at any time, it will be removed immediately so that road pavements are kept safe and trafficable.
- A dilapidation report of traffic routes will be undertaken to ensure that all road surfaces are returned to a condition equivalent to pre-demolition condition.

- Any temporary access tracks required for the works will be located so as to minimise disturbance to the existing environment. Following completion of the works the temporary tracks will be removed, topsoil provided and re-grassed.
- All traffic associated with the works shall comply with all applicable traffic laws and regulations and speed limits.
- Any complaints from local residents will be recorded by the Contractor via a complaints register, and acted on appropriately.

4.1.4 Air Quality

Air quality is expected to be good due to the rural/low density residential nature of development surrounding the Proposal site, with the main influence on air quality in the area being vehicle emissions associated with low traffic volumes. There are no registered point sources of air pollution in the vicinity of the Proposal site. In high wind events, dust from agricultural activities and bare grounds can be a major source of air particulates.

4.1.4.1 Impact Assessment

The main impact to air quality during works is expected to arise from the generation of airborne localised dust associated with earthworks and from trucks transporting materials to and from the works site. Any dust generated as part of the demoliton works could result in temporary impacts to neighbouring landowners. Dust suppression methods will be applied where required to prevent dust being transported off site.

Local air quality may be affected by emissions from work vehicle activity. These emissions will, however, occur only intermittently, and are expected to be minor and temporary. It is unlikely that they will contribute to a permanent detectable reduction in local air quality.

With implementation of the recommended mitigation measures, potential air quality impacts during work activity is considered minor and unlikely to be significant.

No operational phase impacts on air quality are anticipated.

4.1.4.2 Mitigation Measures

- Work vehicles and equipment will be suitably serviced within the six-month period prior to commencement of work activities and all necessary maintenance undertaken during the demolition period to meet EPA air quality requirements.
- The excessive use of vehicles and powered demolition equipment will be avoided.
- All demolition machinery will be turned off when not in use to minimise emissions.
- Demolition contractors will monitor dust generation potential.
- Dust suppression methods including the use of water carts will be applied where required (i.e. on windy days when earthworks and vehicle movements are generating dust).

- Any stockpiled spoil/fill will be protected to minimise dust generation to avoid sediment moving offsite.
- Vehicles transporting fill/spoil to and from the works sites will be covered.
- Bare surfaces are to be vegetated or stabilised as soon as possible.

4.1.5 Noise and Vibration

The Proposal site is on DPHI - Crown land and Council owned land for the western approach and the eastern approach, north of the bridge. The land south of the bridge on the eastern approach is owned by TfNSW. The land owned by Crown lands consists of open parkland while the land owned by Council is a road reserve containing natural vegetation.

The closest residence to the Proposal site is less than 100m to the west of the western approach on Bogan Street. The nearest residences to the eastern approach of the bridge are on Bogan Street, approximately 200m to the west. Noise monitoring was not undertaken as part of the REF, however background noise levels in the Proposal area is likely to range from 30 - 40 dB(A) with higher peaks likely due to the influence of traffic noise from the Mitchell Highway.

4.1.5.1 Impact Assessment

The typical A-weighted sound power levels for equipment which may be required to undertake the proposed demolition works are listed in Table 4-1 below (it is noted that this list is not definitive and these levels are taken from the *Australian Standard AS2436-2010 Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites*).

Table 4-1: Construction Equipment Sound Power Levels

Equipment	Typical Sound Power Levels (dB)	Sound Pressure Level at 60m distance (dB(A))	Sound Pressure Level at 100m distance (dB(A))	Sound Pressure Level at 200m distance (dB(A))
Excavator	112	78	72	66
Welding equipment	107	73	67	61
Concrete saw	118	84	78	72
Lifting crane	98	64	58	52
Backhoe	111	75	70	64

Equipment	Typical Sound Power Levels (dB)	Sound Pressure Level at 60m distance (dB(A))	Sound Pressure Level at 100m distance (dB(A))	Sound Pressure Level at 200m distance (dB(A))
Bulldozer D9	116	82	76	70
Pneumatic/electrical and oxy-acetylene hand tools	113	79	73	67
Chainsaw	114	80	74	68
Generator	103	69	63	57
Light vehicle	103	69	63	57

Under the *Interim Construction Noise Guideline* (DECCW, 2009) noise criteria for residences where the work activity duration is greater than three weeks is the rating background noise plus 10dB(A); therefore, the noise management level for the Proposal site will be 40-50dB(A). Based on the typical sound power levels provided in Table 4-1 above and using the methodology in the *Australian Standard Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites* and the *Interim Noise Construction Guideline*, the maximum predicted noise levels at the closest residences during demolition work may exceed the recommended noise affected level and the highly affected noise level (75 dB(A)) above which there may be strong community reaction to noise (DECCW, 2009).

It is noted however that these levels are considered to be a conservative estimate, as they are based on maximum noise levels assuming that all machinery/demolition equipment will be used simultaneously. It is anticipated that this will occur rarely, if at all during the time of the proposed development, and furthermore the actual noise levels experienced will vary depending on the nature of the activities being undertaken. Work activity impacts will be temporary and work hours will be restricted to the normal daytime hours as specified by the EPA. It is noted that demolition machinery accessing the Proposal works area will be a source of intermittent noise for the majority of the work activity period.

The *Interim Construction Noise Guideline* states that, where the predicted noise level is greater than the noise affected level, all feasible and reasonable work practices should be applied to meet the noise affected level. Furthermore, all potentially impacted adjoining properties should be informed of the nature of the works, the expected noise levels and duration, as well as contact details. Where the noise level is above the highly

affected noise level, respite periods by restricting the hours that the very noisy activities should occur.

The use of the equipment listed in Table 4-1 is expected to produce levels of vibration that are unlikely to exceed the 'human comfort criteria' as specified in the *British Standard (BS) 6472 – 2008, Guide to Evaluation of Human Exposure to Vibration in Buildings (1 Hz to 80 Hz)*.

Control measures to minimise noise and vibration impacts will be implemented during work hours as part of the contractor's DEMP, which will be endorsed by BSC prior to commencement of works. This should include consideration of equipment noise outputs under the *Interim Construction Noise Guideline*, and section 5.2.5 which presents a summary of options for work practices to lower noise impact.

Therefore, it is concluded that given the proper implementation of mitigation measures provided below, the noise and vibration impacts associated with the Proposal are unlikely to be significant.

No noise and vibration impacts are anticipated post demolition work.

4.1.5.2 Mitigation Measures

- Prior to the commencement of demolition works the contractor shall consult with the Bridge Inn Motel and those residential premises likely to be affected by, or in the immediate vicinity of, the proposed works to determine any community concerns and provide advice as to where concerns can be directed.
- A Noise and Vibration Management Plan (NVMP) must be prepared as part of the DEMP, to be reviewed by BSC prior to commencement of works. The NVMP is to address site specific noise and vibration issues, including limited work hours and noise and vibration reduction practices, taking into consideration DECCW's Interim Construction Noise Guideline (in particular Table 4-1) and Assessing Vibration: A Technical Guideline (in particular mitigation measures in Section 3). Mitigation measures to minimise noise and vibration impacts will include:
    - Optimum siting of work areas, vehicle and plant parking areas, materials stockpiles and equipment storage areas in locations where potential acoustic and vibration impacts will be minimised;
    - Regular maintenance of all plant and machinery used for the project; and
    - Identify locations where noise and vibration is most intrusive and develop strategies to reduce impacts for these areas.
- Generally, demolition works will be undertaken during normal work hours i.e. 7am to 6pm Monday to Friday; 8am to 1pm Saturdays; and no work will be undertaken on Sundays, Public Holidays or outside these work hours without notification to the affected community and EPA. Notification to EPA and affected community will provide the following details:
    - The locations and types of surrounding receivers likely to be affected;

- The nature of the proposed works;
- The noise characteristics of any powered equipment likely to be used;
- Measures to be taken to reduce noise emissions; and
- Any other information EPA may request.
- All reasonable practical steps shall be undertaken to reduce noise and vibration from the site.

- All plant and machinery used for the project will be well maintained.
- All possible measures will be taken to ensure demolition equipment is operated to manufacturer's specifications.
- Any noise complaint received will be investigated as soon as practicable. Any practicable and feasible measures to minimise noise will be identified. The complainant will be advised of the outcome.
- Consideration is to be given to respite periods by restricting the hours that the very noisy activities can occur, taking into account:
  - Excavation or removal of any materials using machinery of any kind, including compressors, must be limited to between 7.30am and 5.00pm Monday to Friday, with a respite break of 45 minutes between 12pm and 1pm.
  - Times identified by the community when they are less sensitive to noise (such as before and after school for when located near schools, or mid-morning or mid-afternoon when located near residences); and
  - If the community is prepared to accept a longer period of works in exchange for restrictions on work activity times.

4.1.6 Waste Management

4.1.6.1 Impact Assessment

The Proposal will result in waste in the form of excess spoil, cleared vegetation, deteriorated wood framework and general building wastes such as packaging, off cuts, excess materials and workers' wastes such as drinks containers, food scraps, etc. Portable toilets will be provided for workers. Any spoil not able to be re-used on site will be disposed off-site.

To ensure that environmental harm does not occur as a result of uncontrolled or inappropriate collection, transport and disposal the relevant provisions of the following Acts will be implemented:

Waste Avoidance and Resource Recovery Act 2001;

Protection of the Environment Operations Act 1997; and

Protection of the Environment Operations (Waste) Regulation 2014.

Given the proper implementation of waste management and contamination control procedures and/or measures listed below, waste and contamination impacts associated with the Proposal are not expected to be significant.

No impacts are anticipated post demolition work.

4.1.6.2 Mitigation Measures

- The Contractor will discuss and develop a plan for the identification of and recovery, storage and re-purposing of heritage items with Bourke Shire Council. A thorough training process for salvaging recoverable items should be incorporated into the DEMP.
- Timber framework that is not intended to be repurposed should be disposed in line with Council waste management procedures.
- Where practical, bridge timber and metal materials should be resold/recycled in accordance with TfNSW's "Bridge Timber Purchase Agreement" and "Recycling of Bridge Timber" specifications (TfNSW, 2016).
- The contractor undertaking the works will detail waste management procedures in a Waste Management Plan (WMP) to be incorporated into the DEMP.
- The contractor is to assume responsibility for the appropriate disposal of any waste generated. Adequate procedures should be established and detailed in the DEMP, including notification requirements to EPA, for incidents that cause material harm to the environment. The WMP will also follow the resource management hierarchy principles embodied in the Waste Avoidance and Resource Recovery Act 2001. Namely, to:
    - avoid unnecessary resource consumption;
    - recover resources (including reuse, reprocessing, recycling and energy recovery); and
    - dispose (as a last resort).
- The demolition contractor is to ensure that waste generated by the works is transported to a place that can lawfully accept it as per Section 143 of the Protection of the Environment Operations Act 1997.
- If any contaminated material is encountered during earthworks, work shall cease, the site secured and a safe work method statement(s) and appropriate practices shall be implemented. Any contaminated material will be classified first and then stored, transported and disposed of in accordance with EPA requirements at an EPA licensed waste facility.
- The EPA is to be notified immediately of any pollution incidents or harm to the environment (as defined under Part 5.7 of the POEO Act).

- The WMP will adopt the objectives of the Waste Avoidance and Resource Recovery Act, namely, to encourage the most efficient use of resources, to reduce environmental harm, and to provide for the continual reduction in waste generation in line with the principles of environmentally sustainable development (ESD).
- The reuse of spoil will need to comply with the EPA's Resource Recovery Exemption and Resource Recovery Order for Excavated Natural Material or disposed in accordance with the Waste Classification Guidelines (EPA, 2014) and Addendum (2016).
- Accurate written records are to be kept such as:
    - who transported the waste (company name, ABN, vehicle registration and driver details, date and time of transport, description of waste)
    - copies of waste dockets/receipts for the waste facility (date and time of delivery, name and address of the facility, it's ABN, contact person).
- The WMP is to be regularly updated to record how waste is managed and audit where waste is taken.
- Adequate supervision is to be provided to ensure the WMP is implemented and complied with.
- All waste debris etc, must be contained within the site and steps taken to ensure this material does not enter nearby waterways.
- All waste, including excess spoil be recycled if practicable or alternatively taken to a licensed waste disposal facility.
- If vegetation is to be mulched and transported off site for beneficial re-use, it is to be assessed for the presence of weeds, pest and other disease and a Mulch Management Plan prepared.
- Cleared vegetative (exclusive of weeds) is to be returned to nearby suitable locations that are not in the constructible footprint early in the demolition process rather than disposed of off-site.
- Solid waste materials including garbage will be collected in steel containers and transported off the site to an approved waste disposal facility.
- Waste receptacles for recyclable and non-recyclable waste are to be provided for personnel waste.
- Trucks used for the transport of excavated materials and imported materials shall be loaded in such a manner and fitted with suitable tarpaulins as to prevent materials dropping from the truck during transportation along public roads.
- The EPA is to be notified immediately of any pollution incidents or harm to the environment (as defined under Part 5.7 of the POEO Act).

4.1.7 Biodiversity

This section is a summary of the Biodiversity Impact Assessment Report (GeoLINK 2024), with the full report provided in Appendix A.

Vegetation Communities

The proposed works footprint comprises a previously cleared and disturbed riparian corridor. Several vegetation communities occur at the site. The riparian vegetation is broadly indicative of Plant Community Type (PCT) 36 - *River Red Gum tall to very tall open forest/ woodland wetland on rivers on floodplains*. The condition of these vegetation types was assessed as in a moderate condition in the immediate area of the riverbank, and a low condition (derived grassland) on the river terrace and floodplain area. The PCT 40 - *Coolabah open woodland wetland with chenopod/ grassy ground cover on grey and brown clay floodplains* occurs on the floodplains and was assessed as a moderate condition. The expected impact on biodiversity is provided by Figure 4-1: Biodiversity Footprint

Habitat trees

Nine hollow-bearing trees were recorded on site, two of which, labelled H8 and H9, (see Figure 4-1), are within the impact area and are proposed for removal.

A further tree, not marked as Habitat but marked as a roosting point for the Red-tailed Black-Cockatoo *(Calyptorhynchus banksii samueli),* may be subject to modification as part of the demolition works, due to its proximity to the eastern bridge approach.

Exotic species

No priority weeds or Weeds of National Significance (WoNS) were identified at the site. Large infections of Noogoora Burr *(Xanthium occidentale)* occur throughout the site and will be managed along with other exotic species at the site under the general biosecurity duty.

Threatened Ecological Communities

A condition assessment for PCT 40 - *Coolabah open woodland wetland with chenopod/ grassy ground cover on grey and brown clay floodplains* was found to be consistent with the thresholds provided under the *Biodiversity Conservation Act 2016* (BC Act). A Test of Significance (ToS) was then applied to determine whether the likely impacts resulting from the Proposal will be considered significant. ToS ('five-part tests') under Section 7.3 of the BC Act found that the Proposal will be unlikely to cause a significant impact on this vegetation community.

PCT 40 was considered to meet the final determination of one *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act*)* listed TEC being – *Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregion'* listed as Endangered under the EPBC Act. An Assessment of Significance (AoS) determined that the Proposal will be unlikely to cause a significant impact on this ecological community.

Threatened Flora

No threatened flora species listed under the BC Act or EPBC Act were recorded within the Proposal area. No threatened flora species identified by the database searches were considered to have a moderate or higher potential to occur at the site.

Connectivity

The landscape within the locality comprises PCT 36 (moderate and low condition) and PCT 40 (moderate condition). In general, native vegetation at the site is well connected with adjacent riparian vegetation. The cleared road easement and dirt trails results in a break in connectivity between vegetation at the site, which are typically narrow (<10 m in sections). Given the scope of the work activity within a previously disturbed road corridor, connectivity on site is expected to remain the same following demolition works.

Terrestrial Fauna Habitat

The site has been subject to historical clearing and disturbance and the areas of riparian vegetation adjacent to the site are in low to moderate condition. Native trees and grasses provide potential foraging, roosting and nesting resources for locally occurring native fauna including birds, mammals, reptiles, and microchiropteran bats.

Common fauna seen during the site inspection included:

Whistling Kite *(Haliastur sphenurus).*

Red-tailed Black-Cockatoo *(Calyptorhynchus banksii samueli).*

Black-faced Cuckoo-shrike *(Coracina novaehollandiae).*

Willie Wagtail *(Rhipidura leucophrys).*

Magpie-lark *(Grallina cyanoleuca).*

Australian Ringneck *(Barnardius zonarius).*

Silvereye *(Zosterops lateralis).*

Little Pied Cormorant (*Microcarbo melanoleucos).*

White-faced Heron *(Egretta novaehollandiae).*

Australian Pelican (*Pelecanus conspicillatus).*

Threatened Fauna

One threatened fauna species (Red-tailed Black Cockatoo) was recorded at the site during the site inspection via visual confirmation. Up to 36 koala feed trees will be impacted by the Activity. No evidence of Koala usage was detected during opportunistic scat searches below mature trees.

Primary koala feed trees are abundant in the surrounding environment.

The threatened species potential occurrence assessment is found in Appendix A of the BAR.

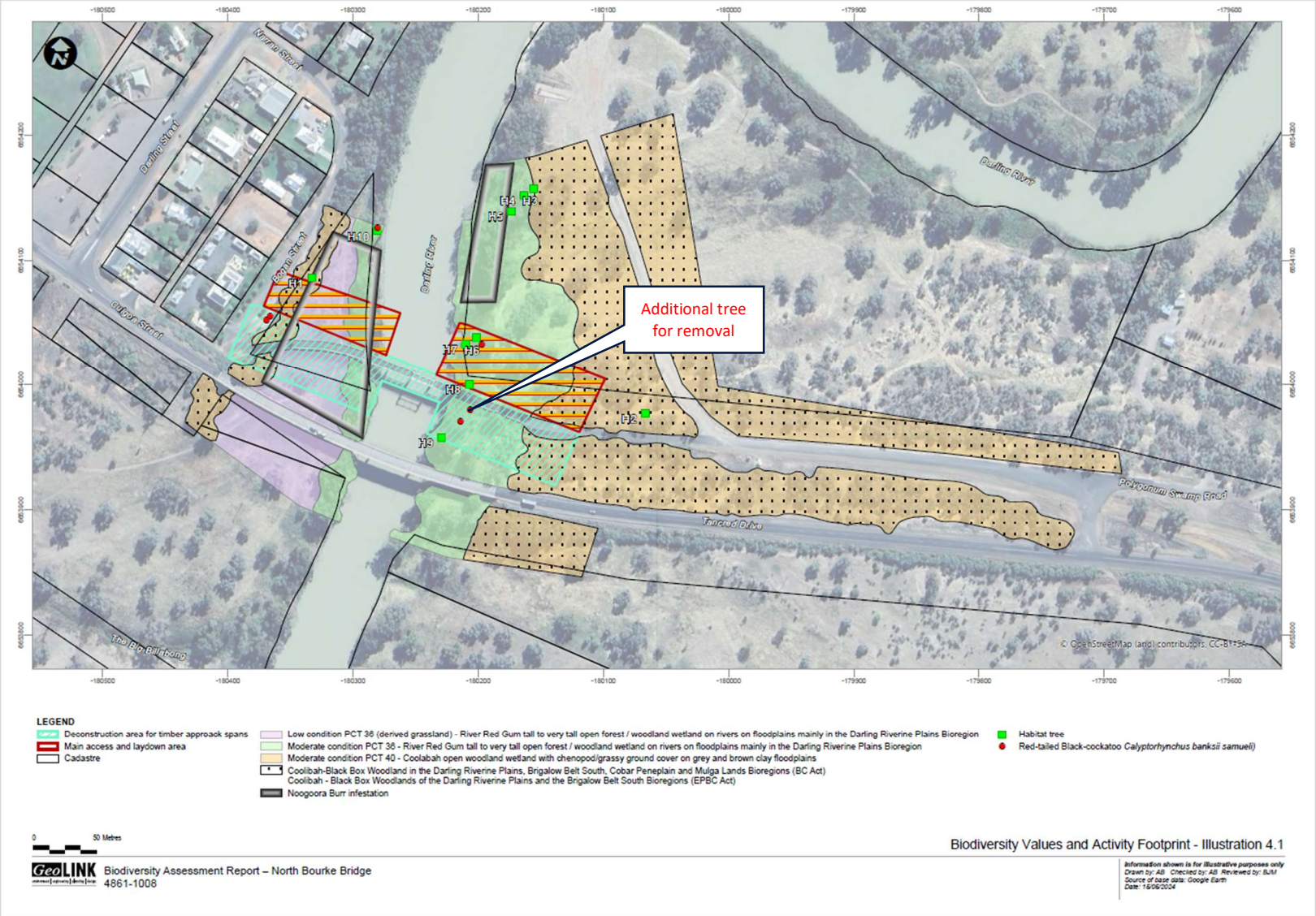

Figure 4-1: Biodiversity Footprint
Source: GeoLINK 2024

EPBC Listed Migratory Species

No migratory species listed under the EPBC Act were recorded at the site. The site does not comprise important habitat for any listed migratory species as defined under EPBC Act. EPBC Act listed migratory species are not considered a constraint for the Activity.

Aquatic Habitat

The Fisheries NSW Spatial Data Portal maps the Darling River at the site location as key fish habitat (KFH) and has potential to provide riparian and aquatic habitat to a range of fauna species including turtles, frogs, fish, invertebrates, and birds. Additionally, the following FM Act and EPBC Act threatened species have potential habitat within and adjacent to the Darling River:

Silver Perch *(Bidyanus bidyanus)* (FM Act).

Olive Perchlet *(Ambassis agassizii)* (FM Act).

Darling River snail *(Notopala sublineata)* (FM Act).

Murray Cod *(Maccullochella peelii)*

Tests of significance were completed for all four threatened aquatic species, and it was determined that the Activity is unlikely to have a significant impact on the species.

The Darling River is consistent with the 'Lowland Darling River aquatic ecological community' Endangered Ecological Community (EEC) under the FM Act which is defined as:

The aquatic ecological community of the lowland Darling River includes all native fish and aquatic invertebrates within all natural creeks, rivers, streams and associated lagoons, billabongs, lakes, anabranches, flow diversions to anabranches and floodplains of the Darling River within NSW.

A test of significance was completed for this community and determined that the Activity will not have a significant impact on the EEC.

Microbat Roost Habitat

A Microbat Survey and Habitat Assessment Report was completed for North Bourke Bridge and can be found in Appendix B. The results of the assessment found the following:

- No microbats or evidence of microbats were observed within the bridge.
- Potential microbat roosting habitat at the bridge comprises:
    - Gaps between decking.
    - Cavities between timber bridge components (e.g. corbels, girders and decking).
    - Cracks in timber corbels and girders.
    - Roughened surfaces which provide exposed, opportunistic habitat.
- No microbats were observed flying out of the bridge during the fly-out survey.

- Three BC Act listed species including Little Pied Bat, Bristle faced Free-tailed Bat and Inland
- Forest Bat were identified from the passive detector recordings (tests of significance were completed for these species).
- Hollow-bearing trees providing potential roosting habitat occur within the impact area.

4.1.7.1 Impact Assessment

Potential direct biodiversity impacts from the Activity include:

- Direct removal of up to:
  - 0.3 ha of PCT 36 - River Red Gum tall to very tall open forest/ woodland wetland on rivers on floodplains mainly in the Darling Riverine Plains Bioregion – low condition (derived grassland).
  - 0.8 ha of PCT 36 - River Red Gum tall to very tall open forest/ woodland wetland on rivers on floodplains mainly in the Darling Riverine Plains Bioregion – moderate condition.
  - 0.4 ha of PCT 40 - Coolabah open woodland wetland with chenopod/ grassy ground cover on grey and brown clay floodplains – moderate condition.
- Direct removal of up to 0.4 ha of Coolibah-Black Box Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain and Mulga Lands Bioregions TEC (BC Act).
- Direct removal of up to 0.4 ha of Coolibah - Black Box Woodlands of the Darling Riverine Plain and the Brigalow Belt South Bioregions TEC (EPBC Act).
- The removal of 2-3 trees assessed as “Habitat Trees” (Geolink 2024).
- Potential direct mortality or injury to fauna during vegetation clearing.
- Removal of up to two habitat trees (H8 and H9) which provide potential roosting and nesting habitat for threatened microbats and woodland birds.
- Potential indirect biodiversity impacts from the Activity include:
- Aquatic habitat degradation to the Lowland Darling River aquatic ecological community due to erosion, sedimentation, and waste/ water quality impacts.
- Terrestrial habitat degradation adjacent to the site from edge effects, soil compaction, accidental damage to surrounding vegetation during clearing, erosion and sedimentation, and potential water quality/ waste impacts.
- Introduction or spread of weeds.
- Introduction or spread of disease pathogens transported by plant, equipment, or materials. This includes:
- Phytophthora (Phytophthora cinnamomi) a soil-borne plant pathogen.

- Myrtle Rust (Puccinia psidii) a fungal disease which infects plants in the Myrtaceae family.
- Anthropogenic disturbances during work activity associated with noise and human presence.

These impacts are relatively low in a local context and will be managed with a relatively high confidence such that biodiversity impacts may be minimised with the implementation of biodiversity mitigation measures provided below.

The Activity will impact on potential habitat for the following threatened entities listed in Table 4-2 below.

Table 4-2: Threatened Species

Common Name	Scientific Name	BC Act	EPBC Act
Birds			
Southern Whiteface	*Aphelocephala leucopsis*	V	V
Australian Bustard	*Ardeotis australis*	E	-
Dusky Woodswallow	*Artamus cyanopterus cyanopterus*	V	-
Australasian Bittern	*Botaurus poiciloptilus*	E	E
Red-tailed Black-Cockatoo	*Calyptorhynchus banksii Samueli*	V	-
Pied Honeyeater	*Certhionyx variegatus*	V	-
Spotted Harrier	*Circus assimilis*	V	-
Varied Sittella	*Daphoenositta chrysoptera*	V	-
Grey Falcon	*Falco hypoleucos*	V	V
Black Falcon	*Falco subniger*	V	-
Painted Honeyeater	*Grantiella picta*	V	V
Brolga	*Grus rubicunda*	V	-
White-bellied Sea-eagle	*Haliaeetus leucogaster*	V	-
Little Eagle	*Hieraaetus morphnoides*	V	-
Pink Cockatoo	*Lophochroa leadbeateri leadbeateri*	V	E
Square-tailed Kite	*Lophoictinia isura*	V	-
Blue-winged Parrot	*Neophema chrysostoma*	V	V
Barking Owl	*Ninox connivens*	V	-
Blue-billed Duck	*Oxyura australis*	V	-
Superb Parrot	*Polytelis swainsonii*	V	V
Grey-crowned Babbler	*Pomatostomus temporalis temporalis*	V	-
Diamond Firetail	*Stagonopleura guttata*	V	V
Freckled Duck	*Stictonetta naevosa*	V	-
Fish			
Olive Perchlet (western population)	*Ambassis agassizii*	E (FM Act)	-
Silver Perch	*Bidyanus bidyanus*	V (FM Act)	CE
Murray Cod	*Maccullochella peelii*	-	V
Gastropods			
Darling River Snail	*Notopala sublineata*	CE (FM Act)	-
Mammals			
Little Pied Bat	*Chalinolobus picatus*	V	-
Corben's Long-eared Bat	*Nyctophilus corbeni*	V	V
Koala	*Phascolarctos cinereus*	E	E
Yellow-bellied Sheathtail-bat	*Saccolaimus flaviventris*	V	-
Bristle-faced Free-tailed Bat	*Setirostris eleryi*	E	-
Inland Forest Bat	*Vespadelus baverstocki*	V	-

V = Vulnerable; E = Endangered; CE = Critically Endangered

Test of Significance assessments were undertaken for these entities and concluded that the Activity was unlikely to result in a significant impact on any of these listed threatened species or their habitat.

The Activity is considered unlikely to have a significant impact on any threatened species, endangered populations or ecological communities listed under the BC Act, EPBC Act or FM Act.

Habitat Removal and Fragmentation

The works are minor in nature and will not result in the loss of vegetation/habitat connectivity in the context of the site. Historical clearing and construction of the historic and new bridge has disturbed the connectivity of riparian vegetation at this site; however, the riparian corridor still provides reasonable connectivity throughout, comprising of native vegetation. The proposed works will not further reduce dispersal opportunities for fauna species.

Invasion of Weeds and Pests

Weed species are common at the site. The Proposal has potential to increase the occurrence and dispersal of weeds through:

- Transportation of weed seed and propagules on machinery between sites.
- Removal of native vegetation allowing weeds to establish.

Mitigation measures have been included below which aim to reduce the level of this impact.

No biodiversity impacts are anticipated post demolition.

4.1.7.2 Mitigation Measures

Vegetation Management

- A pre-clearing inspection should be undertaken to check the hollow-bearing trees to be removed, to ensure no fauna species are present.
- Weed hygiene measures must be in place prior to, during and after the works to ensure that weed propagules are not moved to or from site.
- Trees/vegetation that has been checked by an ecologist and approved for removal should be marked clearly.
- Existing native vegetation is to be retained to the greatest extent possible in an undamaged and unaltered condition.
- Weed hygiene measures must be in place prior to, during and after the works to ensure that weed propagules are not moved to or from site.
- Priority weeds are to be managed according to requirements of the Biosecurity Duty under the *Biosecurity Act* 2015.
- Removal of mature trees must be completed sensitively to minimise disturbance to other vegetation and the ground profile. Timber should be re-used for erosion control within the project footprint.
- The number of mature trees removed should be replanted with seedlings of the same species at a ratio of 5:1.

- Tree hollows shall be replaced with artificial hollows/ nest boxes at ratio of 1:1 at a suitable nearby location. Artificial hollows/ nest boxes design and location should be completed in consultation with a suitably experienced ecologist and installed by a qualified arborist as soon as possible.
- Parking of vehicles and storage of plant/equipment is to occur within designated areas. Where this is not possible, vehicles and plant/equipment must be kept away from environmentally sensitive areas and outside of the dripline of trees.
- Ensure that disturbed areas and are rehabilitated after completion of works. This may involve establishment of native riparian vegetation. Recommended species for plantings should be consistent with the species listed for the identified PCT.
- If unexpected threatened species are detected, stop works immediately and notify the NSW Public Works Project Manager who will then contact an ecologist to determine the most appropriate course of action.

Fauna Protection

- A pre-clearing inspection by an ecologist is to be undertaken in the 24 hours prior to vegetation clearing commencing.
- An ecologist/spotter catcher is to be on site during vegetation clearing.
- If native fauna species are identified during the demolition phase, then works cease until a qualified ecologist has move the animal to safety or the animal moves of its own volition.
- If any native fauna is injured during activity, contact WIRES: 1300 094 737, Dubbo Branch.

Microbat Protection (from Microbat assessment report safeguards)

- Hollow-bearing trees within the impact area should be retained as a priority
- Staged clearing should be undertaken (e.g. clearing of non-hollow bearing trees followed by hollow-bearing trees with a wait period of 24-48 hours) to allow respite between the initial disturbance of clearing and the final removal of habitat and provide microbats with an opportunity to vacate hollows and relocate naturally priority (microbat assessment report safeguard).
- Should the new bridge design lack suitable microbat habitat, it is recommended that a compensatory microbat roost box be affixed to a suitable location on the bridge priority.
- Ensure that an unexpected finds procedure is in place for the project and communicated to all work personnel priority (microbat assessment report safeguard).
- If microbats are found during bridge works or vegetation clearing, the project manager will contact an ecologist experienced with microbat management who will determine in consultation with NSW Public Works the appropriate management.

Fisheries Resources

- Mitigation measures associated with erosion and sediment controls should be carried out. Work schedules should be planned for dry weather activity, avoiding times when heavy rainfall is possible. Checks with the Bureau of Meteorology 7-day forecast should be conducted prior to work commencing.
- An appropriate Waste Management Plan should be implemented to ensure a thorough site clean-up and removal of all necessary waste.
- The storage of vehicles, fuel containers and chemicals associated with the works should be in a bunded area away from the river bank, ensuring that spills and potential run-off are contained and treated appropriately (see section Geology, Soils and Water4.1.2).

4.1.8 Aboriginal Heritage

An Aboriginal Due Diligence Assessment (ADDA) and site survey was conducted for the Proposal (OzArk Environment & Heritage, May 2024). This section is a summary of the assessment results, with the full ADDA report provided in Appendix C.

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) was conducted on 25 January 2024 between Eastings 379358–418954 and Northings 6654566–6694162.**Error! Reference source not found.** Figure 4-2 shows the location of the study area in relation to the nearest AHIMS sites identified by the extensive search. The search returned 104 sites located within the designated search area. Four sites are located within close proximity to the study area. Thirteen sites are listed as ‘destroyed’ with one ‘partially destroyed’ site. All other sites remain extant.

Artefact scatters are the most frequent site type (32%), followed by isolated finds (30%) and culturally modified trees (18%).

The closest non-restricted site to the study area is located approximately 100m south of the study area. There are a further 3 sites within 200m of the study area.

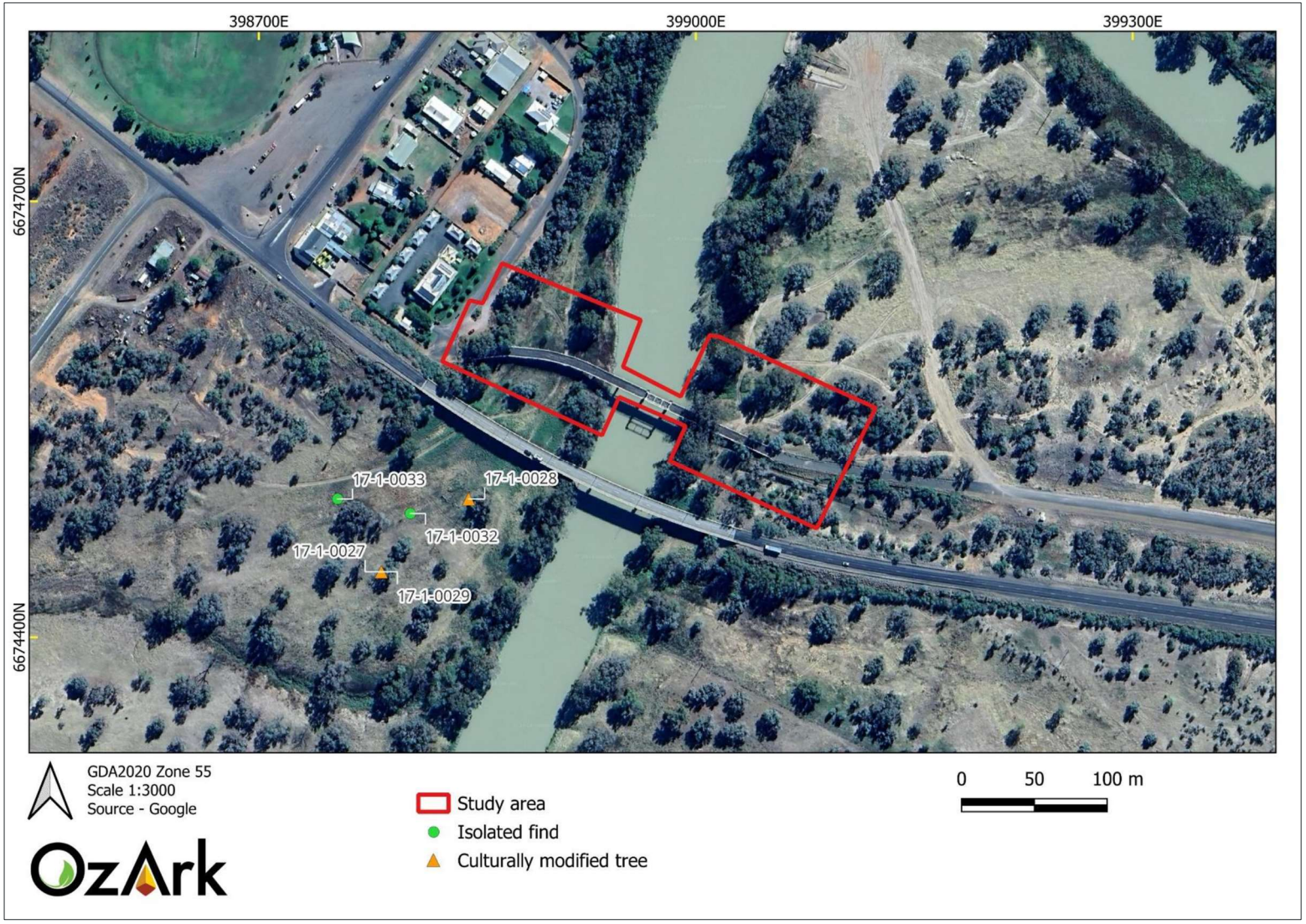

Figure 4-2: AHIMS sites recorded in the region of the study area
Source: OzArk 2024

4.1.8.1 Impact Assessment

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW 2010)* lists several landscape features that indicate the likely existence of Aboriginal objects. These include:

- Within 200 metres of waters (including the whole or any part of a river, stream, lake, lagoon, swamp, wetlands, natural watercourse, tidal waters (including the sea).
- Located within a sand dune system.
- Located on a ridge top, ridge line or headland.
- Located within 200 metres below or above a cliff face.
- Within 20 metres of or in a cave, rock shelter, or a cave mouth.

The Proposal area is within 200 m of the Darling River. It includes part of the eastern and western bank of the river, and as such is in a sensitive landscape for aboriginal sites. The visual inspection of the study area was undertaken by OzArk Project Archaeologist, Tenae Robertson, on 2 February 2024. Phil Sullivan, who is part of the Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan native title claimant group, assisted with the visual inspection. The pedestrian tracks were captured via handheld GPS as shown in **Error! Reference source not found.**.

Standard archaeological field survey and recording methods were employed (Burke and Smith 2004) and no Aboriginal objects were recorded within the study area. All mature vegetation was inspected for cultural modification.

The predictive model indicated that suitable elevated areas along the Darling-Baaka River were favoured locations for Aboriginal occupation and therefore have high potential for objects to be recorded. However, the visual inspection identified that the study area is mostly situated within landforms that have been previously disturbed and / or on lower terraces that will have been impacted by seasonal flooding. The absence of Aboriginal objects in the study area is attributed the nature of the landform being a poor preserver of archaeological deposits, as well as the moderate to high levels of disturbance. Despite this, an area of higher sensitivity was identified on a slightly more elevated terrace on the eastern side of the river.

An area of slightly elevated and relatively undisturbed river terrace is present on the eastern side of the Darling-Baaka River, situated partly within the north-eastern extent of the study area (Figure 4-4). Due to the lower levels of disturbances within this landform, this area is considered to have higher sensitivity than the surrounding landforms within the study area. It is noted that this area of sensitivity may extend further than has been identified in Figure 4-4: ADDA Area of Sensitivity

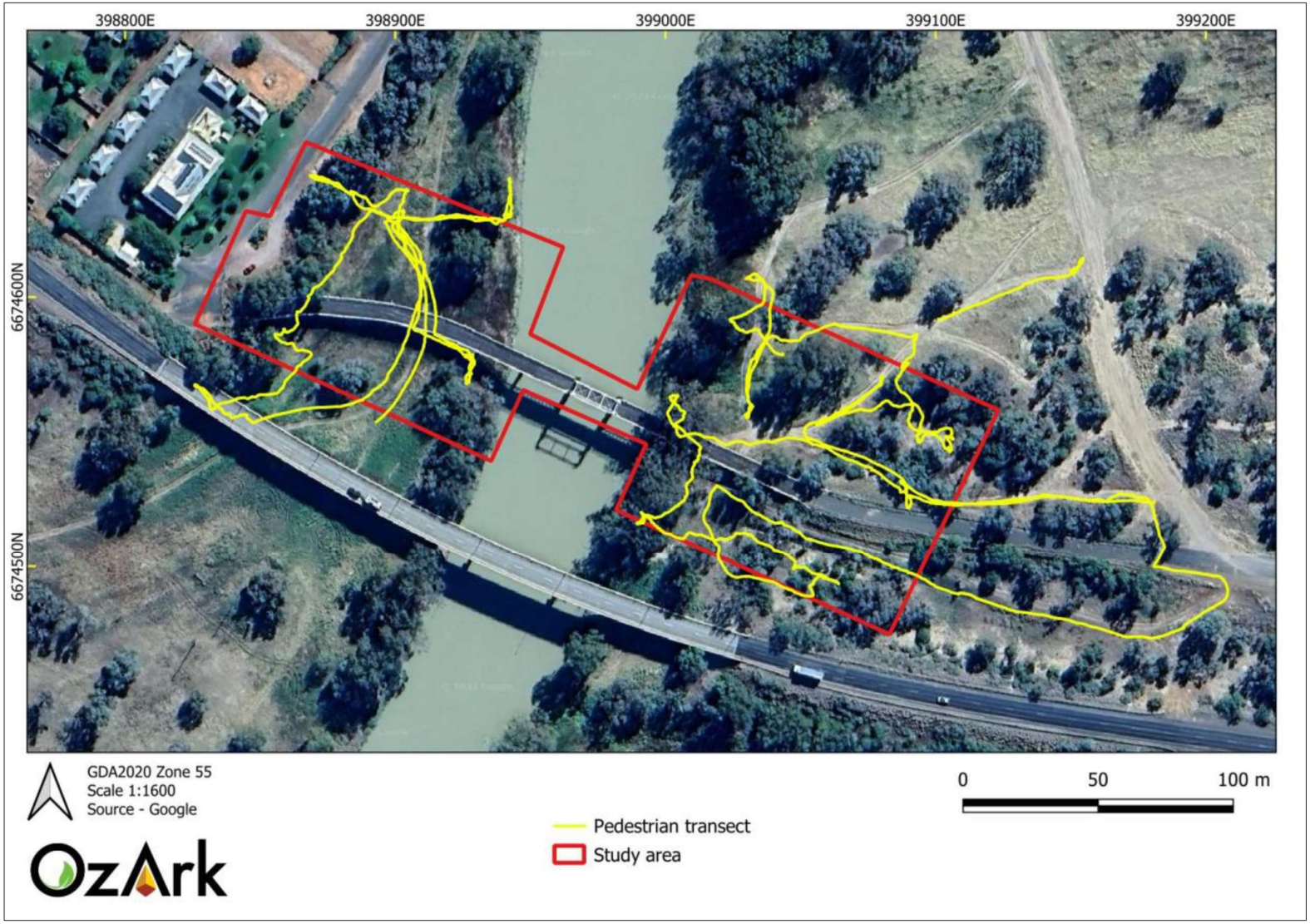

Figure 4-3: Pedestrian search tracks
Source: OzArk 202

Figure 4-4: ADDA Area of Sensitivity
Source: OzArk 2024

The ADDA concluded that the area of identified archaeological sensitivity can be avoided by the proposed works and therefore no further investigation in the form of a test excavation program is required. As access routes and areas of proposed work are located near this area, erecting temporary fencing around the area is warranted to prevent the risk of inadvertent impact.

The due diligence process has resulted in the outcome that further investigation is not required. No impacts are anticipated post demolition work.

4.1.8.2 Mitigation Measures

- The Proposal and all land and ground disturbance activities must be confined to inside the Proposal area. Should the Proposal extend outside the Proposal area assessed within the ADDA (NSW PW, August 2023), then further archaeological assessment may be required.
- The identified Area of Sensitivity (Figure 4-4: ADDA Area of Sensitivity) is a declared a 'no-go' area and shall be fenced prior to demolition work to avoid any inadvertent harm to this area.
- All staff and contractors involved in the proposed work should be made aware of legislative protection under the NPW Act for all Aboriginal sites and objects, and the contents of the Unanticipated Finds Protocols.
- The ADDA concluded that Aboriginal objects are unlikely to be harmed by the proposed works. However, if during works, Aboriginal objects, artefacts, or skeletal material are noted the following Unanticipated Finds Protocol should be followed:
    - If an unrecorded or unanticipated Aboriginal object, artefact, culturally modified tree or feature, are uncovered or identified while onsite, the following protocol is to be followed:
        - Do not further harm the Aboriginal object/s and immediately cease all work at that location
        - Secure the area to avoid further harm to the Aboriginal object/s
        - Notify Heritage NSW and Enviroline as soon as practical on 131 555 providing details of the Aboriginal object/s and its location; and
        - Do not recommence any work at the location unless authorised in writing by Heritage NSW.
        - If human skeletal remains are unexpectedly encountered during the works:
        - All works must immediately cease
        - The area should be secured to prevent unauthorised access or further harm to the remains

- NSW Police and Heritage NSW should be contacted.
- Everybody should cooperate with the appropriate authorities and relevant Aboriginal community representatives. They should help facilitate the recording and assessment of the find/s, and the fulfilment of legal constraints, including complying with NSW Police and/or Heritage NSW directions.
- Do not recommence any work at the location unless authorised in writing by Heritage NSW or NSW Police.
- If find/s have been determined to be Aboriginal object/s or skeletal remains, the recommencement of work at the location/s can only occur after gaining written approval from Heritage NSW, usually in the form of an Aboriginal Heritage Impact Permit (AHIP).

4.1.9 Historic Heritage

North Bourke is the oldest movable span bridge in Australia and is one of the most historic bridges in NSW. A Statement of Heritage Impact (SoHI) for the North Bourke Bridge describes the bridge as having exceptional overall heritage significance at a state level. The bridge itself consists of a wrought iron lifting span flanked by two wrought iron lattice girder spans and timber beam approaches. As separate items, many of these components have various levels of individual heritage significance (Table 4-3).

Table 4-3: Heritage significance items

Bridge component	Significance grading	Heritage impact*
Timber spans		
Abutment A and B	LOW	Moderate negative
Timber piers	MODERATE	Moderate negative
Timber approach spans	HIGH	Moderate negative
Metal spans		
Towers	EXCEPTIONAL	Moderate positive
Movable span	HIGH	Moderate positive
Counterweights	HIGH	Moderate negative
Mechanical components	EXCEPTIONAL	Moderate positive
Ropes	LOW	Moderate negative
Wrought iron approach spans	EXCPTIONAL	Moderate positive
Wrought iron / cast iron piers	HIGH	Moderate positive
Overall	**EXCEPTIONAL**	**Major positive**

The proposed adaptive reuse of North Bourke Bridge as a footbridge will result in a major positive impact on the overall heritage significance of the bridge. Adaptive reuse ensures the long-term survival of this unique heritage structure, and it will remain the sole surviving Balranald type vertical lift span road bridge in Australia and the oldest surviving first generation movable span bridge in NSW. A detailed Statement of Heritage Impact is included in Appendix E

4.1.9.1 Impact Assessment

The demolition of the North Bourke Bridge eastern and western approaches will impact much of the historic construction work including removal of the wooden decking, framework and fastening.

The SoHI recommended that the removal of the timber girder approach spans and proposed adaptive reuse of North Bourke Bridge as a footbridge proceed. The project will enhance and have a major positive impact on the heritage significance of North Bourke Bridge and will ensure the retention and ongoing use of an important and significant engineering heritage item.

No post-demolition impacts anticipated.

4.1.9.2 Mitigation Measures

- The Proposal should be undertaken under guidance from a Conservation Management Plan (CMP) detailing the engineering heritage, history, conservation and asset management plans for the bridge covering:
  - Comprehensive historical research, including photographic and technical records.
  - Detailed maintenance history.
  - Comparative assessment including Australian and worldwide context.
  - Review the schedule of significant forms and fabric.
  - Integrated maintenance plan for the short, medium and long term, including consideration of higher risk of vandalism associated with change of use from a road bridge to a footbridge.
  - Define the conservation policies including background and guidelines for each.
  - Set CMP reviews and monitoring periods.
- All land and ground disturbance activities must be confined to inside the Proposal area. Should the Proposal extend outside the Proposal area assessed within this REF, then further historical heritage assessment may be required.
- Any demolition work undertaken should include provisions for the discovery of a 'relic' which may be protected under the *Heritage Act 1977* may be uncovered

during works. If this occurs, follow the Unexpected Finds Protocol as outlined below.

- All staff and contractors involved in the proposed work should be made aware of legislative protection under the Heritage Act for all relics, and the following steps of the Heritage Unanticipated Finds Protocol:
    - stop work in the vicinity of the object and protect the Site;
    - the Site Supervisor should notify the Project Manager from RCC in the first instance;
    - the Site Supervisor should take photos of the object in situ with a scale and send these to the Project Manager; and
    - the Project Manager should then notify Heritage NSW and the Enviro Line on 131555 and follow advice accordingly.

4.1.10 Bushfire

Parts of the Proposal area will traverse land identified as bushfire prone land (Vegetation Category 3 and Vegetation Buffer) as identified on the Bushfire Prone Land Map, certified by the NSW Rural Fire Service (NSW RFS) (See Figure 2-5).

4.1.10.1 Impact Assessment

Demolition works at the Site are not anticipated to pose a bushfire risk. Any fire risks associated with work activity (such as welding) should be incorporated into safe work method statements or similar and identified in the DEMP. The design should avoid flammable materials given the potential bushfire risk at the site, in accordance with the relevant principles of the NSW RFS publication *Planning for Bushfire Protection Guideline 2019*.

There will be no operational phase implications for management of bushfire risk at the Site post construction.

4.1.10.2 Mitigation Measures

- Work personnel are to be made aware of the location of the proposed works in bushfire prone land and the potential for bushfire risk.
- No hot works will be undertaken on Total Fire Ban days.

4.1.11 Visual Amenity

4.1.11.1 Impact Assessment

Demolition activities such as stockpiling and machinery may be visible from residential properties, park and road users in the Proposal area. The presence of these facilities will detract from the visual amenity and landscape character of the Proposal area. However, as the works are temporary in nature and given the proper implementation of mitigation

measure provided below, the visual amenity impacts during construction are considered to be minor.

The Proposal will require the removal of several native trees and clearing of saplings and sparse groundcover vegetation. However, vegetation removal is not anticipated to have a significant impact on the visual amenity of the Proposal area, as disturbed areas will be rehabilitated post the construction and associated impacts will be temporary and vegetation will naturally re-establish with the potential to support vegetation restoration through native vegetation plantings.

Operational Impacts

Post-construction, only minor visual impacts are anticipated due to the removal of some native vegetation. In addition, the new approaches to the bridge will be consistent in appearance with the existing road geometry. Therefore, visual impacts post demolition work is not anticipated to be significant.

4.1.11.2 Mitigation Measures

- The clearing of groundcover vegetation will be kept to the minimum required for the works.
- Work compounds and areas for the parking of vehicles and storing of equipment will be located in cleared areas wherever possible.
- Rehabilitation of disturbed areas to be undertaken as soon as practicable, this is also discussed in Section 5.2.7

4.1.12 Utilities and Infrastructure

The site may be located near underground or overhead utilities infrastructure and electrical infrastructure. A previous search for the location of public utilities was undertaken via a “Before you Dig Australia” request that recorded the following:

Table 4-4: Before You Dig Australia search

Public utility	Status	Source
Water main	• Attached to downstream side of bridge • 120 mm diameter pipe • Provide water for North Bourke • Affected	Identified on site
Essential Energy	• Not on the bridge • Affected • Underground earth or wires	BYDA
NBN Co.	• Not affected	BYDA
Telstra	• Not on the bridge • Cables in proximity to north western abutment.	BYDA

While this report does not include the scoping and design of services protection and relocations, it is important to acknowledge that such considerations play a significant role in the overall project.

4.1.12.1 Impact Assessment

The use of excavation equipment as part of the proposed demolition of the eastern and western approaches is subject to hazards bought about by overhead and underground utilities.

4.1.12.2 Mitigation Measures

- The existing water main should be fenced off prior to work starting, including in the creek, to minimise risk of damage.
- Accurately locate any other services near the Site which may be impacted by demolition work activities prior to commencement. This may include Council maps and observational searches of nearby powerline easements and contacting 'Before You Dig Australia' if relevant.
- Utility and service providers will be consulted prior to the commencement of work and during demolition works in the event that impacts on any utilities and services by the Proposal are likely.

- The relocation of existing services in the works area prior to the commencement of works as necessary.

4.1.13 Public Health and Safety

4.1.13.1 Impact Assessment

A Steep Slope Construction Guideline including Safe Work Method Statement (SWMS) for *Work On Steep Slopes* will need to be developed due to the steep slope and increased risk of machinery rollover. This will need to form part of the DEMP.

Ensuring public health and safety within the work corridor is a consideration that should be included within the DEMP. A DEMP will provide the guidelines and procedures for ensuring that the risk to public safety during the pre-demolition, demolition and post-demolition phases of the project is minimised.

No further impact is anticipated.

4.1.13.2 Mitigation Measures

- Carry out all work in compliance with the requirements of SafeWork NSW and the provisions of the *Work Health and Safety Act 2011* and *Work Health and Safety Regulation 2017*, and SWMS to ensure the safety of staff and members of the public.
- Implement a system to prevent falling objects impacting on persons working on or in the vicinity of the demolition work. Identify and designate any area where a falling object might reasonably be expected to land, as an exclusion zone. Extend the boundaries of the exclusion zone horizontally to a safe distance as appropriate.
- Establish exclusion zones to protect workers involved in the demolition and prevent unauthorised personnel from entering work areas.
- Isolate the demolition work from the public, by measures such as installation of hoarding, security perimeter fencing, containment sheets and mesh, and overhead protective structures. Provide barriers to mitigate the impact of noise from the demolition.
- Where necessary, carry out temporary road closures in accordance with TfNSW and a site Traffic Management Plan (TMP) and/or establish temporary exclusion zones.
- Keep the protection measures in place at all times during the progress of the work, and regularly inspect and maintain them.
- In accordance with SafeWork NSW requirements, all plant and equipment used in demolition work must comply with the relevant Australian Standards and manufacturer specifications.

- Community complaints received as a result of work activity will be recorded in a complaints register and attended to promptly. On receiving a complaint, works will be reviewed to determine whether issues relating to the complaint can be avoided or minimised. Feedback will be provided to the complainant explaining what remedial actions were taken.

5 Environmental Management

Preparation of a DEMP is mandatory for all projects undertaken by or on behalf of government agencies or where funding is being provided by the government.

The DEMP will be developed to ensure that appropriate environmental management practices are followed during the undertaking and/or operation of the Proposal. BSC will review the DEMP for this Proposal, which should include the following elements, as described in the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004):

5.1 Demolition Environmental Management Plan

Table 4-5: Demolition Environmental Management Plan Structure

Background	Introduction to the document Description of the proposal and project details The context for the DEMP in regard to the overall project The DEMP objectives The contractor's environmental policy
Environmental Management	Environmental management structure of the organisation and specific team responsibilities with respect to the DEMP and its implementation Approval and licensing requirements relevant to the project Reporting requirements Environmental training Emergency contacts and response
Implementation	A project specific risk assessment A detailed list of environmental management safeguards and controls DEMP sub plans for specific environmental controls A detailed schedule assigning responsibility to each environmental management activity and control
Monitor and Review	Environmental monitoring Environmental auditing Corrective action

	DEMP review and document control procedures

The DEMP will include a risk assessment which ensures that the safeguards identified in this REF, as well as any others that are considered relevant, are effectively translated into work methodology and environmental management activities, controls and monitoring/verification to prevent or minimise environmental impacts. The DEMP should also identify the requirements for compliance with relevant legislation and any other regulatory requirements to ensure environmental safeguards described throughout this REF are implemented. The environmental management objectives and supporting actions presented in this section are intended to assist in this process.

The following details the environmental objectives during work activity and the proposed mitigation to be included in the DEMP. This list is not definitive, and additional measures detailed as part of the determination of the Project and conditions of any other approvals must also be included.

5.2 Environmental Management Measures

Implementation of the mitigation measures outlined below will be undertaken during a number of phases of the project. These phases comprise:

Pre-demolition – prior to the contractor arriving on site to carry out the works

Demolition – during demolition phase

Operation – post demolition

5.2.1 Land Use

Action/Phase	Responsibility
Demolition	
The contractor will be required to take all necessary steps to prevent damage to Council property, facilities and operations including fences and gates. A dilapidation report should be prepared prior to works starting and include photos pre and post demolition. Should damage occur to property it will be restored to a condition equivalent to the original condition.	Contractor
Temporary fencing and gates will be installed where necessary to exclude the public and animals from the work sites. Any temporary fencing or gates no longer required will be removed at the completion of the demolition works.	Contractor
Post -Demolition	

Action/Phase	Responsibility
Restoration of the areas disturbed during demolition will be undertaken post-works.	Contractor

5.2.2 Geology, Soils and Water

Action/Phase	Responsibility
Demolition	
Minimise exposure of bare soil to reduce opportunity for erosion and weed growth.	Contractor
Prepare and implement a site-specific Erosion and Sediment Control Plan for the entire demolition period. This will incorporate erosion and sediment control measures which are appropriate for the site conditions and demolition methodology in line with Landcom's Managing Urban Stormwater, Soils & Construction Guidelines (The Blue Book). The ESCP will include measures to: Prevent sediment moving off-site and sediment laden water entering local drainage lines and small creeks. Reduce water velocity and capture sediment on site. Divert clean water around the site.	Contractor
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.	Contractor
Visual monitoring of local water quality (ie 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.	Contractor
Programming of work to ensure that it takes place during seasonally dry periods where possible (generally June – November).	Contractor
Ensure that only natural materials are utilised.	Contractor
All fuels, chemicals and liquids are to be stored away from natural drainage line.	Contractor

Action/Phase	Responsibility
Ensure a well-stocked spill kit, incorporating silt curtains and other materials for use in waterways, is available on site throughout the duration of the works.	Contractor
If vegetation is to be mulched and transported off site for beneficial use, it is to be assessed for the presence of weeds, pest and other diseases.	Contractor
Vehicle wash down is to occur in a designated bunded area.	Contractor
Works should not be scheduled when heavy rainfall is forecast and works involving soil disturbance should not take place during heavy rainfall periods, other than work necessary to stabilise the site. The following flood preparations should be prepared where necessary: In the event of flooding, demolition work in affected areas will cease and will not commence until flood waters have receded. Weather forecasts will be checked regularly so that equipment and materials in flood areas can be secured prior to heavy rainfall events. The contractor will develop a monitoring and flood response plan to detail procedures for monitoring rainfall (stormwater) and waterway flows and to identify subsequent response actions that will be taken to ensure the protection of personnel, equipment and water quality during the demolition works. Bureau of Meteorology site to be checked daily and if a rain event is forecasted, time needs to be allocated to prepare the site for a rain event.	Contractor
Mitigation measures to manage groundwater (should it be encountered during work activity) will be incorporated into the DEMP which is to address the following issues in relation to groundwater: Dewatering techniques during excavation; Measures to ensure groundwater quality is not impacted during demolition works Techniques to settle, treat or filter groundwater encountered during excavation works i.e. diverting groundwater through baffle tanks or filter membranes; and	Contractor

Action/Phase	Responsibility
Appropriate treatment and monitoring regimes should be established in the event that groundwater flows come to the surface, including disposal of groundwater in such a way as to prevent adverse impacts (such as erosion and water pollution). Groundwater should not be discharged to a waterway during work activity.	

5.2.3 Traffic and Access

Action/Phase	Responsibility
Pre-demolition	
The contractor will prepare a Traffic Management Plan (TMP) as part of the DEMP, to be reviewed by BSC prior to commencement of works. The TMP will include measures to minimise traffic impacts ensure public safety and will be prepared in accordance with: RMS's Traffic Control at Work Sites Manual, Issued February 2022; and Australian Standard 1742.3 - 2019 Traffic Control for Works on Roads.	Contractor
The TMP will detail mitigation measures to manage traffic related issues associated with the demolition works including: All materials deliveries are to avoid school zones during school bus hours, i.e. 7.30am to 9.30am and 3pm to 5pm; Appropriate and site-specific pedestrian management.	Contractor
Prior to the commencement of demolition works the contractor shall consult with residential premises likely to be affected by truck movements, or in the immediate vicinity of the proposed works to determine any community concerns and provide advice as to where concerns can be directed. If during consultation community concerns are not readily resolved by agreement, The Department/council staff are to be contacted who will endeavour to assist in resolving any outstanding issues of concern.	Council / Contractor
Demolition	
Any disturbance to the adjacent Bridge Inn Motel and residents as a result of vehicle movements and noise will be minimised by adhering	Contractor

Action/Phase	Responsibility
to the standard working hours (i.e. Monday to Friday 7am to 6pm; Saturdays 8am – 1pm and no work on Sundays or public holidays).	
Trucks will not access the sites in weather conditions that will cause damage to properties or the environment.	Contractor
All sealed roads will be kept clean and free of dust and mud at all times. Where material is tracked onto sealed roads at any time, it will be removed immediately so that road pavements are kept safe and trafficable.	Contractor
A dilapidation report of traffic routes will be undertaken to ensure that all road surfaces are returned to a condition equivalent to pre-demolition condition	Contractor
Any temporary access tracks required for the works will be located so as to minimise disturbance to the existing environment. Following completion of the works the temporary tracks will be removed, topsoil provided and re-grassed.	Contractor
All work activity traffic will comply with all applicable traffic laws and regulations. All work vehicles will comply with the speed limits set for the roads accessing to the site.	Contractor
Any complaints from local residents will be recorded by the Contractor via a complaints register, and acted on appropriately.	Contractor

5.2.4 Air Quality

Action/Phase	Responsibility
Pre-demolition	
Work vehicles and equipment will be suitably serviced within the six-month period prior to commencement of work activity and all necessary maintenance undertaken during the work period to meet EPA air quality requirements.	Contractor
Demolition	
The excessive use of vehicles and powered demolition equipment will be avoided.	Contractor

Action/Phase	Responsibility
All demolition machinery will be turned off when not in use to minimise emissions.	Contractor
Demolition contractors will monitor dust generation potential.	Contractor
Dust suppression methods including the use of water carts will be applied where required (i.e. on windy days when earthworks and vehicle movements are generating dust).	Contractor
Any stockpiled spoil/fill will be protected to minimise dust generation to avoid sediment moving offsite.	Contractor
Vehicles transporting fill/spoil to and from the works sites will be covered.	Contractor
Post - demolition	
Bare surfaces are to be re-vegetated or stabilised as soon as possible.	Contractor

5.2.5 Noise and Vibration

Action/Phase	Responsibility
Pre-demolition	
Prior to the commencement of demolition works the contractor shall consult with the Bridge Inn Motel and residential premises likely to be affected by, or in the immediate vicinity of, the proposed works to determine any community concerns and provide advice as to where concerns can be directed.	Council / Contractor
A Noise and Vibration Management Plan (NVMP) must be prepared as part of the DEMP, to be reviewed by BSC prior to commencement of works. The NVMP will address site specific issues, including limited work hours and noise and vibration reduction practices, taking into consideration DECCW's *Interim Construction Noise Guideline* (in particular Table 4-1) and *Assessing Vibration: A Technical Guideline* (in particular mitigation measures in Section 3). Mitigation measures to minimise noise and vibration impacts will include:	Contractor

Action/Phase	Responsibility
Optimum siting of work areas, vehicle and plant parking areas, materials stockpiles and equipment storage areas in locations where potential acoustic and vibration impacts will be minimised; Identify locations where demolition noise and vibration is most intrusive and develop strategies to reduce impacts for these areas.	
Demolition	
Generally, works will be undertaken during normal work hours i.e. 7am to 6pm Monday to Friday; 8am to 1pm Saturdays; and no work will be undertaken on Sundays, Public Holidays or outside these work hours without notification to the affected community and EPA. Notification to EPA and affected community will provide the following details: The locations and types of surrounding receivers likely to be affected; The nature of the proposed works; The noise characteristics of any powered equipment likely to be used; Measures to be taken to reduce noise emissions; Any other information EPA may request; and All reasonable practical steps shall be undertaken to reduce noise and vibration from the site.	Contractor
Consideration is to be given to respite periods by restricting the hours that the very noisy activities can occur, taking into account: Excavation or removal of any materials using machinery of any kind, including compressors, must be limited to between 7.30am and 5.00pm Monday to Friday, with a respite break of 45 minutes between 12pm and 1pm. Times identified by the community when they are less sensitive to noise (such as before and after school for when located near schools, or mid-morning or mid-afternoon when located near residences); and If the community is prepared to accept a longer period of works in exchange for restrictions on scheduled work times.	Contractor

Action/Phase	Responsibility
All plant and machinery used for the project will be well maintained;	Contractor
All possible measures will be taken to ensure demolition equipment is operated to manufacturer's specifications.	Contractor
Any noise complaint received will be investigated as soon as practicable. Any practicable and feasible measures to minimise noise will be identified. The complainant will be advised of the outcome.	Contractor

5.2.6 Waste Management

Action/Phase	Responsibility
Pre- demolition	
The Contractor will discuss and develop a plan for the identification of and recovery, storage and re-purposing of heritage items with Bourke Shire Council. A thorough training process for salvaging recoverable items should be incorporated into the DEMP. Timber framework that is not intended to be repurposed should be resold/recycled in accordance with TfNSW's "Bridge Timber Purchase Agreement" and "Recycling of Bridge Timber" specifications (TfNSW, 2016). Where practical, bridge timber and metal materials should be resold/recycled in accordance with TfNSW's "Bridge Timber Purchase Agreement" and "Recycling of Bridge Timber" specifications (TfNSW, 2016). The contractor undertaking the works will detail waste management procedures in a Waste Management Plan (WMP) to be incorporated into the DEMP. The contractor is to assume responsibility for the appropriate disposal of any waste generated. Adequate procedures should be established and detailed in the DEMP, including notification requirements to EPA, for incidents that cause material harm to the environment. The WMP will also follow the resource management hierarchy principles embodied in the *Waste Avoidance and Resource Recovery Act 2001*. Namely, to: Avoid unnecessary resource consumption:	Contractor

Action/Phase	Responsibility
recover resources (including reuse, reprocessing, recycling and energy recovery); and dispose (as a last resort).	
Demolition	
The demolition contractor is to ensure that waste generated by the works is transported to a place that can lawfully accept it as per Section 143 of the *Protection of the Environment Operations Act* 1997.	Contractor
If any contaminated material is encountered during earthworks, work shall cease, the site secured and a safe work method statement(s) and appropriate practices shall be implemented. Any contaminated material will be classified first and then stored, transported and disposed of in accordance with EPA requirements at an EPA licensed waste facility.	Contractor
The EPA is to be notified immediately of any pollution incidents or harm to the environment (as defined under Part 5.7 of the POEO Act).	Contractor
The WMP will adopt the objectives of the *Waste Avoidance and Resource Recovery Act*, namely, to encourage the most efficient use of resources, to reduce environmental harm, and to provide for the continual reduction in waste generation in line with the principles of environmentally sustainable development (ESD).	Contractor
The reuse of spoil will need to comply with the EPA's *Resource Recovery Exemption and Resource Recovery Order for Excavated Natural Material or disposed in accordance with the Waste Classification Guidelines* (EPA, 2014) and Addendum (2016).	Contractor
Accurate written records are to be kept such as: who transported the waste (company name, ABN, vehicle registration and driver details, date and time of transport, description of waste) • copies of waste dockets/receipts for the waste facility (date and time of delivery, name and address of the facility, it's ABN and contact person).	Contractor
The WMP is to be regularly updated to record how waste is managed and audit where waste is taken.	Contractor

Action/Phase	Responsibility
Adequate supervision is to be provided to ensure the WMP is implemented and complied with.	Contractor
The demolition contractor is to ensure that waste generated by the works is transported to a place that can lawfully accept it as per Section 143 of the *Protection of the Environment Operations Act* 1997.	Contractor
All waste debris etc, must be contained within the site and steps taken to ensure this material does not enter nearby waterways.	Contractor
All waste, including excess spoil be recycled if practicable or alternatively taken to a licensed waste disposal facility.	Contractor
If vegetation is to be mulched and transported off site for beneficial re-use, it is to be assessed for the presence of weeds, pest and other disease and a Mulch Management Plan prepared.	Contractor
Cleared vegetative (exclusive of weeds) is to be returned to nearby suitable locations that are not in the constructible footprint early in the demolition process rather than disposed of off-site.	Contractor
Solid waste materials including garbage will be collected in steel containers and transported off the site to an approved waste disposal facility.	Contractor
Waste receptacles for recyclable and non-recyclable waste are to be provided for personnel waste.	Contractor
Trucks used for the transport of excavated materials and imported materials shall be loaded in such a manner and fitted with suitable tarpaulins as to prevent materials dropping from the truck during transportation along the foreshore and public roads.	Contractor
The EPA is to be notified immediately of any pollution incidents or harm to the environment (as defined under Part 5.7 of the POEO Act).	Contractor

5.2.7 Biodiversity

Action/Phase	Responsibility
Pre -demolition	

Action/Phase	Responsibility
A pre-clearing inspection should be undertaken 24 hours prior to vegetation removal works to check the hollow-bearing tree to be removed, to ensure no fauna species are present.	Contractor/Ecologist
Weed hygiene measures must be in place prior to, during and after the works to ensure that weed propagules are not moved to or from site.	Contractor
Trees/vegetation that has been checked by an ecologist and approved for removal should be marked clearly.	
Demolition	
Existing native vegetation is to be retained to the greatest extent possible in an undamaged and unaltered condition.	Contractor
Weed hygiene measures must be in place prior to, during and after the works to ensure that weed propagules are not moved to or from site.	Contractor
Priority weeds are to be managed according to requirements of the Biosecurity Duty under the *Biosecurity Act 2015.*	Contractor
Removal of mature trees must be completed carefully to minimise disturbance to other vegetation and the ground profile. Timber should be re-used for erosion control within the project footprint. Habitat trees marked for modification/removal are shown in Figure 4-1: Biodiversity Footprint, Habitat trees H8, H9 and one additional tree, south of H8).	Contractor
Parking of vehicles and storage of plant/equipment is to occur within designated areas. Where this is not possible, vehicles and plant/equipment must be kept away from environmentally sensitive areas and outside of the dripline of trees.	Contractor
Access track design and demolition methodology (sectionDemolition Methodology3.4) should be undertaken to reduce potential impacts to the natural environment. Measures should include: Using existing cleared areas through vegetation communities to reduce impact to native vegetation.	

Action/Phase	Responsibility
Adjusting the track placement if it allows mature trees to be avoided. Incorporating revegetation into the design as described above.	
The access track must be installed to avoid riverbank and sensitive riparian environments, ensuring minimal disturbance occurs.	Contractor
Any woody debris occurring within the works footprint requiring removal should be relocated within undisturbed parts of the river or works area.	Contractor
Erosion/sediment controls must be implemented and maintained during the project.	Contractor
If unexpected threatened species are detected, stop works immediately and notify the NSW Public Works Project Manager who will then contact an ecologist to determine the most appropriate course of action.	Contractor
For Fauna Protection: A pre-clearing inspection by an ecologist is to be undertaken in the 24 hours prior to vegetation clearing commencing. An ecologist/spotter catcher is to be on site during vegetation clearing. If native fauna species are identified during the demolition phase, then works cease until a qualified ecologist has move the animal to safety or the animal moves of its own volition. If any native fauna is injured during activity, contact WIRES: 1300 094 737, Dubbo Branch.	Contractor
For Microbat Protection:	Contractor

Action/Phase	Responsibility
Staged clearing should be undertaken (e.g. clearing of non-hollow bearing trees followed by hollow-bearing trees with a wait period of 24-48 hours) to allow respite between the initial disturbance of clearing and the final removal of habitat and provide microbats with an opportunity to vacate hollows and relocate naturally priority (microbat assessment report safeguard). Should the new bridge design lack suitable microbat habitat, it is recommended that a compensatory microbat roost box be affixed to a suitable location on the bridge priority Ensure that an unexpected finds procedure is in place for the project and communicated to all work personnel priority (microbat assessment report safeguard). If microbats are found during bridge works or vegetation clearing, the project manager will contact an ecologist experienced with microbat management who will determine in consultation with NSW Public Works the appropriate management.	
To Protect Key Fish Habitat: Mitigation measures associated with erosion and sediment controls should be carried out. Work schedules should be planned for dry weather activity, avoiding times when heavy rainfall is possible. Checks with the Bureau of Meteorology 7-day forecast should be conducted prior to work commencing. An appropriate Waste Management Plan should be implemented to ensure a thorough site clean-up and removal of all necessary waste. The storage of vehicles, fuel containers and chemicals associated with the works should be in a bunded area away from the river bank, ensuring that spills and potential run-off are contained and treated appropriately (see section 4.1.2). Topography, geology and soils should be carried out as per section 5.2.2.	Contractor

Action/Phase	Responsibility
Post - Demolition	
Tree hollows will be replaced with artificial hollows/ nest boxes at ratio of 1:1 at a suitable nearby location. Artificial hollows/ nest boxes design and location should be completed in consultation with a suitably experienced ecologist and installed by a qualified arborist as soon as possible.	
The number of mature trees removed should be replanted with seedlings of the same species at a ratio of 5:1.	Contractor
Ensure that disturbed areas and are rehabilitated after completion of works. This may involve establishment of native riparian vegetation consistent with the species listed for PCT 36 and PCT 40 (refer to Appendix B).	Contractor

5.2.8 Aboriginal Cultural Heritage

Action/Phase	Responsibility
Pre- demolition	
The identified area of sensitivity (Figure 4-4: ADDA Area of Sensitivity) should be declared a 'no-go' area and should be fenced prior to demolition work commencing to avoid any inadvertent harm to this area.	Contractor
Demolition	
The Proposal and all land and ground disturbance activities must be confined to inside the Proposal area. Should the Proposal extend outside the Proposal area assessed within the ADDA (NSW PW, August 2023), then further archaeological assessment may be required.	Contractor
All staff and contractors involved in the proposed work should be made aware of legislative protection under the NPW Act for all Aboriginal sites and objects, and the contents of the Unanticipated Finds Protocols.	Contractor
Unexpected Finds Protocol	Council /Contractor

Action/Phase	Responsibility
The ADDA concluded that Aboriginal objects are unlikely to be harmed by the proposed works. However, if during works, Aboriginal objects, artefacts, or skeletal material are noted the following Unanticipated Finds Protocol should be followed: If an unrecorded or unanticipated Aboriginal object, artefact, culturally modified tree or feature, are uncovered or identified while onsite, the following protocol is to be followed: • Do not further harm the Aboriginal object/s and immediately cease all work at that location; • Secure the area to avoid further harm to the Aboriginal object/s; • Notify Heritage NSW and Enviroline as soon as practical on 131 555 providing details of the Aboriginal object/s and its location; and • Do not recommence any work at the location unless authorised in writing by Heritage NSW. • If human skeletal remains are unexpectedly encountered during the works: o All works must immediately cease o The area should be secured to prevent unauthorised access or further harm to the remains o NSW Police and Heritage NSW should be contacted. Everybody should cooperate with the appropriate authorities and relevant Aboriginal community representatives. They should help facilitate the recording and assessment of the find/s, and the fulfilment of legal constraints, including complying with NSW Police and/or Heritage NSW directions. Do not recommence any work at the location unless authorised in writing by Heritage NSW or NSW Police. If find/s have been determined to be Aboriginal object/s or skeletal remains, the recommencement of work at the location/s can only occur after gaining written approval from Heritage NSW, usually in the form of an Aboriginal Heritage Impact Permit (AHIP).	

5.2.9 Historic Heritage

Action/Phase	Responsibility
Pre-Demolition	
The Proposal should be undertaken under guidance from a Conservation Management Plan detailing the engineering heritage, history, conservation and asset management plans for the bridge covering: Comprehensive historical research, including photographic and technical records. Detailed maintenance history. Comparative assessment including Australian and worldwide context. Review the schedule of significant forms and fabric. Integrated maintenance plan for the short, medium and long term, including consideration of higher risk of vandalism associated with change of use from a road bridge to a footbridge. Define the conservation policies including background and guidelines for each. Set CMP reviews and monitoring periods.	
Demolition	
All land and ground disturbance activities must be confined to inside the Proposal area. Should the Proposal extend outside the Proposal area assessed within this REF, then further historical heritage assessment may be required.	Contractor
Any demolition work undertaken should include provisions for the discovery of a 'relic' which may be protected under the Heritage Act 1977 may be uncovered during works. If this occurs, follow the Unexpected Finds Protocol as outlined below	
All staff and contractors involved in the proposed work should be made aware of legislative protection under the Heritage Act for all relics, and the following steps of the Heritage Unanticipated Finds Protocol:	Contractor

Action/Phase	Responsibility
stop work in the vicinity of the object and protect the Site; the Site Supervisor should notify the Project Manager from RCC in the first instance; the Site Supervisor should take photos of the object in situ with a scale and send these to the Project Manager; and the Project Manager should then notify Heritage NSW and the Enviro Line on 131555 and follow advice accordingly.	

5.2.10 Bushfire

Action/Phase	Responsibility
Demolition	
Work staff to be made aware of the location of the proposed works in bushfire prone land and the potential for bushfire risk.	Contractor
No hot works to be undertaken on Total Fire Ban days.	Contractor

5.2.11 Visual Amenity

Action/Phase	Responsibility
Demolition	
The clearing of groundcover vegetation will be kept to the minimum required for the works.	Contractor
Construction compounds and areas for the parking of vehicles and storing of equipment will be located in cleared areas wherever possible.	Contractor
Rehabilitation of disturbed areas to be undertaken as soon as practicable.	Contractor

5.2.12 Utilities and Infrastructure

Action/Phase	Responsibility
Pre-Demolition	
The existing water main should be fenced off prior to work starting, including in the creek, to minimise risk of damage.	Contractor
Accurately locate any other services near the Site which may be impacted by the demolition activities prior to the commencement of work activity. This may include Council maps and observational search of nearby powerline easements and contacting 'Dial Before You Dig' if relevant.	Contractor
Utility and service providers will be consulted prior to the commencement of and during demolition works in the event that impacts on any utilities and services by the Proposal are likely.	Contractor
The relocation of existing services in the works area prior to the commencement of works as necessary.	

5.2.13 Public Health and Safety

Action/Phase	Responsibility
Demolition	
Carry out demolition in compliance with the requirements of SafeWork NSW and the provisions of the *Work Health and Safety Act 2011* and *Work Health and Safety Regulation 2017*, to ensure the safety of staff and members of the public.	Contractor
Implement a system to prevent falling objects impacting on persons working on or in the vicinity of the demolition work. Identify and designate any area where a falling object might reasonably be expected to land, as an exclusion zone. Extend the boundaries of the exclusion zone horizontally to a safe distance as appropriate	Contractor
Establish exclusion zones to protect workers involved in the demolition and prevent unauthorised personnel from entering work areas.	Contractor
Isolate the demolition work from the public, by measures such as installation of hoarding, security perimeter fencing, containment	Contractor

Action/Phase	Responsibility
sheets and mesh, and overhead protective structures. Provide barriers to mitigate the impact of noise from the demolition.	
Where necessary, carry out temporary road closures in accordance with TfNSW and a site Traffic Management Plan (TMP) and/or establish temporary exclusion zones.	Contractor
Keep the protection measures in place at all times during the progress of the work, and regularly inspect and maintain them	Contractor
In accordance with SafeWork NSW requirements, all plant and equipment used in demolition work must comply with the relevant Australian Standards and manufacturer specifications.	Contractor
Community complaints received as a result of work activity will be recorded in a complaints register and attended to promptly. On receiving a complaint, works will be reviewed to determine whether issues relating to the complaint can be avoided or minimised. Feedback will be provided to the complainant explaining what remedial actions were taken.	Contractor

6 Conclusion and Recommendations

6.1 Conclusion

The proposed demolition of the North Bourke Bridge eastern and western approaches provides an opportunity to commence the process to restore the heritage value of a significant cultural asset. Furthermore, with the opportunity to attain Stage 2 funding and continue restoration works, the Proposal has the potential to enhance opportunities for the local economy and tourist industry. Subsequently, the completion of Stage 1 of the Project is the initial step necessary to an overall positive long-term impact to the Bourke LGA.

The Proposal will potentially cause short term impacts such as increased noise and traffic and a reduction in community amenity for the nearby residents and users the Darling Baaka River at the site of the proposed works. These impacts are considered to be minor and temporary with the implementation of this REF's mitigation measures. There will be minor visual impact on the natural environment from the removal of vegetation during demolition works however the site will be remediated through native vegetation re-establishment. Therefore, the visual impacts during and immediately after work activity outlined within the REF are not anticipated to be significant.

The Biodiversity Impact Assessment undertaken for the Proposal (GeoLINK, 2024) indicated that the Proposal will not have significant terrestrial and aquatic biodiversity impacts, as confirmed by tests/assessments of significant under the BC Act and FM Act. Therefore, a SIS and/or BDAR are not required for the Proposal.

An Aboriginal Due Diligence Assessment undertaken for the Proposal (OzArk, 2024) concluded that the Proposal is unlikely to impact Aboriginal objects and will not impact on any known places or sites of cultural significance to the Aboriginal community. No Aboriginal sites or objects were identified inside the Proposal area, and the Proposal area has a low potential for archaeological deposits to be present. The report notes an area of sensitivity which is to be avoided to prevent potential Aboriginal Cultural Heritage items or objects being impacted during work activity. Provided the mitigation measures are adhered to, further archaeological assessments and/or an AHIP are not required, and the Proposal can proceed with caution.

This REF has been prepared in accordance with Sections 5.5 and 5.7 of the E*nvironmental Planning and Assessment Act 1979* and Section 171 of the E*nvironmental Planning and Assessment Regulation 2021*. It provides a true and fair assessment of the proposed activity in relation to its likely 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 proposed activity.

Based on the information in this REF, it is concluded that:

(1) the proposed activity is not likely to have a significant impact on the environment and therefore an Environmental Impact Statement is not required.

(2) the proposed activity is not likely to significantly affect threatened species, populations, ecological communities, or critical habitat. Therefore, a Species Impact Statement (SIS) / Biodiversity Development Assessment Report (BDAR) is not required.

(3) the proposed activity is not likely to affect any Aboriginal Cultural Heritage objects, items or places, therefore the proposed work may proceed within the study area (excluding the area of sensitivity shown in Figure 4-4: ADDA Area of Sensitivity) without further archaeological investigation.

(4) the proposed activity is not likely to affect any Commonwealth land, is not being carried out on Commonwealth land, or significantly affect any Matters of National Environmental Significance.

The proposed activity is recommended to proceed subject to implementation of the measures to avoid, minimise or manage environmental impacts listed in this REF.

6.2 Recommendations

It is recommended that the Proposal for the North Bourke Bridge Restoration, Stage 1 Works be approved with the following conditions:

- A DEMP will be developed for the Proposal incorporating the mitigation measures outlined in Section 6 of this REF and any other appropriate environmental management measures. The DEMP must be reviewed and approved by BSC prior to the commencement of work activity.
- Council publishes the REF on the NSW Planning Portal or Council's website as per Section 171 (4) of the EP&A Regulation (being where it is in the public's interest) either before the activity commences or, where this is not practicable, as soon as practicable and no later than one month after the activity commences.

6.3 References

Australian Standard AS2436-2010. *Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites*

Bourke Shire Council, 2022, *Bourke Floodplain Risk Management Study and Plan.* BFRMS_V1_Report_[Rev 1.3]

Department of Energy and Climate Change and Water (DECCW). (2010). *NSW Government Interim Construction Noise Guidelines*

Department of Infrastructure, Planning and Natural Resources (DIPNR). (2004). *NSW Government Guideline for the Preparation of Environmental Management Plans*

Department of Energy and Climate Change (DECC). (2010). *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*

Environment Protection Authority, 2017, *Noise Policy for Industry*

Focus Bridge Engineering, 2024, *Statement of Heritage Impact for Removal of the Timber*

Approach Spans and Adaptive Reuse as a Footbridge

GeoLINK, 2024, *Biodiversity Assessment Report, North Bourke Bridge*

GeoLINK, 2024, *Microbat Survey and Habitat Assessment Report, North Bourke Bridge*

Landcom, 2004, *Managing Urban Stormwater: Soils and Construction, 4th Edition (The Blue Book)*

Murray Darling Basin Authority 2011, Acid Sulfate Soils in the Murray Darling Basin

NSW Government, 2019, Code of Practice for Demolition Work

OzArk Environment & Heritage, 2024, *Aboriginal Due Diligence Assessment Report, Historic North Bourke Bridge Refurbishment*

Transport for New South Wale, 2022, *Demolition of Existing Structure*

Appendix A: Consideration of Section 171 of the EPA Regulation

Section 171 of the EP&A Regulation 2021 indicates, for purposes of Part 5 of the Act, the factors that must be taken into account when consideration is being given to the likely impact of an activity on the environment.

A determining authority is only required to consider the following matters where an EIS has been prepared for a Part 5 activity under the EP&A Act. However, the following information is provided to assist determining authorities in making determinations consistent with those made for an activity requiring preparation of an EIS.

The various factors and findings following environmental assessment are presented below.

(a) the environmental impact on the community,

There is the potential for some minor and temporary noise, dust and traffic and access impacts during demolition works for the bridge. Suitable mitigation measures will be employed to minimise such impacts.

(b) the transformation of the locality,

The proposed demolition of the eastern and western bridge approaches will temporarily transform the appearance and character of the bridge. However, Stage 2 of the Proposal is intended to restore the bridge in keeping with the historical attributes of the original bridge and the surrounding natural and built environment.

(c) the environmental impact on the ecosystems of the locality,

Mitigation measures have been proposed to minimise impacts on the sensitive ecosystems of the locality, including minimising the extent of vegetation removal and protective measures for hollow bearing trees and significant habitat. No significant impact to threatened species or ecosystems is anticipated.

(d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality,

The aesthetic quality of the bridge and the visual appeal of its place in the surrounding environment is likely to be reduced while demolition works are undertaken, however the objective to restore the original characteristics of the bridge with Stage 2 funding will likely enhance its aesthetic quality in the long term.

(e) the effects on any locality, place or building that has -

(i) aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or

(ii) other special value for present or future generations

The Proposal to restore the North Bourke Bridge will not impact Aboriginal cultural heritage values. The demolition works of the eastern and western approaches will have a minor temporary impact on its architectural and historic attributes, however the objective is to attain the necessary funding to restore the original historic and architectural quality.

(f) the impact on the habitat of protected animals within the meaning of the Biodiversity Conservation Act 2016,

Mitigation measures have been proposed to minimise impacts on the sensitive ecosystems of the locality, including aerial crossings of two water courses. No significant impact to threatened species is anticipated.

(g) the endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air,

No significant impact to threatened species is anticipated.

(h) long-term effects on the environment,

None identified

(i) degradation of the quality of the environment,

Temporary and minor degradation of the quality of the environment during the demolition phase which will involve the removal of a small number of mature trees and groundcover vegetation. The works will result in some short-term impacts including noise and dust during the demolition period. Control measures to minimise these impacts will be implemented during work activity and restoration works will be undertaken following demolition works. The details are to be included in the contractor's Demolition Environmental Management Plan (DEMP).

(j) risk to the safety of the environment,

There are potential safety risks to demolition work staff, vehicles and pedestrians in the vicinity of work areas during demolition activity. A comprehensive process provided by the DEMP will ensure adequate safety measures are enforced during demolition works. Public safety including nearby traffic movements will require control measures to minimise this safety risk and will be implemented as part of the contractor's TMP.

(k) reduction in the range of beneficial uses of the environment,

None identified.

(l) pollution of the environment,

There is the potential for some minor and temporary noise and air pollution to be generated during the demolition works. With the implementation of appropriate mitigation measures during construction there will be no long term or significant pollution of the environment.

(m) environmental problems associated with the disposal of waste,

None identified as minimal waste is predicted. All construction waste will be taken off site for disposal at a licensed landfill. The Contractor will prepare a Waste Management Plan to ensure waste is managed appropriately during construction works, so as not to cause off-site impacts

(n) increased demands on natural or other resources that are, or are likely to become, in short supply,

None identified.

(o) the cumulative environmental effect with other existing or likely future activities,

The impact of the removal of some vegetation will be offset by native vegetation reestablishment and site restoration activity post demolition.

(p) the impact on coastal processes and coastal hazards, including those under projected climate change conditions.

Not applicable.

(q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1.

The Bourke Shire Local Strategic Planning Statement (November 2019) refers to the tourism potential of local heritage sites through the following statement: "*Key attractions in Bourke itself include the historic buildings and architecture, key points of interest include…., North Bourke Bridge*" (p17). More generally, the LSPS provides a key action within the Integrated Planning and Reporting framework to "Celebrate Heritage Assets" (pg 23).

The Far West Regional Plan Direction 5 includes the provision to "Promote Tourism Opportunities" including promotion of cultural and heritage attributes located within the Bourke LGA.

(r) other relevant environmental factors.

None identified.

Appendix B: Biodiversity and Bat Assessments

Appendix C: Aboriginal Due Diligence Assessment

Appendix D: Consultation

Appendix E: Statement of Heritage Impact