

Tweed Coast Road Four Lane Upgrade – Section 5

Application Number: **03026**

Commencement Date:
31/07/2025

Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Tweed Coast Road Four Lane Upgrade – Section 5

1.1.2 Project industry type *

Transport - Land

1.1.3 Project industry sub-type

Road

1.1.4 Estimated start date *

01/06/2026

1.1.4 Estimated end date *

01/06/2028

1.2 Proposed Action details

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

The proposal aims to upgrade Tweed Coast Road between 14 John Robb Way and 188 Tweed Coast Road, Cudgen to facilitate future urban release development.

The project area is 7.13 ha. The project disturbance footprint is 4.35 ha. The project area and disturbance boundary is shown in Figure 2.1 of the BDAR (refer Attachment E).

The proposed development is expanding the existing roadway, upgrading an intersection and provision of new servicing. The proposed development consists specifically of the following construction activities:

- Vegetation removal
- Bulk earthworks
- Road widening
- New/realigned kerb and guttering
- Gabion retaining walls
- The installation of a roundabout at the intersection of Crescent Street and the future Turnock Street
- Construction of a new 525 mm diameter sewer rising main (SRM)
- Construction of a new 300 mm diameter water main (WM)
- Relocation of power poles
- Construction of new drainage and storm water infrastructure
- Construction of a fauna underpass (1.2m high x 3m wide x 30m long)
- Construction of fauna fencing

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

Yes

1.2.3 Is the proposed action the first stage of a staged development (or a larger project)?

No

1.2.4 Related referral(s)

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1.2.5 Provide information about the staged development (or relevant larger project).

The proposed action is Section 5 in a six section upgrade of Tweed Coast Road. The six sections will cover a length of approximately 4.5 km (from Casuarina to the M1 interchange at Chinderah). The need to upgrade Tweed Coast Road to four lanes between Chinderah and Casuarina was identified in the Tweed Coast Road development strategy 2017 due to construction of the new Tweed Valley Hospital at Cudgen and several residential land releases

The strategic background to the development components of the Tweed Coast Road Infrastructure Upgrade Project is provided as follows:

Road Upgrade

The upgrade project is required to facilitate two major residential release areas (Kings Forest and Kingscliff West) which are both located adjacent to the subject road. These developments will ultimately accommodate approximately 15,000 people once completed. Works have commenced on Stage 1 of the Kings Forest development, however, due to the current capacity of Tweed Coast Road, this development cannot proceed past 1,267 lots (out of 4,500) until Sections 5 and 6 of Tweed Coast Road are upgraded from two to four lanes. The West Kingscliff development land is currently undergoing the Master Planning process and no lot releases have been approved to date. This development is impacted by traffic management and traffic capacity issues which will be resolved as part of the four lane upgrade works.

Strategic traffic modelling assessment of the proposed four-lane upgrade (Bitzios Consulting, 2022) (see Att A) identifies that in an ultimate development scenario in 2041 the four-lane upgrade provides the following benefits:

- The total vehicle hours travelled (VHT) across the whole network reduces by 5,185 vehicle hours per day
- The project is estimated to generate a Benefit Cost Ratio (BCR) of 18.8
- The project is estimated to generate a Net Present Value (NPV) benefit of over \$410M over a 20-year period
- The project will significantly reduce traffic utilising alternate lower order roads across Kingscliff, Cudgen, Chinderah and Casuarina.
- By 2041, the Tweed Coast Road interchange with the Pacific Highway will experience high traffic demands that will exceed its capacity during peak periods. The inclusion of the project reduces the V/C ratio in both directions during both AM and PM peak periods and improves the performance of Tweed Coast Road and its interchange with the Pacific Motorway.

In addition to the above, the proposed road upgrade would also service the new Tweed Valley Hospital which has recently completed construction.

Sewer Upgrade

Upgrading of the sewer network along Tweed Coast Road is required to facilitate the development of the Kings Forest and Kingscliff West urban release areas. The current sewer network which services these urban release areas has a restricted capacity and requires upgrading to enable the full development capacity to be achieved.

Upgrading of the sewer network has been carried out by Council from the Depot Road intersection through to Section 4 of Tweed Coast Road (Cudgen Road intersection) which leaves the final section (Section 5) from the Cudgen Road intersection to the manifold intake of the Kingscliff Sewage Treatment Plant to be completed.

At the completion of these works the sewer network will have sufficient capacity to accommodate the ultimate development scenario of both urban release areas.

Water Upgrade

Upgrading of the water network along Tweed Coast Road is required to facilitate the development of the Kingscliff West urban release area. A number of water main crossings and a new 300mm parallel main are required as part of the upgrade which is required to be undertaken concurrently with the road upgrade to ensure the integrity of the road is not compromised.

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

Refer to Chapter 7 of BDAR (Attachment E). A summary is provided below:

Commonwealth Legislation:

Environment Protection & Biodiversity Conservation Act 1999

- Three threatened species or ecological communities (TECs) have been identified on site or assumed present. These are the:
- Mitchells Rainforest Snail (*Thersites mitchellae*) – Identified on site
- Stinking Cryptocarya (*Cryptocarya foetida*) – Identified adjacent to site
- *Coastal Swamp Sclerophyll Forest Of New South Wales And South East Queensland* TEC – Identified on site

NSW Legislation/Policies:

Environmental Planning & Assessment Act 1979 (EP&A Act)

The proposal is designated development (due to works being partially on land identified as a coastal wetland) and requires approval under Part 4 of the EP&A Act. The Secretary's Environmental Assessment Requirements (SEARs, reference 1754) requires a biodiversity development assessment report (BDAR) to be provided with the Environmental Impact Statement (EIS) for the proposal. The SEARs are appended in attachment B of the BDAR (Att E).

Biodiversity Conservation Act 2016 (BC Act)

Part 6 section 6.3 of the BC Act details impacts on biodiversity values to which the biodiversity offsets scheme (BOS) applies. The BOS is triggered by the proposal due to the likely significant impact on threatened species and Biodiversity Values mapping overlaying the site.

The Biodiversity Assessment Methodology (BAM 2020) has been conducted to determine credit requirements under the NSW Biodiversity Offset Scheme for the following threatened species and TECs.

- Mitchells Rainforest Snail – 10x species credits
- *Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions* TEC (PCT 4004) – 12x ecosystem credits

State Environmental Planning Policy (Resilience & Hazards) 2021

- The proposal occurs on land identified as coastal wetlands and proximity area for coastal wetlands).
- Division 1 (Coastal wetlands and littoral rainforests area) of Part 2.2 of Chapter 2 sets out the requirements for development on land identified as a coastal wetland or in proximity to a coastal wetland, as depicted on the *Coastal Wetlands and Littoral Rainforests Area Map*.

Tweed Local Environmental Plan 2014

- Sets out land use zones and permissible uses within those land use zones. Five land use zones overlay the site:
 - RU1- Primary Production
 - RU2- Rural Landscape
 - R1- General Residential
 - R2- Low Density Residential
 - DM- Deferred Matter (zoned under the *Tweed Local Environmental Plan 2000*)
- The proposal (classified as 'roads') is permitted with consent in each of the land use zones.

Tweed Shire Development Control Plan 2008 (DCP)

- Section A19 – Biodiversity and Habitat Management of the DCP applies to the proposal
- Specifically related to road projects, the following objectives are listed in Part C (1) of Section A19

- Avoid locating new roads in environmentally sensitive areas
- Ensure that any residual impacts of roads on wildlife arising from development are appropriately mitigated using best practice fauna sensitive road design
- Ensure that appropriate mitigation strategies (including fauna sensitive road design elements) are employed to minimise environmental impacts during road construction and upgrading
- Ensure that roads (including roadsides) are maintained to minimise impacts on wildlife.

Implementation of mitigation measures outlined in Chapter 6 of the attached BDAR have been developed to satisfy the requirements of the DCP. While full avoidance of environmentally sensitive areas has not been practicable, residual impacts have been minimised through measures including fauna sensitive design (ie. fauna fencing and underpass) and ongoing vegetation management of roadside habitat.

Tweed Coast Comprehensive Koala Plan of Management

The Tweed Comprehensive Koala Plan of Management (KPoM) identifies the site as lying across both core Koala habitat and the Tweed Coast Rd Koala blackspot, associated with concentrated Koala roadkill. The SEARs request the proposal address impacts on, and relating to, this habitat patch. Core Koala habitat is defined in the KPoM as including Secondary Koala Habitat in combination with a Koala record within the past 18 years (ie. three Koala generations). As the proposal relates to a listed Koala blackspot road, the following performance criteria detailed in the KPOM apply:

- *Any road upgrade (that is not regarded as routine maintenance) undertaken in an area identified as a koala road is to incorporate (if not already present) either:*
 - *Fauna exclusion fencing, under/overpasses or other effective connectivity measures*
 - *Traffic calming devices (such that vehicle speeds are limited to 40km/h)*
 - *Any other appropriate fauna safety measures.*

The proposed road upgrade will comply with mitigation measures outlined in the KPoM by the provision of a fauna underpass suitable for Koala crossing. The underpass will connect two areas of Secondary Koala habitat (ie. PCT 4004), which are bisected by the current and proposed road alignment. Fauna exclusion fencing in this location is expected to further reduce the likelihood of Koalas being stuck by vehicles.

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. *

Consultation and engagement activities regarding the proposal have been particularly active since 2020 with the following key community and agency stakeholder groups: Immediate and directly impacted neighbours; Kingscliff Ratepayers and Progress Association; the Tweed-Byron Local Aboriginal Land Council, Aboriginal Knowledge Holders and Registered Aboriginal Parties; South Sea Islander Groups; Broader Tweed community Government and Authority Groups; NSW Environment Protection Authority; NSW DCCEEW – Conservation Programs, Heritage and Regulation; NSW Department of Primary Industries (Fisheries); NSW DCCEEW – Water Group; Heritage NSW; Transport for NSW; Rural Fire Service; NSW Health; State Emergency Service; and Tweed Shire Council Staff and Councillors.

Feedback received to-date has informed the design outcomes and environmental impact assessments which are considered under the EIS for Section 5 and the adjacent Section 6 (subject to an REF assessment under Division 5.1 of the EP&A Act). Council is continuing to engage with the community, government and authority groups through the formal exhibition and determination of the EIS and REF processes, through updates to Council's Your Say Tweed-Widening Tweed Coast Road project page (which will remain live until operation of the proposal), and refinement of the proposal prior to embarking upon physical works.

For further information please refer to Attachment G (EIS section 6)

1.3.1 Identity: Referring party

Privacy Notice:

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

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1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN 90178732496

Organisation name TWEED SHIRE COUNCIL

Organisation address PO Box 816, Civic and Cultural Centre, 10-14 Tumbulgum Road,
Murwillumbah, NSW, 2484

Referring party details

Name David Hannah

Job title Senior Environmental Scientist

Phone (02) 6670 2528

Email dhannah@tweed.nsw.gov.au

Address Civic and Cultural Centre, 10-14 Tumbulgum Road, Murwillumbah, NSW
2484

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? *

Yes

Person proposing to take the action organisation details

ABN/ACN 90178732496

Organisation name TWEED SHIRE COUNCIL

Organisation address PO Box 816, Civic and Cultural Centre, 10-14 Tumbulgum Road,
Murwillumbah, NSW, 2484

Person proposing to take the action details

Name David Hannah

Job title Senior Environmental Scientist

Phone (02) 6670 2528

Email dhannah@tweed.nsw.gov.au

Address Civic and Cultural Centre, 10-14 Tumbulgum Road, Murwillumbah, NSW
2484

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. *

The person taking the action is Troy Green, General Manager, Tweed Shire Council.

There are no current or past proceedings under any Commonwealth, State or Territory law related to Tweed Shire Council.

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

Tweed Conservation Strategy (Attachment H)

Tweed Shire Council Towards Zero Waste Strategy (Attachment I)

Tweed Shire Council Annual Environmental Sustainability Performance Report (Attachment J)

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 90178732496

Organisation name TWEED SHIRE COUNCIL

Organisation address PO Box 816, Civic and Cultural Centre, 10-14 Tumbulgum Road,
Murwillumbah, NSW, 2484

Proposed designated proponent details

Name David Hannah

Job title Senior Environmental Scientist

Phone (02) 6670 2528

Email dhannah@tweed.nsw.gov.au

Address Civic and Cultural Centre, 10-14 Tumbulgum Road, Murwillumbah, NSW
2484

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	90178732496
Organisation name	TWEED SHIRE COUNCIL
Organisation address	PO Box 816, Civic and Cultural Centre, 10-14 Tumbulgum Road, Murwillumbah, NSW, 2484
Representative's name	David Hannah
Representative's job title	Senior Environmental Scientist
Phone	(02) 6670 2528
Email	dhannah@tweed.nsw.gov.au
Address	Civic and Cultural Centre, 10-14 Tumbulgum Road, Murwillumbah, NSW 2484

✔ 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.

Same as Referring party information.

✔ 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

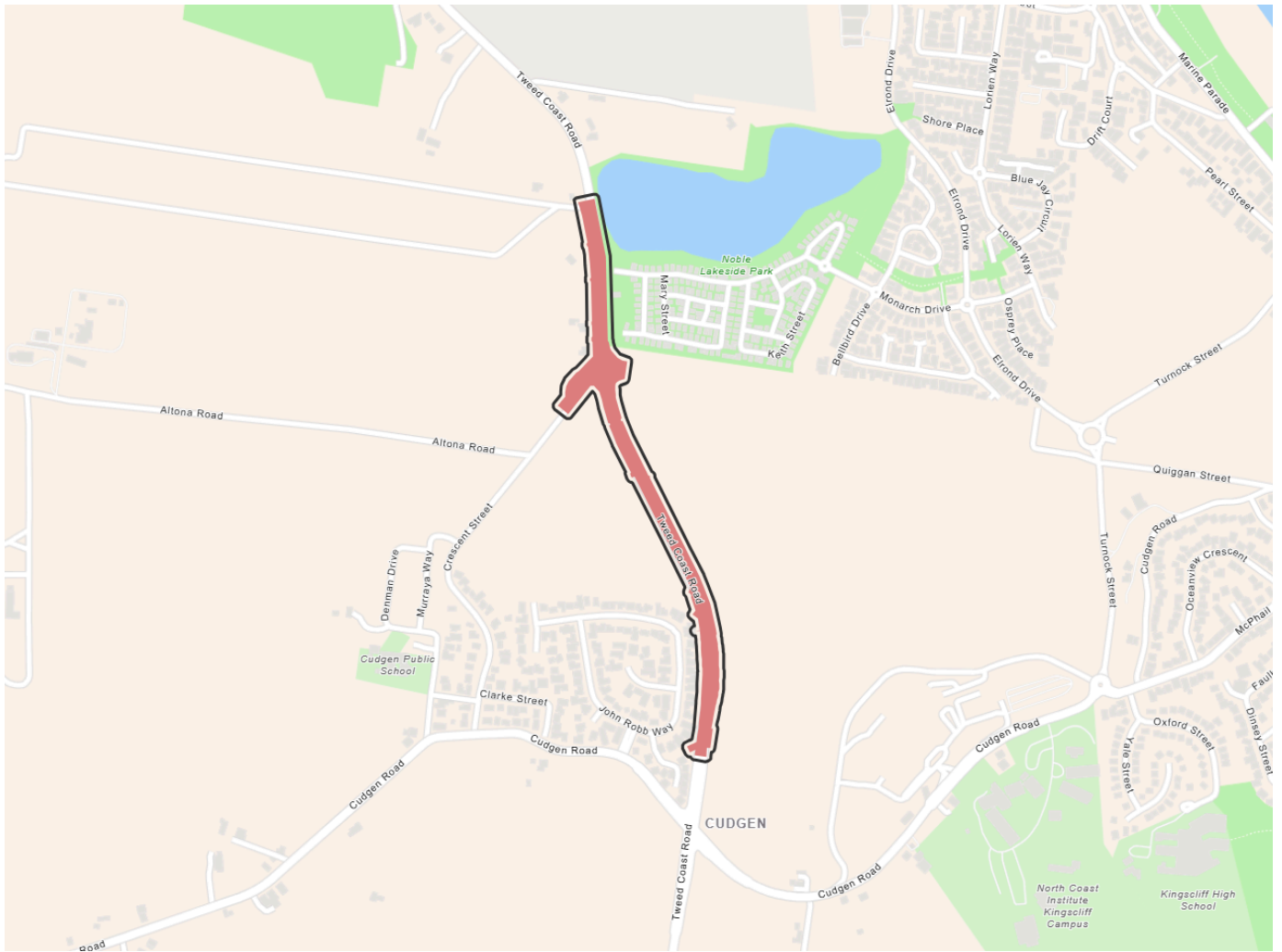
1.4 Payment details: Payment allocation

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

Referring party

2. Location

2.1 Project footprint



Project Area: 7.13 Ha Disturbance Footprint: 4.35 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Tweed Coast Rd (Between 14 John Robb Way and 188 Tweed Coast Road, Cudgen, NSW)

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

New South Wales

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? *

Freehold (Council road reserve)

3. Existing environment

3.1 Physical description

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

The site is located predominantly on the existing Tweed Coast Road alignment. Outside of the existing road the site intersects with patches of native and exotic vegetation as well as mapped wetlands and stormwater drainage canals. The site is entirely located within the Burringbar-Conondale Ranges IBRA sub-region of the Southeast Queensland Bioregion.

Wetlands mapped as coastal wetlands under *State Environmental Planning Policy (Resilience & Hazards) 2021* (SEPP R&H) exist adjacent to the site to the east and the west, and in a small portion within the assessment area. The mapped wetlands relate to the extent of EPBC listed *Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland* threatened ecological community (Coastal Swamp Sclerophyll TEC) on the site.

Where native vegetation exists, it occurs in good and moderate condition classes, as defined by vegetation integrity scores acquired from surveys conducted under the NSW Biodiversity Assessment Method 2020 (BAM) (refer Attachment E, Table 3.2. page 21).

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

Existing use

- The main use of the project area is the existing 2-lane Tweed Coast Road. At the edges of the project area is freehold land covered by remnant vegetation aligning with the Coastal Swamp Sclerophyll Threatened Ecological Community (TEC). Evidence of grazing cattle and light utility vehicles has been identified in this native vegetation.

Proposed use

- The main use of the project area is to remain as the Tweed Coast Road which is to be expanded from 2 lanes to 4 lanes. This includes a managed landscape at the road side for table drains and maintenance access.

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

Coastal Swamp Sclerophyll TEC occurs in the north of the project area. This has been assessed to be in moderate and good condition west and east of the existing road respectively, as per the approved conservation advice for the TEC.

0.14ha of mapped coastal wetland (under SEPP (R&H)) occurs in the northeast of the project area.

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 gradient from the northern end of Section 5 to about 850 m south along Tweed Coast Road is mostly flat with levels varying between 1 and 2 m AHD. Contour levels increase to approx. 9 m AHD over about 400 m to the southern end of Section 5.

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.

Supporting information on threatened ecological communities, vegetation zones and threatened species is provided within the following sections of the BDAR (Attachment E):

Section 3.3 Threatened Ecological Communities

Section 3.4 Vegetation Zones

Section 4 Threatened species

The following Figures are attached for further information:

Figure 3.2 – Ground-truthed vegetation and BAM plots

Figure 4.1 – Threatened species records and survey effort

Figure 4.2 Habitat polygons for threatened species

Flora

Native vegetation on the site has been classified into two Plant Community Types (PCTs) with reference to NSW State Vegetation Type Mapping (2024). Ground-truthed vegetation across the site is shown in Figure 3.2 of the BDAR (Attached).

4004 – Northern *Melaleuca quinquenervia* Swamp Forest defined by a dominant canopy of Broad-leaved Paperbark (*Melaleuca quinquenervia*), scattered Forest Oak (*Allocasuarina torulosa*) and the vine Common Silkpod (*Parsonsia straminea*). A paucity of sedges and low canopy diversity with the notable absence of Pink Euodia (*Mellicope elleryana*) is characteristic of the community and noted on site.

PCT 4004 falls within the vegetation class of Coastal Swamp Forests. The site is located at low elevation (<5m asl) in a depressed alluvial landscape providing for ephemeral inundation.

Survey of PCT 4004 has identified two condition classes due to patch size, floristics (ie. species composition & diversity), weed intrusion and vegetation structure. These factors are displayed in the differences in Vegetation Integrity Scores (VIS) produced in the NSW BAM Calculator which compares patches against a benchmark score for the PCT.

- Good condition (VIS = 44.6) on the eastern side of the existing Tweed Coast rd.
- Moderate condition (VIS = 34.1) on the western side.

Both patches of PCT 4004 conform with the EPBC Act listed TEC *Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland* (Endangered).

3011 – Far North Lowland Subtropical Rainforest defined on site by its tall, dense rainforest canopy and sub-canopy of Cudgerie (*Flindersia schottiana*), Cabbage Palm (*Livingstonia australis*), Blush Macaranga (*Macaranga tanarius*), Small-leaved Lilly Pilly (*Syzygium luehmannii*). Environmental factors on site include its low elevation (<10m asl) and very warm and wet conditions receiving 1779mm mean annual rainfall.

Survey observations of PCT 3011 and assessment in the NSW BAM Calculator agree the PCT is in a moderate condition with a VIS of 25.4. This PCT is heavily impacted by weed invasion in the understorey.

PCT 3011 is not considered a TEC under the EPBC Act. While it relates to the *Lowland Rainforest of Subtropical Australia* TEC it fails to satisfy condition thresholds as per Section 5 of the Listing Advice due to a lack of native diversity as well as predominance of exotic species throughout the patch.

One threatened flora species has been identified adjacent to the development footprint. Stinking Cryptocarya (*Cryptocarya foetida*) is listed as Vulnerable under the EPBC Act. The species was identified as occurring within PCT 3011 during a targeted survey (see Figure 4.1 for locations and targeted survey effort; Attached). The targeted survey was performed as a random meander due to the narrow site layout with high coverage of suitable habitat identified in previous surveys. In total 2.2km were traversed within PCT 3011 over 3 hours. No individuals were recorded within the footprint and it is not expected any direct impacts will occur.

Fauna

Targeted fauna surveys searching for candidate species were carried out in two rounds, August 2023 and January 2024. The surveys aimed to capture a variety of nocturnal & diurnal birds, nocturnal mammals and the threatened Mitchells Rainforest Snail (refer Table 4.4 of the BDAR in Attachment E). Results of the survey confirmed the presence of one threatened species on site, Mitchells Rainforest Snail (*Thersites mitchellae*), which was recorded in two colonies located wholly within PCT 4004 and separated from each other by the existing road.

Targeted surveys were focused on candidate species identified from the NSA BAM Calculator and the NSW BioNet Threatened Biodiversity Database Collection (TBDC). Details are provided within Table 4.4, page 31 of the BDAR (Attachment E). More general, opportunistic fauna surveys were carried out alongside the targeted surveys. Survey period details are discuss as follows:

Survey period #1 (August 2023)

- Nocturnal survey:
- 4x 1km spotlighting transects conducted from dusk within and alongside treed areas of site targeting arboreal fauna
- 3x call playback locations along spotlighting transect targeting all Owl candidate species and Bush Stone Curlew
- Searches under coarse woody debris for Mitchell's Rainforest Snail following heavy rain
- Diurnal bird survey:
- 2x dawn bird surveys
- 3x 10 minute bird count locations

Survey period #2 (January 2024)

- Diurnal bird survey:
- Two dawn transects
- 3x 10 minute bird count locations
- 3x Koala SAT surveys as per Phillips & Callaghan (2011)
- Coarse woody debris was searched for threatened reptiles around the bases of trees and under decorticating bark
- Nocturnal spotlighting transect for:
- Mammals
- Grey-headed Flying-fox
- Mitchell's Rainforest Snail:
- 6 hour search along transect within suitable habitat

One EPBC Act listed fauna species was identified on the site. This is the Mitchell's Rainforest Snail (*Thersites mitchellae*) listed as Critically Endangered under the EPBC Act. 11 records were made throughout the site including 10 live individuals and one shell. See Section 4.2 and Figure 4.1 of the BDAR (Attachment E) for locations and targeted survey effort.

Based upon the project surveys and database records a predicted habitat polygon has been created identifying likely habitat for all threatened species identified or assumed present on the site (see Figure 4.2 attached).

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

Refer to the following sections of the BDAR (Attachment E):

2.7.1 NSW (Mitchell) landscape

3.4 Vegetation Zones

4.2.1 Targeted Flora Survey

4.4.2 Stinking Cryptocarya

Two PCTs occur across the site in addition to exotic vegetation (see Figure 3.2 of BDAR, Attachment E).

4004 – Northern *Melaleuca quinquenervia* Swamp Forest is described above in 3.2.1 of the referral application. The two patches east and west of the current road exist in good and moderate conditions respectively. Evidence of grazing and machinery was evident during the site survey. Based on historic imagery this vegetation has remained since prior to 1991. Analysis of historic imagery shows established vegetation on the site and of similar extent since 1991.

PCT 4004 falls within the vegetation class of Coastal Swamp Forests. The site is located at low elevation (<5m asl) in a depressed alluvial landscape providing for ephemeral inundation.

3011 – Far North Lowland Subtropical Rainforest occurs in moderate condition. The patch is heavily impacted by weeds and exotic species in the understorey. It has been assessed as failing to meet the condition thresholds for listing as the EPBC Act listed TEC *Lowland Rainforest of Subtropical Australia* as per Section 5 of the Listing Advice. This is due to a lack of native diversity as well as predominance of exotic species throughout the patch.

Soil landscapes

Two Mitchell soil landscapes are mapped on site:

- Byron-Tweed Alluvial Plains – associated with the northern two-thirds of the site and PCT 4004
- Lamington Volcanic Slopes – associated with the lower third of the site and PCT 3011

Soil associated with native vegetation across the site is largely unmodified. The most significant modification are drainage lines dug to facilitate greater human use of the landscape. Nonetheless, soil moisture remains high to support Swamp Forest and Rainforest communities.

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.

None have been identified through the Protected Matters Search Tool

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

An Aboriginal Cultural Heritage Assessment (ACHA; NGH 2023) has been completed in support of the proposal which identifies that the development is unlikely to impact upon items of Aboriginal cultural significance and would not trigger any provisions of the *National Parks and Wildlife Act 1974* (NP&W Act). A redacted version of the ACHA is provided in Attachment B.1. An unredacted version is also provided in Attachment B.2. Note that the NSW Heritage Register search results in Appendix B of the ACHA were not provided to Council and were not included in the final unredacted report. These can only be provided upon request of the Archaeological Consultant - noting that the proposal is not considered to impact on Aboriginal cultural heritage for either section 5 and the adjacent section 6.

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 site is mapped as flood prone land susceptible to regular inundation based on Tweed Shire Council flood mapping. The Hydrology reports including flood modelling is provided in Attachment C1 and Attachment C2.

Currently two drainage lines bisect native vegetation in both PCT 4004 and 3011. These drainage lines are fed by table drains located parallel to the existing road and form part of the local stormwater system draining eastwards.

Native vegetation mapped as PCT 4004 is mapped as a Coastal Wetland under SEPP (R&H).

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	No	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.

*

No World Heritage matters have been identified within 5km of the project area including offshore via a search of the Protected Matters Search Tool. Impacts from the proposal are predominantly localised and unlikely to have impacts outside of the 5km search area.

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.

*

The closest National Heritage site, Numinbah Nature Reserve, is 22.4 km from the site. Given the separation distance, and the relatively small-scale and area of the works, no direct impacts will occur and any indirect impacts will be negligible.

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.

—

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

No

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

*

Given the distance from the site to the closest RAMSAR site, Moreton Bay, is 64.7 km, no direct or indirect impacts will occur.

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
Yes		<i>Acronychia littoralis</i>	Scented Acronychia
Yes		<i>Anthochaera phrygia</i>	Regent Honeyeater
Yes		<i>Argynnis hyperbius inconstans</i>	Australian Fritillary
Yes		<i>Arthraxon hispidus</i>	Hairy-joint Grass
Yes		<i>Baloghia marmorata</i>	Marbled Balogia, Jointed Baloghia
Yes		<i>Bosistoa transversa</i>	Three-leaved Bosistoa, Yellow Satinheart
Yes		<i>Botaurus poiciloptilus</i>	Australasian Bittern
Yes		<i>Calidris acuminata</i>	Sharp-tailed Sandpiper
Yes		<i>Calidris canutus</i>	Red Knot, Knot
Yes		<i>Calidris ferruginea</i>	Curlew Sandpiper
Yes		<i>Calyptorhynchus lathami lathami</i>	South-eastern Glossy Black-Cockatoo
Yes		<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat, Large Pied Bat
Yes		<i>Charadrius leschenaultii</i>	Greater Sand Plover, Large Sand Plover
Yes		<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (south-eastern)
Yes		<i>Cryptocarya foetida</i>	Stinking Cryptocarya, Stinking Laurel
Yes		<i>Cryptostylis hunteriana</i>	Leafless Tongue-orchid
Yes		<i>Cyclopsitta diophthalma coxeni</i>	Coxen's Fig-Parrot
Yes		<i>Cynanchum elegans</i>	White-flowered Wax Plant
Yes		<i>Dasyurus maculatus maculatus</i> (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)
Yes		<i>Delma torquata</i>	Adorned Delma, Collared Delma
Yes		<i>Diospyros mabacea</i>	Red-fruited Ebony, Silky Persimmon, Ebony

Direct impact	Indirect impact	Species	Common name
Yes		<i>Diploglottis campbellii</i>	Small-leaved Tamarind
Yes		<i>Endiandra floydii</i>	Floyd's Walnut, Crystal Creek Walnut
Yes		<i>Endiandra hayesii</i>	Rusty Rose Walnut, Velvet Laurel
Yes		<i>Erythrorchis radiatus</i>	Red Goshawk
Yes		<i>Falco hypoleucos</i>	Grey Falcon
Yes		<i>Fontainea australis</i>	Southern Fontainea
Yes		<i>Furina dunmalli</i>	Dunmall's Snake
Yes		<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe
Yes		<i>Hirundapus caudacutus</i>	White-throated Needletail
Yes		<i>Lathamus discolor</i>	Swift Parrot
Yes		<i>Leichhardtia longiloba</i>	Clear Milkvine
Yes		<i>Lepidochelys olivacea</i>	Olive Ridley Turtle, Pacific Ridley Turtle
Yes		<i>Limosa lapponica baueri</i>	Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit
Yes		<i>Litoria olongburensis</i>	Wallum Sedge Frog
Yes		<i>Macadamia integrifolia</i>	Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak
Yes		<i>Macadamia tetraphylla</i>	Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut
Yes		<i>Mixophyes fleayi</i>	Fleay's Frog
Yes		<i>Numenius madagascariensis</i>	Eastern Curlew, Far Eastern Curlew
Yes		<i>Ochrosia moorei</i>	Southern Ochrosia
Yes		<i>Owenia cepiodora</i>	Onionwood, Bog Onion, Onion Cedar
Yes		<i>Pachyptila turtur subantarctica</i>	Fairy Prion (southern)
Yes		<i>Petaurus australis australis</i>	Yellow-bellied Glider (south-eastern)
Yes		<i>Phaius australis</i>	Lesser Swamp-orchid

Direct impact	Indirect impact	Species	Common name
Yes		<i>Phascolarctos cinereus</i> (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)
Yes		<i>Potorous tridactylus tridactylus</i>	Long-nosed Potoroo (northern)
Yes		<i>Pseudomys novaehollandiae</i>	New Holland Mouse, Pookila
Yes		<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox
Yes		<i>Randia moorei</i>	Spiny Gardenia
Yes		<i>Rhodamnia maideniana</i>	Smooth Scrub Turpentine
Yes		<i>Rhodamnia rubescens</i>	Scrub Turpentine, Brown Malletwood
Yes		<i>Rhodomyrtus psidioides</i>	Native Guava
Yes		<i>Rostratula australis</i>	Australian Painted Snipe
Yes		<i>Stagonopleura guttata</i>	Diamond Firetail
Yes		<i>Sternula albifrons</i>	Little Tern
Yes		<i>Sternula nereis nereis</i>	Australian Fairy Tern
Yes		<i>Syzygium hodgkinsoniae</i>	Smooth-bark Rose Apple, Red Lilly Pilly
Yes		<i>Syzygium moorei</i>	Rose Apple, Coolamon, Robby, Durobby, Watermelon Tree, Coolamon Rose Apple
Yes		<i>Thersites mitchellae</i>	Mitchell's Rainforest Snail
Yes		<i>Thesium australe</i>	Austral Toadflax, Toadflax
Yes		<i>Tringa nebularia</i>	Common Greenshank, Greenshank
Yes		<i>Turnix melanogaster</i>	Black-breasted Button-quail
Yes		<i>Vincetoxicum woollsii</i>	
Yes		<i>Xeromys myoides</i>	Water Mouse, False Water Rat, Yirrkoo

Ecological communities

Direct impact	Indirect impact	Ecological community
Yes		Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community

Direct impact	Indirect impact	Ecological community
Yes		Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland
Yes		Lowland Rainforest of Subtropical Australia
Yes		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. *

Refer to BDAR Section 5.

Targeted fauna surveys identified the presence of only one threatened species on the site, Mitchell's Rainforest Snail (*Thersites mitchellae*). The impacts likely to occur to the Mitchell's Rainforest Snail (*Thersites mitchellae*) from the works, are:

- Loss of 0.68ha of habitat
- Direct mortality via habitat clearing
- Damage to habitat via changes in hydrology
- Interruption of species movement across its range from habitat fragmentation and modification of drainage lines used as movement corridors
- Interruption of species lifecycle from modification of drainage lines used as movement corridors
- Poisoning from herbicides and pesticides near habitat
- Trampling or crushing by construction vehicles or construction personnel
- Exacerbation of threats to the species related to habitat loss & fragmentation

Impacts to the Stinking Cryptocarya (*Cryptocarya foetida*) are indirect only as no individuals were identified within the works footprint but may include:

- Edge effects from clearing of adjacent habitat
- Invasion of habitat by weeds

In relation to ecological communities, impacts to *Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland* are:

- Direct loss of 0.57ha
- Increased or altered extent of 'edge effects' and degradation from clearing of vegetation associated with the works.
- Potential unauthorised clearing beyond project boundary
- Changes in species diversity and vegetation structure from weed invasion including by WoNS

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. *

Mitchell's Rainforest Snail (*Thersites mitchellae*): The impact on the Mitchell's Rainforest Snail (*Thersites mitchellae*) is likely to be a significant impact without mitigation: The direct and indirect impacts of the works may cause the western colony of Mitchell's Rainforest Snail on the site to become unviable in the long-term. This is due to direct impacts to any individuals within the development footprint at the time of construction and the low mobility and fragmented habitat of the colony. It should be noted the referral has invoked the precautionary principle in relation to the likely level of impact and is assessed prior to any avoidance or mitigation measures discussed below.

Stinking Cryptocarya (*Cryptocarya foetida*): The species was identified in proximity to the site and not within the works footprint. As such, impacts would be indirect only. Indirect impacts including increased weed incursion are not likely to limit growth, pollination, dispersal or the breeding cycle of this species.

Coastal Swamp Sclerophyll Forest TEC: Direct impacts will occur to the EEC via clearing of 0.36ha. However, the clearing will likely be of minimal impact to the entire patch (40ha) given that the small clearing area is located at the intersection of patch and roadside. Impacts to breeding cycle of key species in the EEC would not occur while fragmentation pressure would increase only marginally given the presence of the existing road.

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.

*

Mitchell's Rainforest Snail

Mitchell's Rainforest Snail (MRS) is nationally listed as Critically Endangered. The referral has been undertaken as a precautionary approach and due to the DCCEE guideline of road projects impacting on threatened entities generally requiring EPBC referral.

The main factors that have caused the species to become Critically Endangered are its fragmented geographic distribution, low population numbers, geographic distribution of 5km² and ongoing degradation of habitat. The proposed activity goes against conservation advice by clearing Lowland Subtropical Rainforest and Swamp Sclerophyll Forest habitat within the known species range. Significant impacts to the Critically Endangered species is considered a Part 3 Matter, implicating the proposed activity as a controlled activity.

Avoidance has focused on reducing the direct loss of habitat required to be cleared. The proposal has undergone an iterative redesign process with a focus on MRS habitat such as replacing a sloping road batter with a vertical gabion retaining wall to minimise encroachment into the species habitat.

The proposal will result in a 0.68ha reduction in good and moderate condition habitat for the species. Remaining habitat will have patch sizes of >40 ha (eastern patch) and 2ha (western patch). An expert report by Dr John Stanisic (see Attachment F) states in relation to the restricted subpopulation on the western side of the road that:

as long as the current habitat qualities are kept intact, MRS will continue to exist in the small western pocket of swamp forest.

The remaining habitat will be managed to improve condition under a vegetation management plan (VMP) and based on the expert advice, should be sufficient for the continued survival of the species. Nonetheless, as a mitigating factor against this habitat reduction a fauna underpass constructed for larger mammal crossing will be furnished with suitable conditions to allow the reconnection of the east and west MRS sub-populations. While conjecture exists as to whether the individuals recorded east and west of the current road exist as sub-populations, provision of a second crossing suitably designed to avoid regular flooding or complete drying will establish a stable connection between the east and western sub-populations. This will reduce existing fragmentation pressure and enabling greater genetic exchange.

The species was found in searches of the table drain running parallel to the road, indicating the species is resilient to the edge effects which occur along the road (weed incursion, water pollutants, rubbish and debris, noise and vibration). The effect of increased light pollution from higher traffic volumes is of low importance to this species due to its primary location on the forest floor and in table drains and amongst dense vegetation cover.

Mitigation measures targeted to the species are detailed in section 6 of the BDAR and in section 4.1.4.10 of this referral.

Stinking Cryptocarya and Coastal Swamp Sclerophyll Forest TEC

Impacts to these two threatened entities are not considered significant given the reasons stated in 4.1.4.6. Mitigation measures will further reduce impacts and are detailed in section 6 of the BDAR and in section 4.1.4.10 of this referral.

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. *

Mitigation measures are detailed in Section 6 of the BDAR (Attachment E) and include the following:

Mitchell's Rainforest Snail

- A Mitchell's Rainforest Snail Management Plan is to be prepared with the following considerations:
 - Translocation plan
 - Creation/identification of suitable habitat to sustain the population in perpetuity
 - Ongoing monitoring
- Construction of fauna underpass to reconnect the east and west sub-populations
- Pre-clearance surveys to be undertaken for Mitchell's Rainforest Snail in the 24hrs prior to construction
 - Survey must only take place during warm, wet conditions ie. conditions suitable for conducting the species survey
- Fauna spotter catcher to be on site during clearing
- Project ecologist to be notified of any potential sightings of Mitchell's Rainforest Snails during construction phase
- No-go zones with physical barriers to be established around areas of known/potential habitat to be retained
- 'Arrive Clean, Leave Clean' guidelines will be adopted for works in or adjacent to habitat to be retained
- Supervision of all habitat clearing by ecologist

Stinking Cryptocarya

- No-go zone with physical barrier to be established at edge of PCT 3011
- Stinking Cryptocarya specimens being retained adjacent to site to be flagged and photographed prior to construction
- 'Arrive Clean, Leave Clean' guidelines will be adopted for works in or adjacent to habitat to be retained
- Supervision of all habitat clearing by ecologist

Coastal Swamp Sclerophyll Forest TEC

- Offset plantings and weed management implemented through a Vegetation Management Plan
- No-go zones physically demarcated around ecologically sensitive zones (eg. threatened species habitat) prior to construction
- Implementation of sediment and erosion controls during construction
- Replication of roadside table drains along proposed road alignment to capture surface flows and maintain a similar hydrological regime
- 'Arrive Clean, Leave Clean' guidelines will be adopted for works in or adjacent to habitat to be retained
- Supervision of all habitat clearing by ecologist.

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

A Vegetation Management Plan is to be prepared to implement and manage offset plantings of lowland rainforest/MRS habitat. Additionally, credits under the NSW Biodiversity Offsets Scheme will be required to be obtained prior to the commencement. These include:

- PCT 4004 (Coastal Swamp Sclerophyll Forest): 12 credits
- Mitchell's Rainforest Snail: 10 credits

NSW BOS credit reports are attached as Attachment D

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		<i>Actitis hypoleucos</i>	Common Sandpiper
Yes		<i>Apus pacificus</i>	Fork-tailed Swift
Yes		<i>Ardenna carneipes</i>	Flesh-footed Shearwater, Fleshy-footed Shearwater
Yes		<i>Calidris acuminata</i>	Sharp-tailed Sandpiper
Yes		<i>Calidris canutus</i>	Red Knot, Knot
Yes		<i>Calidris ferruginea</i>	Curlew Sandpiper
Yes		<i>Calidris melanotos</i>	Pectoral Sandpiper
Yes		<i>Charadrius leschenaultii</i>	Greater Sand Plover, Large Sand Plover
Yes		<i>Charadrius veredus</i>	Oriental Plover, Oriental Dotterel
Yes		<i>Cuculus optatus</i>	Oriental Cuckoo, Horsfield's Cuckoo
Yes		<i>Fregata ariel</i>	Lesser Frigatebird, Least Frigatebird
Yes		<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe
Yes		<i>Gallinago megala</i>	Swinhoe's Snipe
Yes		<i>Gallinago stenura</i>	Pin-tailed Snipe
Yes		<i>Hirundapus caudacutus</i>	White-throated Needletail
Yes		<i>Lepidochelys olivacea</i>	Olive Ridley Turtle, Pacific Ridley Turtle
Yes		<i>Limosa lapponica</i>	Bar-tailed Godwit
Yes		<i>Numenius madagascariensis</i>	Eastern Curlew, Far Eastern Curlew
Yes		<i>Numenius minutus</i>	Little Curlew, Little Whimbrel
Yes		<i>Pandion haliaetus</i>	Osprey
Yes		<i>Sternula albifrons</i>	Little Tern
Yes		<i>Tringa nebularia</i>	Common Greenshank, Greenshank

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. *

Refer BDAR section 7.6.

The proposal is likely to cause a minor impact on migratory bird species through the loss of native vegetation. Minor and temporary indirect impacts to migratory species within a 5km radius of the site may result during construction from:

- noise, dust and vibration
- light pollution

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. *

Where impacts to migratory species occur these would be of minor and mostly temporary nature. No migratory species were identified during site surveys which occurred in both winter and summer. The site assessment determined the site is of low suitability for migratory species. Of the 76 migratory species predicted to occur within 54km of the site:

- 19 are marine species
 - No suitable habitat occurs on the site
- 21 are marine birds
 - No suitable habitat including for breeding or roosting occurs on site
- 27 are migratory wetland species
 - Surveys conducted at dawn and dusk found none of the listed species are present at the site. The species require habitat features not present on site migratory waders including sand & mudflats and open coastal environments. The site provides no suitable habitat for foraging, roosting or breeding for migratory waders. One non-wader, Osprey, has low value habitat within the site determined on the basis of a lack of large trees and more suitable habitat in the locality. No stick nests have been known to exist within or in proximity to site indicating breeding is not known to occur here. Any indirect impacts (eg. noise and light pollution would be of a low-negligible level considering the low value of the habitat).
- 6 are migratory terrestrial birds (Spectacled Monarch, Satin Flycatcher, Oriental Cuckoo, Horsfield's Cuckoo, Rufous Fantail, Black-faced Monarch, White-throated Needletail (EPBC Act listing – Vulnerable))
 - Surveys conducted at dawn and dusk found none of the listed species are present at the site. It is highly unlikely the site supports an ecologically significant population for the species listed due to the surveyed absence, lack of records showing low fidelity to the site and non-threatened status of five of the six species (White-throated Needletail is listed as Vulnerable). The status of the White-throated Needletail is mitigated by its highly mobile nature and primarily aerial nature and extensive surrounding forest habitat both locally and regionally.
 - Habitat on site is of low-moderate value given the existing indirect impacts from the current road. Direct losses of habitat are small (0.68ha) in relation to surrounding habitat in good condition which is to remain (>40ha). As a result no interruption to any breeding cycle or movement patterns would be likely should the species' transit through the site. Fragmenting effects of the road widening will have limited effect on species with high mobility.

Prior to consideration of avoidance and minimisation measures (detailed in section 4.1.5.10) no migratory species are deemed to be at risk of significant impacts occurring from the proposed activity.

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.

*

As the proposal will not significantly impact migratory species it will not be considered in this context, a controlled action.

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. *

Refer BDAR Section 6.

- Qualified ecologist is to undertake a preclearance survey within 24hrs of clearing
- Qualified ecologist to be engaged as a fauna spotter-catcher during vegetation clearing and for incidental threatened fauna occurrences on worksite
- A vegetation management plan (VMP) is recommended to manage and improve adjacent retained habitat
- Refueling is to take place >40m from waterways and retained habitat. If this is not possible, a bund is to be constructed around a designated area to perform refueling
- Appropriate spill kit is to be kept on site at all times
- Conduct plant, construction vehicle and equipment pre-starts identify any potential leaks or signs of degradation
- All works would be undertaken in accordance with the Interim Construction Noise Guideline (DECC, 2009)
- Mufflers and appropriate covers will be fitted to all plant and machinery used during the works
- Follow maximum vibration guidelines in NSW EPA's Assessing Vibration: A Technical Guideline
- The contractor must minimise noise outputs through the use of best practice (e.g. by avoiding generating unnecessary noise onsite) and use of high-quality plant and equipment
- Any street lighting should adhere to best practice light management as noted in the National Light Pollution Guidelines for Wildlife (DCCEEW 2023b)
- Consideration of dense vegetated buffer between road verge and native vegetation to minimise headlight shine
- Road signs erected deterring use of engine brakes on heavy vehicles

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

Please refer to response provided for mitigation of impacts on threatened species.

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 proposal does not involve or exist in proximity to any nuclear actions.

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.

—

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.

*

One CMA, Temperate East, exists 8.1 km from the site. Given the distance from the site and terrestrial nature of the proposal it highly unlikely that the proposed activity will cause any direct or indirect impacts to this CMA.

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.

*

The GBR is approximately 1800 km from the site, as such it is highly unlikely that the proposed activity will have a direct or indirect impact on the GBR.

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 activity does not involve coal mine development or coal seam gas.

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.

—

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.

*

Two Commonwealth Land sites (Telstra) have been identified in the 5km buffer area. As the proposed activity is a linear road development not adjacent to Commonwealth Lands, it is highly unlikely that any direct impacts will be caused, and any indirect impacts will be negligible.

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.

—

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.

*

The location of the proposed activity is Northern NSW, as such it will not have direct or indirect impacts on Commonwealth Heritage Places Overseas.

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.

*

Please refer section 4.3.5.2 for further information

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. *

Please refer section 4.3.5.2 for further information

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. *

Please refer section 4.3.5.2 for further information

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? *

Yes

4.3.5.2 Describe the details of this possible alternative that you have considered but are not proposing. *

The EIS (Attachment G) discusses three options Tweed Shire Council has considered in the context of the proposal:

- Option A – Do nothing or minimum
- Option B – Broader network considerations.
- Option C – Widen Tweed Coast Road (adopted option)

Option A: 'Do nothing or minimum' option

The 'Do minimum' option assumes no major upgrades along the corridor. Normal road maintenance would continue to be carried out.

This option precludes the delivery of important and strategically planned housing and does not improve road capacity, travel times, safety and trip reliability along Tweed Coast Road.

Option B: Broader network considerations

This option would consider a broader array of upgrades to the wider road and public transport network throughout the Tweed Coast.

The regional nature of the area and primary modes of transport in the locality must be acknowledged. Tweed Coast Road is also the primary collector road adjacent to and servicing the major residential land releases of Kings Forest and West Kingscliff, as well as essential public infrastructure including the Tweed Valley Hospital and Kingscliff Tafe. Pursuing broader network improvements would not improve travel times, safety and trip reliability where it is most needed.

That said, the Tweed Road Development Strategy 2017 does not consider the Tweed Coast Road Improvements project in isolation to other network upgrade opportunities. Rather, it provides a holistic review of road and transport upgrade opportunities that can be delivered to improve accessibility and travel time efficiency in the Tweed Coast. In that case, Option B has been adopted and is being implemented in addition to the delivery of Option C.

Option C – Widen Tweed Coast Road

Strategic traffic modelling for the proposed 4-lane upgrade is provided within the Traffic Impact Assessment by Bitzios Consulting (Attachment A). The Traffic Impact Assessment identifies that, in an ultimate development scenario in 2041, the 4-lane upgrade provides the following benefits:

- Reduce total network travel times by 2,209 vehicle hours, which equates to an annual economic benefit of \$25,437,712 from travel time savings.
- Reduce intersection delays at key intersections and also improve capacity of key intersection to cater for higher traffic volumes.
- Improvement to road safety risk factors.
- Improved pedestrian and cycle connectivity.
- Reduce traffic utilising alternate lower order roads across Kingscliff, Cudgen, Chinderah and Casuarina.

The proposed road upgrade would also service the new recently opened Tweed Valley Hospital, located on Cudgen Road at the southern extent of Section 5 of the Tweed Coast Road Improvements project.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att E - Tweed Coast Rd_BDAR Ver EPBC.pdf Biodiversity Development Assessment Report for Stage 5 Tweed Coast Road upgrade	23/06/2025	No	High

1.2.5 Information about the staged development

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Traffic Impact Assessment.pdf Traffic impact assessment for Tweed Coast Road upgrade section 5 and 6	11/03/2025	No	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att G.1 - REDACTED Environmental Impact Statement (Coastal Wetland area).pdf The unredacted Environmental Impact Statement for Coastal Wetland area, Tweed Coast Road upgrade section 5	18/03/2025	No	High
#2.	Document	Att G.2 - Environmental Impact Statement (Coastal Wetland area).pdf Environmental Impact Assessment for the Coastal Wetlands area in section 5, Tweed Coast Road upgrade	18/03/2025	Yes	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.	Document	Att H - Tweed Conservation Strategy.pdf Tweed Shire's Conservation Strategy 2025-2035	01/08/2024	No	High
#2.	Document	Att I - Tweed Shire Council Environmental Sustainability Performance Report 2023-2024.pdf Tweed Shire Council environmental sustainability report card for 2023 to 2024	01/07/2023	No	High
#3.	Document	Att J - Tweed Shire Council Towards Zero Waste Strategy.pdf Tweed Shire towards zero waste strategy	01/03/2021	No	Medium

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Figure 3.2 Ground-truthed vegetation and BAM plots.pdf Figure showing BAM plots and ground truthed vegetation, Tweed Coast Road upgrade section 5	12/03/2025	No	High
#2.	Document	Figure 4.1 Threatened species records and survey effort.pdf Threatened species records and survey effort	11/02/2025	No	High
#3.	Document	Figure 4.2 Habitat polygons for threatened species(1).pdf Habitat polygons for threatened species	18/06/2025	No	High

3.3.2 Indigenous heritage values that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att B.1 - REDACTED Tweed Coast Road Aboriginal Cultural Heritage Assessment.pdf Aboriginal Cultural Heritage Assessment for the Tweed Coast Road upgrade section 5 and 6	17/03/2023	No	High
#2.	Document	Att B.2 - Tweed Coast Road Aboriginal Cultural Heritage Assessment.pdf Aboriginal Cultural Heritage Assessment for the Tweed Coast Road upgrade section 5 and 6	01/03/2023	Yes	High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att C.1 - Flood modelling.pdf Flood modelling for Tweed Coast Road upgrade section 5 and 6	01/09/2024	No	High
#2.	Document	Att C.2 - Soil & Water MP.pdf The Soil and Water Management Plan (SWMP) for the Tweed Coast Road Four Lane Upgrade project	17/12/2024	No	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	Att F - Expert Report_Mitchells Rainforest Snail.pdf	19/09/2024	No	High

Expert report for the Mitchell's
Rainforest Snail

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

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att D - NSW BOS Credit Reports.pdf BAM credit summary report	01/07/2025	No	High

5.2 Declarations

Completed Referring party's declaration

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

ABN/ACN	90178732496
Organisation name	TWEED SHIRE COUNCIL
Organisation address	PO Box 816, Civic and Cultural Centre, 10-14 Tumbulgum Road, Murwillumbah, NSW, 2484
Representative's name	David Hannah
Representative's job title	Senior Environmental Scientist
Phone	(02) 6670 2528
Email	dhannah@tweed.nsw.gov.au
Address	Civic and Cultural Centre, 10-14 Tumbulgum Road, Murwillumbah, NSW 2484

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, **David Hannah of TWEED SHIRE COUNCIL**, 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.

Same as Referring party information.

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

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

I, **David Hannah of TWEED SHIRE COUNCIL**, 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. *

I, **David Hannah of TWEED SHIRE COUNCIL**, the Person proposing the action, consent to the designation of **David Hannah of TWEED SHIRE COUNCIL** 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.

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, **David Hannah of TWEED SHIRE COUNCIL**, 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.