Bribie Island Bridge Upgrade Project

Application Number: **03423** Commencement Date: **22/04/2026** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Bribie Island Bridge Upgrade Project

1.1.2 Project industry type *

Transport - Land

1.1.3 Project industry sub-type

Road

1.1.4 Estimated start date *

27/06/2028

1.1.4 Estimated end date *

23/06/2032

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

Proposed action description

The proposed action refers to the Bribie Island Bridge Upgrade Project (the Project), which was initiated to address current and future needs for improved access, safety, and active transport between Bribie Island and the mainland via the Caboolture-Bribie Road, across the Pumicestone Passage. The Proponent is Department of Transport and Main Roads (TMR). The upgrade is considered vital infrastructure for the Moreton Bay community and is expected to be subject to stakeholder interest due to its environmental and social significance. The Project involves the construction of a new bridge to the north of the existing structure, with the existing bridge remaining in service until the end of its design life (approximately [approx.] 2038). The proposed action area totals to approx. 11.45 hectares (ha); which includes the existing bridge.

The existing bridge is approx. 835 metres (m) in length, was constructed in 1963 and consists of two single lanes with a narrow pedestrian walkway. It supports various public utility services, including telecommunications, energy, and water supply to the island, serving as a vital lifeline for the Bribie Island community.

Attachment A-Project Area and **Attachment B-Project Area Construction and Moreton Bay Ramsar Site**, clearly illustrate the proposed action area in relation to the existing bridge, as well as the proposed temporary and permanent bridge, relevant to the Moreton Bay Ramsar site.

The proposed action incorporates bridge abutments to be constructed on existing modified terrestrial areas and not within the Moreton Bay Ramsar site boundary (**Attachment B-Project Area Construction and Moreton Bay Ramsar Site**).

Proposed action activities

The majority of the Project area (5.55 ha or 48% of the Project area) has been designed to occur within previously disturbed areas and non-remnant vegetation. The Project involves construction and operation of the new Bribie Island Bridge, located north of the existing structure, at approx. 11.1 m above mean sea level (MSL) and 3 m above the existing road level. The new bridge will be a precast beam deck bridge (approx. 850 m long) supported by a pile and headstock arrangement over a succession of supported spans. The new bridge will feature vertical piles, which differ from the racked piles used in the construction of the existing bridge.

The bridge will be designed to allow future reconfiguring from the initial two-lane layout to a four-lane configuration if required to meet future demand. This will not involve structural changes. The footpath located beneath the eastern end span of the existing bridge will be preserved and extended to continue beneath the end span of the new bridge.

Construction activities will occur on both the mainland and Bribie Island sides of Pumicestone Passage, including works within the marine environment beneath the bridge footprint. Construction activities include the following:

- Earthworks to form the bridge abutments, bridge approaches and stormwater treatment mitigation
- Realignment of local and state-controlled roads
- Development of interchange and bridge approaches at the eastern and western approaches to the bridge
- Excavation and piling for the abutment foundations
- Installation of up to 76 bored concrete piles, depending on the selected bridge span option and construction staging, specifically for a 22 m bridge span, which is the smallest span option available
- Installation of steel pile casings to facilitate the bridge piles
- Construction of the bridge superstructure including shared user path via an adjacent temporary bridge with up to 150 temporary piles
- Installation of services within the bridge including water, sewer, electrical and telecommunications
- Installation of signage, safety barriers and street lighting

- Relocation of pump station/s to a location outside of the Project footprint.

Potential direct and indirect impacts to ecological values that have been identified for the Project (**Attachment C1-Matters of National Environmental Significance Report**, **Section 5.0, pg 42-52**) and include:

- vegetation (including marine plant) clearing
- loss/disturbance to marine, benthic and intertidal environments
- disturbance of vegetation and microhabitat features during construction
- changes to water quality and disturbance (for example noise, vibration and light) during construction activities
- changes to movement opportunities for aquatic fauna during construction and due to permanent structures (piles) in the marine environment.

Construction is anticipated to commence near the beginning of quarter 2 2028 following detailed design, with timing subject to seasonal constraints to avoid sensitive periods for fauna such as migratory shorebirds, cetaceans and marine turtles (**Attachment C1-Matters of National Environmental Significance Report, Section 6.0, pg 45-61**). Duration of construction is expected to span approx. four years, currently proposing to commence operation of the proposed action during quarter 2 2032.

Ancillary works form part of the proposed action and include upgrades to road approaches on both sides of Pumicestone Passage and relocation or protection of existing telecommunications, electricity and water infrastructure currently carried by the bridge, which will be transferred to or integrated within the new structure.

Environmental management measures will be implemented throughout construction to avoid or minimise impacts on water quality, marine plants, Ramsar wetland values, migratory shorebirds, marine fauna and other sensitive environmental receptors. These measures will be guided by requirements outlined in environmental approvals and supporting documentation, and will include erosion and sediment controls, water-quality protection, marine-fauna risk mitigation and management of construction within intertidal and subtidal environments (**Attachment C1-Matters of National Environmental Significance Report, Section 6.0, pg 45-61**).

Details of mitigation measures are provided in (**Attachment C-Matters of National Environmental Significance Report, Section 6.0, pg 45-61**).The following attachments provide further details of the proposed action:

- **Attachment A-Project Area**
- **Attachment B-Project Area Construction and Moreton Bay Ramsar Site**
- **Attachment C1-Matters of National Environmental Significance Report** *(henceforth referenced as Attachment C1-MNES Report)*
    - Contains MNES report, and Appendix A
- **Attachment C2-MNES Report**
    - Contains Appendix B, Appendix C, Appendix D

Attachment D-TMR Environmental Sustainability Policy and Processes Manual.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Commonwealth and State legislation, policies and planning frameworks anticipated to be relevant to the proposed action include:

Commonwealth (Cth) requirements

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), administered by DCCEEW, governs the assessment and approval of actions likely to significantly impact Matters of National Environmental Significance (MNES) or Commonwealth land. If deemed a 'controlled action' by the Minister for the Environment, approval is required. MNES include World Heritage Properties, National Heritage Places, Ramsar Wetlands, the Great Barrier Reef Marine Park, Commonwealth Marine Areas, Listed Threatened Species and Ecological Communities, Migratory Species, Nuclear Actions, and Water Resources related to coal seam gas or large coal mining.

The Significant Impact Guidelines 1.1 serve as a key resource for assessing whether a proposed action is likely to have a significant impact on MNES. These guidelines provide criteria and thresholds to evaluate the extent and nature of potential impacts, and decision-making aligns with the objectives of the EPBC Act. This is utilised in addition to the latest approved conservation advices, national recovery plans or threat abatement plans for relevant species, including Koala, Australian Humpback Dolphin, Grey-Headed Flying Fox, Great White Shark, Humpback Whale, and Marine Turtles (**Attachment C1-MNES Report, Section 2, pg 11-12**). The guidelines help determine if an action requires referral under the EPBC Act and whether further assessment is necessary.

The EPBC Act Environmental Offsets Policy complements the guidelines by addressing residual environmental impacts that remain after all reasonable avoidance and mitigation measures have been implemented. This policy provides detailed guidance on how to compensate for these residual impacts, ensuring that offsets are ecologically effective, measurable, and aligned with conservation priorities. Offsets are considered during the assessment phase under the EPBC Act, where their suitability is evaluated as part of the decision-making process. The policy establishes criteria for determining appropriate offsets, including requirements for equivalency, additionality, and long-term conservation outcomes.

The *Native Title Act 1993* (NTA) applies to projects proposing to develop on land which may be subject to Native Title (e.g., Unallocated State Land such as Pumicestone Passage). The proposed action would be required to Notify of potential suppression of Native Title under Section 24KA of the NTA, or negotiate an Indigenous Land Use Agreement (ILUA) with the Native Title Holders.

State (Qld) Planning requirements

Aboriginal Cultural Heritage Act 2003 (ACH Act) is administered by the Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism, and applies to projects undertaking ground disturbing works, high-risk landscapes/locations and removal of culturally significant trees (over 800 mm DBH). Once accepted by the Minister of the Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism, Duty of Care will be complied with, taking all reasonable and practicable measures to avoid harm to Aboriginal cultural heritage.

Biosecurity Act 2014 (Biosecurity Act) is administered by the Department of Primary Industries (DPI) and it's associated minister, and provides general biosecurity obligation and weed and pest management plan relevant construction activities within areas where restricted matters exist or where prohibited matters are located.

Coastal Protection and Management Act 1995 (Coastal Act) is administered by the Department of Environment and Tourism, Science and Innovation (DETSI) and its associated minister. The Coastal Act provides guidance and criteria for projects conducting tidal works, and may require projects to submit a development permit before commencement of tidal activities.

Environmental Protection Act 1994 (EP Act) is administered by DETSI, providing guidance and criteria to all works, even those excluded from requiring an approval under State or Commonwealth authorities, must comply with the EP Act, including, but not limited to: (1) General environmental duty (section 319); (2) Duty to notify environmental harm (section 320-320G), including notifiable activities (more detail below); (3) Offence of causing serious or material environmental harm (sections 437-439); (4) Offence of causing environmental nuisance (section 440).

Fisheries Act 1994 (Fisheries Act) is administered by DPI, and requires any project conducting activities within or adjacent to fish passage or waterways that may temporarily or permanently impact the associated fish passage or waterways need to demonstrate compliance with accepted development provisions, exempt development provisions or obtain a development permit for impacts to marine plants and fisheries habitat.

Nature Conservation Act 1992 (NCA) is administered by DETSI and applies to construction activities that require the take of protected wildlife. If a project or activity is aware, or becomes aware, of threatened flora within the Project area, clearing cannot be undertaken within 100 m of the plants unless a protected plant clearing permit is obtained. Suitably qualified professionals (i.e., licensed fauna spotter/catcher) will be required to be engaged prior to commencement of vegetation clearing activities.

For native fauna, the Nature Conservation (Animal) Regulation 2020 framework applies:

- Species Management Program (SMP)- Low Risk: Vegetation clearance and earthworks that impact least concern animal breeding places (i.e., nests, burrows).
- SMP- High Risk: Required for works that propose to or are likely to impact active breeding places of extinct, extinct in the wild, critically endangered, endangered, vulnerable, near threatened, special least concern, least concern colonial breeders, least concern animals (broader population impacts).

Marine Parks Act 2004 (Marine Parks Act) (administered by the Department of National Parks, Sports and Racing) and Marine Parks (Moreton Bay) Zoning Plan 2019 (Zoning Plan) (prepared by the Minister for Environment and Heritage Protection & Minister for National Parks and the Great Barrier Reef) provides defining boundaries and legislative guidelines relevant to the Moreton Bay zone. If a project proposes to construct within the Moreton Bay Marine Park, under the Marine Parks Act and Zoning Plan, a permit will be necessary to construct the bridge proposed as part of the proposed action. Additionally, a change in the current zoning will be required, transitioning from Conservation Park and Habitat Protection Zones to a General Use Zone to enable this Project. Applications and permits will be supported by an Environmental Management Plan to ensure impacts (including those under the NCA) are managed to protect the relevant natural, cultural, social and economic values of the area.

Planning Act 2016 and Planning Regulation 2017 are administered by the Department of State Development, Infrastructure and Planning. The Planning Act is a framework for an efficient, effective, transparent, integrated, coordinated, and accountable system of land-use planning, development assessment, and related matters that facilitates ecological sustainability. The Planning Act outlines the exemptions and requirements for different types of construction works in Queensland, including the Bribie Island Bridge. It permits the clearing of native vegetation on specified land in accordance with the *Vegetation Management Act 1999* without needing a permit. Additionally, the Planning Regulation (while operating under the mechanics of the Planning Act) mandates operational works development permits for activities that disturb quarry material on State coastal land above the high-water mark.

Queensland Heritage Act 1992 (QHA) is administered by DETSI, and is Queensland's primary framework for conserving cultural heritage for the community and future generations. It establishes the Queensland Heritage Council, maintains the Queensland Heritage Register, requires reporting of archaeological and underwater artefacts, enables local governments to identify and manage local heritage, regulates development affecting heritage places alongside other laws, provides for heritage agreements and enforcement powers, and requires decision-makers to retain cultural heritage significance while delivering the greatest sustainable community benefit.

Environmental Offsets Act 2014 (Environmental Offsets Act) is administered by DETSI as a framework for counterbalancing significant residual impacts of certain activities on prescribed environmental matters through the use of environmental offsets. This framework recognises protections under other legislation, prescribing national, State and local matters of environmental significance as prescribed environmental matters, coordinating implementation with other laws, and generally applying to authorities where applications were lodged after the relevant commencement provisions. An environmental offset may be required in accordance with a condition for obtaining a permit or authority for the proposed activity under State approval.

Transport Infrastructure Act 1994 (TI Act) is administered by TMR as Queensland's overarching regime (aligned with *Transport Planning and Coordination Act 1994*) for integrated planning and efficient management of transport infrastructure ensuring strategic government oversight, safety, community access, and environmental considerations. The TI Act sets mode-specific frameworks that drive effectiveness and efficiency, prioritise public transport and community needs, enable flexible public/private delivery and commercially based decisions (including land tenure and franchise arrangements), and more to support regional development and future growth, and safeguard people at, on, or near transport systems.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Community consultation

TMR has undertaken two formal community consultation periods during the planning phase (2023 and 2024) to inform development of the preferred option and concept design. These consultation periods generated approx. 4,200 responses and included a mix of online engagement, newsletters with reply-paid surveys, community drop-in sessions, and targeted stakeholder communications.

Feedback received during consultation consistently identified safety, congestion, emergency access, and active transport connectivity as key priorities, along with the importance of maintaining reliable access to the mainland for residents, businesses and emergency services

Consultation findings also highlighted the community's preference for accessible and inclusive engagement methods, with strong participation in traditional channels such as printed newsletters and reply-paid surveys, particularly among older residents

TMR will continue to engage with the community, stakeholders and Traditional Owners throughout the design phase. A targeted community consultation period is planned for mid-2026 to seek feedback on the developed design and provide updates on progress.

Engagement will continue to be delivered through a combination of digital and traditional channels, including online consultation, newsletters, stakeholder communications and in-person engagement activities, to ensure broad and inclusive participation.

Stakeholders

Consultation was undertaken with the Traditional Owners, City of Moreton Bay local government, key community and environmental groups during the development of the Business Case. The Community Consultation Reports are publicly available on TMR's website at: https://www.tmr.qld.gov.au/projects/caboolture-bribie-island-road-bribie-island-bridge-planning

Further consultation with all stakeholders, including Traditional Owners, City of Moreton Bay council, key community and environmental groups will be undertaken during the Preliminary and Detailed Design phase.

1.3.1 Identity: Referring party

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Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

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1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	20093846925
Organisation name	AECOM AUSTRALIA PTY LTD
Organisation address	8/540 Wickham Street, PO Box 1307, Fortitude Valley, QLD, 4006, Australia

Referring party details

Name	Jordan Bachmann
Job title	Approvals Lead
Phone	0460 319 458
Email	jordan.bachmann@aecom.com
Address	8/540 Wickham Terrace, PO Box 1307, Fortitude Valley, QLD, 4006, Australia

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	39407690291
Organisation name	Department of Transport and Main Roads
Organisation address	4000 QLD

Person proposing to take the action details

Name	Lachlan McKenzie
Job title	Principal Environmental Officer
Phone	07 4931 1571
Email	Lachlan.H.McKenzie@tmr.qld.gov.au
Address	PO Box 5505 Maroochydore BC4558

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

TMR operates under the guiding principles of its Environmental Sustainability Policy (TMR 2021) (**Attachment D-TMR Environmental Sustainability Policy and Processes Manual**) and in accordance with its overarching Environmental Management System, and Environmental Processes Manual (TMR 2023) (**Attachment D-TMR Environmental Sustainability Policy and Processes Manual**), which applies a risk-based approach to identify, assess and manage environmental risks through all phases of infrastructure delivery. TMR has not been subject to proceedings under the Commonwealth EPBC Act. Furthermore, TMR has not been subject to any proceedings under State law.

TMR have previously referred a variety of actions across Queensland. Some examples include:

- 2024/09972 Direct Sunshine Coast Rail Line
- 2024/09896 Gairloch Safety Realignment (Bruce Highway)
- 2024/09886 Bruce Highway (Gympie – Maryborough), Tiaro Bypass, construct four lane bypass
- 2024/09821 Bruce Highway (Gateway Motorway to Dohles Rocks Road) Upgrade
- 2024/09800 Gateway Motorway (Bracken Ridge to Pine River) Upgrade
- 2023/09701 Warrego Highway/Mount Crosby Road Interchange Upgrade
- 2022/09439 Logan and Gold Coast Faster Rail
- 2022/09348 Loganlea Station Relocation and Park 'n' Ride Expansion
- 2022/09277 Intersection Upgrades (Sunshine Motorway/Sugar Rd and Mooloolaba Rd)

2022/09191 Rockhampton – Yeppoon Road Upgrade

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

TMR is not a corporation or company for the purposes of the *Commonwealth Corporations Act 2001*.

TMR operates under the guiding principles of its Environmental Sustainability Policy (TMR 2021) (**Attachment D-TMR Environmental Sustainability Policy and Processes Manual**) and Environmental Management System. The policy outlines how TMR will management impacts on natural, human and cultural environments by:

- meeting the statutory obligations of all relevant environmental and heritage legislation as a minimum standard
- considering the effects on stakeholders and long-term relationships when carrying out statutory obligations, and seeking feedback on performance
- acting as a good government agency and adopting a proactive approach to environmental and heritage management
- improving awareness of environmental and heritage management processes, standards and responsibilities among TMR's employees and contractors
- ensuring the approach to the management of environmental and heritage impacts embrace the hierarchy of "avoid, minimise and mitigate" in a financially feasible manner.

TMR undertakes works in accordance with their internal Environmental Processes Manual (**Attachment D-TMR Environmental Sustainability Policy and Processes Manual**). This manual is based on the Plan-Do-Check-Act model in AS/NZS ISO 14001:2016 and is scalable and adaptable for all TMR projects. Further information about the TMR's environmental management is available at: http://www.tmr.qld.gov.au/Community-and-environment/Environmental-management

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	39407690291
Organisation name	Department of Transport and Main Roads
Organisation address	4000 QLD

Proposed designated proponent details

Name	Lachlan McKenzie
Job title	Principal Environmental Officer
Phone	07 4931 1571
Email	Lachlan.H.McKenzie@tmr.qld.gov.au
Address	PO Box 5505 Maroochydore BC4558

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	20093846925
Organisation name	AECOM AUSTRALIA PTY LTD
Organisation address	8/540 Wickham Street, PO Box 1307, Fortitude Valley, QLD, 4006, Australia
Representative's name	Jordan Bachmann
Representative's job title	Approvals Lead
Phone	0460 319 458
Email	jordan.bachmann@aecom.com
Address	8/540 Wickham Terrace, PO Box 1307, Fortitude Valley, QLD, 4006, Australia

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	39407690291
Organisation name	Department of Transport and Main Roads
Organisation address	4000 QLD
Representative's name	Lachlan McKenzie
Representative's job title	Principal Environmental Officer
Phone	07 4931 1571
Email	Lachlan.H.McKenzie@tmr.qld.gov.au
Address	PO Box 5505 Maroochydore BC4558

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint

Project Area: 11.47 Ha **Disturbance Footprint:** 11.47 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Bribie Island Road, Sandstone Point to Benabrow Avenue, Bongaree within the City of Moreton

2.2.2 Where is the primary jurisdiction of the proposed action? *

Queensland

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

Various land tenures occur within the Project area. The land tenure and impacted properties are listed below:

Freehold land parcels:

- Lot 2 on RP174232
- Lot 0 on SP136951
- Lot 300 on SP153971
- Lot 0 on SP153971
- Lot 0 on SP153972
- Lot 6 on SP281368
- Lot 0 on SP153971
- Lot 500 on SP311846
- Lot 16 on RP62926
- Lot 9 on RP62926
- Lot 1 on RP83891
- Lot 10 on RP62926
- Lot 246 on RP888288
- Lot 0 on BUP104040
- Lot 0 on BUP104039
- Lot 11 on RP62926
- Lot 0 on SP147508
- Lot 1 on SP196591
- Lot 0 on SP215449

Reserve land parcels:

- Lot 173 on CG3844
- Lot 3 on SP240683
- Lot 1 on RP125770
- Lot 2 on SP141469

State-controlled road corridor type parcel:

- Bribie Island Road

Local road corridor type parcels:

- Welsby Parade, Benabrow Avenue and Sylvan Beach Esplanade

Easements:

- Lot H on RP174232
- Lot B on SP136950
- Lot S on SP136950
- Lot A on SP136950
- Lot M on SP136950
- Lot Y on SP136953
- Lot Z on SP136953
- Lot A on SP274959
- Lot B on SP274959
- Lot D on RP902788

Unallocated State land:

- Pumicestone Passage

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The Project area is located within and adjacent to the current bridge connecting Bribie Island to the mainland (**Attachment A-Project Area**). The Project is situated within land and road parcels identified in Section 2.2.5 above, as well as the Pumicestone Passage (**Attachment C1-MNES Report, Section 1.3, pg 6**).

Site characteristics

The Project area is characterised by low-lying coastal land, estuarine and marine habitats, and is subject to flooding, storm tide, and bushfire risks.

The Pumicestone Passage is a tidal waterway of high ecological significance, supporting seagrass, mangroves, and a diversity of marine and terrestrial fauna.

The surrounding area has a history of residential, recreational, and commercial development, with significant environmental values due to the presence of wetlands, marine habitats, and protected species.

Surrounding land uses include residential, recreational, open space, and rural areas. The correlating zoning of these land uses under the *Moreton Bay Regional Council Planning Scheme 2016* are residential, recreation and open space, rural and centre. The foreshore areas are used for recreation and tourism, with significant community facilities nearby. Overall, the locality is subject to a high intensity of recurring anthropogenic activities, and these result in ongoing impacts on the ecological profile of the area.

See **Attachment C1-MNES Report, Section 4.0 pg 24-41.**

3.1.2 Describe any existing or proposed uses for the project area.

The Project area and its immediate surrounds comprise of both historical development and ongoing ecological significance. The Project area spans the Pumicestone Passage, linking Bribie Island to the mainland at Sandstone Point via the existing bridge and Caboolture-Bribie Island Road. Land tenure is mixed, including freehold, reserves, and government infrastructure, with the area dominated by transport infrastructure such as the bridge, approach roads, car parks, and public amenities. On the mainland side, Sandstone Point is characterised by urban development, including residential, commercial, and recreational land uses, while the Bribie Island side at Bongaree features similar urbanisation with adjacent parklands and foreshore reserves. The Project will maintain the existing transport corridor function of the Caboolture-Bribie Island Road and Bribie Island Bridge. There are no new industrial, commercial or residential uses that will be introduced as part of the proposed action. The broader region is mapped as a mix of urban, peri-urban, and conservation land uses, with the Moreton Bay Ramsar site offering significant environmental protection and supporting internationally significant wetland and marine habitats. The Project area forms part of a regional biodiversity corridor, with the Pumicestone Passage and associated wetlands providing landscape-scale connectivity for migratory birds, highly mobile marine fauna (such as dugongs, dolphins, and turtles) and terrestrial species (e.g., avifauna) moving between Bribie Island and the mainland.

Surrounding land uses will experience only minor, short-term impacts during construction because the works will be accommodated within the existing transport corridor and defined work areas, which provide sufficient land for laydown, access and staging. The main perceptible change will be the repositioning of the trafficable carriageway associated with delivery of the new bridge. Following construction, temporarily affected areas will be reinstated, and the corridor will continue to operate as public road and bridge infrastructure without introducing new land uses.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The proposed action broader locality covers both natural and modified environments, supporting a range of ecological assets. Remnant *Melaleuca quinquenervia* open forest (regional ecosystem 12.3.5) is found at the intersection of Bestmann Road East and Bribie Island Road, fringing the mainland approach. This forest is listed as “least concern” under the *Vegetation Management Act 1999* (Qld) and provides important habitat connectivity for native fauna. Along the mainland shoreline, coastal regrowth vegetation forms a transitional cover between intertidal and terrestrial environments, supporting wildlife movement and foraging. The main species in these regrowth areas include:

- *Casuarina equisetifolia*
- *Hibiscus tiliaceus*
- *Callitris columellaris*
- *Ficus spp.*

Urban parkland is present on both the Bribie Island and Sandstone Point sides of the bridge, typically features mown grass, scattered mature native trees (such as *Eucalyptus tereticornis*, *Ficus spp*., *Banksia spp*.), and planted ornamentals.

Shrubby regrowth, both native and exotic, occurs along fencelines and boundaries, offering dispersal cover for arboreal mammals such as koalas and flying-foxes.

Central to the Project area is Pumicestone Passage, a tidal estuary between Bribie Island and the mainland. The Pumicestone Passage is a narrow, two-way tidal estuary between Bribie Island and the mainland that forms part of the Moreton Bay Ramsar wetland, which is listed as a Wetland of International Importance under the EPBC Act and is considered a Matter of National Environmental Significance (MNES). Moreton Bay supports nationally significant shorebird habitat, is recognised as an important dugong area in Queensland, and provides feeding habitat and movement pathways for marine fauna while supporting fish spawning and nursery functions (Queensland Government, 2022).

Moreton Bay lies within the East Asian-Australasian Flyway, a major global migratory route used by shorebirds. It functions as a critical stopover and staging area for migratory birds traveling between the northern hemisphere and Australia (Queensland Government, 2022).

The Moreton Bay Ramsar wetland satisfies all nine criteria for designation as a Wetland of International Importance (RSIS, 2023).

The locality is also notable for its wetlands and estuarine habitats. The Moreton Bay Ramsar site provides habitat for a diverse array of species. Mangrove communities, primarily *Avicennia marina*, form a narrow band along the southern mainland shoreline, stabilising sediments, supporting biodiversity, and maintaining water quality. Seagrass meadows are located north and south of the bridge (outside the Project area), serving as key habitat for marine megafauna such as:

- Dugongs
- Dolphins
- Turtles.

Intertidal features adjacent to the Project area include:

- Tidal flats
- Beaches
- Sandbars
- Saltmarsh communities.

These are essential feeding and roosting sites for migratory shorebirds and contribute to landscape-scale connectivity within the Moreton Bay Ramsar site.

Despite significant modification from roads, residential development, bridge infrastructure, and landscaped areas, the locality retains ecological connectivity, especially for migratory birds and marine fauna. The combination of remnant forest, urban parkland, mangrove fringes, tidal flats, and seagrass beds supports diverse fauna and ecological processes.

Natural features, important values and unique values are detailed further, see (**Attachment C1 MNES Report, Section 3.0, pg 13-15).**

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The Project area (**Attachment A-Project Area**) encompasses both landward and marine environments at the southern end of Pumicestone Passage, linking Bribie Island to the mainland at Sandstone Point. This predominantly flat coastal plain features elevations up to 4 m on the mainland, while the Pumicestone Passage can reach depths of up to 15 m. The Pumicestone Passage is a narrow estuarine channel alongside shallow intertidal flats, sandbanks, and low-lying foreshore margins, all surrounded by alluvial and coastal sediments such as sandy beach ridges, tidal flats, and minor deposits of gravel and silt. Tidal influences are significant, with the highest astronomical tide affecting the area, leading to fluctuating water levels and sediment transport.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

As part of the MNES assessment (**Attachment C1-MNES Report , Section 3.3, pg 16-20**), multifaceted ecological survey programs were completed for the proposed action, comprising desktop assessments, vegetation community mapping, habitat evaluations, animal breeding place surveys, migratory bird surveys and marine habitat investigations.

The desktop assessment involved reviewing public datasets and previous reports to identify MNES, while field surveys included ground-truthing vegetation communities, assessing fauna habitat values, and non-invasive searches for nests and breeding places. Targeted migratory bird surveys were carried out across multiple seasons and tidal conditions, and marine habitat surveys involved benthic mapping, seagrass and substrate assessments, mangrove surveys, fish monitoring via Baited Remote Underwater Videos (BRUV), and sediment quality analysis. To support a robust ecological assessment, a Likelihood of Occurrence (LoO) assessment was undertaken to evaluate the probability of conservation significant species being present in the Project area (**Attachment C1-MNES Report, Section 3.4, pg 21-22 and Attachment C2-MNES Report, Appendix B, pg 1-20**), and Significant Impact Assessments were completed to determine the potential for significant impacts on MNES (**Attachment C2-MNES Report, Appendix C, pg 21-95**).

Survey timing was carefully planned to meet legislative requirements, with terrestrial and shorebird surveys conducted in August and November 2022, migratory bird surveys in summer October and November 2025 and migratory bird surveys scheduled for winter 2026. Marine habitat surveys were undertaken in late October 2025. All survey efforts were guided by the EPBC Act, including the Significant Impact Guidelines and Environmental Offsets Policy, as well as Queensland's survey and mapping methodologies, animal breeding place guidelines and the Biosecurity Act **(Attachment C1-MNES Report, Section 3.3, pg 16-20)**.

Threatened species

Through the desktop assessment (**Attachment C1-MNES Report, Appendix A, pg 67-276**), 136 threatened species were identified as having the potential to inhabit the Project area and its surroundings. Following the LoO assessment (**Attachment C2-MNES Report, Appendix B, pg 1-20**), 23 conservation significant species (of which 15 are Migratory only) were assessed as having a 'potential', 'likely', or 'known' likelihood of occurring within the Project area. These species are listed below.

(Conservation status under the EPBC Act: CE=Critically Endangered; E=Endangered; V=Vulnerable; Ma=Marine, Mi=Migratory)

- *Sousa sahulensis (Australian humpback dolphin), V (Likely); SPRAT* may also refer to '*Sousa chinensis*'.
- *Caretta caretta (*Loggerhead turtle), E (Likely)
- *Chelonia mydas (*Green turtle), V (Likely)
- *Eretmochelys imbricata (*Hawksbill turtle), V (Potential)
- *Carcharodon carcharias (*Great white shark), V (Potential)
- *Arenaria interpres (*Ruddy turnstone), V (Likely)
- *Calidris acuminata (*Sharp-tailed sandpiper), V (Likely)
- *Calidris canutus (*Red knot), V (Likely)
- *Calidris ferruginea (*Curlew sandpiper), CE (Likely)
- *Calidris tenuirostris (*Great knot), V (Likely)
- *Charadrius leschenaultia (*Greater sand plover), V (Likely)
- *Charadrius mongolus (*Lesser sand plover, Mongolian plover), E (Likely)
- *Hirundapus caudacutus (*White-throated needletail), V (Likely)
- *Limnodromus semipalmatus (*Asian dowitcher), V (Likely)
- *Limosa lapponica baueri (*Western Alaskan bar-tailed godwit), E (Known)
- *Limosa limosa (*Black-tailed godwit), E (Likely)
- *Numenius madagascariensis (*Eastern curlew), CE (Known)
- *Pluvialis squatarola (*Grey plover), V (Likely)
- *Sternula albifrons (*Little tern), V (Likely)

- *Tringa nebularia (*Common greenshank), E (Likely)
- *Xenus cinereus (*Terek sandpiper), V (Likely)
- *Phascolarctos cinereus (*Koala – combined populations of Qld, NSW and ACT), E (Potential)
- *Pteropus poliocephalus (*Grey-headed flying-fox), V (Potential)

No threatened flora species listed under the EPBC Act were directly observed during field surveys (**Attachment C1-MNES Report, Section 4.7.5.1, pg 36)**. The outcomes of the desktop assessment indicated that it was unlikely any threatened flora species listed under the EPBC Act would occur within the Project area based on the lack of suitable habitat.

Migratory

The LoO (**Attachment C2-MNES Report, Appendix B, pg 1-20**) identified a total of 63 conservation significant migratory species that are potential, likely, or known to occur within the Study Area. Among these, migratory species not already listed as threatened, as listed above, have the potential to occur in the Project area. Field surveys in November 2022 and October to November 2025 (**Attachment C1-MNES Report , Section 3.3, pg 16-20**) provided clear evidence of active habitat utilisation, with frequent movements of migratory birds observed across the existing bridge during tidal changes, demonstrating strong connectivity between feeding and roosting sites within the broader Moreton Bay Ramsar site. Notably, up to two whimbrels, five Caspian terns, and one crested tern were observed within or within 500 m of the tidal flats near the Project area, and the eastern osprey was recorded during two separate field surveys in October and November 2025 (**Attachment C2-MNES Report, Appendix D, Section 4.2, pg 117-121)**. Based on the LOO, an additional 18 migratory bird species are also considered to have the potential to occur within the Project area. In addition to avian species, four marine mammals listed as migratory are considered to have the potential to occur in the Project area, primarily while transiting to important habitats such as Pumicestone Passage in the northern section of Moreton Bay (**Attachment C2-MNES Report, Appendix B, pg 1-20)**.

Marine Mammals

- *Dugong dugon (*Dugong*); Mi, Ma (Potential)*
- *Tursiops aduncus (*Indo-Pacific/Spotted bottlenose dolphin*); Mi (Likely)*
- *Megaptera novaengliae (*Humpback whale*); Mi (Potential)*

Migratory Birds

- *Actitis hypoleucos (*Common sandpiper*); Mi (Likely)*
- *Apus pacificus (*Fork-tailed swift*); Mi (Likely)*
- *Calidris alba (*Sanderling*); Mi (Likely)*
- *Calidris falcinellus (*Broad-billed sandpiper*); Mi (Likely); SPRAT* may also refer to '*Limicola falcinellus'*.
- *Calidris melanotos (*Pectoral sandpiper*); Mi (Likely)*
- *Calidris ruficollis (*Red-necked stint*); Mi (Likely)*
- *Charadrius bicinctus (*Double-banded plover*); Mi (Likely)*
- *Charadrius veredus (*Oriental plover*); Mi (Likely)*
- *Chlidonias leucopterus (*White-winged black tern*); Mi (Likely)*
- *Gelochelidon nilotica (*Gull-billed tern*); Mi (Likely)*
- *Hydroprogne caspia (*Caspian tern*); Mi (Known)*
- *Numenius phaeopus (*Whimbrel*); Mi (Known)*
- *Pandion haliaetus (*Eastern osprey*); Mi (Known)*
- *Pluvialis fulva (*Pacific golden plover*); Mi (Likely)*
- *Sterna hirundo (*Common tern*); Mi (Likely)*
- *Thalasseus bergii (*Greater crested tern*); Mi (Known)*
- *Tringa brevipes (*Grey-tailed tattler*); Mi (Known)*
- *Tringa stagnatilis (*Marsh sandpiper*); Mi (Likely).*

See **Attachment C1-MNES Report, Section 4.0 pg 24-41.**

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Vegetation and Flora

The Project is located within the South East Queensland Bioregion (Bioregion 12), which features diverse habitats such as coastal plains, hills, ranges, sand masses, and major drainage basins, including the Brisbane River and Mary River. This bioregion receives 800–1,500 millimetres (mm) of annual rainfall, with warm to hot summers and cool winters, and supports some of Australia's most diverse flora and fauna. At a finer scale, the Project area lies within the Sunshine Coast – Gold Coast Lowlands subregion, characterised by marine and estuarine sediments, sand dunes, and sedimentary rocks of the Nambour Basin.

Key vegetation types include heathlands, banksia woodlands, Melaleuca forests, mangrove forests, sedgelands, and Eucalypt woodlands/open forests, such as *Eucalyptus racemosa* and *Eucalyptus pilularis* tall open forests.

The Queensland regional ecosystem mapping and contemporary aerial imagery indicates that the majority of vegetation within the Project area is mapped as non-remnant, reflecting the highly modified urban setting and regrowth vegetation at both bridge approaches **(Attachment C1-MNES Report , Figure 3, pg 29).** Mapped regional ecosystem 12.3.5 (Melaleuca swamp forest) fringes the edge of the Project area on the mainland (western bridge approach and abutment).

One TEC has been identified as likely to occur adjoining the Project area, namely Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland (Swamp Sclerophyll TEC), 5 listed as Endangered under the EPBC Act. The indicator RE 12.3.5 for Swamp Sclerophyll TEC fringes the Project area near the intersection of Bribie Island Road and Bestmann Road East. Field verification was limited to confirming the presence of this indicator RE 12.3.5 and the results of the RE 12.3.5 field validation and aerial photography has been used to determine the likely presence of the Swamp Sclerophyll TEC in this area. The Project area has been field verified to be limited to maintained road verge in this section of the Project area and does not cover any of the vegetation community, as is also visible in the aerial photography.

Overall, terrestrial vegetation clearing within the Project area is expected to be minimal (limited to approx. 1.33 ha of non-remnant vegetation) with avoidance measures implemented to avoid and minimise direct and indirect impacts to mapped remnant vegetation and likely Swamp Sclerophyll TEC adjoining the Project area.

Fauna habitat

The Project area has experienced various disturbances, including roads, recreational/residential areas, and existing bridge infrastructure, which restrict fauna movement, particularly for ground-dwelling species. Despite this, remnant vegetation and aquatic corridors provide movement pathways for diverse species. The area encompasses a mosaic of terrestrial, estuarine, and marine habitats across the mainland, Bribie Island, and Pumicestone Passage.

Migratory shorebird surveys have recorded numerous species foraging and roosting within intertidal habitats adjacent to the Project area, such as tidal flats, beaches, sandbars, and saltmarsh. These habitats are vital for feeding and roosting, supporting connectivity between the Moreton Bay Ramsar site and surrounding areas, with frequent bird movements across the existing bridge during tidal cycles (**Attachment C1-MNES Report, Section 4.7.3 pg 29-35**).

Mainland habitats include urban parkland and disturbed vegetation, such as:

- maintained grassland with isolated mature *Eucalyptus pilularis* (blackbutt)
- shrubby regrowth along fencelines containing *Harpullia pendula* (Queensland tulipwood), *Cupaniopsis anacardioides* (tuckeroo), and exotic species like *Leucaena leucocephala* (coffee bush).

Fringing marine plant communities along the shoreline feature:

- *Avicennia marina* (grey mangrove)

- *Casuarina equisetifolia* (coastal she-oak)
- *Hibiscus tiliaceus* (sea hibiscus)
- *Callitris columellaris* (white cypress pine)
- *Ficus spp*., with a grassy and *Lomandra spp*. understorey.

On Bribie Island, habitats consist of managed non-remnant urban parkland with scattered mature *Eucalyptus tereticornis* (Queensland blue gum), *Ficus spp*., and *Banksia spp*., alongside open woodland edges dominated by mature *Blakella tessellaris* (Moreton Bay ash) and *Callitris columellaris* (White cypress pine). These areas provide foraging and roosting opportunities for birds and arboreal mammals, though habitat quality is diminished by mowing, recreational use, and fragmentation.

Within Pumicestone Passage, intertidal and subtidal habitats, including tidal flats, beaches, sandbars, saltmarsh communities, and seagrass meadows, significantly contribute to habitat diversity. Seagrass meadows south of the bridge support marine megafauna such as *Sousa sahulensis* (Australian humpback dolphin), *Dugong dugon* (dugong), *Chelonia mydas* (green turtle), and *Caretta caretta* (loggerhead turtle), highlighting the ecological importance of subtidal areas. These habitats are essential for local fauna, providing movement, foraging, and refuge across the broader seascape.

Five fauna habitat types were identified within the Project area (**Attachment C1-MNES Report, Section 4.7.3 pg 29-35**), listed below :

- Non-remnant urban parkland (0.98 ha)
- Shrubby regrowth (0.16 ha)
- Marine plants and fringing vegetation (0.19 ha)
- Intertidal habitat (tidal flats, beaches, sandbars, and saltmarsh) (0.38 ha)
- Subtidal habitat (aquatic and intertidal aquatic environments) (5.33 ha).

Aquatic ecology

Aquatic and marine ecological values were assessed within and adjacent to the Project area in Pumicestone Passage to support the construction impact assessment. The MNES report included a desktop review (including a PMST) and marine field investigations completed in October 2025, encompassing benthic habitat mapping, marine plant surveys (seagrass and substrate characterisation), mangrove surveys, BRUVS deployments to characterise demersal fish communities, and sediment quality investigations along the proposed bridge alignment. No threatened or migratory marine fauna were recorded during the field survey.

Key Findings:

- Intertidal flats: Typical estuarine invertebrate communities were observed near sandflats and mangrove pneumatophore zones.
- Seagrass: Patchy occurrences of seagrass were recorded in the intertidal zone near the existing bridge, with more extensive subtidal meadows located south of the bridge (outside the Project area). Four seagrass species were identified: *Zostera muelleri* (eelgrass), *Halodule uninervis* (narrow-leaf seagrass), *Halophila ovalis* (paddleweed), and *Halophila spinulosa* (thorny seagrass). These species are colonisers, capable of rapid recovery following disturbance. No seagrass was found in deeper channels or below 1.6 m depth, and the Project area does not overlap with documented seagrass meadows.
- Mangroves: A narrow band of *Avicennia marina* (grey mangrove) was recorded along the mainland shoreline, with no mangroves on the northern (island) side of the channel. Mangroves were generally healthy, with green foliage and evidence of regeneration (seedlings and saplings), though some trees showed minor insect damage and dead branches. The mangrove habitat extended outside the Project area, approx. 360 m northwest toward Sandstone Point Marina and 150 m south to the Oyster Shed Beach Club jetty.
- Sediment quality: Surface sediment cores along the proposed alignment were dominated by sand and gravel with minor fines. Acid sulfate soil (ASS) screening indicated a low risk of ASS or Potential

Acid Sulfate Soils (PASS). Sediment contaminant concentrations were below guideline values, except for a localised elevated total petroleum hydrocarbon result and a single detection of naphthalene, with overall low total organic carbon levels.

Soils

The Project area contains Tenosol and Hydrosol soils, as mapped by Queensland Globe (2026). Hydrosols are commonly found in wetlands, swamps, and estuaries, while Tenosols are weakly developed soils with minimal horizon differentiation, often overlying hard rock or partially weathered materials. The surface geology is characterised by moderately well-sorted, fine to coarse-grained quartzose to shelly sand, minor gravel, silt, and mud, primarily associated with beach ridges, cheniers, and undifferentiated coastal plain deposits such as dunes, swamps, tidal flats, and alluvial formations. See (**Attachment C1-MNES Report, Section 4.6, pg 26**).

3.3 Heritage

3.3.1 Describe any Commonwealth Heritage Places Overseas or other places recognised as having heritage values that apply to the project area.

Searches (**Attachment C1-MNES Report, Appendix A, pg 67-276**) of the following historical databases have been undertaken:

- Protected matters search tool
- Australian Heritage database
- Commonwealth heritage register
- Queensland heritage register
- Moreton Bay Regional Council

Commonwealth heritage

There are no Commonwealth heritage places located in or adjacent to the Project area.

The proposed action is located at Sandstone Point and north of Toorbul Point, and crosses the Pumicestone Channel to Bellara (over Sylvan Beach) on Bribie Island. The protected matters search tool per Attachment C1-MNES Report, Appendix A, pg 67-276, the Australian Heritage database, and the Commonwealth heritage register identified no historical cultural heritage values within a 10 kilometre (km) radius of the Project.

Queensland (State) heritage

Through review of the Queensland heritage register, no Queensland heritage places were identified within or adjacent to the Project area. Over 2 km south of the Project, is the closest State listed heritage place. The Sandstone Point Hydrographic Survey Bench Mark is a natural heritage place, identified in 1867, that runs from Queensland mainland south of Sandstone Point, crossing the southern entrance of the Pumicestone passage, to Bribie Island. The bench mark itself, are two broad arrows flanking a small ‘U’ indented into the surface of the sandstone ledge, with an over 150 year old weathered patina. The natural features of the cultural heritage place include mangroves, other vegetation, and natural marks in the sandstone ledge surface.

Local heritage

Moreton Bay Regional Council maintain a history and heritage database, documenting and preserving local heritage values such as middens. There is one foot path heritage trail on Bribie Island located along Sylvan Beach, approx. 1 km south of the existing bridge. However, due to the nature of the Project and proposed construction activities (mainly at the waters edge either end of the proposed bridge and over Pumicestone Channel), direct or indirect impacts beyond the Project area are not expected to occur as a result of the Project.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

The proposed action is located on Kabi Kabi (KKPAC) Country. In accordance with the *Aboriginal Cultural Heritage Act 2003* (Qld), a cultural heritage risk assessment was undertaken for the Project, as well as a search of the Queensland Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism Cultural Heritage Database and Register.

The cultural heritage risk assessment found that the proposed works will include some Category 5 activities under the *Aboriginal Cultural Heritage Act 2003* Duty of Care Guidelines. Category 5 activities are generally undertaken in areas that have not previously been subject to significant ground disturbance and are considered to have a high risk of impacting Aboriginal cultural heritage. It is understood that there are registered Aboriginal sites in the proposed project area, however project works are endeavouring to have minimal to no impact on these registered sites, as reflected in the project design.

TMR has commenced in person consultation with KKPAC to investigate areas of significance, with further in person consultation and investigations required.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The Project area lies within the Maroochy River sub-basin, governed by the Moreton Water Plan on the mainland portion of the sub-basin, and spans the Pumicestone Passage at the mouth of Deception Bay, connecting Bribie Island to the mainland. The Moreton Water Plan area is approx. 1,500,000 ha and comprises the catchments of the Brisbane River system (including the Bremer, Lockyer and Stanley), and the Pine and Caboolture rivers, as well as specified coastal creek systems such as Cabbage Tree Creek and creeks draining to Pumicestone Passage. Notably, Bribie Island is excluded from this water plan and any other water plans.

Maroochy River sub-basin spans approx. 153,905 ha across parts of the Sunshine Coast hinterland and coastal zone and includes the Beerburrum, Buderim, Caloundra, Maroochydore and Nambour areas.

Hydrological conditions are heavily influenced by tidal movements, with the highest astronomical tide intersecting the area, causing fluctuating water levels, variable salinity, and dynamic hydraulic connectivity. The area is part of Pumicestone Passage, a waterway of high conservation significance within the Moreton Bay Ramsar site (listed as a Wetland of International Importance under the EPBC Act and therefore a MNES) and Moreton Bay Marine Park, posing a high risk to water quality.

Flood prone areas are present surrounding Caboolture-Bribie Island Road, and both the Bribie Island Bridge and Caboolture-Bribie Island Road is susceptible to overland flow and low risk flooding. Higher risk areas of flooding are present along the Bribie Island approaches and adjoining land.

Groundwater dependent ecosystems (GDEs) are present within and adjoining the Project area, including lacustrine and palustrine wetlands and riverine water bodies on alluvia. Groundwater connectivity is moderate, supporting wetland persistence and riverine baseflow, with groundwater levels ranging from 0.2 m to 2.2 m below ground level, influenced by tidal and seasonal variations (**Attachment C1-MNES Report, Section 4.5, pg 25**). Mangrove environments along the shorelines stabilise sediments, support biodiversity, and maintain water quality. The hydrological regime is shaped by surface water-groundwater interactions, tidal fluctuations, seasonal rainfall, and alluvial sediment properties. Hydrology is detail further in the MNES report (**Attachment C1-MNES Report, Section 4.5, pg 25).).**

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	Yes	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no World Heritage areas within or in 10 km radius of the Project area (**Attachment C1-MNES Report , Appendix A, pg 68-104**). The closest World Heritage site is the Gondwana Rainforests of Australia, approx. 117 km south and south-west of the Project area. Therefore, the proposed action is unlikely to have a direct and/or indirect.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no National Heritage places within or in 10 km radius of the Project area (**Attachment C1-MNES Report , Appendix A, pg 68-104**The closest National Heritage Place is the Glass House Mountains National Landscape, approx. 22 km west of the Project area. Therefore, the proposed action is unlikely to have a direct and/or indirect.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Ramsar wetland
Yes		Moreton Bay

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.3.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The Moreton Bay Ramsar site is recognised as a Wetland of International Importance under the Ramsar Convention and is protected by the EPBC Act **(Attachment C1-MNES Report, Section 4.2, pg 24)**. This extensive coastal and estuarine system includes Pumicestone Passage, where the Project is situated. The Moreton Bay Ramsar site meets all nine criteria for Ramsar listing, reflecting its comprehensive ecological, hydrological and biological values. It is particularly significant for supporting nationally and internationally important shorebird habitat and is acknowledged as a critical area for dugongs in Queensland. The Moreton Bay Ramsar site provides essential feeding habitat and movement corridors for a wide variety of marine fauna, including migratory shorebirds, marine mammals such as dugongs and dolphins, marine turtles and fish (**Attachment C1-MNES Report, Section 4.7, pg 26-29)**. It also serves as a key site for fish spawning and nursery functions, underpinning both commercial and recreational fisheries. Globally, Moreton Bay is an important stopover along the East Asian–Australasian Flyway, one of the world's major migratory routes for shorebirds, making it a crucial staging area for birds migrating between the northern hemisphere and Australia. The Project intersects with 6.52 ha of the mapped Ramsar wetland within Pumicestone Passage (**Attachment C1-MNES Report , Section 5, pg 42-51**) (**Attachment C1-MNES Report, Table 17, pg 45-47**), highlighting the need for careful environmental management and assessment to protect the wetland's ecological character and maintain its international significance.

Direct impacts

- Direct footprint (clearing, reclamation, piling): 6.52 ha of the Moreton Bay Ramsar site within Pumicestone Passage will be directly impacted by the bridge footprint. Most impact is temporary, with permanent loss limited to bridge piers, noting bridge abutments are not within the Moreton Bay Ramsar site (**Attachment B-Project Area Construction and Moreton Bay Ramsar Site**).
- Loss of intertidal and subtidal habitat: An estimated 0.57 ha of seagrass, mangrove and mudflat habitat may be lost. This represents approx. 0.0005% of the 120,639 ha Moreton Bay Ramsar site, indicating a very minor proportional impact.
- The Project area does not overlap with any seagrass meadows documented during the October 2025 survey (**Attachment C2-MNES Report, Appendix D Section 4.2, pg 117-121**), therefore seagrass meadows are not expected to be directly impacted by the works. There will be some direct loss of soft sediment habitat associated with the permanent piling and temporary loss associated with the temporary piling. The total permanent loss of soft sediment habitat (from piling) is in the order of 263 m2, which represents a very small proportion of the soft sediment habitat present in the Pumicestone Passage. Furthermore, the loss of habitat will be directly offset by the creation of new hard substrate provided by the pile surfaces.
- Temporary construction disturbance: Temporary disturbance (such as pile driving) includes noise, vibration, suspended sediment concentrations, turbidity and sedimentation plumes during construction. These may affect water quality and fauna behaviour but are localised and short-term.

Indirect impacts

- Alteration of hydrodynamics and sediment movement: Bridge design minimises changes to tidal flow and sediment transport; as part of the Significant Impact Assessment modelling and interrogation, found no significant long-term alteration is predicted (**Attachment C2-MNES Report, Appendix C, Section 2.1.7, pg 40-43).**
- Potential for water quality impacts (e.g., runoff, spills): Construction and operational controls will be implemented to prevent significant pollution or sedimentation.
- Disturbance to fauna (noise, light, vibration): Sensitive periods for migratory shorebirds and marine mammals will be managed through timing and mitigation measures.
- Barriers to fauna movement: Bridge design maintains connectivity for marine and avian fauna; temporary works will not create permanent barriers.

- Cumulative impacts: The Project's contribution to cumulative impacts is minor compared to the scale of the Moreton Bay Ramsar site **(Attachment C2-MNES Report, Appendix C, Section 2.1.7, pg 40-43)**.

4.1.3.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.3.6 Describe why you do not consider this to be a Significant Impact. *

The Significant Impact Assessment of the Moreton Bay Ramsar site (**Attachment C2-MNES Report, Appendix C, Section 2.0, pg 35-43)** is summarised below.

- Area affected: Approximately 263 m² of seabed will be permanently lost due to bridge piling. No seagrass meadows or mangroves will be removed (**Attachment C2-MNES Report, Appendix C, Section 2.1.7, pg 40-43**) and bridge abutments will be constructed outside of the Moreton Bay Ramsar site (**Attachment B-Project Area Construction and Moreton Bay Ramsar Site**).
- Water flows: Water movement in the wetland will not change. Any construction-related changes are minor and temporary.
- Wildlife: No important habitats for protected species will be lost. Construction impacts (noise, disturbance) are short-term and will be managed.
- Water quality: Short-term disturbance may occur during construction, but strict controls will keep water clean. Long-term, water quality may improve.
- Pests/weeds: No new pests or weeds will be introduced. Biosecurity measures will prevent spread.

Significant impacts to MNES as a result of the Project are not expected (**Attachment C2-MNES Report, Appendix C, Section 2.1.7, pg 40-43**), for the following reasons:

- Avoidance of critical habitat: The Project has been designed to avoid remnant vegetation, threatened ecological communities, and critical habitat for listed species. Most impacts occur in already disturbed or non-critical areas.
- Limited scale and duration: The area of direct impact is small relative to the availability of similar habitat in the region, and construction-phase impacts are temporary.
- Mitigation and management measures: A comprehensive suite of mitigation measures will be implemented, including:
    - Mitigation, management and monitoring measures will be developed and implemented in accordance with the principles and recommended actions outlined in the:
        - National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna (DCCEEW, 2017)
        - National Light Pollution Guidelines for Wildlife (DCCEEW, 2023)
        - National Assessment Guidelines for Dredging (DCCEEW, 2009)
        - ANZECC & ARMCANZ Water Quality Guidelines (2000)
    - Minimising the disturbance footprint and timing works to avoid sensitive periods for fauna.
    - Employing fauna spotter-catchers during clearing.
    - Implementing sediment and erosion controls (e.g., silt curtains) and spill management protocols.
    - Maintaining habitat connectivity and restoring disturbed areas post-construction.
    - Low likelihood of significant population-level effects: The affected habitats are not considered critical for the long-term survival of any listed threatened species, and the Project is unlikely to result in a significant reduction in population size, area of occupancy, or habitat connectivity.
    - Adaptive management and monitoring: Ongoing monitoring and adaptive management will ensure that any unexpected impacts are identified and addressed promptly.

Monitoring and mitigation measures pertaining to water quality, noise, introduced organisms, marine fauna and waste are detailed (**Attachment C1-MNES Report, Section 6, pg 52-61**).

While the Project will result in some direct and indirect impacts to the Moreton Bay Ramsar site and some non-critical habitat, these impacts are largely confined to already disturbed or non-critical areas. With the implementation of robust mitigation and management measures **(Attachment C1-MNES Report, Section 6, pg 52-61)**, the Project is not expected to result in significant impacts to the Moreton Bay Ramsar site and associated MNES species habitats.

4.1.3.7 Do you think your proposed action is a controlled action? *

No

4.1.3.9 Please elaborate why you do not think your proposed action is a controlled action. *

The assessment determined that the Project is **unlikely** to result in a significant impact on the Moreton Bay Ramsar site, with the Significant Impact Assessment concluding that the Project will not destroy or substantially modify areas of the wetland, will not cause measurable hydrological change, will not seriously affect wetland-dependent species, will not result in water quality decline and will not result in invasive species being established in the wetland **(Attachment C1-MNES Report, Appendix C, Section 7.1 pg 62-63).**

Construction activities within the Ramsar wetland will be limited to within the Project area and are considered localised and manageable through environmental controls. To minimise impacts within the Ramsar wetland, the Project will implement best practice erosion and sediment controls, water quality monitoring, marine fauna observation and management procedures, underwater noise management during piling, and spill prevention and response measures. With these controls in place, impacts to marine and intertidal habitats and associated fauna are expected to be localised and temporary, and effects on Ramsar wetland values are unlikely to alter the ecological character of the wetland. Mitigation measures to protect the character and value of the Moreton Bay Ramsar wetland and associated MNES species habitats are detailed (**Attachment C1-MNES Report, Table 18, pg 53-61**).

4.1.3.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The Project has been designed to avoid and where avoidance is not possible, minimise impacts on the natural environment and MNES. Key avoidance, mitigation and management measures are proposed to be incorporated into the design and implemented during planning, construction and operation of the Project (**Attachment C1-MNES Report, Table 18, pg 53-61)**. Key management measures are summarised below:

Pre-construction and Construction

- General environmental management: A Construction Environmental Management Plan (CEMP) will be developed and implemented to guide all construction activities, including specific sub-plans for flora, fauna, water quality, and biosecurity. The CEMP will ensure compliance with environmental obligations and include training for all workers. Regular audits and monitoring will verify effectiveness and support adaptive management.
- Vegetation and habitat protection: The Project will minimise the disturbance footprint and prioritise works in already cleared areas, avoiding remnant vegetation and sensitive habitats where possible. 'No-go' zones will be established for threatened ecological communities, and clearing will be sequenced to allow fauna to move to safe areas, with licensed spotter-catchers present. Salvage and relocation of habitat features will occur where avoidance is not feasible.
- Marine and intertidal habitat: Mangroves and intertidal areas will be clearly delineated and protected, with disturbance limited to the defined Project area. Marine plant impacts will be assessed and permitted as required, and construction methods will minimise seabed disturbance, including soft-start piling and prompt removal of temporary structures. In-stream works will be scheduled during low-flow periods to maintain fish passage and reduce ecological disruption.
- Water quality & erosion control: Water quality will be protected through baseline, construction, and post-construction monitoring, with silt curtains and other controls deployed if trigger values are exceeded. Erosion and sediment control plans will be implemented, and soil stockpiles will be managed to prevent dust and runoff. An Acid Sulfate Soils Management Plan will be enacted if required, and all discharges will be treated to prevent pollution.
- Fauna management: Traffic management plans will minimise collision risks for terrestrial and marine fauna, and trained observers will monitor for marine mammals and turtles, stopping works if animals are nearby. Piling and other noisy activities will be limited outside sensitive periods, and soft-start procedures will be used to reduce disturbance. Wildlife-friendly lighting and restricted night works will further reduce impacts on fauna.
- Weeds, pests, and pathogens: A Biosecurity Management Plan will be prepared and audited, including vessel risk assessments and inspections for invasive marine species. All equipment and vessels will be cleaned to prevent the spread of pests and diseases and weed management will focus on removing high-risk species and preventing new introductions. Hygiene protocols will be enforced for all works near waterways.
- Noise, vibration, and light: Construction noise and vibration will be assessed and mitigated using standard noise reduction devices and soft-start piling. Lighting will be wildlife-friendly, shielded, and minimised, with night works restricted to essential activities. These measures aim to protect sensitive species from disturbance during both construction and operation.
- Spill and waste management: Waste will be managed according to the waste hierarchy, with spill kits and procedures in place to prevent and respond to chemical spills. Drilling spoil will be disposed of at approved locations, and active measures will prevent hydrocarbons and debris from entering waterways. Strict controls will ensure compliance with environmental regulations.

Construction and Operation:

- Monitoring and adaptive management: Routine and event-based monitoring for water quality, dust, and fauna. Adaptive management protocols for vegetation condition, hydrology, and fauna response. Reporting of monitoring results, exceedances, and corrective actions. Ongoing engagement with Traditional Owners for cultural heritage protection.

Throughout the life of the Project:

- Nature-based solutions: Integrate materials conducive to marine habitat in pylon design. Consider living seawalls, seagrass/mangrove restoration for coastal resilience and blue carbon. These measures support Infrastructure Sustainability (IS) rating through the Infrastructure Sustainability Council (ISC).

4.1.3.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

As the Project is assessed as ‘unlikely’ to have significant impacts on any MNES, it is not expected that offsets under the EPBC Act will be required.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Acronychia littoralis	Scented Acronychia
No	No	Anthochaera phrygia	Regent Honeyeater
No	No	Ardenna grisea	Sooty Shearwater
Yes	Yes	Arenaria interpres	Ruddy Turnstone
No	No	Argynnis hyperbius inconstans	Australian Fritillary
No	No	Arthraxon hispidus	Hairy-joint Grass
No	No	Balaenoptera musculus	Blue Whale
No	No	Bosistoa transversa	Three-leaved Bosistoa, Yellow Satinheart
No	No	Botaurus poiciloptilus	Australasian Bittern
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
Yes	Yes	Calidris canutus	Red Knot, Knot
Yes	Yes	Calidris ferruginea	Curlew Sandpiper
Yes	Yes	Calidris tenuirostris	Great Knot
No	No	Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo
No	No	Carcharias taurus (east coast population)	Grey Nurse Shark (east coast population)
Yes	Yes	Carcharodon carcharias	White Shark, Great White Shark
Yes	Yes	Caretta caretta	Loggerhead Turtle
No	No	Chalinolobus dwyeri	Large-eared Pied Bat, Large Pied Bat
Yes	Yes	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover
Yes	Yes	Charadrius mongolus	Lesser Sand Plover, Mongolian Plover
Yes	Yes	Chelonia mydas	Green Turtle

Direct impact	Indirect impact	Species	Common name
No	No	Cherax robustus	Sand Yabby
No	No	Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)
No	No	Coeranoscincus reticulatus	Three-toed Snake-tooth Skink
No	No	Cryptocarya foetida	Stinking Cryptocarya, Stinking Laurel
No	No	Cryptostylis hunteriana	Leafless Tongue-orchid
No	No	Cupaniopsis shirleyana	Wedge-leaf Tuckeroo
No	No	Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot
No	No	Dasyurus hallucatus	Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu]
No	No	Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)
No	No	Delma torquata	Adorned Delma, Collared Delma
Yes	Yes	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
No	No	Diomedea antipodensis	Antipodean Albatross
No	No	Diomedea antipodensis gibsoni	Gibson's Albatross
No	No	Diomedea exulans	Wandering Albatross
No	No	Epinephelus daemelii	Black Rockcod, Black Cod, Saddled Rockcod
Yes	Yes	Eretmochelys imbricata	Hawksbill Turtle
No	No	Erythrotriorchis radiatus	Red Goshawk
No	No	Eubalaena australis	Southern Right Whale
No	No	Falco hypoleucos	Grey Falcon
No	No	Fregetta grallaria grallaria	White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian)
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Grantiella picta	Painted Honeyeater
No	No	Hemiaspis damelii	Grey Snake

Direct impact	Indirect impact	Species	Common name
No	No	Hippocampus whitei	White's Seahorse, Crowned Seahorse, Sydney Seahorse
Yes	Yes	Hirundapus caudacutus	White-throated Needletail
No	No	Lathamus discolor	Swift Parrot
Yes	Yes	Lepidochelys olivacea	Olive Ridley Turtle, Pacific Ridley Turtle
Yes	Yes	Limnodromus semipalmatus	Asian Dowitcher
Yes	Yes	Limosa lapponica baueri	Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit
Yes	Yes	Limosa limosa	Black-tailed Godwit
No	No	Litoria olongburensis	Wallum Sedge Frog
No	No	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
No	No	Macronectes halli	Northern Giant Petrel
No	No	Mixophyes fleayi	Fleay's Frog
No	No	Mordacia praecox	Non-parasitic Lamprey, Precocious Lamprey
Yes	Yes	Natator depressus	Flatback Turtle
Yes	Yes	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	No	Orcaella heinsohni	Australian Snubfin Dolphin
No	No	Pachyptila turtur subantarctica	Fairy Prion (southern)
No	No	Persicaria elatior	Knotweed, Tall Knotweed
No	No	Petauroides volans	Greater Glider (southern and central)
No	No	Petaurus australis australis	Yellow-bellied Glider (south-eastern)
No	No	Phaius australis	Lesser Swamp-orchid
No	No	Phaius bernaysii	Yellow Swamp-orchid
Yes	Yes	Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)
Yes	Yes	Pluvialis squatarola	Grey Plover

Direct impact	Indirect impact	Species	Common name
No	No	Potorous tridactylus tridactylus	Long-nosed Potoroo (northern)
No	No	Pristis zijsron	Green Sawfish, Dindagubba, Narrowsnout Sawfish
No	No	Pseudomugil mellis	Honey Blue Eye, Honey Blue-eye
No	No	Pterodroma neglecta neglecta	Kermadec Petrel (western)
Yes	Yes	Pteropus poliocephalus	Grey-headed Flying-fox
No	No	Rhincodon typus	Whale Shark
No	No	Rhodamnia rubescens	Scrub Turpentine, Brown Malletwood
No	No	Rhodomyrtus psidioides	Native Guava
No	No	Rostratula australis	Australian Painted Snipe
No	No	Samadera bidwillii	Quassia
Yes	Yes	Sousa sahulensis	Australian Humpback Dolphin
No	No	Sphyrna lewini	Scalloped Hammerhead
No	No	Stagonopleura guttata	Diamond Firetail
Yes	Yes	Sternula albifrons	Little Tern
No	No	Sternula nereis nereis	Australian Fairy Tern
No	No	Thalassarche carteri	Indian Yellow-nosed Albatross
No	No	Thalassarche cauta	Shy Albatross
No	No	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
No	No	Thalassarche melanophris	Black-browed Albatross
No	No	Thalassarche salvini	Salvin's Albatross
No	No	Thalassarche steadi	White-capped Albatross
No	No	Thesium australe	Austral Toadflax, Toadflax
Yes	Yes	Tringa nebularia	Common Greenshank, Greenshank
No	No	Turnix melanogaster	Black-breasted Button-quail
Yes	Yes	Xenus cinereus	Terek Sandpiper

Direct impact	Indirect impact	Species	Common name
No	No	Xeromys myoides	Water Mouse, False Water Rat, Yirrkoo

Ecological communities

Direct impact	Indirect impact	Ecological community
Yes		Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community
No	Yes	Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland
No	No	Lowland Rainforest of Subtropical Australia
No	No	Subtropical and Temperate Coastal Saltmarsh
No	No	Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Further details on the field findings and impact on MNES are provided in **Attachment C-MNES Report, Section 5, pg 42-51**.

Threatened Ecological Communities

The majority of the Project area (5.55 ha or 48% of the Project area) has been designed to occur within previously disturbed areas and non-remnant vegetation. There is no ground-truthed remnant vegetation or TEC present within the Project area and no vegetation comprising remnant RE or TEC is expected to be removed for the Project (**Attachment C1-MNES Report, Section 5.1.1.1, pg 42**).

Threatened flora

No threatened flora species listed under the EPBC Act were directly observed during field surveys. The outcomes of the desktop assessment indicated that it was unlikely any threatened flora species listed under the EPBC Act would occur within the Project area based on the lack of suitable habitat (**Attachment C1-MNES Report, Section 4.7.5.1, pg 30**).

Threatened fauna

A total of 36 conservation-significant species were assessed as having a known, likely, or potential occurrence within the Project area based on the refined LOO assessment. Significant Impact Assessments were undertaken for MNES values that warranted further assessment under the Significant Impact Guidelines 1.1, including the multiple EPBC Act–listed threatened and migratory species such as the koala, grey-headed flying-fox, Australian humpback dolphin, loggerhead turtle, green turtle and hawksbill turtle, and great white shark (**Attachment C2-MNES Report, Appendix C, pg 21-95**).

Although there have been previous records of water mouse (*xeromys myoides*) within the broader Study area, the mangrove habitat is marginal within the Project area and heathland is absent. Additionally, only the canopies of the woodland fringe are within the Project Area, no freshwater swamp associated with this vegetation occurs within the Project area. Given these habitat attributes, as well as the potential habitat being highly disturbed, the LOO assessment determined the water mouse is unlikely to occur within or adjacent to Project (**Attachment C2-MNES Report, Appendix B, pg 1-20**).

Based on the Project area, proposed disturbance extents to terrestrial fauna habitat are estimated to be 1.33 ha (11.62% of the Project area), consisting mainly of disturbed road and open space/parkland (**Attachment C1-MNES Report, Section 5.1.1.5, pg 45-47**).

Based on the Project area, proposed disturbance extents to intertidal fauna habitat are estimated to be approx. 0.57 ha (4.98% of the Project area) consisting of mudflats and mangroves. Intertidal habitats, comprising tidal flats, beaches, sandbars, saltmarsh and mangrove margins, provide suitable foraging and roosting habitat for multiple EPBC-listed migratory shorebirds (**Attachment C2-MNES Report, Appendix E, Section 4.2, pg 252-329**). While local abundance is typically low, the area remains functionally connected to the broader Moreton Bay Ramsar site and is used during tidal movements.

Below is the summary of potential maximum extents of direct impact to threatened species habitat (**Attachment C1-MNES Report, Section 5.1.1, pg 42**):

- Koala (Phascolarctos cinereus) - 1.33 ha
- Grey-headed flying-fox *(Pteropus poliocephalus*)- 1.33 ha
- Loggerhead turtle *(Caretta caretta);* Green turtle (*Chelonia mydas);* Leatherback turtle *(Dermochelys coriacea);* Hawksbill turtle *(Eretmochelys imbricata);* Olive ridley turtle *(Lepidochelys olivacea); Flatback turtle (Natator depressus)* - 5.33 ha
- Australian humpback dolphin *(Sousa sahulensis) – 5.33 ha*
- Great white shark *(Carcharodon carcharias)* - 5.33 ha
- Ruddy turnstone *(Arenaria interpres);* Sharp-tailed sandpiper *(Calidris acuminata);* Red knot *(Calidris canutus);* Curlew sandpiper *(Calidris ferruginea);* Great knot *(Calidris tenuirostris);* Greater sand plover *(Charadrius leschenaultii);* Lesser sand plover *(Charadrius mongolus);* Asian dowitcher

(Limnodromus semipalmatus); Western Alaskan bar-tailed godwit *(Limosa lapponica baueri*); Black-tailed godwit *(Limosa limosa);* Far eastern curlew *(Numenius madagascariensis);* Grey plover *(Pluvialis squatarola);* Little tern *(Sternula albifrons);* Common greenshank *(Tringa nebularia);* Terek sandpiper *(Xenus cinereus) - 0.57 ha*
- White-throated needletail *(Hirundapus caudacutus)* - 1.33 ha

The Project will impact a total of approx. 7.04 ha of functional habitat potentially supporting MNES. This includes terrestrial, marine, intertidal, and subtidal habitats. While most terrestrial habitat is highly modified and fragmented, offering limited resources for threatened species, marine and intertidal habitats are functionally connected to the broader Moreton Bay Ramsar site. However, the local abundance of threatened species is typically low, and the Project area does not contain mapped core koala habitat or habitat critical to the survival of any threatened species; it provides only marginal, supplementary, or transit habitat.

Direct Impacts

- Up to 7.04 ha of functional habitat—including terrestrial, marine, and intertidal areas. Most of this occurs within already disturbed or non-remnant vegetation, with no remnant or threatened ecological community (TEC) vegetation expected to be removed.
- Terrestrial habitat loss amounts to approx. 1.33 ha, mainly comprising non-remnant urban parkland, shrubby regrowth, and fringing vegetation. This provides marginal but functional dispersal and supplementary foraging habitat for threatened terrestrial mammals such as the koala (Endangered) and grey-headed flying-fox (Vulnerable).
- Intertidal habitat loss is estimated at 0.57 ha, including mudflats and mangroves. These areas are suitable for threatened shorebirds and provide foraging and roosting habitat for species such as the far eastern curlew (Critically Endangered), bar-tailed godwit (Endangered), and other threatened shorebirds.
- Marine plant and fringing vegetation clearing will affect about 0.19 ha, supporting dispersal and supplementary foraging for koala, grey-headed flying-fox, and threatened shorebirds, as well as shelter and nursery habitat for marine and estuarine species.
- Subtidal habitat impacts total up to 5.33 ha, relevant for threatened marine mammals (Australian humpback dolphin, Vulnerable), marine turtles (loggerhead, green, leatherback, hawksbill, olive ridley, flatback), and the great white shark (Vulnerable).
- Construction activities will disturb approx. 5.71 ha of marine and intertidal habitat within Pumicestone Passage and the Moreton Bay Ramsar site. While there will be a minor direct loss of soft sediment habitat from piling, no seagrass meadows will be directly impacted.
- Increased vehicle and vessel movement during construction raises the risk of disturbance, injury, or mortality for fauna such as koalas, marine turtles, dolphins, other marine megafauna and migratory shorebirds.
- Habitat fragmentation and increased edge effects may reduce connectivity for fauna, potentially impacting movement and foraging opportunities.

Indirect Impacts

- Construction and operational activities may increase noise, artificial light, and vibration, potentially disturbing sensitive fauna, particularly during critical periods such as breeding or migration.
- Runoff, sedimentation, and accidental spills during construction could degrade water quality, affecting aquatic habitats and species.
- Disturbance of soils and vegetation may facilitate the spread of invasive weeds and pest species, further degrading habitat quality.
- Erosion, sediment runoff, and changes to surface and groundwater, potentially impacting soil structure, water quality, vegetation health, and watercourse turbidity. Piling activities pose the greatest risk through seabed disturbance and sediment plumes; however, hydrodynamic modelling

indicates that any resulting turbidity will be low magnitude, short duration, and localized, not affecting nearby seagrass meadows..

- The Project may contribute to cumulative impacts in the region, but these are expected to be minor given the scale and location of the works **(Attachment C1-MNES Report, Section 5.1.2, pg 47-50)**.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.4.6 Describe why you do not consider this to be a Significant Impact. *

A total of 36 conservation-significant species were assessed as having a known, likely, or potential occurrence within the Project area based on the refined LOO assessment (**Attachment C2-MNES Report, Appendix B, pg 1-20**). Significant Impact Assessments were undertaken for MNES values that warranted further assessment under the Significant Impact Guidelines 1.1 (**Attachment C2-MNES Report, Appendix C, pg 21-95**). The Significant Impact Assessments of identified threatened fauna species are summarised below.

No flora species were identified during these assessments and no flora species have been identified to be potentially impacted by the Project.

Koala (Endangered under EPBC Act, known to occur)

- The Project may clear up to 1.3 ha of marginal foraging/dispersal habitat (non-remnant, regrowth, parkland), however no core habitat and no habitat critical to the survival of the species will be impacted, and only temporary and minor disturbance during construction. Extensive habitat remains and mitigation measures will be in place.
- No important population present.

Given the minor potential direct and indirect impacts to habitat, the temporary nature of the construction activities and robust mitigation and management measures, the Project is unlikely to significantly impact the koala species (**Attachment C2-MNES Report, Appendix C, Section 3.2, pg 49-54**).

Grey-headed flying-fox (Vulnerable under EPBC Act, known to occur)

- The Project may clear up to 1.33 ha of non-remnant/regrowth foraging habitat. No roosts/camps identified within the Project area. No breeding habitat affected and no habitat fragmentation expected.
- No important population present, and no breeding places will be disrupted.

Given the minor potential direct and indirect impacts to habitat, the temporary nature of the construction activities and robust mitigation and management measures, the Project is unlikely to significantly impact the grey-headed flying-fox species (**Attachment C2-MNES Report, Appendix C, Section 3.1, pg 44-48**).

Australian humpback dolphin (Vulnerable and migratory under EPBC Act, likely to occur)

- The Project may impact up to 5.33 ha of subtidal dispersal habitat present within the Project area and approx. 263 m² permanent soft sediment loss (piling). Minor intertidal loss, temporary disturbance from construction activities such as increased noise, vessel movement, sedimentation may be experienced however, should not result in loss of seagrass in the area.
- No residential population present
- Extensive habitat for the Australian humpback dolphin existing in the surrounding area.

Given the limited and localised disturbance associated with potential direct and indirect impacts to habitat, as well as the temporary nature of the construction activities, the Project is unlikely to significantly impact the Australian humpback dolphin species. This assessment is further supported by the implementation of robust mitigation and management measures (**Attachment C2-MNES Report, Appendix C, Section 3.3, pg 55-61)**.

Loggerhead turtle (Endangered and migratory under EPBC Act, likely to occur), Green turtle (Vulnerable and migratory under EPBC Act, likely to occur), Hawksbill turtle (Vulnerable and migratory under EPBC Act, likely to occur)

- The Project may impact up to 5.33 ha subtidal, 0.23 ha intertidal foraging/dispersal habitat and approx. 263 m² soft sediment loss, minor intertidal loss. Due to the nature of construction, temporary increase in noise, vessel movement, sedimentation may be experienced however not expect nesting habitat
- No nesting or core foraging habitat affected.

- Extensive habitat for the Australian humpback dolphin existing in the surrounding area.

Although minor habitat loss, given the limited and localised disturbance pertaining to potential direct and indirect impacts to habitat, the temporary nature of the construction activities, the Project is unlikely to significantly impact the loggerhead turtle (**Attachment C2-MNES Report, Appendix C, Section 3.4, pg 62-67)** and green turtle species (**Attachment C2-MNES Report, Appendix C, Section 3.5, pg 68-74**). This assessment is further supported by the implementation of robust mitigation and management measures.

Great white shark (Vulnerable and migratory under EPBC Act, likely to occur)

- The Project may impact up to 5.33 ha subtidal dispersal habitat, however no critical habitat is present, and activities will be localised and temporary disturbance from piling and vessel movement.
- The great white shark has no barriers to movement, and no known population is present.

Given the limited and localised disturbance pertaining to potential direct and indirect impacts to habitat, the temporary nature of the construction activities, the Project is unlikely to significantly impact the great white shark species. This assessment is further supported by the implementation of robust mitigation and management measures (**Attachment C2-MNES Report, Appendix C, Section 3.6, pg 75-80**).

Mitigation and management measures

The assessment concludes no significant impacts to MNES are expected:

- Avoidance of critical habitat: The Project has been designed to avoid remnant vegetation, Threatened Ecological Communities, and critical habitat for listed species. Most impacts occur in already disturbed or non-critical areas.
- Limited scale and duration: The area of direct impact is small relative to the availability of similar habitat in the region, and construction-phase impacts are temporary.
- Mitigation and management measures: A comprehensive suite of mitigation measures will be implemented, including:
    - Mitigation, management and monitoring measures will be developed and implemented in accordance with the principles and recommended actions outlined in the:
        - National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna (DCCEEW, 2017)
        - National Light Pollution Guidelines for Wildlife (DCCEEW, 2023)
        - National Assessment Guidelines for Dredging (DCCEEW, 2009)
        - ANZECC & ARMCANZ Water Quality Guidelines (2000)
    - Minimising the disturbance footprint and timing works to avoid sensitive periods for fauna.
    - Employing fauna spotter-catchers during clearing.
    - Implementing sediment and erosion controls (e.g., silt curtains) and spill management protocols.
    - Maintaining habitat connectivity and restoring disturbed areas post-construction.
    - Low likelihood of significant population-level effects: The affected habitats are not considered critical for the long-term survival of any listed threatened species, and the Project is unlikely to result in a significant reduction in population size, area of occupancy, or habitat connectivity.
    - Adaptive management and monitoring: Ongoing monitoring and adaptive management will ensure that any unexpected impacts are identified and addressed promptly.

Monitoring and mitigation measures pertaining to water quality, noise, introduced organisms, marine fauna and waste are detailed in the MNES report (**Attachment C1-MNES Report, Table 18, pg 53-61**, and **Attachment C2-MNES Report, Appendix D, Section 9, pg 179-180**).

While the Project will result in some direct and indirect impacts to threatened fauna and their habitats, these impacts are largely confined to already disturbed or non-critical areas. With the implementation of robust mitigation and management measures, the Project is not expected to result in significant impacts to MNES (**Attachment C1-MNES Report, Section 7.0, pg 62-63**).

4.1.4.7 Do you think your proposed action is a controlled action? *

No

4.1.4.9 Please elaborate why you do not think your proposed action is a controlled action. *

The Significant Impact Assessments undertaken for the identified MNES concluded that the Project is unlikely to significantly impact any of the MNES (**Attachment C2-MNES Report, Appendix C, pg 21-95)**. As no significant impacts were identified, the Project is not anticipated to be a 'controlled action'.

No MNES flora species were identified during these assessments and no flora species have been identified to be potentially impacted by the Project.

Koala

- Direct impacts are limited to clearing 1.33 ha of marginal, non-core foraging/dispersal habitat; no core or critical habitat is affected.
- No evidence of an important population within or adjacent to the Project area
- Koalas are highly mobile and can traverse the modified landscape; the Project will not create new barriers to movement
- Indirect impacts (e.g., disease, invasive species) are managed through mitigation and biosecurity protocols
- Extensive suitable habitat remains nearby, and mitigation (e.g., pre-clearance surveys, spotter-catchers) will minimise risks
- The scale and context of habitat loss are minor relative to the regional population and habitat availability, so a significant impact is not expected **(Attachment C2-MNES Report, Appendix C, Section 3.2, pg 49-54)**.

Grey-headed flying-fox

- Direct impact is limited to 1.33 ha of non-remnant/regrowth foraging habitat; no roosts or camps are present
- No important population or camp is present within 20 km; the species is highly mobile and not reliant on the Project area
- Indirect impacts (fragmentation, disease, invasive species) are negligible due to the species' mobility and the absence of critical roosts
- The Project will not reduce the area of occupancy, fragment populations, or disrupt breeding cycles
- Mitigation measures (e.g., minimising clearing, weed/pest management) further reduce risk
- The limited scale and context of disturbance mean a significant impact is not likely (**Attachment C2-MNES Report, Appendix C, Section 3.1, pg 44-48**).

Australian humpback dolphin

- Direct impacts are limited to approx. 263 m² of permanent soft sediment loss and minor intertidal habitat loss in a 5.33 ha area of dispersal habitat
- No core or critical habitat is affected; the area is used for movement/foraging, not residency
- Indirect impacts (e.g., noise, vessel movement, sedimentation) are temporary, localised, and managed through robust mitigation (fauna observers, vessel speed controls, noise management)
- Extensive alternative habitat and movement pathways are available in Moreton Bay
- No barriers to movement or population fragmentation will occur
- The limited, temporary, and well-managed nature of impacts means the Project is not likely to cause a significant impact (**Attachment C2-MNES Report, Appendix C, Section 3.3, pg 55-61**).

Loggerhead turtle, green turtle, hawksbill turtle

- Direct impacts are limited to small, localised loss of soft sediment and intertidal habitat (approx. 263 m² soft sediment, minor intertidal) in non-core foraging areas
- No nesting habitat or key seagrass foraging areas are present or affected
- Indirect impacts (e.g., noise, vessel strike, sedimentation, water quality) are temporary, localised, and managed through CEMP measures (fauna observation, vessel controls, sediment management, spill prevention)

- Turtles are highly mobile and can avoid temporary disturbance; extensive surrounding habitat remains
- No evidence of resident or important populations in the Project area
- The absence of critical habitat and the minor, managed nature of impacts mean a significant impact is not likely (**Attachment C2-MNES Report, Appendix C, Section 3.4, pg 62-67, and Section 3.5, pg 68-74**).

Great white shark

- Direct impacts are limited to localised, temporary disturbance of bare sandy seabed; no critical habitat is present
- The species is highly mobile and only transits the area; no barriers to movement are created
- Indirect impacts (e.g., noise, sedimentation, invasive species) are negligible, managed, and not identified as threats in the recovery plan
- No population fragmentation, breeding disruption, or reduction in area of occupancy is expected
- The Project is not likely to result in a significant impact due to the species' ecology and the limited, managed nature of impacts (**Attachment C2-MNES Report, Appendix C, Section 3.6, pg 75-80**).

Mitigation and management measures

The assessment concludes that significant impacts to MNES as a result of the Project are not expected, for the following reasons:

- Avoidance of critical habitat: The Project has been designed to avoid remnant vegetation, Threatened Ecological Communities, and critical habitat for listed species. Most impacts occur in already disturbed or non-critical areas.
- Limited scale and duration: The area of direct impact is small relative to the availability of similar habitat in the region, and construction-phase impacts are temporary.
- Mitigation and management measures: A comprehensive suite of mitigation measures will be implemented, including:
    - Mitigation, management and monitoring measures will be developed and implemented in accordance with the principles and recommended actions outlined in the:
        - National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna (DCCEEW, 2017)
        - National Light Pollution Guidelines for Wildlife (DCCEEW, 2023)
        - National Assessment Guidelines for Dredging (DCCEEW, 2009)
        - ANZECC & ARMCANZ Water Quality Guidelines (2000)
    - Minimising the disturbance footprint and timing works to avoid sensitive periods for fauna.
    - Employing fauna spotter-catchers during clearing.
    - Implementing sediment and erosion controls (e.g., silt curtains) and spill management protocols.
    - Maintaining habitat connectivity and restoring disturbed areas post-construction.
    - Low likelihood of significant population-level effects: The affected habitats are not considered critical for the long-term survival of any listed threatened species, and the Project is unlikely to result in a significant reduction in population size, area of occupancy, or habitat connectivity.
    - Adaptive management and monitoring: Ongoing monitoring and adaptive management will ensure that any unexpected impacts are identified and addressed promptly.

The assessment of threatened and migratory fauna through Significant Impact Assessments concluded that the Project is considered **unlikely to significantly impact any listed MNES** (**Attachment C1, Section 7.0, pg 62-63, and Attachment C2-MNES Report, Appendix C, Section 4.0, pg 81-95**)for the following reasons:

- Habitat within the Project area for threatened terrestrial species (e.g., koala, grey-headed flying-fox) was confirmed to be marginal, limited in extent and not considered important habitat for the species.

- Migratory shorebirds utilise tidal flats in the vicinity of the Project area; however, predicted habitat loss was minimal (0.38 ha), and no significant impact pathways (noise, lighting, invasive species, water quality changes, roost disruption, or foraging disturbance) were identified given the avoidance, mitigation and management measures incorporated into the Project design and construction methodology.
- Marine mammals, sharks, turtles and dugongs are occasionally transient within the Project area, however no important foraging locations are present and these species would likely be transiting the Project area to get to important habitat in Pumicestone Passage or to the seagrass meadows in the northern section of Moreton Bay.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The Project has been designed to avoid and where avoidance is not possible, minimise impacts on the natural environment and MNES. Key avoidance, mitigation and management measures are proposed to be incorporated into the design and implemented during planning, construction and operation of the Project (**Attachment C1-MNES Report, Section 6, pg 52-61**). Key management measures are summarised below:

Avoid and minimise (Design and Pre-construction):

- Vegetation and habitat protection:
    - Detailed design has and will continue to be refined to make sure of previously disturbed areas.
    - Minimise the disturbance footprint and prioritise works in already cleared areas, avoiding remnant vegetation and sensitive habitats where possible.
    - 'No-go' zones will be established for threatened ecological communities, and clearing will be sequenced to allow fauna to move to safe areas, with licensed spotter-catchers present; where avoidance is not feasible, habitat features will be salvaged and relocated.
    - Detailed design will refine protection of sensitive vegetation (e.g., Swamp Sclerophyll TEC) by establishing 'no-go' zones, maintaining drainage/hydrology, and including monitoring protocols.
    - Pre-clearing protocols, including pre-clearing inspections and exclusion zones, will be implemented, and all site personnel will be inducted on vegetation management requirements.
    - Further assessment will confirm marine plant disturbance areas, and pre-lodgement meetings with relevant authorities will be held for required permits.
- Weeds, pests, and pathogens:
    - Prepare and audit a Biosecurity Management Plan, including vessel risk assessments and inspections for invasive marine species.
    - All equipment and vessels will be cleaned to prevent the spread of pests and diseases, and the Project will enforce hygiene protocols for all works near waterways to prevent new introductions.
    - A Vessel Risk Assessment will be conducted prior to mobilisation, and IMS inspections will be completed for high-risk vessels.
- Fauna management:
    - Undertake a self-assessment under the Koala Conservation Policy and comply with relevant requirements.
    - Design will avoid/minimise impacts to fauna habitats, with clearing protocols to protect native species and timing to avoid sensitive breeding seasons.
- Water quality and erosion control:
    - An Erosion and Sediment Control Plan (ESCP) will be developed in accordance with best practice, and water quality capture/treatment measures will be incorporated into the design.
    - A Water Quality Monitoring and Reporting Plan will be prepared, including baseline monitoring prior to works.
- Noise, vibration, and light:
    - A construction noise and vibration screening assessment will be undertaken during design, and lighting will be designed in accordance with National Light Pollution Guidelines for Wildlife, using shielded, downward-directed, and wildlife-friendly fixtures.
- General environmental management:
    - A Construction Environmental Management Plan (CEMP) and relevant sub-plans will be prepared, implemented, and audited, with all site workers trained in environmental requirements.
- Nature-based solutions:
    - Ongoing consideration for integrating materials conducive to marine habitat in pylon design and other nature-based solutions to support environmental values and sustainability ratings.

Mitigation (Construction)

- General environmental management:
    - A CEMP will:
        - be prepared and implemented for the project, detailing all mitigation and management measures required to address potential construction impacts.
        - include sub-plans and procedures for noise, vibration, dust, air quality, erosion and sediment control, water quality, fauna management, weed and pest management, and emergency response.
        - outline roles, responsibilities, monitoring, reporting, and corrective actions guide compliance with environmental requirements.
        - be reviewed and updated as necessary throughout construction to reflect changing site conditions and regulatory requirements.
- Weeds, pests and pathogens
    - Implement aquatic weed and pest controls and apply hygiene procedures for plant, equipment, and vehicles operating in or near waterways.
    - Rapid marine pest assessments during works using Marine Pest Identification Cards.
    - Cleaning and decontamination procedure for marine vessels, equipment, and clothing applies before leaving the white spot disease movement restriction area.
- Marine and intertidal habitat:
    - Clearly delineate and protect mangroves and intertidal areas, limiting disturbance to the defined Project area.
    - Assess and permit marine plant impacts as required, minimise seabed disturbance through construction methods (including soft-start piling) and promptly remove temporary structures.
    - Schedule in-stream works during low-flow periods to maintain fish passage and reduce ecological disruption.
- Water quality:
    - Surface water quality monitoring will be conducted pre-, during, and post-construction; silt curtains will be used if trigger values are exceeded.
    - Scuppers, swales, and pollutant traps will be used to manage spills and contaminated discharge from the bridge.
- Erosion, sediment runoff and spills:
    - An ESCP will be implemented as part of the CEMP, outlining measures for prevention of erosion and sedimentation during construction, including use of silt fences, bunding, and silt curtains.
    - Appropriate access for instream works will be via existing ramps, slipways, and jetties to minimise disturbance to stream banks.
    - Prepare and implement an Actual Acid Sulfate Soils (ASS)/Potential Acid Sulfate Soils (PASS) Management Plan if ASS or PASS are encountered.
    - Spoil generated during pile drilling will be contained and disposed of onshore at an approved location, preventing discharge to Pumicestone Passage.
- Fauna management:
    - Implement traffic management plans to minimise collision risks for terrestrial and marine fauna, and trained observers will monitor for marine mammals and turtles, stopping works if animals are nearby.
    - Visual monitoring for marine fauna (e.g., marine mammals, turtles, dugongs) from a designated vessel within a 2 km radius of the construction area; monitoring to be undertaken by suitably trained Marine Fauna Observers.
    - Implement management zones and exclusion zones for marine fauna during high-risk activities (e.g., piling, dredging), with work ceasing if fauna enter these zones.
    - Schedule construction activities to avoid peak breeding, nesting, and migration periods for sensitive species (e.g., cetaceans, turtles, shorebirds).
    - For terrestrial fauna (including koalas), clearing of habitat trees must comply with sequential clearing requirements, ensuring fauna have time to move out without human intervention, with

staged clearing and maintenance of habitat links.
    - Avoid clearing habitat trees in which fauna are present or with a crown overlapping a tree in which fauna are present.
    - Temporary fencing and fauna exclusion devices to minimise injury or mortality due to vehicle strike, entrapment in deep excavations, or access to hazardous areas.
    - Engage qualified fauna spotter-catchers during clearing and construction activities to safely relocate fauna if required.
- Noise and vibration
    - Maintain standard noise reduction devices on all plant and equipment, and implement soft-start piling procedures to reduce sudden noise disturbance to shorebirds and other fauna.
    - Limit construction activities such as pile driving/drilling outside of peak marine fauna breeding and calving season, particularly for cetaceans (generally September to April).
    - Confirm management zone distances through site verification monitoring prior to piling, and implement underwater noise management zones during piling with marine spotters observing marine mammals.
    - Construction noise and vibration screening assessment to be undertaken in accordance with the Transport Noise Management Code of Practice.
- Lighting
    - Site lighting during construction will be kept to the minimum required for safety, shielded and directional to illuminate only relevant work areas; standard construction work hours will generally be between 6.30 am and 6.30 pm to reduce night-time impacts.
- Dust and air quality
    - Dust generation will be minimised using engineering controls and dust suppression measures such as water trucks and sprinklers; temporary soil stockpiles will be covered, stabilised, or moistened as required.
    - Daily dust inspections will be undertaken to monitor and manage construction activities generation of excessive dust near sensitive receivers.
- Spill and waste management:
    - Manage waste according to the waste hierarchy and maintain spill kits and procedures to prevent and respond to chemical spills.
    - The Project will dispose of drilling spoil at approved locations and prevent hydrocarbons and debris from entering waterways, maintaining strict controls to guide regulatory compliance.

Operation:

- Monitoring and adaptive management:
    - Conduct routine and event-based monitoring for water quality, dust, and fauna, and apply adaptive management protocols for vegetation condition, hydrology, and fauna response.
    - Report monitoring results, exceedances, and corrective actions, and continue ongoing engagement with Traditional Owners for Aboriginal cultural heritage protection.
- Lighting:
    - Lighting design will maintain intensity at the minimum required for road safety, use shielded fixtures, and emit as little blue light as possible, preferably yellow or amber hues, in accordance with National Light Pollution Guidelines for Wildlife.
- Water quality and pollutant control:
    - Scuppers, swales, and pollutant traps will continue to manage spills and contaminated discharge from the bridge during operation.
- Nature-based solutions:
    - Living sea walls and restoration of seagrass, mangroves, or marine habitat will be considered to support coastal resilience, blue carbon, and environmental values, positively affecting the Project’s Infrastructure Sustainability (IS) rating through the ISC.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

As the Project is assessed as ‘unlikely’ to have significant impacts on any MNES (**Attachment C1-MNES Report, Section 7.0, pg 62-63**), it is not expected that offsets under the EPBC Act will be required.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Actitis hypoleucos	Common Sandpiper
No	No	Anous stolidus	Common Noddy
Yes	Yes	Apus pacificus	Fork-tailed Swift
No	No	Ardenna carneipes	Flesh-footed Shearwater, Fleshy-footed Shearwater
No	No	Ardenna grisea	Sooty Shearwater
Yes	Yes	Arenaria interpres	Ruddy Turnstone
No	No	Balaenoptera edeni	Bryde's Whale
No	No	Balaenoptera musculus	Blue Whale
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
Yes	Yes	Calidris alba	Sanderling
Yes	Yes	Calidris canutus	Red Knot, Knot
Yes	Yes	Calidris falcinellus	Broad-billed Sandpiper
Yes	Yes	Calidris ferruginea	Curlew Sandpiper
Yes	Yes	Calidris melanotos	Pectoral Sandpiper
No	No	Calidris pugnax	Ruff
Yes	Yes	Calidris ruficollis	Red-necked Stint
Yes	Yes	Calidris tenuirostris	Great Knot
No	No	Calonectris leucomelas	Streaked Shearwater
No	No	Carcharhinus longimanus	Oceanic Whitetip Shark
No	No	Carcharias taurus	Grey Nurse Shark
Yes	Yes	Carcharodon carcharias	White Shark, Great White Shark
Yes	Yes	Caretta caretta	Loggerhead Turtle

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Charadrius bicinctus	Double-banded Plover
Yes	Yes	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover
Yes	Yes	Charadrius mongolus	Lesser Sand Plover, Mongolian Plover
Yes	Yes	Charadrius veredus	Oriental Plover, Oriental Dotterel
Yes	Yes	Chelonia mydas	Green Turtle
Yes	Yes	Chlidonias leucopterus	White-winged Tern, White-winged Black Tern
No	No	Cuculus optatus	Oriental Cuckoo, Horsfield's Cuckoo
Yes	Yes	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
No	No	Diomedea antipodensis	Antipodean Albatross
No	No	Diomedea exulans	Wandering Albatross
Yes	Yes	Dugong dugon	Dugong
Yes	Yes	Eretmochelys imbricata	Hawksbill Turtle
No	No	Eubalaena australis	Southern Right Whale
No	No	Fregata ariel	Lesser Frigatebird, Least Frigatebird
No	No	Fregata minor	Great Frigatebird, Greater Frigatebird
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Gallinago megala	Swinhoe's Snipe
No	No	Gallinago stenura	Pin-tailed Snipe
Yes	Yes	Gelochelidon nilotica	Gull-billed Tern
Yes	Yes	Hirundapus caudacutus	White-throated Needletail
Yes	Yes	Hydroprogne caspia	Caspian Tern
No	No	Lamna nasus	Porbeagle, Mackerel Shark
Yes	Yes	Lepidochelys olivacea	Olive Ridley Turtle, Pacific Ridley Turtle
Yes	Yes	Limicola falcinellus	Broad-billed Sandpiper
Yes	Yes	Limnodromus semipalmatus	Asian Dowitcher

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Limosa lapponica	Bar-tailed Godwit
Yes	Yes	Limosa limosa	Black-tailed Godwit
No	No	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
No	No	Macronectes halli	Northern Giant Petrel
Yes	Yes	Megaptera novaeangliae	Humpback Whale
No	No	Mobula alfredi	Reef Manta Ray, Coastal Manta Ray
No	No	Mobula birostris	Giant Manta Ray
Yes	Yes	Natator depressus	Flatback Turtle
Yes	Yes	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	No	Numenius minutus	Little Curlew, Little Whimbrel
Yes	Yes	Numenius phaeopus	Whimbrel
No	No	Orcaella heinsohni	Australian Snubfin Dolphin
No	No	Orcinus orca	Killer Whale, Orca
Yes	Yes	Pandion haliaetus	Osprey
No	No	Phaethon lepturus	White-tailed Tropicbird
No	No	Phaethon rubricauda	Red-tailed Tropicbird
Yes	Yes	Pluvialis fulva	Pacific Golden Plover
Yes	Yes	Pluvialis squatarola	Grey Plover
No	No	Pristis zijsron	Green Sawfish, Dindagubba, Narrowsnout Sawfish
No	No	Rhincodon typus	Whale Shark
Yes	Yes	Sousa sahulensis	Australian Humpback Dolphin
Yes	Yes	Sterna hirundo	Common Tern
Yes	Yes	Sternula albifrons	Little Tern
No	No	Thalassarche carteri	Indian Yellow-nosed Albatross
No	No	Thalassarche cauta	Shy Albatross

Direct impact	Indirect impact	Species	Common name
No	No	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
No	No	Thalassarche melanophris	Black-browed Albatross
No	No	Thalassarche salvini	Salvin's Albatross
No	No	Thalassarche steadi	White-capped Albatross
Yes	Yes	Thalasseus bergii	Greater Crested Tern
Yes	Yes	Tringa brevipes	Grey-tailed Tattler
No	No	Tringa glareola	Wood Sandpiper
No	No	Tringa incana	Wandering Tattler
Yes	Yes	Tringa nebularia	Common Greenshank, Greenshank
Yes	Yes	Tringa stagnatilis	Marsh Sandpiper, Little Greenshank
No	No	Tursiops aduncus (Arafura/Timor Sea populations)	Spotted Bottlenose Dolphin (Arafura/Timor Sea populations)
Yes	Yes	Xenus cinereus	Terek Sandpiper

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The Bribie Island Bridge Upgrade Project is located within a sensitive coastal environment that forms part of the internationally significant Moreton Bay Ramsar site. This area provides critical habitat for a diverse range of migratory species, including up to 38 migratory bird species and four marine mammals (such as dugongs, dolphins, and whales) that are listed under the EPBC Act. The Project area encompasses intertidal flats, fringing marine vegetation, and subtidal zones, all of which are important foraging, roosting, and movement corridors for these species. As a result, the Project has the potential to cause both direct and indirect impacts on migratory species and their habitats.

A total of 36 conservation-significant species were assessed as having a known, likely, or potential occurrence within the Project area based on the refined LOO assessment (**Attachment C2-MNES Report, Appendix B, pg 1-20)** Significant Impact Assessments were undertaken for MNES values that warranted further assessment under the Significant Impact Guidelines 1.1 (**Attachment C2-MNES Report, Appendix C, pg 21-95**).

The maximum extent of potential direct (**Attachment C1-MNES Report, Section 5.1.1, pg 42**) and indirect impact (**Attachment C1-MNES Report, Section 5.1.2, pg 47-50**) to migratory species under the EPBC Act that may occur as a result of the Project has been assessed.

Below is the summary of potential maximum extents of direct impact to threatened species habitat:

Assessed under threatened species (Section 4.1.4 of this referral)

- Australian humpback dolphin *(Sousa sahulensis)* – 5.33 *ha*
- Great white shark *(Carcharodon carcharias)* - 5.33 ha
- Ruddy turnstone *(Arenaria interpres);* Greater sand plover *(Charadrius leschenaultii);* Little tern *(Sternula albifrons);* Black-tailed godwit *(Limosa limosa);* Great knot *(Calidris tenuirostris); Sharp-tailed sandpiper,* Grey plover *(Pluvialis squatarola);* Curlew sandpiper *(Calidris ferruginea);* Grey plover *(Pluvialis squatarola); Bar-tailed gotwit, Terek sandpiper,* Common greenshank *(Tringa nebularia);* Lesser sand plover *(Charadrius mongolus);* Asian dowitcher *(Limnodromus semipalmatus)* - 0.57 ha
- Loggerhead turtle *(Caretta caretta);* Green turtle (*Chelonia mydas);* Leatherback turtle *(Dermochelys coriacea);* Hawksbill turtle *(Eretmochelys imbricata);* Olive ridley turtle *(Lepidochelys olivacea); Flatback turtle (Natator depressus)* - 5.33 ha

Migratory only:

- White-throated needletail *(Hirundapus caudacutus)* - 1.33 ha
- Dugong *(Dugong dugon)- 5.33 ha*
- Indo-Pacific bottlenose dolphin *(Tursiops aduncus)* - 5.33 ha
- Humpback whale *(Megaptera novaeangliae)* - 5.33 ha
- Common sandpiper (*Actitis hypoleucos*); Sanderling (*Calidris alba*); Broad-billed sandpiper (*Calidris falcinellus*); Pectoral sandpiper (*Calidris melanotos*); Red-necked stint (*Calidris ruficollis*); Double-banded plover (*Charadrius bicinctus*); Oriental plover (*Charadrius veredus*); White-winged black tern (*Chlidonias leucopterus*); Gull-billed tern (*Gelochelidon nilotica*); Caspian tern (*Hydroprogne caspia*); Whimbrel (*Numenius phaeopus*); Pacific golden plover (*Pluvialis fulva*); Common tern (*Sterna hirundo*); Greater crested tern (*Thalasseus bergii*); Grey-tailed tattler (*Tringa brevipes*); Marsh sandpiper (*Tringa stagnatilis*)- 0.57 ha
- Eastern osprey (*Pandion haliaetus*) - 5.90 ha
- Fork-tailed swift (*Apus pacificus*) - 1.33 ha

Summary and habitat description for maximum area impacted:

- Maximum area of marine and intertidal habitat impacted (potential habitat for migratory species): 5.71 ha
- Intertidal foraging/roosting habitat (tidal flats, beaches, sandbars, saltmarsh): 0.38 ha
- Fringing marine plants and vegetation: 0.19 ha

- Subtidal habitat (for marine mammals): 5.33 ha
- Tidal flats: at low and high tide, approx. 350 m and 250 m north and south of the bridge, migratory species use the flats for foraging.

Direct Impacts

Direct impacts are those that occur as an immediate result of construction and operation activities within the Project area. For the Bribie Island Bridge Upgrade, these include:

- Habitat loss and disturbance: Construction will result in the temporary or permanent removal of intertidal and subtidal habitats (up to 5.90 ha), including tidal flats, fringing vegetation, and marine plant communities. These areas are essential for migratory shorebirds (for foraging and roosting) and marine mammals (as movement corridors and feeding grounds).
- Disturbance and injury risk: The presence and movement of construction vessels increase the risk of vessel strikes for marine mammals such as dugongs, dolphins, and whales. Construction activities may also temporarily disrupt the movement of these species through the area.
- Noise and vibration: Pile driving and other construction-related noise can cause temporary displacement or avoidance of the area by sensitive migratory birds and marine mammals.
- Light pollution: Increased artificial lighting during construction and operation may disrupt the natural behaviour of migratory birds, potentially increasing their risk of predation or causing them to avoid the area.

Indirect Impacts

Indirect impacts are secondary effects that may not be immediately apparent but can result from changes to the environment caused by the Project. These include:

- Water quality degradation: Construction activities can increase turbidity and the potential for contaminant mobilisation, which may reduce prey availability and degrade habitat quality for migratory species.
- Edge effects and fragmentation: The alteration of habitat boundaries can expose retained habitats to increased light, noise, and human activity, potentially reducing their suitability for migratory species.
- Increased predation risk: Changes in lighting and habitat structure may make migratory birds more vulnerable to predators.
- Spread of weeds and pests: Construction can facilitate the introduction and spread of invasive species, further degrading habitat quality.
- Behavioural changes: Ongoing noise, vibration, and lighting from the bridge's operation may alter the movement, foraging, and roosting patterns of migratory species over the long term.

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.5.6 Describe why you do not consider this to be a Significant Impact. *

A total of 21 migratory species were assessed as having a known, likely, or potential occurrence within the Project area based on the refined LOO assessment (**Attachment C2-MNES Report, Appendix B, pg 1-20**). Significant Impact Assessments were undertaken for MNES values that warranted further assessment under the Significant Impact Guidelines 1.1 (**Attachment C2-MNES Report, Appendix C, pg 21-95 and Appendix E, pg 221-387**).

Migratory mammals

Dugong (Marine, Migratory under EPBC Act, likely to occur)

- 5.33 ha of subtidal foraging/dispersal habitat may be impacted, however no seagrass meadows present or proposed to be impacted in the Project area, and no habitat fragmentation or barriers will be introduced as a result of the Project.
- Dugongs have previously been recorded in Pumicestone Passage, but not in the Project area; main use is for movement/foraging, not residency. No seagrass meadows or core foraging habitat in Project footprint.

Given the minor potential direct and indirect impacts to habitat, the temporary nature of the construction activities and robust mitigation and management measures, the Project is unlikely to significantly impact the Dugong species (**Attachment C2-MNES Report, Appendix C, Section 4.1, pg 85-89)**.

Humpback whale (Marine, Migratory under EPBC Act, potential to occur); Spotted bottlenose dolphin (Marine, Migratory under EPBC Act, likely to occur)

- 5.33 ha of subtidal foraging/dispersal habitat may be impacted, with approx. 263 m² direct loss of soft sediment from piling. The Project area is not critical habitat or a migration bottleneck. Habitat loss is small and temporary; no fragmentation.
- Occasional visitor (not resident to the area), typically migrates offshore, but may enter Moreton Bay during migration.

Given the minor potential direct and indirect impacts to habitat, the temporary nature of the construction activities and robust mitigation and management measures, the Project is unlikely to significantly impact the humpback whale, or spotted bottlenose dolphin species (**Attachment C2-MNES Report, Appendix C, Section 4.2, pg 81-84**

Migratory Birds

Shorebirds

Eastern Curlew, Bar-tailed Godwit, Whimbrel, Grey-tailed Tattler, Curlew Sandpiper, Lesser Sand Plover, Black tailed Godwit, Common Greenshank, Ruddy Turnstone, Sharp-tailed Sandpiper, Red Knot, Great Knot, Greater Sand Plover, Asian Dowitcher, Grey Plover, Terek Sandpiper, Common Sandpiper, Sanderling, Borad-hilled Sandpiper, Pectoral Sandpiper, Red-necked Stint, Double-banded Plover, Pacific Golden Plover, Marsh Sandpiper

- No impact to foraging area, or habitat locations. The bridge will be built alongside the existing bridge. Due to the proposed progression of activity, will unlikely have a negative affect on benthic invertebrate populations that the species feed on. Therefore habitat and foraging areas are expected to be maintained during construction of the Project.
- Tidal flat habitat loss that may occur during construction of the Project is approx. 0.1 ha. No habitat fragmentation or impact to species occupancy within or surrounding the area is likely to occur as these species are highly mobile and minimal habitat is proposed to be impacted **Attachment C2-MNES Report, Appendix E, Section 4.2, pg 252-329).**

White-throated needletail, Fork-tailed swift

- Vegetation clearing under 1 ha is proposed to occur relevant to these species habitats. The proposed construction activities are expected to have negligible impact to resources required by insects that

the species feed on. Activities will not impact the species ability to overfly the bridge or proposed activities. Therefore, the Project is unlikely to impact foraging or cause habitat fragmentation.
- No roosts have been identified within or adjacent to the Project area. Breeding cycles, nor impact to species population is expected to be incurred due to activities from the Project (**Attachment C2-MNES Report, Appendix E, Section 4.11 and Section 4.12, pg 309-314)**.

Terns and Osprey

Little tern, White-winged Black Tern, Gull-billed Tern, Caspian Tern, Common Tern, Crested Tern, Eastern Osprey

- Fish passages are not expected to be impacted during construction of the Project. The bridge will be built alongside the existing bridge. Due to the proposed progression of activity, will unlikely have a negative effect on habitat or foraging quality.
- No nests were recorded within or adjacent to the Project area, therefore unlikely to impacting foraging or roosting behaviours or habitat fragmentation. For Terns particularly, there are no known breeding sites within 5 km of the Project area.
- Of the observed species listed above, the eastern curlew could be most ‘at risk’ of incurring potential impacts as a result of the proposed action. With increase in noise and lighting as part of construction, may cause temporary impact. However, based on the overall minor potential direct and indirect impacts to habitat, the temporary nature of the construction activities and robust mitigation and management measures, the Project is unlikely to significantly impact any of the migratory bird species (**Attachment C2-MNES Report, Appendix E, Section 4.13, Section 4.14 and Section 4.15, pg 314-329)**.

Mitigation and management measures

The assessment concludes that significant impacts to MNES as a result of the Project are not expected, for the following reasons:

- Avoidance of Critical Habitat: The Project has been designed to avoid remnant vegetation, Threatened Ecological Communities, and critical habitat for listed species. Most impacts occur in already disturbed or non-critical areas.
- Limited Scale and Duration: The area of direct impact is small relative to the availability of similar habitat in the region, and construction-phase impacts are temporary.
- Mitigation and management measures: A comprehensive suite of mitigation measures will be implemented, including:
    - Mitigation, management and monitoring measures will be developed and implemented in accordance with the principles and recommended actions outlined in the:
        - National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna (DCCEEW, 2017)
        - National Light Pollution Guidelines for Wildlife (DCCEEW, 2023)
        - National Assessment Guidelines for Dredging (DCCEEW, 2009)
        - ANZECC & ARMCANZ Water Quality Guidelines (2000)
    - Minimising the disturbance footprint and timing works to avoid sensitive periods for fauna.
    - Employing fauna spotter-catchers during clearing.
    - Implementing sediment and erosion controls (e.g., silt curtains) and spill management protocols.
    - Maintaining habitat connectivity and restoring disturbed areas post-construction.
    - Low likelihood of significant population-level effects: The affected habitats are not considered critical for the long-term survival of any listed threatened species, and the Project is unlikely to result in a significant reduction in population size, area of occupancy, or habitat connectivity.
    - Adaptive management and monitoring: Ongoing monitoring and adaptive management will ensure that any unexpected impacts are identified and addressed promptly.

While the Project will result in some direct and indirect impacts to threatened fauna and their habitats, these impacts are largely confined to already disturbed or non-critical areas. With the implementation of robust mitigation and management measures (**Attachment C1-MNES Report, Section 6, pg 52-61)**, the Project is not expected to result in significant impacts to Migratory species (**Attachment C1-MNES Report, Section 7.0, pg 62-63**).

4.1.5.7 Do you think your proposed action is a controlled action? *

No

4.1.5.9 Please elaborate why you do not think your proposed action is a controlled action. *

The Significant Impact Assessments undertaken for the identified MNES identified that the Project is unlikely to significantly impact any of the MNES (**Attachment C1-MNES Report, Section 7.0, pg 62-63)**. As no significant impacts were identified, the Project is not anticipated to be a 'controlled action'.

Significant Impact Assessments were undertaken for MNES values that warranted further assessment under the Significant Impact Guidelines 1.1 (**Attachment C2-MNES Report, Appendix C, pg 21-95 and Appendix E, pg 221-387)**, and summarised below.

Migratory Mammals

Dugong

- 5.33 ha of subtidal foraging/dispersal habitat may be impacted, but no seagrass meadows (key foraging habitat) are present or affected.
- Dugongs use Pumicestone Passage for movement/foraging, not residency; no habitat fragmentation or barriers will result from the Project.

Summary: Due to minor quantity and quality of impacts, temporary construction activities, and robust mitigation measures, the Project is unlikely to significantly impact Dugong species (**Attachment C2-MNES Report, Appendix C, Section 4.1, pg 81-84)**.

Humpback Whale & Spotted Bottlenose Dolphin

- 5.33 ha of subtidal habitat may be affected, with a direct loss of 263 m² of soft sediment from piling. The area is not critical habitat or a migration bottleneck.
- These species are occasional visitors, not residents, and typically migrate offshore.

Summary: Due to minor quantity and quality of impacts, temporary construction activities, and robust mitigation measures, the Project is unlikely to significantly impact Humpback whale or Spotted dolphin species (**Attachment C2-MNES Report, Appendix C, Section 4.1, pg 85-89)**.

Shorebirds

- No significant impact to foraging areas or benthic invertebrate populations. Minimal tidal flat habitat loss (~0.1 ha) is expected, with no habitat fragmentation.
- Highly mobile species; habitat and foraging areas will be maintained during construction.

Summary: Due to minor quantity and quality of impacts, temporary construction activities, and robust mitigation measures, the Project is unlikely to significantly impact shorebird species (**Attachment C2-MNES Report, Appendix E, Section 4.2, pg 252-329)**.

White-throated Needletail & Fork-tailed Swift

- Less than 1 ha of vegetation clearing is proposed, with negligible impact on insect resources or species' ability to overfly the area.
- No roosts identified; no impact on breeding cycles or population.

Conclusion: Due to minor quantity and quality of impacts, temporary construction activities, and robust mitigation measures, the Project is unlikely to significantly impact the White-throated Needletail and Fork-tailed Swift species (**Attachment C2-MNES Report, Appendix E, Section 4.11 and Section 4.12, pg 309-314)**.

Terns & Eastern Osprey

- Fish passages and foraging quality are not expected to be affected. No nests or breeding sites were recorded within 5 km of the Project area.
- No impact on foraging, roosting behaviours, or habitat fragmentation.

Conclusion: Due to minor quantity and quality of impacts, temporary construction activities, and robust mitigation measures, the Project is unlikely to significantly impact Terns and Eastern Osprey species (**Attachment C2-MNES Report, Appendix E, Section 4.13, Section 4.14 and Section 4.15, pg 314-329)**.

Mitigation and management measures

The assessment concludes that significant impacts to MNES as a result of the Project are not expected, for the following reasons:

- Avoidance of Critical Habitat: The Project has been designed to avoid remnant vegetation, Threatened Ecological Communities, and critical habitat for listed species. Most impacts occur in already disturbed or non-critical areas.
- Limited Scale and Duration: The area of direct impact is small relative to the availability of similar habitat in the region, and construction-phase impacts are temporary.
- Mitigation and Management Measures: A comprehensive suite of mitigation measures will be implemented, including:
- Minimising the disturbance footprint and timing works to avoid sensitive periods for fauna.
- Employing fauna spotter-catchers during clearing.
- Implementing sediment and erosion controls (e.g., silt curtains) and spill management protocols.
- Maintaining habitat connectivity and restoring disturbed areas post-construction.
- Low Likelihood of Significant Population-Level Effects: The affected habitats are not considered critical for the long-term survival of any listed threatened species, and the Project is unlikely to result in a significant reduction in population size, area of occupancy, or habitat connectivity.
- Adaptive Management and Monitoring: Ongoing monitoring and adaptive management will ensure that any unexpected impacts are identified and addressed promptly.

For threatened and migratory fauna, Significant Impact Assessments concluded that the Project is considered **unlikely** to significantly impact any listed species (**Attachment C1-MNES Report, Section 7.0, pg 62-63)**. Migratory shorebirds utilise tidal flats in the vicinity of the Project area; however, predicted habitat loss was minimal (0.38 ha), and no significant impact pathways (noise, lighting, invasive species, water quality changes, roost disruption, or foraging disturbance) were identified given the avoidance, mitigation and management measures incorporated into the Project design and construction methodology. Marine mammals, sharks, turtles and dugongs are occasionally transient within the Project area, however no important foraging locations are present and these species would likely be transiting the Project area to get to important habitat in Pumicestone Passage or to the seagrass meadows in the northern section of Moreton Bay.

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The Project has been designed to avoid and where avoidance is not possible, minimise impacts on the natural environment and MNES. Key avoidance, mitigation and management measures are proposed to be incorporated into the design and implemented during planning, construction and operation of the Project (and detailed in **Attachment C1-MNES Report, Section 6, pg 52-61**). Key management measures are summarised below:

Avoid and minimise (Design and Pre-construction):

- Vegetation and habitat protection:
    - Minimise the disturbance footprint and prioritise works in already cleared areas, avoiding remnant vegetation and sensitive habitats where possible.
    - Pre-clearing protocols, including pre-clearing inspections and exclusion zones, will be implemented, and all site personnel will be inducted on vegetation management requirements.
    - Further assessment will confirm marine plant disturbance areas, and pre-lodgement meetings with relevant authorities will be held for required permits.
- Weeds, pests, and pathogens:
    - Prepare and audit a Biosecurity Management Plan, including vessel risk assessments and inspections for invasive marine species.
    - All equipment and vessels will be cleaned to prevent the spread of pests and diseases, and the Project will enforce hygiene protocols for all works near waterways to prevent new introductions.
    - A Vessel Risk Assessment will be conducted prior to mobilisation, and IMS inspections will be completed for high-risk vessels.
- Fauna management:
    - Design will avoid/minimise impacts to fauna habitats, with clearing protocols to protect native species and timing to avoid sensitive breeding seasons.
- Water quality and erosion control:
    - An ESCP will be developed in accordance with best practice, and water quality capture/treatment measures will be incorporated into the design.
    - A Water Quality Monitoring and Reporting Plan will be prepared, including baseline monitoring prior to works.
- Noise, vibration, and light:
    - A construction noise and vibration screening assessment will be undertaken during design, and lighting will be designed in accordance with National Light Pollution Guidelines for Wildlife, using shielded, downward-directed, and wildlife-friendly fixtures.
- General environmental management:
    - A CEMP and relevant sub-plans will be prepared, implemented, and audited, with all site workers trained in environmental requirements.
- Nature-based solutions:
    - Ongoing consideration for integrating materials conducive to marine habitat in pylon design and other nature-based solutions to support environmental values and sustainability ratings.

Mitigation (Construction)

- General environmental management:
    - A CEMP will:
        - be prepared and implemented for the project, detailing all mitigation and management measures required to address potential construction impacts.
        - include sub-plans and procedures for noise, vibration, dust, air quality, erosion and sediment control, water quality, fauna management, weed and pest management, and emergency response.
        - outline roles, responsibilities, monitoring, reporting, and corrective actions guide compliance with environmental requirements.

        - be reviewed and updated as necessary throughout construction to reflect changing site conditions and regulatory requirements.
- Weeds, pests and pathogens
    - Implement aquatic weed and pest controls and apply hygiene procedures for plant, equipment, and vehicles operating in or near waterways.
    - Rapid marine pest assessments during works using Marine Pest Identification Cards.
    - Cleaning and decontamination procedure for marine vessels, equipment, and clothing applies before leaving the white spot disease movement restriction area.
- Marine and intertidal habitat:
    - Clearly delineate and protect mangroves and intertidal areas, limiting disturbance to the defined Project area.
    - Assess and permit marine plant impacts as required, minimise seabed disturbance through construction methods (including soft-start piling) and promptly remove temporary structures.
    - Schedule in-stream works during low-flow periods to maintain fish passage and reduce ecological disruption.
- Water quality:
    - Surface water quality monitoring will be conducted pre-, during, and post-construction; silt curtains will be used if trigger values are exceeded.
    - Scuppers, swales, and pollutant traps will be used to manage spills and contaminated discharge from the bridge.
- Erosion, sediment runoff and spills:
    - An ESCP will be implemented as part of the CEMP, outlining measures for prevention of erosion and sedimentation during construction, including use of silt fences, bunding, and silt curtains.
    - Appropriate access for instream works will be via existing ramps, slipways, and jetties to minimise disturbance to stream banks.
    - Prepare and implement an ASS/PASS Management Plan if ASS or PASS are encountered.
    - Spoil generated during pile drilling will be contained and disposed of onshore at an approved location, preventing discharge to Pumicestone Passage.
- Fauna management:
    - Implement traffic management plans to minimise collision risks for terrestrial and marine fauna, and trained observers will monitor for marine mammals and turtles, stopping works if animals are nearby.
    - Visual monitoring for marine fauna (e.g., marine mammals, turtles, dugongs) from a designated vessel within a 2 km radius of the construction area; monitoring to be undertaken by suitably trained Marine Fauna Observers.
    - Implement management zones and exclusion zones for marine fauna during high-risk activities (e.g., piling, dredging), with work ceasing if fauna enter these zones.
    - Schedule construction activities to avoid peak breeding, nesting, and migration periods for sensitive species (e.g., cetaceans, turtles, shorebirds).
    - For terrestrial fauna, clearing of habitat trees must comply with sequential clearing requirements, ensuring fauna have time to move out without human intervention, with staged clearing and maintenance of habitat links.
    - Avoid clearing habitat trees in which fauna are present or with a crown overlapping a tree in which fauna are present.
    - Temporary fencing and fauna exclusion devices to minimise injury or mortality due to vehicle strike, entrapment in deep excavations, or access to hazardous areas.
    - Engage qualified fauna spotter-catchers during clearing and construction activities to safely relocate fauna if required.
- Noise and vibration
    - Maintain standard noise reduction devices on all plant and equipment, and implement soft-start piling procedures to reduce sudden noise disturbance to shorebirds and other fauna.

    - Limit construction activities such as pile driving/drilling outside of peak marine fauna breeding and calving season, particularly for cetaceans (generally September to April).
    - Confirm management zone distances through site verification monitoring prior to piling, and implement underwater noise management zones during piling with marine spotters observing marine mammals.
    - Construction noise and vibration screening assessment to be undertaken in accordance with the Transport Noise Management Code of Practice.
- Lighting
    - Use wildlife-friendly lighting (shielding, directional, minimal blue/UV spectrum, lowest practicable intensity).
    - Implement protocols to minimise light spill into adjacent habitats.
    - Limit night works during sensitive periods for migratory species.
- Dust and air quality
    - Dust generation will be minimised using engineering controls and dust suppression measures such as water trucks and sprinklers; temporary soil stockpiles will be covered, stabilised, or moistened as required.
    - Daily dust inspections will be undertaken to monitor and manage construction activities generation of excessive dust near sensitive receivers.
- Spill and waste management:
    - Manage waste according to the waste hierarchy and maintain spill kits and procedures to prevent and respond to chemical spills.
    - The Project will dispose of drilling spoil at approved locations and prevent hydrocarbons and debris from entering waterways, maintaining strict controls to guide regulatory compliance.

Operation:

- Monitoring and adaptive management:
    - Conduct routine and event-based monitoring for water quality, dust, and fauna, and apply adaptive management protocols for vegetation condition, hydrology, and fauna response.
    - Report monitoring results, exceedances, and corrective actions, and continue ongoing engagement with Traditional Owners for Aboriginal cultural heritage protection.
- Lighting, dust noise and vibration:
    - Lighting design will maintain minimum required intensity for road safety, use shielded fixtures, and emit as little blue light as possible; preferably yellow or amber hues, in accordance with National Light Pollution Guidelines for Wildlife.
    - Ongoing monitoring and maintenance of operational noise and routine dust control during maintenance activities.
- Water quality and pollutant control:
    - Scuppers, swales, and pollutant traps will continue to manage spills and contaminated discharge from the bridge during operation.
- Nature-based solutions:
    - Living sea walls and restoration of seagrass, mangroves, or marine habitat will be considered to support coastal resilience, blue carbon, and environmental values, positively affecting the Project’s Infrastructure Sustainability (IS) rating through the ISC.

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

As the Project is assessed as ‘unlikely’ to have significant impacts on any MNES **(Attachment C1-MNES Report , Appendix A, pg 68-104)**, it is not expected that offsets under the EPBC Act will be required.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action is not a nuclear action. There are also no Nuclear areas/activities within or in 10 km radius of the Project area (**Attachment C1-MNES Report , Appendix A, pg 68-104**), therefore the proposed action is unlikely to have a direct and/or indirect.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Commonwealth Marine Areas within or in 10 km radius of the Project area (**Attachment C1-MNES Report , Appendix A, pg 68-104**). The closest mapped Commonwealth Marine Area is located approx. 30 km east of the Project area. Therefore, the proposed action is unlikely to have a direct and/or indirect.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There Great Barrier Reef is not within or in 10 km radius of the Project area (**Attachment C1-MNES Report , Appendix A, pg 68-104**). The Great Barrier Reef Marine Park is located approx. 280 km north of the Project area. Therefore, the proposed action is unlikely to have a direct and/or indirect.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action is not a large coal mining or coal seam gas development, therefore will not directly or indirectly impact Water resources in relation to large coal mining development or coal seam gas under EPBC Act guidelines. There are also no Water resources in relation to large coal mining development or coal seam gas within or in 10 km radius of the Project area (**Attachment C1-MNES Report , Appendix A, pg 68-104**). Therefore, the proposed action is unlikely to have a direct and/or indirect.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There is no Commonwealth Land within or in 10 km radius of the Project area (**Attachment C1-MNES Report , Appendix A, pg 68-104**). Therefore, the proposed action is unlikely to have a direct and/or indirect.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Commonwealth Heritage Places Overseas within or in 10 km radius of the Project area (**Attachment C1-MNES Report , Appendix A, pg 68-104**). Therefore, the proposed action is unlikely to have a direct and/or indirect.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

Yes

4.3.2 Do you have an alternative timeline you are proposing for your proposed action? *

No

4.3.3 Briefly describe why an alternate timeline for your proposed action was not possible. *

Delaying the Project to a later date is not appropriate, as the need for it stems from the unsafe condition of the transportation route and the necessity to upgrade this route for the community's benefit. Based on the Business Case for Bribie Island Bridge completed by TMR in 2024, potential timeline alternatives for the proposed action were made clear to not be viable for several reasons. Below summarises key aspects for why alternative timelines would not be suitable.

Escalating safety risk and emergency access:

TMR could not shift the timeline because closures on the sole access bridge (25 unplanned incidents since 2010; 45 total full/partial closures since 2010) already compromise emergency vehicle access and evacuation readiness; deferral of the proposed action would extend an unacceptable risk window. The proposed action addresses the worst-case scenario:

- An island-based emergency coinciding with a preceding bridge crash; an alternate (later) timeline would fail to reduce foreseeable harm promptly.

Crash trend and harm reduction:

The hospitalisation crash proportion has increased from 18% to 33% in the most recent five-year period, and without intervention up to 180 total crashes (approx. 62 hospitalisations) are forecast over 30 years; postponing delivery would allow preventable crashes and closures to continue accruing. TMR advanced the timeline to arrest this trend; extending the timeline would materially increase the cumulative crash burden and recovery delays.

Single access dependency and service continuity:

The bridge is the single access for residents, visitors, and emergency services, therefore every month of delay prolongs vulnerability to two-hour closures and associated reliability failures; no alternative route exists to buffer that risk during a longer program. The proposed action resolves the narrow, non-compliant active transport path, which cannot serve as contingency and does not meet Disability Discrimination Act (DDA) standards; a deferred timeline would extend accessibility and safety inequities for mobility device users.

Traffic growth and peak-period reliability:

Daily volumes (approx. 24,500 vehicles/day) and peak-period patterns (weekday and public holiday surges; weekend and “near holiday” higher peaks) already strain the corridor, with near-term demand growth of approx. 1.3–1.4% per year in holiday/peak periods. An alternate (later) timeline would worsen congestion and extend periods where incidents trigger full/partial closures and extensive delays; the proposed action must be delivered sooner to restore reliability before growth compounds constraints.

Critical utilities exposed until relocation:

Essential public utilities (water, sewer (including trunk rising main and pump station interface) power, telecoms, drainage, lighting) are carried by the existing bridge; until relocation and protection occur, networks remain exposed to incident-induced outages. TMR’s selected timeline reduces the service continuity risk window; a deferred timeline would prolong vulnerability for the island community.

Uncertain remaining operational life and reliability:

Although maintenance can keep the bridge operational beyond its design life, reliability is not guaranteed; rising incident frequency demonstrates operational fragility. The proposed timeline mitigates reliability risk sooner; extending it would heighten the probability and consequences of prolonged closures.

Minimising disruption during delivery:

The proposed action sequences works and utility relocations to sustain access and avoid the most disruptive peak periods; spreading works over an alternate, longer window would increase cumulative traffic management impacts across more weekends, holidays, and school breaks. A compressed, earlier program

reduces total disruption days while addressing the highest-risk periods faster.

4.3.4 Do you have an alternative location you are proposing for your proposed action? *

No

4.3.5 Briefly describe why an alternative location for your proposed action was not possible. *

The new bridge must be located adjacent to the existing bridge to maintain continuity with the established transportation corridor and minimise disruption to current traffic flow. This location also allows for efficient integration with existing road networks, reducing the need for extensive realignments and preserving accessibility for the community during construction. An alternative location is not feasible. Based on the Business Case for Bribie Island Bridge completed by TMR in 2024, potential location alternatives for the proposed action were made clear to not be viable for several reasons. Below summarises key aspects for why alternative locations would not be suitable.

Geographic constraint - sole connection point:

An alternative location was not possible because Bribie Island Bridge is the only existing road connection between Bribie Island and the mainland. The unique geography of the area and concentration of urban development in the southern portion of the island means there are no other feasible locations for a bridge that would provide comparable access for residents, emergency services and essential utilities.

Existing infrastructure and utility corridors:

The current bridge corridor houses all critical public utilities (water, sewer, power, telecommunications). Relocating these services to a different location would be highly complex, costly and disruptive, and there is no other practical corridor available for these essential services to cross the waterway.

Land use and environmental constraints:

Alternative locations for a new crossing are limited by land use, environmental and planning constraints on both the mainland and island sides. The existing approach roads, urban development and sensitive environmental areas restrict the ability to identify a viable alternative corridor.

Traffic patterns and community access:

The current bridge location is central to the established traffic patterns and community access needs for Bribie Island, Sandstone Point and surrounding suburbs. Relocating the crossing would not serve the majority of users and would fail to address the congestion and emergency access issues present at the existing location.

Resilience and response time:

Maintaining the crossing at the existing location ensures the shortest and most direct route for emergency services and evacuation. Any alternative location would increase response times and reduce the effectiveness of emergency management for the island community.

Engineering and cost feasibility:

Engineering assessments have shown that alternative locations would require significantly more complex construction, longer approaches and higher costs, without delivering the same benefits as upgrading or replacing the crossing at the existing site.

4.3.6 Do you have alternative activities you are proposing for your proposed action? *

No

4.3.7 Briefly describe why an alternative activity for your proposed action was not possible. *

Several span-length options, ranging from 22 m to 44 m, were assessed for the proposed bridge. All options share identical horizontal and vertical alignments, so they differ only in execution details while representing the same overall activity: constructing a new bridge. Based on the Business Case for Bribie Island Bridge completed by TMR in 2024, potential alternative activities for the proposed action were made clear to not be viable for several reasons. Below summarises key aspects for why alternative activities would not be suitable.

Worst-case option consideration:

TMR has opted to refer the Project based on the worst-case option of 22 m spans. This conservative approach allows for a comprehensive assessment of potential environmental impacts associated with the minimum span length.

Potential for reduced environmental impacts:

It is anticipated that if the final design incorporates longer span lengths of 33 m or 44 m, the associated environmental impacts may be significantly mitigated. The rationale behind this expectation lies in the reduced number of piers and associated disturbances to the surrounding ecosystem, which could lead to a lesser footprint during construction and operation.

Alternative bridge configuration:

An additional design alternative under consideration involved the construction of a new four-lane traffic bridge, while repurposing the existing bridge as an active transport bridge. This innovative approach aims to enhance multimodal transport options within the region.

Structural consistency across options:

Importantly, the pier locations, dimensions, and the number of piles required for the new bridge will mirror those of the existing two-lane plus Active Transport bridge configuration.

As a result, the environmental impacts associated with both the new four-lane bridge and the existing bridge repurposed for active transport are expected to be comparable.

Emergency access and safety risks:

An alternative activity was not possible because Bribie Island Bridge is the sole road access to the island. Records show 25 unplanned incidents since 2010 leading to closures, and any major incident (such as a bushfire) could make evacuation or emergency response impossible due to the lack of alternative routes. The increasing frequency of incidents and closures poses an unacceptable risk to resident safety, with no viable alternative for emergency vehicle access.

Crash frequency and increasing risk:

The bridge has experienced 18 serious crashes requiring hospitalisation or medical treatment in the past five years, with hospitalisation rates rising from 18% to 33%. Without intervention, crash rates are projected to result in up to 180 crashes over the next 30 years, including 62 hospitalisations. These incidents frequently close the bridge, further highlighting the absence of alternative access and the need for the proposed action; which retains current bridge, as well as proposes a temporary bridge to redirect construction activities and minimise impact to existing bridge and public use.

Active transport path limitations:

The existing narrow active transport path does not provide a safe or accessible alternative for emergency or general access. It does not meet Disability Discrimination Act requirements and cannot be used by emergency vehicles or mobility device users. Without intervention, these accessibility and safety issues will persist, and no alternative route exists.

Traffic demand and congestion:

Traffic on the bridge is already high (24,500 vehicles/day) and is expected to increase with population and tourism growth. During peak periods and public holidays, congestion is severe, and the single bridge cannot accommodate the demand. No alternative road or bridge exists, and no viable plans that solely rely on the existing bridge were proposed, to absorb this growth or provide redundancy during closures.

Resilience of public utilities:

Critical public utilities (water, sewer, power, telecommunications) are located on the existing bridge. Any damage or closure not only isolates the community but also risks loss of essential services. There is no alternative corridor for these utilities, making the proposed action essential for resilience.

Design life and maintenance:

While the existing bridge is maintained beyond its original design life, its operational reliability is uncertain. Regular maintenance cannot address the fundamental lack of alternative access, and the risk of failure or prolonged closure remains.

4.3.4 Alternatives: Impact and mitigation

4.3.4.1 Do these alternatives have a different impact, avoidance, or mitigation measure compared to what you have already provided? *

No

4.3.5 Alternatives: Considered alternatives

4.3.5.1 Do you have any other alternative actions, including not taking the action, that you have considered but are not proposing as part of this referral? *

No

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment A-Project Area.pdf Att. A Project Area	22/04/2026	No	High
#2.	Document	Attachment B-Project Area Construction and Moreton Bay Ramsar Site.pdf Attachment B-Project Area Construction and Moreton Bay Ramsar Site	22/04/2026	No	High
#3.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	22/04/2026	No	High
#4.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	22/04/2026	No	High
#5.	Document	Attachment D - TMR Environmental Sustainability Policy and Processes Manual.pdf TMR Environmental Sustainability Policy and Processes Manual	22/04/2026	No	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Caboolture Bribie Island Road Bribie Island Bridge Planning https://www.tmr.qld.gov.au/projects/caboolture-b..			High

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Environmental management http://www.tmr.qld.gov.au/Community-and-environm..			High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of	21/04/2026		High

National Environmental Significance Report (main report and Appendix A)

3.1.3 Natural features, important or unique values that applies to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

3.1.4 Gradient relevant to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment A-Project Area.pdf Att. A Project Area	21/04/2026		High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High
#2.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	21/04/2026		High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High
#2.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	21/04/2026		High

3.3.1 Commonwealth heritage places overseas or other places that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of	21/04/2026		High

National Environmental Significance
Report (main report and Appendix A)

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

4.1.1.3 (World Heritage) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

4.1.2.3 (National Heritage) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

4.1.3.2 (Ramsar Wetland) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment B-Project Area Construction and Moreton Bay Ramsar Site.pdf Attachment B-Project Area Construction and Moreton Bay Ramsar Site	21/04/2026		High
#2.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High
#3.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	21/04/2026		High

4.1.3.6 (Ramsar Wetland) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document				

		Attachment B-Project Area Construction and Moreton Bay Ramsar Site.pdf Attachment B-Project Area Construction and Moreton Bay Ramsar Site	21/04/2026	High	
#2.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High
#3.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	21/04/2026		High

4.1.3.9 (Ramsar Wetland) Why you do not think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

4.1.3.10 (Ramsar Wetland) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High
#2.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	21/04/2026		High

4.1.4.6 (Threatened Species and Ecological Communities) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of	21/04/2026		High

		National Environmental Significance Report (main report and Appendix A)			
#2.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	21/04/2026		High

4.1.4.9 (Threatened Species and Ecological Communities) Why you do not think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High
#2.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	21/04/2026		High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High
#2.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	21/04/2026		High

4.1.4.11 (Threatened Species and Ecological Communities) Proposed offsets relevant to avoidance or mitigation measures

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

#2.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	21/04/2026		High

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High
#2.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	21/04/2026		High

4.1.5.9 (Migratory Species) Why you do not think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High
#2.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	21/04/2026		High

4.1.5.10 (Migratory Species) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High
#2.	Document	Attachment C2 - MNES Report.pdf Att. C2 - Assessment of Matters of National Environmental Significance Report (Appendix B-D)	21/04/2026		High

4.1.5.11 (Migratory Species) Proposed offsets relevant to avoidance or mitigation measures

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of	21/04/2026		High

National Environmental Significance
Report (main report and Appendix A)

4.1.6.3 (Nuclear) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

4.1.7.3 (Commonwealth Marine Area) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

4.1.8.3 (Great Barrier Reef) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

4.1.9.3 (Water resource in relation to large coal mining development or coal seam gas) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

4.1.10.3 (Commonwealth Land) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026		High

4.1.11.3 (Commonwealth heritage places overseas) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence

#1.	Document	Attachment C1 - MNES Report.pdf Att. C1 - Assessment of Matters of National Environmental Significance Report (main report and Appendix A)	21/04/2026	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	20093846925
Organisation name	AECOM AUSTRALIA PTY LTD
Organisation address	8/540 Wickham Street, PO Box 1307, Fortitude Valley, QLD, 4006, Australia
Representative's name	Jordan Bachmann
Representative's job title	Approvals Lead
Phone	0460 319 458
Email	jordan.bachmann@aecom.com
Address	8/540 Wickham Terrace, PO Box 1307, Fortitude Valley, QLD, 4006, Australia

☑ Check this box to indicate you have read the referral form. *

☑ Check this box to confirm these are the correct identification details. *

☑ By checking this box, I, **Jordan Bachmann of AECOM AUSTRALIA PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	39407690291
Organisation name	Department of Transport and Main Roads
Organisation address	4000 QLD

Representative's name	Lachlan McKenzie
Representative's job title	Principal Environmental Officer
Phone	07 4931 1571
Email	Lachlan.H.McKenzie@tmr.qld.gov.au
Address	PO Box 5505 Maroochydore BC4558

☑ Check this box to indicate you have read the referral form. *

☑ Check this box to confirm these are the correct identification details. *

☑ I, **Lachlan McKenzie of Department of Transport and Main Roads**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.

✔ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ Check this box to confirm these are the correct identification details. *

☑ I, **Lachlan McKenzie of Department of Transport and Main Roads**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.