NOAH CREEK, CAPE TRIBULATION ROAD, THORNTONS BEACH

Planning Report for Operational Works (Temporary Culvert Crossing)

402031
A
10 October 2025

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Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
A	Planning Report	S. Devaney	P. Clifton	S. Devaney	10/10/2025

Approval for issue

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SUMMARY

Table 1: Summary

Details		
Site Address:	Noah Creek, Cape Tribulation Road, Thorton Beach QLD	
Real Property Description:	Adjacent to Lot 900 on SP296959	
Regional Plan Land Use Designation:	Regional Landscape and Rural Production Area	
Zone:	Conservation Zone	
Overlays:	• Coastal Processes; • Flood and Storm Tide Hazard; • Landscape Values; • Potential Landslide Hazard; • Natural Areas; • Transport Network.	
Proposal		
Brief Description/ Purpose of Proposal	Development Permit for Operational Works (Waterway Barrier Works and Prescribed Tidal Works)	
Application Details		
Aspect of Development	**Preliminary approval**	**Development permit**
Material change of use	☐	☐
Building Work	☐	☐
Operational Work	☐	☒
Reconfiguration of a Lot	☐	☐
Assessment Category	☒ Code	☐ Impact
Public Notification	☒ No	☐ Yes:
Superseded Planning Scheme Application	☐ Yes	☒ No
Referral Agencies		
Agency	**Concurrence**	**Advice**	**Pre-lodgement response**
State Assessment and Referral Agency (SARA)	☒	☐	☒ Yes ☐ No
Other		
Council officer/s previously involved:		
Applicant contact person	Stacey Devaney Senior Planner D: +61 7 4276 1033 **E: stacey.devaney@rpsconsulting.com**	Patrick Clifton Senior Principal Planner D: +61 7 4031 1336 **E: patrick.clifton@rpsconsulting.com**

1 INTRODUCTION

RPS Consulting Pty Ltd has been engaged by Douglas Shire Council to seek a Development Permit for Operational Works (Waterway Barrier Works and Prescribed Tidal Works) to provide for the construction of a temporary culvert crossing of Noah Creek. The temporary bypass would facilitate crossing of Noah Creek by vehicles during the construction of a new bridge and subsequent demolition of the existing bridge over Noah Creek. The temporary culvert crossing would remain in place for a period of nine (9) months whilst the new bridge is constructed and the existing Noah Creek bridge is removed.

The proposed temporary culvert crossing would be located approximately 10-20 metres to the east and upstream of the permanent bridge alignment and would be 25 metres in width and comprise culvert crossing over the watercourse.

The proposed culvert crossing is able to be installed in accordance with Acceptable Development Rights (ADR) and remain in situ for 180 days; however, as the temporary waterway barrier works would be required for a period exceeding 180 days, development approval is required. In addition to the above, the works would be undertaken within a waterway that is subject to tidal influence and consequently the works are considered to be prescribed tidal works. Both waterway barrier works and prescribed tidal works are identified as code assessable development within the *Planning Regulation 2017*.

This report provides greater detail on the nature of the proposal and provides an assessment of the proposal against the intents and code requirements of relevant statutory planning documents. Technical issues associated with the proposal are addressed in appended technical reports.

Based on these assessments the proposal is recommended for approval subject to reasonable and relevant conditions.

2 SITE DETAILS

2.1 Site Particulars

The Noah Creek catchment originates in the foothills and uplands of Thorton Peak, an area that receives in excess of 9m of rainfall annually. Noah Creek flow is subject to extreme high velocity and high-volume discharges over short periods of time. The proposed works are located adjacent to the Wet Tropics World Heritage Area (WTWHA) and the northern bank and road reserve is located within the Daintree National Park. Significant cultural heritage values identified by the Eastern Kuku Yalanji Traditional owners are located on the northern bank. The proposal has been designed to avoid these areas.

Key details of the subject site are as follows:

Table 2: Site Particulars

Site Particulars	
Site Address	Noah Creek, Cape Tribulation, Thorntons Beach
Real Property Description	Cape Tribulation Road road reserve, Noahs Creek, adjacent to Lot 900 on SP296950

The site location and its extent are shown in **Figure 1** below.

Figure 1 Site Location

Source: Queensland Globe

Figure 2 Noahs Creek Bridge Prior to Cyclone Jasper

Source: Google Stock Images (2017)

Figure 3 Noahs Creek Bridge and Existing Temporary Bypass - View Looking South

Source: RPS

2.2 Planning Context

The planning context of the site includes the following:

Table 3: Planning Context

Instrument	Designation
State Planning Policy Mapping	
Economic Growth	• Agriculture ○ Agricultural land classification – class A and B; in part.

Environment and Heritage	• Biodiversity
	  ○ MSES – regulated vegetation (intersecting a watercourse), in part
	  ○ MSES – High ecological value waters (watercourse)
	  ○ MSES – Wildlife habitat (endangered or vulnerable), in part
	  ○ MSES – High ecological value waters (wetland)
	  ○ MSES – Protected areas (estate)
	  ○ MSES – Regulated vegetation (category B), in part
	  ○ MSES – Regulated vegetation (essential habitat), in part
	• Water Quality
	  ○ High ecological value water areas
	• Coastal Environment
	  ○ Coastal management district
	• Cultural Heritage
	  ○ National heritage place

Safety and Resilience to Hazards	• Natural Hazards Risk and Resilience
	  ○ Erosion prone area
	  ○ Medium storm tide inundation area
	  ○ Flood hazard area - Level 1-Queensland floodplain assessment overlay
	  ○ Flood hazard area – local government flood mapping area

Development Assessment Mapping	

SARA DA Mapping	• Coastal Protection
	  ○ Coastal management district
	  ○ Coastal area – erosion prone area, in part
	  ○ Coastal area – medium storm tide inundation area, in part
	• Fish Habitat Areas
	  ○ Major (tidal)
	• Wetland Protection Areas
	  ○ Wetland protection area – trigger area
	• Native Vegetation Clearing
	  ○ Regulated vegetation management map (Category A and B), in part
	  ○ Regulated vegetation management map (Category X), in part

Far North Queensland Regional Plan 2009 - 2031	
Regional Plan designation	Regional Landscape and Rural Production Area
Douglas Shire Council Planning Scheme 2018 (v1.0)	
Zoning	Conservation Zone
Overlays	• Coastal Environment Overlay ○ Coastal management district

Instrument	Designation
	○ Erosion prone area • Flood and Storm Tide Hazard Overlay ○ Medium storm tide hazard ○ Floodplain assessment overlay (Daintree River) • Landscape Values Overlay ○ Scenic route ○ Scenic route buffer ○ Medium landscape value • Potential Landslip Hazard Overlay ○ Potential Landslide Hazard (High & Medium) • Natural Areas Overlay ○ MSES – Regulated vegetation (Intersecting a watercourse) ○ MSES – High ecological value watercourse ○ MSES – Wildlife habitat ○ MSES – regulated vegetation ○ MSES - Protected area • Transport Network Overlay ○ Iconic recreation route ○ Sub Arterial Road ○ Category

Zoning of the subject site and surrounding lands is shown on **Figure 4**.

Other relevant mapping, including state interests is provided at **Appendix B**.

Figure 4 Zoning

Source: Douglas Shire Council Planning Scheme 2018

3 PRE-LODGEMENT HISTORY

3.1 Referral Agency Prelodgement Meeting

A pre-lodgement meeting with the State Assessment and Referral Agency (SARA) and various technical agencies was held on 4 April 2024 to discuss the former proposal for the construction of a temporary bypass. The key outcomes of that meeting were:

- In accordance with the *Planning Regulation 2017*, the application would require referral to SARA for Waterway Barrier Works and Prescribed Tidal Work;
- In accordance with the *Planning Regulation 2017*, the application may require referral to SARA for works involving marine plants; and
- A 50% fee reduction is available for local government projects.

Minutes form this pre-lodgement meeting and SARA pre-lodgement advice are provided at **Appendix B**.

Since the pre-lodgement meeting, the original design proposal has been abandoned as a result of realignment of property boundaries, the need to avoid significant vegetation and culturally significant areas and the inability to utilise access approaches previously proposed. On the basis the design concept has amended to facilitate reconstruction of the existing temporary bypass causeway, approximately 10-12 metres east and upstream of the permanent Noahs Creek Bridge alignment. Subsequent pre-lodgement discussion has been held with SARA, Department of Primary Industries and the Department of Environment, Science, Tourism and Innovation on 22 August 2025. The key outcomes of that meeting were:

- DPI recognises the critical importance of ensuring safe access across Noahs Creek for the Cape tribulation community, as well as tourists who play a vital role in supporting the local economy. The crossing of Noahs Creek serves as a key nexus, providing the sole route for residents, visitors and service providers to access the unique and remote areas further north.

  The DPI's objective is to work collaboratively, pragmatically and proactively with Douglas Shire Council to facilitate the timely construction of the replacement bridge. DPI acknowledges the necessity of implementing a temporary culvert crossing and further acknowledges that there may be engineering constraints to amend the temporary bypass design in a manner that would adequately address all DPI's fish passage concerns. Nonetheless, DPI reiterate the importance of removing this waterway barrier as soon as practicable, given its potential to significantly impact local fish populations, particularly diadromous species that relay on movement between tidal and freshwater environment to complete their lifecycles.

  Based on this advice, the following matters were outlined by DPI:

- Retrofitting a fish ramp to the existing causeway is probably not feasible due to site constraints;
- Modifications to the temporary bypass design, such as reducing culvert cell length, should be explored to improve fish passage;
- Any application must justify the proposed design as the least-impact viable option and include realistic timeframes for project milestones
- Approval Pathway for the temporary culvert crossing was discussed, including acknowledgement by DPI that site and engineering constraints have informed the current temporary culvert crossing design, which allows for safe vehicle passage.
- Where compliance with applicable assessment benchmarks of SDAP Code 18: cannot be achieved, it is important that the application clearly articulate the site and engineering constraints, thus enabling DPI to assess whether the proposed design represents the least-impact viable option in terms of fish passage.

Advice received from Department of Primary Industries post pre-lodgement meeting is provided for reference as **Appendix C**.

4 PROPOSAL

4.1 Overview

This application seeks development approval for operational works to facilitate reconstruction of a temporary culvert crossing of Noahs Creek approximately 10-20 metres to the east and upstream of the permanent Noahs Creek Bridge alignment.

In the aftermath of ex Tropical Cyclone Jasper in December 2023, significant rainfall in the Daintree River catchment resulted in damage to the Noahs Creek Bridge, which has necessitated replacement of the bridge. The works required to replace the bridge was granted on 15 October 2020 under Development Approval OP2020_3516/1. A subsequent minor change to this approval was lodged seeking a change to the location of the bridge abutment and provision of revised plans. This application was the subject of changed referral response from SARA for waterway barrier works and tidal works in a coastal management district.

An existing temporary bypass has been constructed approximately 15-20 metres upstream of the original Noahs Creek Bridge to facilitate movement of heavy vehicles given that the load bearing capacity of the bridge has been downgraded from 16 tonnes to 8 tonnes. This temporary bypass, however, presents significant ecological concerns, particularly for aquatic species such as the Opal Cling Goby and the Daintree Rainbowfish, which would face local extinction due to barriers causing failed life cycles for these amphidromous species.

In order for the approved bridge reconstruction to proceed and to mitigate potential ecological impacts for aquatic species, Douglas Shire Council constructed a temporary crossing to facilitate passage of heavy vehicles to Cape Tribulation. An application for operational works for waterway barrier works facilitating construction of a temporary bypass for heavy vehicles was lodged in June 2024. The proposed works were proposed within the Wet Tropics Word Heritage Area (WTWHA) and the northern bank and road reserve is located within the Daintree National Park. Cultural heritage values of significance to the Eastern Kuku Yalanji Traditional owners have been identified on the northern bank. Changes to the boundary of the Wet Tropics World Heritage Area and the identification of significant cultural and environmental values within the proposed approach area, necessitated a change to the alignment of the temporary culvert crossing to align with the existing temporary bypass. Furthermore, detailed design of the proposed bypass identified significant issues that necessitated a structural redesign in order to safely accommodate the projected level of vehicles utilising the proposed crossing during the construction phase of the Noah Creek Bridge.

4.2 New Application

Given required design amendments and the lapsing of the previous application, the applicant seeks a Development Permit for Operational Works (Waterway Barrier Works & Prescribed Tidal Works) for the proposed temporary bypass.

The applicant proposes to commence works within the dry season in April 2026 and envisages that the proposed temporary bypass would be in place for a period of 9 months to facilitate construction of the approved Noah Creek bridge and demolition of the existing bridge. Post construction of the bridge, the temporary bypass would be dismantled and fully removed from the waterway.

The proposed temporary bypass would comprised of 10 x 1800mm diameter corrugated steel pipes (CSP), interspersed with rockbags at a 1:3 batter. The CSP would be a maximum of 25 metres in length and provided with rock protection around the mitred pipe profile and culvert faces for reduced downstream flow velocities and long-term hydraulic stability. The CSP aid in providing a roughed surface for accumulation of natural bed material and would be embedded 600mm below the creek bed to facilitate fish passage. The height of the proposed culvert structure is designed to allow for overtopping during seasonal flow events.

The proposed temporary bypass would be accessed by a diversion of Cape tribulation Road, which would be wholly contained within the road reserve on the southern side of Noah Creek and would be located within the road reserve on the northern side of Noah Creek.

Proposal Plans are provided for reference as **Appendix E**.

4.3 Engineering Design Constraints

Given the size of the Noah Creek catchment and annual predicted rainfall, it is essential the temporary bypass be designed to ensure structure integrity, given that any failure would have serious consequences for both existing and proposed bridge works. On this basis that the bypass has been designed with a 1:3 gradient and be protected by a 1.25 metre layer of half tonne rock placed on geotextile fabric. The upstream and downstream culvert faces would be grouted with cement mortar to ensure long-term stability and durability. Downstream creek bed would be protected through provision of strategically placed rockbags.

Whilst it is noted that the Noah Creek bypass is temporary and located on a local Douglas Shire Council Road, the design has adopted key principles from the Department of Transport and Main Roads (TMR) guidelines to ensure safety, durability and performance.

Following pre-lodgement meeting on 22 August 2025, the proposed temporary bypass design has been amended to reflect comments made by technical agencies and are summarised as follows:

- The length of the corrugated steel pipes have been reduced by 5 metres to 25 metres; and
- The provision of geofabric material over the upstream rock bags to minimise fish ingress and avoid fish entrapment.

In addition, the Noah Creek temporary bypass deign incorporates the following key measures to facilitate fish passage:

- Embedding of pipes 600mm below the creek bed;
- Use of corrugated steel pipes to assist in accumulating and retain bed substrate;
- Bypass height to allow for overtopping during seasonal rainfall events;
- 1800mm diameter pipes to maximise pipe ingress and provide a greater aperture (subject to engineering constraints); and
- Provision of 1:3 batters and mitred pipe profiles to enhance hydraulic stability.

Detailed engineering advice with respect to the design constraints is provided for reference as **Appendix F**.

5 LEGISLATIVE REQUIREMENTS

5.1 Assessment Manager

In accordance with Schedule 8 of the *Planning Regulation 2017*, the assessment manager for this application is Douglas Shire Council.

5.2 Categories of Assessment

The table below summarises the categorising instruments and categories of assessment applicable to this application.

Table 4 Categories of Assessment

Aspect of development	Categorising instrument	Category of assessment
Development Permit for Operational Works	Douglas Shire Council Planning Scheme 2018, Table	Code Assessable
Waterway Barrier Works	Schedule 10, Part 6, Div 4, Subdivision 1, s12 Planning regulation 2017	Code Assessable

5.3 Referrals

In accordance with Schedule 10 of the *Planning Regulation 2017*, the follow referrals apply.

Table 5 Schedule 10 Referral Matters

Schedule 10	Referral topic and reason	Referral Agency
10.6.3.3.1	Operational work involving removal, destruction or damage of marine plants	SARA, DSDMIP
10.6.4.3.1	Operational work for waterway barrier works	SARA, DSDMIP
10.17.3.1	Operational work for tidal works or work in a coastal management district	SARA, DSDMIP

5.4 Public Notification

This application does not require public notification as it is subject to Code assessment only.

6 STATUTORY PLANNING ASSESSMENT

6.1 Overview

This section assesses the application against relevant assessment benchmarks.

As the application is subject to code assessment, the assessment benchmarks, and the matters the assessment manager must have regard to, are those identified in section 45(3) of the Planning Act 2016 and sections 26 and 27 of the Planning Regulation 2017.

As Douglas Shire Council is the assessment the relevant local authority categorising instrument is the Douglas Shire Council Planning Scheme 2018 (v1.0).

6.2 State and Regional Assessment Benchmarks

6.2.1 State Planning Policy

Section 26(2)(a)(ii) of the *Planning Regulation 2017* requires the assessment manager to assess the application against the assessment benchmarks stated in the State Planning Policy, Part E, to the extent Part E of the State Planning Policy is not identified as being appropriately integrated into planning scheme.

It is understood that the minister has identified that the State Planning Policy has been appropriately integrated into the Douglas Shire Council Planning Scheme 2018 (v1.0) and consequently no further assessment is required in this instance

6.2.2 Regional Plan

The *Planning Regulation 2017* at section 26(2)(a)(i) requires the assessment manager to assess the application against the assessment benchmarks stated in the regional plan, to the extent the Regional Plan is not identified as being appropriately integrated into the planning scheme.

The Minister has identified that the Douglas Shire Planning Scheme 2018, specifically the strategic framework, appropriately advances the Far North Queensland Regional Plan 2009-2031, as it applies in the planning scheme area, on that basis, no further assessment is required in this instance.

6.2.3 Development Assessment under Schedule 10 (SDAP)

Schedule 10 of the Planning Regulation 2017 identify the matters that the assessment manager and/or referral agency assessment must have regard to.

The State Development Assessment Provisions (SDAP) nominate applicable State Codes based on the referral triggers. The State Codes applicable to the proposal are identified in the table below.

Table 6 Relevant SDAP State Codes

Schedule 10	Referral Topic	State Code
10.6.4.3.1	Fisheries Assessable development under s 12	State code 18 – Constructing or raising waterway barrier works in fish habitats
10.17.3.1	Tidal works or work in a coastal management district Assessable development under s 28	State code 8 – Coastal development and tidal works

A detailed response to the State Codes is included in **Appendix G**.

The proposed development satisfies the relevant assessment benchmarks of the above SDAP codes.

7 CONCLUSION

RPS Consulting Pty Ltd has been engaged by Douglas Shire Council to seek a Development Permit for Operational Works (Waterway Barrier Works and Prescribed Tidal Works) to provide for the construction of a temporary culvert crossing of Noah Creek. The temporary bypass would facilitate crossing of Noah Creek by vehicles during the construction of a new bridge and subsequent demolition of the existing bridge over Noah Creek.

An existing road ford had been constructed approximately 15-20 metres upstream of the original bridge to support the movement of trucks and heavy vehicles whilst the bridge construction works are occurring. This road ford, however, presents significant ecological concerns, particular for aquatic species such as the Opal Cling Goby and the Daintree Rainbowfish, which could face local extinction due to barriers causing failed recruitment seasons.

In order for the approved bridge replacement works to occur, and to reduce ecological impacts, Council is proposing construction of a temporary 10-corrugated steel pipe culvert to facilitate passage of heavy machinery, particularly those exceeding 5 tonnes to access Cape Tribulation. The proposed temporary culvert crossing would be located approximately 10-20 metres to the east and upstream of the permanent bridge alignment and would be 25 metres in width and comprise culvert crossing over the watercourse. The temporary culvert crossing would remain in place for a period of nine (9) months whilst the new bridge is constructed and the existing Noah Creek bridge is removed.

The proposed bypass crossing would comprise 10 corrugates steel pipes (CSP) of 1.8m diameter, interspersed by 2 tonnes rock bags and covered with 4 tonne rock bags at a 1:3 batter. The CSP would be partially embedded in the bed of the creek and covered with a concrete base for a 4.25 metres wide road way. The culvert pipes would be 25 metres in length. The proposed temporary bypass would be accessed by a diversion of Cape tribulation Road, which would be contained within the southern and northern side of Noah Creek, before rejoining Cape Tribulation Road.

To facilitate the bypass crossing, an application for Operational Works (Waterway Barrier Works and Tidal Works is required. The application is subject to code assessment and is to be assessed against State Code 8 and State Code 18. An assessment of the proposal against the intents and code requirements of these codes indicates that the development satisfies the assessment benchmarks.

This report provides greater detail on the nature of the proposal and provides an assessment of the proposal against the intents and code requirements of relevant statutory planning documents. Technical issues associated with the proposal are addressed in appended technical reports.

Based on these assessments the proposal is recommended for approval subject to reasonable and relevant conditions.

Appendix A

DA Form

DA Form 1 – Development application details

Approved form (version 1.6 effective 2 August 2024) made under section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving code assessment or impact assessment**, except when applying for development involving only building work.

For a development application involving **building work only**, use *DA Form 2 – Building work details*.

For a development application involving **building work associated with any other type of assessable development (i.e. material change of use, operational work or reconfiguring a lot)**, use this form (*DA Form 1*) **and** parts 4 to 6 of *DA Form 2 – Building work details*.

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008.* For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

Note: *All terms used in this form have the meaning given under the Planning Act 2016, the Planning Regulation 2017, or the Development Assessment Rules (DA Rules).*

PART 1 – APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (*individual or company full name*)	Douglas Shire Council c/- RPS AAP Consulting Pty Ltd
Contact name *(only applicable for companies)*	Stacey Devaney - RPS
Postal address *(P.O. Box or street address)*	PO Box 81
Suburb	Cairns
State	QLD
Postcode	4870
Country	Australia
Contact number	(07) 4276 1033
Email address *(non-mandatory)*	stacey.devaney@rpsconsulting.com
Mobile number *(non-mandatory)*	
Fax number *(non-mandatory)*	
Applicant's reference number(s) *(if applicable)*	402031

1.1) Home-based business

☐ Personal details to remain private in accordance with section 264(6) of *Planning Act 2016*

2) Owner's consent

2.1) Is written consent of the owner required for this development application?

☐ Yes – the written consent of the owner(s) is attached to this development application
☒ No – proceed to 3)

PART 2 – LOCATION DETAILS

3) Location of the premises *(complete 3.1) or 3.2), and 3.3) as applicable)*

***Note**: Provide details below and attach a site plan for any or all premises part of the development application. For further information, see DA Forms Guide: Relevant plans.*

3.1) Street address and lot on plan

☐ Street address **AND** lot on plan (*all lots must be listed*), ***or***

☒ Street address **AND** lot on plan for an adjoining or adjacent property of the premises *(appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).*

a)	Unit No.	Street No.	Street Name and Type	Suburb
			Cape Tribulation Road	Thorntons Beach
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
	4873		Road Reserve and Noahs Creek	Douglas Shire Council
b)	Unit No.	Street No.	Street Name and Type	Suburb
			Cape Tribulation Road	Thorntons Beach
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
	4873	900	SP296959	Douglas Shire Council

3.2) Coordinates of premises *(appropriate for development in remote areas, over part of a lot or in water not adjoining or adjacent to land e.g. channel dredging in Moreton Bay)*

***Note**: Place each set of coordinates in a separate row.*

☐ Coordinates of premises by longitude and latitude

Longitude(s)	Latitude(s)	Datum	Local Government Area(s) *(if applicable)*
		☐ WGS84 ☐ GDA94 ☐ Other:	

☐ Coordinates of premises by easting and northing

Easting(s)	Northing(s)	Zone Ref.	Datum	Local Government Area(s) *(if applicable)*
		☐ 54 ☐ 55 ☐ 56	☐ WGS84 ☐ GDA94 ☐ Other:	

3.3) Additional premises

☐ Additional premises are relevant to this development application and the details of these premises have been attached in a schedule to this development application

☒ Not required

4) Identify any of the following that apply to the premises and provide any relevant details

☒ In or adjacent to a water body or watercourse or in or above an aquifer

Name of water body, watercourse or aquifer:	Noah Creek

☐ On strategic port land under the *Transport Infrastructure Act 1994*

Lot on plan description of strategic port land:	
Name of port authority for the lot:	

☒ In a tidal area

Name of local government for the tidal area *(if applicable)*:	Douglas Shire Council
Name of port authority for tidal area *(if applicable)*	Not applicable

☐ On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*	
Name of airport:	
☐ Listed on the Environmental Management Register (EMR) under the *Environmental Protection Act 1994*	
EMR site identification:	
☐ Listed on the Contaminated Land Register (CLR) under the *Environmental Protection Act 1994*	
CLR site identification:	

5) Are there any existing easements over the premises?

Note: Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see DA Forms Guide.

☐ Yes – All easement locations, types and dimensions are included in plans submitted with this development application

☒ No

PART 3 – DEVELOPMENT DETAILS

Section 1 – Aspects of development

6.1) Provide details about the first development aspect

a) What is the type of development? *(tick only one box)*

☐ Material change of use ☐ Reconfiguring a lot ☒ Operational work ☐ Building work

b) What is the approval type? *(tick only one box)*

☒ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval

c) What is the level of assessment?

☒ Code assessment ☐ Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots)*:

Operational Works for a temporary bypass crossing of Noah Creek

e) Relevant plans

***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms guide: Relevant plans.*

☒ Relevant plans of the proposed development are attached to the development application

6.2) Provide details about the second development aspect

a) What is the type of development? *(tick only one box)*

☐ Material change of use ☐ Reconfiguring a lot ☐ Operational work ☐ Building work

b) What is the approval type? *(tick only one box)*

☐ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval

c) What is the level of assessment?

☐ Code assessment ☐ Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots)*:

e) Relevant plans

***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*

☐ Relevant plans of the proposed development are attached to the development application

6.3) Additional aspects of development
☐ Additional aspects of development are relevant to this development application and the details for these aspects that would be required under Part 3 Section 1 of this form have been attached to this development application
☒ Not required
6.4) Is the application for State facilitated development?
☐ Yes - Has a notice of declaration been given by the Minister?
☒ No

Section 2 – Further development details

7) Does the proposed development application involve any of the following?	
Material change of use	☐ Yes – complete division 1 if assessable against a local planning instrument
Reconfiguring a lot	☐ Yes – complete division 2
Operational work	☒ Yes – complete division 3
Building work	☐ Yes – complete *DA Form 2 – Building work details*

Division 1 – Material change of use

***Note**: This division is only required to be completed if any part of the development application involves a material change of use assessable against a local planning instrument.*

8.1) Describe the proposed material change of use			
Provide a general description of the proposed use	Provide the planning scheme definition *(include each definition in a new row)*	Number of dwelling units *(if applicable)*	Gross floor area (m^2) *(if applicable)*

8.2) Does the proposed use involve the use of existing buildings on the premises?
☐ Yes
☐ No

8.3) Does the proposed development relate to temporary accepted development under the Planning Regulation?	
☐ Yes – provide details below or include details in a schedule to this development application	
☐ No	
Provide a general description of the temporary accepted development	Specify the stated period dates under the Planning Regulation

Division 2 – Reconfiguring a lot

***Note**: This division is only required to be completed if any part of the development application involves reconfiguring a lot.*

9.1) What is the total number of existing lots making up the premises?

9.2) What is the nature of the lot reconfiguration? *(tick all applicable boxes)*	
☐ Subdivision *(complete 10)*	☐ Dividing land into parts by agreement *(complete 11)*
☐ Boundary realignment *(complete 12)*	☐ Creating or changing an easement giving access to a lot from a constructed road *(complete 13)*

10) Subdivision				
10.1) For this development, how many lots are being created and what is the intended use of those lots:				
Intended use of lots created	Residential	Commercial	Industrial	Other, please specify:
Number of lots created				

10.2) Will the subdivision be staged?	
☐ Yes – provide additional details below ☐ No	
How many stages will the works include?	
What stage(s) will this development application apply to?	

11) Dividing land into parts by agreement – how many parts are being created and what is the intended use of the parts?				
Intended use of parts created	Residential	Commercial	Industrial	Other, please specify:
Number of parts created				

12) Boundary realignment			
12.1) What are the current and proposed areas for each lot comprising the premises?			
Current lot		Proposed lot	
Lot on plan description	Area (m^2)	Lot on plan description	Area (m^2)
12.2) What is the reason for the boundary realignment?			

13) What are the dimensions and nature of any existing easements being changed and/or any proposed easement? *(attach schedule if there are more than two easements)*				
Existing or proposed?	Width (m)	Length (m)	Purpose of the easement? *(e.g. pedestrian access)*	Identify the land/lot(s) benefitted by the easement

Division 3 – Operational work

***Note**: This division is only required to be completed if any part of the development application involves operational work.*

14.1) What is the nature of the operational work?		
☐ Road work	☐ Stormwater	☐ Water infrastructure
☐ Drainage work	☐ Earthworks	☐ Sewage infrastructure
☐ Landscaping	☐ Signage	☐ Clearing vegetation
☒ Other – please specify:	Waterway Barrier Works and Tidal Works	

14.2) Is the operational work necessary to facilitate the creation of new lots? *(e.g. subdivision)*	
☐ Yes – specify number of new lots:	
☒ No	

14.3) What is the monetary value of the proposed operational work? *(include GST, materials and labour)*

$ Not applicable

PART 4 – ASSESSMENT MANAGER DETAILS

15) Identify the assessment manager(s) who will be assessing this development application

Dougals Shire Council

16) Has the local government agreed to apply a superseded planning scheme for this development application?

☐ Yes – a copy of the decision notice is attached to this development application
☐ The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached
☒ No

PART 5 – REFERRAL DETAILS

17) Does this development application include any aspects that have any referral requirements?
***Note**: A development application will require referral if prescribed by the* Planning Regulation 2017.

☐ No, there are no referral requirements relevant to any development aspects identified in this development application – proceed to Part 6

Matters requiring referral to the **Chief Executive of the *Planning Act 2016***:

☐ Clearing native vegetation
☐ Contaminated land *(unexploded ordnance)*
☐ Environmentally relevant activities (ERA) *(only if the ERA has not been devolved to a local government)*
☐ Fisheries – aquaculture
☐ Fisheries – declared fish habitat area
☐ Fisheries – marine plants
☒ Fisheries – waterway barrier works
☐ Hazardous chemical facilities
☐ Heritage places – Queensland heritage place *(on or near a Queensland heritage place)*
☐ Infrastructure-related referrals – designated premises
☐ Infrastructure-related referrals – state transport infrastructure
☐ Infrastructure-related referrals – State transport corridor and future State transport corridor
☐ Infrastructure-related referrals – State-controlled transport tunnels and future state-controlled transport tunnels
☐ Infrastructure-related referrals – near a state-controlled road intersection
☐ Koala habitat in SEQ region – interfering with koala habitat in koala habitat areas outside koala priority areas
☐ Koala habitat in SEQ region – key resource areas
☐ Ports – Brisbane core port land – near a State transport corridor or future State transport corridor
☐ Ports – Brisbane core port land – environmentally relevant activity (ERA)
☐ Ports – Brisbane core port land – tidal works or work in a coastal management district
☐ Ports – Brisbane core port land – hazardous chemical facility
☐ Ports – Brisbane core port land – taking or interfering with water
☐ Ports – Brisbane core port land – referable dams
☐ Ports – Brisbane core port land – fisheries
☐ Ports – Land within Port of Brisbane's port limits *(below high-water mark)*
☐ SEQ development area
☐ SEQ regional landscape and rural production area or SEQ rural living area – tourist activity or sport and recreation activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – community activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – indoor recreation
☐ SEQ regional landscape and rural production area or SEQ rural living area – urban activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – combined use
☐ SEQ northern inter-urban break – tourist activity or sport and recreation activity

☐ SEQ northern inter-urban break – community activity
☐ SEQ northern inter-urban break – indoor recreation
☐ SEQ northern inter-urban break – urban activity
☐ SEQ northern inter-urban break – combined use
☒ Tidal works or works in a coastal management district
☐ Reconfiguring a lot in a coastal management district or for a canal
☐ Erosion prone area in a coastal management district
☐ Urban design
☐ Water-related development – taking or interfering with water
☐ Water-related development – removing quarry material *(from a watercourse or lake)*
☐ Water-related development – referable dams
☐ Water-related development –levees *(category 3 levees only)*
☐ Wetland protection area

Matters requiring referral to the **local government:**
☐ Airport land
☐ Environmentally relevant activities (ERA) (*only if the ERA has been devolved to local government)*
☐ Heritage places – Local heritage places

Matters requiring referral to the **Chief Executive of the distribution entity or transmission entity:**
☐ Infrastructure-related referrals – Electricity infrastructure

Matters requiring referral to:
- The **Chief Executive of the holder of the licence**, if not an individual
- The **holder of the licence**, if the holder of the licence is an individual

☐ Infrastructure-related referrals – Oil and gas infrastructure

Matters requiring referral to the **Brisbane City Council:**
☐ Ports – Brisbane core port land

Matters requiring referral to the **Minister responsible for administering the *Transport Infrastructure Act 1994*:**
☐ Ports – Brisbane core port land *(where inconsistent with the Brisbane port LUP for transport reasons)*
☐ Ports – Strategic port land

Matters requiring referral to the **relevant port operator**, if applicant is not port operator**:**
☐ Ports – Land within Port of Brisbane's port limits *(below high-water mark)*

Matters requiring referral to the **Chief Executive of the relevant port authority:**
☐ Ports – Land within limits of another port *(below high-water mark)*

Matters requiring referral to the **Gold Coast Waterways Authority:**
☐ Tidal works or work in a coastal management district *(in Gold Coast waters)*

Matters requiring referral to the **Queensland Fire and Emergency Service:**
☐ Tidal works or work in a coastal management district *(involving a marina (more than six vessel berths))*

18) Has any referral agency provided a referral response for this development application?

☐ Yes – referral response(s) received and listed below are attached to this development application
☒ No

Referral requirement	Referral agency	Date of referral response

Identify and describe any changes made to the proposed development application that was the subject of the referral response and this development application, or include details in a schedule to this development application *(if applicable).*

PART 6 – INFORMATION REQUEST

19) Information request under the DA Rules

☒ I agree to receive an information request if determined necessary for this development application

☐ I do not agree to accept an information request for this development application

***Note**: By not agreeing to accept an information request I, the applicant, acknowledge:*

- *that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties*
- *Part 3 under Chapter 1 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules or*
- *Part 2under Chapter 2 of the DA Rules will still apply if the application is for state facilitated development*

Further advice about information requests is contained in the DA Forms Guide.

PART 7 – FURTHER DETAILS

20) Are there any associated development applications or current approvals? *(e.g. a preliminary approval)*

☒ Yes – provide details below or include details in a schedule to this development application

☐ No

List of approval/development application references	Reference number	Date	Assessment manager
☒ Approval ☐ Development application	OP2020_3516/1	15 October 2020	Douglas Shire Council
☐ Approval ☒ Development application	OP2020_3516/1 – Minor Change	4 June 2025	Douglas Shire Council

21) Has the portable long service leave levy been paid? *(only applicable to development applications involving building work or operational work)*

☐ Yes – a copy of the receipted QLeave form is attached to this development application

☐ No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid

☒ Not applicable *(e.g. building and construction work is less than $150,000 excluding GST)*

Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
$		

22) Is this development application in response to a show cause notice or required as a result of an enforcement notice?

☐ Yes – show cause or enforcement notice is attached

☒ No

23) Further legislative requirements

Environmentally relevant activities

23.1) Is this development application also taken to be an application for an environmental authority for an **Environmentally Relevant Activity (ERA)** under section 115 of the *Environmental Protection Act 1994*?

☐ Yes – the required attachment (form ESR/2015/1791) for an application for an environmental authority accompanies this development application, and details are provided in the table below

☒ No

***Note**: Application for an environmental authority can be found by searching "ESR/2015/1791" as a search term at www.qld.gov.au. An ERA requires an environmental authority to operate. See www.business.qld.gov.au for further information.*

Proposed ERA number:		Proposed ERA threshold:	
Proposed ERA name:			

☐ Multiple ERAs are applicable to this development application and the details have been attached in a schedule to this development application.

Hazardous chemical facilities

23.2) Is this development application for a **hazardous chemical facility**?

☐ Yes – *Form 536: Notification of a facility exceeding 10% of schedule 15 threshold* is attached to this development application

☒ No

***Note**: See www.business.qld.gov.au for further information about hazardous chemical notifications.*

Clearing native vegetation

23.3) Does this development application involve **clearing native vegetation** that requires written confirmation that the chief executive of the *Vegetation Management Act 1999* is satisfied the clearing is for a relevant purpose under section 22A of the *Vegetation Management Act 1999*?

☐ Yes – this development application includes written confirmation from the chief executive of the *Vegetation Management Act 1999* (s22A determination)

☒ No

***Note**: 1. Where a development application for operational work or material change of use requires a s22A determination and this is not included, the development application is prohibited development.*

2. See https://www.qld.gov.au/environment/land/vegetation/applying for further information on how to obtain a s22A determination.

Environmental offsets

23.4) Is this development application taken to be a prescribed activity that may have a significant residual impact on a **prescribed environmental matter** under the *Environmental Offsets Act 2014*?

☐ Yes – I acknowledge that an environmental offset must be provided for any prescribed activity assessed as having a significant residual impact on a prescribed environmental matter

☒ No

***Note**: The environmental offset section of the Queensland Government's website can be accessed at www.qld.gov.au for further information on environmental offsets.*

Koala habitat in SEQ Region

23.5) Does this development application involve a material change of use, reconfiguring a lot or operational work which is assessable development under Schedule 10, Part 10 of the Planning Regulation 2017?

☐ Yes – the development application involves premises in the koala habitat area in the koala priority area

☐ Yes – the development application involves premises in the koala habitat area outside the koala priority area

☒ No

***Note**: If a koala habitat area determination has been obtained for this premises and is current over the land, it should be provided as part of this development application. See koala habitat area guidance materials at www.desi.qld.gov.au for further information.*

Water resources

23.6) Does this development application involve **taking or interfering with underground water through an artesian or subartesian bore, taking or interfering with water in a watercourse, lake or spring, or taking overland flow water under the *Water Act 2000***?

☐ Yes – the relevant template is completed and attached to this development application and I acknowledge that a relevant authorisation or licence under the *Water Act 2000* may be required prior to commencing development

☒ No

***Note**: Contact the Department of Resources at www.resources.qld.gov.au for further information.*

DA templates are available from planning.statedevelopment.qld.gov.au. If the development application involves:

- *Taking or interfering with underground water through an artesian or subartesian bore: complete DA Form 1 Template 1*
- *Taking or interfering with water in a watercourse, lake or spring: complete DA Form1 Template 2*
- *Taking overland flow water: complete DA Form 1 Template 3.*

Waterway barrier works

23.7) Does this application involve **waterway barrier works?**

☐ Yes – the relevant template is completed and attached to this development application

☒ No

DA templates are available from planning.statedevelopment.qld.gov.au. For a development application involving waterway barrier works, complete DA Form 1 Template 4.

Marine activities

23.8) Does this development application involve **aquaculture, works within a declared fish habitat area or removal, disturbance or destruction of marine plants?**

☐ Yes – an associated *resource* allocation authority is attached to this development application, if required under the *Fisheries Act 1994*

☒ No

***Note**: See guidance materials at www.daf.qld.gov.au for further information.*

Quarry materials from a watercourse or lake

23.9) Does this development application involve the **removal of quarry materials from a watercourse or lake** under the *Water Act 2000?*

☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

☒ No

***Note**: Contact the Department of Resources at www.resources.qld.gov.au and www.business.qld.gov.au for further information.*

Quarry materials from land under tidal waters

23.10) Does this development application involve the **removal of quarry materials from land under tidal water** under the *Coastal Protection and Management Act 1995?*

☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

☒ No

***Note**: Contact the Department of Environment, Science and Innovation at www.desi.qld.gov.au for further information.*

Referable dams

23.11) Does this development application involve a **referable dam** required to be failure impact assessed under section 343 of the *Water Supply (Safety and Reliability) Act 2008* (the Water Supply Act)?

☐ Yes – the 'Notice Accepting a Failure Impact Assessment' from the chief executive administering the Water Supply Act is attached to this development application

☒ No

***Note**: See guidance materials at www.resources.qld.gov.au for further information.*

Tidal work or development within a coastal management district

23.12) Does this development application involve **tidal work or development in a coastal management district**?

☐ Yes – the following is included with this development application:
- ☐ Evidence the proposal meets the code for assessable development that is prescribed tidal work *(only required if application involves prescribed tidal work)*
- ☐ A certificate of title

☒ No

***Note**: See guidance materials at www.desi.qld.gov.au for further information.*

Queensland and local heritage places

23.13) Does this development application propose development on or adjoining a place entered in the **Queensland heritage register** or on a place entered in a local government's **Local Heritage Register**?

☐ Yes – details of the heritage place are provided in the table below

☒ No

***Note**: See guidance materials at www.desi.qld.gov.au for information requirements regarding development of Queensland heritage places. For a heritage place that has cultural heritage significance as a local heritage place and a Queensland heritage place, provisions are in place under the Planning Act 2016 that limit a local categorising instrument from including an assessment benchmark about the effect or impact of, development on the stated cultural heritage significance of that place. See guidance materials at www.planning.statedevelopment.qldgov.au for information regarding assessment of Queensland heritage places.*

Name of the heritage place:		Place ID:	

Decision under section 62 of the *Transport Infrastructure Act 1994*

23.14) Does this development application involve new or changed access to a state-controlled road?

☐ Yes – this application will be taken to be an application for a decision under section 62 of the *Transport Infrastructure Act 1994* (subject to the conditions in section 75 of the *Transport Infrastructure Act 1994* being satisfied)

☒ No

Walkable neighbourhoods assessment benchmarks under Schedule 12A of the Planning Regulation

23.15) Does this development application involve reconfiguring a lot into 2 or more lots in certain residential zones (except rural residential zones), where at least one road is created or extended?

☐ Yes – Schedule 12A is applicable to the development application and the assessment benchmarks contained in schedule 12A have been considered

☒ No

***Note**: See guidance materials at www.planning.statedevelopment.qld.gov.au for further information.*

PART 8 – CHECKLIST AND APPLICANT DECLARATION

24) Development application checklist	
I have identified the assessment manager in question 15 and all relevant referral requirement(s) in question 17 ***Note**: See the Planning Regulation 2017 for referral requirements*	☒ Yes
If building work is associated with the proposed development, Parts 4 to 6 of *DA Form 2 – Building work details* have been completed and attached to this development application	☐ Yes ☒ Not applicable
Supporting information addressing any applicable assessment benchmarks is with the development application ***Note**: This is a mandatory requirement and includes any relevant templates under question 23, a planning report and any technical reports required by the relevant categorising instruments (e.g. local government planning schemes, State Planning Policy, State Development Assessment Provisions). For further information, see DA Forms Guide: Planning Report Template.*	☒ Yes
Relevant plans of the development are attached to this development application ***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*	☒ Yes
The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued *(see 21)*	☐ Yes ☒ Not applicable

25) Applicant declaration
☒ By making this development application, I declare that all information in this development application is true and correct ☒ Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the *Electronic Transactions Act 2001* ***Note**: It is unlawful to intentionally provide false or misleading information.*
Privacy – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any relevant referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website. Personal information will not be disclosed for a purpose unrelated to the *Planning Act 2016*, Planning Regulation 2017 and the DA Rules except where: • such disclosure is in accordance with the provisions about public access to documents contained in the *Planning Act 2016* and the Planning Regulation 2017, and the access rules made under the *Planning Act 2016* and Planning Regulation 2017; or • required by other legislation (including the *Right to Information Act 2009*); or • otherwise required by law. This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002.*

PART 9 – FOR COMPLETION OF THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY

Date received: | Reference number(s):

Notification of engagement of alternative assessment manager	
Prescribed assessment manager	
Name of chosen assessment manager	
Date chosen assessment manager engaged	
Contact number of chosen assessment manager	
Relevant licence number(s) of chosen assessment manager	

QLeave notification and payment *Note: For completion by assessment manager if applicable*			
Description of the work			
QLeave project number			
Amount paid ($)		Date paid (dd/mm/yy)	
Date receipted form sighted by assessment manager			
Name of officer who sighted the form			

Appendix B

State Assessment and Referral Agency Pre-lodgement Outcomes

Queensland Government

SARA reference: 2401-38521 SPL

15 April 2024

Douglas Shire Council C/- RECS Consulting Engineers & Building Design
PO Box 894
PORT DOUGLAS QLD 4877
peter@recs.net.au

Attention: Peter Dutaillis

Dear Mr Dutaillis

SARA Pre-lodgement advice - Cape Tribulation Road, Cape Tribulation (Noah Creek crossing)

I refer to the pre-lodgement meeting held on 4 April 2024 in which you sought advice from the State Assessment and Referral Agency (SARA) regarding the proposed development at the above address. This notice provides advice on aspects of the proposal that are of relevance to SARA.

SARA's understanding of the project

It is understood Douglas Shire Council are seeking to construct a temporary sidetrack crossing of Noah Creek to allow vehicles, particularly those exceeding 5 tonnes, to access Cape Tribulation following damage to the existing bridge caused by recent flooding.

The temporary crossing would remain in place for approximately 2 years while the existing bridge is replaced. An approval exists for the bridge replacement (SARA ref. 2003-16006 SRA) however the applicant has advised the bridge design may change slightly was a result of flood damage along the watercourse. Any changes to the bridge design may require a separate change application to be lodged, depending on the existing of the change.

Supporting information

The advice in this letter is based on the following documentation that was submitted with the pre-lodgement request or tabled at the pre-lodgement meeting.

Far North Queensland regional office
Ground Floor, Cnr Grafton and Hartley Street, Cairns
PO Box 2358, Cairns QLD 4870

Drawing/report title	Prepared by	Date
Site Plan – dwg no. SK1 Rev A	RECS Consulting Engineers and Building Designers	12/03/2024
G/A Plan – dwg no. SK2 Rev A	RECS Consulting Engineers and Building Designers	14/03/2024

Pre-lodgement meeting record

Meeting date	4 April 2024 @ 2pm
Meeting location	MS Teams
Meeting chair	Leanne Simpson
Meeting attendees	Refer to **Attachment 1**

Pre-lodgement advice

The following advice outlines the aspects of the proposal that are of relevance to SARA. This does not include matters relating to Wet Topics Management Authority or Queensland Parks and Wildlife Service jurisdictions, or cultural heritage matters that were also discussed at the pre-lodgement meeting. Advice on those matters will be provided under separate cover from Department of Environment, Science and Innovation (DESI).

SARA's jurisdiction and fees	
1.	The application will require referral to SARA under the following provisions of the Planning Regulation 2017 (the Regulation): • Schedule 10, Part 6, Division 4, Subdivision 3, Table 1, Item 1 – Operational works that is constructing or raising waterway barrier works o This will require a fee of $3,636 to be paid in accordance with Schedule 10, Part 6, Division 4, Subdivision 2, Table 1, Item 5(d) • Schedule 10, Part 17, Division 3, Table 1, Item 1 – Operational work that is tidal works or work in a coastal management district. o This will require a fee of $3,636 to be paid in accordance with Schedule 10, Part 17, Division 3, table 1, Item 8(e) The application may require referral to SARA under the following provisions of the Regulation: • Schedule 10, Part 6, Division 3, Subdivision 3, Table 1, Item 1 – Operational works involving marine plants (if triggered) o This will require a fee ranging from $3,636 - $14,538 to be paid in accordance with Schedule 10, Part 6, Division 3, Subdivision 2, Table 1, Item 5 (fee is dependent on extent of marine plant disturbance in m^2) The proposed development will not trigger technical assessment for high impact earthworks in a wetland protection trigger area as the development is classified as exempt under Schedule 7, Part 3, Section 9 of the Regulation as it is government support transport infrastructure and complies with Schedule 14 of the Regulation. *Note: A 50% fee refund is available for local government projects which involve the repair or replacement of flood damaged public infrastructure. This can be requested following lodgement and payment of full fees.*

Key matters and action items	
2.	**Waterway barrier works** The proposed works are located on a waterway according to the *Queensland waterways for waterway barrier works* mapping. The side track is deemed assessable development as the culvert structure will be in place for more than 180 days and therefore does not meet the specifications for temporary works under the accepted development requirements (ADR) for operational work that is the constructing or raising waterway barrier works. Therefore, this part of the works will require a development approval, to be assessed against SDAP State code 18: Constructing or raising waterway barrier works in fish habitats. It is critical that the temporary side track will provide adequate fish passage. Particular considerations are listed at **Attachment 2** to this advice. These considerations should be clearly shown and described in the relevant plans. Engaging a fish passage biologist to endorse the design is an option council may like to consider to streamline the assessment process. If any other temporary structures are required within the waterway to facilitate the construction of the bridge, they should be included within the development application. The SDAP Guideline for State Code 18 will assist in the preparation of a development application and responding to the relevant Performance Outcomes (POs) for assessable development impacting waterways. Particular attention should be paid to the following POs: • All development – Impacts on waterways - PO1 to PO3 • All development in general – PO4 to PO22 • Temporary waterway barrier works - PO34 to PO38.
3.	**Marine plants** As the site falls within a potentially tidally influenced area, council should undertake a marine plants survey. If marine plants are identified, impacts should be avoided where possible. For any unavoidable impacts, the design should ensure impacts are minimised to the greatest extent possible. Marine plants include: • any plant (a tidal plant, including marine algae) that usually grows on or adjacent to tidal lands whether it is living, dead, standing or fallen; or • any plant material on tidal land (up to the level of Highest Astronomical Tide (HAT)). • Plants such as mangroves, mangrove fern, saltcouch or samphire species are considered marine plants regardless of whether or not they are above or below the level of HAT. Marine plants do not include: • a plant that is prohibited matter or restricted matter under the *Biosecurity Act 2014*; or • a plant that is controlled biosecurity matter or regulated biosecurity matter under the *Biosecurity Act 2014*. Marine plant protection applies irrespective of the tenure (e.g. unallocated state land and all state tenured lands, including private freehold and leasehold lands) of the land on which the plant occurs, the time the plant has been growing at the location, or the degree of or purpose of the disturbance. Where assessment is triggered for marine plants, provide a response to the latest version of the SDAP State code 11: Removal, destruction or damage of marine plants identifying how the proposed development meets the relevant POs.

	Please refer to the State Development Assessment Provisions guideline, State code 11: Removal, destruction of damage of marine plants in responding to State code 11. The guideline contains information on how to respond to particular POs and outlines specific information requirements.
4.	**SDAP State code 8** Where the proposed development triggers tidal works, provide a response to the latest version of the SDAP State code 8 – Coastal development and tidal works in its entirety, identifying how the proposed development meets the relevant POs. Please refer to the Guideline: State Development Assessment Provisions, State code 8: Coastal development and tidal works in responding to State code 8. The guideline contains information on how to respond to particular POs and outlines specific information requirements. It should be noted that if the PO has no relevance to the proposed development a response of "not applicable" and a statement as to why it is not relevant is required. For this application, the following performance outcomes will require a particularly detailed response: **PO2** Development (other than coastal protection work) in the erosion prone area: 1. does not adversely impact coastal processes; and 2. ensures that the protection function of landforms and vegetation is maintained. **PO5** Development (other than coastal protection work) in the erosion prone area does not directly or indirectly increase the severity of coastal erosion either on or off the site. **PO13** Development: 1. maintains or enhances environmental values of receiving waters; 2. achieves the water quality objectives of Queensland waters; 3. avoids the release of prescribed water contaminants to tidal waters. *Note some of these matters may have been previously addressed under the original bridge development application. If so, this information can be resubmitted along with any relevant updates applicable to the causeway design.*
5.	**Matters of State Environmental Significance (MSES)** Following a preliminary investigation, the proposed works are appear to be within the following mapped MSES: • MSES protected area (estate) • MSES wildlife habitat (endangered or vulnerable) • MSES regulated vegetation (category B – endangered or of concern) • MSES regulated vegetation (category R) • MSES regulated vegetation (essential habitat) • MSES regulated vegetation (intersecting a watercourse) • MSES high ecological value waters (wetland) • MSES high ecological value waters (watercourse) To address PO17 of State code 8 it will need to be determined if there are any MSES on or adjacent to the proposed development site. Queensland Globe (https://qldglobe.information.qld.gov.au/) can be used to conduct a desktop analysis to identify any mapped MSES that exist on and near the proposed site/s. Where MSES are identified:

	• Provide a targeted assessment to ground-truth all MSES identified in the area of potential impact (direct and indirect); • Demonstrate how the development avoids adverse impacts on each MSES to the greatest extent practicable; • Once avoidance is considered, demonstrate how impacts on MSES have, or will be, minimised and/or mitigated to the greatest extent practicable; • Determine whether there will be a Significant Residual Impact on any MSES using the DSDILGP Significant Residual Impact Guideline. An assessment will need to be undertaken for each MSES; and • Identify the delivery of any potential offset as per PO17(3). *Note these matters may have been previously addressed under the original bridge development application. If so, this information can be resubmitted along with any relevant updates.*
6.	**Acid Sulphate Soils** Acid sulfate soils may be present at this location. The application must consider the risk of disturbing acid sulfate soils and include a statement about how the risk is intended to be managed. Issues regarding acid sulfate soils should be addressed when responding to SDAP State code 8, especially with regard to PO13. The Queensland Acid Sulfate Soil Technical Manual outlines relevant scientific information and guidelines for Acid Sulfate Soil Management available at Guidance materials for acid sulfate soils | Environment, land and water | Queensland Government (www.qld.gov.au)
7.	**Ancillary works** Plans of access tracks, work/staging pads, and other temporary works or infrastructure required to undertake the development should be clearly identified in the development application materials. The supply of construction management plans, environmental management plans, and rehabilitation plans may assist in the assessment of the application.
Lodgement material	
8.	It is recommended that the following information is submitted when referring the application to SARA: • DA form 1, including Template 4 (Waterway barrier works) • Landowner's consent • A full response to the relevant sections of SDAP State code 8: Coastal development and tidal works (if triggered) • A full response to the relevant sections of SDAP State code 18: Constructing or raising waterway barrier works in fish habitats • A full response to the relevant sections of SDAP State code 11: Removal, destruction or damage of marine plants (if triggered) • Relevant plans as per the DA Forms guide For waterway barrier works: • Relevant scaled, referenced and dated plans (able to be read to scale at A3 size) including: o a longitudinal section of the waterway from upstream to downstream showing the existing bed level of the waterway in relation to the proposed waterway barrier works o a cross-section of the waterway from bank to bank showing the existing bed and bank levels of the waterway in relation to the proposed waterway barrier works o the location of waterways and any tidal land within, and adjacent to, the site

	including natural bed level, high banks, main channel, low-flow channel and the following where relevant – levels of highest astronomical tide, mean high water spring tide, and low water spring tide o registered property boundaries o contours of the bed and banks of the waterway at the site and to at least 100 m upstream and downstream of the site • Written documentation including the following: o brief overview of the proposed works (e.g. a culvert crossing to provide access while permanent bridge is built) o a description of the waterway proposed to be impacted (e.g. condition, size, connectivity, general hydrology) and nature of the impact o a description of the work method (e.g. timing, equipment to be used) o a detailed description of how the development has been planned to avoid or minimise impacts to waterways through considerations such as design, location, setbacks/buffer distances, construction, maintenance o details of on-site mitigation actions, during and after the development o the extent of any future maintenance works required for the continued safe operation of the proposed structure or facility <u>For tidal works:</u> The application should include a detailed description of all proposed works and existing site conditions. In particular, the following should be provided: • Description of the land that has been developed, including the property address, tenure and real property description of the land. • Detailed description of all environmental values that may be directly or indirectly impacted by subject development • Description of the methodology, including: o all operational works on site and timeframes o staging of the development if applicable o measures employed to minimise impacts to the local receiving environment • Detailed and appropriately scaled drawings and/or plans which clearly identify the location of all works, including: o location of all built structures, or structures modified or demolished, as a result of the works o adjacent shoreline, sandbanks, structures, the limit of vegetation, and/or other principal features of the immediate area o relevant tidal planes (e.g. Highest Astronomical Tide, Mean High Water Springs) o the location and setting out details for cross-sections o detailed pre-works and post-works survey plans for the subject development area including cut/fill quantities of materials o any other information required to accurately define the area and to allow the site to be readily identified from the plan *Note: All plans/drawings should include title, date and numbering suitable to identify the plan and should be mapped to GDA2020 projection. Maps and plans should show all levels/planes in Australian Height Datum. Additionally, the supply of plans in a format that is compatible with Queensland Globe, may assist with assessment of the application.*

This advice outlines aspects of the proposed development that are relevant to SARA's jurisdiction. This advice is provided in good faith and is:

- based on the material and information provided to SARA
- current at the time of issue
- not applicable if the proposal is changed from that which formed the basis of this advice.

This advice does not constitute an approval or an endorsement that SARA supports the development proposal. Additional information may be required to allow SARA to properly assess the development proposal when a formal application has been lodged.

For further information please contact Leanne Simpson, Principal Planning Officer, on 07 5352 9707 or via email CairnsSARA@dsdilgp.qld.gov.au who will be pleased to assist.

Yours sincerely

Brett Nancarrow
Manager (Planning)

enc Attachment 1 – Pre-lodgement meeting attendance record
Attachment 2 – Particular considerations for waterway barrier works

Development details	
Proposal:	Operational work for: Waterway barrier works, Tidal works or work in a coastal management district, and Removal, destruction of marine plants (if triggered)
Street address:	Cape Tribulation Road, Cape Tribulation
Real property description:	Adjacent to Lot 20 on SP296959
SARA role:	Referral agency
Assessment Manager:	Douglas Shire Council
Assessment criteria:	State Development Assessment Provisions (SDAP): • State code 8 – Coastal development and tidal works • State code 11: Removal, destruction or damage of marine plants (if triggered) • State code 18 – Constructing or raising waterway barrier works in fish habitats
Existing use:	Noah Creek
Relevant site history:	Development permit for operational works (Bridge replacement) – approved by Douglas Shire Council 15/10/2020 – council ref. OP 2020_3516/1, SARA ref. 2003-16006 SRA

Attachment 1 — Pre-lodgement meeting attendance record

Meeting attendees:

Name	Position	Organisation
Leanne Simpson	Principal Planning Officer	SARA (FNQ region)
Rohan Wallace	Principal Environmental Officer	DESI (coastal assessment)
Nicole Nash	Assistant Principal Ranger	DESI (QPWS)
Angus McLeod	Senior Conservation Officer	DESI (Wet Tropics Management Authority)
Bruce Jennison	Principal Conservation Officer	DESI (Wet Tropics Management Authority)
Nick Smith	Manager	DESI (Cape York region)
James Giugni	Senior Fisheries Biologist	DAF (assessment)
Emily Gray	Fisheries Biologist	DAF (assessment)
Peter Dutaillis	Consultant Engineer	RECS Consulting Engineers & Building Design
Danny Gushtasbi & others	Engineer	Douglas Shire Council

Attachment 2 — Particular considerations for waterway barrier works

It is advised that the proposed sidetrack is designed to allow for fish passage for the duration of its existence in the waterway. It is recognised that this sidetrack is crucial for providing disaster provisions while the bridge is unable to hold heavy vehicles and provide access to Cape Tribulation while the new bridge is being built. However, the impact of the waterway barrier can be minimised by designing the culverts in a way that will allow for fish passage for the whole fish community. It will be necessary to respond to all relevant POs.

Impacts on waterway:

PO1: Provide evidence that demonstrates the proposed works will not have an adverse impact on the waterway.

PO2: Demonstrate the development is designed, constructed and maintained to avoid and minimise impacts on matters of state environmental significance. An application must demonstrate how impacts to waterways are avoided in the first instance. Where avoidance is not reasonably possible, it must be demonstrated how impacts to waterways have been managed and minimised.

PO5: Demonstrate that for the life of the barrier, adequate fish passage is provided and maintained:
Some key considerations to mitigate impacts to fish passage include:

- ensuring that there are no drops in elevation where the structure joins the natural bed level
- providing a combined culvert aperture that covers as much of the main channel width as possible
- designing the depth of cover above culvert obverts to the minimum required to deliver safe temporary access across the waterway
- minimising and providing suitable flow velocities (which may be influenced by the tidal prism) across the structure for all fish species present, with focus on velocities at the edges of the waterway, where fish are mostly expected to attempt passage
- incorporation of roughening elements
- providing indicative water levels of EY0.5, EY1, EY2, EY6flow events on the culvert plans is beneficial in the assessment of this PO.

PO8: Demonstrate that the drownout characteristics of the waterway barrier works will not cause unacceptable adverse impacts on fish passage. For assessment of the interim side track, it will be critical to understand the delay between the culverts reaching capacity and the entire structure drowning out. Drown out from a fish passage perspective refers to the point when the headwater and tailwater levels over the barrier are effectively equal. When that occurs, there is sufficient water depth across the barrier for the fish community and biomass to pass over the structure. The indicative water levels requested for assessment against PO5 should show when drown out occurs.

Temporary waterway barrier works:

PO34: The temporary waterway barrier works will exist only for a specified temporary period.
The development application must state the date(s) the temporary structure(s) will be removed from the waterway.

PO37: Temporary waterway barrier works are designed, constructed and maintained to allow for downstream movement during works, where required by species present. Certain fish species utilise both the sea and freshwater during their life cycle. It is important to ensure that all species, but particularly catadromous species whose life cycle depends on downstream movement, are able to move downstream.

Appendix C

Pre-lodgement Meeting Advice from Department of Primary Industries

From:	James Giugni
To:	Devaney, Stacey
Cc:	Anthony Westbury; Javier SAMANES; Kim Treers
Subject:	RE: 402031 - Noah Creek Bypass
Date:	Monday, 25 August 2025 4:54:19 PM
Attachments:	image001.png image002.png image003.png

OFFICIAL

Good afternoon Stacey,

Please excuse the length of this email. To summarise:

- Retrofitting a fish ramp to the causeway is probably not feasible due to site constraints.
- Modifications to the temporary bypass design, such as reducing culvert cell length, should be explored to improve fish passage.
- Application materials must justify the proposed design as the least-impact viable option and include realistic timeframes for project milestones.

Before delving into the details, I would like to outline our overarching position:

The Department of Primary Industries (DPI) recognises the critical importance of ensuring safe access across Noah Creek for the Cape Tribulation community, as well as for the tourists who play a vital role in supporting the local economy. The crossing at Noah Creek serves as a key nexus, providing the sole route for residents, visitors, and service providers to access the unique and remote areas further north.

Our objective is to work collaboratively, pragmatically, and proactively with Council to facilitate the timely construction of the replacement bridge. In the interim, I acknowledge the necessity of implementing a temporary solution, such as the causeway currently under consideration. I also acknowledge that there may be limited opportunities to amend the causeway design in a manner that would adequately address all of our fish passage concerns.

Nonetheless I would like to reiterate the importance of removing this waterway barrier as soon as possible, given its potential to significantly impact local fish populations, particularly diadromous species that rely on movement between tidal and freshwater environments to complete their life cycles.

Potential modifications to the temporary bypass design

During our teleconference last Friday, the principal modifications discussed were increasing the total culvert cell aperture and reducing the depth of cover over the

culverts. However, these options were effectively ruled out due to engineering concerns, as such changes would significantly compromise the resilience of the causeway.

One item raised late in the meeting was the culvert cell length, which is shown as 30 metres in the new design. This length appears excessive, given that the causeway itself is only 3.25 metres wide, with an additional 0.5-metre shoulder on each side. Long culvert cells contribute to fish passage restrictions. Could the project team investigate options to reduce the length of the pipes?

Potential fish ramp

Upon further consideration, I have concluded that retrofitting a fish passage remediation option to the causeway would provide limited benefit while incurring significant costs. As Chris Pyne highlighted during our meeting on Friday, the proximity of the causeway to the bridge makes it impossible to achieve a gradient gentle enough for the fish ramp to function effectively. While a gentle gradient could theoretically be achieved through switchbacks, we recognise that such a technical solution is neither realistic nor suitable for a temporary structure like the replacement causeway.

Approval pathway for temporary causeway

I understand that significant site and engineering constraints have influenced the current causeway design that, while suboptimal for fish passage, provides necessary and safe vehicular access. These constraints were explained during our teleconference, and I accept that there may be limited scope for substantial changes to improve fish passage performance (e.g., through additional pipes or reduced depth of cover).

Nonetheless, our role is to assess and provide recommendations on waterway barrier works in relation to their compliance with **State Code 18 of the SDAP**. Given the likelihood that the causeway will not provide adequate fish passage in many reasonably predictable hydrological scenarios, it is critical that the change application materials clearly articulate the site and engineering constraints. This will enable the Fisheries officer to assess whether the proposed design represents the least-impact viable option in terms of fish passage impacts.

Please ensure the application materials provide a robust justification for the design, demonstrating that the impacts, while not ideal, are reasonable and unavoidable given the constraints. Please also ensure that the application outlines a realistic timeframe for key project milestones, including the period during which the temporary causeway will remain in place and the expected opening date of the replacement bridge. Be advised that we will recommend conditions on any approval of the temporary causeway requiring the complete removal of the structure from the waterway and full rehabilitation of the site. Retaining the causeway as an alternative four-wheel drive access point would not be acceptable. Site restoration is critical to

supporting the recovery of local populations, particularly in mitigating the impacts of any failed recruitment seasons.

Next steps

Kim and I are planning to visit Noah Creek for a site inspection in the coming weeks. These inspections are always helpful for understanding developments on the ground, and in a complex situation like this, they're especially important. I understand that RPS will be working with SARA to identify the most suitable assessment pathway, whether through a change application or another process. Once we've completed the site inspection and have the updated application materials, we'll continue with our assessment. Our goal remains to take a practical approach and achieve an outcome that works for both human and fish populations in the Daintree.

Best regards

James Giugni
Senior Fisheries Biologist, Impact Assessment and Management
Fisheries Queensland
Department of Primary Industries
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GPO Box 46, BRISBANE QLD 4000

From: Devaney, Stacey <Stacey.Devaney@rpsconsulting.com>
Sent: Friday, 22 August 2025 12:49 PM
To: James Giugni
Cc: Anthony Westbury; Javier SAMANES
Subject: 402031 - Noah Creek Bypass

Hi James,

Thanks for your time in the meeting. There was very valuable advice from you and Kim.

Whilst potential modifications to the temporary bypass design are further explored, the applicant is

focused on implementing a potential fish ramp. Can you please provide drawing/plans, photos etc of fish ramp solution for review?

thanks

Stacey Devaney
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Appendix D

Flora Survey

FLORA SURVEY – NOAH'S CREEK BRIDGE

AU213015989
29 May 2024

rpsgroup.com

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
0	Flora Survey	Andrew J. Ford	L. Honey	L. Honey	29 May 2024

Approval for issue

Megan Davis		29 May 2024

Prepared by:

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1 INTRODUCTION

The Noah Creek bridge and associated run-on approaches of the sections of road were damaged during the, now infamous, Cyclone Jasper rain event in December 2023. This event led to catastrophic flooding and significant landslips in the Bloomfield River to Daintree River area. Areas north and south of these rivers were not spared either, although the focus of this report is in the Cape Tribulation area at Noah Creek. This creek is world renowned due to a combination of extreme localised plant endemicity, overall biodiversity and abundant ancient angiosperm lineages.

The Noah Creek bridge and adjacent areas are being re-developed, with existing remnant vegetation being impacted. Due to above mentioned botanical values of the area, flora surveys were conducted to determine which Matters of National or State Environmental Significance will be affected by the proposed bridge footprint.

"I certify that:

a. I have adhered to all statutory requirements and flora survey guideline requirements; and

b. In the area surveyed I have found plants (as detailed in this report) that are currently listed as extinct, extinct in the wild, critically endangered, endangered, vulnerable or near threatened in the Nature Conservation (Plants) Regulation 2020; and

c. The flora survey report is an accurate and full account of the flora survey."

Signed: **Andrew James Ford, 28 May 2024.**

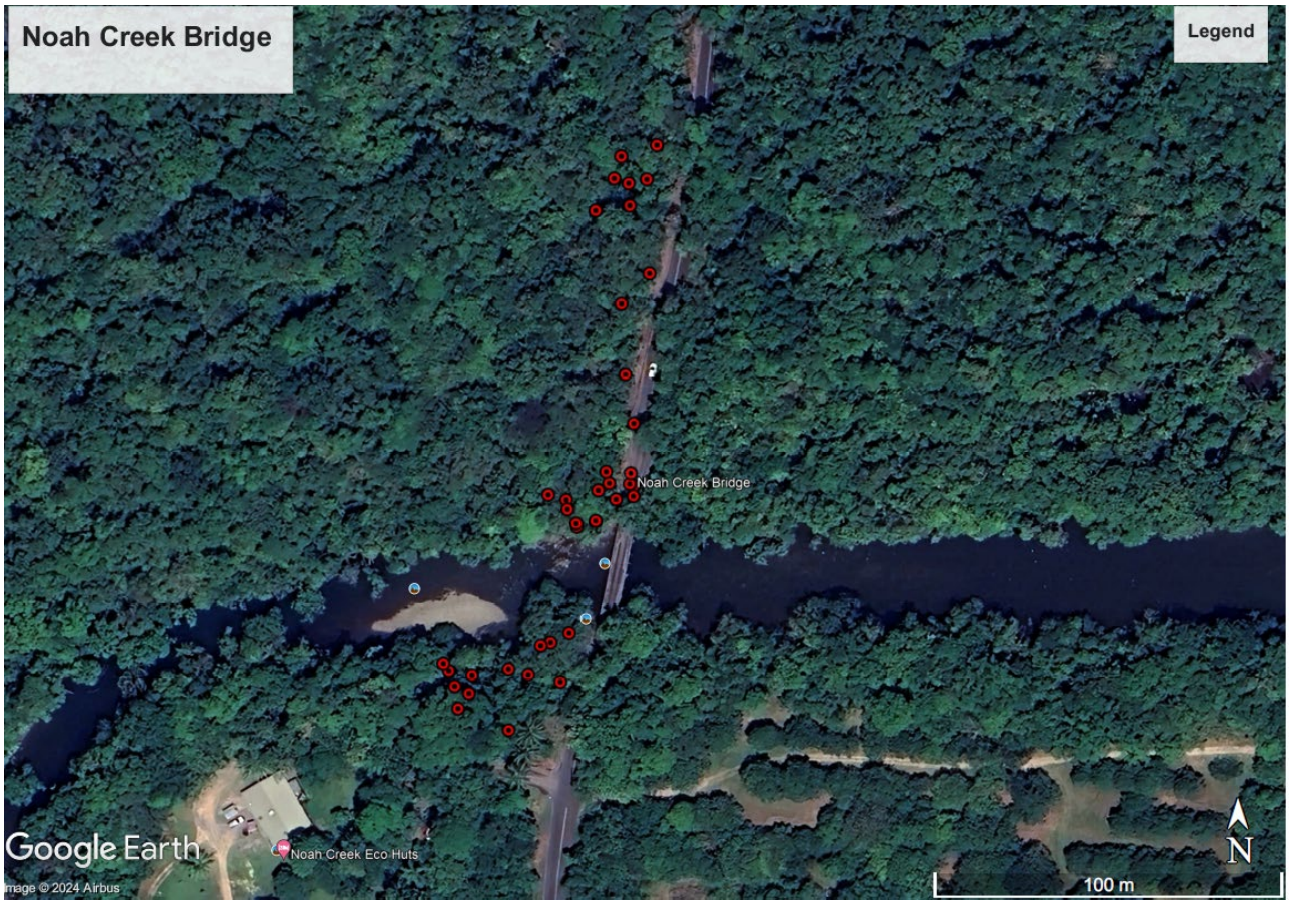
2 METHOD

On the 24th of May 2024, the area to be affected was traversed by:

- Liam Honey - Ecologist – RPS Group
- Andrew Ford – Botanist – RPS Group Subcontractor

C.V's attached, refer to **Appendix A**

The area of vegetation to be impacted was investigated after consultation and instruction with Peter Dutaillis – Principal Engineer at RECS Consulting Engineers & Building Design. Although this is a specific protected plant survey, it was not practical to undertake a similar search in the (100m) buffer zone, as is usually the case (see https://www.des.qld.gov.au/policies?a=272936:policy_registry/gl-wl-pp-flora-survey.pdf Accessed 27 May 2024). Two meanders were carried out, north and south of the bridge. Andrew Ford and Liam Honey searched for Matters of National and State Environmental Significance. Each individual Matter was recorded with a GPS and orange flagging tape. Andrew Ford recorded these Matters and are shown in Map 1 as waypoints, listed in Appendix 1. All photos from Andrew Ford.



Map 1. Location of MSES and MNES plant species waypoints (red circles) over Google Earth Imagery (2023) adjacent to the Noah Creek bridge within the proposed impact area.

3 FINDINGS

The results of the traverse and careful search of the proposed impact area at the Noah Creek bridge exposed several matters of National or State Environmental Significance. A total of **SEVEN** angiosperm species were recorded (Table 1) from a total of 40 waypoints throughout the whole area (Map 1), spanning about 160m in length on both sides of Noah Creek. A Wildnet search revealed a staggering potential 77 species within a 10km radius of the Noah Creek bridge. The rationale for their occurrence or non-occurrence during the assessment is given in Table 3.

The most abundant of these species by waypoint is *Euodia hylandii* (Fig 1) (Near Threatened in QLD *Nature Conservation Act 1992*). However, there are hundreds of seedlings from a very large canopy tree of *Endiandra microneura* (Near Threatened in QLD *Nature Conservation Act 1992*), which were recorded as large clusters rather than individually.

The size and reproductive state or potential reproductive state of all 40 observations are presented in Table 2 below. The majority of *Euodia hylandii* were either flowering or fruiting, whereas old fruits were visible on *Noahdendron nicholasii,* whilst there were sparse flowers on *Samadera baileyana* (Fig 4). None of the other four species were presenting as fertile at the time of visit.

Figure 1. Flowering Euodia hylandii (Near Threatened QLD *Nature Conservation Act 1992*).

One species, *Heliodendron xanthoxylon* (Fig 2), was only represented as two seedlings in the search area. Both individuals were less than 50cm high. The spectacular local and Noah Creek endemic, *Noahdendron nicholasii,* was represented by a single mature multistemmed tree with stunning new growth (Fig 3).

Figure 2. Tagged seedling of *Heliodendron xanthoxylon.*

Figure 3. Coppice leaves from *Noahdendron nicholasii.*

Table 1. Conservation Status of plant species seen in the Noah Creek impact area at both State (MSES) and National (MNES) level. (NT=Near Threatened, E=Endangered)

Family	Botanical Name	MSES	MNES
Achariaceae	Ryparosa kurrangii	NT	N/A
Hamamelidaceae	Noahdendron nicholasii	E	N/A
Lauraceae	Endiandra microneura	NT	N/A
Leguminosae	Heliodendron xanthoxylon	NT	N/A
Myrtaceae	Rhodamnia sessiliflora	E	N/A
Rutaceae	Euodia hylandii	NT	N/A
Simaroubaceae	Samadera baileyana	NT	N/A

EPBC Threatened Ecological Communities.

There is one potential threatened community (http://www.environment.gov.au/cgi-bin/sprat/public/publiclookupcommunities.pl; accessed 27 May 2024) in the Noah Creek area. The Regional Ecosystem which covers the full extent of the impacted area is mapped as 7.3.17, and is recognised as having a "Strong Strength of Association" (see Table 16 of the Approved Conservation Advice for: Lowland Tropical Rainforest of the Wet Tropics) towards the Endangered Lowland Tropical Rainforest Ecological Community. At this location (Figure 5) the RE would be considered to possess the critical attributes to be included in the community. However, it should be stated that although it may have the correct ecological attributes, the floristic association at this site would indicate quite a different RE. The ground-truthing would suggest it is actually something akin to 7.11.1a, having a significant amount of metamorphic rock on the soil surface and within the creek profile. This RE is still a component of the Threatened Ecological Community. RE 7.11.1a is mapped a little distance west of the impact area.

Figure 4. Flowering Samadera baileyana (Near Threatened QLD *Nature Conservation Act 1992*).

3.1 Vegetation Description

The impacted area is best described as mesophyll rainforest on metamorphics with an alluvial influence. There is a fringing component along the creek, where *Xanthostemon chrysanthus* (Golden Penda) is conspicuous in the T1 and T2 layers .

Canopy (T1): 22-30m; *Sloanea langii, Musgravea heterophylla, Endianda microneura, Acacia celsa, Flindersia bourjotiana, Lindsayomyrtus racemoides, Ficus virgata* and *Dysoxylum pettigrewianum.*

Subcanopy (T2): 14-18m; *Gomphandra australiana, Syzygium monospermum, Syzygium unipunctatum, Elaeocarpus bancroftii, Aceratium megalospermum, Synima cordierorum, Flindersia bourjotiana, Neorites kevediana, Jagera madida* and *Ficus variegata.*

Small trees (T3): 3-10m; *Euodia hylandii, Fagraea cambagei, Medicosma fareana, Medicosma sessiliflora, Polyscias australiana, Endiandra hypotephra, Rhodamnia sessiliflora, Gossia myrsinocarpa, Cyclophyllum protractum, Noahdendron nicholasii* and *Choriceras majus.*

Shrubs (S1): 1-3m; *Euodia hylandii, Medicosma sessiliflora, Phyllanthus hypospodius, Hedraianthera porphyropetala, Harpullia rhyticarpa, Bowenia spectabilis, Psychotria dallachiana* and *Hypsophila dielsiana.*

Figure 5. RE 7.11.1a (mapped as 7.3.17) at Noah Creek. Note the orange tags, which illustrate the density of species with conservation status (five tags are visible).

Table 2. Contextual summary for MNES and MSES Flora Species encountered at Noah Creek.

Waypoint	Species	Height, dbh	Count	Reproductive Status.
001	*Euodia hylandii*	2m; <2cm		Mature, flowering.
002	*Euodia hylandii*	1m; <1cm		Immature.
003	*Heliodendron xanthoxylon*	0.4m; <1cm		Seedling.
004	*Euodia hylandii*	1m; <1cm		Immature.
005	*Euodia hylandii*	3m; 3cm		Mature, flowering.
006	*Euodia hylandii*	<1m; <1cm	12	Immature
007	*Noahdendron nicholasii*	9m; 13cm		Mature, old fruit.
008	*Euodia hylandii*	7m; 6cm		Mature, fruiting.
009	*Euodia hylandii*	5m; 5cm		Mature, sterile.
010	*Rhodamnia sessiliflora*	7m; 5cm		Mature, sterile.
011	*Euodia hylandii*	5m; 5cm		Mature, flowering.
012	*Euodia hylandii*	4m; 4cm		Mature, sterile.
013	*Heliodendron xanthoxylon*	0.4m; <1cm		Seedling.
014	*Euodia hylandii*	11m; 8cm		Mature, sterile.
015	*Euodia hylandii*	3m; 2cm		Mature, buds.
016	*Endiandra microneura*	2m; <2cm		Seedling
017	*Euodia hylandii*	4m; 3cm		Mature, sterile.
018	*Euodia hylandii*	1m; <2cm	3	Immature
019	*Euodia hylandii*	2m; <2cm		Immature.
020	*Endiandra microneura*	3m; <2cm		Immature
021	*Euodia hylandii*	4m; 3cm		Mature, sterile.
022	*Endiandra microneura*	1m; <2cm		Seedling.
023	*Euodia hylandii*	<2m; <2cm	15	Immature.
024	*Samadera baileyana*	3m; 3cm		Mature, sterile.
025	*Euodia hylandii*	4m; 3cm		Mature, flowering.
026	*Euodia hylandii*	4m; 3cm		Mature, flowering.
027	*Ryparosa kurrangii*	5m; 5cm		Mature, sterile.
028	*Rhodamnia sessiliflora*	<2m; <2cm		Immature.
029	*Euodia hylandii*	<2m; <2cm		Immature.
030	*Endiandra microneura*	<1m; <1cm		Seedling.
031	*Endiandra microneura*	<1m; <1cm		Seedling.
032	*Endiandra microneura*	<2m; <2cm		Seedling.
033	*Endiandra microneura*	<2m; <2cm	3	Seedling.
034	*Endiandra microneura*	3m; 2cm	2	Immature.
035	*Endiandra microneura*	5m; 3cm		Immature.
036	*Endiandra microneura*	<2m; <2cm	21	Seedlings.
037	*Rhodamnia sessiliflora*	2m; 2cm		Immature.
038	*Endiandra microneura*	<1m; <1cm	c.300	Seedlings

039	*Endiandra microneura*	30m; 70cm		Mature, sterile.
040	*Endiandra microneura*	<2m; <2cm	10	Seedlings.

Table 3. Summary findings for potential and actual MNES and MSES Flora Species from Wildnet Search at Noah Creek. (https://www.qld.gov.au/environment/plants-animals/species-information/wildnet)

Species	MSES	MNES	Presence	Rationale
Acronychia acuminata	NT		Absent	Unsuitable habitat.
Aphyllorchis anomala	NT		Absent	Depauperate suitable habitat.
Archidendron kanisii	V		Absent	Suitable habitat. Occurs nearby.
Argophyllum cryptophlebum	NT		Absent	Unsuitable habitat. Mountains.
Argophyllum iridescens	V		Absent	Unsuitable habitat. Mountains.
Austromuellera trinervia	NT		Absent	Suitable habitat. Occurs nearby.
Beilschmiedia castrisinensis	NT		Absent	Suitable habitat. Occurs nearby.
Bubbia queenslandiana subsp. queenslandiana	E		Absent	Unsuitable habitat. Mountains.
Bubbia whiteana	CR		Absent	Unsuitable habitat. Thornton Range.
Buckinghamia ferruginiflora	V		Absent	Suitable habitat. Occurs nearby.
Carronia pedicellata	E	E	Absent	Depauperate suitable habitat.
Ceratopetalum corymbosum	V		Absent	Unsuitable habitat. Thornton Range.
Ceratopetalum macrophyllum	NT		Absent	Suitable habitat. Occurs nearby.
Citrus inodora	V		Absent	Unsuitable habitat.
Dendrobium mirbelianum	E	E	Absent	Unsuitable habitat. Mangroves.
Dendrobium nindii	E	E	Absent	Suitable habitat.
Dioclea hexandra	E		Absent	Suitable habitat. Occurs nearby.
Dissiliaria tuckeri	V		Absent	Suitable habitat. Occurs nearby.
Drosera prolifera	V	V	Absent	Unsuitable habitat.
Eidothea zoexylocarya	V		Absent	Unsuitable habitat. Mountains.
Elaeocarpus thelmae	V		Absent	Unsuitable habitat. Mountains.
Endiandra cooperana	E	E	Absent	Suitable habitat. Cooper Creek only.
Endiandra grayi	V		Absent	Suitable habitat. Occurs nearby.
Endiandra microneura	NT		PRESENT	Common in area.
Endiandra phaeocarpa	V		Absent	Unsuitable habitat. Mountains.
Euodia hylandii	NT		PRESENT	Common in area.
Euodia pubifolia	E		Absent	Suitable habitat. Occurs nearby.
Freycinetia percostata	V		Absent	Suitable habitat. Occurs nearby.
Gardenia actinocarpa	E	E	Absent	Suitable habitat. Occurs nearby.
Glochidion pruinosum	E		Absent	Unsuitable habitat. Thornton Range.
Gymnostoma australianum	V		Absent	Depauperate suitable habitat. Nearby.
Hedyotis novoguineensis	E		Absent	Unsuitable habitat.
Helicia grayi	V		Absent	Unsuitable habitat. Mountains.
Helicia lewisensis	V		Absent	Unsuitable habitat. Mountains.
Heliodendron xanthoxylon	NT		PRESENT	Uncommon seedlings only.
Hemmantia webbii	V		Absent	Unsuitable habitat. Mt Hemmant.

Hollandaea riparia	V		Absent	Unsuitable habitat. Roaring Meg Ck.
Hymenasplenium wildii	V	V	Absent	Unsuitable habitat.
Hymenophyllum kerianum	V		Absent	Depauperate suitable habitat. Nearby.
Hymenophyllum pallidum	NT		Absent	Unsuitable habitat.
Hymenophyllum whitei	CR	EX	Absent	Unsuitable habitat. Thornton Range.
Isachne sharpii	E		Absent	Suitable habitat. Occurs nearby.
Kayea larnachiana	V		Absent	Suitable habitat. Occurs nearby.
Lepiderema hirsuta	NT		Absent	Suitable habitat. Occurs nearby.
Lindsaea terrae-reginae	E		Absent	Unsuitable habitat. Mountains.
Medicosma glandulosa	NT		Absent	Unsuitable habitat. Mountains.
Megahertzia amplexicaulis	NT		Absent	Suitable habitat. Occurs nearby.
Mischocarpus albescens	NT		Absent	Unsuitable habitat.
Myrmecodia beccarii	V	V	Absent	Unsuitable habitat.
Noahdendron nicholasii	E		PRESENT	Uncommon
Oreogrammitis reinwardtii	V	V	Absent	Unsuitable habitat. Mountains.
Paramapania parvibractea	V		Absent	Depauperate suitable habitat. Nearby.
Phaleria biflora	V	V	Absent	Unsuitable habitat. Mountains.
Phlegmariurus phlegmarioides	V		Absent	Suitable habitat. Occurs nearby.
Phyllanthus brassii	V		Absent	Unsuitable habitat. Mountains.
Randia audasii	NT		Absent	Suitable habitat. Occurs nearby.
Rhodamnia sessiliflora	E		PRESENT	Occasional. Myrtle Rust seen.
Rhodomyrtus effusa	E		Absent	Depauperate suitable habitat. Nearby.
Romnalda ophiopogonoides	E		Absent	Depauperate suitable habitat. Nearby.
Ryparosa kurrangii	NT		PRESENT	Uncommon.
Samadera baileyana	NT		PRESENT	Occasional.
Sarcopteryx montana	NT		Absent	Unsuitable habitat. Mountains.
Stenocarpus cryptocarpus	NT		Absent	Suitable habitat. Occurs nearby.
Stenocarpus davallioides	V		Absent	Unsuitable habitat. Mountains.
Strongylodon lucidus	NT		Absent	Suitable habitat. Occurs nearby.
Symplocos ampulliformis	NT		Absent	Unsuitable habitat. Mountains.
Symplocos oresbia	NT		Absent	Unsuitable habitat. Mountains.
Syzygium glenum	E		Absent	Unsuitable habitat. Cooper Creek.
Trachymene geraniifolia	NT		Absent	Unsuitable habitat. Mountains.
Tristellateia australasiae	NT		Absent	Unsuitable habitat. Sandy areas.
Wendlandia connata	NT		Absent	Unsuitable habitat. Mountains.
Wilkiea sp. (McDowall Range J.G.Tracey 14552)	NT		Absent	Unsuitable habitat. Mountains.
Xanthophyllum fragrans	NT		Absent	Suitable habitat. Occurs nearby.
Xanthostemon formosus	E	E	Absent	Unsuitable habitat. Cooper Creek.
Xanthostemon graniticus	V		Absent	Unsuitable habitat. Mountains.
Zieria madida	CR		Absent	Unsuitable habitat. Thornton Range.

Figure 6. Noah Creek bridge impact area, north-west bank which is marked for clearing.

Appendix A Curriculum Vitae

Liam Honey

Role at RPS
Senior Environmental Consultant/ Ecologist

Location
Cairns, QLD, Australia

Qualifications
B.Sc. (Hons) Natural History, Ecology and Conservation

National Certificate in Animal Science, Behaviour and Care

Rainforest Plant Identification (Queensland Herbarium)

Certifications
White Card

4WD Certified

Venomous Snake Handling Licence

First Aid Trained

Standard 11 Generic Induction

Driver's Authorisation

QLD Driver's Licence

Heavy Vehicle Licence

Padi Dive Master

Member of Environment Institute of Australia and New Zealand

Why Liam for this role

Liam has over 6 years' experience working within the environmental field and is a highly motivated ecologist with strong skills in the field. He has conducted numerous flora and fauna surveys and habitat assessments in North Queensland, particularly in areas of development and rehabilitation.

Work on various construction projects has involved rescuing and relocating any injured or displaced fauna which have been impacted during clearing works.

Previous projects include water and air quality monitoring, erosion and sediment control, protected plant relocation, and monitoring populations of vulnerable wildlife.

For his Honours research Liam studied the ecology and temporal distribution and abundance of three caiman species in Pacaya-Samiria National Reserve, Peru. He was also involved with monitoring fish, bird, amphibian and primate diversity, abundance, and health within the same National Reserve.

Past experience includes, educating tourists on the ecology and natural history of Far North Queensland's tropical Daintree rainforest, and underwater photography on the Great Barrier Reef. Liam would provide background ecology and species identification for short marine documentaries, and document coral restoration projects.

Relevant projects

Flora Surveys, Horn Island, 2023

Liam led a protected plant survey and assessed the presence of marine plants at a site dominated by remnant vegetation, prior to construction activities on Horn Island. All Special Least Concern flora and Threatened flora were documented and a report with recommendations to assist with a development application was provided to the client.

Flora Surveys, Lugger Bay, 2023

Prior to commencing construction activities, Liam conducted flora surveys to evaluate the effects of invasive plant species on a partially cleared site. Any EVNT species were documented, and an evaluation was made to determine the regrowth needed for the native vegetation to align with its original Regional Ecosystems. This assessment was conducted in order to meet the Development Approval requirements for the site.

Flora and Fauna Surveys, Abbot Point 2022 – current

Liam carried out fauna and flora surveys with marine and protected plant surveys along a proposed water pipeline relocation. The purpose is to assess the impact of the proposed removal of the pipeline from its current location and the potential impact it will have in its new location. Water quality was also tested to assess impact from production works of the site.

Eimeo Aquaculture, 2023 – current

RPS were engaged by Eimeo Aquaculture to undertake a site assessment to determine the rehabilitation status of a previously operated prawn farm. Liam carried out fauna and flora surveys to identify any EVNT species. Following a site assessment Liam provided opinions on the status of rehabilitation and advice for continued rehabilitation, to meet the requirements from the Department of Environment and Science, to enable the landholder to surrender the lease.

Boral Quarries, Redlynch, Cairns, 2021 – current

Boral Quarries produces a range of materials based upon stone and rock. Suitable rock is extracted to make construction aggregates such as crushed rock, sand or gravel. With the expansion of the Redlynch quarry in to World Heritage listed rain forest Liam was required to provided pre-clearing flora and fauna surveys for threatened plants and animals with an assessment of potential habitat within the proposed expansion site. Liam also provided fauna spotter catcher services whilst clearing was carried out.

Protected plant surveys and relocation, Palm Cove, 2020

Locating and identifying a species of ant plant (*Myrmecodia beccarii*) listed as Vulnerable under the *Nature Conservation Act 1992* and under the *Environment Protection and Biodiversity Conservation Act 1999*. Once identified, plants were relocated to a suitable section not marked for clearing. A specific approach was utilized during the plant relocation process, which focused on preserving ant populations within the plants and transferring them to a comparable location on a suitable tree, considering factors such as height and orientation.

Relevant Work Experience

Ecologist – *Biosphere Environmental Consultants*
2022

Key responsibilities

- Pre-clearance surveys - habitat assessment and fauna and flora identification.
- Invasive plant surveys/pest control management.
- Flora surveys focusing on locating and identifying threatened plant species.
- Report writing and data entry.

Ecologist – *Wild Environmental*
2020-2021

Key responsibilities

- Working to mitigate the impact of vegetation clearing on native animals, including rescuing and relocating any injured or displaced animals, which may be impacted during construction works.
- Identifying flora and fauna, and habitat assessment.
- Working on construction sites and mine leases in remote locations.

Undergraduate Ecologist - *Operation Wallacea Conservation Organisation*
2011

Key responsibilities

- Working with senior ecologists to conduct both terrestrial and aquatic transects, to measure species abundance and distribution within different sections of Pacaya-Samiria National Reserve, Peru.
- Conducting flora surveys to identify the presence of EVNT species and their locations.

RESUME

Personal Particulars

Name	:	Andrew James **Ford**
Date of Birth	:	10 July 1967
Address	:	PO Box 436 Tolga QLD 4882
Phone	:	Mob 0448150955
Email	:	andrewjford319@gmail.com

Educational Background

Secondary Education	:	Higher School Certificate (HSC) 1980 – 1985 Kandos High School NSW
Tertiary Education	:	Bachelor of Science (B.Sc) 1986 – 1989 University of New England

Recent Work Positions

#1994-2000. CSIRO, Plant Industry. Tropical Forest Research Centre, Atherton QLD
*manage, curate and expand QRS through specimen accessions, database verification and nomenclatural changes. (123,000 sheets).
*provide an identification service for researchers and the public.
*supervise specimen access and help to visiting scientists, including provision of database print outs, duplicate extraction, species localities, access to pickle collection and specimen identification.
*Australian Tropical Rain Forest Trees, Shrubs and Vines (1998) code specimens, record morphological features, verify and clean distribution maps, proof reading and image verification.

#2000 - 2021. CSIRO, Land and Water. Tropical Forest Research Centre, Atherton, QLD.
*identify gaps in rainforest data and complete extensive field work sites within the Wet Tropics. Sites are selected according to environmental layers. Specimens are identified in the field, with noteworthy, scheduled species (Nature Conservation Act) and range extensions sent to BRI/CNS. Use Regional Ecosystems as a basis for surveys. Undertake and design surveys in remote areas using foot and helicopter access.
*Attend various meetings with expert opinion and data for state, federal and local government officials in relation to Regional Ecosystem assessments, species distributions, Rare and Threatened Flora and vegetation mapping verification.
*explore external funding opportunities through knowledge of local flora and vegetation. Successful consultancies include: Greening Australia, Carnegie Institute (USA), DEWHA, EPA, JCU, private contracts and numerous overseas institutions.
*undertake, manage and plan both local and regional ecological fieldwork including remote, long distance vegetation fieldwork in all areas of Queensland. Includes RE assessments and carbon storage.
*Publish in peer reviewed journals and collaborate where possible.

#2022- Botanical Consultant. Undertake vegetation surveys, assessments (Biocondition and CORVEG) and sample collections as required for a wide range of clients, which include:
*Royal Botanic Gardens, Sydney.
*Firescape.
*Wabubadda Aboriginal Corporation.

*James Cook University.
*Global Sustainable Solutions.
*Terrain NRM Ltd.
*Attexo Group.
*Qld Gov't; Department of Environment and Science (Queensland Herbarium)

Computer knowledge

Microsoft Office (Word, Excel, Access)
ARCGIS.
Garmin GPS interface (BaseCamp)

Interests

Masters athletics, officiating and coaching.
Bushwalking and camping.

Other Information

Course in Senior First Aid, Australia Red Cross/Queensland Ambulance Service July 2000-.
4-Wheel Drive Course.
Defensive Driving Course.
Chainsaw Operators Course.
Google Scholar; "Andrew Ford CSIRO."

Publications in last 6 years (from a total of 68 since 1998)

Costion, C.M., Lowe, A.J., Rossetto, M., Kooyman, R.M., Breed, M.F, **Ford, A.,** Crayn, D.M. (2016) Building a Plant DNA Barcode Reference Library for a Diverse Tropical Flora: an Example from Queensland, Australia. *Diversity* 8 (5): 9 pages.

Rowland, L. Zaragoza-Castells, J., Bloomfield, K.J., Turnbull, M.H., Bonal, D., Burban, D., Salinas, N., Cosio, E., Metcalfe, D.J., **Ford, A.J**., Phillips, O.L., Atkin, O.K., and Meir, P. (2016) Scaling leaf respiration with nitrogen and phosphorus in tropical forests across two continents. *New Phytologist* doi: 10.1111/nph.13992. 14 pages.

Van der Merwe, M., Crayn, D.M., **Ford, A.J**., Weston, P.H., and Rossetto, M. (2016) Evolution of Australian *Cryptocarya* (Lauraceae) based on nuclear and plastid phylogenetic trees: evidence of recent landscape-level disjunctions. *Australian Systematic Botany*, 29: 157–166.

Ford, A.J., Halford D.A., Van Der Merwe, M. and Mathieson, M.T. (2017) A revision of the tropical white-flowered species of *Comesperma* (Polygalaceae) in Australia. *Australian Systematic Botany*, 30: 159–182.

Ford, A.J. and Whiffin, T. (2018) *Pendressia, nom. nov.* (Monimiaceae), a new generic name for *Wilkiea wardellii* from north-east Queensland. *Telopea:* 21: 147-151.

Burley, H.M, Mokany, K., Laffan, S.W., Williams, K.J., Metcalfe, D., Murphy, H.T., **Ford, A.J.,** Harwood, T.D. and Ferrier, S. (2018) Primary productivity is related to niche width in the Australian Wet Tropics. *Global Ecology and Biogeography,* 2018: 1-14.

Zich, F.A. and **Ford, A.J.** (2018) *Tecomanthe burungu* (Bignoniaceae), a new species from northern Queensland. *Australian Systematic Botany*, 31: 481–486.

Lynch, A.J.J, Ferrier, A °, **Ford, A.J**., Haberle, S.G., Rule, S., Schneider, L., Zawadzki, A. and Metcalfe, D.J. (2020) Rainforest, woodland or swampland? Integrating time, space and culture to manage an endangered ecosystem complex in the Australian Wet Tropics. *Landscape Ecology* 35: 83-99.

Martin J. P. Sullivan, Simon L. Lewis *et al.* (2020) Long-term thermal sensitivity of Earth's tropical forests, *Science*: 368 (6493), 869-874.

Elith, J., Graham, C.H, Valavi, R, *et al.* (2020) Presence-only and presence-absence data for comparing species distribution modelling methods. *Biodiversity Informatics*. 15: 69-80.

Yap, J-Y., van der Merwe, M., **Ford, A.J.,** Henry, R.J., Rossetto, M. (2020) Biotic exchange leaves detectable genomic patterns in the Australian rain forest flora. *Biotropica* 2020: 00: 1-9.

Ford, A.J. and Duretto, M. (2020) *Phebalium cicatricatum* (Rutaceae), a newly described and Critically Endangered species from north-eastern Queensland, Australia. *Telopea* 23: 131–136.

Callmander, M.W., **Ford, A.J.** and Buerki, S. (2020) New combinations for two species in the genus *Synima* (Sapindaceae, Cupanieae) from Queensland (Australia). *Candollea* 75: 241–244.

van der Merwe, M.M., Yap, J.-Y.S., Wilson, P.D., Murphy, H.T. and **Ford, A.** (2021) All Populations Matter: Conservation Genomics of Australia's Iconic Purple Wattle, *Acacia purpureopetala*. *Diversity* 2021, 13: 139. https://doi.org/10.3390/d13040139.

Ebner, B.C., Donaldson, J.A., Murphy, H., **Ford, A.** *et al.* (2021) Waterfalls mediate the longitudinal distribution of diadromous predatory fishes structuring communities in tropical, short, steep coastal streams. *Freshw Biol*. 2021; 00:1–17. https://doi.org/10.1111/fwb.13712.

ForestPlots.net nx *et al.* (2021) Taking the pulse of Earth's tropical forests using networks of highly distributed plots. *Biological Conservation* 260 108849. https://doi.org/10.1016/j.biocon.2020.108849

Ford, A.J., Halford D.A. and Van Der Merwe, M. (2021) A new and substrate specific species of *Ilex* (Aquifoliaceae) from north-eastern Queensland, Australia. *Telopea* 24: 233–239.

Ford, A.J. and Wilson, P.G. (2021) A new species of *Rhodomyrtus* (Myrtaceae) with brochidodromous venation from north-eastern Queensland, Australia. *Telopea* 24: 351–357.

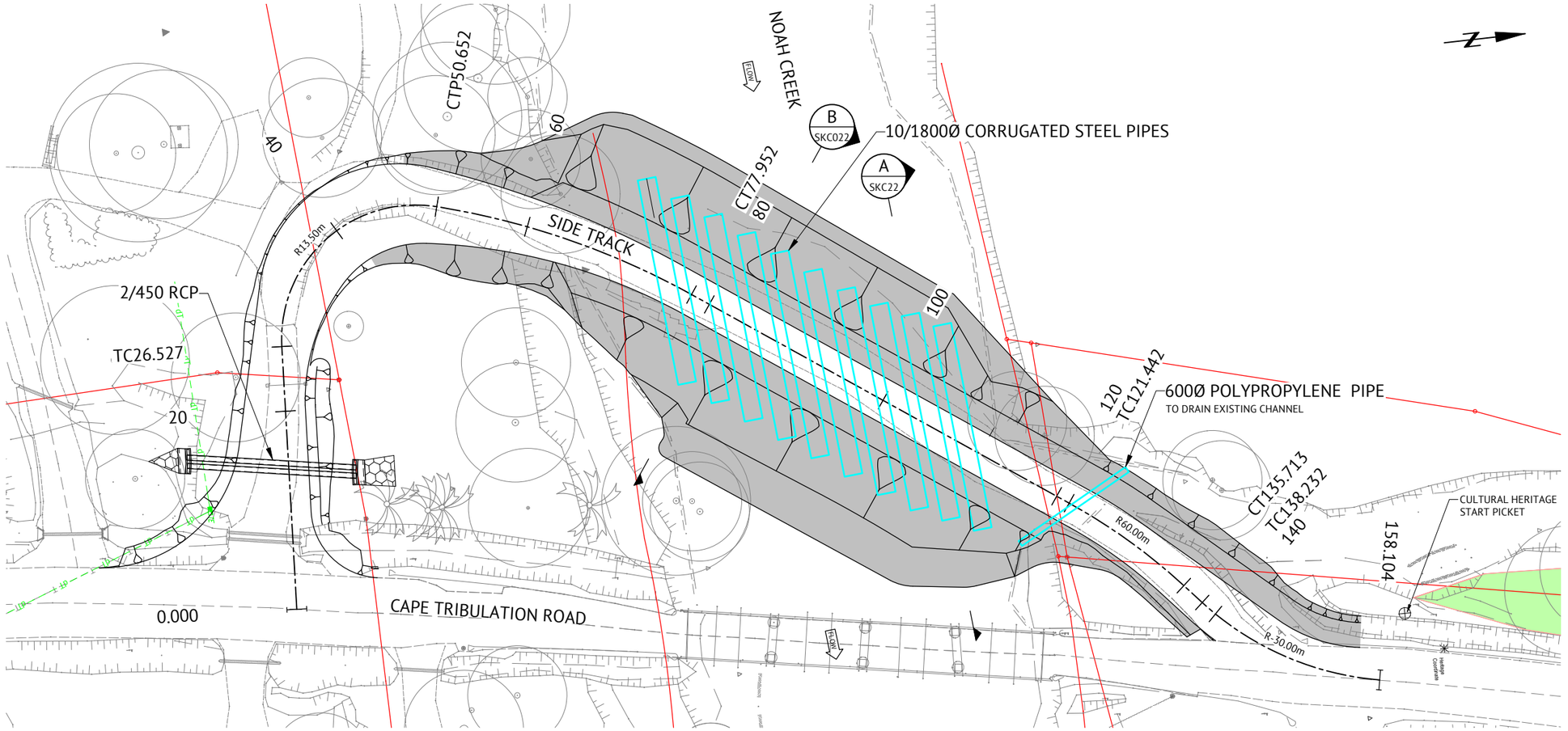
Beebe, N.W., Pagendam, D., Trewin, B.J., Boomer, A., Bradford, M., **Ford, A.,** Liddington, C., Bondarenco, A., De Barro, P.J., Gilchrist, J. and Paton, C. (2021) Releasing incompatible males drives strong suppression across populations of wild and Wolbachia-carrying Aedes aegypti in Australia. *Proceedings of the National Academy of Sciences*: 118(41), p.e2106828118.

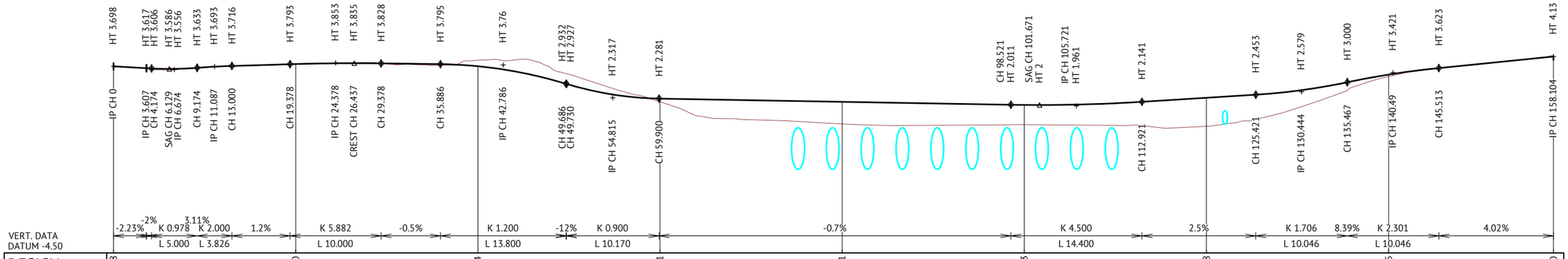
Fahey, M., Rossetto, M., Ens, E. and **Ford, A**., (2022) Genomic Screening to Identify Food Trees Potentially Dispersed by Precolonial Indigenous Peoples. *Genes*: 13(3), p.476.

Low, Y.W., Rajaraman, S., Tomlin, C.M., Ahmad, J.A., Ardi, W.H., Armstrong, K., Athen, P., Berhaman, A., Bone, R.E., Cheek, M., Cho, N.R., *et al.* (2022) Genomic insights into rapid speciation within the world's largest tree genus *Syzygium*. *Nature communications*, 13(1): 1-15.

Appendix E

Proposal Plans





ROADWORKS LEGEND:

- EDGE OF ROAD
- DRAIN INVERT
- CULTURAL HERITAGE ROCK ASSEMBLAGE TO REMAIN UNDISTURBED
- SCOUR PROTECTION PRIMARILY ROCKBAGS

ROADWORKS NOTES:

1. ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH RELEVANT LATEST ISSUE FNQROC STANDARD DRAWINGS AND SPECIFICATIONS, UNLESS NOTED OTHERWISE.
2. FOR ROAD GRADING, LEVELS AND TYPICAL SECTIONS, REFER ROAD LONGITUDINAL/CROSS SECTION AND ROADWORKS DETAILS DRAWINGS.

EXISTING SERVICES LEGEND

- EXISTING PROPERTY BOUNDARY
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING TOP OF BATTER
- EXISTING CHANGE IN GRADE
- EXISTING BOTTOM OF BATTER
- EXISTING CULVERT
- DBYD UNDERGROUND TELECOMMUNICAIONS

EXISTING SERVICES NOTES:

1. EXISTING SERVICES ARE LOCATED WITHIN THE SITE.
2. THE CONTRACTOR IS TO LOCATE ALL SERVICES BY CONTACTING THE RELEVANT AUTHORITY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

EXISTING SERVICES

ALL EXISTING SERVICES ARE TO BE LOCATED BY THE CONTRACTOR THROUGH CONTACTING THE RELEVANT SERVICE AUTHORITY PRIOR TO THE COMMENCEMENT OF ANY WORK

PRELIMINARY - NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
01/10/2025	4	REDUCTION IN CULVERT LENGTH	WL	DKH
26/05/2025	3	REVISED SIDETRACK DESIGN	SPB	DKH
13/02/2025	2	ISSUED FOR TENDER	SPB	RDP
20/12/2024	1	PRELIMINARY - NOT FOR CONSTRUCTION	SPB	RDP

REVISIONS

Premise
TOWNSVILLE OFFICE
84 DENHAM STREET
PO BOX 1110
TOWNSVILLE, QLD 4810
PH: (07) 4772 0666
WEB: www.premise.com.au

DESIGNED S.BROGAN
CHECKED S.BROGAN
PROJECT MANAGER D.HALFPENNY
ENGINEERING CERTIFICATION
D.HALFPENNY RPEQ 29027

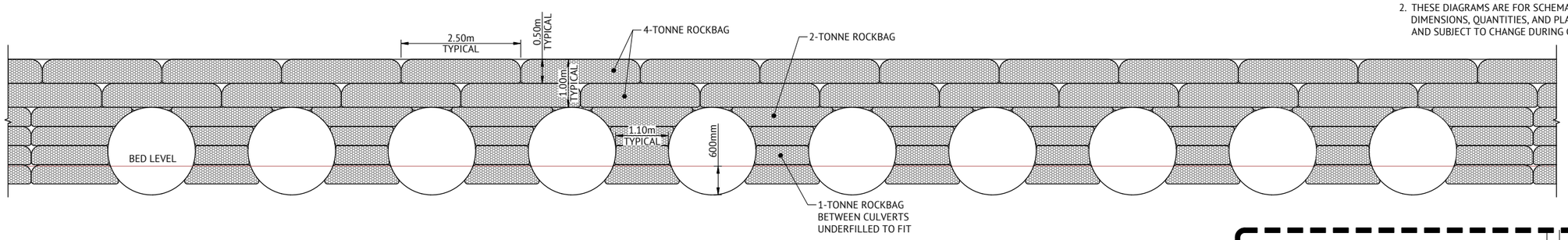
SCALE
0 2 4 6m
SCALE 1:100 (A1)
0 5 10 15m
SCALE 1:250 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: DOUGLAS SHIRE COUNCIL
PROJECT: NOAH CREEK BRIDGE - SIDETRACK
LOCATION: NOAH CREEK, CAPE TRIBULATION
SHEET TITLE: SIDETRACK LAYOUT

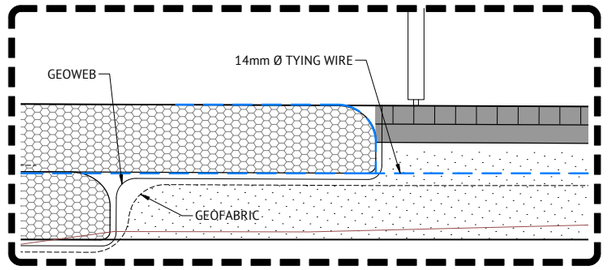
JOB CODE: P001388
SHEET NUMBER: SKC21
REV: 4

NOTES:

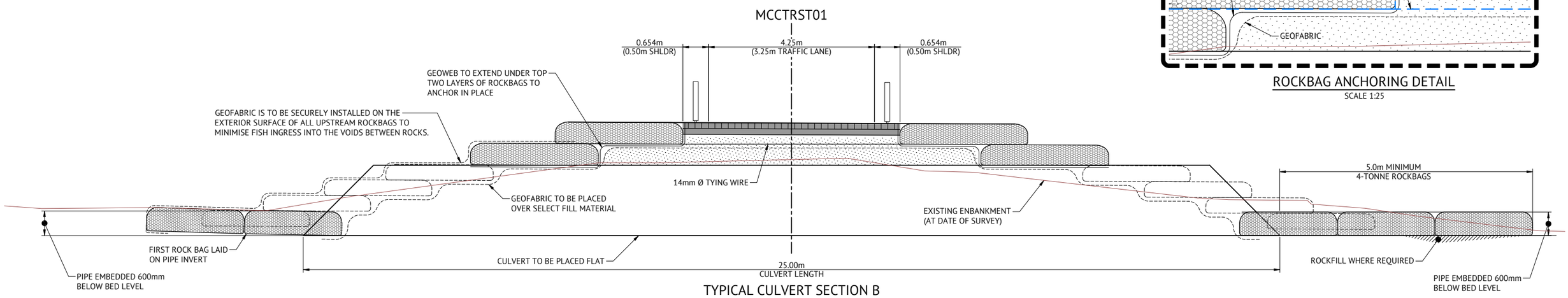
1. ROCKBAG ANCHORING SYSTEM TO BE INSTALLED FOR STRUCTURAL STABILITY PURPOSES. 14mm TYING ROPE TO CONNECT ROCKBAGS ON UPSTREAM SIDE WITH ROCKBAGS ON DOWNSTREAM SIDE
2. THESE DIAGRAMS ARE FOR SCHEMATIC PURPOSES ONLY. ROCKBAG DIMENSIONS, QUANTITIES, AND PLACEMENTS ARE APPROXIMATE AND SUBJECT TO CHANGE DURING CONSTRUCTION.



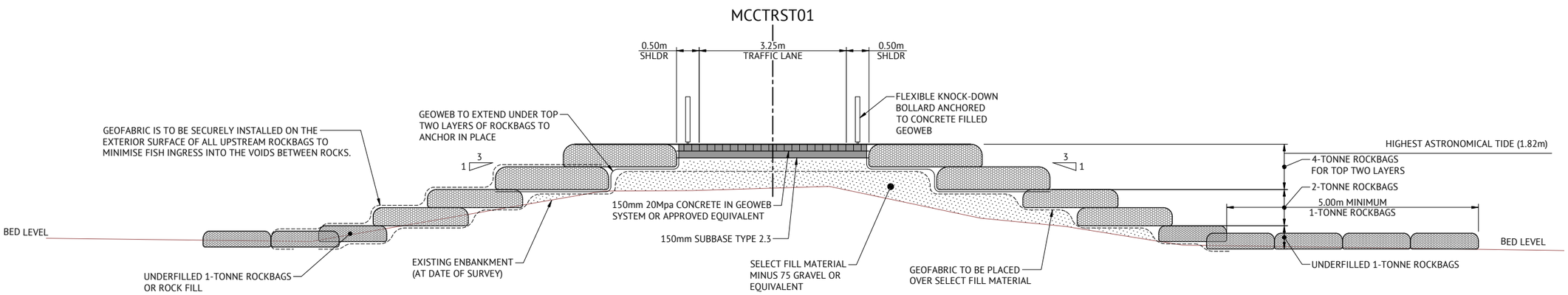
CULVERT ELEVATION
10/1800Ø CORRUGATED STEEL PIPES
SCALE 1:50



ROCKBAG ANCHORING DETAIL
SCALE 1:25



TYPICAL CULVERT SECTION B
10/1800Ø CORRUGATED STEEL PIPES
SCALE 1:50



TYPICAL SIDETRACK SECTION A
SCALE 1:50

PRELIMINARY - NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
01/10/2025	2	REDUCTION IN CULVERT LENGTH	WL	DKH
28/05/2025	1	PRELIMINARY - NOT FOR CONSTRUCTION	SPB	DKH

REVISIONS

Premise

TOWNSVILLE OFFICE
84 DENHAM STREET
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PH: (07) 4772 0666
WEB: www.premise.com.au

DESIGNED S.BROGAN
CHECKED S.BROGAN
PROJECT MANAGER D.HALFPENNY
ENGINEERING CERTIFICATION
D.HALFPENNY RPEQ 29027

SCALE
0 0.5 1.0 1.5m
SCALE 1:25 (A1)
0 1 2 3m
SCALE 1:50 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: DOUGLAS SHIRE COUNCIL
PROJECT: NOAH CREEK BRIDGE - SIDETRACK
LOCATION: NOAH CREEK, CAPE TRIBULATION
SHEET TITLE: SIDETRACK TYPICAL SECTIONS

JOB CODE: P001388
SHEET NUMBER: SKC22
REV: 2

Appendix F

Engineering Statement of Design

WATERWAY BARRIER AND TIDAL WORKS DEVELOPMENT PERMIT – PREMISE INPUT

1.0 Purpose of the Noah Creek Bypass Structure

The Noah Creek Bypass structure is a single-lane temporary crossing designed to maintain access for both light and heavy vehicles across Noah Creek during the critical period of bridge demolition and reconstruction.

Construction of the new bridge is scheduled to commence in the 2026 dry season in accordance with the Douglas Shire Council (Council) Development Permit for Minor Change and State Assessment and Referral Agency Assessment (SARA) conditions. However, to facilitate construction of the new bridge and demolition of the existing bridge, a temporary bypass crossing of Noah Creek is required. The bypass, in the form of a Corrugated Steel Pipe (CSP) culvert structure, is intended to provide a temporary, robust, and safe route for vehicular traffic while construction activities are underway. An application has been lodged with Council for the temporary bypass crossing.

Due to the highly sensitive nature of the creek bed, which is subject to stringent environmental and cultural heritage constraints under the Wet Tropics Management Authority (WTMA) and other regulatory bodies, disturbances must be minimised as much as practicable. The bypass will be constructed upstream of the existing and future bridge. In addition to providing temporary access, construction of the proposed temporary bypass is integral to maintaining the structural integrity of the existing bridge, ensuring that the bypass structure does not adversely affect the integrity of the downstream bridge during high stream flow events. Upon completion and opening of the new Noah Creek bridge, the bypass structure will be removed to allow restoration of the creek's natural environment.

2.0 History of Bypass Structure Design

The Noah Creek bypass design evolved through several stages, with early options such as box culverts and concrete pipes ruled out due to potential environmental impacts, construction complexity and high cost and lead time.

Box culverts, while structurally robust, required construction of an in-situ concrete base slab—an approach involving waterway disruption, extensive excavation, longer construction times, and significant disturbance to the creek bed with fresh concrete having to be placed directly onto the bed. These intrusive works were not suitable for the environmentally sensitive site and conflicted with both the project's tight schedule and environmental constraints. Removal of the base slab, once the new bridge was completed, would further disturb the creek bed. Their long lead times and high material and labour costs also make box culverts impractical for a temporary structure. Concrete circular pipes were similarly discounted.

Early CSP designs, which featured tightly spaced barrels with minimal cover, were also discarded after structural assessments revealed insufficient resilience to traffic loading and flood-related hydraulic pressures.

Early discussions with the Department of Primary Industries (DPI) revealed a preference for corrugated steel pipes (CSPs) over other materials, on the basis that the roughening of the pipe surface is conducive to fish passage. The corrugated surfaces of CSPs help simulate natural flow conditions by creating turbulence and resting areas, which facilitate upstream fish movement—a key factor influencing DPI's preference. Additionally, CSPs feature mitred ends and velocity reduction elements that enhance hydraulic performance.

The WTMA also supported CSP use because of their smaller footprint and reduced risk of habitat fragmentation, crucial for protecting the sensitive Daintree environment. Furthermore, CSPs' lightweight, modular design allows for rapid installation and removal using standard equipment, minimising construction disturbance. Their segmented construction enables flexible alignment, secure connections, and efficient dismantling after project completion.

3.0 Environmental and Cultural Heritage Considerations

The bypass alignment has been carefully chosen to minimise impacts on environmentally sensitive areas and culturally significant sites within the WTMA. The design prioritises the preservation of marine plants, reduces clearing, and avoids known riparian habitats wherever possible.

Determination of the bypass road height considered and appropriately accounted for seasonal variations in water levels and flow regimes, ensuring the bypass operates effectively without permanently altering the creek's natural hydrology. The positioning and orientation of the temporary bypass would minimise disturbance to embankments, and the provision of rock armouring, rock bags and geotextile layers protect the embankment and minimise creek bed scour during high flow events.

4.0 Basis for Current Bypass Design and Engineering Compliance

A failure of the bypass structure during construction would have serious consequences, including disruption of site access, safety risks, and potential damage to the downstream new bridge works. The batter slopes are designed with a 1:3 gradient and will be protected by a 1.25-meter-thick layer of half-tonne class rock placed on geotextile fabric. Around the culvert faces, the rock protection will be grouted with cement mortar to ensure long-term stability and durability. Similarly, the downstream creek bed is protected from erosion by strategically placed rockbags.

Although the Noah Creek bypass is temporary, the design team voluntarily adopted key principles from the Department of Transport and Main Roads (TMR) guidelines to enhance safety, durability, and performance. These guidelines, widely recognised across Queensland and Australia, cover essential factors such as load-bearing capacity, soil-structure interaction, hydraulic efficiency, and environmental compatibility.

The CSP design incorporated DPI's preference for maximum waterway aperture, while optimising culvert spacing in accordance with TMR guidelines to balance environmental considerations with structural stability. Structural stability was a key focus, with adherence to TMR recommendations on load management and culvert cover. This approach accounted for dynamic vehicle loads, potential soil settlement, and hydraulic forces that could cause scour or deformation. To safeguard against heavy vehicle traffic, the minimum cover thickness was maintained and fill materials were carefully selected for their compaction properties and long-term durability.

5.0 Hydraulic Design Considerations

The final bypass design incorporates ten (10) 1800 mm diameter corrugated steel pipes (CSPs), arranged based on hydraulic modelling and environmental considerations. This configuration optimises flow capacity while maintaining a compact footprint and ensuring adequate cover for structural integrity. Preliminary hydrological assessments, conducted using 1D HECRAS modelling, informed the CSP sizing and spacing according to anticipated flood flows.

The design accommodates tidal flows and seasonal water variations, with embankment heights and flood immunity levels tailored to site-specific requirements. Scour risk and overtopping are addressed through rock armouring and energy dissipation measures on the batters, effectively reducing erosion potential during peak flow events.

6.0 Design Modifications for Fish Passage

The Noah Creek bypass design incorporates several key measures to improve fish passage:

- **Pipe Embedment:** Pipes are embedded 600 mm (a third on the diameter in accordance with DPI recommendation) below the creek bed level to mimic natural stream conditions and facilitate fish passage.
- **Pipe Type:** Corrugated steel pipes (CSPs) were selected for their internal corrugations, which help to accumulate and retain natural bed substrate in the base of the pipes for fish passage, creating turbulence and resting zones that aid upstream fish movement.
- **Bypass Height:** The structure is designed to allow overtopping during seasonal rainfall events, balancing natural river flow with roadway flood immunity requirements while following the natural shape and elevation of the embankment to minimise disturbance.
- **Pipe Size:** Larger 1800 mm diameter pipes were chosen to maximise light ingress and provide a greater aperture (subject to engineering constraints), while maintaining optimal hydraulic performance.
- **Batter Slope and Pipe Profile:** 1:3 batters and mitred pipe profile was designed to reduce downstream flow velocities and enhance hydraulic stability.

Following consultations in August 2025 with DPI, additional measures were incorporated into the bypass design:

- **Geofabric Lining to Rock Bags to Minimise Fish Entrapment:** Concerns raised regarding fish becoming entrapped behind rock bags led to the anchoring of geofabric at the upstream culvert face.
- **Shortening CSP and Reducing Structural Footprint:** Culvert lengths were reduced by approximately 5 meters (approximately 17%) to minimise dark zones that inhibit fish movement. The reduction in length also decreases the overall structural footprint, minimising habitat disturbance and allowing for faster installation and removal.

In addition to the changes noted above, design modifications aimed at increasing the hydraulic aperture were evaluated, including a reduction in spacing between CSPs. However, this option was dismissed due to the structural risks associated with reduced spacing, particularly the potential for culvert deformation. Adequate spacing is essential to allow for sufficient structural fill between adjacent barrels, which provides critical support to the intervening culvert walls. Insufficient spacing compromises the walls' ability to distribute vehicular loads effectively, increasing the risk of localized failure and overall structural instability.

7.0 Conclusion

The Noah Creek bypass design delivers a safe and reliable temporary crossing throughout the bridge construction period. The use of corrugated steel pipes (CSPs) strikes a balance between construction efficiency

and environmental sensitivity, particularly in supporting fish passage. Once the new bridge is operational, the bypass structure will be removed to restore the natural creek environment.

CSP spacing has been optimised according to Department of Transport and Main Roads (TMR) guidelines to achieve hydraulic efficiency while minimising ecological impacts. Additionally, targeted design modifications such as reducing culvert length and securely anchoring geofabric around rock bags have been implemented to enhance fish movement.

Appendix G

State Code Responses

State code 8: Coastal development and tidal works

State Development Assessment Provisions Guidance Material: State code 8: Coastal Development and tidal works provides direction on how to address this code.

Table 8.1: All development

Performance outcomes	Response
Development in the erosion prone area	
PO1 Development is only permitted in the **erosion prone area** where it: 1. is one of the following types of development: a. **coastal-dependent development**; or b. **temporary, readily relocatable or able to be abandoned**; or c. **essential community infrastructure**; or d. **redevelopment** of an existing permanent building or structure that cannot be relocated or abandoned; and 2. cannot feasibly be located elsewhere; or 3. is located landward of: a. a **fit for purpose revetment**; or b. a proposed revetment that is consistent with: i. an **agreement with a local government**; or ii. the alignment of adjacent lawful revetments; or 4. is on a lot less than 2000m^2 where a **coastal building line** is present.	**Complies** The proposal is for a temporary culvert crossing to enable vehicle access to Cape Tribulation whilst the new Noah's Creek bridge is being constructed and the existing bridge demolished. The proposal is for a temporary structure, able to be abandoned, essential community infrastructure and cannot be located elsewhere.
PO2 Development (other than **coastal protection work**) in the **erosion prone area**: 1. does not adversely impact **coastal processes**; and 2. ensures that the protective function of landforms and vegetation is maintained.	**Complies** The proposed temporary culvert crossing would allow for continued tidal processes and would not adversely affect the protective function of vegetation.

Performance outcomes	Response
Note: In considering reconfiguring a lot applications, the State may require land in the **erosion prone area** to be surrendered to the State for coastal management purposes under the *Coastal Protection and Management Act 1995*. Where the planning chief executive receives a copy of a land surrender requirement or proposed land surrender notice under the *Coastal Protection and Management Act 1995*, this must be considered in assessing the application.	
PO3 Development is sited, designed and constructed to limit the risk of impacts of **coastal erosion** to an acceptable level by: 1. locating development outside the **erosion prone area**; or 2. mitigating or otherwise accommodating the risks posed by **coastal erosion.**	**Complies** The proposed temporary culvert crossing would not increase the risk of coastal erosion.
PO4 Development in the **erosion prone area** does not significantly increase the risk or impacts to people and property from **coastal erosion**.	**Complies** The proposed temporary culvert crossing would not increase the risk of coastal erosion or the impacts on people.
PO5 Development (other than **coastal protection work**) in the **erosion prone area** does not directly or indirectly increase the severity of **coastal erosion** either on or off the site.	**Complies** The proposed temporary culvert crossing would not increase the risk of coastal erosion.
PO6 In **erosion prone areas** where a **coastal building line** is present, building work is located landward of the **coastal building line** unless **coastal protection work** has been constructed to protect the development.	**Not applicable** The site is not subject to a coastal building line.
Artificial waterways	
PO7 Development of **artificial waterways**, canals and **dry-land marinas** conserves **coastal resources** by: 1. ensuring changes to water flows, water levels and sediment movement do not adversely impact the natural waterway to which it is connected; 2. demonstrating appropriate storage, treatment and disposal of **dredged material** for the life of the development.	**Not applicable** No artificial waterways, canals or dry-land marinas are proposed.
Coastal protection work	

Performance outcomes	Response
PO8 Works for **beach nourishment** minimises adverse impacts on **coastal processes**.	**Not applicable** The application relates to a temporary culvert crossing in a natural waterway only.
PO9 Works for **beach nourishment** do not increase the severity of erosion on adjacent land.	**Not applicable** The application relates to a temporary culvert crossing in a natural waterway only.
PO10 Erosion control structures (excluding revetments) are only constructed where there is an **imminent threat** to **significant buildings or infrastructure**, and there is no feasible option for either: 1. **beach nourishment**; or 2. relocation or abandonment of structures.	**Not applicable** The application relates to a temporary culvert crossing in a natural waterway only.
PO11 Erosion control structures (revetments only) are only constructed where: 1. there is an **imminent threat** to **significant buildings or infrastructure**, and there is no feasible option for either: a. **beach nourishment**; or b. relocation or abandonment of structures; or 2. the development: a. is in a consistent alignment with adjacent lawful revetments; or b. is consistent with an **agreement with a local government** that a revetment is appropriate in the proposed location.	**Not applicable** The application relates to a temporary culvert crossing in a natural waterway only.
PO12 Erosion control structures minimise interference with **coastal processes** and reduce the severity of erosion on adjacent land.	**Not applicable** The application relates to a temporary culvert crossing in a natural waterway only.
Water quality	

Performance outcomes	Response
PO13 Development: 1. maintains or enhances **environmental values** of receiving waters; 2. achieves the **water quality objectives** of Queensland waters; 3. avoids the release of **prescribed water contaminants** to **tidal waters**.	**Complies** Erosion and sediment control measures would be implemented during construction to avoid impacts on water quality.
Public use of and access to State coastal land	
PO14 Development maintains or enhances public use of and access to and along **State coastal land** (except where this is contrary to the protection of **coastal resources** or public safety).	**Not applicable** The site is not adjacent coastal land and is a temporary culvert crossing only.
PO15 Private marine development does not reduce public use of and access to **State coastal land** and ensures that works: 1. are used for **marine access purposes** only; 2. minimise the use of **State coastal land**; 3. are designed to accommodate the berthing of one vessel only per waterfront residence; 4. do not interfere with access between **navigable waterways** and adjacent properties.	**Not applicable** The site is not adjacent coastal land and is a temporary culvert crossing only.
PO16 Development does not reduce public use of and access to **State coastal land** and ensures that **erosion control structures**, intended to protect a freehold or leasehold (not State land) premises, are wholly located within the lot: 1. except where impeded by **significant buildings or infrastructure** that cannot be removed or relocated; or 2. for revetments the development is: a. in a consistent alignment with adjacent lawful revetments; or b. consistent with an **agreement with a local government** that a revetment is appropriate in the proposed location.	**Not applicable** The site is not adjacent coastal land and is a temporary culvert crossing only.
Matters of state environmental significance	

Performance outcomes	Response
PO17 Development is designed and sited to: 1. avoid impacts on **matters of state environmental significance**; or 2. minimise and mitigate impacts on **matters of state environmental significance** after demonstrating avoidance is not reasonably possible; and 3. provide an **offset** if, after demonstrating all reasonable avoidance, minimisation and mitigation measures are undertaken, the development results in an acceptable **significant residual impact** on a **matter of state environmental significance**. Statutory note: For Brisbane core port land, an offset may only be applied to development on land identified as E1 Conservation/Buffer, E2 Open Space or Buffer/Investigation in the Brisbane Port LUP precinct plan.	**Complies** The proposal is for a temporary bypass crossing that is proposed to be in place for a period not exceeding nine months. The proposal would not result in long term impacts on Mattes of State Environmental Significance.

Table 8.2: All operational work

Performance outcomes	Response
Private marine development	
PO18 Private marine development is designed and constructed to maintain existing waterway banks in their natural state and not require: 1. **coastal protection work**; 2. shoreline or riverbank hardening; 3. **dredging** for **marine access purposes**.	**Not applicable** The application relates to a temporary culvert crossing only.
Disposal of solid waste or dredged material from artificial waterways	
PO19 Solid waste from land and **dredged material** from **artificial waterways** is not disposed of in **tidal water** unless it is for **beneficial reuse**.	**Not applicable** No dredging is proposed.
Disposal of dredged material other than from artificial waterways	
PO20 Dredged material is returned to **tidal water** where the material is needed to maintain **coastal processes** and sediment volume.	**Not applicable** No dredging is proposed.

Performance outcomes	Response
PO21 Where the **dredged material** is not needed to maintain **coastal processes** and sediment volume, the quantity of **dredged material** disposed to **tidal water** is minimised through **beneficial reuse** or disposal on land.	**Not applicable** No dredging is proposed.
All dredging and any disposal of dredged material in tidal water	
PO22 Dredging or disposal of **dredged material** in tidal waters does not adversely impact on **coastal processes** and **coastal resources**.	**Not applicable** No dredging is proposed.
Reclamation	
PO23 Development does not involve **reclamation** of land below **tidal water**, other than for the purposes of: 1. **coastal-dependent development**, **public marine development** or **essential community infrastructure**; or 2. strategic ports, priority ports, boat harbours or strategic airports and aviation facilities, in accordance with a statutory land use plan or master plan; or 3. **coastal protection work** or work necessary to protect **coastal resources** or **coastal processes**.	**Not applicable** No reclamation of land is proposed or required**.**

Table 8.3: Operational work for tidal works which is not assessed by local government

Performance outcomes	Acceptable outcomes	Response
PO24 Tidal works are sited and designed to operate safely during and following a **defined storm tide event**.	**AO24.1** Tidal work is designed and located in accordance with the Guideline: Building and engineering standards for tidal works, Department of Environment and Heritage Protection, 2017.	**Not applicable** The application is to be assessed by Douglas Shire Council and referred to the Chief Executive.

State code 18: Constructing or raising waterway barrier works in fish habitats

State Development Assessment Provisions guideline - State Code 18: Constructing or raising waterway barrier works in fish habitats**.** This guideline provides direction on how to address State Code 18 below.

Table 18.1 Operational work

Performance outcomes	Acceptable outcomes	Response
All development - Impacts on waterway		
PO1 Waterway barrier works do not result in adverse impacts on **waterways**.	No acceptable outcome is prescribed.	**Complies with PO1** The proposed works are solely for the construction of a temporary bypass crossing to facilitate the construction of the new Noah Creek bridge and demolition of the existing Noah Creek Bridge. The development footprint would be minimised and changes to the hydrology would be temporary. The proposed bypass has been designed to ensure structural integrity, whilst allowing for fish passage. Upon completion of the permanent bridge works, the bypass crossing would be removed.
PO2 Development is designed, constructed and maintained to avoid and minimise impacts on **matters of state environmental significance**.	No acceptable outcome is prescribed.	**Complies with PO2** A previous assessment of the Fish Habitat within Noah Creek identified potential impacts to be addressed as part of a proposed temporary bypass crossing. This assessment together with pre-lodgement advice provided by the Department of Primary Industries has informed the current design of the temporary bypass.

Performance outcomes	Acceptable outcomes	Response
		Modifications to the design to minimise impact on MSES include: • use of corrugated steel pipes (CSP) for accumulation and retention of natural bed substrate and increased roughness for fish passage; • embedding CSPs to facilitate fish passage; height of the bypass structure to allow for overtopping during seasonal rainfall events; • use of 1800mm diameter pipes for light ingress and increase aperture; • 1:3 batter slope for enhanced hydraulic stability; • mitred pipe pipeline to reduce downstream flow velocities.
PO3 Where development impacts on **matters of state environmental significance**, development mitigates impacts and provides an **offset** for any acceptable **significant residual impact** on **matters of state environmental significance**. Statutory note: For Brisbane core port land, an offset may only be applied to development on land identified as E1 Conservation/Buffer, E2 Open Space or Buffer/Investigation in the Brisbane Port LUP precinct plan.	No acceptable outcome is prescribed.	**Complies with PO3** The proposed bypass crossing is a temporary structure to facilitate safe access to Cape Tribulation whilst the permanent bridge is being constructed. The proposed temporary bypass been designed to balance environmental considerations with structural stability. The positioning and orientation of the temporary bypass would minimise disturbance to the banks and the provision of rock protection would minimise potential for scouring of the bed of the creek. The proposed design ensure that structures would be removed with minimal residual impact on the watercourse.
All development in general		
PO4 Aspects of development are only permitted within a **waterway** where there is a functional requirement and the development cannot be	No acceptable outcome is prescribed.	**Complies with PO4** The proposal is for the construction of a temporary culvert crossing to facilitate safe access to Cape

Performance outcomes	Acceptable outcomes	Response
feasibly located elsewhere. Ancillary elements are to be located outside of the **waterway**.		Tribulation whilst the permanent bridge is being constructed. This is considered to be a functional requirement and the crossing cannot feasibly be located elsewhere. The positioning and orientation of the temporary bypass would minimise disturbance to the banks.
PO5 For the life of the barrier, adequate **fish** passage must be provided and maintained at all **waterway barrier works** through: 1. **fish way(s)** that adequately provide for the movement of **fish**; or 2. the movement of **fish** is adequately provided for in another way.	*For all crossings:* **AO5.1** Hydraulic conditions (depth, velocities and turbulence) from the downstream to the upstream limit of the structure allow for **fish** passage of all **fish** attempting to move through the crossing at all flows up to the **drownout** of the structure. AND **AO5.2** For the life of the crossing, the relative levels of: 1. a bed level crossing or a culvert invert; 2. bed erosion protection; 3. apron scour protection; and 4. the **waterway** bed are maintained to avoid drops in elevation at their joins. AND **AO5.3** The crossing and associated erosion protection structures are installed at no steeper gradient than the **waterway** bed gradient. AND	**Complies with AO5.1 – AO5.5** The proposed design has incorporated findings of a previous Fish Habitat Assessment and pre-lodgement advice provided by the department of Primary Industries to facilitate fish passage. Mitigation measures for the culverts include:- • provision of corrugated steel pipes (CSP) for roughened surfaces; • embedding CSP 600mm below bed level to facilitate fish passage; • provision of natural bed substrate within CSPs for fish passage; • provision of 1800mm diameter pipes to maximise light ingress and increased aperture; • increased pipe mitred pipe profile to reduce pressure and downstream flow velocities; and • provision of geofabric on rockbags on the upstream side of the crossing to prevent fish entrapment. The proposed temporary bypass would be installed on a gradient consistent with eh existing bed level. The functional operation of the bypass would be

Performance outcomes	Acceptable outcomes	Response
	AO5.4 The crossing and associated erosion protection structures are roughened throughout to approximately simulate natural bed conditions. AND **AO5.5** Design and maintenance measures are in place for the life of the crossing to keep crossings clear of blockages through a regular inspection program in order to retain **fish** passage through the crossing. AND *For **waterway** crossings other than bridges and culverts:* **AO5.6** The crossing is built at or below bed level so that the surface of the crossing is no higher than the stream bed at the site. AND **AO5.7** The lowest point of the crossing is installed at the level of the lowest point of the natural **waterway** bed (pre-construction), within the footprint of the proposed crossing. AND **AO5.8** There is a height difference between the lowest point of the crossing and the edges of the low flow section of the crossing so that water is channelled into the low flow section of the crossing. AND **AO5.9** The level of the remainder of the crossing is no higher than the lowest point of the natural **waterway** bed outside of the low flow channel. AND	monitored to ensure that fish passage is not impeded. **Complies with AO5.13** The proposal is for the construction of a temporary bypass crossing to facilitate construction of a new bridge and demolition of the existing Noah Creek bridge. **Complies with PO5** The temporary bypass crossing design incorporates 10 x 1800mm CSPs based upon hydraulic modelling and environmental considerations for Noah Creek. Due to engineering constraints associated with the proposed design, increased aperture was unable to be achieved without adversely impacting overall structural instability. The design has incorporated modifications outlined above to facilitate fish passage. Refer to the engineering design supporting statement provided for reference as **Appendix E**. **Complies with AO5.15** The proposed CSPs would be buried 600mm to allow for the accumulation of bed material and retention of natural bed substrate for fish passage. **Complies with AO5.18** The proposed temporary bypass design provides for the use of corrugated steel pipes for increased roughness and creating lower velocity zones that aid in fish passage. **Complies with AO5.19** The alignment of the proposed temporary bypass would minimise potential for the creation of eddies and bank disturbance. The positioning and

Performance outcomes	Acceptable outcomes	Response
	For bridges: **AO5.10** Bridge support piles are not constructed within the low-flow channel and do not constrict the edges of the low-flow channel, and the number of piles within the **waterway** are minimised. AND **AO5.11** Bridge abutments and bank revetment works do not extend into the **waterway** beyond the toes of the banks. AND **AO5.12** Suitable **fish habitats** are maintained within the low-flow channel. AND *For culverts:* **AO5.13** Culverts are only installed where the site conditions do not allow for a bridge. AND **AO5.14** The combined width of the culvert cell apertures is equal to 100 percent of the **main channel** width. AND **AO5.15** The base of the culvert incorporates a low flow channel consistent with the natural low flow channel and: 1. is buried a minimum of 300 millimetres to allow bed material to deposit and reform the natural bed on top of the culvert base; or 2. the base of the culvert is the **waterway** bed; or	alignment of the temporary culvert is based upon hydraulic modelling. **Complies with AO5.20** The 1800mm diameter pipes were chosen to maximise light ingress for fish passage. **Complies with AO5.21** The depth of cover of the temporary bypass crossing has been designed to allow for overtopping during seasonal rainfall events in accordance with hydraulic modelling.

Performance outcomes	Acceptable outcomes	Response
	3. the base of the culvert cell and any instream scour protection within the **waterway** is roughened throughout to approximately simulate natural bed conditions. AND **AO5.16** The outermost culvert cells incorporate roughening elements such as baffles on their bankside sidewalls. AND **AO5.17** Roughening elements are installed on the upstream wingwalls on both banks to the height of the upstream obvert or the full height of the wingwall. AND **AO5.18** Roughening elements provide a contiguous lower velocity zone (no greater than 0.3 metres/second) for at least 100 millimetres width from the wall through the length of the culvert and wingwalls. AND **AO5.19** Culvert alignment to the **waterway** flow minimises water turbulence. AND **AO5.20** There is sufficient light at the entrance to and through the culvert so that **fish** are not discouraged by a sudden darkness. AND **AO5.21** The depth of cover above the culvert is as low as structurally possible, except where culverts	

Performance outcomes	Acceptable outcomes	Response
	have an average recurrence interval (ARI) greater than 50 years. AND **AO5.22** For culvert crossings designed with a flood immunity ARI greater than 50 years, **fish** passage is provided up to culvert capacity. *For all other development no acceptable outcome is prescribed.*	
PO6 Waterway barrier works are designed, constructed, operated and maintained to provide lateral and longitudinal **fish** passage for all members of the **fish** community.	No acceptable outcome is prescribed.	**Complies with PO6** The proposed design has incorporated findings of a previous Fish Habitat Assessment and pre-lodgement advice provided by the Department of Primary Industries to facilitate fish passage. Mitigation measures for the culverts include:- • provision of corrugated steel pipes (CSP) for roughened surfaces; • embedding CSP 600mm below bed level to facilitate fish passage; • provision of natural bed substrate within CSPs for fish passage; • provision of 1800mm diameter pipes to maximise light ingress and increased aperture; • increased pipe mitred pipe profile to reduce pressure and downstream flow velocities. • provision of geofabric on rockbags on the upstream side of the crossing to prevent fish entrapment.

Performance outcomes	Acceptable outcomes	Response
PO7 The development is designed and operated so that all components of **waterway barrier works** and pathways of potential **fish** movement provide for safe **fish** passage. Stepped spillways are not acceptable.	No acceptable outcome is prescribed.	**Complies with PO7** The proposed design has incorporated findings of a previous Fish Habitat Assessment and pre-lodgement advice provided by the Department of Primary Industries to facilitate fish passage. Mitigation measures for the culverts include:- • roughened surfaces of CSPs to provide internal rest zones to aid fish passage; • burying CSPs in the bed of the watercourse 600mm in depth; • bypass height would allow for overtopping during seasonal flow events; • 1800mm diameter pipes to maximise light ingress and provide greater aperture (subject to engineering constraints); • Provision of 1:3 batters and mitred pipe profile to enhance hydraulic stability; • Ensuring that CSPs have a flow of water under all flow conditions; • provision of geofabric on rockbags on the upstream side of the crossing to prevent fish entrapment.
PO8 The **drownout** characteristics of the **waterway barrier works** are designed and constructed to not result in adverse impacts to **fish** passage.	No acceptable outcome is prescribed.	**Complies with PO8** The proposed development would not affect the drownout timing of the waterway.
PO9 Development does not result in adverse impacts to **fisheries resources.**	No acceptable outcome is prescribed.	**Complies with PO9** The applicant would ensure that monitoring programs are implemented as part of the proposed

Performance outcomes	Acceptable outcomes	Response
		temporary works to identify trapped fish and instigate adequate salvage measures.
PO10 The design, construction and maintenance of the development does not result in non-essential hardening or unnatural modification of the **main channel** of the **waterway.**	No acceptable outcome is prescribed.	**Not applicable** The proposed Bypass crossing is temporary works, which would be removed upon completion of the new Noah Creek bridge and demolition and removal of the existing bridge.
PO11 The development retains natural **fish habitat** and features such as shade, pools, riffles, rock outcrops and boulders, wherever possible.	No acceptable outcome is prescribed.	**Complies with PO11** The proposed culvert crossing is temporary works, which would be removed upon completion of the new Noah Creek bridge and demolition and removal of the existing bridge. Existing instream ecology and habitat would not be adversely impacted in the long term.
PO12 The design, construction and maintenance of the development does not result in straightening of meandering **waterways**.	No acceptable outcome is prescribed.	**Complies with PO12** The proposed culvert crossing would not alter the shape of the waterway.
PO13 Where channels are to be significantly modified, the design and construction of the development replicates natural **waterways** and habitat features.	No acceptable outcome is prescribed.	**Not applicable** The channel would not be significantly modified.
PO14 Where **waterway barrier works** will modify water levels or flow characteristics of the **waterway**, existing up and downstream structures are upgraded to provide adequate **fish** passage in accordance with the new levels or flow characteristics.	No acceptable outcome is prescribed.	**Not applicable** The proposed culvert crossing is temporary works, which would be removed upon completion of the new Noah Creek bridge and demolition and removal of the existing bridge. River flow levels or flow characteristics would not be significantly impacted.

Performance outcomes	Acceptable outcomes	Response
PO15 The development is designed, constructed and maintained to provide water exchange sufficient to maintain or improve water quality and flow conditions on which **fisheries resources** depend.	No acceptable outcome is prescribed.	**Complies with PO15** The proposed bypass crossing is temporary structure only to facilitate access while the new permanent bridge is constructed. The spatial and temporal footprint would be minimised and it would not adversely impact fisheries resources long term or affect the tidal influence in the watercourse.
PO16 Development likely to cause drainage or disturbance to acid sulfate soils, prevents the release of contaminants and impacts on **fisheries resources** and **fish habitats**.	No acceptable outcome is prescribed.	**Complies with PO16** The development is unlikely to impact on any acid sulfate soils. However, the applicant is agreeable to the imposition of a reasonable and relevant condition for appropriate management measures in the event that ASS is identified during approved works.
PO17 The development is designed, constructed and maintained to not result in adverse impacts to beds, banks and vegetation adjacent to the permanent development footprint.	No acceptable outcome is prescribed.	**Complies with PO17** The proposed bypass crossing is temporary works, which would be removed upon completion of the new Noah Creek bridge and demolition and removal of the existing bridge and would not result in any long term impacts.
PO18 After completion of works, disturbed areas of the bed and banks of the **waterway** outside the permanent development footprint are returned to their original profile and stabilised to promote regeneration of natural **fish habitats**.	No acceptable outcome is prescribed.	**Complies with PO18** The proposed bypass crossing is temporary works, which would be removed upon completion of the new Noah Creek bridge and demolition and removal of the existing bridge. The bed and banks would be reinstated to the original profile upon completion of works and removal of the culvert crossing

Performance outcomes	Acceptable outcomes	Response
PO19 The development is designed and constructed to maintain or restore the natural substrate of the **waterway** bed.	No acceptable outcome is prescribed.	**Complies with PO19** The proposed bypass crossing is temporary works, which would be removed upon completion of the new Noah Creek bridge and demolition and removal of the existing bridge. The natural substrate of the waterway would be maintained.
PO20 Development does not adversely impact on community access to **tidal land** and **waterways**.	No acceptable outcome is prescribed.	**Complies with PO20** The works would provide for public access and would not restrict access to fisheries resources and fish habitats.
PO21 Development does not adversely impact on community access to **fisheries resources** and **fish habitats** including recreational and indigenous **fishing** access.	No acceptable outcome is prescribed.	**Complies with PO21** The works would provide for public access and would not restricted access to fisheries resources and fish habitats.
PO22 Development does not adversely impact on commercial **fishing** access and linkages between a commercial **fishery** and infrastructure, services and facilities.	No acceptable outcome is prescribed.	**Not applicable** There are no commercial fishery resources within the vicinity of the subject site.
Development involving fish ways		
PO23 Having regard to the hydrology of the site and **fish** movement characteristics, the **fish way** is capable of operating, and will operate: 1. for as long as the **waterway barrier work** is in position; and 2. whenever there are inflows into the impoundment or **waterway**, release out of the impoundment and during overtopping events; and	No acceptable outcome is prescribed.	**Not applicable** No fishway is proposed. Given the proximity of the temporary bypass crossing to the existing bridge, it is unfeasible to achieve a sufficient gradient for a fish ramp to function effectively. Advice received from DPI confirmed that whilst a gentle gradient may be achieved through the provision of switchbacks, such a technical solution is unrealistic for the proposed temporary bypass.

Performance outcomes	Acceptable outcomes	Response
3. when the impoundment is above dead storage level.		
PO24 The development is designed, constructed and maintained to ensure the hydrology allows for fish movement for the life of the **waterway barrier works**.	No acceptable outcome is prescribed.	**Not applicable** No fishway is proposed.
PO25 Fish ways are designed, constructed and maintained to not adversely impact on **fish** and **fish** movement.	No acceptable outcome is prescribed.	**Not applicable** No fishway is proposed.
PO26 Fish ways are designed, constructed and operated to direct release water through the **fish way** as a priority over the outlet works.	No acceptable outcome is prescribed.	**Not applicable** No fishway is proposed.
PO27 Fish ways are designed, constructed and operated to ensure flows and releases of water do not result in adverse impacts to **fish** or **fish passage**.	No acceptable outcome is prescribed.	**Not applicable** No fishway is proposed.
PO28 The development is designed, constructed and operated to ensure **fishway** operational issues are promptly rectified for the life of the **fishway** including: 1. all components are designed to be durable, reliable and adequately protected from damage during high flow and flood events 2. all components can be replaced; and 3. a contingency plan ensures provision of alternate adequate **fish** passage during the **fish way** re-instatement process.	No acceptable outcome is prescribed.	**Not applicable** No fishway is proposed.

Performance outcomes	Acceptable outcomes	Response
PO29 The development is designed to allow for installation of monitoring equipment and to allow access for monitoring and maintenance.	No acceptable outcome is prescribed.	**Not applicable** No fishway is proposed.
PO30 Fish ways are designed, constructed and operated to source water supply from surface water or equivalent water quality.	No acceptable outcome is prescribed.	**Not applicable** No fishway is proposed.
PO31 Tailwater control structures are designed, constructed and maintained to allow for **fish passage**.	No acceptable outcome is prescribed.	**Not applicable** No fishway is proposed.
Development involving floodgates		
PO32 The design, construction and operation of a floodgate does not result in adverse impacts on **fish**, **fish passage** or **fish habitat**.	No acceptable outcome is prescribed.	**Not applicable** No flood gates are proposed as part of the proposed temporary bypass crossing.
PO33 Floodgates are designed, constructed and maintained to ensure the invert is at bed level.	No acceptable outcome is prescribed.	**Not applicable** No flood gates are proposed as part of the proposed temporary bypass crossing.
Temporary waterway barrier works		
PO34 The temporary **waterway barrier works** will exist only for a specified temporary period.	No acceptable outcome is prescribed.	**Complies with PO34** The proposed bypass crossing is temporary works, which would be removed upon completion of the new Noah Creek bridge and demolition and removal of the existing bridge
PO35 The temporary waterway barrier works provides adequate **fish** movement	No acceptable outcome is prescribed.	**Complies with PO35** The proposed design has incorporated findings of a previous Fish Habitat Assessment and pre-

Performance outcomes	Acceptable outcomes	Response
		lodgement advice provided by the Department of Primary Industries to facilitate fish passage.
PO36 The development is designed, constructed and maintained to ensure temporary barriers are removed and the bed and banks are returned to their original profile and stability.	No acceptable outcome is prescribed.	**Complies with PO36** The proposed bypass crossing is temporary works, which would be removed upon completion of the new Noah Creek bridge and demolition and removal of the existing bridge. The bed and banks would be reinstated to the original profile upon completion of works.
PO37 Temporary **waterway barrier works** are designed, constructed and maintained to allow for downstream movement during works, where required by species present.	No acceptable outcome is prescribed.	**Complies with PO37** The proposed design has incorporated findings of a previous Fish Habitat Assessment and pre-lodgement advice provided by the Department of Primary Industries to facilitate fish passage. Mitigation measures for the culverts include:- • provision of corrugated steel pipes (CSP) for roughened surfaces; • embedding CSP 600mm below bed level to facilitate fish passage; • provision of natural bed substrate within CSPs for fish passage; • provision of 1800mm diameter pipes to maximise light ingress and increased aperture; • increased pipe mitred pipe profile to reduce pressure and downstream flow velocities; and

Performance outcomes	Acceptable outcomes	Response
		• provision of geofabric on rockbags on the upstream side of the crossing to prevent fish entrapment.
PO38 The condition and value of aquatic macrophytes and other **fish habitats** is maintained.	No acceptable outcome is prescribed.	**Complies with PO38** The proposed bypass crossing is temporary works, which would be removed upon completion of the new Noah Creek bridge and demolition and removal of the existing bridge. The condition and value of the aquatic macrophytes and fish habitats would not be adversely affected long term.