

Murchison Highway Corridor Upgrade – Stitt River Bridge to Henty Road

Submission to the Parliamentary Standing Committee on Public Works

Version: 0 Date: 1 May 2023

Document Development History

Build Status

Version	Date	Author	Reason	Sections
0	01/05/2023	T Leach	Final	All

Amendments in this Release


Section Title	Section Number	Amendment Summary

Distribution

Copy No	Version	Issue Date	Issued To

Table of Contents

Table of Contents	3
1. Introduction	5
1.1. Project Name	5
1.2. Project Summary	5
1.3. Project Location	6
1.4. Related Projects and Strategic Context.....	7
2. Project Scope	9
2.1. Problem/ Opportunity Statement	9
2.2. Options Evaluation	9
2.3. Scope of Project	9
3. Project Cost	10
3.1. Overall Project Cost Summary Table	10
3.2. Budget profile for the Project	10
4. Project Benefits	11
4.1. Expected positive outcomes and benefits to be delivered by the Project	11
5. Procurement and Timing	12
5.1. Preferred procurement method for the Project	12
5.2. Project Timeline	12
6. Risk and Sustainability	13
6.1. Major risks, and proposed mitigation strategies	13
6.2. Major dis-benefits including likely impacts to the community and environment	13
6.3. Detail any sustainability strategies that will be adopted.....	13
7. Stakeholder Engagement	14
7.1. Public and Stakeholder participation and consultation.....	14
7.2. Record of Stakeholder Consultation	14
7.3. Directly affected land owners and property acquisition.....	15
8. Compliance	16
8.1. List Commonwealth or State legislation triggered by the Project.....	16
8.2. Noise	16
8.3. Environment (Flora, Fauna, Landscaping, and visual amenity)	16
8.4. Heritage (Aboriginal and Historic).....	18
8.5. Planning Approvals	18

	Name	Signature	Date
Authorised by:	Vanessa King – Acting Director Programming & Delivery		01/05/2023

I. Introduction

I.1. Project Name

Murchison Highway Upgrades – Stitt River Bridge to Henty Road.

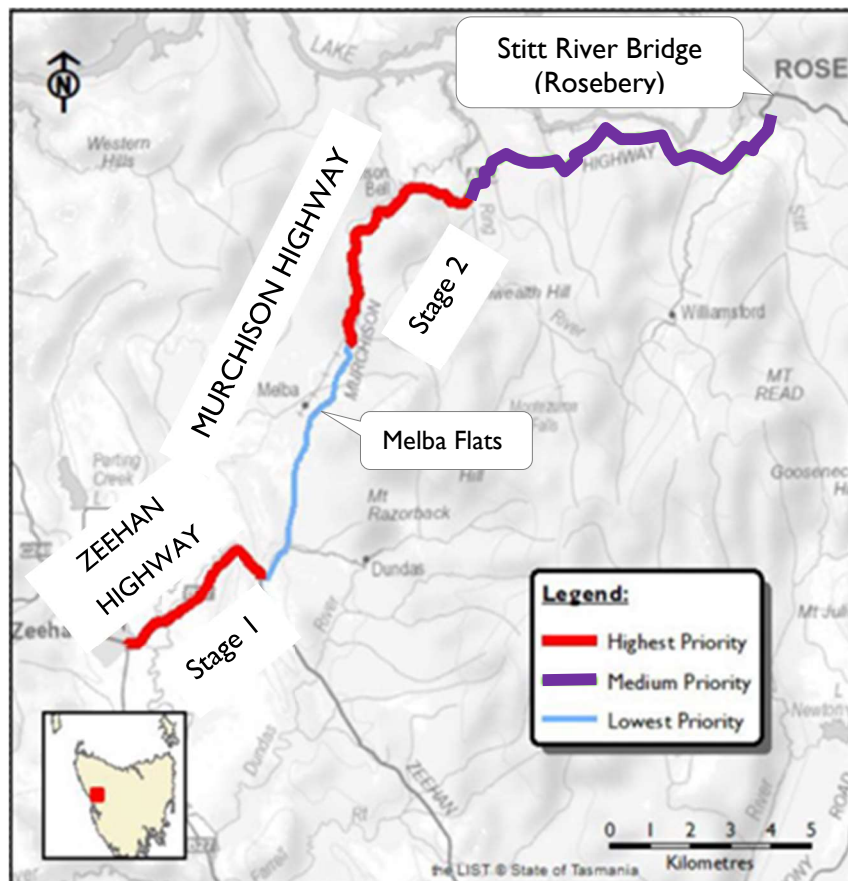
I.2. Project Summary

PROJECT OVERVIEW

The Murchison Highway and Zeehan Highway are the main and most direct routes for road users between Rosebery and Zeehan on Tasmania's west coast. The Murchison Highway is a key freight and passenger route connecting the west and north regions of Tasmania. It is critical for the movement of freight to Burnie Port for export and to other locations within Tasmania. The majority of mining freight is moved via this road.

The Murchison Highway Upgrades package responds to the current combined Tasmanian and Australian Government commitment of \$43.75 million for the ongoing upgrade to the Murchison Highway, under the Roads of Strategic Importance (ROSI) program. This program supports upgrading major highways and road systems across Tasmania to support population growth and increased expansion into regional locations.

In 2012, the Department of State Growth completed a Project Identification Report for the Murchison Highway between the Stitt River Bridge (Rosebery) and Melba Flats. Based on this assessment, and further analysis by the Department of State Growth, improvements to sections of the Zeehan and Murchison Highway were identified and prioritised with respect to the greatest improvements to road user safety and best value for money outcome. Three priority projects (highest, medium and low) were identified and are shown in the image below:



This project seeks to upgrade the highest priority projects, Zeehan Highway between Henty Road and the Murchison Highway turnoff, and the Murchison Highway between Ring River and Argent River / Serpentine. This project will be delivered under two separate stages:

- Stage 1 Zeehan Highway – Murchison Highway turnoff to Henty Road, length 4.5 km
- Stage 2 Murchison Highway – Ring River to Argent River / Serpentine, length 7.1 km.

PROJECT OBJECTIVES

The project objectives for this upgrade are to provide a consistent road geometry and travel environment for all road users. The key benefits include:

- a wider and safer road for all road users
- more formal overtaking opportunities for all road users by installing up to two passing lanes or equivalent in each direction
- strategically located pull over and load checking sites for heavy vehicle users
- increase freight efficiency and reduced travel times
- support tourism.

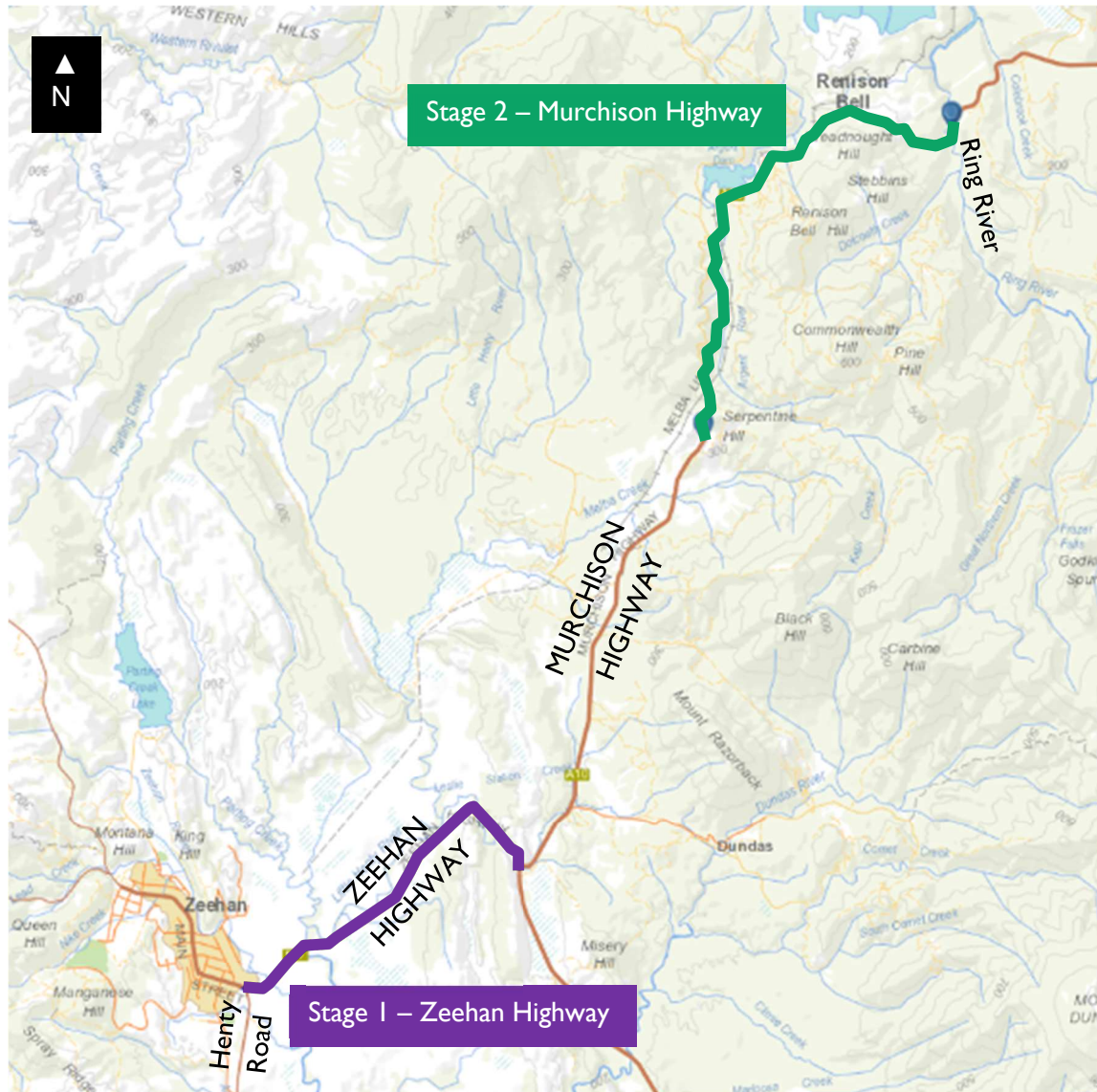
PROGRESS TO DATE:

- Stage 1 – The detailed design has been completed.
- Stage 2 – The preliminary design has been completed and design has progressed to detailed design phase.

1.3. Project Location

Works for this project are located on the Murchison Highway (A0485) and Zeehan Highway (A0472) on Tasmania's west coast as shown on the location map below.

Location Map



1.4. Related Projects and Strategic Context

In 2012 the Department of State Growth completed a Project Identification Report for the Murchison Highway between the Stitt River Bridge (Rosebery) and Melba Flats.

This report detailed the recommended upgrades including widening to 8.0 m wide sealed cross section, targeted curve improvements and potential locations for slow vehicle turn outs.

In late 2020, the Department of State Growth prepared high-level drawings detailing road upgrades for sections of the Murchison and Zeehan Highway. These were developed based on consideration of the Project Identification Report, as well as:

- issues raised by West Coast Council and the Tasmanian Transport Association
- additional investigation work undertaken to assess potential passing opportunities and horizontal alignment deficiencies.

This process identified this project, the Murchison Highway Upgrades – Stitt River Bridge to Henty Road Project.

This process has also informed other works along the Murchison Highway. Since 2012, the Tasmanian and Australian Governments have invested approximately \$20 million to upgrade approximately 21 km of the Murchison Highway south from Cradle Tourist Road to Mackintosh Bridge. Projects already completed under the Murchison Highway Corridor Upgrade program include:

- Strengthening an existing bridge on the Murchison Highway and three existing bridges on the Zeehan Highway to meet contemporary heavy freight vehicle loads.
- Widening and shoulder sealing work along the Murchison Highway over an approximate 2 km section between Mackintosh Bridge and Pieman Road, to safely accommodate existing and future passenger and freight traffic.
- Upgrading the existing Murchison Highway between Sterling River Bridge and Mackintosh Bridge including road widening, pavement strengthening, intersection upgrades, improved drainage and visibility for incoming traffic and an improvement to sight distances and overtaking opportunities.

2. Project Scope

2.1. Problem/ Opportunity Statement

The original mid 1960s geometric layout of this corridor remains largely as constructed, other than the previous projects undertaken through this program of works, yet vehicle dimensions, traffic characteristics, usage patterns and driver experience under these conditions have changed over the years, leading to some serious injury crashes.

The project provides the opportunity to upgrade the current pavement geometry and widths along these sections of highway to provide consistent geometry, and compliance through widening and geometric improvements. The upgrade provides an opportunity to create a standard 9m-carriageway, improve corners, and create more formal overtaking opportunities to improve safety and longevity of the carriageway.

2.2. Options Evaluation

From the 2012 report and analysis work completed in late 2020 by the Department of State Growth, sections of the Zeehan and Murchison Highways were prioritised with respect to the greatest improvements to road user safety and best value for money outcome resulting in the selection of this project.

Consideration was given to the location of a truck stop to allow for load checking and vehicle inspection with the most practical solution to be provided at an area south of the Zeehan Highway / Henty Road intersection.

Option analysis was also undertaken for both stages to determine overtaking opportunities based on proximity to towns, road gradients, existing road geometry and expected traffic volume composition.

A Natural Values Assessment (NVA) was undertaken in April 2022 which found that there was a federally listed threatened community of *Eucalyptus Ovata*. The design has been modified to avoid impact on this species.

2.3. Scope of Project

The project scope includes upgrading the Zeehan Highway between the Murchison Highway turnoff and Henty Road and the Murchison Highway between Ring River to Argent River / Serpentine to provide:

- An overall sealed width of 8.0 m, which is an increase from the existing sealed width of 6.0 m (nominally). The cross section will consist of:
 - 3.1 m wide sealed traffic lanes
 - 0.9 m wide sealed shoulders
 - 0.5 m wide unsealed gravel verges.
- Passing lanes in up to two locations in each direction on the Murchison Highway.
- Three new pull-over bays and load checking sites for heavy vehicle users.
- Improvements to the Zeehan Highway / Henty Road and Zeehan Highway / Murchison Highway intersections.

3. Project Cost

3.1. Overall Project Cost Summary Table

The Total Outturn Cost breakdown is in the summary table below.

	P50 (\$m AUD)	P90 (\$m AUD)
Base Cost Estimate	\$16.375	\$16.375
Contingency	\$1.875	\$3.246
Total Project Cost Estimate	\$18.250	\$19.621
Escalation	\$1.807	\$1.981
Total Outturn Cost Estimate	\$20.057	\$21.602

This cost estimate, including allowances for contingencies and escalation, is within the current overall project budget of \$43.75 million, including \$20.2 million for previous components already completed.

3.2. Budget profile for the Project

The current budget profile for the construction phases of these works is as below.

Financial year	FY23/24 (\$ m)	FY24/25 (\$ m)	FY25/26 (\$ m)	FY26/27
Total	7.0	7.0	6.0	2.7 ¹

¹ Includes allowance for a final small project up to the \$43.75 million commitment.

4. Project Benefits

4.1. Expected positive outcomes and benefits to be delivered by the Project

- Improved safety by widening the road width and improving delineation.
- Improved travel environment by providing a consistent and contemporary road geometry.
- Improved freight efficiency by providing more passing opportunities and installing up to two passing lanes in each direction.
- Improved heavy vehicle pull over bays for load checking.
- Reduced maintenance by improving road surface.
- Increased opportunities for freight export through efficient safe road travel.
- Increased local employment opportunities, created through construction.

5. Procurement and Timing

5.1. Preferred procurement method for the Project

The preferred procurement method is a construct only contract open to tenderers who meet the National prequalification requirements.

This provides competition (competitive price tension) and value for money and invites contractors prequalified with sufficient expertise, equipment, and human and financial resources to undertake the construction work of this complexity.

5.2. Project Timeline

Procurement for Stage 1 and 2 works will be combined for a mid-2023 tender release.

Activity	Timeline
Stage 1	
Preliminary design development	April 2022
Detailed design development	June 2022
Stage 2	
Preliminary design development	February 2023
Detailed design development	June 2023
TasNetworks design	TBC
Delivery	
Tender Contract (Stage 1 & 2)	July 2023 ²
Award Contract (Stage 1 & 2)	August/September 2023 ³

² Subject to TasNetworks design and easement procurement

³ Subject to receipt of Public Works Committee approval, noting approval prior to tender is preferred.

6. Risk and Sustainability

6.1. Major risks, and proposed mitigation strategies

The table below outlines the major risks and proposed mitigation strategies identified.

Major Risk Identified	Proposed Mitigation
Major cuttings may have stability issues	Perform detail geotechnical analysis for slope design (largely complete); design modifications under consideration currently on Stage 2.
Construction activities leading to further spreading of the listed weed gorse	Protocols for sanitising and sterilising construction equipment as it moves within and between sites and especially as it moves off site all together to be included in contract documents.
Presence of acid sulphate soils and water run off	Design incorporates mitigation strategies of any impact on Acid Sulphate soil sites.
Weather delays	Delivery of project aligned with local weather conditions
Impact to threatened flora and fauna	Refer further below for discussion of flora and fauna investigations. Design has been modified to minimise impacts.
Stage 2 development application program implications	Liaison with Council during detailed design phase to confirm Stage 2 works are exempt from development application.
Contractor rates higher due to high workload and remote area	Cost estimate includes for higher expected costs.

6.2. Major dis-benefits including likely impacts to the community and environment

No major dis-benefits are expected from the project.

Minor dis-benefits will occur during construction, in relation to the traffic management required for geographically constrained construction sites and possible need for relatively frequent short duration road closures. This occurs on all highway projects.

There will also be minor impacts to landowners as some power poles will need to be relocated to allow for road widening work, requiring new electricity easements.

6.3. Detail any sustainability strategies that will be adopted

Due to a potential impact on sensitive flora around Serpentine Hill, the roadworks footprint has been modified to avoid sensitive areas of flora.

7. Stakeholder Engagement

7.1. Public and Stakeholder participation and consultation

A project specific Stakeholder Communications and Engagement Plan (SCEP) has been developed for this project and is being implemented.

This plan identifies the key project stakeholders, their interest in and influence on the project and proposed engagement activities. The key project stakeholders identified include:

- West Coast Council
- Tasmanian Transport Association
- Traditional owners
- Impacted and adjacent landowners including two private landowners, Sustainable Timbers Tasmania and NRE.

Key activities identified for this phase include:

- Ongoing liaison with key stakeholders
- Notifications and meetings with adjacent landowners and business owners
- Notifications to Traditional Owners
- Release of information publicly at key project milestones, on the RoadsTas webpage.

7.2. Record of Stakeholder Consultation

Planned date range or completed	Tool or method	Stakeholder	Likely Issues	Management Plan
15 March to 30 April 2022 (completed)	Notification letter	West Coast Council Tasmanian Transport Association Aboriginal Heritage Tasmania Local Aboriginal groups Heritage Tasmania Adjacent residents and businesses	No issues raised.	Managed per approved SCEP
28 Feb to 18 March 2022 (Completed)	Website and e-newsletter publication of traffic impacts from field investigation work (survey and test pitting)	Road users	No issues raised.	
Mid-March 2022 (Completed)	Site visit	Tasmania Transport Association (TTA)	On-site confirmation of passing facilities with the TTA. No issues raised.	

Planned date range or completed	Tool or method	Stakeholder	Likely Issues	Management Plan
15 March 2022 (Completed)	Website update with project details and contact information.	All	No issues raised.	
Ongoing	Meetings	Impacted landowners and business owners	Concerned with property impacts. Concerned with access to property from highway.	Address concerns where practical and cost effective. Regular contact with landowners and business owners during construction.
At end of Stage 2 design	Consultation and feedback report (Stage 1 and Stage 2)	All	No issues likely.	

7.3. Directly affected land owners and property acquisition

Stage 1 – Zeehan Highway between Henty Road and the Murchison Highway turnoff

Property acquisition is not required for Stage 1.

Some power poles will need to be relocated to allow for the road widening work. An electricity easement will be required from two properties as part of this process. The easements process is currently being progressed by the Department.

Stage 2 – Murchison Highway between Argent River / Serpentine and Ring River

Property acquisition may be required to allow for the Stage 2 proposed upgrades. This will be determined as part of the detail design process.

Some power poles will need to be relocated as part of the project to allow for the roadworks. It is likely electricity easements will be required from private properties to facilitate this. Easements will be determined as part of the detail design process.

The access to the Renison Bell Mine is included within the extent of the Stage 2 roadworks. Any changes to the access will be determined as part of the detail design process. Stakeholder Engagement has commenced and will continue during the detail design and construction phases.

8. Compliance

8.1. List Commonwealth or State legislation triggered by the Project

Commonwealth:

- EPBC Act 1999 (assessed, not triggered due to design changes)
- A New Tax System (Goods and Services Tax) Act 1999
- Australian Government Building and Construction Occupational Health and Safety Accreditation Scheme
- Fair Work (Building Industry) Act 2015 Version incorporating amendments as of 27 November 2015

State:

- State Policies and Projects Act 1993
- Weed Management Act 1999
- Highways Act 1951
- Roads and Jetties Act 1935
- Aboriginal Relics Act 1975
- Environmental Management and Pollution Control Act 1994
- Work Health and Safety Act 2012

8.2. Noise

The project has been assessed under the *Tasmanian State Road Traffic Noise Guidelines* (2015). Under these guidelines:

- Stage 1 was not eligible for a traffic noise assessment as there would be no properties impacted by the works.
- Further assessment or mitigation was not recommended for Stage 2, as the works do not increase the traffic carrying capacity, increase the number of carriageways, or widen the highway beyond the road reserve.

8.3. Environment (Flora, Fauna, Landscaping, and visual amenity)

Stage 1 – Zeehan Highway between Henty Road and the Murchison Highway turnoff

Vegetation Communities

A field survey was conducted in April 2022 of the on-ground vegetation within the project boundaries. A federally listed Threatened Ecological Community (TEC) 'Tasmanian Forests and Woodlands dominated by black gum or Brooker's gum (*E. ovata*/*E. brookeriana*)' was found adjacent to the project.

The project was redesigned to avoid impacting on the threatened vegetation communities recorded within the survey area.

Threatened Flora

A total of 94 flora species were identified within the extent of the survey area, including 74 native species, and 20 introduced flora species. No threatened flora was identified during the field survey. As such, no additional approvals are required with respect to threatened flora for stage 1.

Threatened Fauna

A total of 16 fauna species were identified within the survey area during the field survey. Several excavations (and associated chimneys) attributed to *Engaeus* species (burrowing crayfish) were identified during the survey. The survey activities identified several carnivorous scats throughout the survey area. Overall, the scats contained varying items including bone fragments, hair and fur; consistent with the attributes of scats of Tasmanian devils or the two Tasmanian species of quoll.

Based on the results of the survey, a range of threatened fauna species (Tasmanian devil, spotted-tail quoll, masked owl, wedge-tailed eagle) have the potential to be present within the survey area. However, the proposed works are considered unlikely to impact on any significant habitat for any threatened fauna species.

B. zeehanensis and *P. conica* are both freshwater snails previously recorded in Leslie Station Creek and in the surrounding habitat. These are known to be cryptic and rarely identified. As such any impacts to the creek may alter suitable habitat for both species. Downstream or indirect impacts to habitat for threatened freshwater snail species will be managed through the implementation of a Construction Environmental Management Plan (CEMP) and sediment and erosion control measures. As such, no approvals are required with respect to threatened fauna and associated habitat for Stage 1.

Stage 2 – Murchison Highway between Argent River / Serpentine and Ring River

Vegetation Communities

Based on the vegetation communities recorded within the survey area, the proposed roadworks are not expected to impact any threatened vegetation communities. As such, no approvals are required with respect to Threatened Vegetation Communities for Stage 2.

Threatened Flora

The majority of the threatened flora records were located to the south of the Stage 2 extent within the Roadside Conservation Site (RCS - *Serpentine Hill 01 [SH01]* & *Serpentine Hill 02 [SH02]*).

Due to the potential impact to the threatened flora, the northbound passing lane location has been moved to avoid impact. The final location is to be confirmed but investigations are occurring approximately between 7 km and 8 km north of the Zeehan Highway intersection to address this.

Threatened Fauna

Based on the results of the survey, a range of threatened fauna species (Tasmanian devil, spotted-tail quoll, masked owl, wedge-tailed eagle) have the potential to be present within the survey area. However, the proposed roadworks area considered unlikely to impact on any significant habitat for any threatened fauna species. As per Stage 1, downstream or indirect impacts to habitat for threatened freshwater snail species will be managed through the implementation of a CEMP and sediment and erosion control measures.

B. zeehanensis was considered as likely to occur in the Argent River. Where impacts to Argent River cannot be managed through the CEMP, further surveys may be required to determine the species presence/absence, abundance, extent of habitat for *B. zeehanensis* and adequately assess the impacts of the proposed roadworks on the species. Based on the Natural Values Atlas records of threatened fauna species, surveys will be conducted close to where Argent River crosses the Murchison Highway. The results will inform the impact assessment and the requirement for a permit to take.

As such, no additional approvals are currently required with respect to threatened fauna and associated habitat for stage 2.

In Tasmania the clearing of native vegetation must be conducted in accordance with a Forest Practices Plan (FPP) that has been certified by the Forest Practices Authority, pursuant to the *Forest Practices Act 1985*. As such, any clearing activities will be done in accordance with a FPP or a prescribed exemption.

8.4. Heritage (Aboriginal and Historic)

Results of the Aboriginal Heritage Register Search

As part of Stage 1, a search of the Aboriginal Heritage Register (AHR) was carried out to determine the extent of registered Aboriginal heritage sites within and in the general vicinity of the study area.

From the search results, five registered Aboriginal sites were identified within an approximate 6 km radius of the study area (search results provided from Aboriginal Heritage Tasmania). Two of these sites are classified as artefact scatters, with the other three sites classified as isolated artefacts.

No registered Aboriginal sites were identified that were located within or in the immediate vicinity of the study area corridor. Based on the low densities of recorded Aboriginal heritage sites in this hinterland area of the West Coast region, it is assessed that there is a low to very low potential for undetected Aboriginal heritage sites to be present within the study area corridor. If sites are present, they will likely be isolated artefact scatters or low-density artefact scatters.

If previously undetected Aboriginal heritage sites, objects or suspected features are located during the course of the proposed road upgrade works, the Unanticipated Discovery Plan process will be followed. This requirement will be included in the construction contract.

8.5. Planning Approvals

Stage 1 – Zeehan Highway between Henty Road and the Murchison Highway turnoff

A development application is not required for this section due to exemptions applying under the *Roads and Jetties Act 1935* and the *Land Use Planning and Approvals Act 1993*. Correspondence from the relevant planning authority, West Coast Council, confirmed that the plans provided satisfied the exemptions, including a 140 m stretch outside the mapped State Road casement.

Stage 2 – Murchison Highway between Argent River / Serpentine and Ring River

Stage 2 stretches over 7 km from the first crossing of the Melba Railway northwards to the eastern boundary of the Renison Bell Regional Reserve, which is also part of a large mining lease. West Coast Council is the planning authority for this land also.

The design philosophy is to remain within the bounds of what would be exempt from planning controls by using the existing right of way (the State Road casement). However, the steep slopes in the area mean even minor widening may cause significant cutting or fill of land which would clear vegetation, especially within the Renison Bell Regional Reserve and existing Roadside Conservation Site at Serpentine Hill. Currently the design is mitigating these impacts.

Works within the mining area may be on potentially contaminated land and where excavation is involved, this would require a Permit.

The confirmation of planning exemptions would be at the discretion of Council and will be confirmed during the detailed design phase.

9. Conclusion and Recommendation

The proposed Murchison Highway Upgrades – Stitt River Bridge to Henty Road works have been developed in response to the current combined Tasmanian and Australian Government commitment of \$43.75 million for the ongoing upgrade to the Murchison Highway, under the Roads of Strategic Importance (ROSI) program. This program supports upgrading major highways and road systems across Tasmania to support population growth and increased expansion into regional locations.

The proposed works for this upgrade are to provide a consistent road geometry and travel environment for all road users. Key benefits of these works include:

- Improved safety by widening the road width and improving delineation.
- Improved travel environment by providing a consistent and contemporary road geometry.
- Improved freight efficiency by providing more passing opportunities and installing up to two passing lanes in each direction.
- Improved heavy vehicle pull over bays for load checking.
- Reduced maintenance by improving road surface.
- Increased opportunities for freight export through efficient safe road travel.
- Increased local employment opportunities, created through construction.

The works are at detailed design phase and construction tenders are scheduled to be advertised in July this year subject to receipt of PWC and other relevant approvals.

The estimated cost of the works is \$20 million, which is within the budget of \$43.75 million. The current cost estimate is considered reasonable for the scale and scope of works proposed.

These Murchison Highway Upgrades – Stitt River Bridge to Henty Road works are considered to be a fit for purpose and value for money solution to address the existing community need of increasing safety on the Murchison Highway.

Appendix A – Design Drawings