ORDINARY MEETING

AGENDA

30 NOVEMBER 2021

Your attendance is required at an Ordinary meeting of Council to be held in the Council Chambers, 232 Bolsover Street, Rockhampton on 30 November 2021 commencing at 9.00am for transaction of the enclosed business.

In line with section 277E of the Local Government Regulation 2012, it has been determined that it is not practicable for the public to attend Council meetings in person at the current time. Until further notice, Council meetings will instead be livestreamed online.

CHIEF EXECUTIVE OFFICER
26 November 2021

Next Meeting Date: 14.12.21

Please note:

In accordance with the *Local Government Regulation 2012*, please be advised that all discussion held during the meeting is recorded for the purpose of verifying the minutes. This will include any discussion involving a Councillor, staff member or a member of the public.

TABLE OF CONTENTS

1 OPENING

1.1 Acknowledgement of Country

2 PRESENT

Members Present:

The Mayor, Councillor A P Williams (Chairperson)
Councillor S Latcham
Councillor C E Smith
Councillor C R Rutherford
Councillor M D Wickerson
Councillor D Kirkland
Councillor G D Mathers

In Attendance:

Mr E Pardon – Chief Executive Officer

3 APOLOGIES AND LEAVE OF ABSENCE

Councillor Neil Fisher - Leave of Absence from 23 October 2021 to 31 December 2021

4 CONFIRMATION OF MINUTES

Minutes of the Ordinary Meeting held 23 November 2021

5 DECLARATIONS OF INTEREST IN MATTERS ON THE AGENDA

6 BUSINESS OUTSTANDING

6.1 LIFTING MATTERS FROM THE TABLE

File No:	**11979**
Attachments:	**Nil**
Authorising Officer:	**Evan Pardon - Chief Executive Officer**
Author:	**Evan Pardon - Chief Executive Officer**

SUMMARY

Items laid on the table require a report to be lifted from the table before being dealt with. This report is designed to lift the reports that have been laid on the table at previous meetings.

OFFICER'S RECOMMENDATION

THAT the following matter be lifted from the table and dealt with accordingly:

- COVID-19 Restrictions 17 December 2021

7 PUBLIC FORUMS/DEPUTATIONS

Nil

8 PRESENTATION OF PETITIONS

Nil

9 COUNCILLOR/DELEGATE REPORTS

9.1 COVID-19 RESTRICTIONS 17 DECEMBER 2021

File No: 10097
Attachments: Nil
Authorising Officer: Evan Pardon - Chief Executive Officer
Author: Evan Pardon - Chief Executive Officer

SUMMARY

Councillor Kirkland presented a "Notice of Motion" in relation to COVID-19 Restrictions 17 December 2021 to Council meeting on 23 November 2021.

COUNCILLOR'S RECOMMENDATION

THAT:

1. Rockhampton Regional Council submit a letter to our State Premier following the offer to Queensland Councils to provide feedback on her Governments proposal to introduce COVID-19 restrictions for unvaccinated persons from 17th December 2021 advising that:
    a. over the last week councillors have been inundated with communications from the local community and business owners expressing strong and unreserved concern about the social and financial impacts that the new restrictions will have on businesses, patrons and employees;
    b. business owners and employees represented in their communications that vaccination should be an individual's choice, and employers should not be forced to exclude valued employees from the workplace for exercising that choice;
    c. examples from communications received expressed that mandated restrictions will hinder businesses from operating to their fullest potential due to loss of the ability to conduct business as usual, and loss of critical staff – some to the point of closure.
    d. local Businesses remain unsure of their obligations and liabilities for employees under Work Health and Safety legislation;
2. Council respectfully seeks the support of the Premier in taking into account the voice put forward by the business community, and that she reconsider the decision of introducing mandated restrictions from December 17 2021.

COMMENTARY

Councillor Kirkland presented a Notice of Motion to Ordinary Council meeting held on 23 November 2021 as follows:

THAT:

1. Rockhampton Regional Council submit a letter to our State Premier following the offer to Queensland Councils to provide feedback on her Governments proposal to introduce COVID-19 restrictions for unvaccinated persons from 17th December 2021 advising that:
    a. over the last week councillors have been inundated with communications from the local community and business owners expressing strong and unreserved concern about the social and financial impacts that the new restrictions will have on businesses, patrons and employees;

b. business owners and employees represented in their communications that vaccination should be an individual's choice, and employers should not be forced to exclude valued employees from the workplace for exercising that choice;
c. examples from communications received expressed that mandated restrictions will hinder businesses from operating to their fullest potential due to loss of the ability to conduct business as usual, and loss of critical staff – some to the point of closure.
d. local Businesses remain unsure of their obligations and liabilities for employees under Work Health and Safety legislation;

2. Council respectfully seeks the support of the Premier in taking into account the voice put forward by the business community, and that she reconsider the decision of introducing mandated restrictions from December 17 2021.

PREVIOUS DECISIONS

Council meeting 23 November 2021:

Procedural Motion

That the matter lay on the table until the next Council meeting to be held on 30 November 2021, pending a response to the recent correspondence sent from CQ-ROC to the Premier of Queensland.

Moved by: Mayor Williams

CONCLUSION

This matter is included on the Agenda in accordance with the Procedural Motion. No response has been received to date to the recent correspondence sent from CQ-ROC to the Premier of Queensland.

10 OFFICERS' REPORTS

ADVANCE ROCKHAMPTON
Councillor Portfolio – *Mayor Williams*

No items for consideration

AIRPORT
Councillor Portfolio – *Councillor Fisher*

No items for consideration

COMMUNITIES AND HERITAGE
Councillor Portfolio – *Councillor Wickerson*

10.1 MT MORGAN POOL REDEVELOPMENT

File No:	**1808**
Attachments:	**Nil**
Authorising Officer:	**Alicia Cutler - General Manager Community Services**
Author:	**Andrew Collins - Manager Project Delivery**

SUMMARY

The purpose of this report is to provide Council with an update on the Mt Morgan Pool Redevelopment Project and seek Council's approval on the Projects Scope so design development can commence.

OFFICER'S RECOMMENDATION

THAT Council receives this report as the latest status on the project and approves the scope of works as defined in this report.

COMMENTARY

The existing pool and supporting facilities and infrastructure at the current Mount Morgan Pool site have reached the end of their viable service life and do not provide what is required for a contemporary Aquatic Centre that meets the needs of the community.

There are two (2) 25m pools on the site one is currently functioning as the community pool however it requires regular maintenance to prevent water loss and the plant and equipment for filtration and sanitation is in dire need of replacement as it is old and the technology not in line with current water management processes. The other pool has been closed. The change rooms are typical for the age of the pool complex and require replacement. The grandstands are of timber construction and require refurbishment and modification for compliance to current building standards.

The solution to provide the community access to a pool facility is essentially the full development of the current site and engagement with the greater precinct known as Boyd Park.

BACKGROUND

The objective of this project is to deliver a fully redeveloped Aquatic Recreation Centre in line with contemporary facility practices and planning requirements. The following elements are considered essential in meeting this scope.

- Demolition of existing structures on site including the unused Squash Court structure;
- Site upgrade – power, sewer, water;
- Construction of:
    - New pool – 25m x 8 lane, 900mm to 1350mm depth, wet deck and tiled concourse, entry ladders, starting blocks and all accessibility ramp.
    - New plant shed and installation of filtration and sanitation plant equipment including water harvesting,
    - Shade structures (half pool)
    - Splash pad/wet play and shade structures
    - Change rooms, amenities and entry kiosk of sufficient size for the complex
- Installation of portable grandstands;
- Landscaping, lighting and fencing; and
- Car park resurfacing

It is envisaged that the new Aquatic Recreation Centre will interact with the greater Boyd Park. To allow this to happen it is planned to demolish the existing Squash Courts so a community accessible wet play area can be constructed in this vicinity.

The project does not include any work on the heritage listed care takers cottage on the site or the other existing 25m pool and shade structure.

The project will have a high community profile especially given the current water restrictions. A communication plan and information sessions will be developed through the Marketing and Engagement sections of Council. This will help facilitate communication, information and aid in the project being delivered with as much positive feedback as possible.

The process of design development will be to engage with a suitably qualified Aquatic Centre designer and work shop with council to develop concept designs and a cost plan that defines the projects scope and facilitates an investment ready project.

Further detailed design will be commissioned on the approved concept design and tenders called for the construction works. It is estimated that the works on site will take approximately one (1) year to complete, the facility at this time will be closed to the community.

PREVIOUS DECISIONS

Council determined on 10 August 2021 the following resolution.

"THAT Council submit an application for funding through the Resources Community Infrastructure Fund, Round 1 for the Mount Morgan Swimming Pool refurbishment."

BUDGET IMPLICATIONS

Council has allocated $500,000 in its 21/22 capital Budget and a further $4.5M in its 22/23 budget, with offsetting funding of $2,500,000. Put simply, the current budget reflects a net cost of Council of $2,500,000.

The current estimate of cost for the project is in the range of $6.5M and as yet, no external funds have been received.

LEGISLATIVE CONTEXT

N/A

LEGAL IMPLICATIONS

N/A

STAFFING IMPLICATIONS

N/A

RISK ASSESSMENT

The risk to council in the ongoing operation of the current Mt Morgan Pool Complex is high for functionality failure and water loss. This may also have some reputational impacts especially given the water security issues in the Community.

The Pool is not up to current standards, for all ability access, water usage and quality management. This could pose an equality issue for Council.

CORPORATE/OPERATIONAL PLAN

The implementation of the recommendations put forward in this report are supported by the goals and outcomes detailed in the corporate plan as follows:

COMMUNITY EXPECTATION – Regional Infrastructure and Facilities Corporate Outcomes
1.1 Safe, accessible, reliable and sustainable infrastructure and facilities

1.2 Regional public places that meet our community's needs

CONCLUSION

The existing pool and supporting facilities and infrastructure at the current Mount Morgan Pool site have reached the end of their viable service life and do not provide what is required for a contemporary Aquatic Centre that meets the needs of the community.

The solution is for a full redevelopment of the site. The scope of the project needs to be defined by Council to allow designs, funding and construction to proceed.

INFRASTRUCTURE
Councillor Portfolio – *Councillor Smith*

10.2 RURAL ROADS NETWORK POLICY, PROCEDURE AND DESIGN STANDARDS

File No:	**11979,11980**
Attachments:	**1. Rural Road Network Policy⇩** **2. Rural Road Network Procedure⇩** **3. Design Standards for Rural Roads Guideline⇩** **4. Policy Change Table⇩**
Authorising Officer:	**Peter Kofod - General Manager Regional Services**
Author:	**Martin Crow - Manager Infrastructure Planning**

SUMMARY

Council's existing policies and procedures relating to Council's rural roads have been reviewed. The opportunity has been taken to consolidate information into a Rural Road Network Policy and a Rural Road Network Procedure. Design information from previous policies and procedures has been consolidated in to the Design Standards for Rural Roads Guideline.

OFFICER'S RECOMMENDATION

THAT Council:

1. Rescind the
    a) Upgrading of an Unsealed Road to a Higher Standard Policy,
    b) Intermittent Sealing of Unsealed Rural Roads Policy,
    c) Opening of Unconstructed Roads Policy,
    d) Upgrading of Unsealed Rural Roads to Sealed Standard Policy,
    e) Intermittent Sealing of Unsealed Rural Roads Procedure,
    f) Opening of Unconstructed Roads Procedure,
    g) Upgrading of Unsealed Rural Roads to Sealed Standard Procedure,
    h) Design Standards for Roads Guideline; and
2. Adopt the Rural Road Network Policy;
3. Endorse the Rural Road Network Procedure; and
4. Endorse the Design Standards for Rural Roads Guideline.

COMMENTARY

The proposed Rural Road Network Policy and Procedure are largely consistent with previous policies and procedures adopted by Council that dealt with rural road matters. The proposed Rural Road Network Policy was workshopped with Councillors at the Infrastructure Portfolio Workshop on 6 September 2021. Clarification and direction on a number of inconsistencies was received from Council which have now been incorporated into the document.

These clarifications essentially dealt with the location on a property to which road access will generally be provided, the definition of a property and the decision making responsibilities within the policy being allocated to the General Manager Regional Services or the Manager Civil Operations.

Design information from previous policies and procedures have been relocated into the Design Standard for Rural Roads Guideline but essentially remain unchanged.

In alignment with Council's policy framework, the Rural Road Network Policy is being put forward to Council for adoption and endorsement only is being sought for the Rural Road Network Procedure and the Design Standards for Rural Roads Guideline. Future amendments to the Rural Road Network Procedure and the Design Standards for Rural Roads Guideline are to be approved by the General Manager Regional Services

BACKGROUND

Council's existing policies and procedures relating to Council's rural roads required review. A review of the existing policies and procedures and a comparison with Council's policy and procedure framework has identified that a number of inconsistencies need to be addressed and clarifications' are required.

Alignment with Council's policy framework has required the complete rewrite of these policies and procedures and the opportunity has been taken to consolidate the previous policies and procedures into single policy and procedure documents. In summary, the following changes have been made.

Original Policies	**New Policy**
Upgrading of Unsealed Roads to a Sealed Standard Policy	Rural Road Network Policy
Upgrading of Unsealed Roads to a Higher Standard Policy	
Intermittent Sealing of Unsealed Rural Roads Policy	
Opening of Unconstructed Roads Policy	
Commentary	
Policy contained within the original policies have been combined into the new Rural Road Network Policy. Procedural matters of how the policy is to be implemented have been transferred into the Rural Road Network Procedure document.	

Original Procedure	**New Procedure**
Upgrading of Unsealed Roads to a Sealed Standard Procedure	Rural Road Network Procedure
Intermittent Sealing of Unsealed Rural Roads Procedure	
Opening of Unconstructed Roads Procedure	
Commentary	
Procedures contained within the original procedures have been combined into the new Rural Road Network Procedure. Design standards in the original procedures have been transferred into the Design Standards for Rural Roads Guideline.	

Original Design Standard	**New Design Standard**
Design Standard for Roads Guideline	Design Standard for Rural Roads Guideline
Commentary	
Previous design standards where considered appropriate but were spread across policies, procedures and the guideline. These design standards have been consolidated into the new guideline and expanded upon where necessary to give greater guidance where information was thought lacking and greater consistency in application.	

More detailed commentary on the changes within and across the policy, procedure and design standards has been included in the attachments.

LEGISLATIVE CONTEXT

The policies and procedures assist Council with the management of Council's road network in accordance with the Local Government Act 2009.

CONCLUSION

Council's existing policies and procedures relating to Council's rural roads require review.

Alignment with Council's policy framework has required the complete rewrite of these policies and procedures and the opportunity has been taken to consolidate the previous policies and procedures into single policy and procedure documents. The proposed policy, procedure and associated design standard is presented to Council for consideration.

RURAL ROADS NETWORK POLICY, PROCEDURE AND DESIGN STANDARDS

Rural Road Network Policy

Meeting Date: 30 November 2021

Attachment No: 1

RURAL ROAD NETWORK POLICY

COMMUNITY POLICY

1 Scope

This policy applies to the opening of previously unrecognised and unconstructed rural roads and the upgrading of existing rural roads identified on Rockhampton Regional Council's Road Register and under the jurisdiction of Council.

This policy does not apply to development works approved under the *Planning Act 2016* or other legislation that requires the approval of works within the Council Road Reserve.

2 Purpose

The purpose of this policy is to provide a consistent and transparent assessment of the opening of unconstructed rural roads, upgrading of rural roads to a higher standard and intermittent sealing of unsealed roads.

3 Related Documents

3.1 Primary

Nil

3.2 Secondary

Human Rights Act 2019

Local Government Act 2009

Local Law No. 1 (Administration) 2011

Planning Act 2016

Subordinate Local Law No. 1.1 (Alteration or Improvement to Local Government Controlled Areas and Roads) 2011

Subordinate Local Law No. 1.16 (Carrying Out Works on a Road or Interfering with a Road or its Operation) 2011

Transport Infrastructure Act 1994

Design Standards for Rural Roads Guideline

Roads Asset Management Plan

Road Register

Road Reserve Works Permit

Road Reserve Works Permit Application Form

Rural Road Network Procedure

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Adopted/Approved:	Draft	Department:	Regional Services
Version:	1	Section:	Civil Operations
Reviewed Date:		Page No:	Page 1 of 5

4 Definitions

To assist in interpretation, the following definitions apply:

AADT	Annual Average Daily Traffic
Council	Rockhampton Regional Council
Driveway Access	A property access point constructed between a Council maintained road and the property boundary.
Habitable Dwelling	A building or structure which has been approved for use as a habitable building or structure.
Higher Standard	Improvement in the level of service of a road.
Property	A collection of parcels of rural land, typified by having adjacent boundaries or that would be adjacent but for a road or other public reserve and operated collectively for farming or primary production.
Property Road	A road constructed beyond the point adjacent to the nearest property boundary of the property and only servicing that property.
Region	Rockhampton Regional Area defined by the Local Government Areas of Queensland.
Road	As defined in section 59(2) of the *Local Government Act 2009*.
Road Register	A register of roads containing details as listed in section 74 of the *Local Government Act 2009*.
Rural Road	A road classified as either a Rural arterial, rural major collector, rural minor collector or rural access road in Council's adopted Road Hierarchy.
Unconstructed Road	A dedicated road reserve that does not contain a road recognised in Council's Road Register as a Council owned road.
Unsealed Road	A road that has no bitumen based or concrete sealed surface.

5 Policy Statement

Under the *Local Government Act 2009*, Council has the power to construct, maintain and improve roads under Council's jurisdiction. The *Local Government Act 2009* does not impose an obligation on Council to construct roads nor maintain roads that Council has not accepted as part of Council's road network. Council's road network is captured in Council's Road Register as Council owned roads.

Council recognises the importance of the development and ongoing maintenance of the rural road network and the reliance on the rural road network by the community for its social, economic and environmental wellbeing. Council's Road Register identifies Council owned roads that Council has committed to maintain. Council's Roads Asset Management Plan identifies the maintenance standard or levels of service that the rural road network will be maintained to at current funding levels.

In order to maintain the rural road network in a sustainable manner, Council must manage the expansion of the rural road network or increases in level of service on the rural road network in a prudent manner.

Council is committed to planning its own road upgrade works and assessing requests in accordance with this policy and the Rural Road Network Procedure for the opening of unconstructed roads or upgrading of the rural road network to ensure a consistent and transparent manner whilst taking into consideration the adopted levels of service for the road network and Council's budgetary limitations.

5.1 Opening of Unconstructed Roads at the Applicant's Cost

From time to time, Council receives requests to open and construct unconstructed roads. This includes the expansion or extension of an existing Council owned road past the limits identified in the Council's Road Register.

The principal purpose of Council's rural road network is to provide road access to properties containing habitable dwellings to a defined standard and level of service.

Road access is generally provided to a point adjacent to the nearest property boundary of the applicant's property.

Roads constructed beyond the point adjacent to the nearest property boundary of the applicant's property and only servicing that property will be considered property roads. Property roads are considered private roads and the construction and maintenance of a property road is the responsibility of the property owner.

Property access constructed between a Council maintained road and the property boundary will be considered a driveway access. The construction and maintenance of a driveway access is the responsibility of the property owner.

Council's own planning does not include the opening of unconstructed roads in the rural road network.

Council considers requests to open an unconstructed road at the applicant's cost where no alternate access already exists and it is unlikely to have a detrimental impact on operations of the road network.

The following assessment criteria is considered for the opening of unconstructed rural roads and if approved, will determine the design standard to be applied:

(a) Whether there is an occupied habitable dwelling on the property;

(b) Whether legal and practical access is available via another constructed road;

(c) Whether the road could be constructed to the standard required in the Design Standards for Rural Roads Guideline without any significant environmental impacts;

(d) Whether the opening of a road (particularly a connecting road) may lead to undesirable effects on the road network which may require the proposed road be constructed now or in the future to a higher standard than originally anticipated;

(e) Whether there are any further legal or statutory obligations, including native title, cultural heritage and environmental obligations required to be met prior to opening of the road; and

(f) Any other site specific issues that might arise from works at that site.

Requests to open an Unconstructed Road at the applicant's cost must be approved by the General Manager Regional Services or Manager Civil Operations. Where approval to open an unconstructed road at the applicant's cost is provided, the applicant is required to apply for and obtain a Road Reserve Works Permit from Council by submitting a Road Reserve Works Permit Application Form prior to commencement of the works.

Once the opening of the road has been completed and accepted by Council, the opened section of road, is added to the Council Road Register as a Council owned road and Council assumes maintenance and renewal responsibilities to the point nominated by Council.

Council may consider the opening of a road beyond the point adjacent to the nearest property boundary of the applicant's property at the applicant's cost however these roads are considered property roads or driveway accesses with maintenance and renewal of the property road or driveway access being the responsibility of the property owner.

Requests to open an Unconstructed Road at the applicant's cost as a property road or driveway must be approved by the General Manager Regional Services or Manager Civil Operations. Where approval to open an unconstructed road at the applicant's cost as a property road or driveway access is provided, the applicant is required to apply for and obtain a Road Reserve Works Permit from Council by submitting a Road Reserve Works Permit Application Form prior to commencement of the initial construction works and for maintenance activities thereafter.

5.2 Upgrading Rural Roads to a Higher Standard at Council's Cost

From time to time, Council receives requests to upgrade rural roads to a higher standard. These requests are generally seeking the upgrading of an unsealed road to a higher standard unsealed road

or to a sealed road.

Council's own planning will concentrate on upgrading unsealed rural roads carrying greater than 150 vehicles per day (AADT). Roads carrying lower traffic volumes may be considered for upgrading where exceptional circumstances exist.

Assessment of requests for the upgrading of a rural road to a higher standard will consider the following standard assessment criteria:

(a) The traffic volume, mix and proportion of heavy vehicles utilising the road;

(b) The strategic significance of the road in supporting industries within the Region;

(c) The additional maintenance and renewal costs associated with the upgrade;

(d) The geometric standard of the existing road and any road related safety issues;

(e) The potential for inundation or drainage issues associated with the road; and

(f) Any other site specific issues that may arise from works at the site.

Where the assessment indicates that an upgrade to a higher standard is warranted, Council determines the design standard to be applied and lists the upgrade works for consideration in a future capital works program.

Where a determination is made that an upgrade to a higher standard is not warranted, the road remains at its current standard.

5.3 Upgrading Rural Roads to a Higher Standard at the Applicant's Cost

Council may consider requests to upgrade rural roads to a higher standard at the applicant's cost where it is unlikely to have a detrimental impact on operations of the road network. Council considers the standard assessment criteria in paragraph 5.2 for the upgrading of a rural road and determines the design standard to be applied.

Requests to upgrade a rural road to a higher standard at the applicant's cost must be approved by the General Manager Regional Services or Manager Civil Operations. The applicant is required to apply for and obtain a Road Reserve Works Permit from Council by submitting a Road Reserve Works Permit Application Form prior to commencement of the works.

Council will maintain or renew the road to its upgraded standard for the duration that the upgraded standard of road is required.

Should the road no longer be required to be maintained or renewed to the upgraded standard, Council decides whether to revert the road to its normal operational standard or not.

5.4 Intermittent (Dust) Sealing of Unsealed Rural Roads at the Applicant's Cost

From time to time, Council receives requests to provide intermittent sealing of unsealed rural roads in order to minimise the effect of dust on habitable dwellings in close proximity to the unsealed road.

Council does not include intermittent dust sealing in Council's planned works for upgrading of the rural road network.

Council considers requests to provide intermittent sealing of unsealed rural roads at the applicant's cost where it is unlikely to have a detrimental impact on operations of the road network.

The following assessment criteria for the intermittent dust sealing of an unsealed rural road is considered and if the request is approved, determines the design standard to be applied:

(a) The traffic volume and proportion of heavy vehicles utilising the road;

(b) The proximity of the habitable dwelling to the road and the direction of prevailing winds;

(c) The geometric and constructed standard of the existing road and any road related safety issues;

(d) The operating speed environment of the road; and

(e) Any other site specific issues that might arise from works at that site.

Requests to provide intermittent sealing of an unsealed rural road at the applicant's cost must be approved by the General Manager Regional Services or Manager Civil Operations. The applicant is required to apply for and obtain a Road Reserve Works Permit from Council by submitting a Road Reserve Works Permit Application Form prior to commencement of the works.

Council will fund the maintenance and renewal of the intermittent seal for the duration that the intermittent seal is required.

Should the intermittent seal no longer be required, Council decides whether to revert the road to its normal operational standard or not.

6 Review Timelines

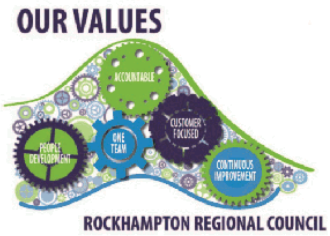
This policy is reviewed when any of the following occur:

(a) The related information is amended or replaced; or

(b) Other circumstances as determined from time to time by the Council.

7 Document Management

Sponsor	Chief Executive Officer
Business Owner	General Manager Regional Services
Policy Owner	Manager Civil Operations
Policy Quality Control	Legal and Governance



RURAL ROADS NETWORK POLICY, PROCEDURE AND DESIGN STANDARDS

Rural Road Network Procedure

Meeting Date: 30 November 2021

Attachment No: 2

RURAL ROAD NETWORK PROCEDURE

1 Scope

This procedure applies to the opening of previously unrecognised and unconstructed rural roads and the upgrading of rural roads identified on Rockhampton Regional Council's Road Register and under the jurisdiction of Council.

This policy does not apply to development works approved under the *Planning Act 2016* or other legislation that requires the approval of works within the Council Road Reserve.

2 Purpose

The purpose of this procedure is to establish processes and scoring criteria for assessing requests for the opening of unconstructed rural roads, the upgrading of rural roads to a higher standard and intermittent sealing of unsealed roads.

3 Related Documents

3.1 Primary

Rural Road Network Policy

3.2 Secondary

Human Rights Act 2019

Local Government Act 2009

Local Law No. 1 (Administration) 2011

Subordinate Local Law No. 1.1 (Alteration or Improvement to Local Government Controlled Areas and Roads) 2011

Subordinate Local Law No. 1.16 (Carrying out Works on a Road or Interfering with a Road or its Operation) 2011

ARRB – Unsealed Roads Manual – Guidelines to Good Practice

Capricorn Municipal Development Guidelines

Design Standards for Rural Roads Guideline

Road Reserve Works Permit Application Form

4 Definitions

To assist in interpretation, the following definitions apply:

AADT	Annual Average Daily Traffic
Council	Rockhampton Regional Council
Habitable Dwelling	A building or structure which has been approved for use as a habitable building or structure.

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Version:	1	Section:	Civil Operations
Reviewed Date:		Page No:	Page 1 of 7

Road	As defined in section 59(2) of the *Local Government Act 2009.*
Road Register	A register of roads containing details as listed in section 74 of the *Local Government Act 2009.*
Rural Road	A road classified as either a rural arterial, rural major collector, rural minor collector or rural access road in Council's adopted Road Hierarchy.
Unsealed Road	A road that has no bitumen based or concrete sealed surface.

5 Procedure

This procedure sets out the actions to be performed to achieve the intent of the Rural Road Network Policy.

5.1 Opening of Unconstructed Roads

Unconstructed rural roads may be considered for opening and addition to Council's Road Register in accordance with the following assessment framework.

5.1.1 Assessment Framework

The suitability for an unconstructed rural road to be opened is assessed in accordance with the following assessment method.

Table 1: Assessment Method

Criteria	Notes
Is there an occupied habitable dwelling on the property?	Council's principal purpose for the management of the rural road network is to provide road access to properties containing habitable dwellings to a defined standard and level of service. The definition of a property has been included to clarify that where a collection of individual parcels of land are being operated collectively for farming or primary production as one property, then it is the overall collection of the parcels of land (property) that is to be serviced and not the individual parcels of land. These properties can be typified by being under either one ownership or co-ownership between related parties and may appear as a single rates assessment in Council's rates records. The habitable dwelling is to be occupied or in the process of being occupied to justify the ongoing expense of maintaining road access to it. Opening of an unconstructed road for extension of the Council road network to service rural property operations' such as cattle yards or improved pasture is not supported. It is acceptable where servicing rural operations happens as a consequence of servicing an occupied habitable dwelling. In all other cases an unconstructed road can be opened as a property road or driveway access where the maintenance responsibility remains with the property owner.
Does the property already have legal and practical access available via another constructed road?	It is a legitimate consideration if the property already has legal and practical access from another constructed road maintained by Council that Council would not support the increased maintenance and renewal costs of a second access road. If the opening of the new road is proposed in conjunction with the closure and removal from the Road Register of the existing road access, and this can be done without detriment to other property owners or the network in general, then Council may consider this.

Table 1: Assessment Method	
Criteria	**Notes**
Can the road be constructed to the standard required in the Design Standards for Rural Roads Guideline without any significant environmental impacts?	The road must be able to be constructed within the existing road reserve and to the design standards in the Design Standards for Rural Roads Guideline. The assessor determines the functional and operational class of the proposed road. Particular note must be taken that the appropriate formation width and reasonable gradients can be attained and vertical/horizontal alignment and sight distance will not compromise safety. Adequate longitudinal and cross drainage must be able to be provided. Environmental considerations include the removal of protected or significant vegetation including marine vegetation, potential for significant and ongoing scouring or soil erosion, loss of pavement due to frequent inundation and potential dust complaints from nearby habitable dwellings.
Will the opening of the road lead to undesirable effects on the road network which may require that the proposed road be constructed now or in the future to a higher standard than originally anticipated?	Consideration is given to the potential impact of opening of the unconstructed road on the whole network. The potential of the newly opened road providing a more convenient route for traffic, particularly in relation to the diversion of heavy vehicles, needs to be balanced against what investment Council has made elsewhere in the network to cater for that traffic.
Are there any further legal or statutory obligations, and environmental obligations required to be met prior to the opening of the road?	Consideration is given to native title, cultural heritage and any environmental obligations such as requirements for vegetation clearing permits.
Are there any other site specific issues that may arise from works at this site?	This is to assess whether there are any issues that are particular or peculiar to the site of the proposed road opening that may work in favour or work against supporting the application.

The assessment criteria is used to identify whether there are any fatal flaws associated with the proposed road opening and if not, then on balance across all the criteria, whether the proposed road opening may be supported or not.

5.2 Upgrading Rural Roads to a Higher Standard Procedure

Rural roads are considered for upgrading on a priority basis in accordance with the following assessment framework. Roads are ranked in priority order according to their score prior to submission for consideration for inclusion in the capital works program. Submission for inclusion in the capital works program does not guarantee inclusion into a budget.

5.2.1 Assessment Framework

The suitability for a rural road to be upgraded is assessed in accordance with the following scoring and assessment method.

Table 2: Scoring and Assessment Method			
Criteria	**Scoring Points**		**Weighting**
Traffic volumes (AADT)	Traffic volumes should be established through a formal traffic count preferably where traffic volume and class are able to be established. In the absence of this data the assessor is to assume six vehicles per day per habitable dwelling serviced by the road with a maximum of 10% Commercial Vehicle.		1
	Add 1 point for every vehicle Additional 1 point for every commercial vehicle (max of 20% of AADT) Additional 25 points if road is a school bus route		
Strategic significance	Strategic significance relates to the function the road plays in the rural road network where typically the higher order roads or local roads of regional significance play a stronger role in supporting the economic and social needs of the rural areas. Access to tourism, environmental or cultural uses should also be considered.		5
	Nil	0 – Rural access with no additional strategic uses	
	Low	2 – Rural access with additional strategic uses	
	Medium	4 – Rural collector or above with no additional strategic uses	
	High	6 – Rural collector or above with additional strategic uses	
Costs incurred in maintaining or renewing the road	This criteria reflects a qualitative assessment of the possible long term cost savings to Council if the road is upgraded. The premise is that where a section of road is easily serviceable from a Council depot, has access to a source of good gravel paving material and water then it is currently less costly to maintain the road.		10
	Low	1 – Close to depots, suitable gravel and water	
	Medium	2 – Two of the above	
	High	5 – None of the above	
Geometric design and safety features of unsealed road	This criteria takes into account the standard of the current geometric design of the road and constructed width. Geometry includes vertical/horizontal alignment and curve radius etc. Safety features of the road include available sight distance, potential roadside hazards, recorded or anecdotal accident history. Available road width is considered on the premise that roads with a greater existing road width will be less expensive to upgrade which allows more works to be completed under Council's budget allocations.		10
	0 – Poor geometry and safety features and width < or = 5m 1 – Good geometry and safety features and poor width < or = 5m 2 – Poor geometry and safety features and width from 5 to 6.5m 4 – Good geometry and safety features and width from 5 to 6.5m 6 – Good geometry and safety features and width ≥ 6.5m		
Pavement subject to inundation and road side	If the road has poor drainage or is subject to frequent inundation then pavement failures or flood damage maintenance and restoration costs will be high.		5

Table 2: Scoring and Assessment Method		
Criteria	**Scoring Points**	**Weighting**
drainage	2 – Frequent inundation and poor cross and/or longitudinal drainage 3 – Frequent inundation and good cross and/or longitudinal drainage 5 – Infrequent inundation and poor cross and/or longitudinal drainage 6 – Inundation unlikely and poor cross and/or longitudinal drainage 7 – Infrequent inundation and good cross and/or longitudinal drainage 8 – Inundation unlikely and good cross and longitudinal drainage	
Any other site specific issues that may arise from works at the site	The Assessor should document any other site specific issues that are relevant and have influenced the decision that has been arrived at, particularly if the recommended action sits outside of the Assessment Outcome derived in Table 3 below.	Not Applicable

The assessment score is derived by multiplying each criteria rating by the criteria weighting and summing the resulting score for criteria. The outcome of the assessment is determined in accordance with Table 3.

Table 3: Assessment Outcome	
Score	**Outcome**
<250	Scores less than 250 do not justify sealing. Consideration is given to any identified need from the assessment to upgrade the road in part or in full to a higher unsealed standard in accordance with Council's Design Standards for Rural Roads Guideline.
250 – 500	Scores between 250 and 500 should be considered for a minimum standard seal in accordance with design standards for Category 1 – minimum standard seal in Council's Design Standards for Rural Roads Guideline.
>500	Scores in excess of 500 should be considered for a full design standard seal in accordance with Design Standards for Category 2 – Full Road Design in Council's Design Standards for Rural Roads Guideline.

5.3 Intermittent (Dust) Sealing of Unsealed Rural Roads Procedure

Sections of rural roads may be considered for an intermittent seal in accordance with the following assessment framework. The maximum length of an intermittent seal is 200 metres. Intermittent seals are carried out at the applicant's cost.

5.3.1 Assessment Framework

The suitability for a section of rural road to be approved for an intermittent seal is assessed in accordance with the following scoring and assessment method.

Table 4: Scoring and Assessment Method		
Criteria	**Points**	**Weighting**
Traffic volumes	A road is not considered for an intermittent seal if there is less than 30 AADT, unless there are significant issues shown in the assessment score. A road that has an AADT greater than 150 may require a minimum standard seal along its entire length. Traffic volumes should be established through a formal traffic count preferably where traffic volume and class are able to be established. In the absence of this data the assessor is to assume six vehicles per day per habitable dwelling serviced by the road with a maximum of 10% commercial vehicles.	1

Table 4: Scoring and Assessment Method		
Criteria	**Points**	**Weighting**
	0 – AADT 0-30 20 – AADT 31-49 40 – AADT 50-74 70 – AADT 75-99 AADT ≥100, 1 point for every vehicle Additional 1 point for every commercial vehicle (max of 20% of AADT)	
Proximity of a dwelling to the road and prevailing winds	Measurement may be taken from Geocortex aerial photography if available and is measured from the road reserve boundary to first habitable dwelling.	10
	0 – Dwelling >100m from road frontage 1 – Dwelling 70-100m from road frontage 3 – Dwelling 51-69m from road frontage 6 – Dwelling 31-50m from road frontage 9 – Dwelling 16-30m from road frontage 10 – Dwelling 0-15m from road frontage	
Geometric and constructed standard and safety features of existing road	The road must have: (a) The ability to be easily upgraded to the appropriate formation and seal width of 5.5 metres; (b) Reasonable gradients, vertical/horizontal alignment and sight distance that will not compromise safety if sealed; and (c) A solid, well compacted road base that is able to support the proposed overlay for the expected traffic loads to minimise future pavement failures if the road is sealed. If the unsealed road has a poor longitudinal drainage system then every effort should be made to provide adequate longitudinal drainage to minimise future pavement failures.	5
	0 – Poor geometry, pavement and safety features and width ≤5m 1 – Good geometry, pavement and safety features and poor width ≤5m 2 – Poor geometry, pavement and safety features and width from 5 to 6.5m 4 – Good geometry, pavement and safety features and width from 5 to 6.5m 6 – Good geometry, pavement and safety features and width ≥6.5m	
Operating Speed environment	This criteria reflects the presumption that the greater the predominant travel speeds on the road, the more dust is generated.	10
	1 – Operating speed ≤50km/h 3 – Operating speed 51-99km/h 4 – Operating speed ≥100km/h	
Any other site specific issues that may arise from works at the site	The Assessor should document any other site specific issues that are relevant and have influenced the decision that has been arrived at, particularly if the recommended action sits outside of the Assessment Outcome derived in Table 5 below.	Not Applicable

The assessment score is derived by multiplying each criteria rating by the criteria weighting and summing the resulting score for criteria.

The outcome of the assessment is determined in accordance with Table 5.

Table 5: Assessment Outcome	
Score	**Outcome**
<150	Scores less than 150 do not justify intermittent sealing unless there are site specific issues or extenuating circumstances that provide additional justification.
>150	Scores in excess of 150 should be considered for an intermittent seal in accordance with Design Standards for Category 3 – Intermittent Seal Standard in Council's Design Standards for Rural Roads Guideline.

6 Review Timelines

This procedure is reviewed when any of the following occur:

(a) The related information is amended or replaced; or

(b) Other circumstances as determined from time to time by the General Manager Regional Services.

7 Document Management

Sponsor	Chief Executive Officer
Business Owner	General Manager Regional Services
Policy Owner	Manager Civil Operations
Policy Quality Control	Legal and Governance

OUR VALUES

ROCKHAMPTON REGIONAL COUNCIL

RURAL ROADS NETWORK POLICY, PROCEDURE AND DESIGN STANDARDS

Design Standards for Rural Roads Guideline

Meeting Date: 30 November 2021

Attachment No: 3

DESIGN STANDARDS FOR RURAL ROADS GUIDELINE

1 Scope

This guideline applies to all rural roads under the jurisdiction of Rockhampton Regional Council, but is not applicable to roads required as a result of an application under the *Planning Act 2016*.

2 Purpose

The purpose of this guideline is to provide design standards to be applied to rural roads.

3 Related Documents

3.1 Primary

Rural Road Network Policy

3.2 Secondary

Local Government Act 2009

Planning Act 2016

Capricorn Municipal Development Guidelines

Lower Order Road Design Guidelines, Institute Public Works Engineering Association Queensland

Rural Roads Network Procedure

4 Definitions

To assist in interpretation, the following definitions apply:

AADT	Annual average daily traffic
CMDG	Capricorn Municipal Development Guidelines
Council	Rockhampton Regional Council
MUTCD	Manual of Uniform Traffic Control Device
Region	Rockhampton Regional Area defined by the Local Government Areas of Queensland.
Road	As defined in section 59(2) of the *Local Government Act 2009.*
Rural Road	A road classified as either a rural arterial, rural major collector, rural minor collector or rural access road in Council's adopted Road Hierarchy.
Unsealed Road	A road that has no bitumen based or concrete sealed surface.
VPD	Vehicles per day

5 Guideline – Design Standards

The design standards in this guideline are to be applied to the upgrading of any existing rural road and any new rural roads constructed within the Region.

5.1 Category 1 - Minimum Standard Seals

Roads under this category receive a layer of CBR 40 compacted gravel pavement and a two coat bitumen seal.

The following issues are considered when developing a minimum standard seal design:

(a) Minimum standard seal roads should not carry excessive amounts of traffic. A road with an AADT greater than 500 vpd should be constructed to Category 2- Full Road Design Standard.

(b) Minimum standard seal roads should not carry excessive amounts of heavy traffic. If commercial vehicle counts are greater than 20% of AADT, the road should be constructed to Category 2- Full Road Design Standard.

(c) The thickness of the pavement layer shall be in accordance with Appendix A - Second Design Standard with a minimum compacted thickness of 150mm.

(d) Solid base – the proposed road must have a solid, well compacted road base able to support the proposed overlay for the expected traffic loads. Having a solid road base minimises future pavement failures if the road is sealed.

(e) The road must have reasonable gradients, vertical/horizontal alignment and sight distance that will not compromise safety if sealed. Horizontal and vertical geometry elements are to be provided in accordance with Operational Class 150 of the Category 4 – Unsealed Lower Order Rural Road Standard.

(f) If the road has poor alignment and/or geometry then these elements are to be corrected or appropriate risk mitigation measures undertaken as part of the Minimum Standard Seal Project.

(g) Drainage elements are to be provided in accordance with Operational Class 150 of the Category 4 – Unsealed Lower Order Rural Road Standard.

(h) A nominal crossfall of 3% is to be provided to minimise future pavement failures.

(i) Cross-section element widths shall be in accordance with Table 1: Minimum Standard Seal Element Widths.

(j) Road furniture is to be provided in accordance with the MUTCD. Any deviation from the MUTCD is to be supported by an appropriate risk assessment and mitigation strategy.

Table 1: Minimum Standard Seal Element Widths

<table>
<tr><th rowspan="2">Element Width</th><th colspan="4">Design AADT</th></tr>
<tr><th><150</th><th>150-250</th><th>251-500</th><th>>500</th></tr>
<tr><td>Formation</td><td rowspan="4">Refer to Category 4 – Unsealed Lower Order Rural Road Standard</td><td>6.5m</td><td>8.0m</td><td rowspan="4">Refer to Category 2 – Full Road Design Standard</td></tr>
<tr><td>Traffic Lanes</td><td>6.5m
(2 x 3.25)</td><td>6.5m
(2 x 3.25)</td></tr>
<tr><td>Total Shoulder</td><td>0.0m</td><td>1.5m</td></tr>
<tr><td>Sealed Shoulders</td><td>0.0m</td><td>0.0m</td></tr>
</table>

5.2 Category 2 – Full Road Design Standard

Roads under this category require formation and pavement widening, full depth pavement and a two coat bitumen seal.

The following issues are considered when developing a full road design:

(a) Roads that qualify for this category do not meet one or all of the evaluation criteria set for a Category 1 – Minimum Standard Seal.

(b) Full road design roads are roads with an AADT greater than 500 or have greater than 20% commercial traffic in the range of 100–500 AADT. The AADT of the road must be known so the appropriate pavement width for full design can be selected from Table 2 – Full Design Element Widths.

(c) The thickness of the pavement layer shall be in accordance with CMDG Design Specification D2 - Pavement Design with a minimum compacted thickness of 200mm.

(d) Horizontal and vertical geometry, lighting, intersections and clear zone elements are to be provided in accordance with CMDG Design Specification D1 - Road Design.

(e) If the road has poor alignment and/or geometry then these elements are to be corrected or appropriate risk mitigation measures undertaken as part of the Full Design Road Project.

(f) Drainage elements are to be provided in accordance with Table 2: Full Design Element Widths.

(g) Cross-section element widths shall be in accordance with Table 2: Full Design Element Widths.

(h) Road Furniture is to be provided in accordance with the MUTCD. Any deviation from the MUTCD is to be supported by an appropriate risk assessment and mitigation strategy.

Table 2: Full Design Element Widths

Element Width	Design AADT			
	<500	501-1,000	1,001-3,000	3,001-8,000
Formation	8.0m	8.0m	10.0m	10.0m
Traffic Lanes	6.5m (2 x 3.25)	6.5m (2 x 3.25)	7.0m (2 x 3.5)	7.0m (2 x 3.5)
Total Shoulder	1.5m	1.5m	3.0m	3.0m
Sealed Shoulder	0m	0.5m	1.0m	1.5m
Crossfall	3%	3%	3%	3%
Flood Immunity	Q2	Q5	Q10	Q20
Trafficable Immunity	Q5	Q10	Q20	Q50

5.3 Category 3 - Intermittent Seal Standard

Roads deemed suitable for an intermittent seal as a dust suppressant receive a two coat bitumen seal for a maximum length of 200 metres, adjacent to the habitable dwelling affected.

The following issues are considered when developing an intermittent seal design:

(a) The existing formation is to be widened where required to accommodate the required 150mm thick compacted layer of minimum CBR 40 pavement layer.

(b) The existing road must have a solid, well compacted subgrade able to support the proposed overlay for the expected traffic loads. Having a solid subgrade minimises future pavement failures if the road is sealed.

(c) The road must have reasonable gradients, vertical/horizontal alignment and sight distance that will not compromise safety if sealed. Horizontal and vertical geometry elements are to be provided in accordance with the operational class for the road as identified in Category 4 – Unsealed Lower Order Rural Road Standard.

(d) If the road has poor alignment and/or geometry then these elements are to be corrected or appropriate risk mitigation measures undertaken as part of the Intermittent Seal Project.

(e) Drainage elements are to be provided in accordance with the operational class of the road as identified in the Category 4 – Unsealed Lower Order Rural Road Standard.

(f) A nominal crossfall of 3% is to be provided to minimise future pavement failures.

(g) Cross-section element widths shall be in accordance with Table 1: Minimum Standard Seal Element Widths.

(h) The requirement for road furniture is to be assessed on a case by case basis.

5.4 Category 4 – Unsealed Lower Order Rural Road Standard

The unsealed lower order rural road standard is to be applied to rural roads with AADT less than 150 vpd.

The following issues are considered when developing a design for an unsealed lower order rural road:

(a) The main geometric design standards for the unsealed rural road shall be in accordance with Table 3: Main Geometric Design Standards for Unsealed Roads.

(b) If the road has poor alignment and/or geometry then these elements are to be corrected or appropriate risk mitigation measures undertaken as part of the project.

(c) Road furniture is to be provided in accordance with the MUTCD. Any deviation from the MUTCD is to be supported by an appropriate risk assessment and mitigation strategy.

Table 3: Main Geometric Design Standards for Unsealed Roads

Guidelines for the Main Geometric Design Standards for Unsealed Roads																			
Road Operational Classification	**150**			**125**			**100**			**75**			**30**			**10**			Note
Typical Traffic Counts	**125-150**			**100-125**			**75-100**			**30-75**			**10--30**			**<10**			
Terrain type[1]	Flat	Rolling	M'tain	Flat	Rolling	M'tain	Flat	Rolling	M'tain	Flat	Rolling	M'tain	Flat	Rolling	M'tain	Flat	Rolling	M'tain	1
Main geometric characteristic - based on safety, cost and environmental considerations																			
Operating speed value km/h[13]	80	70	50	70	50	30	70	50	30	60	40	20	60	40	20	n/a	n/a	n/a	13
Cross-section elements																			
number of traffic lanes	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	
minimum cross fall unsealed road	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
maximum superelevation %[2]	6	8	10	6	8	10	6	8	10	6	8	10	6	8	10	n/a	n/a	n/a	2
minimum traffic lane width m[3]	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
minimum shoulder width m	0.25	0	0	0	0	1	1.25	1	0.75	1	0.75	0.5	0.5	0.25	0	0	0	0	
minimum carriageway width (lanes + shoulder) m	6.5	6	6	6	6	5	5.5	5	4.5	5	4.5	4	4	3.5	3	3	3	3	
Horizontal geometry																			
minimum radius curve m[5]	320	250	140	250	100	35	250	100	35	170	60	15	170	60	15	n/a	n/a	n/a	5
minimum stopping sight distance m[6]	150	120	70	120	70	30	120	70	30	90	50	30	90	50	30	n/a	n/a	n/a	6
minimum meeting sights distance m[7]	290	230	130	230	130	60	230	130	60	180	100	60	180	100	60	n/a	n/a	n/a	7
Vertical geometry																			
maximum vertical grade %[8]	6	8	12	6	8	12	6	8	12	6	8	12	6	8	12	n/a	n/a	n/a	8
minimum crest vertical curve K values[9]	50	30	10	30	10	5	30	10	5	19	8	2	19	8	2	n/a	n/a	n/a	9
minimum sag vertical curve K values[10]	11	8	4	8	4	3	8	4	3	6	3	2	6	3	2	n/a	n/a	n/a	10
Drainage																			
Cross Road Drainage Immunity[11]	Q1	Q1	Q1	Q1	Q1	Q1	Q1	Q1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	11
Longitudinal Drainage Immunity[12]	Q1	Q1	Q1	Q1	Q1	Q1	Q1	Q1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	12
RCP & RCBC desirable length[14]	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	4.8	4.8	4.8	4.8	4.8	4.8	14

Guidelines for the Main Geometric Design Standards for Unsealed Roads																			
Road Operational Classification	**150**			**125**			**100**			**75**			**30**			**10**			Note
Typical Traffic Counts	**125-150**			**100-125**			**75-100**			**30-75**			**10--30**			**<10**			
Terrain type[1]	Flat	Rolling	M'tain	Flat	Rolling	M'tain	Flat	Rolling	M'tain	Flat	Rolling	M'tain	Flat	Rolling	M'tain	Flat	Rolling	M'tain	1
Floodway desirable width[14]	6.5	6.5	6.5	6.5	6.5	6.5	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	14

NOTES:

1 Flat, rolling or mountainous terrain

2 The maximum superelevation values will need to take into account the use of the road by high loaded heavy vehicles, speed and curve radii

3 In cases where there are a high percentage of heavy vehicles (>20%) minimum lane widths can be increased by 0.5m

5 Values rounded up. For minimum radius curves widening on the inside of a curve may be necessary to accommodate longer vehicles.

6 Based on a reaction time of 2 seconds and surface coefficients relating to unsealed surfaces and values rounded up. Values based on flat grades and allowances will need to be made for up and down grades.

7 This is mainly a requirement of single lane two-way roads. Values rounded up.

8 In some cases higher grades of up to 20% can be allowed for short sections (about 150m). Keep grades on unsealed roads lower due to ravelling and scouring of surface.

9 Calculation of this values is to be based on information contained in Austroads (2003). The lengths of the vertical curve (L) is based on the production of K multiplied by the algebraic difference in grades percentage A (i.e. L = K x A).

10 Sag values are based on comfort on control criteria.

11. Class 10, 30 & 75 roads will require suitable gravel or hard surface treatments at gullies and creek crossing

12. Class 10, 30 & 75 roads shall have formation 300mm above natural surface or 300mm deep table drains

13. Operating Speed values are based on the 85th percentile Speed

14. Minimum lengths and widths may need to be extended at curve widenings and intersections etc.

6 Review Timelines

This guideline is reviewed when any of the following occur:

(a) The related information is amended or replaced; or

(b) Other circumstances as determined from time to time by the General Manager Regional Services.

7 Document Management

Sponsor	Chief Executive Officer
Business Owner	General Manager Regional Services
Policy Owner	Manager Civil Operations
Policy Quality Control	Legal and Governance

APPENDIX A - Second Design Standard

CHART 8

LEGAL & GOVERNANCE USE ONLY			
Adopted/Approved:	Draft	Department:	Regional Services
Version:	1	Section:	Civil Operations
Reviewed Date:		Page No:	Page 8 of 8

RURAL ROADS NETWORK POLICY, PROCEDURE AND DESIGN STANDARDS

Policy Change Table

Meeting Date: 30 November 2021

Attachment No: 4

PART A – GENERAL COMPARISON

Original Policy / Procedure	Draft Policy / Procedure	Commentary
Upgrading of Unsealed Roads to a Sealed Standard Policy	Rural Road Network Policy	Policy contained within the original policies have been combined into the new Rural Road Network Policy. Procedural matters of how the policy is to be implemented have been transferred into the Rural Road Network Procedure document. Where previous policy matters have been altered in the new policy, the alterations have been identified in part B.
Upgrading of Unsealed Roads to a Higher Standard Policy		
Intermittent Sealing of Unsealed Rural Roads Policy		
Opening of Unconstructed Roads Policy		
Upgrading of Unsealed Roads to a Sealed Standard Procedure	Rural Road Network Procedure	Procedures contained within the original procedures have been combined into the new Rural Road Network Procedure. Design standards in the original procedures have been transferred into the Design Standards for Rural Roads Guideline. Where existing procedures have been altered in the new procedure, the alterations have been identified in part C.
Intermittent Sealing of Unsealed Rural Roads Procedure		
Opening of Unconstructed Roads Procedure		
Design Standards for Roads Guideline	Design Standards for Rural Roads Guideline	Design considerations for Category 1- Minimum Standard Seals, Category 2 – Full Road Design, Category 3 – Intermittent Seal Standard have been removed from the procedures and incorporated into the guideline which previously only dealt with lower order rural roads. Where design standards have been altered, the alterations have been identified in part D.

PART B - COMPARISON OF POLICIES

Original Policies	Rural Road Network Policy
<u>Upgrading of an Unsealed Road to a Sealed Road Policy</u> For sealing of unsealed roads, identifies that priority will be given to roads with greater than 150 veh/day or with abnormal values calculated against a list of road characteristics and with high maintenance costs. <u>Upgrading of an Unsealed Road to a Higher Standard Policy</u> This policy only deals with requests for upgrades at the applicant's expense. Identifies that Council will consider and may approve the upgrading of a road to a higher (unsealed) standard if the applicant supplies the gravel and pays for any formation widening work and drainage upgrades. Council will perform the work but only maintain the work to its previous standard unless a maintenance agreement is entered into. Doesn't appear to deal with a normal request for road improvements from the rural ratepayers.	Incorporates new policy statements in relation to Council's powers and obligations with respect of roads and reinforces the road register as the record of Council maintained roads. Indicates that Council's own planning will concentrate on upgrading unsealed rural roads carrying greater than 150 veh/day or carrying lower traffic volumes where exceptional circumstances exist. Commits Council to planning it's own road upgrade works and assessing requests for upgrading of the rural road network in a consistent and transparent manner against standard assessment criteria. Adopts a standard assessment criteria for assessing whether a road warrants being upgraded to a sealed standard or higher unsealed standard. The standard assessment criteria's have been aligned to the evaluation system in the procedure. Identifies the responsibility for funding and ongoing maintenance and renewal of the upgraded road. Clarifies that Council will fund the maintenance and renewal of the upgraded road for the duration that the upgraded road is required which is consistent with what is believed to be the case now but differs from the existing policy for unsealed roads to a higher standard. Requirement for a Works in Road Reserve Permit is applied through the policy and applies to both Council or a private contractor undertaking the work.

Original Policies	Rural Road Network Policy
Intermittent Sealing of Unsealed Roads Policy Identifies that Council does not commit to doing dust seals but may allow it at the applicants Cost.	Adopts a standard assessment criteria for intermittent dust seals. The standard assessment criteria's have been aligned to the evaluation system in the procedure. Clarifies that Council will fund the maintenance and renewal of the intermittent seal for the duration that the intermittent seal is required which is consistent with what is believed to be the case now. Adds in that should the intermittent seal no longer be required, the Council will decide whether to revert the road to it's normal operational standard or not. Requirement for a Works in Road Reserve Permit is applied through the policy and applies to Council or a private contractor undertaking the work.
Opening of Unconstructed Roads Policy This policy deals with the opening of unconstructed roads to provide road access to parcels of land with dwellings on them. The policy sets down what is to be considered when deciding whether to approve or not the opening of the road. The policy indicates that the applicant is primarily responsible for the funding of the works however Council will supply the gravel paving materials. Council take over maintenance on completion of the works.	Indicates that the principal purpose of Council's rural road network is to provide road access to properties containing habitable dwellings and nominates the point to which Council's road network may extend. Introduces a definition of a property to address where a number of land parcels are being managed together as one business. Further indicates that roads constructed beyond these points are considered property accesses or driveways that are the responsibility of the property owner. Identifies that Council's planning does not include the opening of unconstructed roads however, subject to certain criteria, Council may give approval to open an unconstructed road at the applicant's expense.

Original Policies	Rural Road Network Policy
	Commits Council to adding the road to the road register and accepting maintenance responsibilities for the new road. Identifies the responsibility for funding and ongoing maintenance and renewal of the upgraded work will sit with Council for road segments added to the Road register as Council roads and responsibility for property roads and driveways will sit with the property owner. Requirement for a Works in Road Reserve Permit is applied through the policy and applies to Council or a private contractor undertaking the work.
Commentary	
The policy statements added in relation to powers and obligations and the road register are a simplified plain text summary of legislative requirements not often understood by members of the public. Council direction on funding obligations form part of the policy rather than part of a procedure to interpret and implement policy. The standard assessment criteria's form the basis of evaluating whether the rural road warrants upgrading to a higher standard or a new road is to be opened and covers both scenarios where a person is looking to Council to do the work or wishes to fund the work themselves. The results of the assessment with regards to an existing road can be prioritised by assessment score and can then be fed into the capital budget process. The acceptance by Council of maintenance and renewal costs is considered consistent with previous policy and procedures for upgrading to a sealed standard and intermittent sealing works however is a suggested shift in policy from the Upgrading of an Unsealed Road to a Higher Standard Policy. The opening of unconstructed roads remains largely consistent with the previous policy but clarifies responsibilities further, particularly in respect to where the Council's road network is provided to. The provision of gravel by the Council has been removed in favour of the works being fully at the applicant's expense. Decision making authority has been incorporated into the policy that allows the General Manager Regional Services or Manager Civil Operations to assess and decide requests under this policy.	

PART B - COMPARISON OF PROCEDURES

Original Procedures	Rural Road Network Procedure
<u>Upgrading of Unsealed roads to a Sealed Standard Procedure</u> Identifies the evaluation criteria including scoring and weightings to determine whether an unsealed rural road should be sealed. Indicates that if warrants are met, the work is prioritised and added to the works program. Identifies the design standards for the roadworks required and whether the road should be constructed to a minimum standard seal or to a full design standard. Identifies that if the sealing of the road is not warranted the work can be completed at the applicant's cost.	Essentially maintains a similar evaluation criteria as the previous procedures however uses the same evaluation criteria for the prioritisation of both minimum standards seals and full design seals. Further clarification has been provided on evaluation of the criteria. Maintains the maximum intermittent seal length at 200 metres Reference to funding responsibilities removed to the Policy and road standards to the Design Guidelines. The procedure nor the policy stipulates that an up-front payment is required if Council carry out the works.
<u>Intermittent Sealing of Unsealed Roads Procedure</u> Identifies the evaluation criteria including scoring and weightings to determine whether an approval should be given for an intermittent seal. Identifies the standard of seal required and the maximum length of seal. Identifies that the work is at the applicant's cost which must be paid up-front if Council are to do the works or through a Works in Road Reserve Permit if done by a Private Contractor. The Policy and Procedure are silent on who will fund the maintenance and renewal of the intermittent seal for the duration that the intermittent seal is required therefore it is presumed to be Council.	

Commentary
Could not see the benefit in having a separate scoring methodology to prioritise roads which qualified for a fully designed seal so have simplified the process. Have considered getting approval to privately fund a road upgrade or intermittent seal as separate to getting a Works in Road Reserve Permit under the local law to do the works. For transparency, the same rules should be applied to Council conducting the works as a private contractor. The permit allows Council to place conditions on the work in relation to further technical requirements, traffic management requirements and insurance requirements etc. The requirement for the payment up-front has been removed in favour of following the Accounts Receivable (Sundry Debtors) Policy and Procedure.

Original Procedures	Rural Road Network Procedure
Opening of Unconstructed Roads Procedure Identifies that a written application is required, the information that should be included in the application and to what standard and that an authorised officer will assess the application. The procedure then identifies the standard conditions and inspection regime that would be applied in a Works in Road Reserve Permit however it is unclear as to whether the approval issued is the permit or something separate.	Takes the evaluation criteria from the policy and provides some further clarification on evaluation of the criteria. The procedure nor the policy stipulates that an up-front payment is required if Council carry out the works.
Commentary	
Essentially none of the information in the old procedure has been taken over into the Draft Rural Road Network Procedure as it appears to relate mainly to the application process and standard conditions that would be applied in a Works in Road Reserve Permit and not the policy driven assessment of whether the road opening is supported or not. The information in the original procedure should be applied through a separate procedure or work instruction that relates to the Works in Road Reserve Process.	

PART D - COMPARISON OF DESIGN GUIDELINE

Original Design Standards for Roads Guideline	Design Standards for Rural Roads Guideline
Guideline is applied to new unsealed roads and upgrading of existing unsealed roads. Dealt with roads of operational class 150 or less typically carrying traffic volumes of 150 veh/day or less. Indicates that Council alter existing roads to meet the design standards as funds allow.	Incorporates all the design standards for Minimum Standard Seals, Full Road Design and Intermittent Seal Standards into the one guideline. Design Standards for Minimum Standard Seals, Full Road Design and Intermittent Seals have been retained and expanded upon to provide greater clarity around the design requirements. Design standards for the Lower Order Rural Roads of operational class 150 or less have been retained with some minor changes to minimum crossfalls. Comments from the previous table have been converted to notes to make the table more legible.
Commentary	
Previous design standards where considered appropriate but were spread across policies, procedures and the guideline. These design standards have been consolidated into the new guideline and expanded upon where necessary to give greater guidance where information was thought lacking and greater consistency in application.	

10.3 ASSET MANAGEMENT PLAN - BRIDGES AND MAJOR CULVERTS

File No:	**5960**
Attachments:	**1. Asset Management Plan Bridges and Major Culverts⇩**
Authorising Officer:	**Martin Crow - Manager Infrastructure Planning** **Peter Kofod - General Manager Regional Services**
Author:	**Andrew Whitby - Coordinator Assets and GIS**

SUMMARY

This report presents a revised Asset Management Plan for Bridges and Major Culverts to Council for adoption.

OFFICER'S RECOMMENDATION

THAT Council adopt the Asset Management Plan for Bridges and Major Culverts.

COMMENTARY

A revised Asset Management Plan (AM Plan) has been developed for all bridges and major culverts that are owned by Council. This document will replace the current AM Plan which was adopted in 2016.

The bridges and major culverts asset class comprises 149 structures:

- 22 Road bridges
- 78 Major culverts
- 35 Pedestrian Bridges
- 4 Pedestrian Underpasses
- 6 Pedestrian Boardwalks
- 3 Rail Bridges
- 1 Rail Tunnel

These assets have a replacement value estimated at $77,347,000.
The revised AM Plan includes the following:

Levels of Service
The AM Plan considers both Customer Levels of Service (quality, function and capacity) and Technical Levels of Service (acquisition, operation, maintenance and renewals) when assessing current performance and determining future needs.

Future Demand
The AM Plan identifies the drivers affecting demand and considers the impact these may have on future service delivery.

Asset Lifecycle Management
The AM Plan considers the asset lifecycle demands (renewals, acquisitions, disposals, operations and maintenance) to deliver the agreed service levels, and the availability of funding through the Long Term Financial Forecast and other external sources.

Risks Management
The AM Plan documents the treatment plans for critical risks associated with the delivery of services.

Financial Summary

The AM Plan summaries the medium term financial requirements for the asset class and considers the key indicators for sustainable service delivery.

BACKGROUND

Council principally exists to provide services that meet the needs of the community. Asset management planning is a comprehensive process; the purpose of which is to ensure the delivery of services from Council owned infrastructure is financially sustainable.

PREVIOUS DECISIONS

Council adopted the current Bridges and Major Culverts Asset Management Plan in 2016.

BUDGET IMPLICATIONS

The overall quantum of capital demand identified in the AM Plan is generally consistent with the funding available in the Long Term Financial Forecast over the 10 year planning period. The specific projects, timing and allocation between renewals and acquisitions will however require some adjustment in the Long Term Financial Forecast to align with the AM Plan.

LEGISLATIVE CONTEXT

A local government must prepare and adopt a long-term asset management plan under the Local Government Act (Local Government Regulation 2012).

LEGAL IMPLICATIONS

There are no legal implications.

STAFFING IMPLICATIONS

There are no staffing implications.

RISK ASSESSMENT

The AM Plan documents the treatment plans for critical risks associated with the delivery of services. The costs associated with these risk treatments are included in the asset lifecycle management plan.

The need for good quality AM Plans is identified in Council's Operational Risk Register.

CORPORATE/OPERATIONAL PLAN

The AM Plan supports of the following Corporate Plan objectives.

1.1 Safe, accessible, reliable and sustainable infrastructure and facilities

4.1 Customer focused services

5.3 Financially sustainable organisation

CONCLUSION

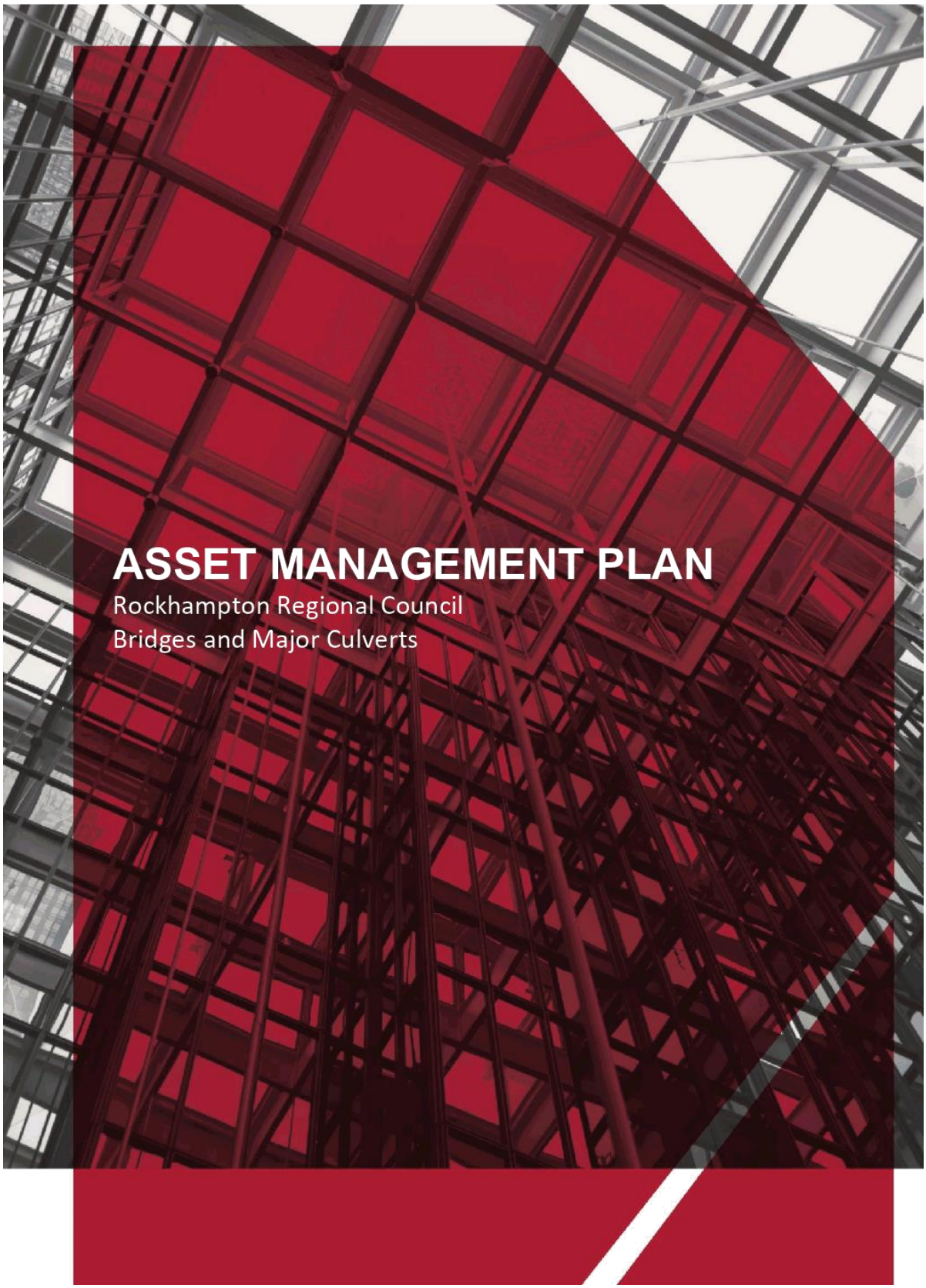
The revised AM Plan for bridges and major culverts is comprehensive document. It identifies the service levels, future demand, lifecycle demand (renewals, acquisitions, disposals, operations and maintenance) and critical risks associated with the asset class.

ASSET MANAGEMENT PLAN - BRIDGES AND MAJOR CULVERTS

Asset Management Plan Bridges and Major Culverts

Meeting Date: 30 November 2021

Attachment No: 1


ASSET MANAGEMENT PLAN
Rockhampton Regional Council
Bridges and Major Culverts

Document Control		Asset Management Plan		
Version	Date Adopted	Plan Type	Author	Reviewed By
1	Draft	Asset Class	Brett Cagney	Andrew Whitby Martin Crow Cornelius Claassen
2	Draft	Asset Class	Brett Cagney	Marnie Taylor Martin Crow Andrew Whitby Cornelius Claassen
3	Draft for Council Workshop	Asset Class	Brett Cagney	Martin Crow Andrew Whitby
4	For adoption by Council	Asset Class	Brett Cagney	Martin Crow Andrew Whitby

Contents

1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

The Rockhampton Regional Council (Council) principally exists to provide services that meet the needs of the community. Asset management planning is a comprehensive process; the purpose of which is to ensure the delivery of services from Council owned infrastructure that is financially sustainable.

This Asset Management Plan (AM Plan) details information about Council's bridges and major culvert assets with actions required to provide an agreed level of service in the most cost-effective manner while also outlining associated risks with this approach. The AM Plan defines the services to be provided, how the services are provided and what funds are required to provide over the 10 year planning period. The AM Plan will link to a Long Term Financial Forecast (LTFF) which typically considers a 10 year planning period.

1.2 Asset Description

This AM Plan covers all bridge and major culvert infrastructure assets that are owned by Council.

The bridge and major culvert network comprises:

- 22 Road Bridges
- 78 Major Culverts
- 35 Pedestrian Bridges
- 4 Pedestrian Underpasses
- 6 Pedestrian Boardwalks
- 3 Rail Bridges
- 1 Rail Tunnel

The above infrastructure assets have a replacement value estimated at **$77,347,000.** This is comprised of the following:

2020/2021 Bridge and Major Culvert Revaluation	$60,426,630
Estimated recent movements:	$16,920,370

- Riverslea Bridge
- Gavial Creek Bridge
- Casuarina Creek Bridge #1
- Casuarina Creek Bridge #2
- Louisa Creek Major Culvert
- Mt Morgan Swinging Bridge
- Heritage Village – Duck Pond Walkway
- Heritage Village – Miniature Train Bridge
- Springers Lagoon Pedestrian Bridge / Lookout

1.3 Levels of Service

The forecast funding is **generally sufficient** to continue providing existing services at current levels for the planning period. It should be noted that many structures were constructed to what are now historical standards, and service levels may be increased for renewed or replacement structures in order to comply with current regulatory requirements.

1.4 Future Demand

The factors influencing future demand and the impacts they have on service delivery are created by:

- Heavier loads
- Population growth - increased traffic volumes
- Standards and regulatory requirements; and
- Community expectations

These demands will be approached using a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures.

1.5 Lifecycle Management Plan

What do we need?

The forecast lifecycle demand to provide the services covered by this AM Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AM Plan may be prepared for a range of time periods, it typically informs a LTFF period of 10 years. Therefore, a summary output from the AM Plan is the 10 year forecast lifecycle demand, which for bridges and major culverts is estimated as $42,559,387 or $4,255,939 on average per year.

1.6 Financial Summary

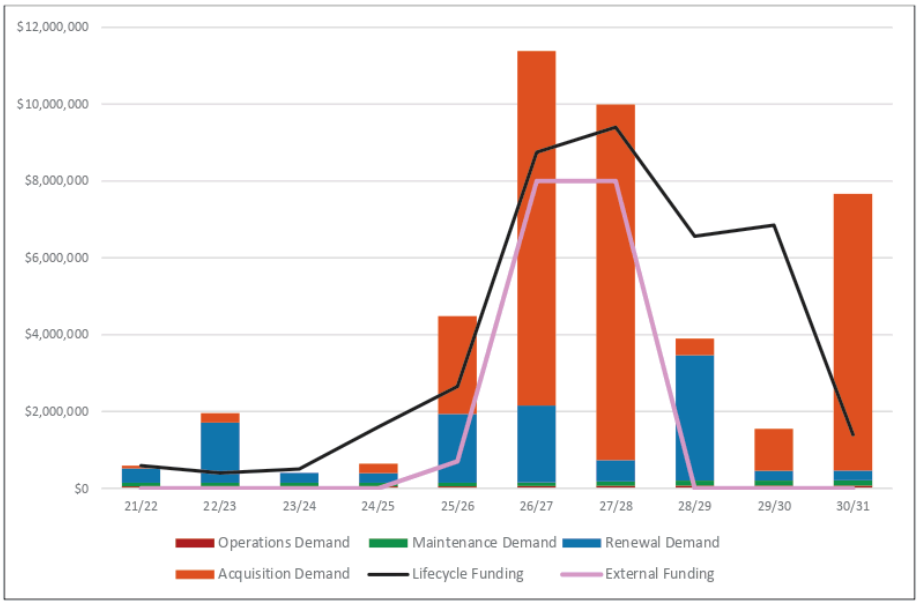
What funding do we have?

The forecast lifecycle funding (LTFF + External Funding + Operations & Maintenance) for the 10 year period is $38,701,310 or $3,870,131 on average per year. This is 91% of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded can be provided. Informed decision making depends on the AM Plan emphasising the consequences of funding on the service levels provided and risks.

The forecast lifecycle funding for bridges and major culverts leaves a shortfall on average per year of the lifecycle demand required to provide services in the AM Plan. This is shown in the figure and table below. Figure and table values are shown in current day dollars.

Lifecycle Demand and Lifecycle Funding



Lifecycle Demand and Lifecycle Funding

Financial Year	Lifecycle Demand	Lifecycle Funding				Surplus / Shortfall	Cumulative Surplus/ Shortfall
		Council Funding		External Funding	TOTAL		
		Capital	Operational (O&M)				
21/22	$589,931	$445,000	$144,931	$0	$589,931	$0	$0
22/23	$1,955,115	$255,000	$144,931	$0	$399,931	-$1,555,184	-$1,555,184
23/24	$400,771	$355,000	$144,931	$0	$499,931	$99,160	-$1,456,023
24/25	$642,771	$1,452,000	$144,931	$0	$1,596,931	$954,160	-$501,863
25/26	$4,480,438	$1,805,000	$144,931	$700,000	$2,649,931	-$1,830,507	-$2,332,370
26/27	$11,382,301	$605,000	$144,931	$8,000,000	$8,749,931	-$2,632,370	-$4,964,740
27/28	$9,992,206	$1,255,000	$144,931	$8,000,000	$9,399,931	-$592,275	-$5,557,014
28/29	$3,899,197	$6,420,000	$144,931	$0	$6,564,931	$2,665,734	-$2,891,280
29/30	$1,549,358	$6,705,000	$144,931	$0	$6,849,931	$5,300,573	$2,409,293
30/31	$7,667,301	$1,255,000	$144,931	$0	$1,399,931	-$6,267,370	-$3,858,077
TOTAL	**$42,559,387**	**$20,552,000**	**$1,449,310**	**$16,700,000**	**$38,701,310**	**-$3,858,077**	

What we will do

We plan to provide the following services over the 10 year planning period:

- Renew/upgrade three (3) bridges and two (2) major culverts
- Construct one (1) new bridge and one (1) new major culvert
- Operation and maintenance of bridges and major culverts to meet service levels set by Council

The identified program is contingent upon significant external funding for the O'Shanesy Street Culvert ($700K) and the Glenroy Crossing Bridge ($16M). If the external funding is not forthcoming Council can most likely absorb the additional costs for O'Shanesy Street Culvert, but will not be in a position to undertake construction of the Glenroy Crossing Bridge.

Managing the Risks

Our present funding levels are **sufficient** to continue to manage risks in the medium term. We will continue to manage our risks associated with this asset class by:

- Monitoring service levels
- Conducting timely maintenance actions
- Monitoring the condition of critical components
- Performing preventative actions to protect structural components which are vulnerable to environmental effects
- Applying the best condition assessment methods, and defining their aims and objectives to address our specific major concerns

1.7 Asset Management Planning Practices

Key assumptions made in this AM Plan are:

- No bridge or major culvert trunk infrastructure projects within the 10 year planning period (as per current Local Government Infrastructure Plan – adopted 3rd March 2020)
- External funding of $16.7M is received for the Glenroy Crossing Bridge and the O'Shanesy Street Culvert projects

Our systems to manage assets include:

- Finance 1 is Council's financial system
- R1 is Council's asset system
- Esri ArcGIS is Council's GIS system

Assets requiring renewal/replacement are identified from either the asset register or an alternative method. These methods are part of the Lifecycle Model.

- The timing of capital renewals based on the asset register is applied by adding the useful life to the year of acquisition or year of last renewal,
- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems (such as Pavement Management Systems) and may be supplemented with, or based on, expert knowledge.

The Alternate Method was used to forecast the renewal life cycle costs for this AM Plan. This AM Plan is based on a reliable level of confidence in the information.

1.8 Monitoring and Improvement Program

The next steps resulting from this AM Plan to improve asset management practices are:

- Continue developing an efficient Bridge Management System (BMS)
- Continue collecting data required by each section of the BMS
- Developing a procedure related to the safety of our bridges/major culverts subjected to heavy vehicle loadings
- Improve the quality of the existing data related to the acquisition year and useful lives of bridges/major culverts
- Review the AM Plan annually to incorporate new risks and opportunities
- Arrange discussions and prepare documents, to assure the consistency of understanding of terminologies amongst different Council's departments
- Continue updating the staff knowledge in different sections of the asset management
- Continue designing and implementing the Level 3 investigations towards the specific aims and objectives related to major concerns
- Continue having effective communications within a department and amongst different disciplines
- Monitor the effectiveness of AM Plan regularly
- Develop a clear process for operation, maintenance, renewal, new/upgrade actions
- Continue utilising the state of the art technologies, materials, and engineering services to complete the Operation, maintenance activities, and building new structures
- Provide sufficient and timely information related to the completed works to be used in AM Plan
- Take into account the above items in the next council's revaluation of bridges and major culverts and improve the reliability and accuracy of the current replacement costs, remaining lives, depreciated replacement costs, etc.

2.0 Introduction

2.1 Background

This AM Plan communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the long term planning period.

This AM Plan is to be read in conjunction with following:

- Corporate Plan
- Operational Plan
- Long Term Financial Forecast (LTFF)
- Risk Management Framework
- Advance Rockhampton Region - Rockhampton Regional Council Economic Action Plan
- Asset Management Policy
- Asset Custodianship Policy
- Asset Management Responsibilities Policy
- Capital Works Program
- Local Government Infrastructure Plan (LGIP)

The infrastructure assets covered by this AM Plan include:

- 22 Road bridges
- 78 Major culverts
- 35 Pedestrian Bridges
- 4 Pedestrian Underpasses
- 6 Pedestrian Boardwalks
- 3 Rail Bridges
- 1 Rail Tunnel

These assets are an integral part of the transport network servicing our Local Government Area. For a detailed summary of the assets covered in this AM Plan refer to Table in Section 5.

The infrastructure assets included in this plan have an estimated total replacement value of **$77,347,000**. This is comprised of the following:

2020/2021 Bridge and Major Culvert Revaluation	$60,426,630
Estimated recent movements:	$16,920,370

- Riverslea Bridge
- Gavial Creek Bridge
- Casuarina Creek Bridge #1
- Casuarina Creek Bridge #2
- Louisa Creek Major Culvert
- Mt Morgan Swinging Bridge
- Heritage Village – Duck Pond Walkway
- Heritage Village – Miniature Train Bridge
- Springers Lagoon Pedestrian Bridge / Lookout

Key stakeholders in the preparation and implementation of this AM Plan are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Elected Council	■ Represent the needs of community. ■ Provide the strategic direction and priorities for Council ■ Ensure services are sustainable
Chief Executive Officer	Implement the policies and strategic direction provided by Council.
General Manager of Regional Services	Setting direction and facilitating approval of policies on asset management, ensuring integration with corporate planning.
Chief Financial Officer	Financial management and reporting. Annual review of Council's long term financial forecast.
Manager Infrastructure Planning and Coordinator Assets & GIS	Corporate asset management governance functions including: ■ Asset Management Framework, Policy and Strategy ■ Administration and development of Council's corporate asset management and geographic information systems. Asset management functions related to bridges and major culverts including: ■ Coordination and provision of condition assessment activities and inspection programs. ■ Forward works programs for asset renewals and maintenance. ■ Asset Management Plan development. ■ Financial asset modelling.
Manager Infrastructure Planning and Coordinator Strategic Infrastructure	Identification of new and upgrade projects.
Asset Custodians	Responsible for assets and services including financial, planning, operation, risk management and works execution.

2.2 Goals and Objectives of Asset Ownership

Our goal in managing infrastructure assets is to provide a defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long-Term Financial Forecast which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are

- Levels of service – specifies the services and levels of service to be provided,
- Risk Management,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,

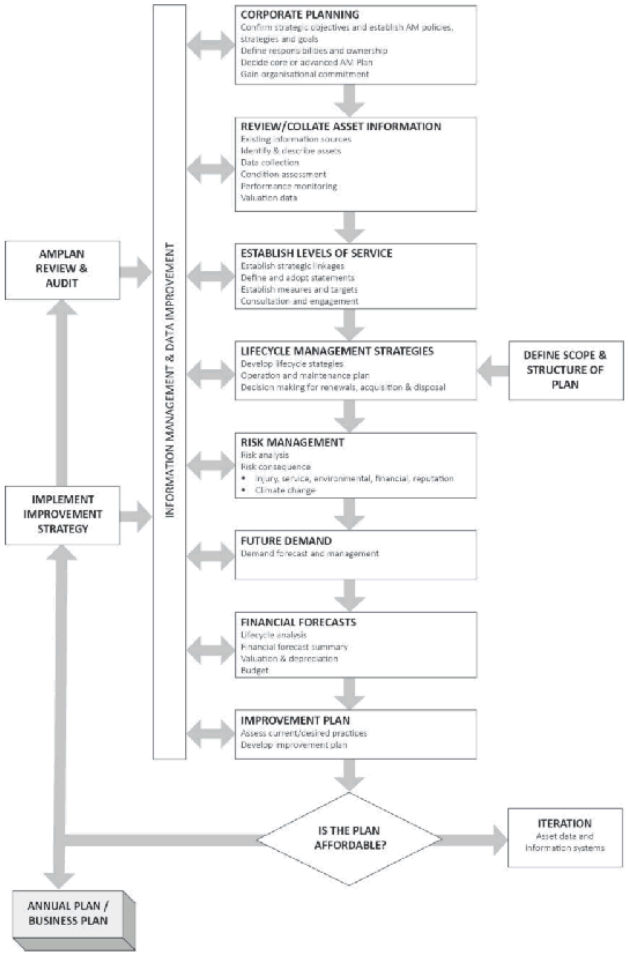
- Financial summary – what funds are required to provide the defined services,
- Asset management practices – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

Other references to the benefits, fundamentals principles and objectives of asset management are:

- International Infrastructure Management Manual 2015 [1]
- ISO 55000[2]

A road map for preparing an Asset Management Plan is shown below.

Road Map for preparing an Asset Management Plan
Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



[1] Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13
[2] ISO 55000 Overview, principles and terminology

3.0 LEVELS OF SERVICE

3.1 Community Expectations

The primary means of identifying community expectations is through the Corporate Plan. The Local Government Act 2009 requires Council to develop a 5 year corporate plan that incorporates community engagement. Table 3.1.1 provides the community expectations documented in the Corporate Plan that relate to bridges and major culverts.

Table 3.1: Community Expectations

Theme	Community Expectations
Community	■ Regional infrastructure and Facilities ■ Safety ■ An engaged and connected community
Service Excellence	■ A customer focussed organisation ■ Regional planning and development
Local Government Leader	■ Fair and balanced

3.2 Strategic and Corporate Goals

This AM Plan is prepared under the direction of the Council's vision, mission, goals and objectives.

Our vision is:

One Great Region

Our mission is:

To create a Region that our community values and others admire

Strategic goals have been set by Council in the Corporate Plan. The relevant goals and objectives, and how these will be addressed in this AM Plan, are summarised in Table 3.2.

Table 3.2: Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in the AM Plan
To provide modern services that support a safe, healthy and engaged lifestyle now and into the future	Safe, accessible, reliable and sustainable infrastructure	■ Ongoing asset condition monitoring in accordance with Section 5.1.3. ■ Maintenance and renewal plans as per Sections 5.2 and 5.3. ■ Risks identified and treatment plans documented as per Table 6.2.
To provide services that effectively balances the community's aspirations with the resources	Customer focused services	■ Community expectations as per Table 3.1 ■ Community values as per Table 3.4 ■ Customer levels of service as per Table 3.5 ■ Customer satisfaction survey levels as per Table 3.7

available now and into the future.	Planning for future population and economic growth	▪ Demand management plan as per Table 4.3
To be a high performing and progressive organisation that leads by example	Financially sustainability	▪ The financial Summary in Section 7 includes asset sustainability indicators ▪ Documented improvement plan as per Table 8.2

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the bridges and major culvert service are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act 2009 and Local Government Regulations 2010	Sets out role, purpose, responsibilities and powers of local governments including the preparation of the Corporate Plan, LTFP supported by infrastructure and asset management plans for sustainable service delivery
Heavy Vehicle National Law Act 2012	Administers one set of laws (the HVNL) for heavy vehicles over 4.5 tonnes gross vehicle mass. It manages the impact of heavy vehicles on the environment, road infrastructure and public amenity
Transport Operations (Road Use Management – Road Rules) Regulation 1999	Establishes road rules in Queensland that are substantially uniform with road rules elsewhere in Australia
Transport Planning and Co-ordination Act 1994	Sets agenda for overall transport effectiveness and efficiency through strategic planning and management of transport resources
Transport Operations (Road Use Management) Act 1995	The overall objective of this Act is to provide for the effective and efficient management of road use in the State
Transport Infrastructure Act 1994	Provides a structure, which sets and enables effective integrated planning and efficient management of the Council's transport and drainage
Environmental Protection Act 1994	*Its objective is to protect Queensland's environment while allowing ecologically sustainable development*
Australian Standards	Australian standards related to design and construction of structures which provides technical knowledge for the structural condition evaluation

3.4 Customer Values

Service levels are defined in three ways; customer values, customer levels of service and technical levels of service.

Customer Values indicate:

- what aspects of the service is important to the customer,
- whether they see value in what is currently provided and
- the likely trend over time based on the current budget provisions

Table 3.4: Customer Values

Customer Values	Customer Satisfaction Measure	Current Feedback	Expected Trend Based on Planned Budget
Safe and serviceable structures without load and speed restrictions	Community satisfaction survey for roads, and complaint reports	There are load and speed restrictions on some of Council's bridges/major culverts	Lower number of structures with load restrictions and higher satisfaction level
Low road roughness and considering the road classes	Community satisfaction survey on roads, and complaint reports	Satisfied (As per Table 3.7)	Maintaining the current level of serviceability

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Quality How good is the service ... what is the condition or quality of the service?

Function Is it suitable for its intended purpose .... is it the right service? Is it safe?

Capacity/Use Is the service over or under used ... do we need more or less of these assets?

In Table 3.5 under each of the service measures types (Quality, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

These are measures of fact related to the service delivery outcome (e.g. number of occasions when service is not available or proportion of replacement value by condition %'s) to provide a balance in comparison to the customer perception that may be more subjective. In Table 3.5 the main factor considered is the condition of the structures.

Table 3.5: Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Safe and serviceable bridges and major culverts in Good or Fair condition	Level 1, 2 & 3 Structure Inspections. According to the Structures Inspection Manual (SIM)[3], the levels of condition are; Unsafe, Very Poor/Poor/Fair and Good. Recently built structures are assigned "As New" until a Level 2 inspection is undertaken.	Structures As New: 7 (4.7%) Good: 26 (17.4%) Fair: 66 (44.3%) Poor: 40 (26.8%) Very Poor: 6 (4.0%) Unsafe: 4* (2.7%) **Total: 149**	Structures As New: 2 (1.3%) Good: 39 (25.8%) Fair: 68 (45.0%) Poor: 38 (26.5%) Very Poor: 0 (1.4%) Unsafe: 4* (0%) **Total: 151**
	Confidence levels		High (Professional Judgement supported by extensive data)	Medium (Professional judgement supported by data sampling)
Function	Bridges and major culverts to be functional based on Australian standards and other relevant documents such as SIM.	Structures should be fit for purpose with regards to: - Road class / use - Planning Scheme - Safety	Fit for purpose: 141 structures (94%) Not fit for purpose: 4 structures (3%) N/A: 4* structures (3%)	Fit for purpose: 147 structures (97%) Not fit for purpose: 0 structures (0%) N/A: 4* structures (3%)
	Confidence levels		High (Professional Judgement supported by extensive data)	Medium (Professional judgement supported by data sampling)
Capacity	Capacity of bridges and major culverts should meet the maximum capacity of roads needed according to The Rockhampton Planning Scheme	Traffic capacity of the structure should be sufficient for the road (traffic volume and loads).	Sufficient: 142 structures (95%) Insufficient: 3 structures (2%) N/A: 4* structures (3%)	Sufficient: 146 structures (96%) Insufficient: 1 structure (1%) N/A: 4* structures (3%)
		Hydraulic capacity of the structure should be sufficient at the time of rain or flood events.	Sufficient: 144 (96%) Insufficient: 1 structure (1%) N/A: 4* structures (3%)	Sufficient: 147 structures (97%) Insufficient: 0 structures (0%) N/A: 4* structures (3%)
	Confidence levels		Medium (Professional judgement supported by data sampling)	Low (Professional judgement)

* Denotes the Mt Morgan Rail Structures (3 bridges, 1 tunnel) which are not in service and are closed to the public

[3] DTMR, 2016, Structure Inspection Manual, Department of Transport and Main Roads, Queensland

3.6 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

- **Acquisition** – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).
- **Operation** – the regular activities to provide services (e.g. opening hours, cleansing, mowing grass, energy, inspections, etc.
- **Maintenance** – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. road patching, unsealed road grading, building and structure repairs),
- **Renewal** – the activities that return the service capability of an asset up to that which it had originally provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.[3]

Table 3.6 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the Forecast activity requirements being recommended in this AM Plan.

Table 3.6: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Upgrade or build new bridges and major culverts to meet current and future demands	Upgraded/new based on the Level 3 detailed structural condition assessment, future demand assessments	New bridges/major culverts are built, or existing ones are upgraded to meet the transportation demand.	More new bridges/major culverts may be built to achieve a higher level of service. Existing structures which require renewal could also be upgraded to provide higher levels of service.
		Funding	Average for the Planning Period of the funding for Acquisition is $2,290,410 per year.	Average for the Planning Period of the demand for Acquisition is $3,035,000 per year.
Operation	Serviceability of the structure comply with relevant standards and meet community's expectations	Level 1– Routine Maintenance Inspection Level 2–Condition Rating Inspection Level 3 – Detailed structural condition assessment (Special Inspection)	Condition of a structure is assessed based on based on Level 1 and 2 inspection and Level 3 condition assessment. The frequency of inspection for Levels 2 or 3 is determined based on the condition and type of the structure. Using internal resources the current performance is satisfactory.	More in-depth condition assessments (Level 3) to be undertaken. Structural Health Monitoring systems should be implemented.

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
		Funding	Average for the Planning Period of the funding for Operation is $51,277 per year.	Average for the Planning Period of the demand for Operation is $58,779 per year.
Maintenance	Condition of structures maintained at safe and serviceable levels	Maintenance based on the output of the Level 1 and 2 Inspections, and Level 3 condition assessment	Maintenance and rehabilitation are performed based on the structural condition assessment.	Performing further planned maintenance with the aim of decreasing the deterioration rates of structures. The forecast budget considers actions which increase the durability of the structure.
		Funding	Average for the Planning Period of the funding for Maintenance is $93,654.	Average for the Planning Period of the demand for Maintenance is $108,659.
Renewal	Reinstate bridges and major culverts to meet their maximum capacity during their lifespan	Renewal is mainly based on the outcome of the Level 3 - detailed structural condition assessment	Renewal is made after analysing the results of the investigations and considering priorities and budget restraints, with the focus on "Very Poor" structures and structures with insufficient function or capacity. For some structures major rehabilitation is considered to avoid structure replacement.	Renewing more structures which are in "Poor" condition with high maintenance costs. In addition, major rehabilitation shall be performed at an optimum time and using more advanced technologies and modern materials.
		Funding	Average for the Planning Period of the funding for Renewal is $1,434,790 per year.	Average for the Planning Period of the demand for Renewal is $1,058,000 per year.

Note: * Current activities related to funding.
** Forecast required performance related to demand.

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged that changing circumstances in technology and customer expectation will impact service levels over time, for example:

- As new vehicles with larger permitted loadings are introduced to our road networks, the current level of service needs to increase to meet the demand
- The adoption of autonomous driving technologies will introduce higher serviceability standards for our road network, including our bridges and major culverts
- Community expectations for the provision and operation of Council's bridges and major culverts can change over time

3.7 Customer Satisfaction

A community satisfaction survey was conducted for roads in November 2016. In this document, for bridges and major culverts the same satisfactory levels as roads were considered. Community satisfaction information is used in developing the Corporate Plan and in the allocation of resources in the budget.

Table 3.7 summarises the results from our Customer Satisfaction Survey.

Table 3.7: Customer Satisfaction Survey Levels

Performance Measure	Satisfaction Level				
	Very Satisfied	Fairly Satisfied	Satisfied	Somewhat satisfied	Not satisfied
Urban Sealed Roads			✓		
Urban Unsealed Roads			✓		
Rural Sealed Roads			✓		
Rural Unsealed Roads		✓			

Currently the Councils' Customer Satisfaction survey shows the level of service provided meets their demands. Nonetheless, as explained above, the demands are increasing and available funding is limited. Therefore, to sustain the levels of service and enhance them, meet the legislative requirements, and comply with the strict design and construction standards, it is important to utilise up-to-date knowledge and the state of the art technologies in all aspects of the Bridge Management System.

4.0 FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented.

4.3 Demand Impact and Demand Management Plan

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 4.3.

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices can include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this Asset Management Plan.

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Heavier loads (Static loads, and dynamic loads due to changes in speed and, axle configuration)	There are load and speed restrictions on some structures	Further load and speed restrictions may be added or increased on existing structures, as industry activities expand.	Likely requirement for new or upgraded heavy vehicle routes in both urban and rural areas.	Replacing/strengthening structures which are in Very Poor/ Poor condition where recommended by higher levels of structural condition assessments.
Population	The estimated resident population of Rockhampton for 2020 is 81,999. Reference from RRC Profile.id Council's community profile: https://profile.id.com.au/rockhampton	The population growth as of 30th June 2020 was 0.6%. Reference from RRC Profile.id Council's community profile: https://profile.id.com.au/rockhampton/population-estimate	Lower capacity of roads in respect to the future demands. This will limit the access to residential, industrial and commercial urban and rural areas.	Building new bridges/major culverts, or upgrading existing ones, such as widening. Deficiencies identified will be addressed through inclusion in the LGIP, appropriate conditioning of development and inclusion in the forward works program.
Advancement in technologies	Provides us with more reliable tools for condition assessment, and rehabilitation of structures.	They will enhance in different areas, such as structural condition assessment and health monitoring, more reliable and less expensive testing equipment.	Provides more cost-effective solutions for condition assessment and rehabilitating structures.	This may help to enhance the level of service. The new knowledge and technologies in condition assessment, construction, design, etc. are continually monitored and used.
Community's expectations	Council's performance in providing access to different areas is satisfactory now.	Community may become less satisfied in general with the service provided, especially at the time of extreme events.	Complaints may increase especially about the serviceability after a flood incident or facing more load and speed restrictions on bridges/major culverts.	Discuss the risks with the community, and explain the funding needed to enhance the current level of service. Implementing this AM Plan and keep updated regularly.

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.5.

Acquiring new assets will commit Council to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial forecast (Refer to Section 5).

4.5 Climate Change and Adaption

The impacts of climate change can have a significant impact on the assets we manage and the services they provide. In the context of the Asset Management Planning process, climate change can be considered as both a future demand and a risk.

How climate change will impact on assets can vary significantly depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.

As a minimum we should consider both how to manage our existing assets given the potential climate change impacts, and then also how to create resilience to climate change in any new works or acquisitions.

Opportunities identified to date for management of climate change impacts on existing assets are shown in Table 4.5.

Table 4.5 Managing the Impact of Climate Change on Assets

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Increase in average rainfall and global mean sea level	Increase in frequency and severity of flooding	Lower flood immunity Higher vulnerability to damage	Consider in future hydraulic design of structures, and strengthening of existing structures. Following Council's policies and strategies such as Council's Flood Management Strategy and completing projects such as South Rockhampton Flood Levee Project.
Mean surface air temperature increase and extended periods of drought	Increase in bushfire incidents and longer fire seasons	Higher vulnerability of structures to fire damage	Consider in future design of structures, and strengthening of existing structures. Following Council's policies and strategies such as Council's Bushfire Management.
Ref: https://www.climatechangeinaustralia.gov.au/en/changing-climate/climate-trends/australian-trends/			

Additionally, the way in which we construct new assets should recognise that there is opportunity to build in resilience to climate change impacts. Building resilience will have benefits:

- Assets will withstand the impacts of climate change
- Services can be sustained
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this Asset Management Plan.

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Rockhampton Regional Council plans to manage and operate the assets at the agreed levels of service (Refer to Section 3) while managing life cycle costs.

5.1 Background Data

5.1.1. Physical parameters

The assets covered by this AM Plan are shown in Table 5.1.1.

Bridges and major culverts are part of the road network and located in urban and rural areas.

Table 5.1.1: Assets covered by this Plan

Asset Custodian	Asset Category	Material	Asset Count	Replacement Value
Civil Operations	Bridge	RC	18	$39,121,518
		Steel	1	$321,392
	Major Culvert	RC	76	$27,262,293
	Pedestrian Bridge	RC	5	$920,428
		Steel	3	$288,928
		Timber	2	$47,940
	Underpass	RC	4	$868,369
	Rail Bridge	Timber	3	Not Valued
	Rail Tunnel	RC	1	Not Valued
Community Assets & Facilities	Major Culvert	RC	1	$298,527
Communities & Culture	Bridge	Timber	1	$127,129
	Pedestrian Bridge	RC	1	$76,360
		Timber	1	$70,062
	Pedestrian Boardwalk	Steel	1	$55,770
Parks	Pedestrian Bridge	RC	8	$513,178
		Steel	2	$949,822
		Timber	12	$419,430
	Pedestrian Boardwalk	Steel	3	$1,641,490
		Timber	2	$359,487
Rockhampton Airport	Major Culvert	RC	1	$3,230,518
	Pedestrian Bridge	Steel	1	$72,230
Waste & Recycling	Bridge	RC	2	$702,131
TOTAL			**149**	**$77,347,000**

A 'Major Culvert' is a pipe or box culvert meeting the following criteria:

- Metal culverts (steel and aluminium)
  - At least one barrel (cell) with span, height or diameter ≥ 1.2m. or
- All other culverts
  - Pipes with at least one barrel (cell) with diameter ≥ 1.8m, or
  - Rectangular/oval/arch culverts at least one barrel (cell) with span ≥ 1.8m and height ≥ 1.5m

5.1.2. Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset category and components used for asset planning and financial reporting.

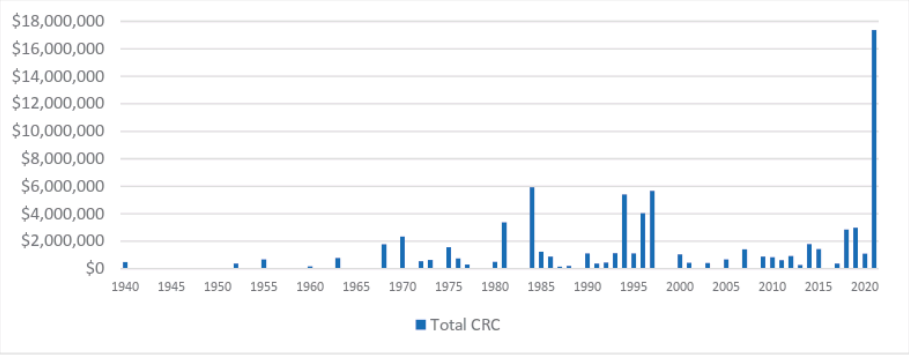
The asset hierarchy is shown is Table 5.1.2.

Table 5.1.2: Asset Hierarchy and Components

Asset Category	Material	Component	Useful Life (Years)
Road Bridge	Concrete	Substructure	80
		Superstructure	80
		Surface	30
		Waterway	60
		Miscellaneous	20
	Steel	Substructure	80
		Superstructure	60
		Waterway	80
		Miscellaneous	20
	Timber	Substructure	60
		Superstructure	40
		Deck	40
		Surface	20
		Waterway	60
		Miscellaneous	20
Road Major Culvert	Concrete	Substructure	80
		Waterway	60
		Miscellaneous	20
Pedestrian Bridge	Concrete	Superstructure	60
	Steel	Superstructure	40
	Timber	Superstructure	30
Pedestrian Boardwalk	Steel	Superstructure	40
	Timber	Superstructure	30
Underpass	Concrete	Substructure	80
		Miscellaneous	20

The age profile of the assets included in this AM Plan are shown in Figure 5.1.2.

Figure 5.1.2: Asset Age Profile



All figure values are shown in current day dollars.

Given the long life of these structures and the fact many were built prior to amalgamation in 2008, records such as the original installation date have often been difficult to source. During the recent revaluation of this class, efforts were made to establish missing acquisition dates using all available resources (plans, documents, newspaper articles, historical imagery etc.).

The age profile itself indicates the sporadic nature of investment in bridges and major culverts, with quiet times of investment often followed by short periods of large expenditure during times of growth or infrastructure stimulus. Whilst bridge and major culvert renewals are primarily driven by considerations other than age, most structures of a similar age bracket are constructed to a similar design philosophy (using materials and techniques of similar qualities). This means when structural issues do occur (i.e. ASR cracking), a number of structures may experience similar issues (and require similar treatments) in a short period of time.

5.1.3. Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.1.3a.

It is also important to identify structures which provide sufficient performance now, however will have future deficiencies in service performance within the 10 year planning period of this AM Plan. These structures are detailed in Table 5.1.3b.

Table 5.1.3a: Known Service Performance Deficiencies

Asset ID	Location	Level of Service	Service Deficiency
638286	Major Culvert – Scrubby Creek Old Capricorn Highway	Condition	Structure is in very poor condition. All cells have severe edge cracking on the pier walls and roof.
		Function	Single lane only on a two way road with no pedestrian or cyclist provisions.
		Capacity	Load restriction (20t) due to concerns regarding structural capacity.
638292	High Street Bridge (LRRS Road)	Condition	Structure is in very poor condition. It has severe cracking of the girders caused by Alkaline Silica Reaction (ASR).
638303	Nine Mile Road Bridge (LRRS Road)	Condition	Structure is in very poor condition. It has severe longitudinal cracking in the piles.
		Function	Narrow two way bridge. High % of heavy vehicles and known sporting cyclist route.
882100	Fairy Bower Road - Scrubby Creek (LRRS Road)	Function	Single lane floodway on a two way road. Extremely poor alignment and minimal sight distance on approaches. This is a B-Double route with intensive activities at Paradise Lagoon. It is a known sporting cyclist route.
		Capacity	Insufficient hydraulic capacity – regular inundation and road closures after minor rain events.
942966	Major Culvert - O'Shanesy Street	Condition	Structure is in poor condition. It has cracking and severe spalling and corrosion of reinforcement in the pier wall.
		Capacity	Load restriction (20t) due to concerns regarding structural capacity.
1004557	Major Culvert - Glenroy Road	Condition	Structure is in poor condition with the condition of underwater elements unknown.

	Fitzroy River Crossing (LRRS Road)	Function	Structure is a narrow single lane culvert which forms part of a much larger single lane river crossing. Steep incline and poor visibility on the northern approach.
		Capacity	Insufficient hydraulic capacity – structure has low level of flood immunity.
1056847	Heritage Village Bridge	Condition	Structure is in very poor condition.
		Function	Speed restriction (5kph)
		Capacity	Load restriction (2t)

Table 5.1.3b: Future Service Performance Deficiencies

Asset ID	Location	Level of Service	Service Deficiency
638290	Limestone Creek Bridge – Alexandra Street	Capacity	Traffic capacity of 15,000 vpd will be exceeded by 2032 if the current 5yr growth rate of 7% continues. Accelerated growth in Parkhurst Area and the Ring Road Project will change traffic patterns – impact unknown at this time.
1004557	Major Culvert - Glenroy Road Fitzroy River Crossing	Function	Current structure will not be suitable for the anticipated agricultural growth in the Glenroy Area resulting from the construction of the Rookwood Weir.
		Capacity	Hydraulic capacity will be insufficient as structure will be inundated at full supply level if Eden Bann Weir is raised.

The above service deficiencies were identified from structural condition assessments and planning considerations (Infrastructure Planning).

5.1.4. Asset Condition

Having a clear picture of the condition of our structures helps make more informed decisions. Structure condition is based on the Transport and Main Roads Structures Inspection Manual (SIM), which identifies the inspection types and frequency based on the current condition, construction type and environment. Minor pedestrian structures generally present less risk and critically for Council so for these structures, inspection intervals are extended. The types of inspection are detailed in Table 5.1.4a.

Table 5.1.4a: Asset Condition Assessments

Structure Type	Inspection Level	Inspection Type	Inspection Frequency
Structures Inspection Manual (SIM)			
Bridges Major Culverts Major Pedestrian Structures (deck to waterway height >=1m)	1	High-level visual inspection	6-12 month intervals
	2	Visual structural inspection of all bridge surfaces and components	1–5 years intervals
	3	Targeted structural assessments which may include testing, structural analysis, or structural health monitoring	As required
Modified SIM			
Minor Pedestrian Structures (deck to waterway height <1m)	1	High-level visual inspection	2 year intervals
	2	Visual structural inspection of all bridge surfaces and components	As required

Condition Ratings

In Level 2 inspections, the inspector assigns a condition rating on a 1 to 4 scale ("good", "fair", "poor" and "very poor"). This scale differs from Council's standard 0 to 5 scale (0 = "as new", 5 = "failed"). It is important that consistent condition grades be used in reporting various assets across an organisation - this supports effective communication. At the detailed level, assets may be measured utilising different condition scales such as that used in the SIM, however, for reporting in the AM Plan they are all translated to the 0 – 5 grading scale.

Table 5.1.4b shows the definitions for the five different condition states used by Council for bridges and major culverts.

Table 5.1.4b: Simple Condition Grading Model

Condition Grading	Description of Condition
0	**As New:** Recently constructed, no condition inspections yet undertaken on structure
1	**Good:** Free of defects with little or no deterioration evident
2	**Fair:** Free of defects affecting structural performance, integrity and durability Deterioration of a minor nature in the protective coating and/or parent material is evident
3	**Poor:** Defects affecting the durability/serviceability which may require monitoring and/or remedial action or inspection by a structural engineer Component or element shows marked and advancing deterioration including loss of protective coating and minor loss of section from the parent material is evident Intervention is normally required
4	**Very Poor:** Defects affecting the performance and structural integrity which require immediate intervention including an inspection by a structural engineer, if principal components are affected Component or element shows advanced deterioration, loss of section from the parent material, signs of overstressing or evidence that it is acting differently to its intended design mode or function
5	**UNSAFE:** Structural integrity is severely compromised and the structure must be taken out of service until a structural engineer has inspected the structure and recommended the required remedial action

The condition profile of our assets is shown in Figures 5.1.4c and 5.1.4d. All values are shown in current day dollars.

Figure 5.1.4c: Asset Value by Overall Condition

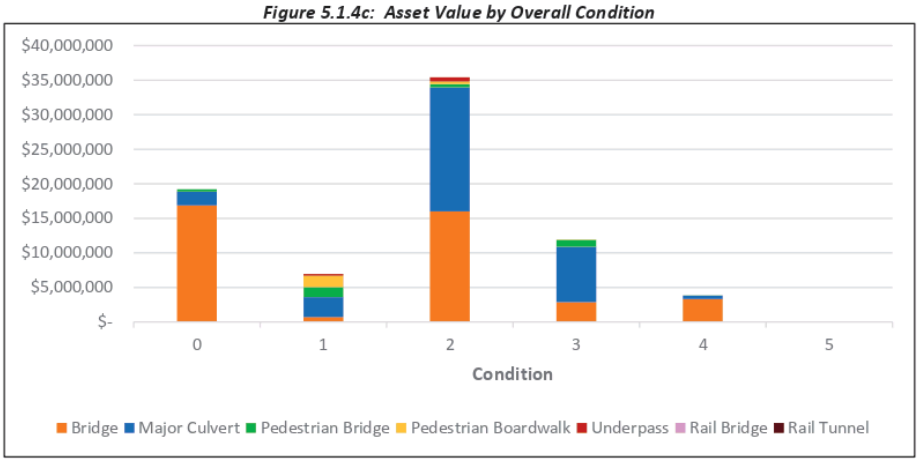
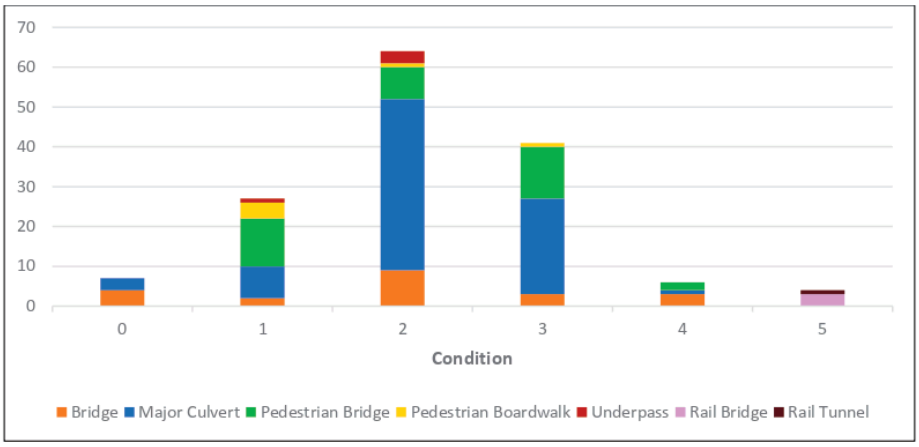


Figure 5.1.4d: Asset Structure Count by Overall Condition



The condition data in Fig. 5.1.4c and Fig. 5.1.4d shows the overall condition of the Council's bridges and major culverts based on the Level 2 inspections. Brand new structures (Condition 0) are expected to change to Condition 1 once Level 2 inspections have been undertaken on them.

Limitations

The SIM inspection and assessment process has limitations which must be considered when interpreting the results.

Level 2 inspections are limited to visual techniques, which is a subjective measurement and reliant upon access and the experience of the assessor. Given that accessibility of many parts of the structures is limited (under water/ground level, at heights or concealed), the accuracy of the Level 2 condition data needs to be considered when using it.

Level 3 investigations can be carried out on structures with higher level of uncertainty about their condition (such as those rated "3 - Poor" or "4 - Very Poor") in order to mitigate the risks associated with Level 2 inspections. Again this has its caveats, as Level 3 inspections are usually limited to non-destructive investigations and analysis which can sometimes produce inconclusive results.

The SIM ratings are based on a traditional maintenance management approach where the goal is to have all structures with good condition ratings and maintenance is focused on applying treatments to improve condition scores. A more modern AM approach is to understand the context (performance, risk, and cost) associated with a structure's condition and make renewal and maintenance decisions with this context in mind.

5.2 Renewals

Renewal is major capital works which do not significantly alter the original service provided by the asset, but which restore, rehabilitate, replace or renew an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an acquisition, resulting in increased asset replacement value and associated additional future operations and maintenance costs.

The typical useful lives of assets used for asset planning and financial reporting Table 5.1.2. Asset useful lives were last reviewed by third party consultants Australis in June 2021.[4]

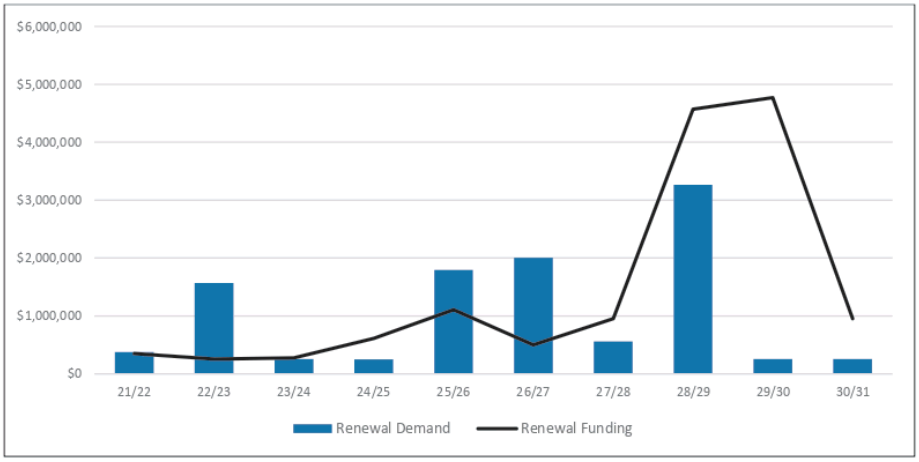
5.3 Summary of renewal demand

Renewal demand is the renewal works required over the planning period of the AM Plan. It has been determined after comprehensive investigations and planning discussions among Council units. The renewal demand is shown

[4] Australis, 2021, Asset Valuation Report

relative to the renewal funding (LTFF + External Funding) in Figure 5.3. A detailed summary of the renewal demand is included in Appendix A.

Figure 5.3: Renewal Demand



All values are shown in current day dollars.

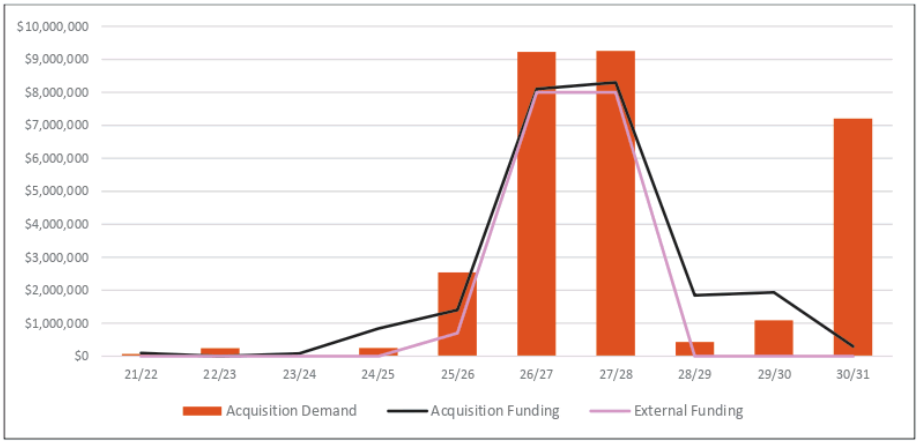
5.4 Acquisitions

Acquisitions are new assets or works which will upgrade or improve an existing asset beyond its current capacity. They may result from growth, demand, social or environmental needs. Assets may also be contributed to Council through the development approval process or by other levels of government.

5.5 Summary of acquisition demand

Acquisition demand is the asset acquisitions required over the planning period of the AM Plan. The acquisition demand is shown relative to the acquisition funding (LTFF + External Funding) in Figure 5.5.1. Acquisitions are a mix of upgrades to existing structures and expansion of the asset class with new structures. The forecast acquisition demand is shown in Appendix A.

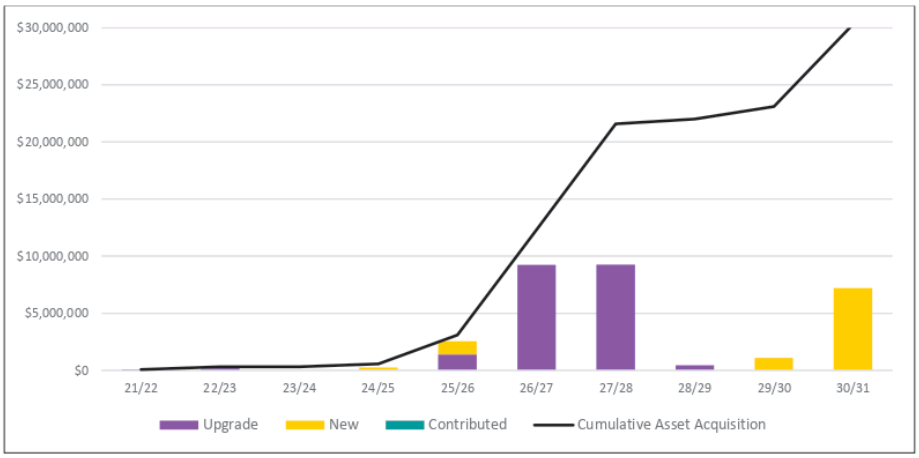
Figure 5.5.1: Acquisition Demand



All values are shown in current day dollars.

When Council commits to new assets, it must be prepared to fund future operations, maintenance and renewal costs. Council must also account for future depreciation when assessing long term sustainability. When reviewing the long-term impacts of asset acquisition, it is useful to consider the cumulative value of the acquired assets being taken on. The cumulative value of all acquisition work, including assets that are constructed and contributed shown in Figure 5.5.2.

Figure 5.5.2: Acquisition Demand Summary



All values are shown in current day dollars.

The necessity of acquisitions is based on strategic planning assessments and documentation. Proposals identified by strategic plans are based on the demand capacity of the structure such as its traffic and hydraulic capacities, and assessments on the capacity needed for the next 10 years. Community requests have also been taken into account. Renewing a structure because of its condition may also indirectly affect the decision for upgrading it. By replacing an existing structure, upgrading it will also be taken into account. The above acquisition projects were determined after discussion among different departments of the Council.

Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding. There are currently a number of acquisition projects that are reliant on substantial external funding to proceed; if this funding is not available then Council must either fund these projects itself, or postpone them.

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 5.6. Any costs or revenue gained from asset disposals is included in the long-term financial plan.

Table 5.6: Assets Identified for Disposal

Asset ID	Asset Description	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
1020199	Mt Morgan Dee River Crossing	Out of service	Yet to be determined based on its condition	TBC	$2,000 condition assessment & safety signs
1020200	Mt Morgan Rail Tunnel	Out of service	Yet to be determined based on its condition	TBC	$2,000 condition assessment & safety signs
1020201	Mt Morgan Rail Bridge 1	Out of service	Yet to be determined based on its condition	TBC	$2,000 condition assessment & safety signs
650000154 (GIS ID)	Mt Morgan Rail Bridge 2	Out of service	Yet to be determined based on its condition	TBC	$2,000 condition assessment & safety signs

The assets detailed in Table 5.6 are not functioning as structures and not valued, however, there are risks to Council associated with their existence. Until the decision made for keeping or removing them, the risks associated with their existence should be managed in accordance with the latest risk assessment. Refer to Appendix G for details.

5.7 Operations and Maintenance Plan

Operations

Operations include regular activities to provide services. Examples of typical operational activities include street sweeping, cleaning scuppers, and AM activities such as structure inspections or condition assessments.

Based on historical data, it has been assumed that operational costs of $51,277 per year will be required for the existing asset base. An additional 0.09% has been allowed for additional operations as a result of increases in the asset base. These assumptions will be further refined in later revisions of this document. Operational funding levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Further information on the operational costs is detailed in Appendix D.

Maintenance

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include repairing structural/nonstructural components, preservation actions such as applying chemical preservative to timber components or painting/repainting components, vegetation control, and maintaining the wearing surface.

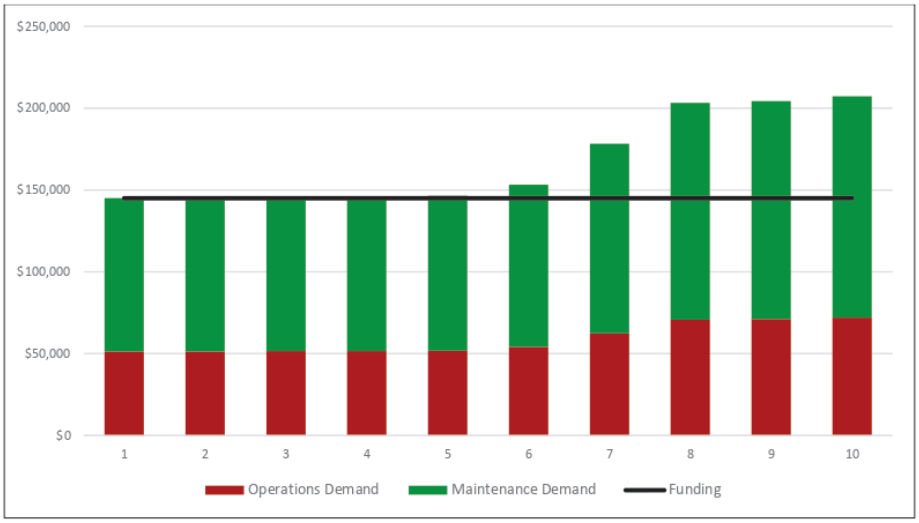
Based on historical data, it has been assumed that maintenance costs of $93,654 per year will be required for the existing asset base. An additional 0.18% has been allowed for additional maintenance as a result of increases in the asset base. These assumptions will be further refined in later revisions of this document.

Maintenance funding levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance funding allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan. Further information on the maintenance costs is detailed in Appendix E.

5.8 Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.8 shows the forecast operations and maintenance costs relative to the estimated operations and maintenance funding.

Figure 5.8: Operations and Maintenance Summary



All figure values are shown in current day dollars.

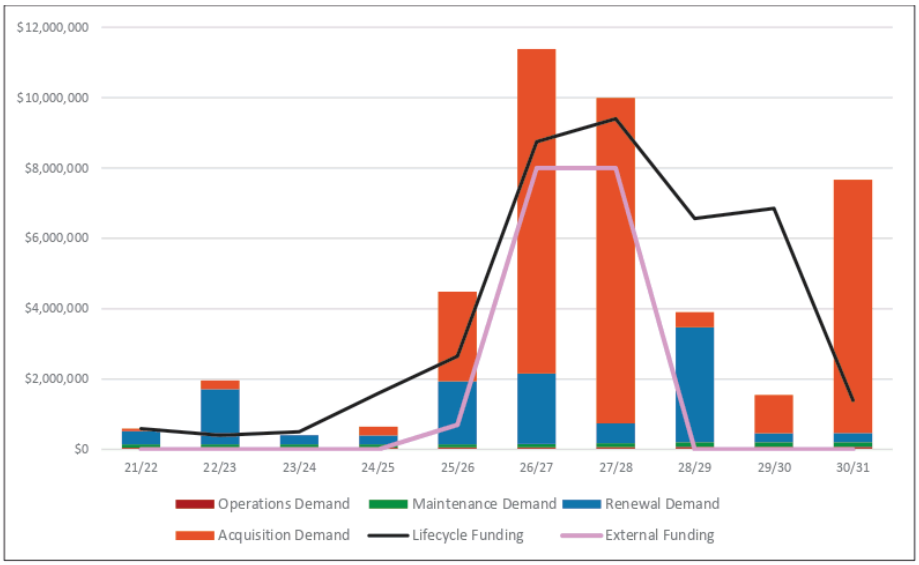
Growth in demand is due to an increase in the asset stock from acquisition projects to be undertaken over the next 10 years.

5.9 Summary of lifecycle demand

The lifecycle demand for this AM Plan is shown in Figure 5.9. This includes demand for operation, maintenance, renewal, acquisition and disposal. This demand is shown in comparison to the lifecycle funding (LTFF + Operations & Maintenance + External Funding).

The bars in the graphs represent the demand to minimise the life cycle costs associated with the service provision. The pink line indicates the external funding component of the lifecycle funding. The gap between the lifecycle demand and the lifecycle funding is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

Figure 5.9: Lifecycle Summary



All figure values are shown in current day dollars.

Asset expiry dates from the asset register alone are not sufficiently accurate to make decisions for renewal of a bridge or major culvert, and therefore the alternate method has been used for this AM Plan. When making renewal decisions items such as safety, serviceability, growth, structural condition and deterioration rates have been taken into account in detail when identifying renewals. Figure 5.6 has been produced after reviewing these considerations on all structures.

For lower cost maintenance decisions, Level 2 inspection documents have been mainly used. For higher cost items, Level 3 investigations were defined to address specific questions and methods were developed to achieve those aims and objectives and identify cost-effective solutions. Due to the significant consequences of a structural failure, it is important to annually review this document and update any time when the condition assessments identify important safety and serviceability issues, or the service levels change.

6.0 RISK MANAGEMENT PLANNING

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control with regard to risk'[5].

An assessment of risks[6] associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 6.1.

Table 6.1 Critical Assets

Asset ID	Asset Description	Failure Mode	Potential Outcomes	Impact
566395	Airport Runway Bebo Arch	Structural	Air crash incident Landing restrictions Runway closure	Significant personal Injury Significant reduction of service Significant financial losses
638284	Major Culvert – Reaneys Crossing Dean Street	Structural	Vehicle incident Urban Arterial closure	Significant personal injury Significant reduction of service
638292	High Street Bridge	Structural	Vehicle incident Urban Arterial closure	Significant personal injury Significant reduction of service
638306	Major Culvert – Power Station Road	Structural	No power station access Vehicle incident Primary Rural Access closure	Significant financial losses Energy grid disruption Significant personal injury Significant reduction of service
638308	Major Culvert – Moores Creek Crossing Kerrigan Street	Structural	Vehicle incident Urban Sub-Arterial closure	Significant personal injury Significant reduction of service
638309	Moores Creek Bridge - Glenmore Road	Structural	Vehicle incident Urban Sub-Arterial closure	Significant personal injury Significant reduction of service
816749	Major Culvert – Power Station Road	Structural	No power station access Vehicle incident Primary Rural Access closure	Significant financial losses Energy grid disruption Significant personal injury Significant reduction of service

[5] ISO 31000:2009, p 2
[6] Rockhampton Regional Council Enterprise Risk Management Policy

816750	Major Culvert – Power Station Road	Structural	No power station access Vehicle incident Primary Rural Access closure	Significant financial losses Energy grid disruption Significant personal injury Significant reduction of service
816751	Major Culvert – Power Station Road	Structural	No power station access Vehicle incident Primary Rural Access closure	Significant financial losses Energy grid disruption Significant personal injury Significant reduction of service
816752	Major Culvert – Power Station Road	Structural	No power station access Vehicle incident Primary Rural Access closure	Significant financial losses Energy grid disruption Significant personal injury Significant reduction of service
1004557	Major Culvert - Glenroy Road Fitzroy River Crossing	Structural	Vehicle incident Primary Rural Access closure	Significant personal injury Significant reduction of service
1042150	Major Culvert – Moongan-Razorback Rd	Structural	Vehicle incident Urban Arterial closure	Significant personal injury Significant reduction of service
1042166	Major Culvert – Moongan-Razorback Road	Structural	Vehicle incident Urban Arterial closure	Significant personal injury Significant reduction of service
1043499	Transfer Station North	Structural	Vehicle incident Transfer Station closure Redirection of waste	Significant personal injury Significant reduction of service Significant financial losses
1043500	Transfer Station South	Structural	Vehicle incident Transfer Station closure Redirection of waste	Significant personal injury Significant reduction of service Significant financial losses
1046070	Major Culvert – Power Station Road	Structural	No power station access Vehicle incident Primary Rural Access closure	Significant financial losses Energy grid disruption Significant personal injury Significant reduction of service
1046075	Major Culvert – Power Station Road	Structural	No power station access Vehicle incident Primary Rural Access closure	Significant financial losses Energy grid disruption Significant personal injury Significant reduction of service
1046080	Major Culvert – Power Station Road	Structural	No power station access Vehicle incident Primary Rural Access closure	Significant financial losses Energy grid disruption Significant personal injury Significant reduction of service
1046090	Major Culvert – Power Station Road	Structural	No power station access Vehicle incident Primary Rural Access closure	Significant financial losses Energy grid disruption Significant personal injury Significant reduction of service

By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets. A comprehensive assessment of criticality for all bridge and major culverts will be undertaken and included in later revisions of this AM Plan.

6.2 Risk Assessment

The risk management process used is shown in Figure 6.2 below.

It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of International Standard ISO 31000:2018.

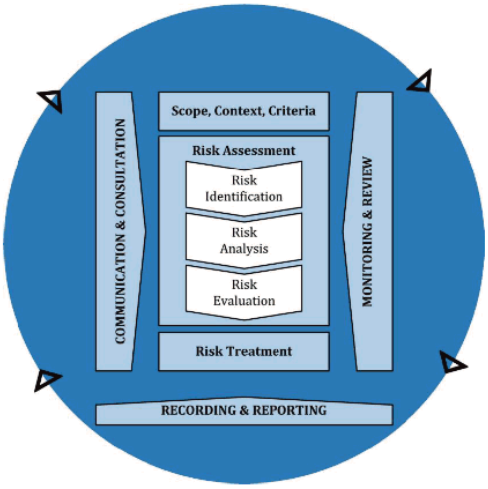


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks. An assessment of risks[7] associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and the custodians of the assets in Council.

[7] Rockhampton Regional Council Enterprise Risk Management Framework

Table 6.2: Risks and Treatment Plans

Asset ID	Asset at Risk	What can Happen	Risk Rating	Risk Treatment Plan	Residual Risk *	Treatment Costs
638286	Major Culvert – Scrubby Creek Old Capricorn Highway	Failure of culverts	H	• Conduct detailed structural investigations • Continue monitoring the condition of the structure • Replace and upgrade the structure	VL	$1,390,506 $1,081,504 *(Renewal)* $309,001 *(Upgrade)*
638292	High Street Bridge	Failure of deck units	H	• Conduct detailed structural investigations • Continue monitoring the condition of the structure • Replace the deck units	VL	$1,796,015 *(Renewal)*
638303	Nine Mile Road Bridge	Failure of abutments and columns	H	• Conduct details structural investigations • Condition is being monitored • Replace and upgrade or rehabilitate structure	VL	$3,334,824 $2,917,971 *(Renewal)* $416,853 *(Upgrade)*
942966	Major Culvert - O'Shanesy Street	Failure of abutments and piers	H	• Structural condition assessed, and load restriction applied • Replace and upgrade structure	VL	$1,425,000 *(Renewal)*
1004557	Major Culvert – Glenroy River Crossing	Failure of structure	H	• Conduct detailed underwater structural investigations • Condition is being monitored • Replace and upgrade structure	VL	$20,000,000 $163,275 *(Renewal)* $19,836,725 *(Upgrade)*
1056847	Heritage Village Bridge	Failure of girders	H	• Conducted detailed structural investigations, the condition is being monitored • Replace structure	VL	$239,644 *(Renewal)*
Various	Structures identified in reports	Failure of structure	H	• Require Rehabilitation over the next 10 years	L	$2,045,000 *(Renewal)*
Various	Safety of road users (Guardrails)	Failure of standard performance	H	• Preliminary assessment at the network level has been conducted • Further assessments for each case will be performed and accordingly the decisions for renewing or upgrading or adding new guardrails will be made	L	$580,000 *(Renewal)*

Note * The residual risk is the risk remaining after the selected risk treatment plan is implemented.

In the above table the risks evaluated high/very high are due to the significant consequence of failure.

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to 'withstand a given level of stress or demand', and to respond to possible disruptions to ensure continuity of service.

Resilience is built on aspects such as response and recovery planning, financial capacity, climate change risk assessment and crisis leadership.

Our current measure of resilience is shown in Table 6.3 which includes the type of threats and hazards and the current measures that the organisation takes to ensure service delivery resilience.

Table 6.3: Resilience

Threat / Hazard	Current Resilience Approach
Failure of a bridge/ major culvert	▪ Conducting timely inspection and structural condition assessment, and using reliable method of structural safety evaluation ▪ Conducting special capacity/demand assessment such as load rating, load testing or structural health monitoring when a structure is subjected to heavier loads than it has been designed for, and considering its condition at the time of the application of the load
Limited serviceability	▪ Strengthening the structure, by replacing or rehabilitating its critical components ▪ Performing preventative maintenance actions on the vulnerable structural component which their deterioration rates are higher ▪ Performing structural condition assessment systematically
Limited functional capacity	▪ Enhancing the functional capacity of the structure such as its hydraulic capacity, or traffic capacity, through redesigning and upgrading the structures geometry ▪ Taking actions such as timely cleaning of the waterway to ensure its maximum performance during extreme events such as flood

6.4 Service and Risk Trade-Offs

The decisions made in adopting this AM Plan are based on the objective to achieve the optimum benefits from the available resources.

The forecast program is contingent upon significant external funding for the O'Shanesy Street Culvert ($700K) and the Glenroy Crossing Bridge ($16M). If the external funding is not forthcoming Council can most likely absorb the additional costs for O'Shanesy Street Culvert, but will not be in a position to undertake construction of the Glenroy Crossing Bridge.

6.4.1 Service trade-off

If there is forecast demand (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. These service consequences include:

- Restriction in vehicles' weights
- Restriction in the speed of heavier vehicles or their axle configuration
- Disruption in service due to more frequent maintenance
- Traffic congestion

6.4.2 Risk trade-off

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences. These risk consequences include:

- Change in the structures' condition from lower (1 and 2 e.g. Good and Fair) to higher (3 and 4 e.g. Poor and Very Poor) values
- Personal Injury/Loss or reduction of service and other consequences including those mentioned in Section 6 of this AMP
- Increase in the deterioration rates and consequently maintenance costs
- Increase in cost of structural condition assessment, and decrease in the reliability of their outcomes

These actions and expenditures are considered and included in the forecast demand, and where developed, the Risk Management Plan.

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this AM Plan. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Sustainability and Projections

Sustainability of service delivery

There are three key indicators of sustainable service delivery that are considered in the AM Plan for this service area. The indicators are the:

- asset renewal funding ratio (renewal funding for the next 10 years / renewal demand for next 10 years)
- capital funding ratio (capital funding for the next 10 years / capital demand for next 10 years)
- lifecycle funding ratio (lifecycle funding for the next 10 years / lifecycle demand for next 10 years)

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[8] 136% ($14,437,900 renewal funding / $10,580,000 renewal demand)

The Asset Renewal Funding Ratio illustrates that over the next 10 years we expect to have 100% of the funds required for the renewal of all identified assets in this plan.

The forecast renewal demand along with the forecast renewal funding, and the cumulative surplus/shortfall, is illustrated in Appendix B.

Capital Funding Ratio – 10 year financial planning period

Capital Funding Ratio 91% ($37,252,000 capital funding / $40,885,000 capital demand)

The Capital Funding Ratio illustrates that over the next 10 years we expect to have 92% of the capital funds required for expenditure on assets in this plan. This gives a 10 year funding shortfall of $326,691 per year. Note that the capital funding is reliant on significant external funding for the O'Shanesy Street Culvert ($700K) and the Glenroy Crossing Bridge ($16M).

The forecast capital demand is detailed in Appendix A.

Lifecycle Funding Ratio – 10 year financial planning period

Lifecycle Funding Ratio 91% ($38,701,310 lifecycle funding / $42,559,387 lifecycle demand)

Providing services in a financially sustainable manner requires a balance between the lifecycle demand required to deliver the agreed service levels, and the anticipated lifecycle funding (LTFF + External Funding + Operations & Maintenance). Table 7.1 shows the lifecycle demand versus the lifecycle funding for the 10 year planning period.

[8] AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

Table 7.1: Lifecycle Demand vs Lifecycle Funding

Financial Year	Lifecycle Demand	Lifecycle Funding				Surplus / Shortfall	Cumulative Surplus/ Shortfall
		Council Funding		External Funding	TOTAL		
		Capital	Operational (O&M)				
21/22	$589,931	$445,000	$144,931	$0	$589,931	$0	$0
22/23	$1,955,115	$255,000	$144,931	$0	$399,931	-$1,555,184	-$1,555,184
23/24	$400,771	$355,000	$144,931	$0	$499,931	$99,160	-$1,456,023
24/25	$642,771	$1,452,000	$144,931	$0	$1,596,931	$954,160	-$501,863
25/26	$4,480,438	$1,805,000	$144,931	$700,000	$2,649,931	-$1,830,507	-$2,332,370
26/27	$11,382,301	$605,000	$144,931	$8,000,000	$8,749,931	-$2,632,370	-$4,964,740
27/28	$9,992,206	$1,255,000	$144,931	$8,000,000	$9,399,931	-$592,275	-$5,557,014
28/29	$3,899,197	$6,420,000	$144,931	$0	$6,564,931	$2,665,734	-$2,891,280
29/30	$1,549,358	$6,705,000	$144,931	$0	$6,849,931	$5,300,573	$2,409,293
30/31	$7,667,301	$1,255,000	$144,931	$0	$1,399,931	-$6,267,370	-$3,858,077
TOTAL	**$42,559,387**	**$20,552,000**	**$1,449,310**	**$16,700,000**	**$38,701,310**	**-$3,858,077**	

A gap between the lifecycle demand and the lifecycle funding indicates further work is required on reviewing service levels in the AM Plan and/or revising the LTFF.

We will manage the 'gap' by developing this AM Plan to provide guidance on future service levels and resources required to provide these services in consultation with the community.

The lifecycle demand is further discussed in Appendix G.

7.2 Funding Strategy

The proposed funding for assets is outlined in Council's budgets and Long Term Financial Forecast.

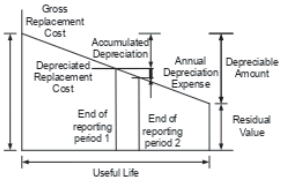
The financial strategy of the entity determines how funding will be provided, whereas the AM Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

Asset valuations

The best available estimate of the value of assets included in this AM Plan are shown below. The assets are valued at the current replacement cost to serve its equivalent purpose at the time of replacement:

Current (Gross) Replacement Cost	$77,347,000
Depreciable Amount	$77,347,000
Depreciated Replacement Cost[9]	$53,537,064
Annual Depreciation	$ 1,240,097



Valuation Forecast

Asset values are forecast to increase as additional assets are added.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

[9] Also reported as Written Down Value, Carrying or Net Book Value.

7.4 Key Assumptions Made in Financial Forecasts

In compiling this AM Plan, it was necessary to make some assumptions. This section details the key assumptions made in the development of this AM Plan and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this AM Plan are:

- Valuation of the structures have been conducted based on their main components (e.g. for bridges superstructure, substructure, miscellaneous, waterway). This may cause poor decisions for renewing structures, as by looking at their components and their deterioration rates individually the safety and serviceability of the structure as a whole is not taken into account. To mitigate this risk in this document the alternate method is used and structures have been considered as a whole.
- In estimating the useful life and remaining life, assumptions are used to simplify the process. The risk associated with that is the poor prediction of the optimum time for maintenance or renewal intervention. Adopting more advanced methods for prediction of the life and deterioration rates will reduce this risk.
- The condition assessments in this document are based on the Level 2 inspections, and Level 3 structural condition investigations. A Level 2 inspection is mainly based on a visual assessment and hence its outcome is subjective and its reliability is limited. Therefore where Level 2 inspections indicate Poor/Very Poor condition, Level 3 investigations are used to mitigate the above risk. By performing more in-depth structural condition assessments for particular cases the reliability of the outcomes increases, and consequently helps to make more informed decisions.
- For many structures, especially major culverts, the components under the water/ground level have not been inspected. In future depending on their conditions and in case required they will also need to be inspected to improve the quality of the condition assessment data.

7.5 Forecast Reliability and Confidence

The forecast demand, forecast funding, and valuation projections in this AM Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale[10] in accordance with Table 7.5.1.

Table 7.5.1: Data Confidence Grading System

Confidence Grade	Description
A. Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B. Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C. Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D. Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E. Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 7.5.2.

[10] IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

Table 7.5.2: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	B. Reliable	Demand drivers are not expected to considerably change for the next 10 years and affect this AM Plan. However, this document will be reviewed frequently to take that into account.
Growth projections	B. Reliable	Demand drivers are not expected to considerably change for the next 10 years and affect this AM Plan.
Acquisition forecast	B. Reliable	Sufficient data has been collected and investigations have been carried out.
Operation forecast	B. Reliable	Operation demand in this document considers only the condition assessment costs. The method for condition assessment is currently reliable.
Maintenance forecast	B. Reliable	Level 2 inspection reports have been improved and currently sufficiently reliable for maintenance demand.
Renewal forecast - Asset values	B. Reliable	Sufficient structural condition assessment have been carried out to identify those structures which should be renewed.
- Asset useful lives	C. Uncertain	The asset useful lives are determined based on the deterioration rates which are uncertain over long periods (e.g. whole life of a structure asset), as they are assessed by probabilistic methods. A structures useful life is related to its structural integrity as a whole (considering each of its components), as well as the technical level of service required based on the future loads and standards.
- Condition modelling	B. Reliable	Available sound method and procedures for condition modelling.
Disposal forecast	C. Uncertain	Insufficient data.

The estimated confidence level for and reliability of data used in this AM Plan is considered to be reliable e.g. Grade B.

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices

Accounting and financial data sources

This AM Plan utilises accounting and financial data. The source of the data is the Finance section of Council. Finance 1 is the accounting and financial software used by Rockhampton Regional Council.

Asset management data sources

This AM Plan also utilises asset management data. The source of the data is inspection reports, financial data from Finance 1 and spreadsheets, relevant legislatives, policies, standards, technical documents, etc. The templates available on the IPWEA website and the NAMS+ modelling tools were also used to produce this document.

8.2 Improvement Plan

It is important that an entity recognise areas of their Asset Management Plan and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this Asset Management Plan is shown in Table 8.2.

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Continue developing an efficient Bridge Management System (BMS) at the network level, which includes structural condition assessment, estimation of the deterioration rates, prediction of the remaining service life, prioritization and determination of the optimum time for intervention, valuation and allocation of funding	Assets and GIS	Council staff	May continuously be developed
2	Continue collecting data required by each section of the above BMS to obtain the best outputs from the BMS.	Assets and GIS Finance Civil Operations	Council staff	After the completion the relevant section of BMS
3	Developing a procedure related to the safety of our bridges/major culverts subjected to heavy vehicle loadings, which includes special structural condition assessment, load rating and load testing	Assets and GIS Strategic Infrastructure Planning Civil Operations	Council staff	Within the next 2 years
4	Improve the quality of the existing data related to useful lives and enhance the consistency between the calculated remaining lives by Finance and Engineering sections.	Assets and GIS Finance	Council staff	May continuously occur
5	Review of financial summary section annually to take into account the changes in legislations, standards, council's strategies, updated condition assessment data, community's expectations, as well as new opportunities may become available due to the advancements in knowledge and technologies.	Assets and GIS	Council staff	Review annually

6	Arrange discussions and prepare documents, to assure of the same understanding of terminologies (e.g. the definitions of Operation, maintenance, renewal, upgrade/new, level of service, etc.) within a discipline or among different ones	Assets and GIS Civil Operations Finance	Council's staff	May continuously occur
7	Continue updating the staff knowledge in different sections of the asset management, such as legislative requirements, national and international standards, new tools and technologies, etc.	Assets and GIS Civil Operations Finance	Council's staff	May continuously occur
8	Continue designing and implementing the level 3 investigations towards clear aims and objectives, which could help making informed decisions for major maintenance or renewal actions.	Assets and GIS	Council's staff and external resources	Any time needed
9	Continue improving the communications within a department and amongst different disciplines to engage all the stakeholders who contribute to the preparation of the AMP.	Assets and GIS Civil Operations Finance	Council's staff	May continuously occur
10	Monitor the effectiveness of AM Plan and revise it when necessary and after sufficient discussion amongst all the stakeholders.	Assets and GIS Civil Operations Finance	Council's staff	Annually
11	Develop a clear process for operation, maintenance, renewal, new/upgrade actions, based on the definitions of the above terms in this document.	Civil Operations	Council's staff	Within a year
12	Continue utilising the state of the art technologies, materials, and engineering services to complete the maintenance, renewal, and building new structures, and improve the safety and serviceability of Council's bridges and major culverts with minimum funding.	Civil Operations Assets and GIS	Council's staff	May continuously occur
13	Provide sufficient and timely information related to the completed works, which can easily and effectively be used by the Assets and GIS, Finance, and other stakeholders.	Civil Operations	Council's staff	May continuously occur
14	Take into account the above items in the next council's revaluation of bridges and major culverts and improve the reliability and accuracy of the current replacement costs, remaining lives, depreciated replacement costs, etc.	Assets and GIS	Council's staff and external resources	Due June 2020

8.3 Monitoring and Review Procedures

This AM Plan will inform the LTFF and will be considered during the annual budget planning process. A review of this AM Plan will be triggered when there is a material change to service levels, asset values, forecast demand, assets risks or allocated funding.

8.4 Performance Measures

The effectiveness of this AM Plan can be measured in the following ways:

- The degree to which the required forecast demand identified in this AM Plan are incorporated into the long-term financial forecast,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures take into account the 'global' works program trends provided by the AM Plan,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 1.0).

9.0 REFERENCES

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- Rockhampton Regional Council Capital Works Program
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- Rockhampton Regional Council Budget 2018-2019
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- Rockhampton Regional Council Enterprise Risk Management Procedure, Reviewed in April 2018
- Rockhampton Regional Council Enterprise Risk Management Framework, Reviewed in January 2018
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- Rockhampton Regional Council Bushfire Management Strategy
- Rockhampton Regional Council Asset Management Plan 2016 (Bridges and Major Culverts)
- DTMR, 2016, Structure Inspection Manual, Department of Transport and Main Roads, Queensland
- Climate Change in Australia Projections for Australia's NRM Regions/Australian climate trends, (last update February 2018), https://www.climatechangeinaustralia.gov.au/en/changing-climate/climate-trends/australian-trends/

10.0 APPENDICES

Appendix A Capital Demand

A.1 – Assumptions and Source

Capital Demand includes all renewals and acquisitions identified in the AM Plan over the 10 year planning period. It is the total value of all infrastructure capital works to be undertaken, regardless of the funding source. It has been developed in consultation with the various asset custodians and Infrastructure Planning. It is based on an assessment of the current and future levels of service for the asset class, including the condition of existing structures.

A.2 – Capital Demand Summary

The projects included in the Capital Demand are shown In Table A2.

Table A2 – Capital Demand Summary

Project Ref	Asset ID	Structure / Project Name	Financial Year	Renewal Demand	Acquisition Demand	Capital Demand
H.1	638286	Major Culvert - Scrubby Creek Old Capricorn Hwy	21/22	$17,000	$68,000	$85,000
			22/23	$1,072,000	$243,000	$1,315,000
H.2	942966	Major Culvert - O'Shanesy Street	21/22	$25,000		$25,000
			25/26	$1,400,000		$1,400,000
H.3	1056847	Bridge – Heritage Village	22/23	$240,000		$240,000
H.4	NEW	Major Culvert - Fairybower Road	24/25		$247,000	$247,000
			25/26		$1,153,000	$1,153,000
H.5	638292	Bridge - High Street	25/26	$126,000		$126,000
			26/27	$1,674,000		$1,674,000
H.6	638303	Bridge - Nine Mile Road	27/28	$227,000	$32,000	$259,000
			28/29	$3,011,000	$430,000	$3,441,000
H.7	1004557	Bridge - Glenroy Crossing	25/26	$11,000	$1,389,000	$1,400,000
			26/27	$76,000	$9,224,000	$9,300,000
			27/28	$76,000	$9,224,000	$9,300,000
H.8	NEW	Bridge - Limestone Creek	29/30		$1,090,000	$1,090,000
			30/31		$7,205,000	$7,205,000
H.9	MISC	Guardrail Renewal Program	21/22	$130,000		$130,000
			22/23	$50,000		$50,000
			23/24	$50,000		$50,000
			24/25	$50,000		$50,000
			25/26	$50,000		$50,000
			26/27	$50,000		$50,000
			27/28	$50,000		$50,000
			28/29	$50,000		$50,000
			29/30	$50,000		$50,000
			30/31	$50,000		$50,000
H.10	MISC	Bridge Rehabilitation Program	21/22	$205,000		$205,000
			22/23	$205,000		$205,000
			23/24	$205,000		$205,000
			24/25	$200,000		$200,000
			25/26	$205,000		$205,000
			26/27	$205,000		$205,000
			27/28	$205,000		$205,000
			28/29	$205,000		$205,000
			29/30	$205,000		$205,000
			30/31	$205,000		$205,000
			TOTALS	**$10,580,000**	**$30,305,000**	**$40,885,000**

Refer to Appendix H for further details on each of the specific projects.

Appendix B Renewal Demand

B.1 – Assumptions and Source

Renewal Demand represents the renewal component of any capital project. Adequate and timely renewal of existing structures (through replacement or rehabilitation) ensures levels of service are maintained and operational/maintenance costs are minimised.

B.2 – Renewal Funding Comparison

Table B2 shows a summary of the renewal demand in Table A2 compared to the renewal funding.

Table B2 - Renewal Funding Comparison

Financial Year	Renewal Demand	Renewal Funding	Surplus / Shortfall	Cumulative Surplus/Shortfall
21/22	$377,000	$352,000	-$25,000	-$25,000
22/23	$1,567,000	$255,000	-$1,312,000	-$1,337,000
23/24	$255,000	$275,000	$20,000	-$1,317,000
24/25	$250,000	$610,400	$360,400	-$956,600
25/26	$1,792,000	$1,105,000	-$687,000	-$1,643,600
26/27	$2,005,000	$500,000	-$1,505,000	-$3,148,600
27/28	$558,000	$955,000	$397,000	-$2,751,600
28/29	$3,266,000	$4,570,500	$1,304,500	-$1,447,100
29/30	$255,000	$4,770,000	$4,515,000	$3,067,900
30/31	$255,000	$955,000	$700,000	$3,767,900
TOTAL	**$10,580,000**	**$14,347,900**	**$3,767,900**	

Appendix C Acquisition Demand

C.1 – Assumptions and Source

Acquisition Demand represents the acquisition component (i.e. upgrade, new & contributed) of any project. When Council upgrades existing assets or builds new assets, it needs to plan for the associated acquisition, operation, maintenance, renewal, and potentially disposal costs. When Council receives a contributed asset it does NOT need to plan for the initial acquisition cost. However, it will need to plan for the operation, maintenance, renewal and potentially disposal costs in the future.

C.2 – Acquisition Funding Comparison

Table C2 shows a summary of the Acquisition Demand in Table A2 compared to the acquisition funding. It also highlights the external funding that is required over the 10 year period.

Table C2 - Acquisition Funding Comparison

Financial Year	Acquisition Demand	Acquisition Funding			Surplus / Shortfall	Cumulative Surplus/Shortfall
		Council Funding	External Funding	TOTAL		
21/22	$68,000	$93,000	$0	$93,000	$25,000	$25,000
22/23	$243,000	$0	$0	$0	-$243,000	-$218,000
23/24	$0	$80,000	$0	$80,000	$80,000	-$138,000
24/25	$247,000	$841,600	$0	$841,600	$594,600	$456,600
25/26	$2,542,000	$700,000	$700,000	$1,400,000	-$1,142,000	-$685,400
26/27	$9,224,000	$105,000	$8,000,000	$8,105,000	-$1,119,000	-$1,804,400
27/28	$9,256,000	$300,000	$8,000,000	$8,300,000	-$956,000	-$2,760,400
28/29	$430,000	$1,849,500	$0	$1,849,500	$1,419,500	-$1,340,900
29/30	$1,090,000	$1,935,000	$0	$1,935,000	$845,000	-$495,900
30/31	$7,205,000	$300,000	$0	$300,000	-$6,905,000	-$7,400,900
TOTAL	**$30,305,000**	**$6,204,100**	**$16,700,000**	**$22,904,100**	**-$7,400,900**	

Appendix D Operations Demand

D.1 – Forecast Assumptions and Source

Operations Demand in this AM Plan is an estimate of the operational funding required for structural condition assessments, including Level 1, 2 and 3 inspections. As mentioned in the Improvement Plan (Table 8.2), Operations Demand can include other operational activities where those costs are known, and this will be addressed in later versions of this document. The demand shown in Table D2 is the average demand over the 10 year period in today's dollars, and was developed based on previous expenditure over recent years.

D.2 – Operations Demand Summary

Table D2 shows the total Operations Demand, including additional Operations Demand related to acquisition of additional or upgraded structures.

Table D2 - Operations Demand Summary

Financial Year	Operations Demand (Existing Assets)	Additional Operations Demand (From Acquisitions)	Total Operations Demand
21/22	$51,277	-	$51,277
22/23	$51,277	$61	$51,338
23/24	$51,277	$219	$51,557
24/25	$51,277	$0	$51,557
25/26	$51,277	$222	$51,779
26/27	$51,277	$2,288	$54,067
27/28	$51,277	$8,302	$62,369
28/29	$51,277	$8,330	$70,699
29/30	$51,277	$387	$71,086
30/31	$51,277	$981	$72,067
TOTAL	**$512,770**		**$587,796**

Appendix E Maintenance Demand

E.1 – Assumptions and Source

Maintenance Demand is an estimate of the operational funding required for maintenance activities on structures in this AM Plan. It was developed using historical expenditure for relevant activities captured in Council's finance system. The activity of cleaning culverts has been included in this category as it affects the hydraulic function of the structure and subsequently its structural condition.

The maintenance demand in this document also considers an additional allocation towards preventative maintenance actions. This will help to improve the condition of vulnerable areas of the structures with higher deterioration rates and increase the remaining service lives of the structures.

E.2 – Maintenance Demand Summary

Table E2 shows the average maintenance demand for the next ten years considered in the AM Plan. The Additional Maintenance Demand is added maintenance cost related to the acquisition of additional or upgraded structures.

Table E2 - Maintenance Demand Summary

Year	Maintenance Demand	Additional Maintenance Demand (From Acquisitions)	Total Maintenance Demand
21/22	$93,654	-	$93,654
22/23	$93,654	$122	$93,776
23/24	$93,654	$437	$94,214
24/25	$93,654	$0	$94,214
25/26	$93,654	$445	$94,658
26/27	$93,654	$4,576	$99,234
27/28	$93,654	$16,603	$115,837
28/29	$93,654	$16,661	$132,498
29/30	$93,654	$774	$133,272
30/31	$93,654	$1,962	$135,234
TOTAL	**$936,540**		**$1,086,592**

Appendix F Disposal Activity

F.1 – Assumptions and Source

The disposal costs for structures being replaced have been considered in their renewal cost. As there are no structures being disposed only, the disposal forecast and funding are considered zero.

Table F1 – Disposal Activity Summary

Financial Year	Asset ID	Structure Name	Disposal Forecast	Disposal Funding
21/22			$0	$0
22/23			$0	$0
23/24			$0	$0
24/25			$0	$0
25/26			$0	$0
26/27			$0	$0
27/28			$0	$0
28/29			$0	$0
29/30			$0	$0
30/31			$0	$0
TOTAL			**$0**	**$0**

Appendix G Demand and Funding Summary by Lifecycle Activity

G.1 – Demand Summary

Table G1 shows the demand summary by lifecycle activity over the 10 year period.

Table G1 – Demand Summary by Lifecycle Activity

Financial Year	Renewal Demand	Acquisition Demand *	Disposal Demand	Operations Demand	Maintenance Demand	Lifecycle Demand
21/22	$377,000	$68,000		$51,277	$93,654	$589,931
22/23	$1,567,000	$243,000		$51,338	$93,776	$1,955,115
23/24	$255,000	$0		$51,557	$94,214	$400,771
24/25	$250,000	$247,000		$51,557	$94,214	$642,771
25/26	$1,792,000	$2,542,000		$51,779	$94,658	$4,480,438
26/27	$2,005,000	$9,224,000		$54,067	$99,234	$11,382,301
27/28	$558,000	$9,256,000		$62,369	$115,837	$9,992,206
28/29	$3,266,000	$430,000		$70,699	$132,498	$3,899,197
29/30	$255,000	$1,090,000		$71,086	$133,272	$1,549,358
30/31	$255,000	$7,205,000		$72,067	$135,234	$7,667,301
TOTAL	**$10,580,000**	**$30,305,000**	**$0**	**$587,796**	**$1,086,592**	**$42,559,387**

* Note that Acquisition Demand for the shaded cells includes $16.7M in external funding – refer Table G2.

G.2 – Funding Summary

Table G2 shows the funding summary by lifecycle activity over the 10 year period.

Table G2 – Funding Summary by Lifecycle Activity

Financial Year	Renewal Funding	Acquisition Funding		Disposal Funding	Operations Funding	Maintenance Funding	Lifecycle Funding
		Council Funded	External Funding				
21/22	$352,000	$93,000			$51,277	$93,654	$589,931
22/23	$255,000	$0			$51,277	$93,654	$399,931
23/24	$275,000	$80,000			$51,277	$93,654	$499,931
24/25	$610,400	$841,600			$51,277	$93,654	$1,596,931
25/26	$1,105,000	$1,400,000	$700,000		$51,277	$93,654	$2,649,931
26/27	$500,000	$105,000	$8,000,000		$51,277	$93,654	$8,749,931
27/28	$955,000	$300,000	$8,000,000		$51,277	$93,654	$9,399,931
28/29	$4,570,500	$1,849,500			$51,277	$93,654	$6,564,931
29/30	$4,770,000	$1,935,000			$51,277	$93,654	$6,849,931
30/31	$955,000	$300,000			$51,277	$93,654	$1,399,931
TOTAL	**$14,347,900**	**$6,204,100**	**$16,700,000**	**$0**	**$512,770**	**$936,540**	**$38,701,310**

G.3 – Overall Comparison

Table G3 shows the overall comparison between lifecycle demand and lifecycle funding over the 10 year period.

Table G3 – Lifecycle Demand vs Lifecycle Funding

Financial Year	Lifecycle Demand	Lifecycle Funding				Surplus / Shortfall	Cumulative Surplus/ Shortfall
		Council Funding		External Funding	TOTAL		
		Capital	Operational (O&M)				
21/22	$589,931	$445,000	$144,931	$0	$589,931	$0	$0
22/23	$1,955,115	$255,000	$144,931	$0	$399,931	-$1,555,184	-$1,555,184
23/24	$400,771	$355,000	$144,931	$0	$499,931	$99,160	-$1,456,023
24/25	$642,771	$1,452,000	$144,931	$0	$1,596,931	$954,160	-$501,863
25/26	$4,480,438	$1,805,000	$144,931	$700,000	$2,649,931	-$1,830,507	-$2,332,370
26/27	$11,382,301	$605,000	$144,931	$8,000,000	$8,749,931	-$2,632,370	-$4,964,740
27/28	$9,992,206	$1,255,000	$144,931	$8,000,000	$9,399,931	-$592,275	-$5,557,014
28/29	$3,899,197	$6,420,000	$144,931	$0	$6,564,931	$2,665,734	-$2,891,280
29/30	$1,549,358	$6,705,000	$144,931	$0	$6,849,931	$5,300,573	$2,409,293
30/31	$7,667,301	$1,255,000	$144,931	$0	$1,399,931	-$6,267,370	-$3,858,077
TOTAL	**$42,559,387**	**$20,552,000**	**$1,449,310**	**$16,700,000**	**$38,701,310**	**-$3,858,077**	

This table shows that the total value of the lifecycle funding (LTFF + External Funding + Operations & Maintenance) is not sufficient to meet the lifecycle demand (renewals, acquisitions, disposals, operations & maintenance) identified in this AM Plan.

However, the timing and need for the bridge duplication at Limestone Creek (Project H.8) will be impacted by the traffic outcomes associated with the Rockhampton Ring Road, which has the potential to reduce traffic growth on the bridge.

Also note that this program is reliant on significant external funding for the O'Shanesy Street Culvert ($700K) and the Glenroy Crossing Bridge ($16M). If the external funding is not forthcoming Council can most likely absorb the additional costs for O'Shanesy Street, but will not be in a position to undertake construction of the Glenroy Crossing Bridge.

Appendix H Project Details

H.1 638286: Major Culvert - Scrubby Creek Old Capricorn Hwy

Year of Construction	Structure Configuration	Traffic	Condition	Load Limit
Circa 1940	Cast-insitu culverts. Single traffic lane	1500 vpd (2019)	Poor – Very Poor	20t

Background

This structure is a 5 cell cast-insitu reinforced concrete culvert which was originally part of the Capricorn Highway between Rockhampton and Gracemere. It operates as a single lane bridge given its narrow width. It is often submerged throughout the year which makes inspections and maintenance difficult. Load limits have been applied to this structure and frequent inspections are undertaken given its condition.

Rationale

This structure is in very poor condition. All cells have severe cracking present in each pier wall and also the roof, along with severe loss of fines/aggregate. Cell Five/Abutment Two has large cracks present running from the top of the join between the wing walls and abutment towards the centre of the span and curving down to below the water line. The timber posts of the bridge rails are substandard and are in poor condition with poor fixings.

Proposal

Replacement of the current structure with a 5/3600x2700 SLBC culvert and revised approach works to suit. Whilst a similar cell size and length, the new structure will be much wider than the existing structure and will allow two way traffic operations with cycle lanes.

Estimated Budget

The project is estimated to cost $1.4M – this is based on a Civil Design concept and estimate for a replacement culvert structure with cyclist provisions, and a further allowance for an additional 1.2m (1 extra cell) structure width for pedestrians. Of the total project cost, $1.089M is considered renewal (modern equivalent asset) and the remaining $311K is considered acquisition (upgrade).

Timing

The structure has a level of urgency with regards to replacement. It is planned to undertake survey and design during 2021/2022 financial year, with construction to be undertaken in the 2022/2023 financial year.

H.2 942966: Major Culvert – O'Shanesy Street

Year of Construction	Structure Configuration	Traffic	Condition	Load Limit
Circa 1985	Cast-insitu Culvert. Two traffic lanes.	1200 vpd (2019)	Poor	20t

Background

This structure is a 13 cell cast-insitu reinforced concrete culvert. It is often submerged throughout the year which makes inspections and maintenance difficult. Load limits have been applied to this structure as the result of a Level 3 investigation.

Rationale

This structure is in poor condition. It has substantial cracking throughout most elements and severe spalling and corrosion (discontinued) of reinforcement in the pier walls. The structure has no guard rail or bridge barriers as the original barrier (with timber posts) has been removed.

Proposal

Council has two options for the replacement of this structure:

1. Replacement with a culvert structure (modern design standard – wider structure)
2. Removal of structure and replacement with a low level floodway (alternative)

There are merits for each solution which will be further explored prior to final design. This AM Plan assumes Option 1 is undertaken and the new structure remains in this AM Plan. If Option 2 were undertaken, expenditure for the new floodway would be included in the Roads AM Plan (which covers floodways).

Estimated Budget

The project is estimated to cost $1.425M – this is based on a Civil Design initial concept and estimate for a replacement culvert structure. The total project cost is considered renewal (modern equivalent asset). The LTFF assumes external funding of $700K will be received to complete this project.

Timing

It is planned to undertake survey and concept design during 2021/2022 financial year, with final design and construction to be undertaken in the 2025/2026 financial year. Given the poor condition of this structure, the timing for replacement may need to be brought forward if routine inspections identify further deterioration and unacceptable risks.

H.3 1056847: Timber Bridge Heritage Village

Year of Construction	Structure Configuration	Traffic	Condition	Load Limit
Unknown	Timber Bridge. One traffic lane	<20 vpd	Very Poor	2t & 10kph

Background

This structure is a 5 span timber bridge. Its origins are unknown, but appears to be built from a previously dismantled and relocated timber bridge of significant age. Load and speed limits have been applied to this structure due to its condition.

Rationale

This structure is in very poor condition with many issues that affect its structural integrity. It has excessive snipes cut in the girders and has surface decay and piping of timber members. The structure currently has temporary propping, jacking and additional supports to assist with structural integrity until the structure can be replaced.

Proposal

Restoration if possible, otherwise replacement with a suitable structure.

Estimated Budget

The project is estimated to cost $240K – this is a desktop estimate using the revaluation unit rates from the recent revaluation. The total project cost is considered renewal (modern equivalent asset).

Timing

The structure has a level of urgency with regards to replacement. It is planned to undertake survey, design and construction during 2022/2023 financial year.

H.4 NEW: Major Culvert – Fairybower Road

Year of Construction	Structure Configuration	Traffic	Condition	Load Limit
N/A	Floodway. One traffic lane	220 vpd (2010)	Poor	N/A

Background

There is currently a single lane floodway crossing with minor culverts (2/1200 RCP & 3/600RCP) on Fairybower Road at Scrubby Creek. Fairybower Road is a B-Double Route and at times has intensive use related to activities at Paradise Lagoon. Fairybower Road is also a well known sporting cyclist route.

Rationale

The floodway over Scrubby Creek on Fairybower Road is on an extremely poor alignment with minimal sight distance available on both approaches. It offers low flood immunity and the road is regularly closed during rain events. Anecdotally their have been many near misses at this location.

Proposal

Replacement of the current floodway with a two lane bridge or major culvert structure to address the road safety and flood immunity issues. Realignment of the current crossing with a finished road level of approximately 11m AHD would require a culvert structure in the order of 15m in length.

Estimated Budget

The project is estimated to cost $1.4M – this is an initial estimate assuming a structure similar to that proposed for Asset ID 638286 (refer H.1) is installed. Further investigation, survey and design is required to refine this cost estimate closer to construction. The total project cost is considered acquisition (new).

Timing

It is planned to undertake survey and design during the 2024/2025 financial year, with construction the following year in 2025/2026.

H.5 638292: Bridge – High Street

Year of Construction	Structure Configuration	Traffic	Condition	Load Limit
1968	Concrete Bridge. Two traffic lanes.	11,060 vpd (2020)	Very Poor	-

Background

This structure is a 6 span bridge across Moores Creek with two traffic lanes and a single shared footpath. Previous planning studies had indicated the current structure was likely to reach capacity (15,000 vpd) and duplication of the bridge would be required by 2030. However, recent analysis shows traffic growth has been negative over the last 10 years, and future duplication is no longer considered on the horizon.

Rationale

This structure is in very poor condition with severe longitudinal cracking in the deck units caused by Alkaline Silica Reaction (ASR). This mechanism of failure is common for bridges of this type and age due to the composition of concrete materials used in construction at that time. Cracking and deflection monitoring of high concern deck units has been implemented to monitor for further deterioration.

Proposal

The other components of the bridge are in satisfactory condition and the life of the structure as a whole is currently limited by the condition of the deck units. It is proposed to replace the deck units, surfacing and bridge rails to renew the whole structure and significantly extend its life.

Estimated Budget

The project is estimated to cost $1.8M – this is a desktop estimate using the revaluation unit rates from the recent revaluation. The total project cost is considered renewal. Further investigation, survey and design is required to refine this cost estimate closer to construction.

Timing

It is planned to undertake survey and design during the 2025/2026 financial year, with construction the following year in 2026/2027.

H.6 638303: Bridge – Nine Mile Road

Year of Construction	Structure Configuration	Traffic	Condition	Load Limit
1968	Concrete Bridge. Two traffic lanes.	222 vpd (2011)	Very Poor	-

Background

This structure is a 4 span bridge across Lion Creek, with two traffic lanes and no pedestrian or cyclist facilities. It is a narrow bridge and has a high percentage of heavy vehicle traffic from agriculture industries and two nearby quarries.

Rationale

This structure is in very poor condition with numerous issues, however the primary concern is cracking in the abutment headstocks and severe longitudinal cracking in the piles. Piles are the first element installed on a bridge and support the entire structure – if the pile's integrity is compromised there are limited opportunities to maintain the current structure without load limits being applied. Level 3 investigations are being undertaken to better understand the impact of the pile cracking.

Proposal

It is proposed to renew the entire structure with a replacement bridge of similar configuration but wider to allow shoulder width for cyclists.

Estimated Budget

The project is estimated to cost $3.7M – this is a desktop estimate using recent bridge construction projects for a replacement structure of the same length but 9.6m wide. Of the total project cost, $3.238M is considered renewal (modern equivalent) and the remaining $462K is considered acquisition (upgrade by increased width for cyclists). Further investigation, survey and design is required to refine this cost estimate closer to construction.

Timing

It is planned to undertake survey and design during the 2027/2028 financial year, with construction the following year in 2028/2029.

H.7 1004557: Major Culvert – Glenroy Crossing

Year of Construction	Structure Configuration	Traffic	Condition	Load Limit
1960	2 cell box culvert. Single traffic lane.	-	Poor	-

Background

The structure is a 2 cell cast-insitu reinforced concrete culvert on the western bank of the Fitzroy River. It forms part of a low level crossing with a long concrete floodway and additional minor culvert drainage. The structure is highly susceptible to overtopping during seasonal river flows.

Rationale

This structure is in poor condition with numerous concrete deterioration issues. Constant inundation makes the assessment of critical underwater elements extremely difficult, and there is concern that the condition underwater may be worse than what is visible. The recent demolition of the bridge at Riverslea identified structural issues underwater that were not evident from recent inspections.

Glenroy Crossing has been submitted for funding under the Federal government's Roads of Strategic Importance (ROSI) program. This is responding to anticipated agricultural growth in the Glenroy Area resulting from the construction of the Rookwood Weir. If the State Government were to raise the Eden Bann Weir, a new bridge would need to be constructed as the crossing will be inundated at full supply level.

Proposal

The ROSI submission includes the construction of a new high level single lane bridge based on concepts developed for the Rookwood Weir and Eden Bann Weir EIS. This would be a 7 span structure of approximately 223 metres in length which would replace the current box culvert and floodway.

Estimated Budget

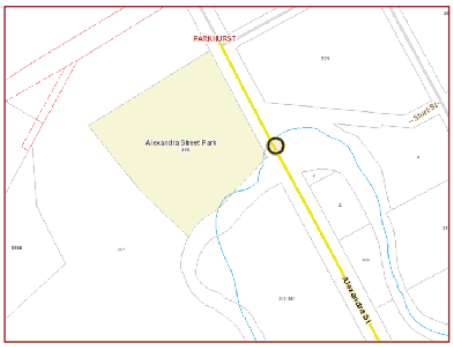
The project is estimated to cost $20M – this is a desktop estimate included in the ROSI submission and is based on previous estimates provided by Sunwater. Of the total project cost, $163K (CRC of current structure) is considered renewal and the remaining $19.837M is considered acquisition (upgrade).

The submission if successful would require a $4M contribution from Council towards the cost of the bridge over 26/27 and 27/28 financial years, with the remaining $16M funded by the Federal Government (external funding).

Timing

If successful, it is planned to undertake survey and design during the 2025/2026 financial year, with construction over the following two years in 2026/2027 and 2027/2028.

H.8 NEW: Bridge – Limestone Creek



Year of Construction	Structure Configuration	Traffic	Condition	Load Limit
N/A	5 span bridge. Two traffic lanes. Pedestrian facilities both directions	6,850 vpd (2020)	N/A	-

Background

The current bridge structure is a 5 span concrete bridge over Limestone Creek with two lanes and cyclist/pedestrian facilities in both directions.

Rationale

Residential growth in the Parkhurst area has increased traffic volumes on the existing structure (Asset ID 638290) and the 5 year traffic growth currently sits at 4.8%. Accelerated growth in the Parkhurst area at or greater than the 5 year growth rate will mean the capacity of the existing structure (15,000 vpd) will be exhausted towards the end of the 10 year AM Plan period.

It should be noted that the timing and need for the bridge duplication will be impacted by the traffic outcomes associated with the Rockhampton Ring Road, which has the potential to reduce traffic growth on the bridge.

Proposal

It is proposed that a new structure would be built adjacent to the existing bridge to duplicate the capacity of the road. The new structure is assumed to be the same length, width and configuration as the existing structure.

Estimated Budget

The project is estimated to cost $15.5M – this is a desktop estimate based on recent bridge construction projects. The entire project cost is considered acquisition (new). Further investigation, survey and design is required to refine this cost estimate closer to construction.

Timing

It is planned to undertake survey and design during the 2029/2030 financial year, with construction over the following two years in 2030/2031 and 2031/2032. Note that expenditure in 2031/2032 ($7.205M) is outside the 10 year AM Plan planning period.

Appendix I RRC Mt Morgan Rail Facilitated Risk Review Report (RevC)

Risk Assessment and Workshop

ARRB Project No.: 016068

Author: Alex Aldana & Simon Orton

Prepared for: Rockhampton City Council

May 2021

Version C

Contents

1. Introduction

1.1 Background

The Australian Road Research Board (ARRB) was engaged by Rockhampton Regional Council (RRC) to conduct a risk assessment on the following Mt Morgan disused railway assets:

- 1020199 - Mt Morgan Dee River Crossing
- 1020200 - Mt Morgan Rail Tunnel
- 1020201 - Mt Morgan Rail Bridge 1
- No Asset ID - Mt Morgan Rail Bridge 2

Council expressed concerns regarding control quality. Potential defence control gaps were identified by ARRB staff during the field inspections conducted by ARRB in 2020 and 2021. In particular, the absence of fencing or barriers to prevent public access to drive or walk on, or beneath disused structures.

1.2 Objectives

The review was performed to address concerns raised by way of a facilitated risk assessment. The objectives were to:

- Rate the inherent and residual risks using existing risk treatments
- Rate control quality
- Identify and choose additional controls to manage risks within the Council Risk Framework
- Rate the residual risk with the new proposed controls
- Report on the risk assessment outcomes

1.3 Scope

Undertake a risk assessment of four heritage structures managed by Rockhampton Regional Council. The risk assessment scope of works and battery limits were defined as remotely reviewing risk in a workshop. Attendees to the workshop relied upon information captured in the field by ARRB Inspectors and supporting information provided by Council officers with knowledge of the structures.

1.4 Methodology

The risk assessment facilitated conformed to the Council Risk Framework and included internal staff consultation. The following activities were undertaken:

1. Perform a field inspection to identify potential hazards and risks (Level 1 inspection and additional information).
2. Review the Council Risk Framework
3. Develop a risk assessment tool in compliance with the Council Risk Framework.
4. Rate the risk(s) on the structures at a workshop with Council to quantify risks and mitigations
5. Perform a follow up meeting to discuss the risk controls with Council staff
6. Review the Risk Assessment and adjusted again internally by Council
7. Delivery of a summary report

1.5 Report Outline

This document outlines the performed risk assessment. Section 2 outlines the Council Risk Assessment framework. Section 2 provides the risk assessment discussions and recommended controls for each structure. Section 4 provides the conclusion and recommendations for the Risk Assessment exercise. Appendix A shows the field information capture for Council reference. Finally, Appendix B provides the risk

assessment and management plan developed during the workshop. The tool is also provided in digital form (MS Excel file) for the Council's internal use.

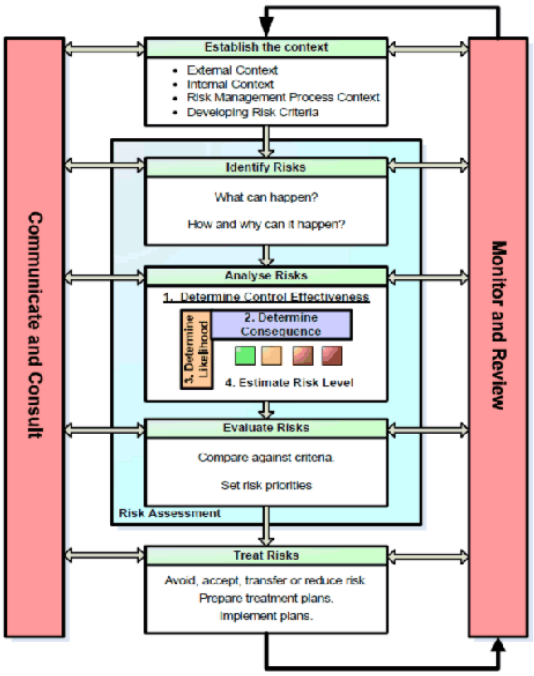
This document will only provide brief information on the Council Risk Framework. This report will focus on the results of the applied Council Risk Framework with the Risk Assessment practices creating a tool for Council use on similar structures.

2. Rockhampton Regional Council Risk Assessment Procedure

2.1 General

Rockhampton Regional Council provided ARRB the Council *Enterprise Risk Management Process Procedure,* which indicates specific instructions for applying risk management to Council activities. The Council risk management process aligns with the AS/NZS ISO 31000:2009 using the approach shown in Figure 2.1.

Figure 2.1 View of RRC Risk Management process



The procedure provides a framework background for risk management, taking into consideration the following:

- Establishment of risk context;
- Risk Assessment (Identification, Analysis and Evaluation);
- Treatment;
- Monitoring and review; and
- Consultation and communication.

Council 's approach to risk requires considering all risks that threaten or provide an opportunity for the achievement of business objectives.

2.2 Risk Categories & Risk Domain

The Council *Enterprise Risk Management Process Procedure* identifies 14 risk categories (refer to the Council *Enterprise Risk Management Process Procedure 2013, Section 5.2.4*). The categories help the Council generate meaningful information about the risk causes and the effectiveness of the controls and understand the risk of planning and reporting. Additionally, the categories help to identify at a high level the type of risk to assess.

For this assessment, ARRB and specialist consultant (Simon Orton, SO Advisory) identified the principal Risk Domain that is within the Council Risk Categories. Table 2.1 shown the two main Risk Domain that drives the actions to evaluate the risk. The selected categories were discussed with Council staff for its use and analysis.

Table 2.1: RRC Risk Categories and Risk Domain

RRC Risk Category	Risk Domain
• Political / Reputational	• Safety
• Asset Integrity • Political / Reputational	• Asset Integrity - Asset and Capacity Management

2.3 Risk Analysis

Like AS/NZS ISO 31000:2009, the Council identifies the Consequence and Likelihood to calculate the Risk Rating. Figure 2.2 shows the Council risk assessment calculator where Consequences and likelihood are taken into consideration to calculate the Risk rating.

Figure 2.2 View of RRC WH&S Risk Assessment Calculator

Assess the likelihood and consequences from the hazards or risks Consequences					
Likelihood	1. Insignificant No harm, injuries or ailments requiring treatment to public/workers	2. Minor Minor harm or injury where first aid is required for public/workers	3. Moderate Harm, injury or illness requiring professional medical treatment for public/workers	4. Major One or more public/workers requiring hospitalisation and immediate medical treatment with the potential for permanent/long term incapacitation	5. Catastrophic Loss of life or multiple loss of life to public/workers. Life threatening injury/illness to public/workers
E Almost Certain Is expected to occur at most times	Moderate 5	High 4	High 3	Very High 2	Very High 1
D Likely Will probably occur at most times	Moderate 6	Moderate 5	High 4	Very High 3	Very High 2
C Possible Could occur at some time	Low 7	Moderate 6	Moderate 5	High 4	Very High 3
B Unlikely Might occur at some time	Low 8	Low 7	Moderate 6	High 5	High 4
A Rare May occur in rare circumstances	Low 9	Low 8	Moderate 7	Moderate 6	High 5

The current risk rating is calculated using the following equation:

Current Risk Rating = Consequence x Likelihood

Details and range for each factor are explained in Appendix A of the Council *Enterprise Risk Management Process Procedure 2013*.

2.4 Risk Evaluation

Risk evaluation considers the established context and compares the level of current risk found during the analysis process with the risk criteria to determine whether the risk and its magnitude are acceptable. If the risk is not acceptable, treatment and controls are required.

To obtain further information on the risk evaluation, please refer to Section 5.5 and Appendix B of the Council *Enterprise Risk Management Process Procedure 2013*.

2.5 Controls, Risk Treatment and Effectiveness

After assessing and evaluating the risk, the Council undertakes controls and treatment according to the risk magnitude. Then, the Council will conduct a treatment using the following options:

- Risk avoidance (not starting, or not continuing, with the activity);
- Remove the source of the risk;
- Modify consequences (reduce negative impacts or enhance positive impacts);
- Modify likelihood (reduce the likelihood or opportunity susceptibility);
- Risk and opportunity sharing (transform the risk or opportunity);
- Retain the risk by informed decision, and monitor the controls and risk; and/or

The treatment can also include a combination of the above options for effectiveness.

If current controls are in the location at the time of analysis, the Council evaluates these controls effectiveness based on five ratings (Refer to Table 2.2)

Table 2.2: Control effectiveness

Rating	Control Effectiveness Level	Description
5	Fully effective	No additional activity needs to be undertaken except review and monitor existing controls. Controls are well designed for the risk and address the root causes. Management believes that the controls are effective, well communicated and documented, applied consistently and reliable at all times.
4	Substantially effective	Most controls are designed correctly, implemented and effective. More work to be done to improve operating effectiveness or management has doubts about operational effectiveness and reliability. Controls are communicated and documented.
3	Partially effective	While the design of controls may be largely correct in that they treat most of the root causes, they are not currently very effective. Further improvement needed to document and communicate the controls; or Some of the controls do not seem correctly designed in that they do not treat root causes. Those that are correctly designed are operating effectively. Further improvement needed to document and communicate the controls.
2	Largely Ineffective	Significant control gaps. Either control does not treat root causes or are not operating effectively. Controls not well communicated and/or documented.
1	None or totally ineffective	Virtually no credible control. Management has no confidence that any degree of control is achieved due to poor control design and/or very limited operational effectiveness. Controls not communicated or documented.

Source: Enterprise Risk Management Process Procedure 2013, Control Effectiveness Table, Page 15 and 16.

If treatment is applied for the first time, a monitoring and review process will be followed to evaluate the "control/treatment" effectiveness at the appropriate time. If required, modifications on the controls and treatment will be undertaken based on the context, resources, risk assessment, and evaluation results to eliminate or accept the risk.

3. Risk Assessment and Management Plan

Based on the information provided by Rockhampton Regional Council, including structures details, current priorities, context and the information on Section 2 (including the Council *Enterprise Risk Management Process Procedure 2013*), it was undertaking a workshop between Council and ARRB's consultants where a risk assessment was evaluated using a Risk Assessment and Management Plan tool (refer to Appendix B). The tool evaluates the current controls and proposes new controls to reduce the risk level on the structures.

This section will cover the recommended controls to reduce the risk as well as the expected effectiveness of these controls. Further details on the current controls and effectiveness shall be recorded in the Risk Assessment and Management Plan Tool (refer to Appendix B and MS Excel file). The tool was developed as part of the project outcomes.

As identified in Section 2.2, the risk assessment will focus only on the following two Risk Domains: "Safety" and "Asset Integrity - Asset and Capacity Management".

3.1 1020199 – Dee River Bridge

The structure is a decommissioned rail bridge crossing a natural waterway and located on coordinates -23.643945, 150.380618. The structure consists of concrete pier walls with steel girders and timber sleepers. The structure has an overall length of approximately 66.5 m (7 spans of 9.5 m) and a vertical clearance below the structure of 6.8 m.

Figure 3.1 View of left hand side elevation of structure ID 1020199

Figure 3.2 View from approach 1 of structure ID 1020199

3.1.1 Initial Risk Assessment

The initial assessment of the current controls and conditions for the structure identifies that the risk score for "Safety" and "Asset Integrity - Asset and Capacity Management" are "Very High – 2" and "Moderate – 5", respectively (refer to Figure 2.2 for further details on risk score). Refer to Section 3.5 for the Risk Assessment summary.

3.1.2 Existing Controls & Effectiveness

During the field inspection, it was identified a series of physical controls which are **largely ineffective**, such as:

- Two panels of temporary fencing at either end of the bridge
  - The northern end has evidence of people climbing under the fence
  - The southern end has evidence of people moving/relocating fence panel to gain access to the bridge

- Fencing adjacent mine entry and temporary hazard fencing
  - Hazard fencing knocked down
  - Permanent fencing does not limit pedestrian access
- Noted of surveillance of mine site (cameras)
- No signage noted

3.1.3 General Discussions

General discussion with the Council identifies a limitation on eliminating the structure due to cost-related and potential community backlash due to historical and community appropriation.

As elimination of the structure is not possible at this stage, ARRB proposes better physical controls and monitoring in the first instance.

3.1.4 Proposed Control Measures

Proposed Physical Controls

North Eastern end (refer to Figure 3.3)

- Installation of permanent security fencing across and along bridge flanks to the river bank edge to control pedestrian access onto the bridge (Safety) and pedestrian/vehicular access under the bridge - (Safety and Asset Integrity)
- The fencing shall allow fire breaks to remain operational - (Safety and Asset Integrity)
- Provide a gate with a lock to access the bridge for inspections – (Asset Integrity)

South Western end (refer to Figure 3.3)

- Installation of permanent Fencing across the bridge to the river bank edges to control pedestrian access onto the bridge - (Safety and Asset Integrity)
- Provide a gate with a lock to access the bridge for inspections – (Asset Integrity)

Figure 3.3 View of the Structure ID 1020199 - North Eastern End and South Western End

Administrative Controls

- Provision of appropriate warning/deterrence signage at both ends – (Safety)
- Installation of signage advising the end of Council maintained road – (Safety)
- Update Council road register and mapping to reflect where Council 's road ends and State Government / private road starts (southern end access) – (Safety)
- Letter to State Government / Mine regarding people accessing the structures from their property, including fencing issues at the mine entrance – (Safety)
- Establish the impact area and emergency procedure in case of structural collapse – (Asset Integrity).

Detective Controls

- Undertake three monthly routine inspections to monitor the effectiveness of controls – (Safety)
- Introduce camera detective controls if three monthly monitoring indicates ongoing issues - (Safety)
- Perform Detective inspections (Level 2 & 3 inspections as required) – (Asset Integrity)

3.1.5 Control Effectiveness

The effectiveness of the proposed controls is expected to be **partially effective for Safety and Asset Integrity**.

3.2 1020200 – Rail Tunnel

The structure is a rail tunnel located on coordinates -23.64419, 150.380005. The structure consists of a cast in-situ concrete arch tunnel for a decommissioned rail corridor. The structure has an overall barrel length of approximately 70.7 m with an overall width of 5.5 m and a height of 4.0 m.

Figure 3.4 View of left hand side elevation of structure ID 1020200

Figure 3.5 View above structure ID 1020200

3.2.1 Initial Risk Assessment

The initial assessment of the current controls and conditions for the structure identifies that the risk score for “Safety” and “Asset Integrity - Asset and Capacity Management” are “Very High – 3” and “Moderate – 5”, respectively (refer to Figure 2.2 for further details on risk score). Refer to Section 3.5 for the Risk Assessment summary.

3.2.2 Existing Controls & Effectiveness

During the field inspection, it was identified a series of physical controls which are **largely ineffective**, such as:

- No control measures on the northern side of the tunnel to restrict access to the tunnel
  - Reliant on successful control measures on the bridge to limit access from the north
  - Reliant on low traffic volumes accessing Mine Road and steep banks discouraging access
- No control measures on the southern (Mine) side of the tunnel to restrict access (although in Mine Site and fenced/locked)
- Surveillance of mine site approach (cameras)
- No signage noted

3.2.3 General Discussions

General discussion and workshop meeting with the Council identifies that current control measures do not appear to be successful in limiting access to the northern side of the tunnel and entry into the tunnel. Additionally, it was identified a limitation on eliminating the structure due to cost-related and potential community backlash due to historical and community appropriation.

As elimination of the structure is not possible at this stage, ARRB proposes better physical controls and monitoring in the first instance.

3.2.4 Control Measures

Physical Controls

North Eastern end:

- Install a full height and width permanent mesh barrier attached to the face of the tunnel to allow no access to the tunnel (inspection entry from mine end only) – (Safety)

Figure 3.6 Illustration of permanent barrier blocking entry to Structure ID 1020200

Administrative Controls

- Provide appropriate warning/deterrence signage at Council end of the tunnel – (Safety)
- Install signage advising the end of Council maintained road – (Safety)
- Establish impact area and emergency procedure in case of structural collapse – (Asset Integrity).
- Provide a letter to State Government/Mine that addresses the following:
  - people accessing the structures from their property/fencing issues at mine entrance – (Safety)

- mine access road's use of the tunnel (essentially acting as a culvert) by heavy vehicles and its poor condition – (Asset Integrity)

Detective Controls

- Undertake three monthly routine inspections to monitor the effectiveness of controls - (Safety)
- Introduce camera detective controls if three monthly monitoring indicates ongoing issues – (Safety)
- Perform detective inspections (Level 2 & 3 inspections as recommended) - (Asset Integrity)

3.2.5 Control Effectiveness

Effectiveness of proposed controls on Council end of tunnel expected to be **substantially effective for Safety** and **partially effective for Asset Integrity.**

However, given that safety controls are reliant on the Southern entry to the tunnel (in the mine, out of Council's control), suggest overall controls for Safety be considered **partially effective**. Alternatively, arrange with mine for permission to install a similar barrier at South-Western end of the tunnel (gate access to be confirmed by Council) and then controls would be **substantially effective for Safety** and **partially effective for Asset Integrity**.

3.3 1020201 – Mt Morgan Rail Bridge 1

The structure is a decommissioned timber rail bridge located at coordinates -23.649984, 150.37658. The structure consists of timber piers and girders supporting timber sleepers. The structure has an overall length of approximately 26.6 m (4 spans of 6.6 m) with an overall width of 1.5 m and a free vertical clearance of 4.0 m.

Figure 3.7 View of left hand side elevation of structure ID 10202001

Figure 3.8 View under structure ID 1020201

3.3.1 Initial Risk Assessment

The initial assessment of the current controls and conditions for the structure identifies that the risk score for “Safety” and “Asset Integrity - Asset and Capacity Management” are “Very High – 2” and “Moderate – 6”, respectively (refer to Figure 2.2 for further details on risk score). Refer to Section 3.5 for the Risk Assessment summary.

3.3.2 Existing Controls & Effectiveness

During the field inspection, it was not identified any physical control that could prevent access to the structure.

3.3.3 General Comments

General discussion and workshop meeting with the Council identifies that there is no evidence of any control or issues. Additionally, it was noted that there are no financial restrictions for the removal/demolition (elimination) of the structure.

Therefore, in the first instance, ARRB proposes the introduction of physical controls and monitoring before considering removing the structure. However, if budget is available, Council should consider the removal/demolish of the structure to eliminate the risk.

3.3.4 Control Measures

Physical Controls

- Install permanent fencing across the bridge to the gully edges to control pedestrian access onto the bridge – (Safety)
- Provide a gate with a lock to access the bridge for inspections – (Asset Integrity)

Administrative Controls

- Provides appropriate warning/deterrence signage at both ends of the bridge – (Safety)
- Establish impact area and emergency procedure in case of structural collapse – (Asset Integrity).

Detective Controls

- Undertake three monthly routine inspections to monitor the effectiveness of controls - (Safety)
- Introduce camera detective controls if three monthly monitoring indicates ongoing issues - (Safety)
- Perform detective inspections (Level 2 & 3 inspections as recommended) – (Asset Integrity).

3.3.5 Control Effectiveness

The effectiveness of proposed controls is expected to be **partially effective for Safety & Asset Integrity.**

Figure 3.9 Illustration of permanent barrier blocking entry to Structure ID 1020200

3.4 No Asset ID – Mt Morgan Rail Bridge 2

The structure is a decommissioned rail bridge crossing a natural waterway and located on coordinates -23.659136, 150.370397. The structure consists of timber piers and girders supporting timber sleepers. The structure has an overall length of approximately 35 m (5 spans of 7.0 m) and an overall width of 1.8 m.

Figure 3.10 View of left hand side elevation of unknown structure ID

Figure 3.11 View from approach 1 of unknown structure ID

3.4.1 Initial Risk Assessment

The initial assessment of the current controls and conditions for the structure identifies that the risk score for "Safety" and "Asset Integrity - Asset and Capacity Management" are "Very High – 3" and "Moderate – 6", respectively (refer to Figure 2.2 for further details on risk score). Refer to Section 3.5 for the Risk Assessment summary.

3.4.2 Existing Controls & Effectiveness

During the field inspection, it was not identified any physical control that could prevent access to the structure. However, the structure is already isolated through multiple property fences, making it difficult to see and access.

3.4.3 General Comments

General discussion and workshop meeting with the Council identifies that there is no cost-prohibitive for the removal/demolition (elimination) of the structure. Currently, there is no evidence of any control or issues.

Council expresses concern of any substantial works to structure that may draw unwanted attention and ongoing issues to a largely unknown structure at the current time. Therefore, ARRB proposes the introduction of administrative controls and monitoring in the first instance.

3.4.4 Control Measures

Physical Controls

- No physical control is required at this time. The structure is already isolated through multiple property fences – difficult to see and access.

Administrative Controls

- Install signage advising the end of Council maintained road (located at the other side of Dee River) – (Safety)
- Provide appropriate warning/deterrence signage at both ends of the bridge – (Safety)
- Establish impact area and emergency procedure in case of structural collapse.

Detective Controls

- Undertake three monthly routine inspections to monitor the effectiveness of controls (in this case, evidence structure been recently accessed) - (Safety)
- Introduce camera detective controls if three monthly monitoring indicates ongoing issues – (Safety)
- Perform detective inspections (Level 2 & 3 inspections as recommended) - (Asset Integrity)

Figure 3.12 Illustration of permanent barrier blocking entry to Structure ID 1020200

3.4.5 Control Effectiveness

The effectiveness of proposed controls is expected to be **largely ineffective for Safety** and **partially effective for Asset Integrity**.

3.5 Risk Score Results

Table 3.1 compare the risk score for the assets current conditions and the new risk score based on the proposed control measurements (refer to Figure 2.2 for further details on risk score). The results are based on the workshop results and the proposed controls.

Table 3.1: Risk Assessment Score

Asset or Asset Grouping	Risk Category	RRC Risk Domain	Highest Impact Type	Inherent Risk Score	Residual Risk Score
1020199 - Mt Morgan Dee River Crossing	Political; / Reputational	Safety	Safety	Very High 2	Very High 3
1020199 - Mt Morgan Dee River Crossing	1. Asset Integrity 2. Political / Reputational	Asset Integrity - Asset and Capacity Management	Community Relationships	Moderate 5	Moderate 6

Asset or Asset Grouping	Risk Category	RRC Risk Domain	Highest Impact Type	Inherent Risk Score	Residual Risk Score
1020200 - Mt Morgan Rail Tunnel	Political; / Reputational	Safety	Safety	Very High 3	Very High 3
1020200 - Mt Morgan Rail Tunnel	1. Asset Integrity 2. Political / Reputational	Asset Integrity - Asset and Capacity Management	Community Relationships	Moderate 5	Moderate 6
1020201 - Mt Morgan Rail Bridge 1	Political; / Reputational	Safety	Safety	Very High 2	Very High 3
1020201 - Mt Morgan Rail Bridge 1	1. Asset Integrity 2. Political / Reputational	Asset Integrity - Asset and Capacity Management	Community Relationships	Moderate 6	Low 7
No ID# Mt Morgan Rail Bridge 2	Political; / Reputational	Safety	Safety	Very High 3	Very High 3
No ID# Mt Morgan Rail Bridge 2	1. Asset Integrity 2. Political / Reputational	Asset Integrity - Asset and Capacity Management	Community Relationships	Moderate 6	Low 7

Note:

- Refer to Appendix B for the complete Risk Assessment and Management Plan (MS Excel file) for further details of the conditions and risk evaluation.

4. Conclusions and Recommendations

The risk assessment established potential events where declining asset integrity could impact the community from a reputational and safety perspective.

The workshop established that the ideal solution would be to remove the structures to eliminate all risks. However, this approach was not practical or currently feasible for the Council, given the financial and cultural implications. Therefore, a range of higher order controls and recommendations for risk treatments were reviewed and selected during the risk assessment.

ARRB recommends that Rockhampton Regional Council considers the following to evaluate further mitigation and intervention activities:

- Recognise the deterioration and failure mechanism of the structures and their components.
- Recognise the age of the structure (based on records or estimate).
- Identify any previous rehabilitation/works undertaken on the structure.
- Determine the environmental impact of the structure collapse (contamination, fauna, waterway obstructions, etc.).
- Identify any emergency procedure for these structures. It is recommended that these procedures include the following information:
  - The frequency for structural monitoring (not necessary to be a level 2 inspection)
  - Emergency inspection after severe weather condition or any other significant event to identify the structural condition and risks
  - Mitigation actions in case of structural or component collapse
  - Identification of the impact area for each structure in case of structural or component collapse

Additionally, ARRB recommends that the Council should regularly monitor the controls for effectiveness and review community interaction and the risk controls to ascertain if higher order controls are required against council ALARP guidelines and risk appetite.

Finally, ARRB recommends continuing to evaluate the risk and higher order actions and activities to mitigate the risk caused by the structures.

Appendix A Structures Field Data Capture

1020199

Created	2020-12-12 06:53:16 UTC by Rebecca Blair
Updated	2021-01-07 02:05:43 UTC by Rebecca Blair
Location	-23.643945, 150.380618
Status	Inspected

Inspection Initiation

Inspector Name	Rebecca Blair
Risk Assessment	
Safe Parking	Yes
Safe Standing	Yes
Sight Distance	Yes
Safe Movement	Yes
Safe Work Zones	Yes

If the answer to any of these questions is no, contact the Fieldwork Supervisor to discuss prior to commencing inspection.

Structure Information

Structure ID	1020199
Structure Name	Mt Morgan Dee River Crossing
Structure Type	Bridge

Structure Overview

Function	Road over waterway
State	QLD
Local Government Agency	Rockhampton Regional Council
Operational Status	Closed
Environment	Mildly Aggressive
General Comments	Close rail bridge.

Inventory

Approach Barrier	No
Bridge Barrier	No
Overall Width (m)	1.8
Overall Length (m)	66.3
Vertical Clearance Below (m)	6
Footway	No
Carriageway Width (m)	1.5

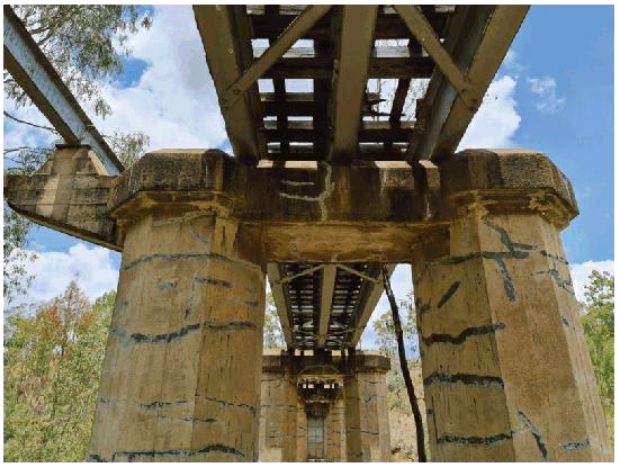
7, 9.5

Number of Spans	7
Span Lengths (m)	9.5

Inventory Photos

View from AP1

View of typical superstructure and substructure



View of LHS Elevation

Materials

Structure wearing surface material	Rail tracks.
Superstructure material	Timber
Substructure material	Cast-in situ concrete
Waterway material	Natural

Inspection Elements

1. Signs/Delineation

Signs/Delineation Present?	No

2. Guardrail

Guardrail Present?	No

3. Road Drainage

Road Drainage Present?	No

4. Wearing Surface

Wearing Surface Present?	No

Settlement

Inspected?	N/A

Depressions

Inspected?	N/A

Potholes

Inspected?	N/A

Cracking

Inspected?	N/A

5. Wearing Surface over Structure

Wearing Surface over Structure Present?	Yes

Settlement

Inspected?	N/A

Depressions

Inspected?	N/A

Potholes

Inspected?	N/A

Cracking

Inspected?	N/A

6. Footways

Footways Present?	No

7. Bridge Barrier

Bridge Barrier Present?	No

8. Deck Joints

Deck Joints Present?	No

9. Embankments

Embankments Present?	No

10. Slope/Batter Protection

Slope/Batter Protection Present?	No

11. Vegetation

Vegetation Present?	Yes

Vegetation within 2.0 m of abutments/wingwalls

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Vegetation within Waterway Channel

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Vegetation affecting Sight Distance

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

12. Waterway

Waterway Present?	Yes

Accumulation of Debris

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Localised Scour Adjacent to Structure

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Lateral Bank Erosion Adjacent to Structure

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Degradation

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Aggradation

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Permanent Standing Water

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

13. Abutments, Piers and Retaining Structures

Abutments, Piers or Retaining Structures Present?	Yes

Cracking

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Splitting

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Distortion

Inspected?	Yes
Maintenance Required?	No

Require Level 2 inspection	No

Movement

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Steel Corrosion

Inspected?	N/A

Vegetation Growth in Masonry

Inspected?	N/A

Blocked Weepholes

Inspected?	N/A

Timber Decay, Termites or Marine Borers

Inspected?	N/A

14. Headstocks, Bearing Pedestals and Substructure Drains

Headstocks, Bearing Pedestals or Substructure Drains Present?	Yes

Accumulation of Dirt and Debris

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

15. Bearings

Bearings Present?	No

16. Deck/Girders

Deck/Girders Present?	Yes

Spalling, Cracking, Staining, Dampness or Corrosion

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Excessive Movement/Vibration

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Build Up of Salts, Silt, Debris or Droppings

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Blocked Vent Holes

Inspected?	N/A

Timber Decay, Termites or Marine Borers

Inspected?	Yes
Maintenance Required?	Yes

Decay

Component Material	Timber
Type of Defect - Timber	Decay
Defect comments	Timber decay noted throughout sleepers, and burned sleepers noted at approach 1.
Compliance Concerns?	No
Defect Photo	
Require Level 2 inspection	No

Excessive Timber Member Deflections

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Excessive Timber Member Sniping

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Loose Joints and Fasteners

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Propping for Tightness of Wedges in Deck Cambering or Temporary Works

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

17. Culvert Barrel

Culvert Barrel Present?	No

18. Roadway Beneath Structure

Roadway Present Beneath Structure?	No

19. Services

Services Present?	No

20. Appearance

Graffiti Present?	No

Inspection Close Out

Overall Inspection Comment	Excessive decay noted to sleepers.
Office Follow Up Required?	No
Inspection Complete?	Yes
Date	2020-12-16
Time	11:53

Created: Wed 16 Dec 10:57 2020
Mount Morgan: Mount Morgan
Title: 1020199 Risk Assessment
No. Items: 7

Structure is a rail bridge cross natural waterway. Approach 1 is from the south and is achieved through adjacent railway tunnel.
Structure substructure consists of concrete pier walls.
Structures sleepers have rotting and present risk to traverse, in addition to burnt and missing sleepers above abutment 1.

(1)

Moun_1020199R_201216111647.jpg

Created: Wed 16 Dec 11:16 2020
Access available from Southern side rail tracks via nearby tunnel.

(2)

Moun_1020199R_201216111737.jpg

Created: Wed 16 Dec 11:17 2020
Structure approach 1. Burnt railway sleepers noted above abutment 1.

(3)

Moun_1020199R_201216111823.jpg

Created: Wed 16 Dec 11:18 2020
Steep embankment makes limited but dangerous access.

Created: Wed 16 Dec 10:57 2020
Mount Morgan: Mount Morgan
Title: 1020199 Risk Assessment
No. Items: 7

(4)

Moun_1020199R_201216113303.jpg

Created: Wed 16 Dec 11:33 2020

Car track access near abutment 2. Car track goes under structure next to abutment 2. Physical access to the structure can be achieved by walking up embankment from this track.

(5)

Moun_1020199R_201216113415.jpg

Created: Wed 16 Dec 11:34 2020

Path up embankment is providing access to tracks on approach 2 side.

(6)

Moun_1020199R_201216113513.jpg

Created: Wed 16 Dec 11:35 2020

Fence is blocking approach 2, however there is easy access to go around or climb under.

Created: Wed 16 Dec 10:57 2020
Mount Morgan: Mount Morgan
Title: 1020199 Risk Assessment
No. Items: 7

(7)

Moun_1020199R_201216113610.jpg

Created: Wed 16 Dec 11:36 2020

Spacing to climb under fencing on approach 2.

1020200

Created	2020-12-12 06:55:53 UTC by Rebecca Blair
Updated	2021-01-07 02:08:26 UTC by Rebecca Blair
Location	-23.64419, 150.380005
Status	Inspected

Inspection Initiation

Inspector Name	Rebecca Blair
Risk Assessment	
Safe Parking	Yes
Safe Standing	Yes
Sight Distance	Yes
Safe Movement	Yes
Safe Work Zones	Yes

If the answer to any of these questions is no, contact the Fieldwork Supervisor to discuss prior to commencing inspection.

Structure Information

Structure ID	1020200
Structure Name	Mt Morgan Rail Tunnel
Structure Type	Tunnel

Structure Overview

Function	Rail tunnel
State	QLD
Local Government Agency	Rockhampton Regional Council
Operational Status	Closed
Environment	Mildly Aggressive
General Comments	Closed rail tunnel.

Inventory

Approach Barrier	No
Bridge Barrier	No
Overall Width (m)	5.5
Overall Length (m)	70.7
Overall Height (m)	4
Footway	No
Carriageway Width (m)	4

1, 5.5

Number of Spans	1
Span Lengths (m)	5.5

Inventory Photos

View from AP1

View of typical superstructure and substructure

View of LHS Elevation

Materials

Structure wearing surface material	Asphalt
Superstructure material	Cast-in situ concrete
Substructure material	Cast-in situ concrete
Waterway material	Tunnel.

Inspection Elements

1. Signs/Delineation

Signs/Delineation Present?	No

2. Guardrail

Guardrail Present?	No

3. Road Drainage

Road Drainage Present?	No

4. Wearing Surface

Wearing Surface Present?	Yes

Settlement

Inspected?	N/A

Depressions

Inspected?	N/A

Potholes

Inspected?	N/A

Cracking

Inspected?	N/A

5. Wearing Surface over Structure

Wearing Surface over Structure Present?	Yes

Settlement

Inspected?	N/A

Depressions

Inspected?	N/A

Potholes

Inspected?	N/A

Cracking

Inspected?	N/A

6. Footways

Footways Present?	No

7. Bridge Barrier

Bridge Barrier Present?	No

8. Deck Joints

Deck Joints Present?	No

9. Embankments

Embankments Present?	No

10. Slope/Batter Protection

Slope/Batter Protection Present?	No

11. Vegetation

Vegetation Present?	No

12. Waterway

Waterway Present?	No

13. Abutments, Piers and Retaining Structures

Abutments, Piers or Retaining Structures Present?	No

14. Headstocks, Bearing Pedestals and Substructure Drains

Headstocks, Bearing Pedestals or Substructure Drains Present?	No

15. Bearings

Bearings Present?	No

16. Deck/Girders

Deck/Girders Present?	No

17. Culvert Barrel

Culvert Barrel Present?	Yes

Distortion/Deflection of Barrel

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Invert Corrosion/Abrasion

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Spalling, Cracking, Staining, Dampness or Corrosion

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

18. Roadway Beneath Structure

Roadway Present Beneath Structure?	No

19. Services

Services Present?	No

20. Appearance

Graffiti Present?	Yes

Graffiti

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Inspection Close Out

Office Follow Up Required?	No
Inspection Complete?	Yes
Date	2020-12-12
Time	10:55

Created: Sat 12 Dec 17:05 2020
Mount Morgan: Other reports
Title: 1020200 (Tunnel) Risk Assessment
No. Items: 6

Structure is a rail tunnel. Approach 1 is from the East and is achieved through adjacent roadway. Approach 2 is monitored closed mining site.
Structure substructure consists of cast insitu concrete.

(1)

Othe_1020199R_201216105308.jpg

Created: Wed 16 Dec 10:53 2020
Do not enter sign is knocked over with fencing.

(2)

Othe_1020199R_201216105444.jpg

Created: Wed 16 Dec 10:54 2020
Steep embankment on left hand side to tunnel. Access to embankment is around the fence.

(3)

Othe_1020199R_201216105800.jpg

Created: Wed 16 Dec 10:58 2020
Approach 2 entry via mine site. Survellienace with security check noted.

Created: Sat 12 Dec 17:05 2020
Mount Morgan: Other reports
Title: 1020200 (Tunnel) Risk Assessment
No. Items: 6

(4)

Othe_1020199R_201216110023.jpg

Created: Wed 16 Dec 11:00 2020

Approach 2 within mine fencing. Access through mine is only by key. Public access is possible by walking along train lines.

(5)

Othe_1020199R_201216111513.jpg

Created: Wed 16 Dec 11:15 2020

Track noted along the steep embankment on left hand side. It is possible to access structures this way.

(6)

Othe_1020199R_201216111559.jpg

Created: Wed 16 Dec 11:15 2020

Fence seen from wearing surface is not blocking access to tunnel or adjacent bridge.

1020201

Created	2020-12-12 06:58:00 UTC by Rebecca Blair
Updated	2021-01-07 02:11:05 UTC by Rebecca Blair
Location	-23.649984, 150.37658
Status	Inspected

Inspection Initiation

Inspector Name	Rebecca Blair
Risk Assessment	
Safe Parking	Yes
Safe Standing	Yes
Sight Distance	Yes
Safe Movement	Yes
Safe Work Zones	Yes

If the answer to any of these questions is no, contact the Fieldwork Supervisor to discuss prior to commencing inspection.

Structure Information

Structure ID	1020201
Structure Name	Mt Morgan Rail Bridge 1
Structure Type	Bridge

Structure Overview

Function	Rail bridge
State	QLD
Local Government Agency	Rockhampton Regional Council
Operational Status	Closed
Environment	Mildly Aggressive
General Comments	Close mining railway.

Inventory

Approach Barrier	No
Bridge Barrier	No
Overall Width (m)	1.5
Overall Length (m)	26.4
Vertical Clearance Below (m)	4
Footway	No
Carriageway Width (m)	1.8

4, 6.6

Number of Spans	4
Span Lengths (m)	6.6

Inventory Photos

View from AP1

View of typical superstructure and substructure

View of LHS Elevation

Materials

Structure wearing surface material	Railway.
Superstructure material	Timber
Substructure material	Timber
Waterway material	Masonry

Inspection Elements

1. Signs/Delineation

Signs/Delineation Present?	No

2. Guardrail

Guardrail Present?	No

3. Road Drainage

Road Drainage Present?	No

4. Wearing Surface

Wearing Surface Present?	No

5. Wearing Surface over Structure

Wearing Surface over Structure Present?	Yes

Settlement

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Depressions

Inspected?	Yes
Maintenance Required?	No

Require Level 2 inspection	No

Potholes

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Cracking

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

6. Footways

Footways Present?	No

7. Bridge Barrier

Bridge Barrier Present?	No

8. Deck Joints

Deck Joints Present?	No

9. Embankments

Embankments Present?	No

10. Slope/Batter Protection

Slope/Batter Protection Present?	No

11. Vegetation

Vegetation Present?	Yes

Vegetation within 2.0 m of abutments/wingwalls

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Vegetation within Waterway Channel

Inspected?	Yes
Maintenance Required?	Yes

Vegetation growth encroaching.

Component Material	Other
Type of Defect - Other	Vegetation growth encroaching.
Compliance Concerns?	No

Defect Photo	
Require Level 2 inspection	No

Vegetation affecting Sight Distance

Inspected?	Yes
Maintenance Required?	Yes

Vegetation growth through structure.

Component Material	Other
Type of Defect - Other	Vegetation growth through structure.
Compliance Concerns?	No
Defect Photo	
Require Level 2 inspection	No

12. Waterway

Waterway Present?	Yes

Accumulation of Debris

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Localised Scour Adjacent to Structure

Inspected?	Yes
Maintenance Required?	Yes

Scouring

Component Material	Masonry
Type of Defect - Masonry	Scouring
Defect comments	Span 3
Compliance Concerns?	No
Defect Photo	
Require Level 2 inspection	No

Lateral Bank Erosion Adjacent to Structure

Inspected?	N/A

Degradation

Inspected?	N/A

Aggradation

Inspected?	N/A

Permanent Standing Water

Inspected?	N/A

13. Abutments, Piers and Retaining Structures

Abutments, Piers or Retaining Structures Present?	Yes

Cracking

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Splitting

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Distortion

Inspected?	N/A

Movement

Inspected?	N/A

Steel Corrosion

Inspected?	N/A

Vegetation Growth in Masonry

Inspected?	N/A

Blocked Weepholes

Inspected?	N/A

Timber Decay, Termites or Marine Borers

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

14. Headstocks, Bearing Pedestals and Substructure Drains

Headstocks, Bearing Pedestals or Substructure Drains Present?	Yes

Accumulation of Dirt and Debris

Inspected?	N/A

15. Bearings

Bearings Present?	No

16. Deck/Girders

Deck/Girders Present?	Yes

Spalling, Cracking, Staining, Dampness or Corrosion

Inspected?	N/A

Excessive Movement/Vibration

Inspected?	N/A

Build Up of Salts, Silt, Debris or Droppings

Inspected?	N/A

Blocked Vent Holes

Inspected?	N/A

Timber Decay, Termites or Marine Borers

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Excessive Timber Member Deflections

Inspected?	N/A

Excessive Timber Member Sniping

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Loose Joints and Fasteners

Inspected?	N/A

Propping for Tightness of Wedges in Deck Cambering or Temporary Works

Inspected?	N/A

17. Culvert Barrel

Culvert Barrel Present?	No

18. Roadway Beneath Structure

Roadway Present Beneath Structure?	No

19. Services

Services Present?	No

20. Appearance

Graffiti Present?	No

Inspection Close Out

Overall Inspection Comment	Structure is closed. Deterioration and rotting of timber components noted.
Office Follow Up Required?	No
Inspection Complete?	Yes
Date	2020-12-16
Time	10:30

Created: Wed 16 Dec 10:18 2020
Mount Morgan: Mount Morgan
Title: 1020201 Risk Assessment
No. Items: 7

Structure is a rail bridge cross natural waterway. Approach 1 is from the North and is achieved through adjacent roadway.
Structure substructure consists of timber piles.
Structures sleepers have rotting and present risk to traverse.

(1)

Moun_1020201R_201216101903.jpg

Created: Wed 16 Dec 10:19 2020
Easy access to right hand side. No signage. Access to underside of structure at this point.

(2)

Moun_1020201R_201216101939.jpg

Created: Wed 16 Dec 10:19 2020
Monitor site next to structure (right hand side) on abutment 1 side, with private property abutment 2 side.

(3)

Moun_1020201R_201216103731.jpg

Created: Wed 16 Dec 10:37 2020
Roadside access to railway and structure from approach 2.

Created: Wed 16 Dec 10:18 2020
Mount Morgan: Mount Morgan
Title: 1020201 Risk Assessment
No. Items: 7

(4)

Moun_1020201R_201216103820.jpg

Created: Wed 16 Dec 10:38 2020
No signage or fence from approach 2.

(5)

Moun_1020201R_201216104108.jpg

Created: Wed 16 Dec 10:41 2020
Railway sign across adjacent road.

(6)

Moun_1020201R_201216104349.jpg

Created: Wed 16 Dec 10:43 2020
Access to structure from roadway, no signage or fence.

Created: Wed 16 Dec 10:18 2020
Mount Morgan: Mount Morgan
Title: 1020201 Risk Assessment
No. Items: 7

(7) 

Moun_1020201R_201216104430.jpg

Created: Wed 16 Dec 10:44 2020

Structure from approach 1.

No Asset ID

Created	2020-12-12 06:59:37 UTC by Rebecca Blair
Updated	2021-01-08 11:18:20 UTC by Rebecca Blair
Location	-23.659136, 150.370397
Status	Inspected

Inspection Initiation

Inspector Name	Rebecca Blair
Risk Assessment	
Safe Parking	Yes
Safe Standing	Yes
Sight Distance	Yes
Safe Movement	Yes
Safe Work Zones	Yes

If the answer to any of these questions is no, contact the Fieldwork Supervisor to discuss prior to commencing inspection.

Structure Information

Structure ID	No Asset ID
Structure Name	Mt Morgan Rail Bridge 2
Structure Type	Bridge

Structure Overview

Function	Rail bridge
State	QLD
Local Government Agency	Rockhampton Regional Council
Operational Status	Closed
Environment	Mildly Aggressive
General Comments	Closed mining railway.

Inventory

Approach Barrier	No
Bridge Barrier	No
Overall Width (m)	1.8
Overall Length (m)	35
Footway	No
Carriageway Width (m)	1.8
Skew	0

5, 7

Number of Spans	5
Span Lengths (m)	7

Inventory Photos

View from AP1

View of typical superstructure and substructure

View of LHS Elevation

Materials

Structure wearing surface material	Railway.
Superstructure material	Timber
Substructure material	Timber
Waterway material	Natural

Inspection Elements

1. Signs/Delineation

Signs/Delineation Present?	No

2. Guardrail

Guardrail Present?	No

3. Road Drainage

Road Drainage Present?	No

4. Wearing Surface

Wearing Surface Present?	No

5. Wearing Surface over Structure

Wearing Surface over Structure Present?	Yes

Settlement

Inspected?	Yes
Maintenance Required?	Yes

Decay

Component Material	Timber
Type of Defect - Timber	Decay
Compliance Concerns?	No

Defect Photo	
Require Level 2 inspection	No

Depressions

Inspected?	N/A

Potholes

Inspected?	N/A

Cracking

Inspected?	N/A

6. Footways

Footways Present?	No

7. Bridge Barrier

Bridge Barrier Present?	No

8. Deck Joints

Deck Joints Present?	No

9. Embankments

Embankments Present?	No

10. Slope/Batter Protection

Slope/Batter Protection Present?	No

11. Vegetation

Vegetation Present?	Yes

Vegetation within 2.0 m of abutments/wingwalls

Inspected?	N/A

Vegetation within Waterway Channel

Inspected?	Yes
Maintenance Required?	Yes

vegetation growth through structure.

Component Material	Other
Type of Defect - Other	vegetation growth through structure.
Compliance Concerns?	No
Defect Photo	
Require Level 2 inspection	No

Vegetation affecting Sight Distance

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

12. Waterway

Waterway Present?	Yes

Accumulation of Debris

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Localised Scour Adjacent to Structure

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Lateral Bank Erosion Adjacent to Structure

Inspected?	Yes

Maintenance Required?	No
Require Level 2 inspection	No

Degradation

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Aggradation

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Permanent Standing Water

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

13. Abutments, Piers and Retaining Structures

Abutments, Piers or Retaining Structures Present?	Yes

Cracking

Inspected?	N/A

Splitting

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Distortion

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Movement

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Steel Corrosion

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Vegetation Growth in Masonry

Inspected?	N/A
Maintenance Required?	No
Require Level 2 inspection	No

Blocked Weepholes

Inspected?	N/A

Timber Decay, Termites or Marine Borers

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

14. Headstocks, Bearing Pedestals and Substructure Drains

Headstocks, Bearing Pedestals or Substructure Drains Present?	Yes

Accumulation of Dirt and Debris

Inspected?	N/A

15. Bearings

Bearings Present?	No

16. Deck/Girders

Deck/Girders Present?	Yes

Spalling, Cracking, Staining, Dampness or Corrosion

Inspected?	N/A

Excessive Movement/Vibration

Inspected?	N/A

Build Up of Salts, Silt, Debris or Droppings

Inspected?	N/A

Blocked Vent Holes

Inspected?	N/A

Timber Decay, Termites or Marine Borers

Inspected?	Yes
Maintenance Required?	No
Require Level 2 inspection	No

Excessive Timber Member Deflections

Inspected?	N/A

Excessive Timber Member Sniping

Inspected?	N/A

Loose Joints and Fasteners

Inspected?	N/A

Propping for Tightness of Wedges in Deck Cambering or Temporary Works

Inspected?	N/A

17. Culvert Barrel

Culvert Barrel Present?	No

18. Roadway Beneath Structure

Roadway Present Beneath Structure?	No

19. Services

Services Present?	No

20. Appearance

Graffiti Present?	No

Inspection Close Out

Overall Inspection Comment	Structure is in poor condition but is closed. Post and wire fencing prevent access. No
Office Follow Up Required?	No
Inspection Complete?	Yes
Date	2020-12-16
Time	09:58

Created: Wed 16 Dec 09:42 2020
Mount Morgan: Mount Morgan
Title: No asset ID Risk Assessment
No. Items: 6

Structure is a rail bridge cross natural waterway. Approach 1 is from the North and is achieved through adjacent roadway.
Structure substructure consists of timber piles.
Structures sleepers have rotting and present risk to traverse.

(1)

Moun_NoAssetI_201216100430.jpg

Created: Wed 16 Dec 10:04 2020
Structure from road access. No access apparent from other side of structure.

(2)

Moun_NoAssetI_201216100401.jpg

Created: Wed 16 Dec 10:04 2020
No clear keep out or warning sign near structure.

(3)

Moun_NoAssetI_201216094651.jpg

Created: Wed 16 Dec 09:46 2020
Second fence to structure from private road.

Created: Wed 16 Dec 09:42 2020
Mount Morgan: Mount Morgan
Title: No asset ID Risk Assessment
No. Items: 6

(4)

Moun_NoAssetI_201216094344.jpg

Created: Wed 16 Dec 09:43 2020

Gate across access roadway. Pliers are required to open gate however it is easy to climb through or under gate.

(5)

Moun_NoAssetI_201216094512.jpg

Created: Wed 16 Dec 09:45 2020

Pliers are required to open gate over road access.

(6)

Moun_NoAssetI_201230210955.jpeg

Created: Wed 30 Dec 21:09 2020

Track is used as fresh tyre marks seen. This track leads to private property. 4WD or AWD is required.

Appendix B Workshop Risk Management Plan

Risk Assessment and Management Plan
Review following 18/2/2021 workshop

26-Feb-21

Ref # (May Require a RR Number for Register)	Asset or Asset Grouping	Business Objective	Rockhampton Regional Council Risk Category	Risk Domain	Risk Description	Cause	Potential Impact	Risk Review Frequency	Highest Impact Type	Inherent Impact	Inherent Likelihood	Inherent Risk Score	Response Strategy	Existing Critical Controls - Preventative	Existing Critical Controls - Mitigating (Corrective, Directive, Detective)	Additional Controls identified During Risk Review Workshop (RRC definition = Treatment)	Control Effectiveness	Amended Control Effectiveness Rating (where required)	Critical Control Review Frequency	Last Control Review	Control Monitor	Residual Impact	Residual Likelihood	Residual Risk Score	Amended Residual Impact (where required)	Amended Residual Likelihood (where required)	Amended Residual Score (where required)
1010099	1010099 - Mt Morgan Dee River Crossing	Baseline Risk assessment for Mt Morgan Railway line	Political / Reputational	Safety	Public injury due to unauthorised access. E.g Falling from height	Trespass; Unguarded area	Community Relationships, Financial, Strategic, Compliance (includes environmental compliance), Safety	Annually	Safety	5. Catastrophic	D Likely	Very High 2	Treat	• Two panels of temporary fencing at either end of bridge - Northern end has evidence of people climbing under fence - Southern end has evidence of people moving/relocating fence panel to gain access to bridge • Fencing adjacent mine entry and temporary hazard fencing - Hazard fencing is rock eldown - Permanent fencing does not limit pedestrian access • Surveillance of mine site (cameras) • No signage **Note:** Current control measures do not appear to be successful and are temporary in nature	Rescue or extraction, Mine cameras don't help for detective control	Budget request for Higher Order fence controls and increased monitoring will be lodged	2 Largely Ineffective	3 Partially Effective	Quarterly	19-Feb-21	Consider improvements	5. Catastrophic	C Possible	Very High 3	5. Catastrophic	C Possible	Very High 3
101099	1010099 - Mt Morgan Dee River Crossing	Baseline Risk assessment for Mt Morgan Railway line	1 Asset Integrity 2 Political / Reputational	Asset Integrity - Asset and Capacity Management	Reparation cost due to infrastructure collapse Reputation Damage community usage and negative media coverage	Degradation	Community Relationships, Infrastructure/Facilities/Assets, Financial, Strategic, Compliance (includes environmental compliance)	Annually	Community Relationships	3. Moderate	C Possible	Moderate 5	Treat	Bridge Management system No specific Asset management strategy and plan. Not formally on our asset register.	Detective inspections occur level 2 and one past level 3. Corrective works. Community consultation process for future steps	Budget request for Higher Order fence controls and increased monitoring will be lodged	3 Partially Effective	3 Partially Effective	Biennially (Every 2 Years)	2021	Consider improvements	2. Minor	C Possible	Moderate 6	2. Minor	C Possible	Moderate 6
1010100	1010100 - Mt Morgan Rail Tunnel	Baseline Risk assessment for Mt Morgan Railway line	Political / Reputational	Safety	Public & Mine Water Reparation personnel injury due to unauthorised access	Trespass; vehicle driving over and tunnel collapses	Mine & Community Relationships, Service Delivery, Infrastructure/Facilities/Assets, Financial, Strategic, Compliance (includes environmental compliance), Safety,	Annually	Safety	5. Catastrophic	C Possible	Very High 3	Treat	• No control measures on northern side of tunnel to restrict access to tunnel - Reliant on successful control measures on bridge to limit access from north - Reliant on low traffic volumes accessing Mine Road and steep banks discouraging access • No control measures on southern (Mine) side of tunnel to restrict access – although in Mine Site and fenced/locked • Surveillance of mine site approach (cameras) • No signage **Note:** Current control measures do not appear to be successful in limiting access on northern side of tunnel and entry into tunnel	Asset management assessment at level 2 every 2 years. On mine land. Some mine monitoring of trespassing	Budget request for Higher Order barrier controls and increased monitoring will be lodged	2 Largely Ineffective	3 Partially Effective	Quarterly	19-Feb-21	Consider improvements	5. Catastrophic	C Possible	Very High 3	5. Catastrophic	C Possible	Very High 3
1010100	1010100 - Mt Morgan Rail Tunnel	Baseline Risk assessment for Mt Morgan Railway line	1 Asset Integrity 2 Political / Reputational	Asset Integrity - Asset and Capacity Management	Reparation cost due to infrastructure collapse, and potential risk to mine road above	Degradation or failure of tunnel	Community Relationships, Service Delivery, Infrastructure/Facilities/Assets, Financial, Strategic, Compliance (includes environmental compliance), Safety, FRW Water Quality	Annually	Community Relationships	3. Moderate	C Possible	Moderate 5	Treat	Equipment striking the tunnel controls in place with mine. No physical controls	Detective level 2 controls on a regular basis	Budget request for Higher Order barrier controls and increased monitoring will be lodged	3 Partially Effective	3 Partially Effective	Biennially (Every 2 Years)	2021	Consider improvements	2. Minor	C Possible	Moderate 6	2. Minor	C Possible	Moderate 6
1010101	1010101 - Mt Morgan Rail Bridge 1	Baseline Risk assessment for Mt Morgan Railway line	Political / Reputational	Safety	Public injury due to unauthorised access. E.g Falling from height	Trespass; Unguarded area	Community Relationships, Financial, Strategic, Compliance (includes environmental compliance), Safety	Annually	Safety	5. Catastrophic	D Likely	Very High 2	Treat	• Nil	Rescue or extraction	Budget request for Higher Order fence controls and increased monitoring will be lodged	1 None or Totally Ineffective	3 Partially Effective	Quarterly	19-Feb-21	Consider improvements	5. Catastrophic	D Likely	Very High 2	5. Catastrophic	C Possible	Very High 3
1010101	1010101 - Mt Morgan Rail Bridge 1	Baseline Risk assessment for Mt Morgan Railway line	1 Asset Integrity 2 Political / Reputational	Asset Integrity - Asset and Capacity Management	Reparation cost due to infrastructure collapse Reputation Damage community usage and negative media coverage	Degradation	Community Relationships, Infrastructure/Facilities/Assets, Financial, Strategic, Compliance (includes environmental compliance)	Annually	Community Relationships	3. Moderate	B Unlikely	Moderate 6	Treat	Bridge Management system No specific Asset management strategy and plan. Not formally on our asset register.	Detective inspections occur level 2 Corrective works. Community consultation process for future steps	Budget request for Higher Order fence controls and increased monitoring will be lodged	3 Partially Effective	3 Partially Effective	Biennially (Every 2 Years)	2021	Consider improvements	2. Minor	B Unlikely	Low 7	2. Minor	B Unlikely	Low 7
No ID	No ID# Mt Morgan Rail Bridge 2	Baseline Risk assessment for Mt Morgan Railway line	Political / Reputational	Safety	Public injury due to unauthorised access. E.g Falling from height	Trespass; Unguarded area	Community Relationships, Financial, Strategic, Compliance (includes environmental compliance), Safety	Annually	Safety	5. Catastrophic	C Possible	Very High 3	Accept	• Nil	Rescue or extraction	Budget request for warning signage and increased monitoring will be lodged	1 None or Totally Ineffective	2 Largely Ineffective	Quarterly	19-Feb-21	Consider improvements	5. Catastrophic	C Possible	Very High 3	5. Catastrophic	C Possible	Very High 3
No ID	No ID# Mt Morgan Rail Bridge 2	Baseline Risk assessment for Mt Morgan Railway line	1 Asset Integrity 2 Political / Reputational	Asset Integrity - Asset and Capacity Management	Reparation cost due to infrastructure collapse Reputation Damage community usage and negative media coverage	Degradation	Community Relationships, Infrastructure/Facilities/Assets, Financial, Strategic, Compliance (includes environmental compliance)	Annually	Community Relationships	3. Moderate	B Unlikely	Moderate 6	Accept	Bridge Management system No specific Asset management strategy and plan. Not formally on our asset register.	Detective inspections occur level 2 Corrective works. Community consultation process for future steps	Budget request for warning signage and increased monitoring will be lodged	3 Partially Effective	3 Partially Effective	Biennially (Every 2 Years)	2021	Consider improvements	2. Minor	B Unlikely	Low 7	2. Minor	B Unlikely	Low 7

CONTACT US

Alex Aldana
Senior Professional
Future Transport Infrastructure
M: 0499 901 620
E: alex.aldana@arrb.com.au

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PARKS, SPORT AND PUBLIC SPACES
Councillor Portfolio – *Councillor Rutherford*

No items for consideration

PLANNING AND REGULATION
Councillor Portfolio – *Councillor Mathers*

No items for consideration

WASTE AND RECYCLING
Councillor Portfolio – *Councillor Latcham*

No items for consideration

WATER AND ENVIRONMENTAL SUSTAINABILITY
Councillor Portfolio – *Councillor Kirkland*

No items for consideration

BUDGET, GOVERNANCE AND OTHER MATTERS

10.4 ANNUAL GOODS AND SERVICES SPEND ANALYSIS

File No:	**5883**
Attachments:	**Nil**
Authorising Officer:	**Ross Cheesman - Deputy Chief Executive Officer**
Author:	**Drew Stevenson - Manager Corporate and Technology Services**

SUMMARY

Presenting details of the annual goods and services spend analysis for the twelve month period from 1 November 2020 to 31 October 2021.

OFFICER'S RECOMMENDATION

THAT Council receives the annual goods and services spend analysis report for the twelve month period from 1 November 2020 to 31 October 2021.

COMMENTARY

Council's longstanding *Local Preference Policy* continues to benefit the region's economy by providing clear direction to buy local and support the local economy. The positive buy local results are influenced by the Policy's:

- 12% local preference weighting (reducing to 5% for projects greater than $1M); and
- The Tenderer Local Content weighting of 10% for projects greater than $150K in value. The full weighted score is awarded when the Tenderer nominates local suppliers and sub-contractors for goods and services for use in the project to a minimum value of 50% of the tendered sum.

BACKGROUND

The spend analysis detailed in this report is based on Council's expenditure on goods and services for the twelve month period from 1 November 2020 to 31 October 2021.

Goods and Services Spend Analysis

During the reporting period, Council spent **$145.4M** on goods and services. Of that amount, **$116.4M** has been spent within the RRC boundaries. That is, **80%** of Council's goods and services have been acquired from local businesses. An additional $2.3M was spent with businesses established within the Central Queensland Regional Organisation of Councils (CQROC):

- Banana Shire Council;
- Central Highlands Regional Council;
- Gladstone Regional Council;
- Livingstone Shire Council; and
- Woorabinda Aboriginal Shire Council.

Plant Hire, Trade Services and Roadmaking Materials

Further analysis of Council's goods and services expenditure in the areas of Hire of Construction Plant and Equipment, Trade Services and Roadmaking Materials shows that we have spent a total of $19.7M, with **$18.4M** (**94%**) spent on local businesses and locally supplied materials. These are the majority of our contracted small business operators.

Comparison with Previous Periods

Analysis Period	Total Goods / Services	Total Local Spend	% Local	CQ Spend	Plant Hire, etc. Total	Plant Hire, etc. Local	Plant Hire, etc. CQ
*Nov 14 – Oct 15	$95.1M	$63.8M	67%	$5.4M	$23.7M	$21.8M (92%)	$1.9M
Nov 15 – Oct 16	$77.3M	$59.6M	77%	$2M	$24.6M	$23.7M (96%)	$900K
Nov 16 – Oct 17	$94.6M	$71.8M	76%	$2.9M	$24.3M	$23.3 (96%)	$901K
Nov 17 – Oct 18	$101M	$74.7M	74%	$1.4M	$22.5M	$21.6M (96%)	$856K
Nov 18 – Oct 19	$124M	$96.4M	78%	$5.9M	$29.6M	$27.1M (92%)	$2.5M
Nov 19 – Oct 20	$141.4M	$113.3M	80%	$4.5M	$22.5M	$21.8M (97%)	$783K
Nov 20 – Oct 21	$145.4M	$116.4M	80%	$2.3M	$19.7M	$18.4M (94%)	$1.3M

* NB: Results influenced by T.C. Marcia cleanup/recovery.

Breakdown and Analysis of Total Spend

Summary breakdown of the total good and services spend:

- Local (Rockhampton Region): $116,354,453
- CQ (CQ ROC area): $2,303,110
- Rest of QLD: $12,013,538
- Interstate & O'Seas: $14,742,519
- **Total Spend: $145,413,620**

Some of the larger projects and suppliers making-up the Rest of QLD and interstate spend includes:

- Bulk supply of water treatment chemicals;
- Rockhampton Airport security and passenger / baggage screening equipment;
- Rockynats; and
- Water infrastructure upgrades.

For the major projects awarded to principal contractors not based in the Rockhampton Region, the majority of local supplier and sub-contractor arrangements range from 30% to 50% of the contract sum. That is, 30% to 50% of the contract sum is awarded to local businesses.

PREVIOUS DECISIONS

Nil applicable.

BUDGET IMPLICATIONS

Nil applicable.

LEGISLATIVE CONTEXT

Nil applicable.

LEGAL IMPLICATIONS

Nil applicable.

STAFFING IMPLICATIONS

Nil applicable.

RISK ASSESSMENT

Nil applicable.

CORPORATE/OPERATIONAL PLAN

Nil applicable.

CONCLUSION

The goods and services spend analysis for the twelve months, November 2020 to October 2021, demonstrates Council's continued commitment to supporting the region's economy with $116.4M (80%) spent locally; including $18.4M (94%) on hire of construction plant and equipment, trade services and roadmaking material.

10.5 PROPOSED LOCAL PREFERENCE POLICY UPDATE

File No: 5883

Attachments: 1. Draft Revised Local Preference Policy⇩

Authorising Officer: Ross Cheesman - Deputy Chief Executive Officer

Author: Drew Stevenson - Manager Corporate and Technology Services

SUMMARY

Presenting the draft Local Preference Policy proposing a series of minor updates for Council's consideration and adoption.

OFFICER'S RECOMMENDATION

THAT Council adopts the revised draft Local Preference Policy as attached to this report.

COMMENTARY

Council's longstanding *Local Preference Policy* continues to benefit our region's economy by providing clear direction to buy local and support the local economy. The positive buy local results are influenced by the policy's:

- 12% local preference weighting (reducing to 5% for project greater than $1M); and
- The Tenderer Local Content weighting of 10% for projects greater than $150K in value.

The success of the policy is demonstrated by the annual spend analysis results summarised in the following table:

Analysis Period	Total Goods / Services	Total Local Spend	% Local	CQ Spend	Plant Hire, etc. Total	Plant Hire, etc. Local	Plant Hire, etc. CQ
*Nov 14 – Oct 15	$95.1M	$63.8M	67%	$5.4M	$23.7M	$21.8M (92%)	$1.9M
Nov 15 – Oct 16	$77.3M	$59.6M	77%	$2M	$24.6M	$23.7M (96%)	$900K
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Nov 19 – Oct 20	$141.4M	$113.3M	80%	$4.5M	$22.5M	$21.8M (97%)	$783K
Nov 20 – Oct 21	$145.4M	$116.4M	80%	$2.3M	$19.7M	$18.4M (94%)	$1.3M

* NB: Results influenced by T.C. Marcia cleanup/recovery.

BACKGROUND

Notwithstanding the success of this policy, the proposed changes have been drafted as a result of stakeholder feedback. The draft revised policy can be viewed at **Attachment 1**, with the changes highlighted in the document using track changes. The proposed changes are summarised as follows:

- Updated the *Standing Offer Arrangement* definition to standardise with other policies and added the *Utilities* definition.
- Paragraph 5.2, *Local Preference Evaluation and Weighting Criteria* table, deleted use of local resources because this is covered paragraph 5.5, *Tenderer Local Content*.
- Paragraph 5.2, the inclusion of circumstances where the application of the local preference weighting is discretionary. This is mainly applicable to the lease of property as a commercial revenue stream.
- Paragraph 5.5, *Tenderer Local Content,* excluding tenders for the supply of utilities from this weighting criteria.

PREVIOUS DECISIONS

The policy was last updated and presented for adoption at the 9 June 2020 Council Meeting.

BUDGET IMPLICATIONS

No budget implications.

LEGISLATIVE CONTEXT

No legislative context.

LEGAL IMPLICATIONS

No legal implications.

STAFFING IMPLICATIONS

No staffing implications.

RISK ASSESSMENT

Implementation and monitoring compliance with this policy is the responsibility of the Procurement & Logistics (Contracts & Tenders team).

The effectiveness of the policy is assessed annually as part of the annual goods and services spend analysis reported to Council November/December of each year.

CORPORATE/OPERATIONAL PLAN

Nil applicable.

CONCLUSION

The ongoing effectiveness of the Local Preference Policy is demonstrated with the results of the annual goods and services spend analysis. Noting there is always room for improvement, the proposed amendments are presented for Council's consideration.

PROPOSED LOCAL PREFERENCE POLICY UPDATE

Draft Revised Local Preference Policy

Meeting Date: 30 November 2021

Attachment No: 1

LOCAL PREFERENCE POLICY
ADMINISTRATIVE POLICY

Rockhampton Regional Council

1 Scope

This policy applies to the procurement of goods and/or services by Rockhampton Regional Council.

2 Purpose

The purpose of this policy is to provide a standard process that encourages local businesses to tender or quote in competition with businesses operating outside of the Region.

3 Related Documents

3.1 Primary

Nil

3.2 Secondary

Local Government Act 2009

Local Government Regulation 2012

Purchasing Policy – Acquisition of Goods and Services

4 Definitions

To assist in interpretation, the following definitions apply:

Business Branch	An approved office location, accessible to the public, where business is conducted.
CEO	Chief Executive Officer A person who holds an appointment under section 194 of the *Local Government Act 2009*. This includes a person acting in this position.
Council	Rockhampton Regional Council
Employee	Local government employee: (a) The CEO; or (b) A person holding an appointment under section 196 of the *Local Government Act 2009*.
ex GST	Excluding Goods and Services Tax
Local Preference	In the context of this policy, refers directly to Council's commitment to the development of competitive local business and industry.
Qtenders	The e-procurement tendering system utilised by Council.
Region	Rockhampton Regional Area defined by the Local Government Areas of Queensland.

Standing Offer Arrangement	An agreement subject to specified terms and conditions whereby the purchaser agrees to purchase their requirements of a ~~specified number or~~ range of ~~items~~ goods or services, during a specified time period from the supplier at agreed prices or on an agreed price basis. Normally no obligation to purchase a specified quantity exists although estimates for the guidance of the supplier may be given.
Tenderer	The person, company or other entity (suppliers) submitting an offer to perform the specified works or supply the specific goods.
Utilities	Essential goods or services such as electricity, telecommunications, water, postage and fuel.

5 Policy Statement

Council is committed to the sound contracting principles of:

(a) Value for money;

(b) Open and effective competition;

(c) The development of competitive local business and industry;

(d) Environmental protection; and

(e) Ethical behaviour and fair dealing.

5.1 Development of Competitive Local Business and Industry

In order to enhance the capabilities of local business and industry, employees issuing invitations to suppliers must:

(a) Advertise in the local newspaper for tenders and on the Qtenders Website for tenders and quotes;

(b) Actively seek out potential local suppliers and encourage such suppliers to submit an offer where they are qualified and able to meet the requirements of the scope of work or goods;

(c) Ensure local suppliers are given equal opportunities to respond and are treated without prejudice; and

(d) Encourage local suppliers to do business with Council.

5.2 Local Preference Evaluation and Weighting Criteria

Council's preference is, all things being equal, to purchase locally. The below ratings are applied when evaluating tenders and quotes:

Criteria	Rating	Supporting Business
Business head office set up and run locally within the Region.	12	With the commitment to local businesses and economy.
Business branch operating within the Region, with head office outside of the Region.	8	With commitment to local economy.
Business based outside of the Region employing local staff ~~and/or using local resources~~ from within the Region.	5	Minor impact on local economy.
Business set up and run outside of the Region but within the Central Queensland Region. The Central Queensland Region includes the local government areas of: (a) Banana Shire Council; (b) Central Highlands Regional Council;	3	Within Central Queensland.

Criteria	Rating	Supporting Business
(c) Gladstone Regional Council; (d) Livingstone Shire Council; and (e) Woorabinda Aboriginal Shire Council.		
Business operating outside of the Central Queensland Region.	0	

Following determination of the correct rating as defined above, a minimum weighting of **12%** for local preference is applied to the rating to calculate the final score.

Local preference is not mandatory for tenders for the lease of land or other premises. However where applicable, local preference may be included at the discretion of the tender evaluation panel.

5.3 Local Preference Weighting for Major Contracts Greater than $1M (ex GST)

In an effort to balance the sound contracting principles of value for money and developing competitive local business and industry, the minimum weighting for major contracts greater than $1M (ex GST) will be **5%**.

5.4 Locality Preference

When determining the engagement of tenderers, preference should be given to suitably qualified tenderers available within the locality of the works or operations.

5.5 Tenderer Local Content – Contracts Greater than $150,000 (ex GST)

Council is committed to developing the regional economy; as such it is important that tenderers can demonstrate their commitment to purchasing goods and services from suppliers/sub-contractors within the Region.

For contracts with a value of greater than $150,000 (ex GST), the tenderer must, as part of their tender submission, provide details of and/or nominate local suppliers and sub-contractors for the goods and services proposed for use in the project.

A weighting of **10%** applies for Tenderer Local Content, with the following scoring allocation:

Criteria	Rating	Supporting Business
Tenderer provides details and nominates local suppliers and/or sub-contractors for goods and services for use in the project to a minimum value of 50% of the contract sum (ex GST).	10	Demonstrated commitment to using local suppliers and sub-contractors.
Tenderer provides details and nominates local suppliers and/or sub-contractors for goods and services for use in the project to a minimum value of 30% of the contract sum (ex GST).	5	Partial commitment to using local suppliers and sub-contractors.
Tenderer does not commit to using local suppliers and/or sub-contractors.	0	

Paragraph 5.5 does not apply to tenders for the supply of utilities or the establishment of standing offer arrangements as the scope of work or quantities are unknown at the time.

6 Review Timelines

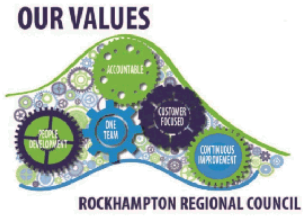
This policy is reviewed when any of the following occur:

(a) The related information is amended or replaced; or

(b) Other circumstances as determined from time to time by Council.

7 Document Management

Sponsor	Chief Executive Officer
Business Owner	Deputy Chief Executive Officer
Policy Owner	Manager Corporate and Technology Services
Policy Quality Control	Legal and Governance



LEGAL & GOVERNANCE USE ONLY			
Adopted/Approved:	~~Adopted, 21 November 2017~~DRAFT	Department:	Corporate Services
Version:	5	Section:	Corporates and Technology Services
Reviewed Date:	~~9 June 2020~~	Page No:	Page 4 of 4

10.6 SUMMARY BUDGET MANAGEMENT REPORT FOR THE PERIOD ENDED 31 OCTOBER 2021

File No: 8148

Attachments:
1. Income Statement - October 2021⇩
2. Key Indicators Graphs - October 2021⇩

Authorising Officer: Ross Cheesman - Deputy Chief Executive Officer

Author: Marnie Taylor - Chief Financial Officer

SUMMARY
The Chief Financial Officer presenting the Rockhampton Regional Council Summary Budget Management Report for the period ended 31 October 2021.

OFFICER'S RECOMMENDATION

THAT the Rockhampton Regional Council Summary Budget Management Report for the period ended 31 October 2021 be 'received'.

COMMENTARY

The attached financial report and graphs have been compiled from information within Council's TechnologyOne system. The reports presented are as follows:

1. Income Statement (Actuals and Budget for the period 1 July 2021 to 31 October 2021), Attachment 1.
2. Key Indicators Graphs, Attachment 2.

The attached financial statement provides Council's position after four months of the 2021/22 financial year. Results should be approximately 33.3% of budget.

The following commentary is provided in relation to the Income Statement:

Total Operating Revenue is at 43% of the adopted budget. Key components of this result are:

- Net Rates and Utility Charges are at 46% of budget. Council's rates and utility charges for the first six months of the financial year ending 31 December 2021 have been raised and were due on 1 September 2021.
- Private and recoverable works are at 25% of budget. This is mostly due to the timing of the works to be performed and invoiced.
- Grants and Subsidies are ahead of budget at 37%. Council has received the first quarterly payment for the Financial Assistance Grant for 2021/22 of $1.1m.
- All other revenue items are in proximity to budget.

Total Operating Expenditure is at 32% of the adopted budget. Key components of this result are:

- Contractors and consultants are at 25%. Professional consultancies and other contractors are below budget due to the timing of works planned during the year. It is expected that as the year progresses these works will be completed and paid.
- Materials and Plant expenses are at 44%. The budget for water carting to Mt Morgan is captured under the Contractors and Consultants account group, whereas the majority of actual expenses are allocated under Materials and Plant. The budget will be amended in the October monthly budget review to realign actuals to budget between the two account groups.

- Administrative expenses are at 27% as the estimated timing for the majority of this account group is later in the financial year for events managed by Community and Culture Units and Advance Rockhampton.
- All other expenditure items are in proximity to budget.

The following commentary is provided in relation to capital income and expenditure, as well as investments and loans:

Total Capital Income is at 31% of the carry over budget and in line with expectations at this stage of the financial year.

Total Capital Expenditure is at 14% of the carry over budget with some major projects yet to fully ramp up. The level of capital expenditure is expected to increase in coming months.

Total Investments are $104.3M as at 31 October 2021.

Total Loans are $141.0M as at 31 October 2021.

CONCLUSION

With a third of the financial year passed indications are that operational activities are mostly on track. Total operational revenue is ahead of budget at 43% due to the levying of the General Rates and Utility Charges for the six months ending 31 December 2021.

The capital program saw $22.7m spent during the first four months of the financial year and will need to accelerate over the coming months to deliver the projects budgeted for 2021/22

SUMMARY BUDGET MANAGEMENT REPORT FOR THE PERIOD ENDED 31 OCTOBER 2021

Income Statement - October 2021

Meeting Date: 30 November 2021

Attachment No: 1

Income Statement
For Period July 2021 to October 2021
33.3% of Year Gone

	Adopted Budget	YTD Actual	Commitments	YTD Actuals (inc commitments)	% of Adopted Budget	
	$	$	$	$		01
OPERATING						04
Revenues						
Net rates and utility charges	(160,931,373)	(74,591,543)	0	(74,591,543)	46%	A
Fees and Charges	(27,688,335)	(9,131,837)	0	(9,131,837)	33%	A
Private and recoverable works	(6,292,810)	(1,571,152)	0	(1,571,152)	25%	A
Rent/Lease Revenue	(3,331,723)	(1,046,526)	0	(1,046,526)	31%	A
Grants Subsidies & Contributions	(13,907,572)	(5,124,212)	0	(5,124,212)	37%	A
Interest revenue	(508,000)	(182,719)	0	(182,719)	36%	A
Other Income	(7,197,133)	(2,465,685)	0	(2,465,685)	34%	A
Total Revenues	***(219,856,946)***	***(94,113,675)***	***0***	***(94,113,675)***	***43%***	A
Expenses						
Employee Costs	89,494,925	28,270,931	182,194	28,453,125	32%	A
Contractors & Consultants	22,639,536	5,593,649	8,364,116	13,957,765	25%	A
Materials & Plant	13,684,577	5,989,188	2,460,178	8,449,367	44%	A
Asset Operational	28,072,816	8,182,934	1,761,084	9,944,018	29%	A
Administrative expenses	14,536,811	3,887,276	1,983,737	5,871,013	27%	A
Depreciation	56,812,137	18,937,785	0	18,937,785	33%	A
Finance costs	4,582,740	1,632,062	0	1,632,062	36%	A
Other Expenses	1,334,865	481,214	47,743	528,957	36%	A
Total Expenses	***231,158,406***	***72,975,039***	***14,799,053***	***87,774,092***	***32%***	A
Transfer / Overhead Allocation						
Transfer / Overhead Allocation	(9,170,179)	(2,657,440)	0	(2,657,440)	29%	A
Total Transfer / Overhead Allocation	***(9,170,179)***	***(2,657,440)***	***0***	***(2,657,440)***	***29%***	A
TOTAL OPERATING POSITION (SURPLUS)/DEFICIT	***2,131,281***	***(23,796,076)***	***14,799,053***	***(8,997,023)***	***-1117%***	A

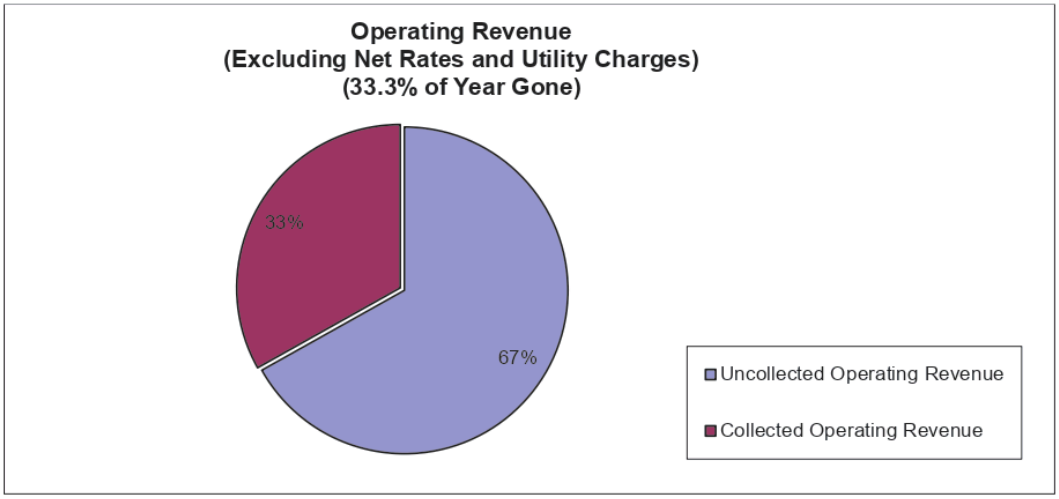
CAPITAL	Carry Over Budget	YTD Actual	Commitments	YTD Actuals (inc commitments)	% of Carry Over Budget
Total Developers Contributions Received	(5,345,400)	(1,912,056)	0	(1,912,056)	36%
Total Capital Grants and Subsidies Received	(55,825,260)	(19,240,931)	0	(19,240,931)	34%
Total Proceeds from Sale of Assets	(7,275,000)	(6,023)	0	(6,023)	0%
Total Capital Income	**(68,445,660)**	**(21,159,010)**	**0**	**(21,159,010)**	**31%**
Total Capital Expenditure	158,315,399	22,718,035	40,194,521	62,912,556	14%
Net Capital Position	**89,869,740**	**1,559,025**	**40,194,521**	**41,753,546**	***2%***
TOTAL INVESTMENTS		104,325,225			
TOTAL BORROWINGS		141,014,673			

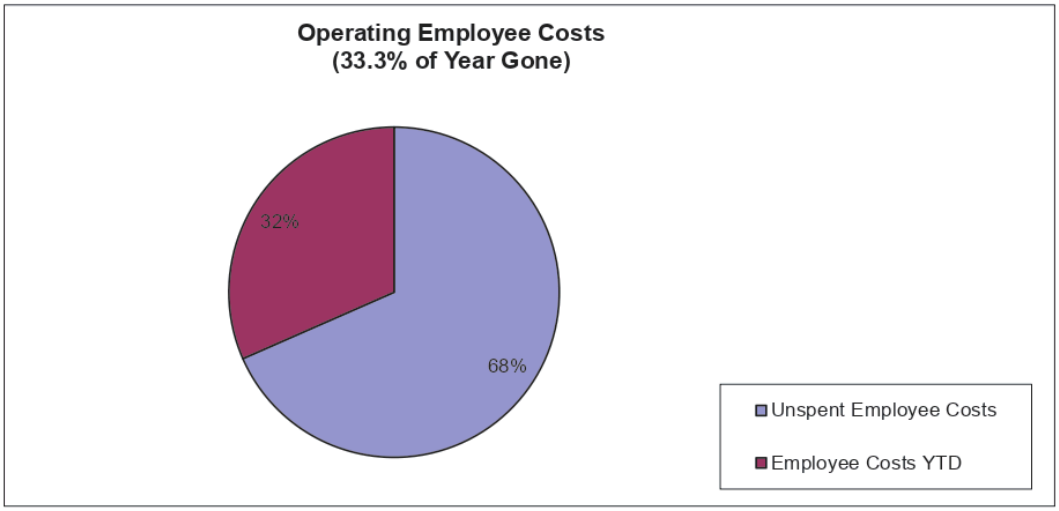
SUMMARY BUDGET MANAGEMENT REPORT FOR THE PERIOD ENDED 31 OCTOBER 2021

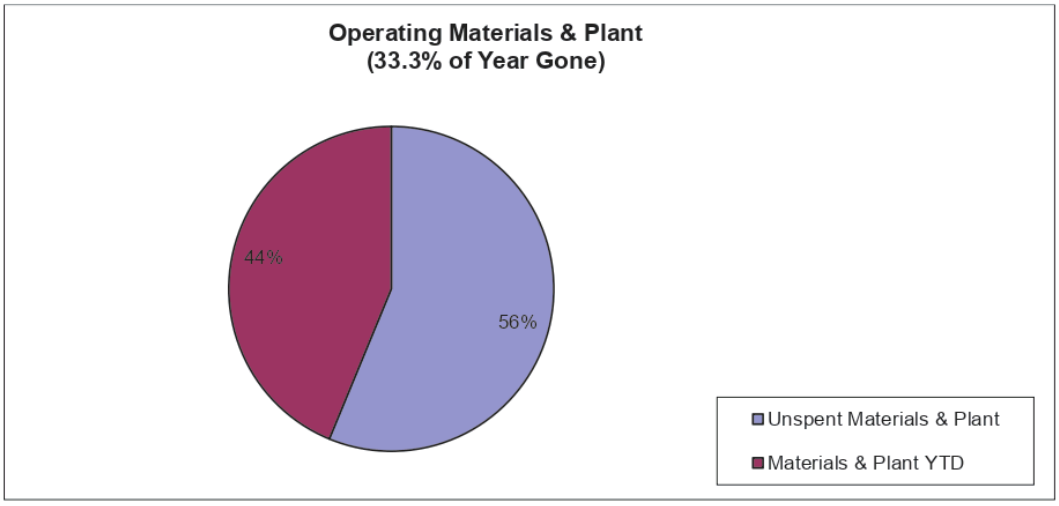
Key Indicators Graphs - October 2021

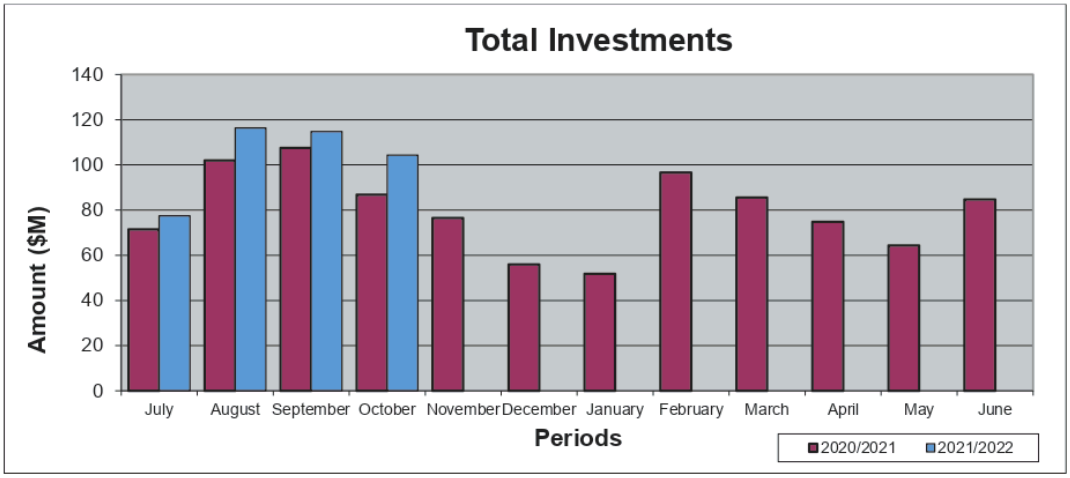
Meeting Date: 30 November 2021

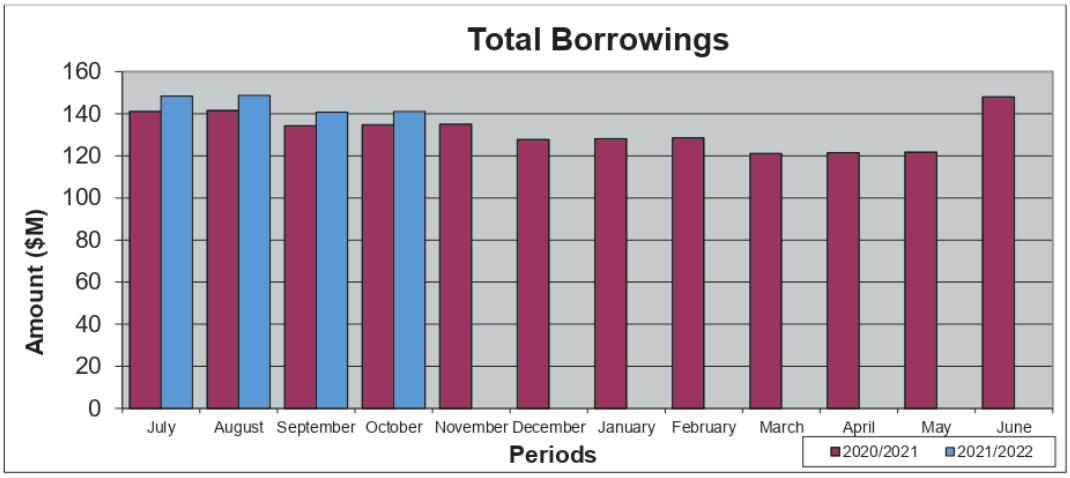
Attachment No: 2

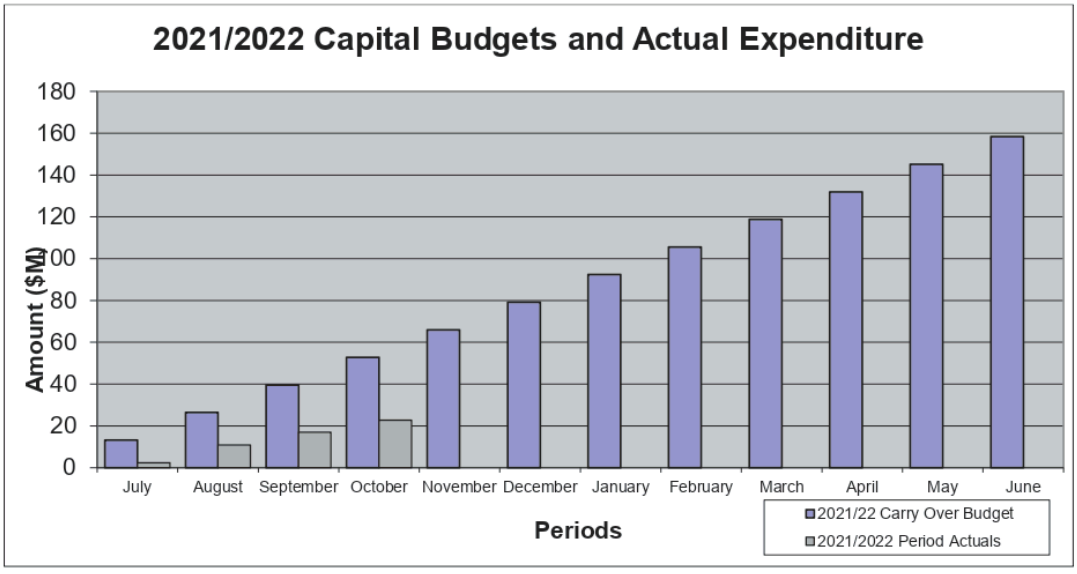

Operating Revenue
(Excluding Net Rates and Utility Charges)
(33.3% of Year Gone)
33%
67%
Uncollected Operating Revenue
Collected Operating Revenue


Operating Employee Costs
(33.3% of Year Gone)
32%
68%
Unspent Employee Costs
Employee Costs YTD


Operating Materials & Plant
(33.3% of Year Gone)
44%
56%
Unspent Materials & Plant
Materials & Plant YTD


Total Investments
Amount ($M)
140
120
100
80
60
40
20
0
July
August
September
October
November
December
January
February
March
April
May
June
Periods
2020/2021
2021/2022


Total Borrowings
Amount ($M)
160
140
120
100
80
60
40
20
0
July
August
September
October
November
December
January
February
March
April
May
June
Periods
2020/2021
2021/2022


2021/2022 Capital Budgets and Actual Expenditure
Amount ($M)
180
160
140
120
100
80
60
40
20
0
July
August
September
October
November
December
January
February
March
April
May
June
Periods
2021/22 Carry Over Budget
2021/2022 Period Actuals

10.7 OCTOBER MONTHLY BUDGET REVIEW

File No:	**8785**
Attachments:	**Nil**
Authorising Officer:	**Ross Cheesman - Deputy Chief Executive Officer**
Author:	**Marnie Taylor - Chief Financial Officer**

SUMMARY

Chief Financial Officer presenting updated budget estimates to 31 October 2021.

OFFICER'S RECOMMENDATION

THAT the report be received and the budget estimate changes be endorsed.

COMMENTARY

The Monthly Budget Review to 31 October 2021 provides updated budget estimates for the 2021/22 financial year.

The October Monthly Budget Review comprises a relatively small number of changes to the Operating Budget. The Capital Budget review is mainly comprised of budget reallocations between projects as well as a number of new projects.

BACKGROUND

Operational Budget Estimate Changes

The major operational budget movements are:

- Carry forward unearned grant revenue from the 2020/21 financial year. This change is across multiple Departments / Sections / Units and totals $646k.
- Reduction of Airport Fee Revenue due to change in electricity tariff -$262k.
- An increase in FRW's Plant Hire for water cartage to Mount Morgan - $730k.
- Increase in Development Assessment Fee Revenue - $420k.
- Increase in Federal Assistance Grant - $389k.

Total Operational Budget changes result in the net operating deficit reducing by $0.5m (from $2.1m to $1.6m).

Capital Budget Estimate Changes

The Capital Budget has been updated to reflect budget reallocations between projects and the timing of some projects across the current and next two financial years. There are also a number of new projects.

Capital Revenue budgets across the current and next two financial years has increased by $9.6m, whilst Capital Expenditure budgets have increased by $11.5m. Therefore, the net budget impact across the three financial years from the Carryover Budget is an increase of $1.9m.

A listing by Section of the Capital Budget changes is attached for information.

The major movements from the Carryover Budget are:

Corporate Services
Property Services revenue has recorded an increase of $1.0m for sale of land.

Regional Services
Civil Operations
Civil Operations' revenue budget has increased by $5.6m across the three financial years. This is largely due to receipt of funding from Department of Transport and Main Roads for Footpath Works of $5.0m.

Civil Operations' expenditure budget has increased by a commensurate amount to revenue; i.e. $5.6m, mainly due to spend on Footpath Works of $5.0m.

Infrastructure Planning
Infrastructure Planning's expenditure budget has increased by $200k to provide for minor land acquisitions and resumptions for road works.

Waste and Recycling Services
Waste and Recycling has reallocated expenditure budgets between projects in the 21/22 financial year with only a small net increase of $3k.

FRW
FRW's expenditure budget has decreased by $300k to transfer funding to Mt Morgan Water Security project.

Project Delivery
Project Delivery's revenue budget decreased by $62k. The budget increased by $3.5m for Insurance Rectifications for the April 2020 Hail Event. Budgets for Works for Queensland (Round 4) projects totalling $3.0m have been transferred to Resourcing Department for ease of monitoring and progress reporting. There was also reductions to the revenue budget for Fraser Park of $562k which are largely offset by reductions to Fraser Park expenditure budget.

Project Delivery's expenditure budget has increased by $5.6m. The budget for Airport Terminal Refurbishment has increased by $2.25m – relating to insurance proceeds received in 2020/21, however the expenditure budget for Airport Terminal was not updated for insurance rectification works at that time. Separate to the Airport Terminal, there is a further $3.5m for insurance rectifications to other Council properties. The budgets for the New Art Gallery and related projects have been consolidated into one budget line, with a small increase of $50k. Other expenditure budget movements total a decrease of $0.2m.

Communities
CAF
Community Assets and Facilities has reallocated expenditure budgets between projects in the 22/23 financial year with no overall increase.

Parks
Parks' expenditure budget has increased by $413k across the three financial years. This is mainly due to the reinstatement of budgets for Shade Reconstruction Program totalling $500k over three years.

PREVIOUS DECISIONS

The budget for 2021/22 was adopted on 24^{h} June 2021.

BUDGET IMPLICATIONS

This report provides estimated budget changes for the current financial year. The impact of these changes on future financial years has not been modelled at this stage.

LEGISLATIVE CONTEXT

This report is not a budget amendment in accordance with the *Local Government Regulation 2012*, section 170 *Adoption and amendment of budget*.

LEGAL IMPLICATIONS

There are no legal implications in approving this report.

STAFFING IMPLICATIONS

There are no staffing implications in approving this report.

RISK ASSESSMENT

The control of monthly oversight and reporting of expenditure against budget significantly reduces the risk of unplanned expenditure impacting on Council's financial position.

CORPORATE/OPERATIONAL PLAN

The Operational Plan outlines activities and actions Council will undertake for the financial year in accordance with the adopted budget. This report provides estimated budget changes for the current and two future financial years for Council's endorsement.

CONCLUSION

Total Operational Budget adjustments result in the net operating deficit reducing by $0.5m (from $2.1m to $1.6m).

The Capital Budget has been updated to reflect budget reallocations between projects and the timing of projects across the current and next two financial years. There are also a number of new projects. The net budget impact across the three financial years from the Adopted Budget Revision is an increase of $1.9m.

11 NOTICES OF MOTION

Nil

12 QUESTIONS ON NOTICE

Nil

13 URGENT BUSINESS/QUESTIONS

Urgent Business is a provision in the Agenda for members to raise questions or matters of a genuinely urgent or emergent nature, that are not a change to Council Policy and can not be delayed until the next scheduled Council or Committee Meeting.

14 CLOSURE OF MEETING