INFRASTRUCTURE COMMITTEE MEETING

AGENDA

16 SEPTEMBER 2025

Your attendance is required at an Infrastructure Committee meeting of Council to be held in the Council Chambers, 232 Bolsover Street, Rockhampton on 16 September 2025 commencing at 9:00 AM for transaction of the enclosed business.

CHIEF EXECUTIVE OFFICER
10 September 2025

Next Meeting Date: 21.10.25

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)
Deputy Mayor, Councillor M D Wickerson
Councillor S Latcham
Councillor E W Oram
Councillor C R Rutherford
Councillor M A Taylor
Councillor G D Mathers
Councillor E B Hilse

In Attendance:

Mr P Kofod – General Manager Regional Services (Executive Officer)
Mr E Pardon – Chief Executive Officer

3 APOLOGIES AND LEAVE OF ABSENCE

Councillor Elliot Hilse - Leave of Absence from 10 September 2025 to 26 September 2025

4 CONFIRMATION OF MINUTES

Minutes of the Infrastructure Committee held 19 August 2025

5 DECLARATIONS OF INTEREST IN MATTERS ON THE AGENDA

6 BUSINESS OUTSTANDING

Nil

7 PUBLIC FORUMS/DEPUTATIONS

Nil

8 PRESENTATION OF PETITIONS

Nil

9 COMMITTEE REPORTS

Nil

10 COUNCILLOR/DELEGATE REPORTS

10.1 PORTFOLIO UPDATE

File No:	**10097**
Attachments:	**Nil**
Authorising Officer:	**Peter Kofod - General Manager Regional Services**
Author:	**Peter Kofod - General Manager Regional Services**

SUMMARY

Portfolio Councillors for Waste and Recycling, Infrastructure and Water will provide an update on matters of interest within their portfolio.

OFFICER'S RECOMMENDATION

THAT the Portfolio Updates for Waste and Recycling, Infrastructure and Water be received.

BACKGROUND

Councillors have requested an opportunity to speak about their relevant Portfolio during Committee Meetings.

The following Councillors will provide an update on their Portfolio at Infrastructure Committee:

Councillor Shane Latcham – Waste and Recycling Portfolio

Councillor Edward Oram – Water Portfolio

Councillor Marika Taylor – Infrastructure Portfolio

11 OFFICERS' REPORTS

11.1 PROJECT DELIVERY CAPITAL REPORT - INFRASTRUCTURE - AUGUST 2025

File No: 16255

Attachments: 1. Infrastructure Status Reports - August 2025⇩

Authorising Officer: Peter Kofod - General Manager Regional Services

Author: Andrew Collins - Manager Project Delivery

SUMMARY

Monthly Status Report on Infrastructure Capital projects currently managed by the Project Delivery Unit.

OFFICER'S RECOMMENDATION

THAT the Project Delivery Capital Report – Infrastructure – August 2025 be received.

COMMENTARY

The Project Delivery section submits the monthly project report outlining the status of capital projects managed by the Unit on behalf of the Regional Services Department.

The following projects are reported on for the month of August 2025, detailed individual reports are attached:

Project
Mount Morgan Water Pipeline Project
NRSTP Upgrade
GWTP Solar Farm
GWTP Roof Replacement
Airport Solar

PROJECT DELIVERY CAPITAL REPORT INFRASTRUCTURE AUGUST 2025

Infrastructure Status Reports August 2025

Meeting Date: 16 September 2025

Attachment No: 1

PD-PRO-2025 GWTP Roof replacement

Monthly Status Report **Aug-2025**

Project Management

Council Custodian:	Fitzroy River Water	Project Manager:	Darren Toohey	Project Phase:	Design & Construction

Project Scope

Activity	Scope	Traffic Light	Scope Change
Design & Construction	**Stage 1: Assessment, Design and construction of the Following Items:** 1- Condition assessment for Administration roof and Filter Gallery roof. 2- Admin and Chemical Store Roof replacement in addition to removal, replacement and relocation of air conditioning units as required.	G	No scope change
Construction	Stage 2: Filter Gallery Roof replacement	G	No scope change

Project Funding and Finance

Funding Source	Funding Amount	Project Life (10 Years) as at 05/09/2025			Traffic Light	Monthly Update
		Actuals	Committals	Remaining Budget		
Council Allocation:	$2,000,000	$788,729	$571,415	$639,856	G	No financial change
External Funding:	$0					
Total Project Budget:	$2,000,000					

2025/26FY				Traffic Light	Monthly Update
Budget	Actuals	Committals	Remaining Budget		
$1,729,417	$518,146	$571,415	$639,856	G	No financial change

Project Schedule

Scope	Baseline		Forecast/Actuals				Traffic Light	Schedule Update
	Start	Finish	Start	Finish	Plan%	% Complete		
Procurement of Filter Gallery Roof Contractor	17-Feb-25	30-Apr-25	17-Feb-25	30-Apr-25	100%	100%	G	No schedule change
Construction of Filter Gallery Roof	14-May-25	29-Aug-25	14-Jun-25	15-Sep-25	82%	95%	G	Previously reported change
Procurement of Pump High lift Contractor	14-Apr-25	30-May-25	10-Jul-25	14-Aug-25	100%	100%	G	Previously reported change
Construction of Pump High Lift Roof	30-Jul-25	30-Sep-25	02-Sep-25	16-Oct-25	0%	0%	G	Previously reported change

Project Milestones	**Date**
Completion of **Filter Gallery Roof** contractor procurement	24-Apr-25
Filter Gallery Roof Construction completion	30-Aug-25
Completion of **Pump High lift roof** contractor procurement	14-Aug-25
Pump High lift roof Construction completion	16-Oct-25

Commentary

Filter Gallery Roof Contractor on track for completion 15 September 2025. Measures continuing to be implemented to safeguard critical infrastructure, ensuring the Filter Gallery remains fully operational and protected from water contamination during construction.

Additional works will be undertaken on the High Lift Pump Station roof .

Risk Categories	Risks (Cause, Risk, Impact)	Risk Responses
Safety	Working at Heights, Fall prevention	Edge protection supplied, Safety management Plan - SWMS
Environmental	Impact to construction delayed due to wet weather	Construction Scheduled dry season
Safety	Council Staff working below roof	Move staff to areas out of risk of falling objects

Key Tasks & Deliverables This Month

-

Three Month Horizon

Sep-2025	Oct-2025	Nov-2025
Roof replacement (Filter Gallery)	Roof Replacement (High Lift)	Completion

PD-PRO-2021 GWTP Solar Farm

Monthly Status Report **Aug-2025**

Project Management

Council Custodian:	Fitzroy River Water	Project Manager:	Nathan Everton	Project Phase:	Construction

Project Scope

Activity	Scope	Traffic Light	Scope Change
The project has been split into a Civil Works Package to prepare the site and the solar installation scope.			
Design & Construction	Finalise the Design and construct a small-scale solar power generation facility (solar facilities) at the Glenmore Water Treatment Plant.	G	No scope change

Project Funding and Finance

Funding Source	Funding Amount	Project Life (10 Years) as at 05/09/2025			Traffic Light	Monthly Update
		Actuals	Committals	Remaining Budget		
Council Allocation:	$6,313,458	$5,765,926	$321,108	$226,423	G	No financial change
External Funding:	$0					
Total Project Budget:	$6,313,458					

2025/26FY				Traffic Light	Monthly Update
Budget	Actuals	Committals	Remaining Budget		
$622,005	$74,474	$321,108	$226,423	G	No financial change

Project Schedule

Scope	Baseline		Forecast/Actuals				Traffic Light	Schedule Update
	Start	Finish	Start	Finish	Plan%	% Complete		
Finalise Design and Construction of Solar Generation Plant	01-Sep-22	01-Dec-23	01-Sep-22	30-Oct-25	95%	95%	R	Major schedule change

Project Milestones	Date
Onsite work has commenced.	01-Apr-23
Project Completion.	30-Oct-25

Commentary

The final commissioning plan and associated drawings have been received from the Contractor. However, several documentation issues remain outstanding and must be addressed before the cut-in schedule can be formally confirmed. At this stage, the cut-in works are tentatively planned for late September, pending resolution of the outstanding documentation and final approval. Contractor given contractual instruction.

Risk	Risks (Cause, Risk, Impact)	Risk Responses
Technical	Solar tracking Batteries may not operate for commissioning due to time of inactivity and charging from system.	May be required to replace all solar tracking system drive batteries.

Key Tasks & Deliverables This Month

Design and Construction of Safety Interlock Controls. Decision to install and finalise works for turn on.

Three Month Horizon

Sep-2025	Oct-2025	Nov-2025
Install of final interlocking components	Commissioning of all systems	Project Complete.

PD-PRO-2021-008 Mount Morgan Water Pipeline Project

Monthly Status Report **Aug-2025**

Project Management

Council Custodian:	Fitzroy River Water	Project Manager:	Edward Brooks	Project Phase:	Design & Construction

Project Scope

Activity	Scope	Traffic Light	Scope Change
Design & Construction	The main scope of works for the project includes the construction of a potable water pipeline from Gracemere to Mt Morgan (about 28 km). The project also includes the construction of two reservoirs and pump station at Lucas Street Gracemere, Pump station at Old Cap Hwy and New pump station and reservoir at Moonmera and re-dosing equipment at termination.	G	No scope change

Project Funding and Finance

Funding Source	Funding Amount	Project Life (10 Years) as at 05/09/2025			Traffic Light	Monthly Update
		Actuals	Committals	Remaining Budget		
Council Allocation:	$17,802,601	$68,830,611	$17,378,408	$1,943,583	G	No financial change
State Govt Funding:	$40,350,000					
Federal Govt Funding	$30,000,000					
Total Project Budget:	$88,152,601	*$454,967 for the Mount Morgan Water Treatment Plant project has been included in the total Project Life budget.				

2025/26FY				Traffic Light	Monthly Update
Budget	Actuals	Committals	Remaining Budget		
$12,380,162	$1,578,525	$17,378,408	-$6,576,771	G	No financial change

Project Schedule

Scope	Baseline		Forecast/Actuals				Traffic Light	Schedule Update
	Start	Finish	Start	Finish	Plan%	% Complete		
Construction	01-Oct-23	19-Dec-25	01-Oct-23	19-Dec-25	86%	89%	G	No schedule change

Project Milestones	**Date**
Commencement of Work on Site	12-Dec-23
Construction completion	19-Dec-25

Commentary

The laying of pipe is now complete. Pipeline cleaning and disinfection plans being finalised by Contractor.

Lucas St final works on reservoirs 2 and 3 being completed. Pipework installed to stage of hydrostatic testing, finalising test plan with contractor. Electrical and mechanical fit out continuing.

Moonmera Pump Station underground pipework final tie in only remains. Above ground pipework almost complete getting ready for hydrostatic testing. Pump Station building electrical fit out continuing. Break Tank hydrostatic test ready for completion.

Old Cap Highway Pump Station pipework installed, ready for hydrostatic testing. Electrical and Controls fit out still continuing

Risk Categories	**Risks (Cause, Risk, Impact)**	**Risk Responses**
Procurement	Mt Morgan South Reservoir bypass proposal works.	Finalising plan for South Reservoir bypass using standard off the shelf materials.
Construction	Construction expected to be completed by completion date, however Commissioning may continue beyond December.	Independent Commissioning Team on Council side engaged to assist Contractor in development of accurate and comprehensive commissioning documentation.

Key Tasks & Deliverables This Month

Pipeline works all installed, final cleaning, disinfection and commissioning to follow. Lucas Street Pump Station electrical and mechanical fit out continue onsite. Moonmera Pump Station above ground pipework almost complete and electrical fit out continuing. Old Cap Pump Station electrical and controls fit out continuing.

Three Month Horizon

Sep-2025	**Oct-2025**	**Nov-2025**

PD-PRO-2021-008 Mount Morgan Water Pipeline Project

Monthly Status Report **Aug-2025**

Project Management

Council Custodian:	Fitzroy River Water	Project Manager:	Edward Brooks	Project Phase:	Design & Construction

Pipeline cleaning and disinfection, awaiting commissioning of pump stations. Lucas Street electrical and mechanical fit out continues with hydrostatic testing planned. Moonmera above ground pipework completed and electrical fit out continue. Old Cap electrical and controls fit out nearing completion, final connection with Ergon Transformer.	Lucas Street Pump Station electrical and mechanical fit out nearing completion, move into testing and control systems. Moonmera Pump Station works continue. Old Cap Pump Station testing and commissioning.	Lucas Street Pump Station testing and commissioning starting. Moonmera Pump Station finishing works getting ready for testing and commissioning. Old Cap Pump Station testing and commissioning continues.

PD-PRO-2020 North Rockhampton Sewage Treatment Plant Upgrade

Monthly Status Report **Aug-2025**

Project Management

Council Custodian:	Fitzroy River Water	Project Manager:	Andrew Collins	Project Phase:	Construction

Project Scope

Activity	Scope	Traffic Light	Scope Change
Construction	The scope of works includes a range of electrical, mechanical, civil, building, and structural works to upgrade and augment the North Rockhampton Sewage Treatment Plant to support a 75,000 Equivalent Persons (EP) capacity. This project basically creates a new process train (Part 2A) and upgrades the two existing process trains on site (Part 2B). Scope now includes the construction of a new UV Disinfection Plant. This additional scope has received part funding under the RAF scheme.	G	Previously reported change

Project Funding and Finance

Funding Source	Funding Amount	Project Life (10 Years) as at 05/09/2025			Traffic Light	Monthly Update
		Actuals	Committals	Remaining Budget		
Council Allocation:	$76,540,000	$60,508,615	$8,867,022	$15,624,363	G	Previously reported change
State Govt Funding (W4Q/BOR/RAF):	$8,460,000					
Total Project Budget:	$85,000,000					

2025/26FY				Traffic Light	Monthly Update
Budget	Actuals	Committals	Remaining Budget		
$15,325,787	$834,402	$8,867,022	$5,624,363	G	No financial change

Project Schedule

Scope	Baseline		Forecast/Actuals				Traffic Light	Schedule Update
	Start	Finish	Start	Finish	Plan%	% Complete		
Part A&B - Construction of New Process and Upgrade of 2 Existing Process	11-Mar-22	19-Dec-25	11-Mar-22	19-Dec-25	92%	89%	G	No schedule change
Part C - Future Proofing Element Design, Documentation and Procurement	01-Jul-24	30-Jun-25	01-Jul-24	30-Jun-25	100%	100%	G	No schedule change
Part C - Future Proofing Element - UV Disinfection	30-Jun-25	01-Jun-27	30-Jun-25	01-Jun-27	1%	1%	G	No schedule change

Project Milestones	Date
Completion of all Works Associated with the NRSTP Upgrade Part A	01-Jun-24
Completion of Process Proving New Plant	18-Oct-24
Commence Work Part B (Existing Plant)	02-Jun-24
Completion of Upgrade Ditch No. 2 (Existing Plant)	01-Sep-25
Completion of Upgrade Ditch No. 1 (Existing Plant)	19-Dec-25
Completion of UV Disinfection Plant	01-Jun-27

Commentary

The contractor has completed the epoxy remedial works in ditch 2, installed the support frames and diffuser sets for the aeration system, installed ditch mixers and begun filling the ditch in preparation for the testing and commission processes. Remedial works to replace a failed application of the epoxy paint system in Clarifier 2 continues. Meanwhile, construction works on the Chemical Dosing Building and Dewatering Building are nearing completion. Commissioning activities for both facilities are scheduled to commence within the next two months, pending final inspections and system integration. Design consultants are currently reviewing commissioning plans.

A Variation Price Request has been issued for the construction of the new UV Disinfection Plant. The contractor has returned the priced offer, this is currently being assessed. The majority of funding for this component is via the Residential Activation Fund (RAF), for which we have received $9.75M.

Risk Categories	Risks (Cause, Risk, Impact)	Risk Responses
Technical	Due to Condition Assessment Report (PS) Ditch No.2 and unknown condition, it may affect time and cost.	Consider contingency of time and cost for project completion. The completed condition assessment has not indicated any major concerns.

Key Tasks & Deliverables This Month

Work to continue to advance on Stage 2B. Commissioning of Chemical Dosing and Centrifuge.

Three Month Horizon

Sep-2025	Oct-2025	Nov-2025
Part B works underway.	Commissioning of Centrifuge/Chemical Dosing and Ditch 2	Part B works underway.

PD-PRO-2024 Airport Solar Assessment and Installation

Monthly Status Report **Aug-2025**

Project Management

Council Custodian:	Airport	Project Manager:	Nathan Everton	Project Phase:	Design & Construction

Project Scope

Activity	Scope	Traffic Light	Scope Change
Design & Construction	Installation of 976kW solar generation system on the Airport terminal building roof and enabling infrastructure for other Airport tenancy solar including Ergon approvals.	G	No scope change

Project Funding and Finance

Funding Source	Funding Amount	Project Life (10 Years) as at 05/09/2025			Traffic Light	Monthly Update
		Actuals	Committals	Remaining Budget		
Council Allocation:	$1,391,322	$1,154,097	$764,005	$393,219	G	No financial change
External Funding:	$920,000					
Total Project Budget:	$2,311,322					

2025/26FY				Traffic Light	Monthly Update
Budget	Actuals	Committals	Remaining Budget		
$1,680,512	$523,288	$764,005	$393,219	G	No financial change

Project Schedule

Scope	Baseline		Forecast/Actuals				Traffic Light	Schedule Update
	Start	Finish	Start	Finish	Plan%	% Complete		
Airport Solar Planning and Assessment	13-Apr-23	13-Dec-24	13-Apr-23	13-Dec-24	100%	100%	G	No schedule change
Airport Solar Contractor Procurement	13-Dec-24	26-Feb-25	15-Dec-24	22-Apr-25	100%	100%	G	No schedule change
Airport Solar Construction	26-Feb-25	24-Oct-25	22-Apr-25	27-Feb-26	41%	62%	G	Previously reported change

Commentary

100% of civil conduiting works has been completed. All solar panel racking (framing) has been installed on the roof and the Quality Assurance Report has been finalised. Roof top solar and panel to inverter pre wiring is completed. The design phase is 100% complete, and procurement of inverters and solar panels is complete.

Solar panel installation has commenced.

Risk Categories	Risks (Cause, Risk, Impact)	Risk Responses
Planning	Delay of design portion of the Construction Contract due to Ergon Energy. Still waiting executed contract from Ergon Energy.	Verbal approval of the connection agreement has been received. However, following up with Ergon to receive the formal executed contract documents.

Key Tasks & Deliverables This Month

Continued installation of Solar Panels.

Three Month Horizon

Sep-2025	Oct-2025	Nov-2025
Installation of Solar Panels to roof. Installation of Plant room Cable trays. Early Switchboard works.	Installation of solar system on roof. Installation of control and protection boards. Installation of inverters.	Installation of control and protection boards. BMS Integration, begin Commissioning.

11.2 SIGNIFICANT AND MAJOR CAPITAL PROJECT FINANCE REPORT FOR THE OFFICE OF THE CEO, ORGANISATIONAL SERVICES AND REGIONAL SERVICES - 2024/2025

File No: 8148

Attachments:
1. Significant Capital Project Finance Report for the Office of the CEO, Organisational Services and Regional Services - 2024/2025⇩
2. Major Capital Project Finance Report for the Office of the CEO, Organisational Services and Regional Services - 2024/2025⇩

Authorising Officer: Evan Pardon - Chief Executive Officer

Author: Marnie Taylor - General Manager Organisational Services

SUMMARY

The Significant and Major Capital Projects Finance Report for the Office of the CEO, Organisational Services and Regional Services Departments for the 2024/2025 financial year.

OFFICER'S RECOMMENDATION

THAT the Significant and Major Capital Project Finance Report for the Office of the CEO, Organisational Services and Regional Services be received.

COMMENTARY

Attached is the report to the Infrastructure Committee for Significant and Major Capital Projects within the Office of the CEO, Advance Rockhampton, Organisational Services and Regional Services providing details on actual expenditure against budget for 2024/2025.

SIGNIFICANT AND MAJOR CAPITAL PROJECT FINANCE REPORT FOR THE OFFICE OF THE CEO, ORGANISATIONAL SERVICES AND REGIONAL SERVICES - 2024/2025

Significant Capital Project Finance Report for the Office of the CEO, Organisational Services and Regional Services - 2024/2025

Meeting Date: 16 September 2025

Attachment No: 1

Capital Budget Performance Report - Significant Projects

Revenue	0	(2,018,662)	2,018,662	(2,831,224)	(14,621,025)	(14,621,025)	(14,621,025)	0
Expense	13,106,224	12,638,735	467,489	12,587,870	12,801,834	43,571,834	25,151,834	18,420,000
Net Budget	**13,106,224**	**10,620,073**	**2,486,151**	**9,756,647**	**(1,819,191)**	**28,950,809**	**10,530,809**	**18,420,000**

Project Section	Budget Description	Type	2024-25 Monthly Budget Review	2024-25 Actuals	Unspent/ (Overspent) 2024-25	2025-26 Adopted Budget	2025-26 Carryover Budget	Total Budget	Budget - Year 1 to 3	Budget - Year 4 Onwards
CIVIL OPERATIONS	Alexandra Street - Birkbeck Drive to William Palfrey Road	Expense	330,000	98,442	231,558	1,000,000	1,231,558	13,151,558	3,231,558	9,920,000
CIVIL OPERATIONS	Alexandra Street - Birkbeck Drive to William Palfrey Road	Revenue	0	0	0	0	(13,808,464)	(13,808,464)	(13,808,464)	0
CIVIL OPERATIONS	Alexandra st / Birkbeck dr intersection	Expense	1,900,000	2,536,210	(636,210)	5,000,000	4,000,000	5,000,000	5,000,000	0
CIVIL OPERATIONS	HVSPP Parkhurst Industrial road upgrade	Revenue	0	(2,018,662)	2,018,662	(2,831,224)	(812,561)	(812,561)	(812,561)	0
CIVIL OPERATIONS	HSVPP 7 Parkhurst Industrial road upgrade	Expense	1,260,000	1,269,096	(9,096)	0	0	0	0	0
CIVIL OPERATIONS	UCC-[U] HVSPP Parkhurst Industrial Rd - Stg 2 Wad	Expense	3,500,000	3,673,497	(173,497)	0	0	0	0	0
CIVIL OPERATIONS Total			**6,990,000**	**5,558,583**	**1,431,417**	**3,168,776**	**(9,389,467)**	**3,530,533**	**(6,389,467)**	**9,920,000**
FITZROY RIVER WATER	[R] Barrage Refurbishment program	Expense	1,174,130	370,030	804,100	1,025,870	1,835,387	14,335,387	5,835,387	8,500,000
FITZROY RIVER WATER	[R] R Bulk Water Meter Replacement Program	Expense	200,000	122,256	77,744	0	0	0	0	0
FITZROY RIVER WATER	[N] GSTP-SRSTP Sewer Diversion Pipeline	Expense	4,654,094	4,466,875	187,219	5,300,000	5,487,220	5,487,220	5,487,220	0
FITZROY RIVER WATER	[N] GSTP to SRSTP Transfer Pumpstation	Expense	88,000	102,330	(14,330)	262,000	247,669	5,597,669	5,597,669	0
FITZROY RIVER WATER Total			**6,116,224**	**5,061,490**	**1,054,734**	**6,587,870**	**7,570,276**	**25,420,276**	**16,920,276**	**8,500,000**
Grand Total			**13,106,224**	**10,620,073**	**2,486,151**	**9,756,647**	**(1,819,191)**	**28,950,809**	**10,530,809**	**18,420,000**

SIGNIFICANT AND MAJOR CAPITAL PROJECT FINANCE REPORT FOR THE OFFICE OF THE CEO, ORGANISATIONAL SERVICES AND REGIONAL SERVICES - 2024/2025

Major Capital Project Finance Report for the Office of the CEO, Organisational Services and Regional Services - 2024/2025

Meeting Date: 16 September 2025

Attachment No: 2

Capital Budget Performance Report - Major Projects

Revenue	(37,089,227)	(39,786,517)	2,697,290	(5,660,999)	(25,020,345)	(226,160,345)	(40,160,345)	(186,000,000)
Expense	46,870,034	52,731,293	(5,861,259)	47,526,902	41,821,158	421,646,291	109,617,082	312,029,209
Net Budget	**9,780,807**	**12,944,777**	**(3,163,970)**	**41,865,904**	**16,800,813**	**195,485,946**	**69,456,737**	**126,029,209**

Project Section	Budget Description	Type	2024-25 Monthly Budget Review	2024-25 Actuals	Unspent/ (Overspent) 2024-25	2025-26 Adopted Budget	2025-26 Carryover Budget	Total Budget	Budget - Year 1 to 3	Budget - Year 4 Onwards
AIRPORT	[R] Airport Pavement Renewal Project	Expense	0	0	0	0	0	11,500,000	0	11,500,000
AIRPORT	[R] Replace Paid Car Parking Equipment	Expense	0	0	0	0	0	1,000,000	0	1,000,000
AIRPORT	[N] Airport Solar Assessment	Expense	544,307	363,795	180,512	1,500,000	1,680,512	1,680,512	1,680,512	0
AIRPORT	[N] Airport Solar Assessment	Revenue	(332,985)	(121,869)	(211,116)	0	(211,116)	(531,116)	(531,116)	0
AIRPORT Total			**211,322**	**241,925**	**(30,603)**	**1,500,000**	**1,469,396**	**13,649,396**	**1,149,396**	**12,500,000**
CIVIL OPERATIONS	Glenroy Road Upgrade - Fitzroy River Crossing	Expense	0	57,552	(57,552)	0	0	20,000,000	1,475,000	18,525,000
CIVIL OPERATIONS	Blackspot 25/26 Razorback Road Poison Creek Road to Ley	Revenue	0	0	0	(1,981,000)	(1,981,000)	(1,981,000)	(1,981,000)	0
CIVIL OPERATIONS	Blackspot 25/26 Razorback Road Poison Creek Road to Ley	Expense	0	0	0	2,200,000	2,500,000	2,500,000	2,500,000	0
CIVIL OPERATIONS	Glenroy Road - Fitzroy River Crossing ROSI Funding	Revenue	0	0	0	(1,180,000)	(1,180,000)	(16,000,000)	(16,000,000)	0
CIVIL OPERATIONS Total			**0**	**57,552**	**(57,552)**	**(961,000)**	**(661,000)**	**4,519,000**	**(14,006,000)**	**18,525,000**
FITZROY RIVER WATER	[R] NRSTP Augmentation BOR	Expense	13,000,000	14,901,117	(1,901,117)	17,226,904	15,325,787	25,325,787	25,325,787	0
FITZROY RIVER WATER	[R] NRSTP Augmentation BOR	Revenue	(1,400,000)	(556,268)	(843,732)	0	(8,643,732)	(8,643,732)	(8,643,732)	0
FITZROY RIVER WATER	[R] GWTP Major Upgrade Works	Expense	300,000	377,132	(77,132)	0	0	0	0	0
FITZROY RIVER WATER	[N] GWTP Solar Farm	Expense	767,647	145,642	622,005	0	622,005	622,005	622,005	0
FITZROY RIVER WATER	[R] R W Reservoir Athelstane D roof replacement	Expense	63,264	61,860	1,404	0	0	0	0	0
FITZROY RIVER WATER	[N] Mt Morgan Water Security	Expense	30,000,000	35,619,838	(5,619,838)	18,000,000	12,380,162	20,900,515	20,900,515	0
FITZROY RIVER WATER	[N] Mt Morgan Water Security	Revenue	(35,356,242)	(35,607,181)	250,939	(2,500,000)	(2,249,061)	(2,249,061)	(2,249,061)	0
FITZROY RIVER WATER	[R] Gracemere & South Rockhampton STP	Expense	300,000	909,600	(609,600)	6,600,000	5,690,400	43,490,971	43,490,971	0
FITZROY RIVER WATER	[R] Gracemere & South Rockhampton STP	Revenue	0	0	0	0	(1,355,000)	(1,355,000)	(1,355,000)	0
FITZROY RIVER WATER	[R] South Rockhampton New STP	Expense	20,000	12,304	7,696	0	7,696	105,011,905	7,696	105,004,209
FITZROY RIVER WATER	Roof - Water Treatment Plant	Expense	1,058,070	28,653	1,029,417	700,000	1,729,417	1,729,417	1,729,417	0
FITZROY RIVER WATER Total			**8,752,739**	**15,892,697**	**(7,139,958)**	**40,026,904**	**23,507,674**	**184,832,807**	**79,828,598**	**105,004,209**
PROJECT DELIVERY	[N] South Rockhampton Flood Levee Construction	Expense	0	4,524	(4,524)	0	0	0	0	0
PROJECT DELIVERY	[N] New Art Gallery Construction-State Grant	Expense	323,746	43,497	280,249	0	280,249	280,249	280,249	0
PROJECT DELIVERY	[N] SRFL - Preliminaries	Expense	7,000	34,177	(27,177)	0	0	0	0	0
PROJECT DELIVERY	[R] Pilbeam Theatre Redevelopment Master Plan	Expense	0	(9,468)	9,468	0	0	0	0	0
PROJECT DELIVERY	Pilbeam Theatre Redevelopment	Expense	200,000	71,690	128,310	1,300,000	1,428,310	187,428,310	11,428,310	176,000,000
PROJECT DELIVERY	Pilbeam Theatre Redevelopment	Revenue	0	0	0	0	0	(186,000,000)	0	(186,000,000)
PROJECT DELIVERY	[N] SRFL - Land Resumptions	Expense	286,000	109,380	176,620	0	176,620	176,620	176,620	0
PROJECT DELIVERY Total			**816,746**	**253,801**	**562,945**	**1,300,000**	**1,885,179**	**1,885,179**	**11,885,179**	**(10,000,000)**
RESOURCING	[N] W4Q Round 4 Funding	Revenue	0	(3,501,198)	3,501,198	0	(9,400,436)	(9,400,436)	(9,400,436)	0
RESOURCING Total			**0**	**(3,501,198)**	**3,501,198**	**0**	**(9,400,436)**	**(9,400,436)**	**(9,400,436)**	**0**
Grand Total			**9,780,807**	**12,944,777**	**(3,163,970)**	**41,865,904**	**16,800,813**	**195,485,946**	**69,456,737**	**126,029,209**

11.3 ASSET MANAGEMENT PLAN - SEALED ROADS

File No: 5960

Attachments: 1. Sealed Roads AMP⇩

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 new Asset Management Plan for Sealed Roads for adoption.

OFFICER'S RECOMMENDATION

THAT Council adopt the Asset Management Plan for Sealed Roads.

COMMENTARY

A new Asset Management Plan (AMP) has been developed for all sealed roads and associated on-road parking within road reserves that are owned by Council. This document covers a 10-year planning period and will replace the sealed roads component of the Roads AMP that was adopted in 2014.

The sealed road network includes approximately 4,700 road segments and is summarised by functional class in the table below:

Functional Class	Description	Length (km)	Area (m^2)	Replacement Value ($)
3	Rural Arterial	37.7		35,217,202
4	Rural Collector	125.4		112,177,046
5	Rural Access	153.5		150,140,252
6	Urban Arterial	60.9		167,763,374
7	Major Urban Collector	33.2		107,131,986
8	Minor Urban Collector	73.9		187,576,823
9	Urban Access	487.5		833,031,884
13	Industrial Collector	5.8		18,996,511
	On-Road Parking		53,888	12,571,468
	Totals	**977.8**	**53,888**	**1,624,606,546**

The new AMP includes the following:

Levels of Service

The AMP considers the customer levels of service (quality, function and capacity) when assessing current performance and analysing trends.

Future Demand

The AMP identifies the drivers affecting demand and considers the impact these may have on future service delivery. It also considers how these impacts can be managed.

Asset Lifecycle Management

The AMP summarises the condition of the sealed road network. It also outlines the asset lifecycle demands (renewals, acquisitions, disposals, operations and maintenance) to deliver services, and compares this to the availability of funding through the Long-Term Financial Forecast (LTFF) and other external sources.

Risks Management

The AMP documents the treatment plans for critical risks associated with the delivery of services.

Financial Summary

The AMP summaries the medium-term financial requirements for these assets and considers the key indicators for sustainable service delivery.

BACKGROUND

Council exists primarily to deliver services that meet the needs of the community. Asset management planning is a comprehensive and strategic process designed to ensure that the delivery of services through Council-owned infrastructure remains financially sustainable over the long-term.

PREVIOUS DECISIONS

Council adopted the current Roads AMP in 2014.

At the Councillor Briefing Session held on 19 August 2025, Officers described the network condition metrics captured by Council and outlined their use in sealed roads renewal planning.

BUDGET IMPLICATIONS

There is sufficient renewal funding to continue providing existing services at current levels over the planning period. There is also sufficient funding over the planning period for acquisition projects. Operations and maintenance funding will need to increase in line with network growth.

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 AMP 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 AMPs is identified in Council's Operational Risk Register.

CORPORATE/OPERATIONAL PLAN

The AMP supports of the following Corporate Plan goals:

- We are fiscally responsible
- We plan for growth with the future needs of the community, business and industry in mind
- Our Region is resilient and prepared to manage climate-related risks and opportunities
- We are motivated to provide excellent service and have a strong organisational culture
- Our Region has infrastructure that meets current and future needs

CONCLUSION

The new Sealed Roads AMP is a comprehensive document. It identifies the service levels, future demand, lifecycle demand (renewals, acquisitions, disposals, operations and maintenance) and critical risks associated with these assets.

ASSET MANAGEMENT PLAN - SEALED ROADS

Sealed Roads AMP

Meeting Date: 16 September 2025

Attachment No: 1

ASSET MANAGEMENT PLAN

Rockhampton Regional Council
Sealed Roads

Document Control		Asset Management Plan		
Version	**Description**	**Plan Type**	**Author**	**Reviewed By**
1	Draft 28.06.2024	Asset Sub-Class	Brett Cagney	Andrew Whitby
2	Draft 17.07.2024	Asset Sub-Class	Brett Cagney	Martin Crow
3	Draft 15.04.2025	Asset Sub-Class	Brett Cagney	Andrew Whitby
4	For Adoption	Asset Sub-Class	Brett Cagney	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. This includes the provision of sealed roads that:

- Are safe for all users,
- Are comfortable to travel on, and
- Have adequate capacity for both traffic loads and volumes.

Asset management planning is a comprehensive process; the primary purpose of which is to ensure that delivery of services from Council owned infrastructure is financially sustainable.

1.2 Asset Description

This AMP covers all sealed roads and associated on-road parking within road reserves that are owned by Council. It does not cover access roads and off-road parking.

Sealed roads are a sub-class of the road infrastructure asset class.

Road Infrastructure Asset Class

Asset Class	Sub-Class
Road Infrastructure	**Sealed Roads**
	Unsealed Roads
	Carparks and Access Roads
	Footpaths
	Traffic Management Devices and Street Furniture

The sealed road network comprises:

Class	Description	Length (km)	Area (m^2)
3	Rural Arterial	37.7	
4	Rural Collector	125.4	
5	Rural Access	153.5	
6	Urban Arterial	60.9	
7	Major Urban Collector	33.2	
8	Minor Urban Collector	73.9	
9	Urban Access	487.5	
13	Industrial Collector	5.8	
	On-Road Parking		53,888
	TOTAL	**977.8**	**53,888**

These assets had replacement value estimated at $1,624,606,546 as at 30 June 2025.

1.3 Levels of Service

Renewal funding is sufficient to continue providing existing services at current levels over the 10-year planning period. There is also sufficient funding over this period for acquisition projects. Operations and maintenance funding will need to increase in line with network growth.

1.4 Future Demand

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

- Population change
- Community expectations
- Climate change

These demands will be managed by:

- Ensuring developer contributed roads are captured appropriately and included in asset inspection programs and financial modelling.
- Identifying and prioritising the demand for new and upgraded roads.
- Continue to actively seek funding opportunities to assist asset delivery.
- Reviewing design guidelines to ensure that best practice approach is adopted for new and upgraded roads.
- Continuing to regularly survey and inspect the existing road network to ensure that renewals and planned maintenance activities can occur in a timely manner.
- Implementing a resilience focus for all new works.

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

To operate, maintain and renew Council's existing sealed roads an estimated $284.0M is required over the next 10 years. To improve network connectivity, capacity and provide new strategic roads, it is estimated that an additional $114.6M is required for acquisitions over the next 10 years. The total lifecycle demand identified in this AMP is $398.7M over the next 10 years, or $39.9M on average per year.

1.6 Financial Summary

1.6.1 What we will do

Lifecycle funding (LTFF + External Funding + Operations & Maintenance) for sealed roads over the 10-year planning period is $396.4M, or $39.6M on average per year. The lifecycle funding for roads leaves a minor shortfall of $0.23M on average per year based on current funding levels. This shortfall is considered immaterial in the context of the budget quantities and network asset value.

With the funding that is available Council can adequately renew the existing roads in its sealed road network whilst also delivering all its identified strategic acquisition projects. The figure and table below show lifecycle demand compared to lifecycle funding.

Lifecycle Demand and Lifecycle Funding

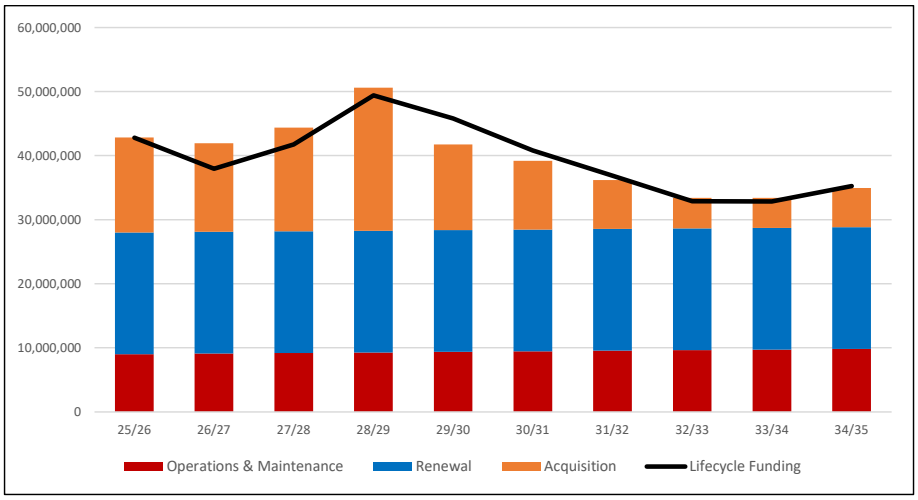


Figure and table values are shown in current day dollars.

Lifecycle Demand and Lifecycle Funding

Year	Lifecycle Demand			Lifecycle Funding		
	Renewal	Acquisition	Operations & Maintenance	Renewal	Acquisition	Operations & Maintenance
25/26	19,000,833	14,846,610	9,000,000	18,934,590	14,846,610	9,000,000
26/27	19,000,833	13,837,750	9,090,000	15,102,250	13,837,750	9,000,000
27/28	19,000,833	16,203,750	9,180,000	16,541,250	16,203,750	9,000,000
28/29	19,000,833	22,337,000	9,270,000	18,103,000	22,337,000	9,000,000
29/30	19,000,833	13,382,500	9,360,000	23,427,500	13,382,500	9,000,000
30/31	19,000,833	10,747,500	9,450,000	21,062,500	10,747,500	9,000,000
31/32	19,000,833	7,645,000	9,540,000	20,215,000	7,645,000	9,000,000
32/33	19,000,833	4,783,000	9,630,000	19,080,000	4,783,000	9,000,000
33/34	19,000,833	4,680,000	9,720,000	19,180,000	4,680,000	9,000,000
34/35	19,000,833	6,151,500	9,810,000	20,098,500	6,151,500	9,000,000
Totals	**190,008,333**	**114,614,610**	**94,050,000**	**191,744,590**	**114,614,610**	**90,000,000**

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

1.6.2 What we cannot do

There is an identified shortfall in floodway renewal funding (~$200K/yr) in comparison to the long-term annual demand ($697K/yr), however a review of asset condition data indicates the current funding levels should be sufficient to renew all Condition 5 floodways during the 10-year planning period.

Operations and maintenance funding will need to increase over the 10-year planning period in line with network growth of an estimated 1% per year.

1.6.3 Managing the Risks

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

- Maintaining a customer request system and appropriately prioritising requests
- Maintaining condition assessment and defect inspection programs
- Appropriately prioritise road renewals
- Assessing whether a road section should be upgraded at the point of renewal

1.7 Asset Management Planning Practices

Key assumptions made in this AMP are:

- Historical construction dates are accurate
- Renewal demand is determined using the road revaluation inputs and road condition data
- Remaining useful life is determined using the road condition ratings and the adopted deterioration model for each road surface and pavement material type
- Current operations and maintenance budgets are sufficient

The systems we use to manage our assets include:

- Pathways is Council's customer request system
- R1 is Council's assets, works management and financial system
- Esri ArcGIS is Council's GIS system

1.8 Monitoring and Improvement Program

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

- Review the current road hierarchy compared with the planning scheme road hierarchy
- Refine works modelling process and documentation
- Review road class interventions levels and decision trees to ensure they continue to reflect current practice
- Review renewal cost estimates compared to actual project costs to improve demand forecasting
- Incorporate deterioration modelling to improve demand forecasting

2.0 Introduction

2.1 Background

This AMP 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 planning period.

This AMP is to be read in conjunction with the following:

- Corporate Plan 2022 - 2027
- Operational Plan
- Long Term Financial Forecast (LTFF)
- Enterprise Risk Management Framework
- Asset Management Policy
- Asset Management Responsibilities Policy
- Asset Management Strategy 2023-2026
- Sustainability Strategy (Towards 2030)
- Local Government Infrastructure Plan (LGIP)

This AMP covers all sealed roads and associated on-road parking within road reserves that are owned by Council. It does not include access roads and off-road parking. The sealed road network comprises:

Table 2.1.1 Sealed Road Network Summary

Class	Description	Length (km)	Area (m^2)
3	Rural Arterial	37.7	
4	Rural Collector	125.4	
5	Rural Access	153.5	
6	Urban Arterial	60.9	
7	Major Urban Collector	33.2	
8	Minor Urban Collector	73.9	
9	Urban Access	487.5	
13	Industrial Collector	5.8	
	On-Road Parking*		53,888
	TOTAL	**977.8**	**53,888**

*Note * On-Road Parking does not include parking bays included in road segments.*

For a detailed summary of the assets covered in this AMP refer to Section 5.

The infrastructure assets included in this plan had a replacement value estimated at **$1,624,606,546** as at 30 June 2025.

Key stakeholders in the preparation and implementation of this AMP are shown in Table 2.1.2.

Table 2.1.2: Key Stakeholders in the AMP

Key Stakeholder	Role in Asset Management Plan
Elected Council	■ Represent the needs of community. ■ Provide the strategic direction and priorities for Council. ■ Adopt Asset Management Plans ■ Ensure services are sustainable
Chief Executive Officer	Implement the policies and strategic direction provided by Council
Asset Management Steering Committee	■ Provide leadership, direction, and oversight on Asset Management across Council. ■ Approve Council's Asset Management Strategy and oversee the delivery of the identified improvement plan actions.
Chief Financial Officer	■ Financial management and reporting. ■ Coordinate annual review of Council's long term financial forecast. ■ Coordinate preparation of capital and operating budgets ■ Lead role in asset revaluations.
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 sealed roads including: ■ Capture of assets in Council's corporate asset management and geographic information systems. ■ Undertake condition assessment programs and renewal modelling. ■ Develop analytics for asset and maintenance data. ■ Lead role in Asset Management Plan development. ■ Financial asset modelling. ■ Contribute technical expertise to asset revaluations.
Manager Infrastructure Planning and Coordinator Infrastructure Planning	Identification and prioritisation of new and upgrade projects within road reserves.
Manager Civil Operations (Asset Custodian)	■ Asset maintenance and renewal planning ■ Delivering maintenance and capital renewal programs. ■ Identifying asset-related risks in accordance with the Enterprise Risk Management Process Procedure, including the development, implementation, monitoring and review of risk management strategies.

2.2 Goals and Objectives of Asset Ownership

Our goal for managing infrastructure assets is to meet the 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

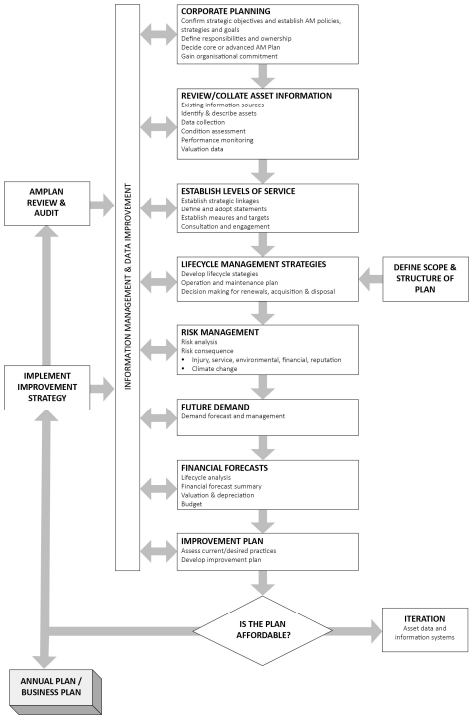
- Levels of service – specifies the services and levels of service to be provided,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Risk management – identifies risks and risk treatment plans,
- 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 550002

A road map for preparing an AMP 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 outlines the communities expectations relevant to sealed roads. These expectations are recorded as goals in the Corporate Plan.

Table 3.1: Customer Expectations

Theme	Goals (Community Expectations)
Our Council	■ We are fiscally responsible ■ We are motivated to provide excellent service and have a strong organisational culture
Our Economy	■ We plan for growth with the future needs of the community, business and industry in mind
Our Environment	■ Our region is resilient and prepared to manage climate-related risks and opportunities
Our Infrastructure	■ Our region has infrastructure that meet current and future needs.

3.2 Strategic and Corporate Goals

This AMP is prepared under the direction of the Council's vision and corporate objectives.

Our vision is:

One Great Region
Live. Visit. Invest

The Corporate Plan identifies Council's corporate objectives as related to the goals listed in Table 3.1 above. Table 3.2 demonstrates that this AMP supports these corporate objectives.

Table 3.2: Corporate Objectives and how these are addressed in this AMP

Goals	Corporate Objectives	How objective is supported in AMP
We are fiscally responsible	Our budgets are financially sustainable and provide value and accountability to the community	Section 7.1 - Financial Sustainability and Projections
We are motivated to provide excellent service and have a strong organisational culture	We have a workplace culture that is safe, engaged, responsive, professional and accountable	Sections 3.4 and 3.5 - Customer Service Levels Section 8.2 - Improvement Plan
We plan for growth with the future needs of the community, business and industry in mind	Our strategic planning supports the Region's growing population and enables economic development	Section 4.3 - Demand Impact and Demand Management Plan Section 5.3 – Acquisition Demand
Our region is resilient and prepared to manage climate-related risks and opportunities	We have a greater understanding of climate risks and their impacts on the Region, which prepares us for challenges and opportunities in the future	Section 6 – Risk Management Planning Section 4.3 - Demand Impact and Demand Management Plan
Our region has infrastructure that meet current and future needs.	Our Council assets are well maintained Our future projects are planned and prioritised	Section 5 – Lifecycle Management Plan

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements relating to the provision of roads are outline in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Key Requirements
Local Government Act 2009 and Local Government Regulations 2012	Sets out role, purpose, responsibilities and powers of local governments including the preparation of the Corporate Plan, LTFF supported by infrastructure and asset management plans for sustainable service delivery
Transport Planning and Coordination 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 Operations (Road Use Management – Road Rules) Regulation 2009	Establishes road rules in Queensland that are substantially uniform with road rules elsewhere in Australia
Transport Infrastructure Act 1994	Provides a structure, which sets and enables effective integrated planning and efficient management of the Council's transport and drainage
Disability Discrimination Act 1992	Seeks to eliminate discrimination against persons on the grounds of disability. This includes the area of access to services.
Australian Standards	Australian standards related to design and construction of structures which provides technical knowledge for the structural condition evaluation
Australian Accounting Standards	Sets out the financial reporting standards relating to the valuation and depreciation of Councils infrastructure assets

3.4 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?

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

In Table 3.4 under each of the service measures types (Condition, 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.

Table 3.4: Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance		
Quality	Condition of the roads for users	Surface Condition Index (SCI) 0 (worst) – 100 (best)	**Class**	**2019**	**2022**
			3	75	78
			4	74	77
			5	67	71
			6	65	71
			7	63	69
			8	67	71
			9	69	65
			13	-	71
		Pavement Condition Index (PCI) 0 (worst) – 100 (best)	**Class**	**2019**	**2022**
			3	74	78
			4	72	76
			5	67	69
			6	63	73
			7	67	68
			8	69	73
			9	64	73
			13	-	76
	Customer service	Number of complaints per month	**2022/23**		**2024/25**
			163 (average)		173 (average)
		Work Order Response times	**% Open Work Orders Outside Priority Timeframe (As at 31st July 2025)**		
			P1 (> 2 days)		100% (1)
			P2 (> 5 days)		85%
			P3 (> 30 days)		76%
			P4 (> 60 days)		51%
			Avg		**74%**
		Age of Open Work Orders	**Average Age of Open Work Orders (days)**		
			Priority	**Mar 2024**	**Jul 2025**
			P1	-	6(1)
			P2	106	115
			P3	207	186
			P4	128	130
			Avg	**128**	**109**
Function	Is the asset appropriate for intended use (smooth, safe access across the network)	Road Roughness – NAASRA Counts (Avg) *Lower is better*	**Class**	**2019**	**2022**
			3	95	103
			4	106	108
			5	125	122
			6	102	86
			7	113	98
			8	117	106
			9	133	127
			13	101	98

Capacity	Do the assets have sufficient capacity (traffic, design/geometric, hydraulic, strategic)?	% of network with sufficient capacity (for the 10 year AMP planning period)		97% Based on analysis of 10 year LGIP works program for the network (upgrade component)

(1) One outstanding P1 Work Order

The following commentary is provided in relation to Councils customer levels of service:

Analysis

Road quality is expected to remain stable overall for the network during the 10-year planning period as renewal funding is adequate to renew assets in an effective manner. At a road class level, road condition is expected to improve for higher order urban roads and generally remain stable or slightly decline for lower order urban roads and rural roads over the 10-year planning period. This is because the works prioritisation model places an emphasis on addressing service level deficiencies on higher order roads. In addition, LGIP projects are generally focused on higher order road classes and therefore will contribute to improvements in condition for those classes.

Road function is also expected to remain stable overall for the network during the 10-year planning period. At a road class level, roughness is expected to improve for higher order urban roads and generally remain stable or slightly decline for lower order urban roads and rural roads over the 10-year planning period. This is because renewal activities for higher order roads include asphalt resurfacing and pavement treatments that lower roughness, whereas lower order urban roads generally focus on micro-surfacing treatments that protect and prolong the pavement, but which do not lower roughness. Civil Operations typically undertake targeted pavement repairs prior to applying this type of treatment, as such road function may remain stable. It should be noted that roughness is not a safety concern for lower order roads where the speed environment is 50kph.

Monitoring

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.
- Community expectations for the provision and operation of Council's Sealed Roads can change over time.

4.0 FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, consumer preferences and expectations, technological changes, economic factors, 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 AMP.

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population Change	The estimated population within Council's Local Government Area in 2024 is 83,974.[3]	This population is forecast to grow to 98,102 by 2041. This is a 16.82% increase.	Population increases will result in new residential developments. These developments will include the construction of new roads that will need to be maintained and eventually renewed by Council.	Allow for network work growth in operations and maintenance budgets. Ensure contributed roads are added to the asset register for inclusion in inspection programs and financial modelling.
Community Expectations	Roads should be safe, in good condition with adequate capacity.	Expectations will only increase as the Community grows and our higher order roads experience greater traffic volumes.	New residential developments will need to be connected to the existing road network. Roads will need to be repaired and renewed in a timely manner.	Identify and prioritise the demand for new road segments. Continue to actively seek funding opportunities to assist asset delivery. Review current road hierarchy and design guidelines to ensure best practice approach is adopted for new/renewed roads. Continue regular road inspection and condition survey programs.

[3] Sourced from https://forecast.id.com.au/rockhampton

Climate Change	Extreme events are infrequent with disaster funds available for restoration of damaged assets.	More extreme events, more often (flooding and drought), more damaged assets	More frequent extreme events and potential for asset restoration costs to be borne by Council.	Implement resilience focus for all new works.

[1] Sourced from https://forecast.id.com.au/rockhampton

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 5.3.

Acquiring new assets will commit the 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 demand forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial plan (Refer to Section 5).

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how 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

This AMP covers all sealed roads and associated on-road parking within road reserves that are owned by Council. It does not include access roads and off-road parking. Sealed roads are a sub-class of Council's Road Infrastructure Asset Class.

All sealed roads are mapped in Council's geographic information system (Esri) and entered Council's asset management system (R1) where the following information is recorded:

- Date Constructed
- Surface Type
- Road Classification
- Length, Average Width and Area
- Asset Custodian
- Asset Class
- Asset Values

The assets covered by this AMP are summarised by class in Table 5.1.1.1, by surface type in Table 5.1.1.2 and by component in Table 5.1.1.3.

Table 5.1.1.1: Sealed Road Assets by Road Class

Class	Description	Length (km)	Area (m^2)
3	Rural Arterial	37.7	
4	Rural Collector	125.4	
5	Rural Access	153.5	
6	Urban Arterial	60.9	
7	Major Urban Collector	33.2	
8	Minor Urban Collector	73.9	
9	Urban Access	487.5	
13	Industrial Collector	5.8	
	On-Road Parking		53,888
	TOTAL	**977.8**	**53,888**

Table 5.1.1.2: Sealed Road Assets by Surface Type

Asset Type	Surface Type	Length (km)	Replacement Value ($)
Sealed Roads	Asphalt	546.7	1,166,465,704
	Bitumen Seal	409.5	377,745,186
	Plain Concrete	1.0	2,465,094
	Stencilled Concrete	0.6	933,508
	Pavers	0.9	7,405,405
	Concrete Floodways	19.1	69,591,648
TOTAL		**977.8**	**1,624,606,546**

Table 5.1.1.3: Sealed Road Assets by Component

Asset Type	Component	Replacement Value ($)
Sealed Roads	Formation	741,423,262
	Pavement	515,782,916
	Surface	367,400,368
TOTAL		**1,624,606,546**

Table 5.1.1.4 shows the standard useful life that has been adopted for each sealed road component and type. Standard lives are used to determine an asset's expiry date and its annual depreciation in the asset register.

Table 5.1.1.4: Standard Useful Lives

Component	Type	Standard Useful Life
Formation	All	1000
Pavement	All	80
Surface	Asphalt	20
	Bitumen Seal	10
	Plain Concrete	80
	Stencilled Concrete	80
	Pavers	80
	Concrete Floodways	80

5.1.2 Asset Hierarchy

An asset hierarchy provides a means of prioritising asset inspections, defects repairs and assets renewals. The road network hierarchy is based on the National Association of Australian State Road Authorities (NAASRA) road classification system and is shown is Table 5.1.2.1. A summary of the lengths and value of each road class with respect to Council's network is detailed in Table 5.1.2.2. It should be noted that Class 1 and 2 roads are federal and state government roads.

Table 5.1.2.1: Road Hierarchy

Class	Sub-Class	Name	Description	Traffic Volume (AADT)
1		Highway	Roads that form the principal avenue of communication between and through major regions of Australia (for example direct connection between capital cities). These roads also perform a local function of: • carrying local traffic and freight movements across and in between urban areas; and • acting as connections between local arterial and collector roads.	
2		Main Road	Roads whose main function is to form the principal or alternative avenue of communication for movements between: • a capital city and adjoining states and their capital cities; or • a capital city and key towns or areas of regional economic/social significance; or • key towns or areas of regional economic/social significance. These roads also perform a local function of: • carrying local traffic and freight movements across and in between urban areas; and • acting as connections between local arterial and collector roads.	
3		Rural Arterial	Roads whose main function is to form an avenue of communication for movements between: • important rural centres and the arterial or state controlled road network and/or key towns; or • important rural centres which have a significant economic, tourism or recreation role.	> 8,000
4	**A**	Major Rural Collector	Those roads whose main function is to collect and distribute traffic from rural areas to the wider road network.	1,000 – 8,000
	B	Minor Rural Collector	Roads that are not class 1,2 or 3, whose main function serves the purpose of collecting and distributing traffic from local areas to the wider road network, including access to abutting properties. Lower service function.	150 – 999
5	**A**	Primary Rural Access	Those roads whose main function is to: • provide access to rural residences and properties; or • provide exclusively for one activity or function (for example access to national parks, dam access, mining and forestry roads).	< 150
	B	Secondary Rural Access		
	C	Minor Rural Access		
6	**B**	Minor Urban Arterial	Those roads whose main function is to perform as the principal arteries for through traffic and freight movements across urban areas. They form the primary local road network and link main districts of the urban area.	> 10,001
	C	Minor Urban Arterial		6,001 - 10,000

7		Major Urban Collector	Those roads whose main function is to: • complete the major road network across the urban areas and carry intra-urban traffic; or • serve as supplementary public transport corridors; or • form part of a regularly spaced road network supplementary to the arterial urban road network.	3,001 – 6,000
8		Minor Urban Collector	Those roads whose main function is to collect and distribute traffic from local areas to the wider road network (can include access to abutting properties).	751 - 3,000
9	**A**	Urban Access Street	Those roads whose main function is to: • provide access to residences and properties; or • provide exclusively for one activity or function.	251 - 750
	B	Urban Access Place		< 250
13	**A**	Industrial Collector	Those roads whose main function is to: • carry industrial traffic through an industrial area; or • link industrial areas to the arterial or state controlled road network.	
	B	Industrial Access	Those roads whose main function is to provide access to properties with predominantly industrial uses within industrial areas.	

Table 5.1.2.2: Road Hierarchy Length and Replacement Value

Class	Description	Length (km)	% Length	Replacement Value ($)	% Replacement Value
3	Rural Arterial	37.7	3.9%	35,217,202	2.2%
4	Rural Collector	125.4	12.8%	112,177,046	6.9%
5	Rural Access	153.5	15.7%	150,140,252	9.2%
6	Urban Arterial	60.9	6.2%	167,763,374	10.3%
7	Major Urban Collector	33.2	3.4%	107,131,986	6.6%
8	Minor Urban Collector	73.9	7.6%	187,576,823	11.5%
9	Urban Access	487.5	49.9%	833,031,884	51.3%
13	Industrial Collector	5.8	0.6%	18,996,511	1.2%
	On-Road Parking			12,571,468	0.8%
	TOTAL	**977.8**	**100%**	**1,624,606,546**	**100%**

5.1.3 Asset Inspections

Council completes regular road network inspections which comprise the following activities:

- Network condition assessments; and
- Defect inspections (in response to customer requests)

Condition assessments are completed for the entire road network every 3 years, using specialised road surveying equipment (laser profilometer, video capture and defect logging).

Condition Assessments

The condition of each road segment is assessed by both pavement and surface condition metrics. For detailed information on road condition data and metrics refer to **Appendix A**. An overall rating system for all Council assets is shown in Table 5.1.3.1. For the sealed road network, the overall condition rating is based on the Pavement Condition Index (PCI) and Surface Condition Index (SCI) for each road segment.

Table 5.1.3.1: Asset Condition Rating

PCI & SCI	Condition Rating	Description of Condition
81 – 100	1	Excellent (As New)
61 – 80	2	Good
41 – 60	3	Fair
21 – 40	4	Poor
0 - 20	5	Very Poor

The road network was last condition assessed in December 2022. The current condition profile is shown per road class as a percentage of the class replacement value in Figures 5.1.3.2, 5.1.3.3. and 5.1.3.4.

Figure 5.1.3.2: Current Condition Profile – Surface (Asphalt & Seal)

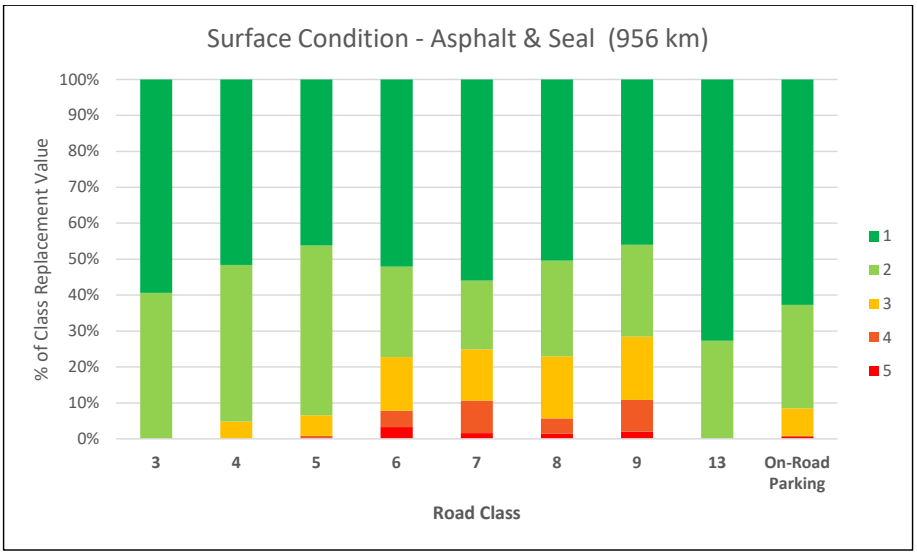
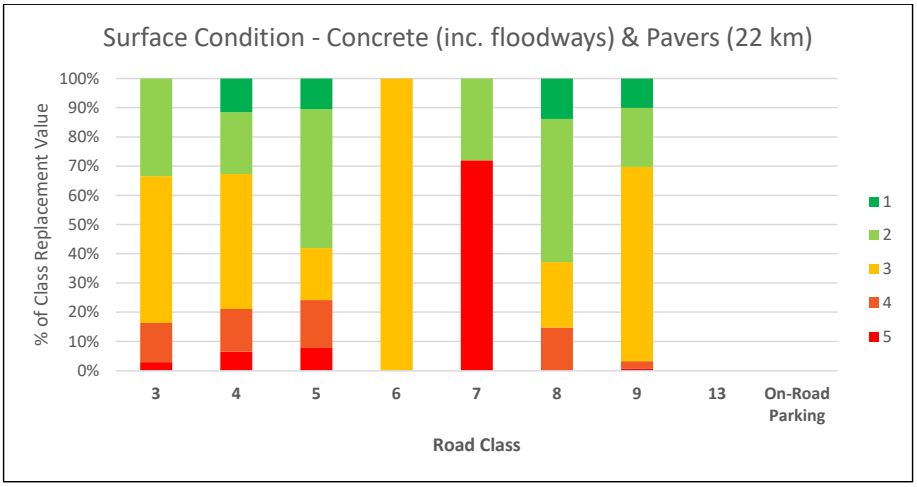
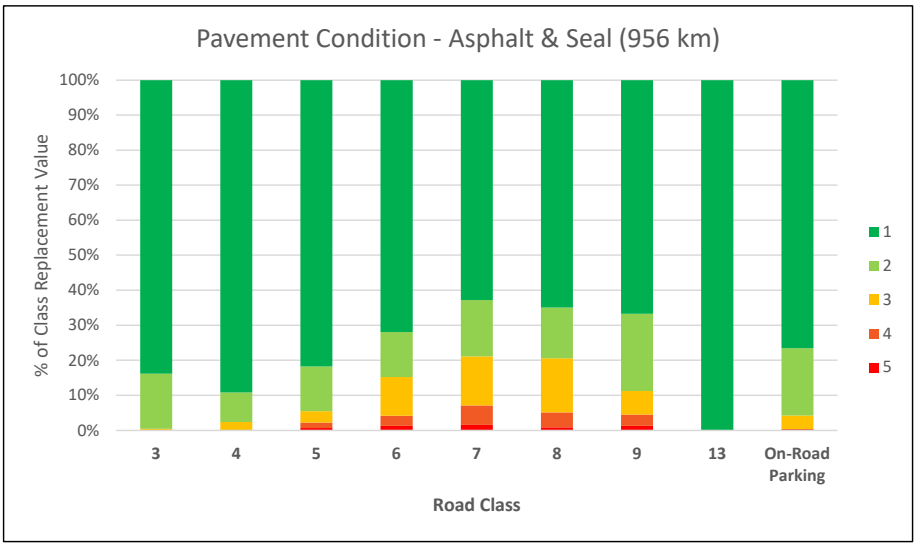


Figure 5.1.3.3: Current Condition Profile – Surface (Concrete & Pavers)



The high proportion of Class 7 road surfaces in Condition 5, as shown in Figure 5.1.3.3, is attributed to the granite pavers along Quay Street.

Figure 5.1.3.4: Current Condition Profile - Pavement



All percentages are based on asset register current replacement values. Values include kerb and channel that are assigned the condition rating of the adjoining road segment.

Defect Inspections

Council has a team of Technical Officers who undertake regular inspections of the network in response to customer service requests. Works identified from these inspections are assigned a priority and included for consideration in future capital works or maintenance budgets. Additionally, a dedicated patching crew roams the network addressing minor surface defects (e.g. potholes).

5.2 Renewal

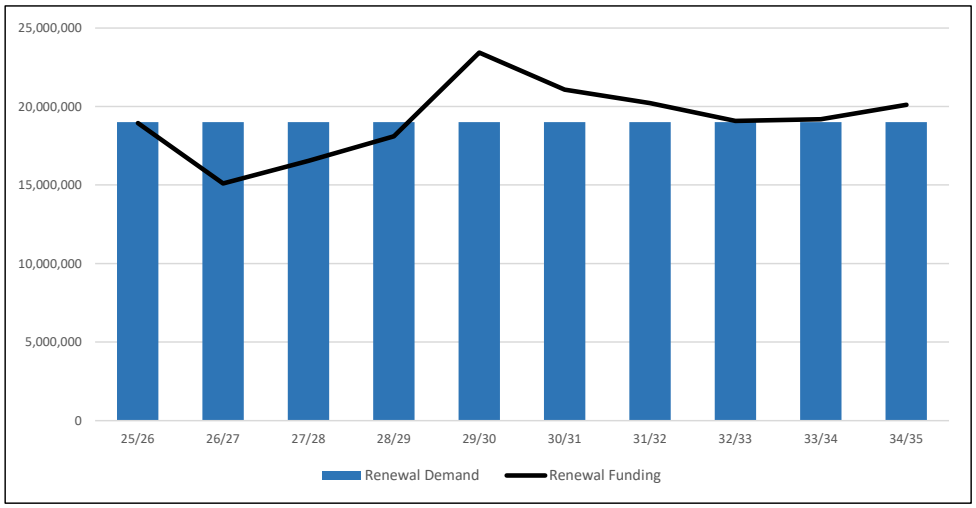
Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an acquisition resulting in additional future operations and maintenance costs.

5.2.1 Summary of Renewal Demand

Renewal demand is the renewal works required over the planning period of the AMP. Renewal Demand is summarised in **Appendix E**, and project briefs are provided in **Appendix F**. **Appendix G** summarises renewal demand compared to renewal funding for each project brief.

Figure 5.2.1 shows renewal demand (Estimate) relative to the renewal funding (Budget).

Figure 5.2.1: Renewal Summary



All values are shown in current day dollars.

5.3 Acquisition Demand

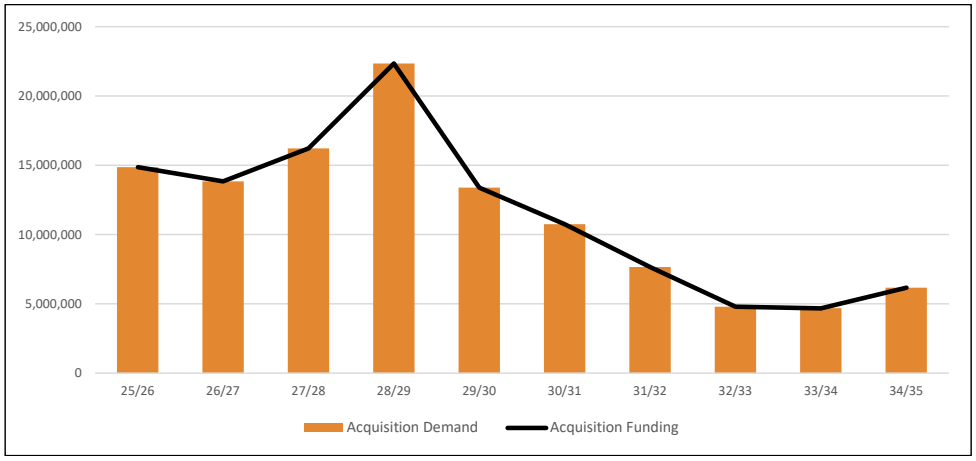
Acquisition refers to new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its current capacity. They may result from new capital growth, demand, social or environmental needs. Assets may also be donated to the Council through the development approval process or by other levels of government.

5.3.1 Summary of Acquisition Demand

Acquisition demand is the asset acquisitions required over the planning period of the AMP. Acquisition demand is summarised in **Appendix E**, and project briefs are provided in **Appendix F. Appendix G** summarises acquisition demand compared to the acquisition funding for each project brief.

Figure 5.3.1 shows acquisition demand (Estimate) relative to acquisition funding (Budget) from the LTFF and external sources.

Figure 5.3.1: Acquisition Summary



The acquisition demand summary excludes developer contributions. All values are shown in current day dollars.

5.4 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 5.4. Any costs or revenue gained from asset disposals is included in the long-term financial forecast.

Table 5.4: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
-	No assets identified for disposal	N/A	N/A	N/A

5.5 Operations and Maintenance Plan

Operations

Operations include regular activities required to provide services. Operational activities considered for this AMP include all costs associated with the management of the network and delivery of capital and maintenance programs.

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. Maintenance includes planned corrective and unplanned reactive maintenance activities.

Planned corrective maintenance is the repair of defects identified during the planned road inspections. These defects are typically packaged by treatment type and can be prioritised by road class.

Unplanned reactive maintenance is carried in response to road related customer requests. Planned maintenance activities include patching potholes, filling edge drops and isolated pavement repairs.

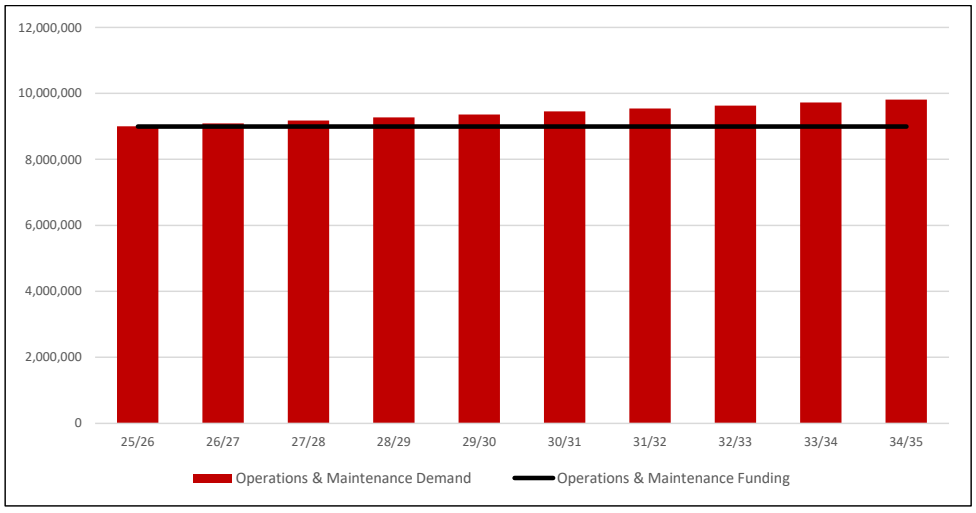
5.5.1 Forecast Operations and Maintenance Costs

Based on historical data, Civil Operations estimate that operations and maintenance costs of $9M per year will be required in 2025/26 for the existing asset base.

Forecast operations and maintenance costs are expected to vary in relation to the total length of the sealed network. It is estimated that the network length will increase by 1% per year over the planning period. Future operations and maintenance budgets are based on this estimate.

Figure 5.5.1 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance budget.

Figure 5.5.1: Operations and Maintenance Summary



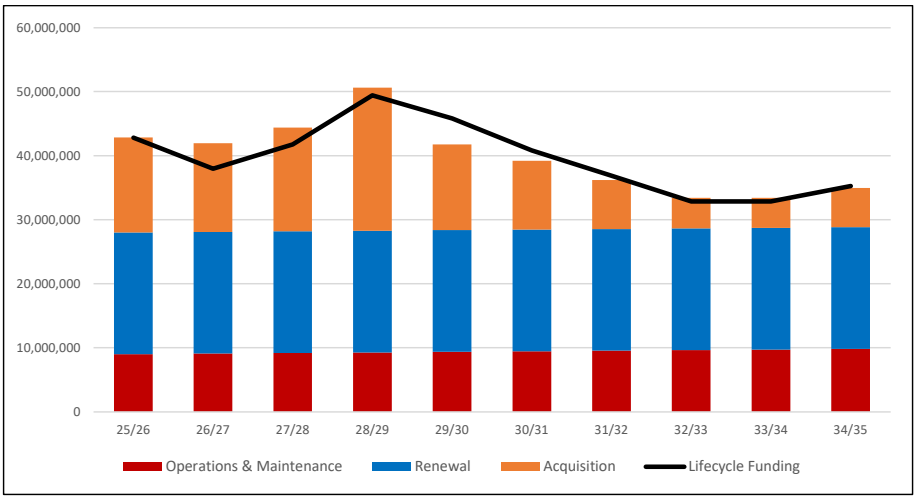
All figure values are shown in current day dollars.

5.6 Summary of Lifecycle Demand

The 10 year lifecycle demand for this AMP is shown in Figure 5.6. These projections include the demand for acquisition, operation, maintenance, renewal, and disposal. This lifecycle demand is shown in comparison to lifecycle funding (budget) which includes; LTFF, current Operations and Maintenance budgets, and any external funding.

The bars in the graphs represent the forecast costs needed to minimise the lifecycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between lifecycle demand and 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 5.6: 10 year Lifecycle Summary



All figure values are shown in current day dollars.

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'[4].

An assessment of risks[5] 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. Failure modes may include physical failure, collapse or essential service interruption.

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
Class 3, 6 & 7 Roads	Deterioration and/or natural disasters	Compromised capacity, increased congestion and longer travel times

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.

6.2 Risk Assessment

The risk management process used is shown in Figure 6.2.1 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.

[4] ISO 31000:2009, p 2
[5] REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

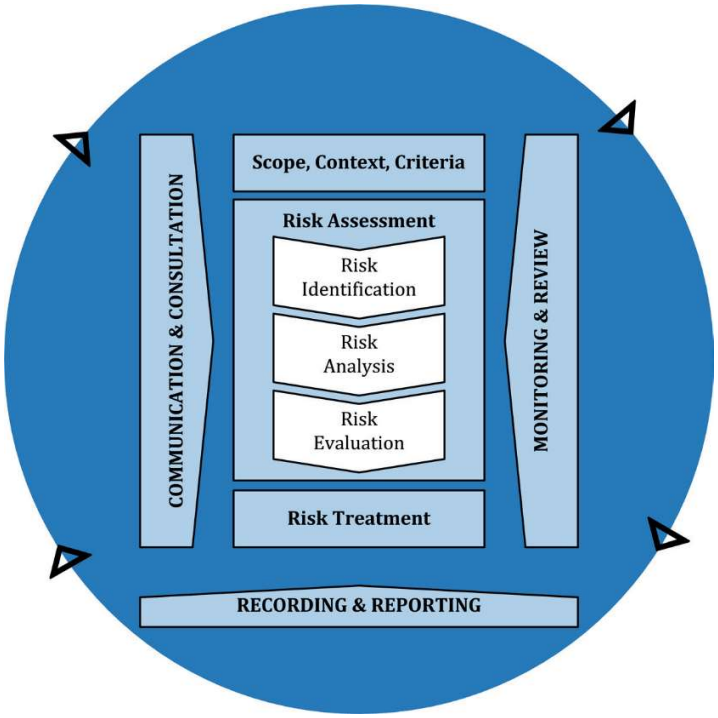


Fig 6.2.1 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

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 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 6.2.2. It is essential that these critical risks and costs are reported to the relevant Asset Custodian.

Table 6.2.2: Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Inherent Risk Rating (VH, H)	Existing Controls	Residual Risk*	ALARP
All road classes	Vehicle damage and personal injuries may occur as roads degrade and ride quality is impacted.	H	Class based intervention levels Maintain condition assessment and defect inspection programs. Prioritisation of renewals and upgrades	L	Yes
	Road safety issues identified post construction through analysis of crash data	H	Regular review of crash data and subsequent submission for Black Spots or other funding sources to address road safety issues.	M	Yes
Arterial and Collector Roads	Failure to provide road network capacity (geometric and pavement design) for expected traffic and volumes resulting in congestion and/or premature asset failure	H	Local Government Infrastructure Plans (LGIP) Review the current road hierarchy design guidelines to ensure best practice approach is adopted for new/renewed roads. Traffic count and distribution monitoring	L	Yes

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

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. We do not currently measure our resilience in service delivery. This will be included in future iterations of the AMP.

6.4 Service and Risk Trade-Offs

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

6.4.1 Service trade-off

If there is forecast work (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:

- The overall condition of the road network will deteriorate
- The network will be more prone to damage after rain events
- Customer requests/complaints will increase

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:

- Increased risk of personal injury, particularly for vulnerable members of the community.

These actions and expenditures are considered and included in the forecast costs, 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 AMP. 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 four key indicators of sustainable service delivery that are considered in the AMP for this service area. The three indicators are as follows:

- Asset Renewal Funding Ratio
- Asset Sustainability Ratio
- 10-year Lifecycle Funding Ratio
- Asset Consumption Ratio

Asset Renewal Funding Ratio[6]

The Asset Renewal Funding Ratio measures the ability of the a council to fund its projected asset renewals. This ratio is calculated by dividing the 10-year renewal funding by the 10-year renewal demand.

The Asset Renewal Funding Ratio is **101%.** This ratio is adequate on account of renewal demand ($190.0M) being met by planned funding ($191.7M).

Asset Sustainability Ratio[7]

The Asset Sustainability Ratio approximates the extent to which the infrastructure assets managed by a local government are being replaced as they reach the end of their useful lives. A ratio of >80% per annum (on average over the long-term) is the target for infrastructure assets owned by Council. This ratio is calculated by dividing average yearly renewal funding over the life of the AMP by annual depreciation.

The Asset Sustainability Ratio is **81%.** This ratio indicates there's sufficient renewal funding ($19.2M/year on average) allocated to the Sealed Roads asset sub-class compared to annual depreciation ($23.7M/year).

Lifecycle Funding Ratio

The Lifecycle Funding Ratio represents the extent to which all demand (operations, maintenance, renewal and acquisition) is funded over the 10-year planning period. This ratio is calculated by divided total funding by total demand.

The Lifecycle Funding Ratio is **99%.** The ratio indicates that we have sufficient funding over the 10-year planning period as total demand ($398.7M) is essentially met by total funding ($396.4M).

Asset Consumption Ratio[8]

The asset consumption ratio approximates the extent to which Council's infrastructure assets have been consumed compared to what it would cost to build new assets with the same benefit to the community. A ratio of >60% is the target for infrastructure assets owned by this Council. This ratio is calculated by dividing depreciated replacement coast by current replacement cost.

Asset Consumption Ratio is **80%.**

Table 7.1 shows lifecycle demand versus the lifecycle funding for the 10 year planning period.

[6] Financial Management (Sustainability) Guideline, 2024, Version 1, Sustainability Measure 8
[7] Financial Management (Sustainability) Guideline, 2024, Version 1, Sustainability Measure 6
[8] Financial Management (Sustainability), Guideline, 2024, Version 1, Sustainability Measure 7

Table 7.1: Lifecycle Demand vs Lifecycle Funding

Year	Lifecycle Demand			Lifecycle Funding		
	Renewal	Acquisition	Operations & Maintenance	Renewal	Acquisition	Operations & Maintenance
25/26	19,000,833	14,846,610	9,000,000	18,934,590	14,846,610	9,000,000
26/27	19,000,833	13,837,750	9,090,000	15,102,250	13,837,750	9,000,000
27/28	19,000,833	16,203,750	9,180,000	16,541,250	16,203,750	9,000,000
28/29	19,000,833	22,337,000	9,270,000	18,103,000	22,337,000	9,000,000
29/30	19,000,833	13,382,500	9,360,000	23,427,500	13,382,500	9,000,000
30/31	19,000,833	10,747,500	9,450,000	21,062,500	10,747,500	9,000,000
31/32	19,000,833	7,645,000	9,540,000	20,215,000	7,645,000	9,000,000
32/33	19,000,833	4,783,000	9,630,000	19,080,000	4,783,000	9,000,000
33/34	19,000,833	4,680,000	9,720,000	19,180,000	4,680,000	9,000,000
34/35	19,000,833	6,151,500	9,810,000	20,098,500	6,151,500	9,000,000
Totals	**190,008,333**	**114,614,610**	**94,050,000**	**191,744,590**	**114,614,610**	**90,000,000**

Forecast costs are shown in current year dollar values.

7.2 Funding Strategy

The proposed funding for assets is outlined in the Council's budget and LTFF.

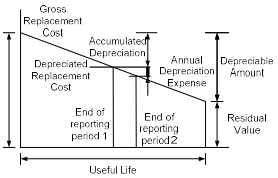
The financial strategy of the entity determines how funding will be provided, whereas the AMP communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset Valuations

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

Current Replacement Cost	$ 1,624,606,546
Depreciated Replacement Cost[9]	$ 1,297,418,011
Depreciation	$ 327,188,535
Annual Depreciation	$ 23,751,042



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

Key assumptions made in this AMP are:

- Sealed roads condition data is accurate.
- The unit rates used to value renewal works are reasonable.
- The unit rates and standard asset lives applied to the sealed roads asset register are reasonable.

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AMP 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. Very High	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. High	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. Medium	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. Low	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. Very Low	None or very little data held.

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

Table 7.5.2: Data Confidence Assessment for Data used in AMP

Data	Confidence Assessment
Demand Drivers	B
Acquisition Demand	B
Operation Forecast	B
Maintenance Forecast	C
Renewal Demand - Asset values	B
- Asset useful lives	B
- Condition modelling	B
Disposal forecast	A

The estimated confidence level for and reliability of data used in this AMP is considered to be High (B).

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

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[11]

Accounting and financial data sources

This AMP utilises accounting and financial data. This data is sourced from Council's financial system being R1.

Asset management data sources

This AMP also utilises asset management data. This data is sources from Council's assets and works system being R1, and Council's GIS system being ArcGIS.

8.2 Improvement Plan

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

Table 8.2: Improvement Plan

Task	Task	Responsibility	Timeline
1	Review the current road hierarchy compared with the planning scheme road hierarchy.	Infrastructure Planning	1 year
2	Refine works modelling process and documentation.	Infrastructure Planning	1 year
3	Review road class interventions levels and decision trees to ensure they continue to reflect current practice.	Infrastructure Planning	1 year
4	Review renewal cost estimates compared to actual project costs to improve demand forecasting.	Infrastructure Planning	2 years
5	Incorporate deterioration modelling to improve demand forecasting.	Infrastructure Planning	2 years

8.3 Monitoring and Review Procedures

This AMP will inform the LTFF and will be considered during the annual budget planning process. A review of this AMP 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 AMP can be measured in the following ways:

- The degree to which the lifecycle demand costs identified in this AMP are incorporated into the LTFF.
- The degree to which Asset Custodians action the information provided on road defects and renewals
- Whether the identified service trade-offs influence future funding levels.
- Whether the improvement plan tasks are actioned.

[11] ISO 55000 Refers to this as the Asset Management System

9.0 REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
- IPWEA, 2015, 2nd edn., 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMM.
- IPWEA, 2020 'International Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2018, Practice Note 12.1, 'Climate Change Impacts on the Useful Life of Assets', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2012, Practice Note 6 Long-Term Financial Planning, Institute of Public Works Engineering Australasia, Sydney, https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn6
- IPWEA, 2014, Practice Note 8 – Levels of Service & Community Engagement, Institute of Public Works Engineering Australasia, Sydney, https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn8
- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- Rockhampton Regional Council Corporate Plan 2022 – 2027
- Rockhampton Regional Council Walking and Cycling Strategy 2021 - 2031
- DILGP, 2013, 'Financial Management (Sustainability)', Department of Infrastructure, Local Government and Planning, Queensland

10.0 APPENDICES

Appendix A Road Survey Condition Data

A.1 Survey

Every 3 years Council engages a third-party service provider with specialist equipment to survey the entire sealed road network. The survey measures the road profile as well as defects using a combination of high-speed laser profilometer and georeferenced imaging. Surveying the entire network allows for a network snapshot and unbiased assessment of its current condition using industry standard metrics. This information can then be used to:

- Identify network condition trends over time
- Set class-based intervention levels
- Prepare prioritised works planning lists
- Review renewal budget allocations

Figure A.1 shows a typical survey vehicle arrangement with camera (front) and laser profilometer (rear).

Figure A.1 Typical Road survey vehicle

The primary condition metrics collected for use in assessing the condition of the road network are:

- Roughness
- Rutting
- Structural Cracking
- Environmental Cracking
- Potholes
- Ravelling

These metrics are discussed in further detail below.

A.2 Condition Metrics

Roughness

Pavement roughness is generally defined as an expression of irregularities in the pavement surface that adversely affect the ride quality of a vehicle (and thus the user). Roughness is an important pavement characteristic because it affects not only ride quality but also vehicle delay costs, fuel consumption and maintenance costs.

Austroads guidelines for roughness are concerned with road surface profile wavelengths between 0.5 m and 50 m. There are two roughness metrics regularly used in Australia:

- International Roughness Index (IRI) – measured in undulation per km (m/km) of a model car (quarter or half car)
- NAASRA Counts (NRM) – one NAASRA Roughness count is defined as a 15.2mm upward displacement of a Response Type Road Roughness Measuring System (RTRRMS) vehicle's body with reference to the differential of the vehicle.

IRI and NAASRA roughness counts can be converted with the following formula:

NAASRA (NRM: counts/km) = 26.49 x Lane IRI_{qc} (m/km) – 1.27

Where qc = quarter-car model

Refer to Figure A2.1 with typical IRI and NRM measurements for different road pavements.

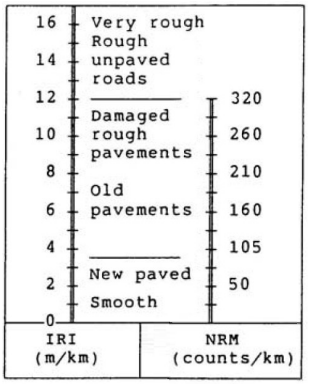


Figure A.2.1 IRI and NRM roughness scales.

Rutting

Rutting is a surface depression in the wheel path. It becomes a safety issue when the depth of rutting causes water to pond and it can contribute to vehicle aquaplaning during wet weather. There are three primary types:

- Mix rutting – the surface asset (asphalt) displaces (generally a mix design issue)
- Subgrade rutting – the underlying pavement subgrade compacts (generally a design issue)
- Densification – the surface asset (asphalt) and/or the pavement compact further under loading (generally a construction issue)

Figure A.2.2 shows the various rutting types.

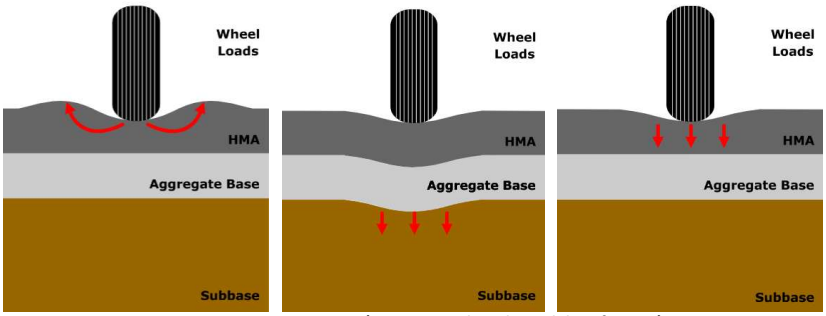


Figure A.2.2 Rutting types (L – R: mix, subgrade, and densification)

Cracking

Cracking of the road surface has numerous causes; however, all represent a failure of the protective surface layer. A cracked surface leaves the underlying pavement vulnerable to water ingress, which in turn can affect road users during weather events (potholes) and shorten the life of the pavement significantly. There are two main types of cracking:

- Structural – cracking because of surface fatigue, generally due to underlying pavement weakness
- Environmental – cracking due to the surface layer itself, due to surface aging or pavement movement (expansion and contraction)

Structural cracking is caused by the repeated application of traffic loads that exceed the structural capacity of the pavement layers. It indicates a failure of the underlying pavement (pavement issue). Environmental cracking indicates a failure of the surface (generally the pavement is still serviceable but is vulnerable to water ingress and further damage).

Figure A.2.3 shows typical structural and environmental cracking.

Figure A.2.3 Structural Cracking and Environmental Cracking (L – R)

Potholes

A pothole is a bowl-shaped depression with sharp edges and vertical sides near the top of the hole. On a sealed road a pothole represents an isolated failure of the pavement, largely due to water ingress through cracking in the surface. Potholes regularly occur during wet weather events, where the combination of pavement saturation and vehicle tyres cause substantial damage to the pavement.

Figure A.2.4 shows the typical formation of a pothole.

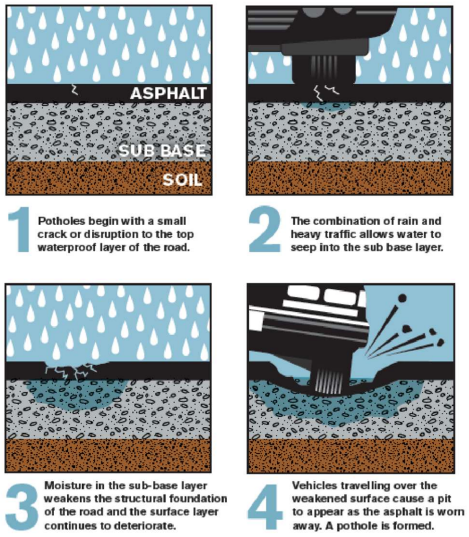


Figure A.2.4 Pothole formation

Ravelling

Ravelling or stripping is a condition where the surface loses coarse aggregate particles, causing the surface to appear rough and jagged. This condition can occur in both asphalt and sprayed seal surfaces and is often found within the wheel path. Refer to Figure A.2.5 for examples.

Figure A.2.5 Ravelling / Stripping on a spray sealed road

A.3 Network Condition

The two most recent full network condition surveys were completed in 2019 and 2022. These two points in time provide an insight into the network condition progression over time and the impact that recent budgets, works programming and prioritisation has had on the condition metrics of the network. These are discussed below.

Roughness

Network roughness improved between 2019 and 2022, with a general shift towards roads with a lower roughness across the network, as shown in Figure A.3.1.

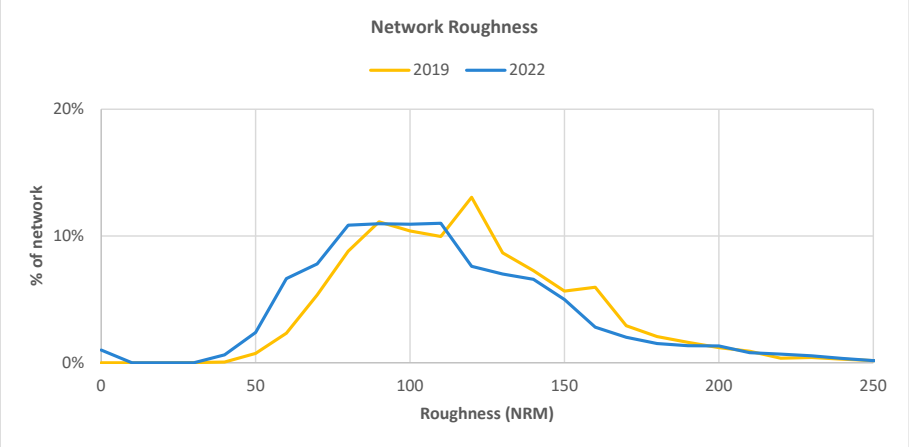


Figure A.3.1 Network roughness distribution

Rutting

Rutting across the network remained largely unchanged between 2019 and 2022 as shown in Figure A.3.2.

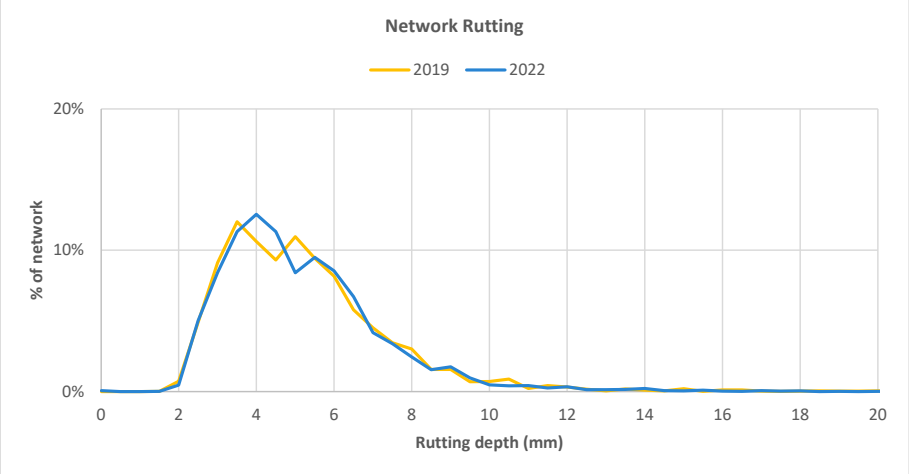


Figure A.3.2 Network rutting distribution

Structural Cracking

Structural cracking has been stable between 2019 and 2022 as shown in Figure A.3.3.

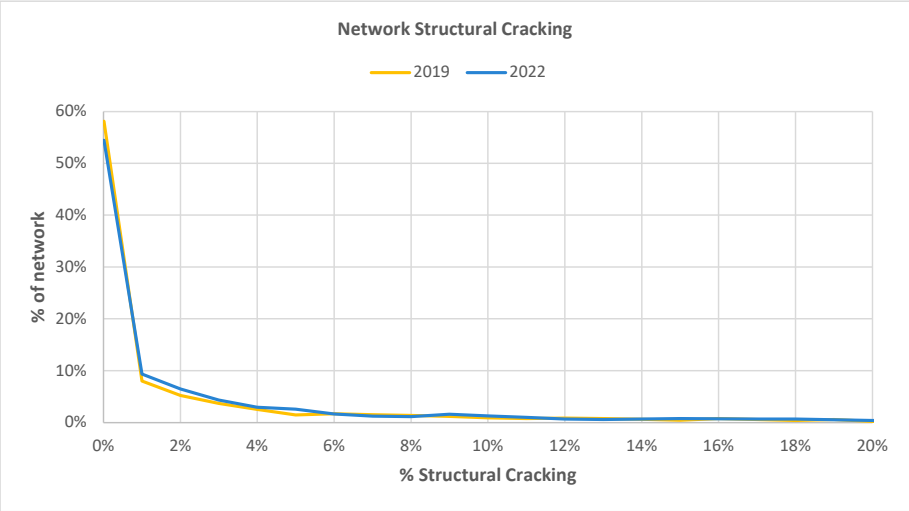


Figure A.3.3 Network structural cracking distribution

Environmental Cracking

Environmental cracking has marginally increased in the lower categories (<5%) between 2019 and 2022 as shown in Figure A.3.4.

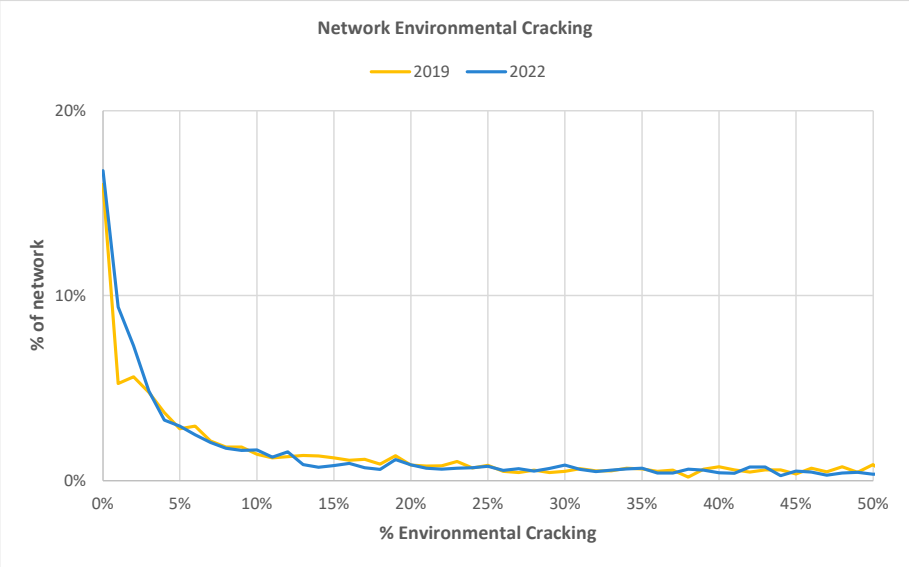


Figure A.3.4 Network environmental cracking distribution

Ravelling

There have been some minor increases in low level ravelling (<5%) between 2019 and 2022, however ravelling remains stable as shown in Figure A.3.5.

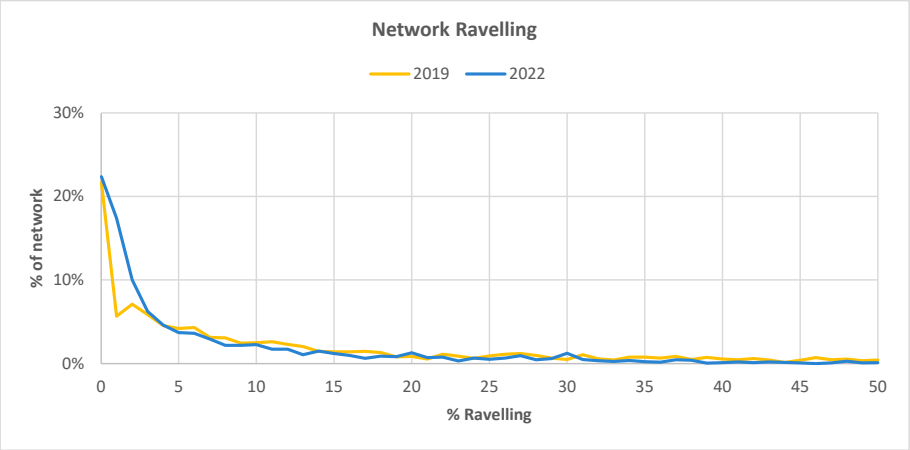


Figure A.3.5 Network ravelling distribution

Potholes

There have been increases in low level potholes (<5%) between 2019 and 2022, however the quantities of significant potholing (>5%) have reduced as shown in Figure A.3.6.

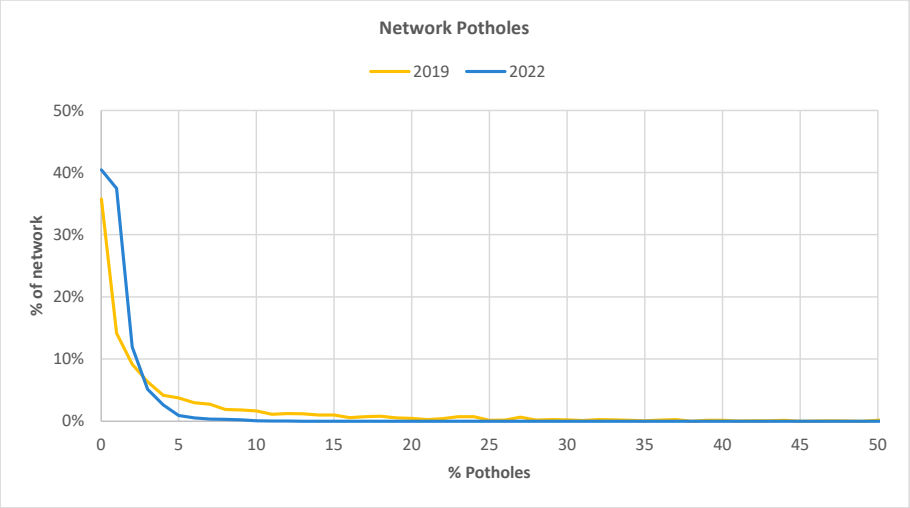


Figure A.3.6 Network pothole distribution

A.4 Overall Assessment

The network has remained relatively stable by all metrics between 2019 and 2022. There appears to be some increase in minor areas of surface defects; this could be actual degradation of the network but could also simply be variations in measurement of defects at this bottom end of the scale. These network trends should be confirmed in the next full survey (2025) which will provide a larger timeframe for comparison.

Based on the survey data the recent budgets, works programming and prioritisation practices employed on the network appear to be maintaining the network condition at its current levels.

Appendix B Works Modelling Process

B.1 Process

Works modelling is a simulation of Council's capital works processes. It is intended to iteratively model the network condition over time, developing a works program for each model year and applying treatments to road segments. A simplified flowchart of this process is shown in Figure B.1.1.

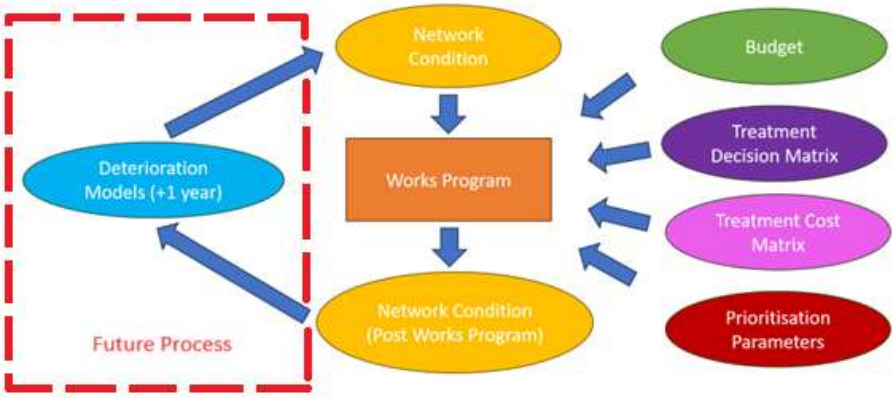


Figure B.1.1 Modelling Process

The key elements of the works modelling process are:

- Network Condition – this is initially based on the most recent condition survey, and then modelled forwards using deterioration models to match the budget year in question
- Budget – a budget is set for each year (and can be set for different work types)
- Treatment Decision Matrix – this sets the intervention levels for action and treatment decisions (replicates Council processes and service levels)
- Treatment Cost Matrix – sets the costs for each treatment, and their impact on the road condition parameters
- Prioritisation Parameters – sets the rules and targets for prioritising works (when more work than budget allows)
- Deterioration Models – describe how each road segment will deteriorate over time (without intervention) for each condition metric

The aim is to identify and prioritise works required on the network to develop a forward works program that can be considered in Civil Operations planning processes. Development of the works program involves two key steps, which are discussed in further detail below.

Step 1 – Identify Treatments

Stage 1 – Segment Treatments

Firstly, all road segments have their condition metrics compared against intervention levels that have been set for each road class (classification matrix). This identifies any segments requiring treatment and a broad category of treatment. The treatment categories (in order of increasing magnitude/cost) are:

- No treatment
- Maintenance treatment (e.g., crack sealing, patching etc.)
- Resurface
- Redesign
- Reconstruct

In the second stage, each road segment identified for treatment is run through a treatment resolution matrix, whereby a detailed treatment solution is identified. The intention of this resolution matrix is to mimic Council's decision processes as close as possible, and the matrix has been workshopped comprehensively with staff to ensure treatment decisions closely match operations.

The output from this process is a list of all road segments requiring maintenance, surface works or pavement works based on the input condition data (could be current, or future projected data).

Stage 2 – Preparation works

Road segments identified for resurfacing often have minor pavement repairs and preparation works undertaken in advance of the resurfacing activity. To simulate this process and better estimate the true cost of the resurfacing treatment, the road network is run through the same process as Stage 1, but with 10m segments. This produces a "micro" view of the network and identifies any pavement preparation works that are required prior to resurfacing activities.

A flowchart of the works identification process is shown in Figure B.1.2.

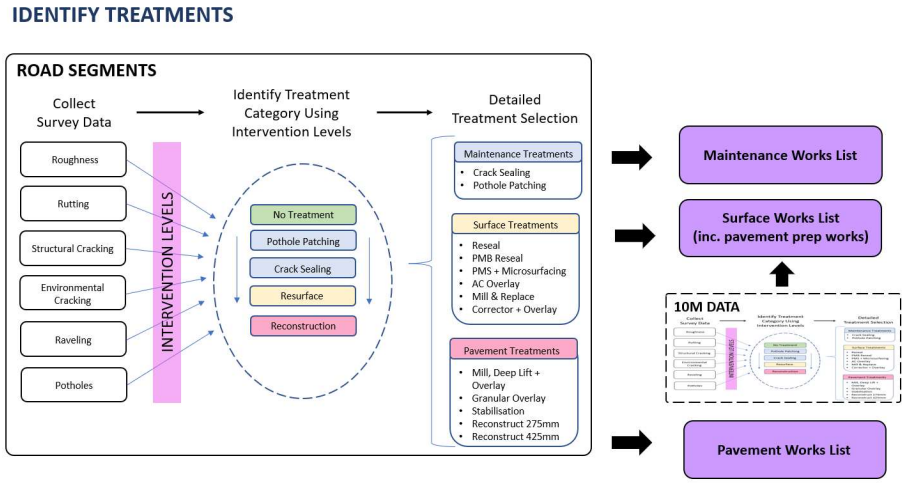


Figure B.1.2 Treatment Identification

Step 2 – Cost & Prioritise Treatments

Stage 1 – Cost Treatments

With a list of road segments and treatments identified, it is a straight forwards exercise to price these works using unit rates in a treatment cost matrix. These rates have been developed in consultation with Civil Ops staff and represent the current unit price to undertake these capital works.

The other important element to enable forward modelling is to identify for each treatment which condition metrics are "reset" after that treatment has occurred and what limits there are on these resets. For example, a pavement reconstruction will reset the roughness to a new road level, whereas resurfacing will only have a minor impact on roughness but will reset surface metrics completely (I.e. cracking). These "resets" are programmed into treatments and allow for modelling the network over time.

Stage 2 – Prioritise Treatments

A road network will generally have more work to be done than budget will allow in any given year. To prioritise the works list, a "Priority Score" is calculated, based on the following:

- Road class weighting (high order roads have a higher weighting for the score)
- Exceedance level (the higher the exceedance beyond intervention level, the higher the score)

These two considerations are included to produce a single value which can be used to compare one road segment against another. The reasoning behind using these two variables for prioritisation was:

- Higher order roads experience more traffic and serve more of the community; and
- Roads with greater exceedance of intervention levels are those with the highest need, and those most likely to deliver the most noticeable impact on the community if they are addressed first.

A flowchart of the prioritisation process is shown in Figure B.1.3.

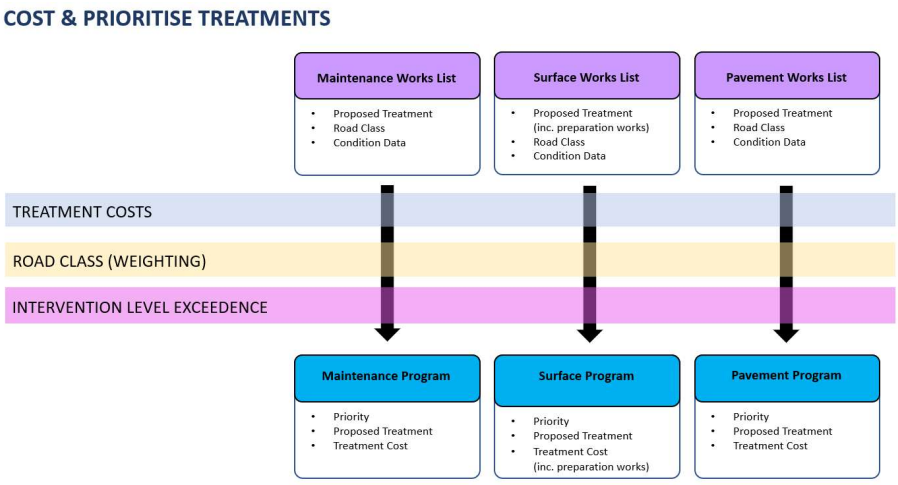


Figure B.1.3 Prioritisation process

Appendix C Works Modelling Parameters

C.1 General Treatment Classification Matrix

Roughness

ROUGHNESS (NRM)	Class 3 (Rural - Main Roads)	Class 4 (Rural - Local Roads)	Class 5 (Rural - Minor Local Roads)	Class 6 (Urban - Heavy Traff)	Class 7 (Urban - Second Roads)
0-80	No Treatment	No Treatment	No Treatment	No Treatment	No Treatment
80 - 100	No Treatment	No Treatment	No Treatment	No Treatment	No Treatment
100-120	No Treatment	No Treatment	No Treatment	Redesign	No Treatment
120-140	No Treatment	No Treatment	No Treatment	Redesign	Redesign
140-160	No Treatment	No Treatment	No Treatment	Redesign	Redesign
160-180	Redesign	No Treatment	No Treatment	Redesign	Redesign
180-200	Redesign	No Treatment	No Treatment	Reconstruction	Reconstruction
200-300	Reconstruction	Redesign	No Treatment	Reconstruction	Reconstruction
300-350	Reconstruction	Reconstruction	Redesign	Reconstruction	Reconstruction
350-500	Reconstruction	Reconstruction	Reconstruction	Reconstruction	Reconstruction
>500	Reconstruction	Reconstruction	Reconstruction	Reconstruction	Reconstruction

ROUGHNESS (NRM)	Class 8 (Urban - Local Roads)	Class 9 (Urban - Minor Local Roads)	Class 9 (Urban - Minor Local Roads)	Class 13 (Industrial)
0-80	No Treatment	No Treatment	No Treatment	No Treatment
80 - 100	No Treatment	No Treatment	No Treatment	No Treatment
100-120	No Treatment	No Treatment	No Treatment	No Treatment
120-140	No Treatment	No Treatment	No Treatment	Redesign
140-160	Redesign	No Treatment	No Treatment	Redesign
160-180	Redesign	No Treatment	No Treatment	Redesign
180-200	Redesign	No Treatment	No Treatment	Reconstruction
200-300	Reconstruction	Redesign	Redesign	Reconstruction
300-350	Reconstruction	Redesign	Redesign	Reconstruction
350-500	Reconstruction	Reconstruction	Reconstruction	Reconstruction
>500	Reconstruction	Reconstruction	Reconstruction	Reconstruction

Rutting

RUT DEPTH (mm)	Class 3 (Rural - Main Roads)	Class 4 (Rural - Local Roads)	Class 5 (Rural - Minor Local Roads)	Class 6 (Urban - Indust&Heavy Traff)	Class 7 (Urban - Second Roads)
0-10	No Treatment	No Treatment	No Treatment	No Treatment	No Treatment
10-15	No Treatment	No Treatment	No Treatment	No Treatment	No Treatment
15-20	No Treatment	No Treatment	No Treatment	Redesign	No Treatment
20-25	Redesign	No Treatment	No Treatment	Redesign	Redesign
25-30	Redesign	Redesign	No Treatment	Reconstruction	Redesign
30-35	Reconstruction	Redesign	Redesign	Reconstruction	Reconstruction
35-40	Reconstruction	Reconstruction	Redesign	Reconstruction	Reconstruction
>40	Reconstruction	Reconstruction	Reconstruction	Reconstruction	Reconstruction

RUT DEPTH (mm)	Class 8 (Urban - Local Roads)	Class 9 (Urban - Minor Local Roads)	Class 9 (Urban - Minor Local Roads)	Class 13 (Industrial)
0-10	No Treatment	No Treatment	No Treatment	No Treatment
10-15	No Treatment	No Treatment	No Treatment	No Treatment
15-20	No Treatment	No Treatment	No Treatment	No Treatment
20-25	No Treatment	No Treatment	No Treatment	Redesign
25-30	Redesign	No Treatment	No Treatment	Redesign
30-35	Redesign	Redesign	Redesign	Reconstruction
35-40	Reconstruction	Redesign	Redesign	Reconstruction
>40	Reconstruction	Reconstruction	Reconstruction	Reconstruction

Environmental Cracking

ENVIRONMENTAL CRACKING (%)	Class 3 (Rural - Main Roads)	Class 4 (Rural - Local Roads)	Class 5 (Rural - Minor Local Roads)	Class 6 (Urban - Indust&Heavy Traff)	Class 7 (Urban - Second Roads)
0-5	No Treatment	No Treatment	No Treatment	No Treatment	No Treatment
5-10	No Treatment	No Treatment	No Treatment	Crack Sealing	No Treatment
10-15	No Treatment	No Treatment	No Treatment	Crack Sealing	Crack Sealing
15-20	Crack Sealing	No Treatment	No Treatment	Crack Sealing	Crack Sealing
20-25	Crack Sealing	No Treatment	No Treatment	Crack Sealing	Crack Sealing
25-30	Crack Sealing	Crack Sealing	Crack Sealing	Redesign	Crack Sealing
30-35	Crack Sealing	Crack Sealing	Crack Sealing	Redesign	Redesign
35-40	Crack Sealing	Crack Sealing	Crack Sealing	Redesign	Redesign
40-45	Redesign	Crack Sealing	Crack Sealing	Redesign	Redesign
45-50	Redesign	Crack Sealing	Crack Sealing	Redesign	Redesign
50-75	Redesign	Redesign	Redesign	Redesign	Redesign
>75	Redesign	Redesign	Redesign	Redesign	Redesign

ENVIRONMENTAL CRACKING (%)	Class 8 (Urban - Local Roads)	Class 9 (Urban - Minor Local Roads)	Class 9 (Urban - Minor Local Roads)	Class 13 (Industrial)
0-5	No Treatment	No Treatment	No Treatment	No Treatment
5-10	No Treatment	No Treatment	No Treatment	No Treatment
10-15	No Treatment	No Treatment	No Treatment	Crack Sealing
15-20	Crack Sealing	No Treatment	No Treatment	Crack Sealing
20-25	Crack Sealing	Crack Sealing	Crack Sealing	Crack Sealing
25-30	Crack Sealing	Crack Sealing	Crack Sealing	Crack Sealing
30-35	Crack Sealing	Crack Sealing	Crack Sealing	Redesign
35-40	Redesign	Crack Sealing	Crack Sealing	Redesign
40-45	Redesign	Crack Sealing	Crack Sealing	Redesign
45-50	Redesign	Crack Sealing	Crack Sealing	Redesign
50-75	Redesign	Redesign	Redesign	Redesign
>75	Redesign	Redesign	Redesign	Redesign

Structural Cracking

STRUCTURAL CRACKING (%)	Class 3 (Rural - Main Roads)	Class 4 (Rural - Local Roads)	Class 5 (Rural - Minor Local Roads)	Class 6 (Urban - Indust&Heavy Traff)	Class 7 (Urban - Second Roads)
0-5	No Treatment	No Treatment	No Treatment	No Treatment	No Treatment
5-10	No Treatment	No Treatment	No Treatment	Heavy Patching	No Treatment
10-15	Heavy Patching	No Treatment	No Treatment	Redesign	Heavy Patching
15-20	Redesign	Heavy Patching	No Treatment	Redesign	Redesign
20-25	Redesign	Redesign	Heavy Patching	Redesign	Redesign
25-30	Redesign	Redesign	Redesign	Redesign	Redesign
30-50	Redesign	Redesign	Redesign	Redesign	Redesign
50-60	Redesign	Redesign	Redesign	Redesign	Redesign
>60	Redesign	Redesign	Redesign	Redesign	Redesign

STRUCTURAL CRACKING (%)	Class 8 (Urban - Local Roads)	Class 9 (Urban - Minor Local Roads)	Class 9 (Urban - Minor Local Roads)	Class 13 (Industrial)
0-5	No Treatment	No Treatment	No Treatment	No Treatment
5-10	No Treatment	No Treatment	No Treatment	No Treatment
10-15	No Treatment	No Treatment	No Treatment	Heavy Patching
15-20	Heavy Patching	No Treatment	No Treatment	Redesign
20-25	Redesign	No Treatment	No Treatment	Redesign
25-30	Redesign	No Treatment	No Treatment	Redesign
30-50	Redesign	Heavy Patching	Heavy Patching	Redesign
50-60	Redesign	Redesign	Redesign	Redesign
>60	Redesign	Redesign	Redesign	Redesign

Potholes

POTHOLES (%)	Class 3 (Rural - Main Roads)	Class 4 (Rural - Local Roads)	Class 5 (Rural - Minor Local Roads)	Class 6 (Urban - Indust&Heavy Traff)	Class 7 (Urban - Second Roads)
0 -1	No Treatment	No Treatment	No Treatment	No Treatment	No Treatment
1 - 5	No Treatment	No Treatment	No Treatment	Pothole Patching	No Treatment
5-10	Pothole Patching	No Treatment	No Treatment	Redesign	Pothole Patching
10-15	Redesign	Pothole Patching	Pothole Patching	Redesign	Redesign
>15	Redesign	Redesign	Redesign	Redesign	Redesign

POTHOLES (%)	Class 8 (Urban - Local Roads)	Class 9 (Urban - Minor Local Roads)	Class 9 (Urban - Minor Local Roads)	Class 13 (Industrial)
0 -1	No Treatment	No Treatment	No Treatment	No Treatment
1 - 5	No Treatment	No Treatment	No Treatment	No Treatment
5-10	Pothole Patching	No Treatment	No Treatment	Pothole Patching
10-15	Redesign	Pothole Patching	Pothole Patching	Redesign
>15	Redesign	Redesign	Redesign	Redesign

Ravelling

RAVELLING (%)	Class 3 (Rural - Main Roads)	Class 4 (Rural - Local Roads)	Class 5 (Rural - Minor Local Roads)	Class 6 (Urban - Indust&Heavy Traff)	Class 7 (Urban - Second Roads)
0-10	No Treatment	No Treatment	No Treatment	No Treatment	No Treatment
10-20	No Treatment	No Treatment	No Treatment	Resurface	No Treatment
20-35	Resurface	No Treatment	No Treatment	Resurface	Resurface
35-40	Resurface	Resurface	No Treatment	Resurface	Resurface
>40	Resurface	Resurface	Resurface	Resurface	Resurface

RAVELLING (%)	Class 8 (Urban - Local Roads)	Class 9 (Urban - Minor Local Roads)	Class 9 (Urban - Minor Local Roads)	Class 13 (Industrial)
0-10	No Treatment	No Treatment	No Treatment	No Treatment
10-20	No Treatment	No Treatment	No Treatment	No Treatment
20-35	No Treatment	No Treatment	No Treatment	Resurface
35-40	Resurface	No Treatment	No Treatment	Resurface
>40	Resurface	Resurface	Resurface	Resurface

C.2 Treatment Resolution Matrix

Class 3 Roads

NAASRA Class	Treatment Classification	Surface Type	Minimum Age	Crocodile Cracking	Roughness	Rut Depth	Geographic Class	Treatment
Class 3 (Rural - Main Roads)	Do Nothing	Seal	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	Reseal
			> Min				Reactive	Reseal
		Asphalt	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	40mm AC Overlay
			> Min				Reactive	40mm AC Overlay
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Crack Sealing	Seal					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
		Asphalt					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
	Pothole Patching	Seal					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
		Asphalt					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
	Heavy Patching	Seal					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
		Asphalt					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
	Resurface	Seal					Non Reactive	Reseal
							Reactive	Reseal
		Asphalt					Non Reactive	40mm AC Overlay
							Reactive	40mm AC Overlay
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Redesign	Seal	> Min	<30	<160	<20	Non Reactive	Reseal
						<20	Reactive	Reseal
						>20	Non Reactive	Stabilisation + 2 coat
						>20	Reactive	Stabilisation + 2 coat
					160-200		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>200		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
				>30	<160	<20	Non Reactive	PMB Reseal
						<20	Reactive	PMB Reseal
						>20	Non Reactive	Stabilisation + 2 coat
						>20	Reactive	Stabilisation + 2 coat
					160-200		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>200		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
			< Min		<200		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>200		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Asphalt	> Min	< 30	<160	<20	Non Reactive	20mm AC Overlay
						<20	Reactive	20mm AC Overlay
						>20	Non Reactive	Corrector + Overlay
						>20	Reactive	Corrector + Overlay
					160-200		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>200		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
				> 30	<160	<20	Non Reactive	20mm AC Overlay
						<20	Reactive	20mm AC Overlay
						>20	Non Reactive	Corrector + Overlay
						>20	Reactive	Corrector + Overlay
					160-200		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>200		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
			< Min		<200		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>200		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Reconstruction	Seal					Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Asphalt					Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC

Class 4 Roads

NAASRA Class	Treatment Classification	Surface Type	Minimum Age	Crocodile Cracking	Roughness	Rut Depth	Geographic Class	Treatment
Class 4 (Rural - Local Roads)	Do Nothing	Seal	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	Reseal
			> Min				Reactive	Reseal
		Slurry	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	Reseal
			> Min				Reactive	Reseal
		Asphalt	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	PMB + Microsurfacing
			> Min				Reactive	PMB + Microsurfacing
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Crack Sealing	Seal					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
		Asphalt					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
		Slurry					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
	Pothole Patching	Seal					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
		Slurry					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
		Asphalt					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
	Heavy Patching	Seal					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
		Slurry					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
		Asphalt					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
	Resurface	Seal					Non Reactive	Reseal
							Reactive	Reseal
		Slurry					Non Reactive	Reseal
							Reactive	Reseal
		Asphalt					Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Redesign	Seal	> Min	<40	<200	<25	Non Reactive	Reseal
						<25	Reactive	Reseal
						>25	Non Reactive	Stabilisation + 2 coat
						>25	Reactive	Stabilisation + 2 coat
					200-300		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>300		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
				>40	<200	<25	Non Reactive	PMB Reseal
						<25	Reactive	PMB Reseal
						>25	Non Reactive	Stabilisation + 2 coat
						>25	Reactive	Stabilisation + 2 coat
					200-300		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>300		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
			< Min		<300		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>300		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Slurry	> Min	<40	<200	<25	Non Reactive	Reseal
						<25	Reactive	Reseal
						>25	Non Reactive	Stabilisation + 2 coat
						>25	Reactive	Stabilisation + 2 coat
					200-300		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>300		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
				>40	<200	<25	Non Reactive	PMB Reseal
						<25	Reactive	PMB Reseal
						>25	Non Reactive	Stabilisation + 2 coat
						>25	Reactive	Stabilisation + 2 coat
					200-300		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>300		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
			< Min		<300		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>300		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Asphalt	> Min	<40	<200	<25	Non Reactive	20mm AC Overlay
						<25	Reactive	20mm AC Overlay
						>25	Non Reactive	Corrector + Overlay
						>25	Reactive	Corrector + Overlay
					200-300		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>300		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
				>40	<200	<25	Non Reactive	20mm AC Overlay
						<25	Reactive	20mm AC Overlay
						>25	Non Reactive	Corrector + Overlay
						>25	Reactive	Corrector + Overlay
					200-300		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>300		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
			< Min		<300		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>300		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Reconstruction	Seal					Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Slurry					Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Asphalt					Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC

Class 5 Roads

NAASRA Class	Treatment Classification	Surface Type	Minimum Age	Crocodile Cracking	Roughness	Rut Depth	Geographic Class	Treatment
Class 5 (Rural - Minor Local Roads)	Do Nothing	Seal	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	Reseal
			> Min				Reactive	Reseal
		Slurry	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	Reseal
			> Min				Reactive	Reseal
		Asphalt	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	40mm AC Overlay
			> Min				Reactive	40mm AC Overlay
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Crack Sealing	Seal					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
		Asphalt					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
		Slurry					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
	Pothole Patching	Seal					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
		Slurry					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
		Asphalt					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
	Heavy Patching	Seal					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
		Slurry					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
		Asphalt					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
	Resurface	Seal					Non Reactive	Reseal
							Reactive	Reseal
		Slurry					Non Reactive	Reseal
							Reactive	Reseal
		Asphalt					Non Reactive	40mm AC Overlay
							Reactive	40mm AC Overlay
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Redesign	Seal	> Min	< 40	<300	<30	Non Reactive	Reseal
						<30	Reactive	Reseal
						>30	Non Reactive	Stabilisation + 2 coat
						>30	Reactive	Stabilisation + 2 coat
					300-350		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>350		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
				> 40	<300	<30	Non Reactive	PMB Reseal
						<30	Reactive	PMB Reseal
						>30	Non Reactive	Stabilisation + 2 coat
						>30	Reactive	Stabilisation + 2 coat
					-350		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>350		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
			< Min		<350		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>350		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Slurry	> Min	< 40	<300	<30	Non Reactive	Reseal
						<30	Reactive	Reseal
						>30	Non Reactive	Stabilisation + 2 coat
						>30	Reactive	Stabilisation + 2 coat
					-350		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>350		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
				> 40	<300	<30	Non Reactive	PMB Reseal
						<30	Reactive	PMB Reseal
						>30	Non Reactive	Stabilisation + 2 coat
						>30	Reactive	Stabilisation + 2 coat
					-350		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>350		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
			< Min		<350		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>350		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Asphalt	> Min	< 40	<300	<30	Non Reactive	20mm AC Overlay
						<30	Reactive	20mm AC Overlay
						>30	Non Reactive	Corrector + Overlay
						>30	Reactive	Corrector + Overlay
					160-200-350		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>350		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
				> 40	<300	<30	Non Reactive	20mm AC Overlay
						<30	Reactive	20mm AC Overlay
						>30	Non Reactive	Corrector + Overlay
						>30	Reactive	Corrector + Overlay
					160-200-350		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>350		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
			< Min		<350		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>350		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Reconstruction	Seal					Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Slurry					Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 275mm + 2 coat
		Asphalt					Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC

Class 6 Roads

NAASRA Class	Treatment Classification	Surface Type	Minimum Age	Crocodile Cracking	Roughness	Rut Depth	Geographic Class	Treatment
Class 6 (Urban Arterial)	Do Nothing	Seal	< Min				Non Reactive	Do Nothing
							Reactive	Do Nothing
			> Min				Non Reactive	Reseal
							Reactive	Reseal
		Asphalt	< Min				Non Reactive	Do Nothing
							Reactive	Do Nothing
			> Min				Non Reactive	20mm AC Overlay
							Reactive	20mm AC Overlay
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Crack Sealing	Seal					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
		Asphalt					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
	Pothole Patching	Seal					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
		Asphalt					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
	Heavy Patching	Seal					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
		Asphalt					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
	Resurface	Seal					Non Reactive	Reseal
							Reactive	Reseal
		Asphalt					Non Reactive	40mm AC Overlay
							Reactive	40mm AC Overlay
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Redesign	Seal	> Min	<15	<100	<15	Non Reactive	Reseal
							Reactive	Reseal
						>15	Non Reactive	Reseal
							Reactive	Reseal
					100-140		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					140-180		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>180		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
				>15	<100	<15	Non Reactive	PMB Reseal
							Reactive	PMB Reseal
						>15	Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					100-140		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					140-180		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>180		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
			< Min		<180		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>180		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Asphalt	> Min	<15	<100	<15	Non Reactive	40mm AC Overlay
							Reactive	40mm AC Overlay
						>15	Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					100-140		Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					140-180		Non Reactive	MILL + DEEP LIFT + OVERLAY
							Reactive	MILL + DEEP LIFT + OVERLAY
					>180		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
				>15	<100	<15	Non Reactive	40mm AC Overlay
							Reactive	40mm AC Overlay
						>15	Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					100-140		Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					140-180		Non Reactive	MILL + DEEP LIFT + OVERLAY
							Reactive	MILL + DEEP LIFT + OVERLAY
					>180		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
			< Min		<180		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>180		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Reconstruction	Seal					Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Asphalt					Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC

Class 7 Roads

NAASRA Class	Treatment Classification	Surface Type	Minimum Age	Crocodile Cracking	Roughness	Rut Depth	Geographic Class	Treatment
Class 7 (Urban - Second Roads)	Do Nothing	Seal	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	Reseal
			> Min				Reactive	Reseal
		Slurry	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	PMB + Microsurfacing
			> Min				Reactive	PMB + Microsurfacing
		Asphalt	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	40mm AC Overlay
			> Min				Reactive	40mm AC Overlay
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Crack Sealing	Seal					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
		Asphalt					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
	Pothole Patching	Seal					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
		Asphalt					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
	Heavy Patching	Seal					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
		Asphalt					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
	Resurface	Seal					Non Reactive	Reseal
							Reactive	Reseal
		Asphalt					Non Reactive	40mm AC Overlay
							Reactive	40mm AC Overlay
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Redesign	Seal	> Min	<20	<120	<20	Non Reactive	Reseal
							Reactive	Reseal
						>20	Non Reactive	Reseal
							Reactive	Reseal
					120-150		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					150-180		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>180		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
				>20	<120	<20	Non Reactive	PMB Reseal
							Reactive	PMB Reseal
						>20	Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					120-150		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					150-180		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>180		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
			< Min		<180		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>180		Non Reactive	Reconstruct 275mm + 2 coat Zero
							Reactive	Reconstruct 275mm + 2 coat Zero
		Slurry	> Min	<20	<120	<20	Non Reactive	20mm AC Overlay
							Reactive	20mm AC Overlay
						>20	Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					120-150		Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					150-180		Non Reactive	MILL + DEEP LIFT + OVERLAY
							Reactive	MILL + DEEP LIFT + OVERLAY
					>180		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
				>20	<120	<20	Non Reactive	PMB + 40mm AC OVERLAY
							Reactive	PMB + 40mm AC OVERLAY
						>20	Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					120-150		Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					150-180		Non Reactive	MILL + DEEP LIFT + OVERLAY
							Reactive	MILL + DEEP LIFT + OVERLAY
					>180		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
			< Min		<180		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>180		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Asphalt	> Min	<20	<120	<20	Non Reactive	20mm AC Overlay
							Reactive	20mm AC Overlay
						>20	Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					120-150		Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					150-180		Non Reactive	MILL + DEEP LIFT + OVERLAY
							Reactive	MILL + DEEP LIFT + OVERLAY
					>180		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
				>20	<120	<20	Non Reactive	PMB + 40mm AC OVERLAY
							Reactive	PMB + 40mm AC OVERLAY
						>20	Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					120-150		Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					150-180		Non Reactive	MILL + DEEP LIFT + OVERLAY
							Reactive	MILL + DEEP LIFT + OVERLAY
					>180		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
			< Min		<180		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>180		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Reconstruction	Seal					Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Asphalt					Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC

Class 8 Roads

NAASRA Class	Treatment Classification	Surface Type	Minimum Age	Crocodile Cracking	Roughness	Rut Depth	Geographic Class	Treatment
Class 8 (Urban - Local Roads)	Do Nothing	Seal	< Min				Non Reactive	Do Nothing
							Reactive	Do Nothing
			> Min				Non Reactive	Reseal
							Reactive	Reseal
		Slurry	< Min				Non Reactive	Do Nothing
							Reactive	Do Nothing
			> Min				Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
		Asphalt	< Min				Non Reactive	Do Nothing
							Reactive	Do Nothing
			> Min				Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Crack Sealing	Seal					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
		Asphalt					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
		Slurry					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
	Pothole Patching	Seal					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
		Slurry					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
		Asphalt					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
	Heavy Patching	Seal					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
		Slurry					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
		Asphalt					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
	Resurface	Seal					Non Reactive	Reseal
							Reactive	Reseal
		Slurry					Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
		Asphalt					Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Redesign	Seal	> Min	<30	<140	<25	Non Reactive	Reseal
							Reactive	Reseal
						>25	Non Reactive	Reseal
							Reactive	Reseal
					140-160		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					160-200		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>200		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
				>30	<140	<25	Non Reactive	PMB Reseal
							Reactive	PMB Reseal
						>25	Non Reactive	PMB Reseal
							Reactive	PMB Reseal
					140-160		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					160-200		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>200		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
			< Min				Non Reactive	Do Nothing
					<200		Reactive	Do Nothing
					>200		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Slurry	> Min	<30	<140	<25	Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
						>25	Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					140-160		Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					160-200		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>200		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
				>30	<140	<25	Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
						>25	Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					140-160		Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					160-200		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>200		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
			< Min				Non Reactive	Do Nothing
					<200		Reactive	Do Nothing
					>200		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
		Asphalt	> Min	<30	<140	<25	Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
						>25	Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					140-160		Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					160-200		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>200		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
				>30	<140	<25	Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
						>25	Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					140-160		Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					160-200		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>200		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
			< Min				Non Reactive	Do Nothing
					<200		Reactive	Do Nothing
					>200		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Reconstruction	Seal					Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Slurry					Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Asphalt					Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC

Class 9 Roads

NAASRA Class	Treatment Classification	Surface Type	Minimum Age	Crocodile Cracking	Roughness	Rut Depth	Geographic Class	Treatment
Class 9 (Urban - Minor Local Roads)	Do Nothing	Seal	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	Reseal
			> Min				Reactive	Reseal
		Slurry	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	PMB + Microsurfacing
			> Min				Reactive	PMB + Microsurfacing
		Asphalt	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	PMB + Microsurfacing
			> Min				Reactive	PMB + Microsurfacing
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Stencilled Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Crack Sealing	Seal					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
		Asphalt					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
		Slurry					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
	Pothole Patching	Seal					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
		Asphalt					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
		Slurry					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
	Heavy Patching	Seal					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
		Asphalt					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
	Resurface	Seal					Non Reactive	Reseal
							Reactive	Reseal
		Slurry					Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
		Asphalt					Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Stencilled Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Redesign	Seal	> Min	<40	<200	<30	Non Reactive	Reseal
							Reactive	Reseal
						>30	Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					200-300		Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					300-350		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>350		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
				>40	<200	<30	Non Reactive	PMB Reseal
							Reactive	PMB Reseal
						>30	Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					200-300		Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					300-350		Non Reactive	Stabilisation + 2 coat
							Reactive	Stabilisation + 2 coat
					>350		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
			< Min		<350		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>350		Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Slurry	> Min	<40	<200	<30	Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
						>30	Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					200-300		Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					300-350		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>350		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
				>40	<200	<30	Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
						>30	Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					200-300		Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					300-350		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>350		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
			< Min		<350		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>350		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
		Asphalt	> Min	<40	<200	<30	Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
						>30	Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					200-300		Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					300-350		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>350		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
				>40	<200	<30	Non Reactive	PMB + Microsurfacing
							Reactive	PMB + Microsurfacing
						>30	Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					200-300		Non Reactive	PMB + RUT CORRECTION + MICROSURFACING
							Reactive	PMB + RUT CORRECTION + MICROSURFACING
					300-350		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>350		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
			< Min		<350		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>350		Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Stencilled Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Reconstruction	Seal					Non Reactive	Reconstruct 275mm + 2 coat
							Reactive	Reconstruct 425mm + 2 coat
		Slurry					Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Stencilled Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Asphalt					Non Reactive	Reconstruct 275mm + AC
							Reactive	Reconstruct 425mm + AC

Class 13 Roads

NAASRA Class	Treatment Classification	Surface Type	Minimum Age	Crocodile Cracking	Roughness	Rut Depth	Geographic Class	Treatment
Class 13 (Industrial)	Do Nothing	Seal	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	20mm AC Overlay
			> Min				Reactive	20mm AC Overlay
		Asphalt	< Min				Non Reactive	Do Nothing
			< Min				Reactive	Do Nothing
			> Min				Non Reactive	40mm AC Overlay
			> Min				Reactive	40mm AC Overlay
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Crack Sealing	Seal					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
		Asphalt					Non Reactive	Crack Sealing
							Reactive	Crack Sealing
	Pothole Patching	Seal					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
		Asphalt					Non Reactive	Pothole Patching
							Reactive	Pothole Patching
	Heavy Patching	Seal					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
		Asphalt					Non Reactive	Heavy Patching
							Reactive	Heavy Patching
	Resurface	Seal					Non Reactive	20mm AC Overlay
							Reactive	20mm AC Overlay
		Asphalt					Non Reactive	40mm AC Overlay
							Reactive	40mm AC Overlay
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Pavers					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Redesign	Seal	> Min	<20	<120	<20	Non Reactive	20mm AC Overlay
							Reactive	20mm AC Overlay
						>20	Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					120-150		Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					150-180		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>180		Non Reactive	Reconstruct 600mm + AC
							Reactive	Reconstruct 600mm + AC
				>20	<120	<20	Non Reactive	40mm AC Overlay
							Reactive	40mm AC Overlay
						>20	Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					120-150		Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					150-180		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>180		Non Reactive	Reconstruct 600mm + AC
							Reactive	Reconstruct 600mm + AC
			< Min		<180		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>180		Non Reactive	Reconstruct 600mm + AC
							Reactive	Reconstruct 600mm + AC
		Asphalt	> Min	<20	<120	<20	Non Reactive	40mm AC Overlay
							Reactive	40mm AC Overlay
						>20	Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					120-150		Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					150-180		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>180		Non Reactive	Reconstruct 600mm + AC
							Reactive	Reconstruct 600mm + AC
				>20	<120	<20	Non Reactive	40mm AC Overlay
							Reactive	40mm AC Overlay
						>20	Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					120-150		Non Reactive	Corrector + Overlay
							Reactive	Corrector + Overlay
					150-180		Non Reactive	Stabilisation + AC
							Reactive	Stabilisation + AC
					>180		Non Reactive	Reconstruct 600mm + AC
							Reactive	Reconstruct 600mm + AC
			< Min		<180		Non Reactive	Do Nothing
							Reactive	Do Nothing
					>180		Non Reactive	Reconstruct 600mm + AC
							Reactive	Reconstruct 600mm + AC
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
	Reconstruction	Seal					Non Reactive	Reconstruct 600mm + 2 coat
							Reactive	Reconstruct 600mm + 2 coat
		Plain Concrete					Non Reactive	Do Nothing
							Reactive	Do Nothing
		Asphalt					Non Reactive	Reconstruct 600mm + AC
							Reactive	Reconstruct 600mm + AC

C.3 Treatment Cost Matrix

Treatment	Treatment Description	Activity Type	Thickness Depth (mm)	Applies to	Road Class Treatment Cost ($ per m2)
1	ROUTINE	N	Unit Rate	Segment	0.30
2	Do Nothing	N	Unit Rate	Segment	0.00
3	CRACK SEALING	M	m	Defect	2.00
4	POTHOLE PATCHING	M	m2	Defect	160.00
5	HEAVY PATCHING	M	m2	Defect	160.00
6	RESEAL	S	m2	Segment	8.50
7	PMB RESEAL	S	m2	Segment	11.00
8	PMB + MICROSURFACING	SP	m2	Segment	17.50
9	PMB + RUT CORRECTION + MICROSURFACING	SP	m2	Segment	35.00
10	20mm AC OVERLAY	S	m2	Segment	30.00
11	40mm AC OVERLAY	S	m2	Segment	40.00
12	PMB + 40mm AC OVERLAY	S	m2	Segment	51.00
13	GEOGRID + AC OVERLAY	S	m2	Segment	45.00
14	CORRECTOR + OVERLAY	S	m2	Segment	48.00
15	MILL + REPLACE	S	m2	Segment	65.00
16	MILL + DEEP LIFT + OVERLAY	PS	m2	Segment	105.00
17	GRANULAR OVERLAY + 2 COAT	PS	m2	Segment	24.00
18	STABILISATION + 2 COAT	PS	m2	Segment	59.50
19	STABILISATION + AC	PS	m2	Segment	91.00
20	RECONSTRUCT 275MM + 2 COAT	PS	m2	Segment	198.50
21	RECONSTRUCT 275MM + AC	PS	m2	Segment	230.00
22	RECONSTRUCT 425MM + 2 COAT	PS	m2	Segment	228.50
23	RECONSTRUCT 425MM + AC	PS	m2	Segment	260.00
24	RECONSTRUCT 600MM + 2 COAT	PS	m2	Segment	318.50
25	RECONSTRUCT 600MM + AC	PS	m2	Segment	350.00

C.4 Prioritisation Parameters

Class Weighting – All programs

Class	Weighting
3	1.03
4A	1.02
4B	1.01
5A	1
5B	1
5C	1
6A	1.05
6B	1.04
6C	1.03
7	1.02
8	1.01
9A	1
9B	1
10	1
13A	1.02
13B	1.02

Works Program – Surface

The surface works priority score focuses on the surface condition indicators as well as some consideration (50% discount) to the current road segment roughness:

Score = Weighting x ([0.5 x % Roughness Exceedance] + [1 x % Structural Cracking Exceedance] + [1 x % Environmental Cracking Exceedance] + [1 x % Ravelling Exceedance])

Works Program – Pavement

The pavement works priority score focuses on the pavement condition indicators:

Score = Weighting x ([1 x % Roughness Exceedance] + [1 x % Structural Cracking Exceedance])

Appendix D Works Program Totals

D.1 Surface Works (December 2022 condition data, 2025 Treatment Rates)

Treatment	Value of Works (basic)	Value of Works (including pavement prep works)
20mm AC Overlay	$1,709,050	$2,904,015
40mm AC Overlay	$6,622,666	$9,014,538
Corrector + Overlay	$11,231,797	$19,452,032
PMB + 40mm AC OVERLAY	$1,310,671	$1,645,193
PMB + Microsurfacing	$8,679,361	$11,693,237
PMB + RUT CORRECTION + MICROSURFACING	$5,957,030	$8,264,522
PMB Reseal	$185,682	$246,900
Reseal	$2,344,783	$3,380,231
Total	**$38,041,040**	**$56,600,666**

D.2 Pavement Works (December 2022 condition data, 2025 Treatment Rates)

Treatment	Value of Works*
MILL + DEEP LIFT + OVERLAY	$2,214,610
Reconstruct 425mm + 2 coat	$53,743
Reconstruct 425mm + AC	$459,529
Reconstruct 600mm + 2 coat	$246,137
Reconstruct 600mm + AC	$1,466,570
Stabilisation + 2 coat	$911,692
Stabilisation + AC	$2,145,366
Total	**$7,497,646**

* This value covers the specific treatment only. It does not consider reconstruction of kerb and channel or other association road corridor assets. All projects identified for pavement works require detailed scoping and design before an accurate cost estimate can be determined. The usefulness of the modelling process for pavement works is in identifying segments for treatment rather than identifying accurate project estimates for budgeting purposes.

Appendix E Summary of Renewal and Acquisition Demand

E.1 Assumptions and Source

Renewal Demand

Renewal demand for the sealed road network has been assessed in three key areas:

- A.1 Urban Network - Renewals
- A.2 Rural Network - Renewals
- A.3 Floodways - Renewals

These areas align with Council's works delivery structure and traditional budget submissions. Condition data, renewal modelling *Works Programs* (refer **Appendix D** for details) and asset register *Annual Depreciation* were used to inform and define *renewal demand,* and this was workshopped with Civil Operations management prior to the 2025/26 budget and LTFF submissions.

Acquisition Demand

Acquisition demand for the sealed road network has been assessed in four key areas:

- A.4 Rural Network – Unsealed Roads Upgrades
- A.5 Urban Network - New & Upgrade
- A.6 Rural Network - New & Upgrade
- A.7 LGIP Projects - New & Upgrade

Acquisition demand has been quantified based on projects identified by the asset custodians (Infrastructure Planning for LGIP projects) through Council budget submissions for the LTFF and 2025/26 budget.

The following Table E.1.1 summarises all renewal and acquisition demand by these areas per year over the 10-year planning period.

Table E.1.1 Summary of Renewal and Acquisition Demand

Brief No.	Project Description	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	Total	% Renewal	% Aquistion	10-Year Demand	Renewal Demand	Aquistion Demand
A.1	Urban Network - Renewals	16,347,404	16,347,404	16,347,404	16,347,404	16,347,404	16,347,404	16,347,404	16,347,404	16,347,404	16,347,404	163,474,040	100%	0%	16,347,404	163,474,040	0
A.2	Rural Network - Renewals	1,957,513	1,957,513	1,957,513	1,957,513	1,957,513	1,957,513	1,957,513	1,957,513	1,957,513	1,957,513	19,575,128	100%	0%	1,957,513	19,575,128	0
A.3	Floodways - Renewals	695,916	695,916	695,916	695,916	695,916	695,916	695,916	695,916	695,916	695,916	6,959,165	100%	0%	695,916	6,959,165	0
A.4	Rural Network - Unsealed Upgrades	520,000	0	190,000	760,000	1,300,000	1,300,000	1,300,000	903,000	800,000	3,300,000	10,373,000	0%	100%	1,037,300	0	10,373,000
A.5	Urban Network - New & Upgrade	2,260,860	3,625,000	8,776,000	2,520,000	820,000	3,030,000	4,220,000	820,000	820,000	820,000	27,711,860	0%	100%	2,771,186	0	27,711,860
A.6	Rural Network - New & Upgrade	5,202,000	4,411,500	2,919,750	4,947,000	2,890,000	2,125,000	2,125,000	2,125,000	2,125,000	0	28,870,250	0%	100%	2,887,025	0	28,870,250
A.7	LGIP Projects - New & Upgrade	6,863,750	5,801,250	4,318,000	14,110,000	8,372,500	4,292,500	0	935,000	935,000	2,031,500	47,659,500	0%	100%	4,765,950	0	47,659,500
	TOTALS	**33,847,443**	**32,838,583**	**35,204,583**	**41,337,833**	**32,383,333**	**29,748,333**	**26,645,833**	**23,783,833**	**23,680,833**	**25,152,333**	**304,622,943**			**30,462,294**	**190,008,333**	**114,614,610**

Appendix F Project Briefs

Project briefs are detailed below with reference to their Brief Number (A.#) shown in Table E.1.1.

A.1 Urban Network – Renewals

Background

This includes all pavement and surface renewal activities on Council's urban road network (Urban Central and Urban West areas). It also includes the renewal element of new and upgrade projects on the existing urban network (Briefs A.5 & A.7).

Rationale

These projects address the renewal of existing road networks in a timely manner. Long term annualised demand is identfied in bulk allocations, with these bulk allocations being dispersed to individual identified projects over a 3 year planning window (pavements) and upcoming budget year program (reseals).

Long Term Demand

The long-term annual renewal demand for Urban Sealed Roads is $16,347,404 per year (80% of annual depreciation of $20,434,255). A renewal target of 80% annual depreciation represents QTC's recommended target for long-term sustainability. This demand is supported by the current condition data and works modelling.

The 10 year demand for urban renewals is therefore **$163,474,040**.

Asset Management Categories

Urban renewal projects and reseal programs are considered 100% renewal activities. All road reconstruction projects are considered 80% pavement and 20% surface renewal by value based on the urban network asset value.

LTFF

Council's recently adopted LTFF for the 2025/26 budget provides for **$166,649,840** in urban renewal funding over the 10 year planning period, across all projects. This amount is comprised of the following:

Funding contribution	Renewal element	Value of renewals
Urban Network – Renewals	100%	142,100,000
Urban Network - New & Upgrade	Varies – 15% to 70%	16,139,340
LGIP Projects - New & Upgrade	15%	8,410,500
Total		**$166,649,840**

Project Timing

Urban renewal activities continue for each year of the 10-year planning period.

A.2 Rural Network - Renewals

Background

This includes all pavement and surface renewal activities on Council's rural road network. It also includes the renewal element of new and upgrade projects on the existing rural network (Brief A.6).

Rationale

These projects address the renewal of existing road networks in a timely manner. Long term annualised demand is identfied in bulk allocations, with these bulk allocations being dispersed to individual identified projects for the upcoming budget year program.

Long Term Demand

The long-term annual renewal demand for rural sealed roads is $1,957,513 per year (80% of annual depreciation of $3,157,077). A renewal target of 80% annual depreciation represents QTC's recommended target for long-term sustainability.

The 10 year demand for rural network renewals is therefore **$19,575,130**.

Asset Management Categories

All reseals and reconstruction projects are considered 100% renewal activities. Reconstruction projects are considered 90% pavement and 10% surface renewal by value based on the rural network asset value.

LTFF

Council's recently adopted LTFF for the 2025/26 budget provides for **$20,094,750** in rural sealed roads renewal funding over the 10 year planning period, across all projects.

Project Timing

Rural renewal activities continue for each year of the 10-year planning period.

A.3 Floodways - Renewals

Background

This includes funding for renewals of all concrete floodway's (urban and rural) in Council's road network.

Rationale

These projects address the renewal of existing concrete floodways in a timely manner. Long term annualised funding is identfied in bulk allocations, with these bulk allocations being dispersed to individual identified projects for the upcoming budget year program.

Long Term Demand

The long-term annual renewal demand for concrete floodways is $695,916 per year (80% of annual depreciation of $869,896). A renewal target of 80% annual depreciation represents QTC's recommended target for long-term sustainability.

The 10 year demand for floodway renewals is therefore **$6,959,160**.

Asset Management Categories

All floodway reconstructions are considered 100% renewal activities.

LTFF

Council's recently adopted LTFF for the 2025/26 budget provides for **$5,000,000** in floodway renewal funding over the 10 year planning period, across all projects.

Project Timing

Floodway renewals continue for each year of the 10-year planning period.

A.4 Rural Network - Unsealed Upgrades

Background

This includes all rural projects where existing unsealed roads are upgraded to sealed roads and become part of the sealed road network (and hence this AMP).

Rationale

Unsealed roads are identified for upgrade in accordance with Council's *Rural Road Network Policy*.

Asset Management Considerations

All projects are considered 100% acquisition activities, as these projects upgrade unsealed roads to sealed roads and add them to the Sealed Roads asset class for future management. Projects are considered 90% pavement and 10% surface expenditure by value based on the rural network asset value.

Long Term Demand

The long-term annual upgrade demand for rural unsealed roads is $1,037,300 per year. This budget estimate has been determined by Civil Operations.

The 10 year demand for unsealed road upgrades is therefore **$10,373,000**.

LTFF

Council's recently adopted LTFF for the 2025/26 budget provides for **$10,373,000** in funding for unsealed road upgrades over the 10 year planning period, across all projects.

Project Timing

This program continues for each year of the 10-year planning period.

A.5 Urban Network – New & Upgrade

Background

This includes all new and upgrade activities on the existing urban road network, that are not associated with LGIP.

Rationale

Roads are identified for upgrade (generally for capacity or safety improvements) that are not trunk infrastructure. Such upgrades often have external funding (i.e. Black Spots Program). This brief also includes minor safety and program contingency allocations.

Asset Management Considerations

All Blackspot projects are considered 70% renewal, 30% acquisition activities, as these projects provide a substantial renewal element as part of the works. Minor safety and contingency programs are considered 50% renewal, 50% acquisition as a best estimate of where these contingency funds may be applied. All other projects are considered 15% renewal, 85% acquisition as there is still some renewal elements when works are performed on the existing network.

All projects are considered 80% pavement and 20% surface expenditure by value based on the urban network asset value.

Long Term Demand

The long-term annual demand for urban sealed roads new and upgrade projects is $4,385,200 per year. This comprises an average of $2,771,186 per year in upgrades and new assets and $1,613,934 per year in renewal activities to the existing network. *Note that the renewal elements are accounted for in Project Brief A.1.*

The 10 year demand for new and upgrade activities on the urban network is therefore **$27,711,860.**

LTFF

Council's recently adopted LTFF for the 2025/26 budget provides for **$27,711,860** in funding for new and upgrades elements over the 10 year planning period, across all projects.

Project Timing

Urban new and upgrade projects continue for each year of the 10-year planning period.

A.6 Rural Projects – New & Upgrade

Background

This includes all new and upgrade activities to the existing rural road network, that are not strategic LGIP projects.

Rationale

Roads are identified for upgrade generally for capacity or safety improvements. Such upgrades often have, or are conditional upon, external funding.

Asset Management Considerations

All projects are considered 15% renewal, 85% acquisition as there is still some renewal elements when works are performed on the existing network.

Long Term Demand

The long-term annual demand for rural sealed roads new and upgrade projects is $3,396,500 per year. This comprises an average of $2,887,025 per year in upgrades and new assets and $509,475 per year in renewal elements to the existing network. *Note that the renewal elements are accounted for in Project Brief A.2.*

The 10 year demand for new and upgrade funding elements on the rural network is therefore **$28,870,250.**

LTFF

Council's recently adopted LTFF for the 2025/26 budget provides for **$28,870,250** in funding for new and upgrades elements to the rural sealed network over the 10 year planning period, across all projects.

Project Timing

Rural new and upgrade projects continue for each year of the 10-year planning period.

A.7 LGIP Projects – New & Upgrade

Background

Local government is encouraged to have and is responsible for preparing local government infrastructure plans (LGIP's). The LGIP is an integral component of a local planning scheme. It identifies the local shared infrastructure needed to support planned urban development in the local community.

LGIP's can include infrastructure for five local trunk infrastructure networks that provide essential services to the community:

- water
- sewerage
- transport
- storm water
- public parks and land for community facilities.

Rationale

Local governments with an LGIP can levy infrastructure charges and stipulate development approval conditions for local trunk infrastructure on development approvals. This project includes all transport LGIP projects identified for the sealed road network over the next 10 years.

Asset Management Considerations

All LGIP projects are considered 15% renewal, 85% acquisition as there is still some renewal elements when works are performed on the existing network. All projects are considered 80% pavement and 20% surface expenditure by value based on the urban network asset value.

Long Term Demand

The long-term annual demand for LGIP projects is $5,607,000 per year. This comprises an average of $4,765,950 per year in upgrades and new assets and $841,050 per year in renewal elements to the existing network. *Note that the renewal elements are accounted for in Project Brief A.1.*

The 10 year demand for new and upgrade funding activities in LGIP projects is therefore **$47,659,500.**

LTFF

Council's recently adopted LTFF for the 2025/26 budget provides for **$47,659,500** in funding for new and upgrades elements to LGIP projects over the 10 year planning period, across all projects.

Project Timing

LGIP projects continue on different schedules over the 10-year planning period to coincide with development activities.

Appendix G Renewal and Acquisition Demand vs LTFF Funding

Brief No.	Project Description	Renewal Demand	Acquisition Demand	Renewal Funding	Acquisition Funding
A.1	Urban Projects - Renewals	163,474,040	0	142,100,000	0
A.2	Rural Projects - Renewals	19,575,128	0	15,000,000	0
A.3	Floodways - Renewals	6,959,165	0	5,000,000	0
A.4	Unsealed Road Upgrades	0	10,373,000	0	10,373,000
A.5	Urban Projects - New & Upgrade	0	27,711,860	16,139,340	27,711,860
A.6	Rural Projects - New & Upgrade	0	28,870,250	5,094,750	28,870,250
A.7	LGIP Projects - New & Upgrade	0	47,659,500	8,410,500	47,659,500
	Totals	**190,008,333**	**114,614,610**	**191,744,590**	**114,614,610**

11.4 ROCKHAMPTON SPORTS PRECINCT - INDOOR SPORTS CENTRE PRELIMINARY DESIGN

File No:	**16199**
Attachments:	**Nil**
Authorising Officer:	**Peter Kofod - General Manager Regional Services**
Author:	**Aaron Pont - Sports Infrastructure Project Manager**

SUMMARY

A key component of the Rockhampton Sports Precinct, the Indoor Sports Centre has a range of options to support participation in sport and community programs as well as provide commercial revenue opportunities. Options for Indoor Sports Centre functionalities have been prepared for consideration which in turn will enable preliminary designs to progress.

OFFICER'S RECOMMENDATION

THAT Council endorse the key functionalities of the Rockhampton Sports Precinct Indoor Sports Centre contained within this report: indoor sports, administration, meeting rooms, allied health, gym, hydrothermal zone, food and beverage.

COMMENTARY

Rockhampton Sports Precinct (RSP) has recently achieved whole of site 80% preliminary design, with the Indoor Sports Centre component paused at 30% milestone to allow consultants and officers to undertake benchmarking of similar projects and gauge commercial interest via market sounding. In addition, positive community engagement has been achieved via Community Reference Group and stakeholder meetings sporting and community organizations providing extensive feedback for consideration.

To progress design of the Indoor Centre, focus has been on identifying core functional uses and objectives of the building. The functionalities recommended create a minor variation from the RSP master plan with an additional gross floor area (GFA) of 255m2 proposed to maximize ground floor meterage and increases revenue opportunities while potentially lowering construction costs.

It is proposed that the Indoor Sports Centre proceed to design with the inclusion of:

- Indoor Sports (ground floor): 6 multi use courts, amenities and storage to support a range of sports including basketball, netball, volleyball, indoor hockey, futsal, badminton, gymnastics. Primarily sport focused, the courts can adapt to a range of community events and live entertainment.
- Administration (first floor): primarily for site operations and coordination, this capitalizes on the opportunity to lease office space to sporting and community groups providing both revenue and improved community outcomes.
- Meeting rooms (first floor): 4 rooms adjacent to admin and capable of hosting sporting and community meetings, training courses, internal Council meetings. If underutilization of spaces is experienced, these can be easily repurposed for options such as additional offices.
- Allied Health (first floor): space allocated for fit out by private operator, approximately 8 consult rooms and an open floor gym space for exercise and treatment.
- Gym: large space with fit out and equipment inclusions to be developed at future stage in partnership with 3rd party operator involvement, this zone caters for individuals and group fitness classes as well as providing team training opportunities that complement the operation of a membership focused gym.

- Hydrothermal zone: capitalizing on growing trend for sauna and ice bath, providing future fit out space increases the commerciality of the gym while also ensuring elite and pathway teams have access to recovery on site. Zone is likely to be paired with Gym either under the same operator or subcontracted.
- Food and beverage (ground floor): a tenanted food and beverage operating as auxiliary to RSP but as a standalone attractive offering that draws more people to site, extending length of stay and visitor comfort.

Detailed Business Case

Complementing the Design works is the development of a Detailed Business Case (DBC) which will be presented to Council for adoption. The DBC consists of multiple options to guide the Precinct's funding, construction and site management and operations. Elements of the DBC that will be brought forward for Council consideration:

- Site Governance and Management Structure
- Commercial feasibility and cost-benefit analysis
- Investment Logic Map
- Needs Analysis and Societal Impact

BACKGROUND

The Indoor Sports Centre is a component of the RSP Masterplan that was developed and adopted in 2022-23. Funding was received in March 2024 for the whole of site detailed design, costings and approvals with works commencing in February 2025.

PREVIOUS DECISIONS

No previous decisions relating to the Indoor Sports Centre.

BUDGET IMPLICATIONS

Preliminary estimates of operational costs and revenue indicate the Indoor Sports Centre can return a profit, however further analysis will be presented with the Detailed Business Case.

On the presumption the project is externally funded it is expected that an additional rigorous and detailed business case would be submitted prior to funding being allocated. Depending on timing there may be degrees of change required to be made.

LEGISLATIVE CONTEXT

Nil.

LEGAL IMPLICATIONS

No foreseen legal implications.

STAFFING IMPLICATIONS

Future staffing implications to operate the facility will be presented in the Detailed Business Case to Council for consideration in 2026.

RISK ASSESSMENT

Delayed progress in direction of Indoor Sports Centre presents timeframe risk for the RSP design works and may result in variations payable for aborted design works.

CORPORATE/OPERATIONAL PLAN

The project is a significant capital project in the Operational Plan - 2.2.1.1 Rockhampton Sports Precinct Design.

- Action: Progress design development and approvals for the Rockhampton Sports Precinct.
- Target: Provide monthly progress reports to Council.

CONCLUSION

Benchmarking, Market Sounding and Community engagement has identified a blend of Indoor Centre functionalities that promote community and economic benefits while maintaining alignment with the RSP Master plan.

11.5 ASSET MANAGEMENT PLAN - AIRPORT INFRASTRUCTURE

File No:	**5960**
Attachments:	**1. Airport Infrastructure AMP⇩**
Authorising Officer:	**Marcus Vycke - Manager Airport** **Marnie Taylor - General Manager Organisational Services**
Author:	**Andrew Whitby - Acting Manager Infrastructure Planning**

SUMMARY

This report presents a new Asset Management Plan for Airport Infrastructure for adoption.

OFFICER'S RECOMMENDATION

THAT Council adopt the Asset Management Plan for Airport Infrastructure.

COMMENTARY

A new Asset Management Plan (AMP) has been developed for all assets in the Airport Infrastructure asset class. This document covers a 10-year planning period and will replace the Airport AMP that was adopted in 2017.

The Airport Infrastructure asset class includes the following:

- Runways
- Taxiways
- Aprons
- Airfield Lighting
- Visual Aids
- Airside Security Fencing
- Airport Electrical Infrastructure

These assets had a replacement value estimated at $103,529,938 as of 31 May 2025.

The new AMP includes the following:

Levels of Service

The AMP considers the customer levels of service (quality, function and capacity) when assessing current performance and determining future needs.

Future Demand

The AMP identifies the drivers affecting demand and considers the impact these may have on future service delivery. It also considers how these impacts can be managed.

Asset Lifecycle Management

The AMP summarises the assets in this asset class and provides information on their capacity, performance and condition. It also outlines the asset lifecycle demands (renewals, acquisitions, disposals, operations and maintenance) to deliver services, and compares this to the availability of funding through the Long-Term Financial Forecast (LTFF) and other external sources.

Risks Management

The AMP documents the treatment plans for critical risks associated with the delivery of services.

Financial Summary

The AMP summarises the medium-term financial requirements for the asset class and considers the key indicators for sustainable service delivery.

BACKGROUND

Council exists primarily to deliver services that meet the needs of the community. Asset management planning is a comprehensive and strategic process designed to ensure that the delivery of services through Council-owned infrastructure remains financially sustainable over the long-term.

PREVIOUS DECISIONS

Council adopted the current Airport AMP in 2017.

BUDGET IMPLICATIONS

There is sufficient renewal funding to continue providing existing services at current levels over the planning period.

There is sufficient acquisition funding over the planning period, however the $3M Council has committed to the development of Apron Bay 7 for military aircraft, is for planning and design only. An estimated $20M in additional external funding will be required for the completion of this project.

There is insufficient operations and maintenance funding with an additional $1.34M required over the planning period. This funding gap primarily relates to additional planned airside pavement maintenance activities which aim to reduce aggregate loss that can cause aircraft damage and extend pavement life.

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 AMP 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 AMPs is identified in Council's Operational Risk Register.

CORPORATE/OPERATIONAL PLAN

The AMP supports the following Corporate Plan goals:

- We are fiscally responsible
- We plan for growth with the future needs of the community, business and industry in mind
- Our Region is resilient and prepared to manage climate-related risks and opportunities
- We are motivated to provide excellent service and have a strong organizational culture
- Our Region has infrastructure that meets current and future needs

CONCLUSION

The new Airport Infrastructure AMP is a 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 - AIRPORT INFRASTRUCTURE

Airport Infrastructure AMP

Meeting Date: 16 September 2025

Attachment No: 1

ASSET MANAGEMENT PLAN

Rockhampton Regional Council
Airport Infrastructure

Document Control		Asset Management Plan		
Version	**Description**	**Plan Type**	**Author**	**Reviewed By**
1	Draft	Asset Class	Mark O'Hallahan Andrew Whitby	Ben Bexley
2	For Adoption	Asset Class	Mark O'Hallahan Andrew Whitby	Ben Bexley

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. Council owns and operates the Rockhampton Airport which functions as a major regional airport servicing a population of approximately 125,000. It offers regular passenger transport jet services to Brisbane, Mackay, Townsville and Cairns. With approximately 160 flights per week and 680,000 domestic passengers annually, the Airport is a significant gateway to Central Queensland. In addition to providing domestic air transport connectivity for Rockhampton and the surrounding region, the Airport functions to support the Australian Defence Force and its partners, and a range of local general aviation operators.

Asset management planning is a comprehensive process; the primary purpose of which is to ensure that delivery of services from Council owned infrastructure is financially sustainable.

1.2 Asset Description

This AMP covers all assets in the airport infrastructure asset class. These assets had a replacement value estimated at **$103,529,938** as at 31 May 2025 and include the following:

- Runways
- Taxiways
- Aprons
- Airfield Lighting
- Visual Aids
- Airside Security Fencing
- Airport Electrical Infrastructure

1.3 Levels of Service

Renewal funding is sufficient to continue providing existing services at current levels over the 10-year planning period. There is also sufficient funding over this period for acquisition projects. Operations and maintenance funding will need to increase as the acquisition projects identified are completed. There is also insufficient operations and maintenance funding to complete additional planned airside pavement maintenance activities that have been recommended by Kamen Engineering.

1.4 Future Demand

The factors influencing future demand are as follows:

- Population growth
- Regional tourism
- Business growth
- Australian Defence Force

Key projects and initiatives identified in this AMP include:

- Planning and design of Apron Bay 7 for military aircraft.
- Asphalt resurfacing of Runway 15/33.
- Runway and Taxiway lighting renewals including the upgrade of inset lights on Runway 15/33 to medium intensity runway lighting (MIRL).

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

Lifecycle demand for airport infrastructure assets covered by this AMP includes operation and maintenance, renewal, acquisition, and disposal activities. The total lifecycle demand identified in this AMP is $36.9M over the next 10 years, or $3.69M on average per year.

1.6 Financial Summary

1.6.1 What we will do.

Lifecycle funding (LTFF + External Funding + Operations & Maintenance) for airport infrastructure over the 10-year planning period is $35.5M, or $3.55M on average per year. The lifecycle funding that is currently available leaves a shortfall of $0.134M on average per year.

Lifecycle Demand and Lifecycle Funding

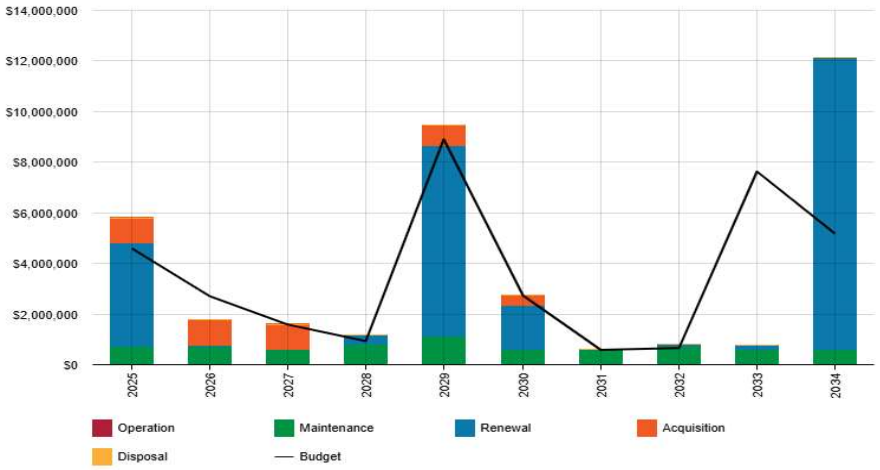


Figure and table values are shown in current day dollars.

Lifecycle Demand and Lifecycle Funding

Year	Lifecycle Demand			Lifecycle Funding		
	Acquisition	Operations & Maintenance	Renewal	Acquisition	Operations & Maintenance	Renewal
25/26	1,000,000	738,710	4,065,750	1,000,000	582,710	3,015,750
26/27	1,000,000	708,338	75,000	1,000,000	582,710	1,125,000
27/28	1,000,000	594,021	0	1,000,000	582,710	0
28/29	0	813,589	350,000	0	582,710	350,000
29/30	800,000	1,135,159	7,525,000	800,000	582,710	7,525,000
30/31	400,000	604,393	1,750,000	400,000	582,710	1,750,000
31/32	0	606,729	0	0	582,710	0
32/33	0	737,229	75,000	0	582,710	75,000
33/34	0	606,729	150,000	0	582,710	7,050,000
34/35	0	618,729	11,500,000	0	582,710	4,600,000
Totals	**4,200,000**	**7,163,625**	**25,490,750**	**4,200,000**	**5,827,100**	**25,490,750**

1.6.2 What we cannot do.

There is currently insufficient funding for operations and maintenance with an additional $1.34M required over the 10-year planning period. This funding gap relates to additional maintenance costs associated with new assets. It also includes additional planned pavement maintenance activities which aim to reduce aggregate loss that can cause aircraft damage and extend the life of the pavement.

1.6.3 Managing the Risks

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

- Implementing recommendations from annual technical inspections and pavement inspection reports.
- Monitoring the condition of critical components.
- Continuing to investigate viability of installing a flood levee for runway 15/33 designed for a 1% (AEP) flood occurrence.

1.7 Asset Management Planning Practices

Key assumptions made in this AMP are:

- Airside pavement and lighting decisions are based on condition assessments completed by specialist consultants.
- All existing valuations and remaining useful lives are accurate.
- Airside pavement treatments and associated timing and costs are based on a visual inspection of assets. These treatments may change after intrusive geotechnical investigations are undertaken to finalise design.

1.8 Monitoring and Improvement Program

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

- Complete a comprehensive review of all airport infrastructure assets and update the asset management system (R1) and geographic information systems (GIS) as required.
- Review current processes for the submission of as-constructed information to ensure timely and accurate asset information is captured in the R1 and GIS systems.
- Review the standard useful lives applied to airport infrastructure assets to improve renewal forecasting.

2.0 INTRODUCTION

2.1 Background

This AMP 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 planning period.

This AMP should be read in conjunction with the following:

- Corporate Plan 2022-2027
- Operational Plan
- Long Term Financial Forecast (LTFF)
- Enterprise Risk Management Framework
- Rockhampton Airport Master Plan 2017 - 2037
- Asset Management Policy
- Asset Management Responsibilities Policy
- Asset Management Strategy 2023-2026
- Sustainability Strategy – Towards 2030

This AMP covers all assets in the airport infrastructure asset class which includes:

- Runways
- Taxiways
- Aprons
- Airfield Lighting
- Visual Aids
- Electrical Infrastructure
- Airside Security Fencing

The airport infrastructure assets class had an estimated replacement value of **$103,529,938** as at 31 May 2025.

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

Table 2.1: Key Stakeholders in the AMP

Key Stakeholder	Role in Asset Management Plan
Elected Council	■ Represent the needs of community. ■ Provide the strategic direction and priorities for Council. ■ Adopt Asset Management Plans ■ Ensure services are financially sustainable.
Chief Executive Officer	Implement the policies and strategic direction provided by Council.
Asset Management Steering Committee	■ Provide leadership, direction, and oversight on Asset Management across Council. ■ Approve Council's Asset Management Strategy and oversee the delivery of the identified improvement plan actions.
Chief Financial Officer	■ Financial management and reporting. ■ Coordinate annual review of Council's long term financial forecast. ■ Coordinate preparation of capital and operating budgets ■ Lead role in asset revaluations.

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 airport infrastructure including: ■ Capture valued assets in Council's corporate asset management and geographic information systems. ■ Develop analytics for asset and maintenance data. ■ Lead role in Asset Management Plan development. ■ Financial asset modelling. ■ Contribute technical expertise to asset revaluations.
Manager Airport (Asset Custodian)	■ Undertake condition assessment and defect inspection activities. ■ Asset maintenance and renewal planning. ■ Delivering maintenance and capital renewal programs. ■ Identifying asset-related risks in accordance with the Enterprise Risk Management Process Procedure, including the development, implementation, monitoring and review of risk management strategies.
Manager Aiport (Service Owner)	■ Community engagement regarding current and future service levels. ■ Identifying service-related risks, including the development, implementation, monitoring and review of risk management strategies. ■ Planning associated with any future site/precinct development. ■ Scoping and estimating the cost of new and upgrade capital projects. ■ Obtaining funding for new and upgrade capital projects. ■ Delivering new and upgrade capital projects through internal or external resources.
Manager Project Delivery	Delivery of allocated capital projects

2.2 Goals and Objectives of Asset Ownership

Our goal for managing infrastructure assets is to meet the 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,
- 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,
- Risk management – identifies risks and risk treatment plans,
- 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.

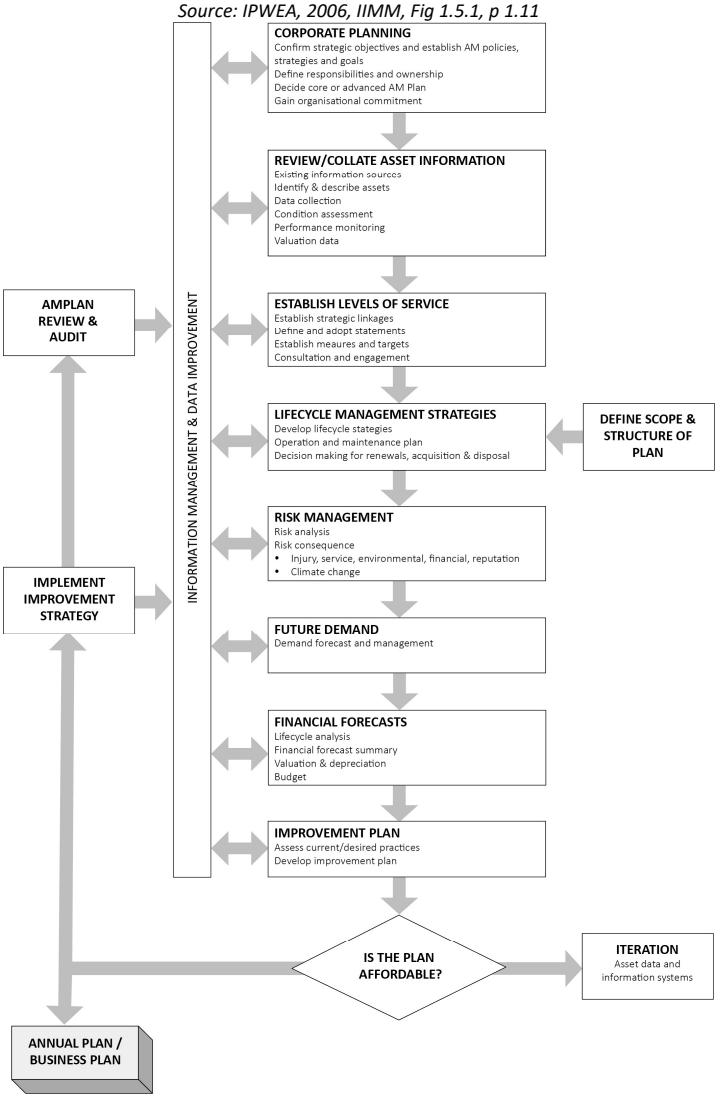
Other references to the benefits, fundamentals principles and objectives of asset management are:

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

A road map for preparing an AMP 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 outlines the communities expectations relevant to airport infrastructure. These expectations are recorded as goals in the Corporate Plan.

Table 3.1: Customer Expectations

Theme	Goals (Community Expectations)
Our Council	■ We are fiscally responsible. ■ We are motivated to provide excellent service and have a strong organisational culture
Our Economy	■ We plan for growth with the future needs of the community, business and industry in mind
Our Environment	■ Our region is resilient and prepared to manage climate-related risks and opportunities
Our Infrastructure	■ Our region has infrastructure that meet current and future needs.

3.2 Strategic and Corporate Goals

This AMP is prepared under the direction of the Council's vision and corporate objectives.

Our vision is:

One Great Region
Live. Visit. Invest

The Corporate Plan identifies Council's corporate objectives as related to the goals listed in Table 3.1 above. Table 3.2 demonstrates that this AMP supports these corporate objectives.

Table 3.2: Corporate Objectives and how these are addressed in this AMP

Goals	Corporate Objectives	How objective is supported in AMP
We are fiscally responsible	Our budgets are financially sustainable and provide value and accountability to the community	Section 7.1 - Financial Sustainability and Projections
We are motivated to provide excellent service and have a strong organisational culture	We have a workplace culture that is safe, engaged, responsive, professional and accountable	Sections 3.4 Customer Levels of Service Section 8.2 - Improvement Plan
We plan for growth with the future needs of the community, business and industry in mind	Our strategic planning supports the Region's growing population and enables economic development	Section 4 - Future Demand Section 5.3 - Acquisition Demand
Our region is resilient and prepared to manage climate-related risks and opportunities	We have a greater understanding of climate risks and their impacts on the Region, which prepares us for challenges and opportunities in the future	Section 6 - Risk Management Planning Section 4.3 - Demand Management Plan
Our region has infrastructure that meet current and future needs.	Our Council assets are well maintained Our future projects are planned and prioritised	Section 5 – Lifecycle Management Plan

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements relating to airport infrastructure are outline in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Key Requirements
Local Government Act 2009 and Local Government Regulations 2012	Sets out role, purpose, responsibilities and powers of local governments including the preparation of the Corporate Plan, LTFF supported by infrastructure and asset management plans for sustainable service delivery.
Airports Act 1996	To promote the efficient and economic development and operations of airports.
CASA Regulations MOS Part 139	Manual of Operating Systems for Airports.
Disability Discrimination Act 1992	Seeks to eliminate discrimination against persons on the grounds of disability. This includes the area of access to services.
Work Health and Safety Act 2011 (WHS Act)	Protect the health and safety of workers and other people by eliminating or reducing workplace risks: • ensure effective representation, consultation and cooperation to address health and safety issues in the workplace • encourage unions and employers to take a constructive role in improving health and safety practices • promote information, education and training on health and safety • provide effective compliance and enforcement measures • deliver continuous improvement and progressively higher standards of health and safety
Environmental Protection Act 1994	The EP Act seeks to achieve its objective by setting out a program for the identification and protection of important elements of the environment (environmental values) and by creating a range of regulatory tools for controlling the activities of individuals or companies. The Act was also originally intended to provide public notification and appeal rights for proposed developments which have the potential to harm the environment.

3.4 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?

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

In Table 3.4 under each of the service measures types (Condition, 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.

Table 3.4: Customer Levels of Service Measures

Type of Measure	Level of Service	Performance Measure~	Target	Current Performance
Quality	Maintain and Monitor the structural strength of aerodrome pavements+	Distress Metrics: ▪ Roughness ▪ Rutting	Good condition with no visible structural distresses	Runway 15/33 and Runway 04/22 no structural distresses evident
				Taxiways J, B, A and RPT Bay 3 are in a fair to poor condition with roughness and rutting evident
	Maintain and monitor seal condition of aerodrome pavements@	Distress Metrics: ▪ Wheel Path Depressions ▪ Surface Cracking ▪ Bleeding	Good condition with no visible distresses that would affect ride quality	Taxiways B and D, RPT Aprons 1,2,3 and 4, and Runway 15/33 have locations where condition is fair to poor with visible distress
		Distress Metrics: ▪ Ravelling	No loose aggregate / asphalt on surface that could affect safe operation of aircraft	Taxiways C, D, E, F, G, H ,L , Runway 04/22, RPT and GA Aprons have areas where ravelling has occurred resulting in loose aggregate/ bitumen on pavement
Function	Provide for safe operation of aircraft	Completion of inspections and maintenance activities in accordance with the Rockhampton Aerodrome Manual.	100% Completion	100% Completed#
		Bird strikes per quarter	≤10	>10$
Capacity	Provision of airside assets that are of an adequate capacity	The runway capacity	Meets peak hour movement demand	5*
		The apron (parking) capacity	Meets peak hour demand	5^
		Airport passenger numbers	562,695	686,525&

The following commentary is provided in relation to Councils performance against the customer levels of service targets.

~ Refer to **Appendix D** for additional information regarding typical airside pavement distresses.

+ Heavy commercial aircraft transfer high impact loads onto runways/taxiways which over time affects the structural strength of pavements. Well-designed flexible runway and taxiway pavements have a design life of 15 to 20 years before deformations in the underlying subgrade shows as rutting and roughness distress in the surface and resurfacing is required.

@ Airport pavement running surfaces need to be maintained in a condition that provides good rideability for aircraft and protects aircraft from damage caused by ingestion of loose aggregate. The additional planned maintenance activities that have been identified, but are not currently funded, include sand / bitumen emulsion seals that are designed to reduce aggregate loss.

The annual aerodrome technical inspection report provides evidence of the routine serviceability inspections and follow up procedures completed in the year. Airport serviceability inspections are set out in **Appendix E** and are undertaken daily to identify hazards or deterioration in condition of airside assets.

[$] Council reported 43 strikes in the 2023/24 financial year. Although this exceeds the target, the annual aerodrome technical inspection report found evidence that all bird and animal hazard management procedures set out in the Rockhampton Aerodrome Manual are being followed, including having a current Wildlife Hazard Management Plan.

* Current peak hour movements of 5 are forecast to grow to 7 in 2027 and 10 in 2037. The capacity of runway15/33 is sufficient to accommodate present and future aircraft movements without delays caused by departing aircraft having to wait for arriving aircraft on approach.

^ Current available parking stands are 5 which is adequate for RPT parking. However yearly the airport hosts large volumes of military aircraft from both Singapore Air Force (SAF), Australian Defence force (ADF) and other nations which puts pressure on available parking with taxiways having to be closed to accommodate military operations.

[&] Council reported 686,525 departing and arriving passengers through the airport for the 2023/24 financial year, a significant increase on the target of 562,695. Passenger numbers had generally been declining since peaking in 2010 at 777,212.

4.0 FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, consumer preferences and expectations, technological changes, economic factors, 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.

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population change	The estimated population within Council's Local Government Area in 2024 is 83,974[3].	This population is forecast to grow to 98,102 by 2041. This is a 16.82% increase.	Passenger numbers will depend on normal commercial considerations such as price, service and needs rather than population alone	Continue to monitor passenger numbers
Domestic passengers	508,345 passengers (July 24 to Feb 25) Projecting 762,517 passengers for full 12 months to July 2025. *	Passenger numbers are expected to fluctuate over the planning period however will remain within the capacity of the airport.	While the main runway has sufficient capacity for increased passenger numbers and aircraft movements, RPT parking can be under stress during military exercises or when an aircraft breaks down making it difficult to accommodate arriving and departing aircraft without some delays.	Increase RPT parking stands to 6. #
	8,434 movements (July 24 to Feb 25) Projecting 12,651 movements for full 12 months to July 2025. *	Aircraft movements are expected to fluctuate over the planning period however will remain within the capacity of the airport.		
General aviation	7,600 movements (July 24 to Feb 25). Projecting 11,400 movements for full 12 months to July 2025.	Aircraft movements are expected to fluctuate over the planning period however will remain within the capacity of the airport.	Services are sufficient for future demand and no significant increase is expected.	Continue to monitor movements.

[3] [3] Sourced from https://forecast.id.com.au/rockhampton

Miltary operations	Exercise Wallaby (Singapore Armed Forces) – every year Exercise Talisman Sabre (Joint exercise US Armed Forces and Australian Defence Force) – every 2 years. 1,886 movements per year (June 24 to Feb 25) 9,857 military personnel (June 24 to March 25)	Current exercise schedule will continue.	Military planes take up RPT apron (parking) spaces and impact on normal commercial operations.	New Bay 7 apron proposed to be constructed for military use.
Climate change	Extreme weather events and natural disasters have been more frequent. At a local level, our community has already experienced intense droughts as well as severe fires, floods and storms	The frequency of extreme weather events and natural disasters is expected to increase.	The Airport operations has been impacted by previous flood events.	Install a flood levee for runway 15/33 designed for a 1% (AEP) flood occurance.
Regulations	Existing Regulations.	Regulations relating to the aviation industry are likely to increase.	Requirements to comply with new regulations may have substantial cost implications.	Monitor regulatory changes.

Commentary

[#] The forecast demand for airport parking stands to accommodate peak hour arrivals and departures is 6 by 2037 as set out in Rockhampton Airport Master Plan 2017 – 2037.

* Passenger numbers peaked in 2010 at 777,212 as did aircraft movements at 14602 movements. Projected passenger and movement numbers for 2025 are trending toward 2010 peak.

4.4 Asset Programs to meet demand

New assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.3.

Acquiring new assets will commit the 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 demand forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial plan (Refer to Section 5).

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how 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 AMP are summarised in Table 5.1.1. These assets are principally located within the Airside Precinct (Airport Boundary) and are shown in the Aerodrome Facilities Plan[4] below.

Table 5.1.1: Airport Infrastructure Assets

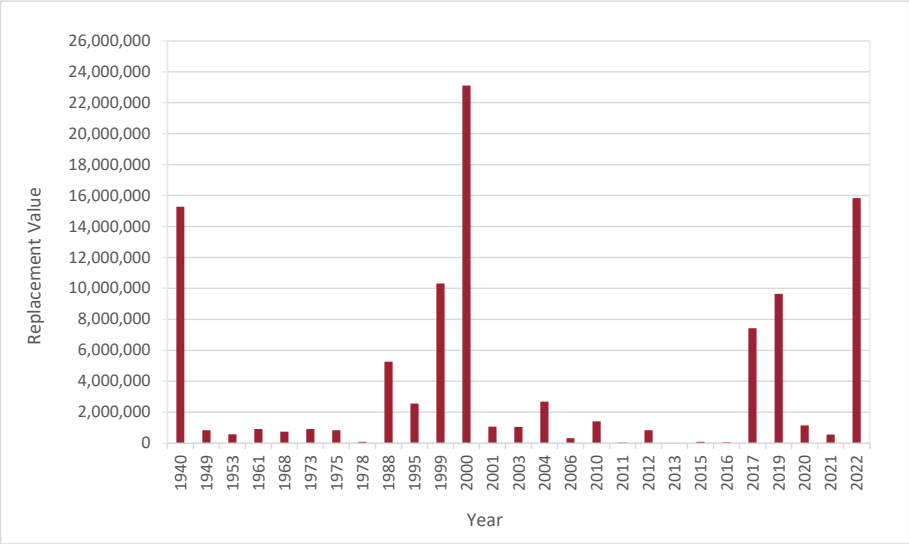
Asset Sub-Class	Asset Description	Count/Dimension	Replacement Value ($)
Runways	Runway 04-22	77,159m^2	9,285,632
	Runway 15-33	182,574m^2	38,025,209
Taxiways	Alpha	9,136m^2	1,565,178
	Bravo	9,587m^2	1,709,491
	Charlie	2,416m^2	319,522
	Delta	1,347m^2	144,975
	Echo	6,512m^2	874,955
	Foxtrot	1,895m^2	251,638
	Golf	1,218m^2	161,096
	Hotel	1,675m^2	221,448
	Juliet	41,649m^2	7,127,320
	Kilo	2,295m^2	422,931
	Lima	3,900m^2	Value included in Runway 04-22
	Mike	5,809m^2	3,932,326
Aprons	GA Apron	28,863m^2	3,825,219
	Helicopter Parking Bays	14/1,014m^2	291,151
	Military Deployment Area	4,194m^2	420,982
	RAAF Apron	9,425m^2	1,981,273
	RPT Apron	49,154m^2	9,852,745
	Alliance Apron	20,166m^2	9,647,523
Airfield Lighting	Approach Lights		287,100
	Controls		1,076,625
	Primary Circuits		3,639,311
	Runway Lights		464,706
	Secondary Circuits		966,626
	Taxiway Lights		624,421
Apron Lighting	GA Apron Floodlights		334,136
	RPT Apron Floodlights		1,335,779
Visual Aids	Movement Area Guidance Signs	27	193,793
	Obstacle Lighting	3	38,759
	Wind Direction Indicators	5	173,696

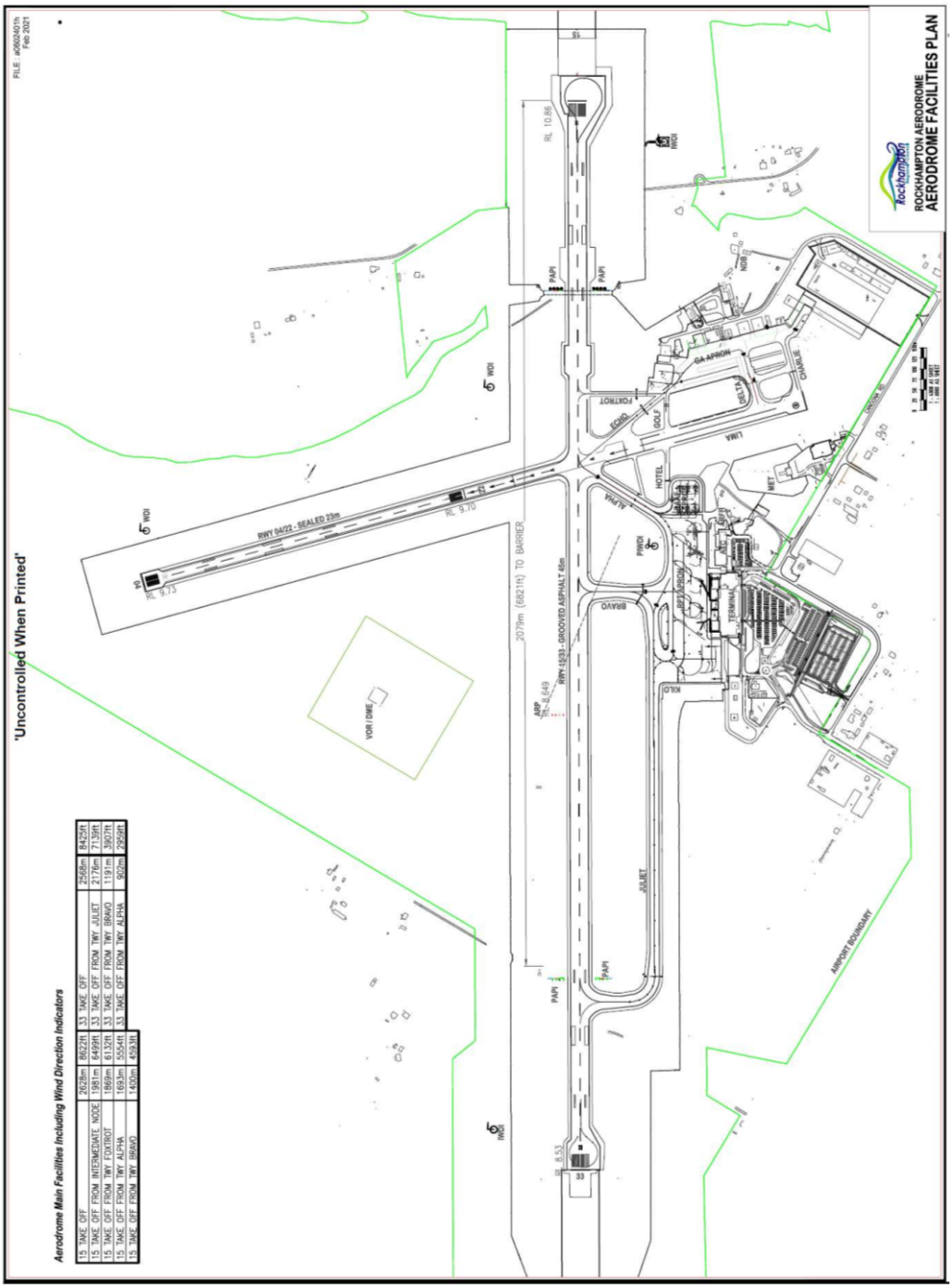
[4] Rockhampton Aerodrome Manual – CASA Part 139 Version 5 – May 2021, Rockhampton Regional Council

Electrical Infrastructure	HV Electrical		1,213,378
	LV Electrical and Communications		1,214,403
	Civil Structures	1	108,739
Security Fencing	Airside Perimeter Fence	9,999m	1,797,855
			103,529,938

The age profile of the assets included in this AMP are shown in Figure 5.1.1. All figure values are shown in current day dollars.

Figure 5.1.1: Age Profile




ROCKHAMPTON AERODROME
AERODROME FACILITIES PLAN
'Uncontrolled When Printed'
FILE: a0820401h
Feb 2021
RWY 04/22 - SEALED 23m
RWY 15/33 - GROOVED ASPHALT 45m
2079m (6821ft) TO BARRIER
VOR / DME
ARP
RL 9.73
RL 9.70
RL 10.86
RL 8.53
PAPI
NDB
GA APRON
TERMINAL
HOTEL
MET
AIRPORT BOUNDARY
JULIET
BRAVO
ALPHA
CHARLIE
DELTA
ECHO
FOXTROT
GOLF
LIMA
Aerodrome Main Facilities Including Wind Direction Indicators
15 3MC OFF 2628m 8621ft 33 3MC OFF 2598m 8425ft
15 3MC OFF FROM INTERMEDIATE NODE 1981m 6499ft 33 3MC OFF FROM TWY JULIET 2176m 7139ft
15 3MC OFF FROM TWY FOXTROT 1869m 6131ft 33 3MC OFF FROM TWY BRAVO 1191m 3907ft
15 3MC OFF FROM TWY ALPHA 1693m 5554ft 33 3MC OFF FROM TWY ALPHA 920m 2956ft
15 3MC OFF FROM TWY BRAVO 1400m 4593ft

5.1.2 Asset Capacity and Performance

Information relating to runway and apron capacity and performance is found in Table 5.1.2 below:

Table 5.1.2: Runway and Apron Capacity and Performance

Information	Runway 15-33			Runway 14-22
Length (m)	2,628			1,200
Width (m)	45			23
PCN Value[#]	72			20
Surface Type	Flexible Pavement, Bituminous Concrete Grooved			Spray seal
Pavement Subgrade	Low/Code C			Low/Code C
Max Take Off Weight (kg)	385,554kg (3.78kN)			28,347kg
Max Tyre pressure value (MPa)	1400			1000
Tyre Pressure category	X			Y1
PCN evaluation method	T Tech			T Tech
Commercial Aircraft Capacity[%]	■ Fokker F100 (100 seats, Subgrade (Low C, ACN = 31) ■ Embraer E 190 (94 – 114 seats, Subgrade Low C, ACN = 27) ■ Boeing 737 – 800 (184 seats, Subgrade Low C, ACN = 51) ■ Boeing 777 – 200 ER (514 seats, SG Low C, ACN = 67)			Smaller aircraft with an ACN <20
Military Aircraft (max capacity) ^	■ Antonov AN124 Russian (large freight plane, Subgrade Low C, ACN = 77) ■ Boeing C17 Globemaster 111 (troops and cargo plane, Subgrade Low C, ACN =73)			
Runway Capacity (Forecast peak hour runway demand (passenger aircraft movement / hour)	9			
Forecast Peak hour RPT apron parking demand (actual apron parks)	2027	2032	2037	
	4	5	6	

Commentary

[#] The Pavement Classification Number (PCN) represents the bearing strength of a runway pavement.

[%] This is the commercial aircraft that regularly land at Rockhampton Airport. The Aircraft Classification Number (ACN) in brackets for aircraft represents the relative effect of an aircraft of a given weight on a runway pavement for a specified standard subgrade category. The aircraft ACN rating should be less than the runway PCN rating to safely operate aircraft at the airport.

^ Larger military planes with a higher ACN rating than the runway PCN rating don't operate on a regular basis. The Rockhampton Airport has a runway dispensation process allowing larger military aircraft to operate, however any damage to the runway pavement is the responsibility of Council.

5.1.3 Asset Condition

Pavements

The condition of pavements is based on inspections[5] commissioned by the Airport. In applying a condition score to pavements, a visual inspection was completed and condition scores as per Table 5.1.3.1 were assigned.

Table 5.1.3.1: Condition Score

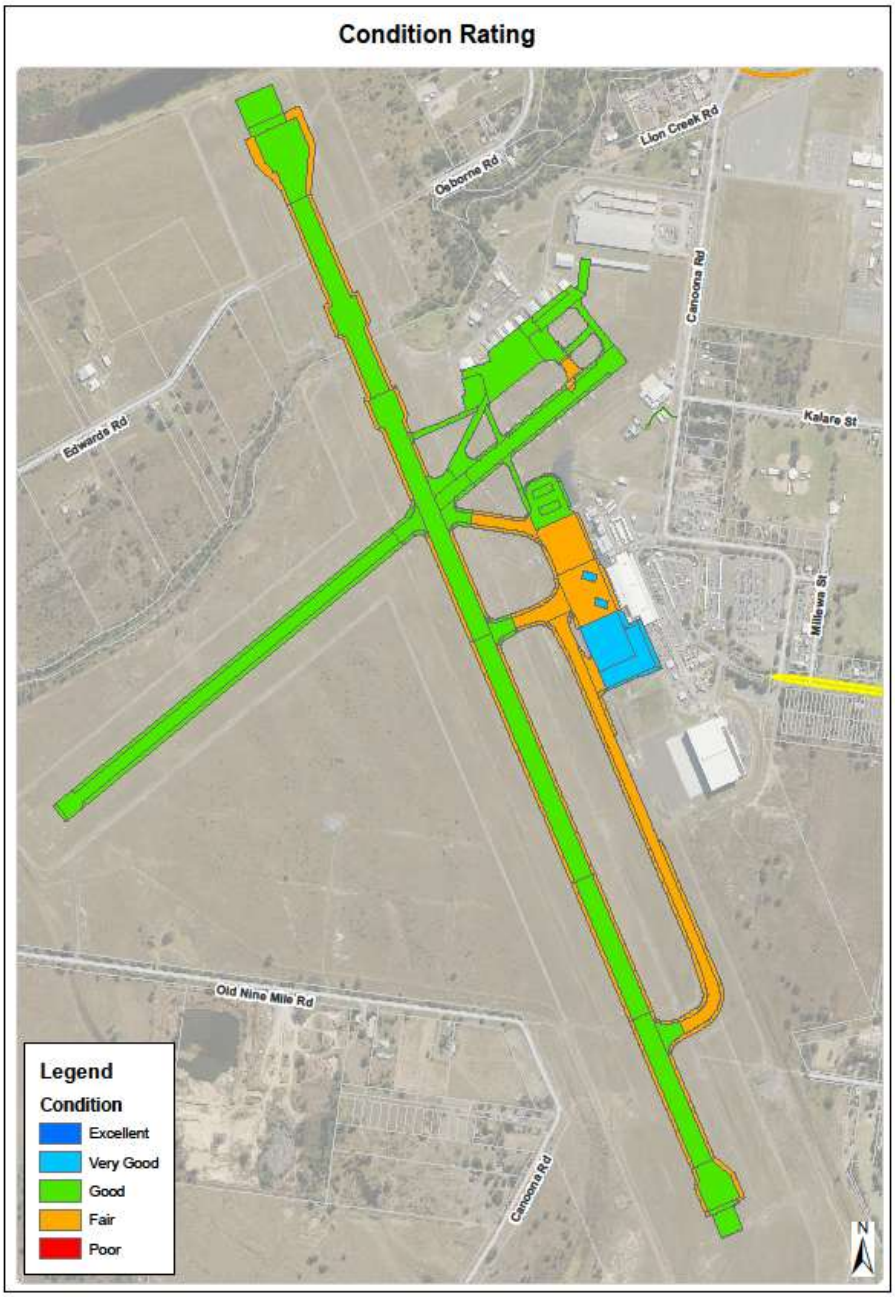
Score	Condition
1	Excellent
2	Very Good
3	Good
4	Fair
5	Poor

The results of the pavement inspection are shown below in Figure 5.1.3.1.

Most pavements are in good condition requiring maintenance only. Pavements in fair condition will require asphalt resurfacing. Refer to project brief A.1 in **Appendix B**.

[5] Pavement Inspection Report – Rockhampton Airport – January 2025, Kamen Engineering

Figure 5.1.3 – Pavement Condition Ratings



Electrical Systems

The condition of electrical systems is based on inspections[6] commissioned by the Airport. Table 5.1.3.2 summarises the findings from the electrical technical inspection report whose purpose was to show the airport lightings compliance with CASA Part 139 MOS section 9 lighting requirements for an air traffic-controlled airport, and to ensure detection of any deterioration in the condition of airside electrical systems that could make operations unsafe for aircraft.

Table 5.1.3.2: Summary of Airside electrical systems inspections

Asset	Description of Inspection	Inspection Outcome
Approach Lighting	Precision Approach Path Indicator (PAPI) lights provided.	Yes, double sided PAPIs
Runway 15\33 lighting	Observe light fittings for signs of corrosion, damage, or other deterioration.	All in good condition
	LED lights.	Yes
	Correct runway lighting spacing and alignment.	Yes, 60 m, well aligned
	Runway light fittings level.	No, 25 require adjustment
	Medium intensity runway lights must emit an intensity of light between 200 and 600 Candela.	Yes, elevated lights, avg intensity 259 Candela
		No, inset lights, avg intensity 155.9 Candela
Taxiway lighting	Inset lighting installed.	Yes
	Lights designed, sited, marked and placed to standard.	Yes
Apron floodlighting	Is there sufficient illuminance for each of parking positions.	Yes for Parking Bays 1 – 5 sufficient illuminance. Parking Bay 6 is a little dull
Primary wind indicator	LED lights.	Yes, 8 LED lights
	Do lights meet luminance requirements.	Yes
Pilot activated lighting system (PAL)	Does Pilot Activated Lighting (PAL) turn on all lighting facilities.	Yes, other than apron floodlights
Electrical light circuits	Do runway lighting circuits meet requirements for resistance and current.	Yes
	Are lighting circuits below ground ducted.	Yes

In summary, the report concluded electrical systems were kept in good working order and any faults quickly rectified. The report found that inset Runway 15/33 lights and RPT Apron parking bay 6 did not have sufficient illuminance. Refer to project briefs A.3 and A.4 in **Appendix B**.

[6] Rockhampton Aerodrome 2024 Electrical Technical Inspection Report – May 2024, Jasko Airport Services

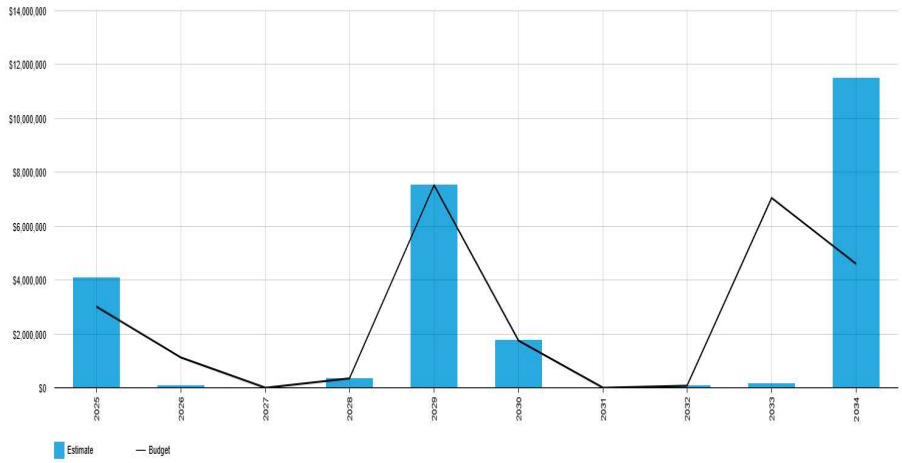
5.2 Renewal

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to its original service potential is an acquisition, resulting in increased asset replacement value and additional future operations and maintenance costs.

5.2.1 Summary of Renewal Demand

Renewal demand is the renewal works required over the planning period of the AMP. Renewal Demand is summarised by project per year in **Appendix A**, and project briefs are provided in **Appendix B**. **Appendix C** summarises renewal demand compared to renewal funding for each project. Figure 5.2.1 shows renewal demand (Estimate) relative to the renewal funding (Budget).

Figure 5.2.1: Renewal Summary



All values are shown in current day dollars.

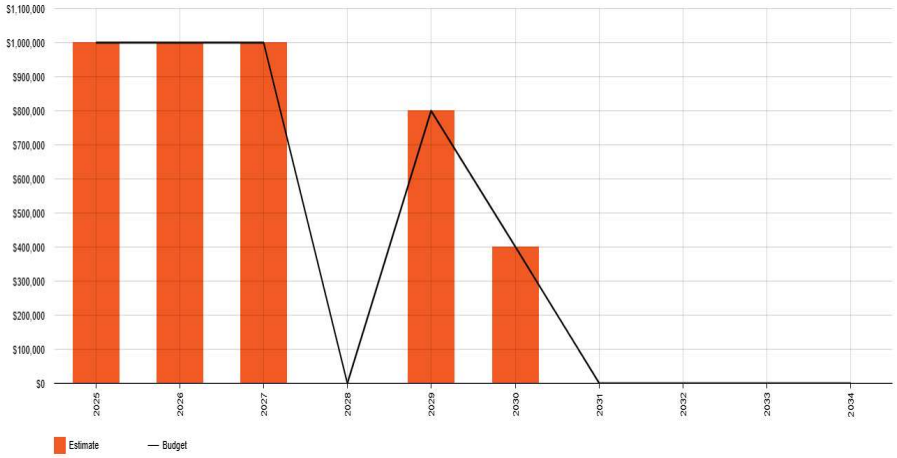
5.3 Acquisition Demand

Acquisition refers to new assets that did not previously exist 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 donated to the Council through the development approval process or by other levels of government.

5.3.1 Summary of Acquisition Demand

Acquisition demand is the asset acquisitions required over the planning period of the AMP. Acquisition demand is summarised by project per year in **Appendix A**, and project briefs are provided in **Appendix B. Appendix C** summarises acquisition demand compared to the acquisition funding for each project. Figure 5.3.1 shows acquisition demand (Estimate) relative to acquisition funding (Budget) from the LTFF and external sources.

Figure 5.3.1: Acquisition Summary



All values are shown in current day dollars.

5.4 Disposal Plan

Disposal may include the sale, demolition, or relocation of an asset. The assets identified for possible disposal are shown in Table 5.4.

Table 5.4: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
-	No assets identified for disposal	N/A	N/A	N/A

5.5 Operations and Maintenance Plan

The Airports maintenance strategy is documented in the *Rockhampton Airport Aerodrome Manual.* The manual describes the ongoing maintenance, operations and inspection activities required to facilitate safe aircraft ground operations and continual serviceability of the airside precinct.

In order to effectively maintain the assets the following types of operations and maintenance (planned and unplanned) activities are undertaken.

5.5.1 Operations

Airside operations works involves day-to-day operations work necessary to keep assets operating.

This includes regular activities to locate and clear any hazards that might have an immediate impact on the safe operation of aircraft. Operational activities include:

- Foreign object debris (FOD) removal
- Wildlife Management

5.5.2 Maintenance

Airside maintenance consists of keeping airside facilities in as near as practicable to an appropriate service condition. Maintenance includes planned and unplanned (reactive) maintenance activities.

Planned Maintenance

Planned Maintenance includes work activities that are identified and managed proactively through a maintenance management system. This includes:

a) Safety and Compliance (Statutory) Maintenance

Safety and compliance maintenance is the minimum level of maintenance required to meet legal and other mandatory requirements. The Rockhampton Airport Aerodrome Manual sets out inspection activities the airport must carry out to comply with the requirements set out in the Civil Aviation Safety Regulations 1998 (CASR), and associated Part 139 Aerodrome Manual of Standards 2019 (Part 139 MOS). This includes daily serviceability inspections and annual technical inspections on aerodrome lighting, movement areas, visual aids, security fencing and wildlife to identify hazards and detect any deterioration in condition. The Airport manages serviceability inspections through the Aviation Compliance and Risk Management System (AVCRM). Refer to **Appendix E** for a full list of inspections.

b) Preventative Maintenance

Preventative maintenance is planned maintenance that is generally based on a manufacturer's recommendations for servicing equipment. Preventative maintenance is scheduled to occur at defined intervals and aims to optimise the whole of life service potential of the asset and is managed in Councils Asset Management System Technology One (R1). Refer to **Appendix E** for a full list of preventative maintenance activities.

c) Planned Corrective Maintenance

Planned corrective maintenance refers to actions that may be identified through the completion of other planned or reactive maintenance activities, or asset condition monitoring.

Planned corrective maintenance works are identified through airside daily serviceability inspections, annual technical inspections[7] and engineering pavement inspections.

Functional performance requirements for airside pavements running surfaces are:

- Surface evenness to provide good rideability.
- Robust pavement surface free from loose material and sharp edges that might endanger aircraft.

Planned corrective maintenance works for airside pavements aim to maintain functional performance requirements and extend the period-of-time between re-surfacing.

Unplanned Maintenance

Minor airside maintenance works are normally identified as part of daily serviceability inspections and managed through the Airports AVCRM system. This minor works includes repairs that can be carried out by airport staff without planning and includes:

- Minor day to day repairs to assets that have failed.
- Work required in restoring an asset to a safe condition, this includes work required to address damage due to an incident or vandalism, or to ensure an asset is safe and secure.

[7] The Technical Inspection Report includes a corrective action plan which sets out defects found as part of inspections. These are monitored for repair at the next annual inspection.

5.5.3 Operations and Maintenance Expenditure

Total operations and maintenance expenditure over the last three financial years is shown in Table 5.5.3 below.

Table 5.5.3: Operations and Maintenance Expenditure Airside Assets

Year	Operations Maintenance ($)
2022/23	526,668
2023/24	408,677
2024/25*	605,112

* This is the adopted budget for 2024/25

5.5.4 Forecast Operations and Maintenance Costs2024

Forecast operations and maintenance costs are expected to vary relative to the total value of the asset base. Where new assets are acquired, additional operations and maintenance expenditure will be incurred.

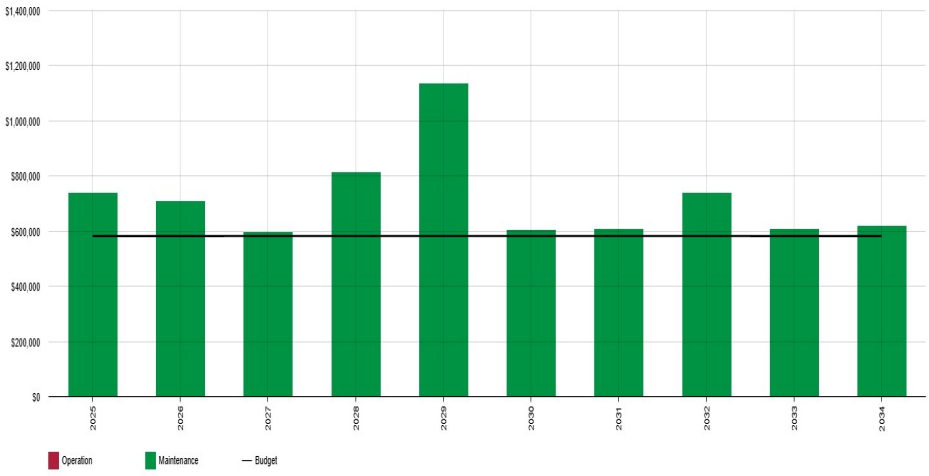
Over the 10-year planned period an additional $1.34M is required for operations and maintenance. This gap includes additional maintenance costs associated with new assets. It also includes additional planned pavement maintenance activities which have been recommended by Kamen Engineering and include the following:

- Asphalt patching to fix depressions and restore evenness to surfaces.
- Crack sealing to fix cracks in surface and prevent moisture penetrating the pavement.
- Sand / bitumen emulsion seals of aged and eroded asphalt surfaces to reduce aggregate loss and extend the life of the pavement.

Table 5.5.4 shows the additional planned maintenance activities Airport Operations would like to implement over the 10-year planning period.

Figure 5.5.4 below shows the forecast operations and maintenance costs (Maintenance) relative to the 2025/26 budget.

Figure 5.5.4.: Operations and Maintenance Summary



All figure values are shown in current day dollars.

Table 5.5.4: Additional Planned Maintenance Activities

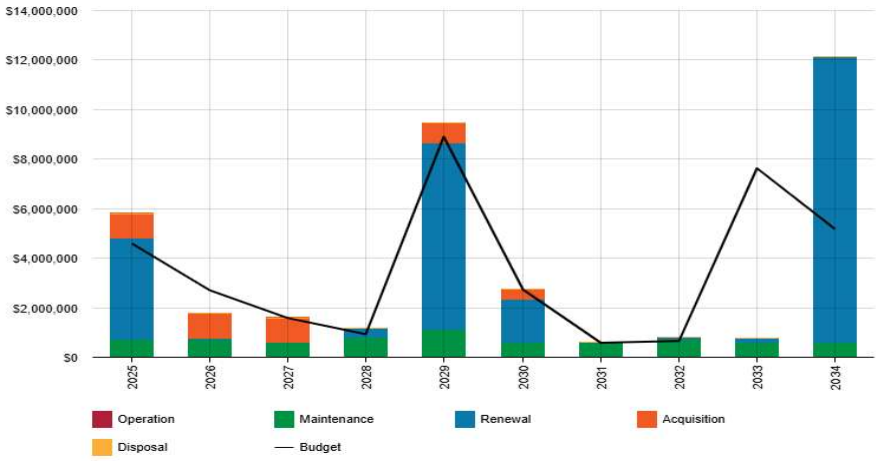
Pavement Asset	Maintenance Item	Planned Maintenance ($)									
		2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Runway 15/33	Patching and Crack sealing				80,000						
Runway 15/33 RESA	Sand / bitumen emulsion seal										12,000
Runway 15/33 shoulder	Sand / bitumen emulsion seal	36,000									
Runway 04/22	Sand / bitumen emulsion seal					270,000					
Taxiway B	Patching	60,000									
Taxiway C	Sand / bitumen emulsion seal				12,150						
Taxiway D	Patching		120,000								
Taxiway D	Sand / bitumen emulsion seal				23,700						
Taxiway E	Sand / bitumen emulsion seal				20,100						
Taxiway F	Sand / bitumen emulsion seal				14,100						
Taxiway G	Sand / bitumen emulsion seal				5,280						
Taxiway H	Sand / bitumen emulsion seal				9,000						
Taxiway L	Sand / bitumen emulsion seal					128,400					
RPT Apron (North Bays Military)	Sand / bitumen emulsion seal				49,500						
RPT Apron Bays 1,2,3,4 & Taxi lane	Patching	60,000									
RPT Apron Bays 5 & 6	Sand / bitumen emulsion seal								130,500		
GA Apron	Sand / bitumen emulsion seal					137,000					

5.6 Summary of Lifecycle Demand

The 10 year lifecycle demand for this AMP is shown in Figure 5.6.1. These projections include the demand for acquisition, operation, maintenance, renewal, and disposal. This lifecycle demand is shown in comparison to lifecycle funding (budget) which includes; LTFF, current Operations and Maintenance budgets, and any external funding.

The bars in the graphs represent the forecast costs needed to minimise the lifecycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between lifecycle demand and 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 5.6: Lifecycle Summary



All figure values are shown in current day dollars.

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'[8].

An assessment of risks[9] 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 Type	Asset Description	Failure Mode	Potential Impact
Pavement	Runways, Taxiways and Aprons	Defective pavements	Pavements in unsafe condition for aircraft operation.
		Flood	The operational capability of the airside precinct is affected resulting in the Rockhampton Airport being unable to provide normal services.
		Foreign Object Debris (FOD) on pavements	Damage to aircraft bodies/engines/tyres.
Electrical	Airfield Lighting	Electrical asset failure	Unsafe nighttime aircraft operations.

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.

[8] ISO 31000:2009, p 2
[9] REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

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.

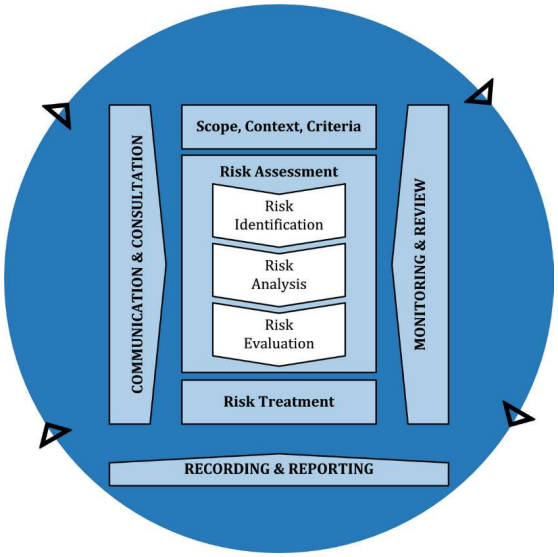


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

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 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.

Table 6.2 outline the critical risks related to the supply of airport infrastructure.

Table 6.2: Risks and Treatment Plans

Service or Asset Risk	What can Happen	Inherent Risk	Existing Controls	Residual Risk*	ALARP	Future Controls
Pavements	Aircraft tyre blowout Aircraft damage Loss of control of aircraft Loss of aircraft braking capability	VH	Daily serviceability inspections to identify any defects / FOD on pavements. Immediate action is undertaken by airport staff to rectify defect / FOD hazards identified as part of serviceability inspections. Annual technical inspections to identify any defect or deterioration in the condition of pavements and surfaces. Periodic inspection of pavements by pavement engineer.[10]	L	N	Implement recommendations from Rockhampton Airport Pavement Inspection Report 2025: ■ Enrichment and Rejuvination treatments to be undertaken on pavements where the surface is good apart from aged asphalt binder. This includes the sand / bitumen emulsion seals recommended by Kamen Engineering in 2025. ■ Asphalt resurfacing to be undertaken on pavements where structural distress evident.
	Flooding of main runway effects operational capability[#]	VH	Offer alternative travel arrangements to flight customers from other airports. Update Council website and disater dashboard with latest information during flood events.	VH	N	Construct a flood levee designed for a 1% AEP flood occurance.[%]

[10] Rockhampton Airport Pavement Inspection Report, 12/13 January 2025, Kamen Engineering.

Service or Asset Risk	What can Happen	Inherent Risk	Existing Controls	Residual Risk*	ALARP	Future Controls
Aircraft Movements	Collisions with birds/bats can damage aircraft components and create a potential safety hazard	VH	Advise airlines, where possible, to schedule flights outside of night hours when bats are active. Follow procedures for bird and animal hazard management in the Rockhampton Aerodrome manual.	M	Y	
Airfield Lighting	Power supply outage	H	Several diesel generators provide secondary power supply to the runway and taxiway lighting. Regular testing / inspections carried out on back-up generators.	L	Y	
	Electrical lighting circuit to runway/taxiway lights fails	H	Annual electrical inspections to identify any faults in circuitry. Daily serviceability inspections, monthly testing of generators.	L	N	Monitor electrical circuitry testing over time in order to measure if electrical cable is wearing out / reaching end of life.

Service or Asset Risk	What can Happen	Inherent Risk	Existing Controls	Residual Risk*	ALARP	Future Controls
	Unsafe night operations due to compliance matters	VH	Annual Electrical Technical Inspection completed of lighting to show compliance against requirements of CASA Regulations Part 139 MOS, Part 9 - Aerodrome Lighting.	M	N	Implement recommendations from the 2024 Electrical Technical Inspection including: ■ The upgrading of runway inset lighting to Medium Intensity floodlights (MIFL). ■ Installation of new / upgraded RPT and GA Apron floodlighting.

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

Commentary

[#]River flooding caused by widespread prolonged rainfall over the Fitzroy River catchment area can result in flooding of airside pavements resulting in lengthy airport closure times and significant recovery burden. The Rockhampton Airport was impacted by flooding in 2011,2013,2015 and 2017.

[%]Designs presented to Council as part of a Rockhampton Airport levee feasibility study in June 2024 were for a levee for runway 15/33 designed for a 1% annual exceedance probability (AEP), or a 1 in 100-year flood event. Council adopted the feasibility study conclusion that due to the poor cost/benefit ratio the project should not commence at this stage, and if Council decides to proceed with the project at later date, it should complete a detailed business case before seeking funding assistance from state and federal governments.

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.

Our current measures of resilience are shown in Table 6.3 which includes the type of threats and hazards and the current approach that the Council takes to ensure service delivery resilience.

Table 6.3: Current Resilience Assessment

Threat / Hazard	Current Resilience Approach
Unsafe night operations due to power disruption	▪ Emergency diesel generator for runway / taxiway lighting ▪ Automated switch to emergency generator
Hazard on runway	Daily aerodrome serviceability inspections of runway

7.0 FINANCIAL SUMMARY

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

7.1 Financial Sustainability and Projections

7.1.1 Sustainability of service delivery

There are four key indicators of sustainable service delivery that are considered in the AMP for this service area. These indicators are as follows:

- Asset Renewal Funding Ratio
- Asset Sustainability Ratio
- 10-year Lifecycle Funding Ratio
- Asset Consumption Ratio

Asset Renewal Funding Ratio[11]

The Asset Renewal Funding Ratio measures the ability of Council to fund its projected asset renewals. This ratio is calculated by dividing the 10-year renewal funding by the 10-year renewal demand.

Asset Renewal Funding Ratio is **100%.**

There are no renewal funding gaps over the next 10 years.

Asset Sustainability Ratio[12]

The Asset Sustainability Ratio approximates the extent to which the infrastructure assets managed by a Council are being replaced as they reach the end of their useful lives. A ratio of >80% per annum (on average over the long-term) is the target for infrastructure assets owned by Council. This ratio is calculated by dividing average yearly renewal funding over the life of the AMP by annual depreciation.

Asset Sustainability Ratio is **83%.**

Lifecycle Funding Ratio

The Lifecycle Funding Ratio represents the extent to which all demand (operations, maintenance, renewal and acquisition) is funded over the 10-year planning period. This ratio is calculated by dividing total funding by total demand.

Lifecycle Funding Ratio is **96%**

Table 7.1 shows lifecycle demand versus the lifecycle funding for the 10-year planning period. The ratio is less than 100 % on account of the funding gap that exists for operations and maintenance. Operations and maintenance demand includes additional maintenance costs associated with new assets. It also includes additional planned pavement maintenance activities which aim to reduce aggregate loss that can cause aircraft damage and extend the life of the pavement.

[11] Financial Management (Sustainability) Draft Guideline, 2022, Version 1, Sustainability Measure 8
[12] Financial Management (Sustainability) Draft Guideline, 2022, Version 1, Sustainability Measure 6

Table 7.1: Lifecycle Demand vs Lifecycle Funding

Year	Lifecycle Demand			Lifecycle Funding		
	Renewal	Acquisition	Operations & Maintenance	Renewal	Acquisition	Operations & Maintenance
25/26	4,065,750	1,000,000	738,710	3,015,750	1,000,000	582,710
26/27	75,000	1,000,000	708,338	1,125,000	1,000,000	582,710
27/28	0	1,000,000	594,021	0	1,000,000	582,710
28/29	350,000	0	813,589	350,000	0	582,710
29/30	7,525,000	800,000	1,135,159	7,525,000	800,000	582,710
30/31	1,750,000	400,000	604,393	1,750,000	400,000	582,710
31/32	0	0	606,729	0		582,710
32/33	75,000	0	737,229	75,000		582,710
33/34	150,000	0	606,729	7,050,000		582,710
34/35	11,500,000	0	618,729	4,600,000	0	582,710
Totals	**25,490,750**	**4,200,000**	**7,163,625**	**25,490,750**	**4,200,000**	**5,827,100**

Asset Consumption Ratio[13]

The asset consumption ratio approximates the extent to which Council's infrastructure assets have been consumed compared to what it would cost to build new assets with the same benefit to the community. A ratio of >60% is the target for infrastructure assets owned by Council. This ratio is calculated by dividing depreciated replacement cost by current replacement cost.

Asset Consumption Ratio is **71%.**

7.2 Funding Strategy

The proposed funding for assets is outlined in the Council's budget and LTFF.

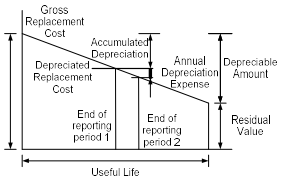
The LTFF determines how funding will be provided, whereas the AMP communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimate of the value of assets included in this AMP are shown below.

Current Replacement Cost	$103,529,938
Accumulated Depreciation	$29,648,966
Depreciated Replacement Cost[14]	$73,880,973
Annual Depreciation	$3,069,596



7.3.2 Valuation Forecast

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

[13] Financial Management (Sustainability) Draft Guideline, 2022, Version 1, Sustainability Measure 7
[14] Also reported as Written Down Value, Carrying or Net Book Value.

7.4 Key Assumptions Made in Financial Forecasts

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

Key assumptions made in this AMP are:

- Airside pavement and lighting decisions are based on condition assessments completed by specialist consultants.
- All existing valuations and remaining useful lives are accurate.
- Airside pavement treatments and associated costs and timing are based on a visual inspection of assets. These treatments may change after intrusive geotechnical investigations are undertaken to finalise design.

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AMP 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[15] in accordance with Table 7.5.1.

Table 7.5.1: Data Confidence Grading System

Confidence Grade	Description
A. Very High	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. High	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. Medium	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. Low	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. Very Low	None or very little data held.

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

Table 7.5.2: Data Confidence Assessment for Data used in AMP

Data	Confidence Assessment
Demand Drivers	B
Demand Forecast	B
Acquisition Demand	B
Operations and Maintenance Demand	B
Renewal Demand	B
Disposal forecast	B

The overall **confidence level** for data used in the preparation of this AMP is **High**. Renewal and maintenance demand relating to some projects may vary as the scope of these projects is further developed.

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

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices

8.1.1 Accounting and financial data sources

This AMP utilises accounting and financial data. This data is sourced from Council's financial system being R1.

8.1.2 Asset management data sources

This AMP also utilises asset management data. This data is sourced from Council's assets and works system being R1, and Council's GIS system being ArcGIS.

8.2 Improvement Plan

It is important that an entity recognise areas of their AMP and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan identified for this asset class is shown in Table 8.2.

Table 8.2: Improvement Plan

Task	Task	Responsibility	Timeline
1	Complete a comprehensive review of all Airport Infrastructure assets and update the R1 and GIS systems as required.	Infrastructure Planning	1 year
2	Review current processes for the submission of as-constructed information to ensure timely and accurate asset information is captured in the R1 and GIS systems.	Airport and Infrastructure Planning	1 year
3	Review the standard useful lives applied to Airport Infrastructure assets to improve renewal forecasting.	Airport and Infrastructure Planning	1 year

8.3 Monitoring and Review Procedures

This AMP will inform the LTFF and will be considered during the annual budget planning process. A review of this AMP 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 AMP can be measured in the following ways:

- The degree to which the lifecycle demand identified in this AMP is incorporated into the LTFF.
- Whether the improvement plan tasks are actioned.

9.0 REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
- IPWEA, 2015, 2nd edn., 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMM.
- IPWEA, 2020 'International Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2018, Practice Note 12.1, 'Climate Change Impacts on the Useful Life of Assets', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2012, Practice Note 6 Long-Term Financial Planning, Institute of Public Works Engineering Australasia, Sydney, https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn6
- IPWEA, 2014, Practice Note 8 – Levels of Service & Community Engagement, Institute of Public Works Engineering Australasia, Sydney, https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn8
- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- Rockhampton Regional Council Corporate Plan 2022 – 2027
- DILGP, 2013, 'Financial Management (Sustainability)', Department of Infrastructure, Local Government and Planning, Queensland
- Rockhampton Aerodrome Manual – CASA Part 139 Version 5 – May 2021, Rockhampton Regional Council
- Rockhampton Airport Master Plan 2017 – 2037, Leading Edge Aviation Planning Professionals
- Wildlife Hazard Management Plan, Version 10, February 2024
- Rockhampton Aerodrome 2024 Electrical technical Inspection report – 20th and 21st May 2024 – Jasko Airport Services
- Rockhampton Airport 2024 technical inspection & OLS Survey Report, 13 – 14th May 2024 – Jasko Airport Services

10.0 APPENDICES

Appendix A Summary of Renewal and Acquisition Demand

The following table summarises all renewal and acquisition demand by project per year over the 10-year planning period.

Table A.1 Summary of Renewal and Acquisition Demand – Airport

Brief No.	Project Description	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	10-Year Demand	Renewal Demand	Acquisition Demand
A.1	Airside Pavement Resurfacing	4,065,750		0	350,000	0	0	0	0	150,000	11,500,000	16,065,750	16,065,750	0
A.2	Airside Pavement Rejuvenation	0	0	0	0	1,700,000	0	0	0	0	0	1,700,000	1,700,000	0
A.3	RPT and GA Apron Flood Lighting Upgrades	0	0	0	0	800,000	400,000	0	0	0	0	1,200,000	0	1,200,000
A..4	Runway and Taxiway Lighting Renewals	0	0	0	0	5,750,000	1,750,000	0	0	0	0	7,500,000	7,500,000	0
A.5	Perimeter Security Fence Mesh Replacement	0	75,000	0	0	75,000	0	0	75,000	0	0	225,000	225,000	0
A.6	Apron Bay 7 Development	1,000,000	1,000,000	1,000,000	0	0	0	0	0	0	0	3,000,000		3,000,000
	Totals											**29,690,750**	**25,490,750**	**4,200,000**

Appendix B Project Briefs

A.1 Airside Pavement Resurfacing

Background

The bearing strength of aerodrome pavements must be capable of withstanding the weights and frequencies of aircraft it services. The Rockhampton airport predominantly services commercial passenger[16] aircraft operating to airports around Queensland. In addition the airport periodically services military aircraft from the Australian Defence force and general aviation users resident in the Rockhampton Region.

Rational

Well maintained and designed flexible pavements have a design life of 15 - 20 years before deformation in the underlying subgrade shows as rutting and roughness distress in the surface. The surface becomes too rough for safe aircraft operations.

A 2025 visual inspection of runway 15/33 concluded the runway was in good condition with no structural distresses evident and recommended resurfacing between 2033 and 2038 (in 2038 it will be 20 years since the runway was last resurfaced in 2018). Prior to resurfacing, in 2029/30 a rhinophalt seal is to be applied to extend life of asphalt.

Taxiways J, B , A and RPT Bay 3 have an aged asphalt surface. A 2025 visual inspection of the taxiways and apron bays concluded they were in fair to poor condition with structural distresses evident.

Proposal

The project involves asphalt resurfacing of taxiways J, B , A and RPT Bay 3 in 2025/26 and runway 15/33 in 2034/35.

Prior to asphalt resurfacing of pavements a geotechnical investigation is to be undertaken to evaluate the pavement structure and material characteristics in order to finalise design for asphalt resurfacing. For runway 15/33 geophysical investigations[17] are also to be undertaken to inform geotechnical investigations due to a number of SW culverts crossing the runway.

Budget Estimate

Total renewal demand over the 10 year period is $16.1M. Total renewal demand has been determined by an engineering consultant[18]estimate of costs for the project plus 15 % to allow for project management, design and on costs not allowed for in the estimates.

[16] Commercial aircraft carrying up to 162 passengers.

[17] Ground penetrating radar is used to image the subsurface and detect any changes in material properties and any voids and cracks.

[18] Pavement Inspection Report, Rockhampton Airport – Inspection Date 12/13 January 2025; Kamen Engineering

Project Timing

The following table lists all asphalt resurfacing renewals and their estimated timing.

Project Number	Asset Type	Asset Description	Timing Estimate	Budget Estimate ($)
0983770	Pavement	Taxiway A asphalt resurface (5200 m^2, this doesn't include shoulder of taxiway)	2025/26	373,750
		Taxiway B asphalt resurface (6,220 m^2)	2025/26	442,750
		Taxiway J asphalt (40,200 m^2) resurface	2025/26	3,007,250
1159021	Pavement	RPT Bay 3 asphalt resurface	2025/26	242,000
5000650	Pavement	15/33 Runway Geotechnical Investigations	2028/29	200,000
		15/33 Runway and shoulders (120,500 m^2)	2034/35	11,500,000
1160042	Pavement	15/33 Runway Penetration X-ray	2028/29	150,000
			2033/34	150,000

A.2 Airside Pavement Rejuvination

Background

Rhinophalt is a penetrative asphalt preservative used to restore pavements.

Rational

A 2025 visual inspection of runway 15/33 found the pavement surface in good condition. By 2029/30, 10 years after the runway was last resurfaced the runway is expected to have some deterioration evident.

Proposal

Rejuvination of the asphalt surface at this time in 2029/30 is a cost effective method of returning the runways functional performance and extending the life of the pavement before a more expensive asphalt resurface is required.

Budget Estimate

Total renewal demand over the 10 year period is $1.7 M. Total renewal demand has been determined by an engineering consultant.

Project Timing

The following table lists rejuvination treatment projects and estimated timing.

Project Number	Asset Type	Asset Description	Timing Estimate	Budget Estimate ($)
500650	Pavement	Runway 15/33	2029/30	1,700,000

A.3 RPT and GA Arpon Flood Lighting Upgrades

Background

Annually the airport has an Electrical Technical Inspection (ETI) carried out to show compliance with CASA[19] aerodrome lighting[20] requirements. Part of the inspection measures illuminance levels at Regular Passenger Transport (RPT) and General Aviation (GA) aircraft parking bays to check there is even illumination and optimal coverage over the bays.

Rational

Apron floodlighting in 2021 underwent a major upgrade to LED lighting and to address areas where illumination was not sufficient. Bays where ETI highlighted optimal coverage was still not sufficient will require further upgrade.

Proposal

Further upgrade works on existing RPT and GA apron lighting systems to comply with CASA.

Budget Estimate

Total acquisition demand over the 10 year period is $1.2M. Council airport staff have estimated the cost of works from past similar projects.

Project Timing

The following table lists apron upgrading projects and their estimated timing.

Project Number	Asset Type	Asset Description	Timing Estimate	Budget Estimate ($)
989133	Lighting	RPT Apron floodlighting fittings	2029/30	400,000
			2030/31	250,000
989135	Lighting	GA Apron floodlighting fittings	2029/30	400,000
			2030/31	150,000

[19] Civil Aviation Safety Authority (CASA) an Australian statutory authority responsible for the regulation and safety oversight of Australia's civil aviation.

[20] CASA aerodrome lighting requirements contained Part 139 Manual of Standards (MOS) Part 9 Visual aids provided by Aerodrome lighting.

A.4 Runway and Taxiway Lighting Renewals

Background

Annually the airport has an Electrical Technical Inspection (ETI) carried out to show compliance with CASA[21] aerodrome lighting[22] requirements. Part of the inspection measures illuminance levels at runways and taxiways to check there is sufficient brightness from lights for aircraft safety. Overtime these fittings will require replacement along with cabling and electrical supply equipment.

Rational

The runway and taxiway lighting was installed in 2017 with an expected 15 year lifespan. The inset taxiway light fittings were replaced in 2024 after issues were raised with the supplier around ongoing issues with the system. Other components of the lighting system, cabling, constant current regulators (CCR) units and series isolating transformers (SIT's) that power the lights will require replacement over time.

Proposal

Replace where required runway lighting fittings, SIT's, cabling and electrical supply equipment over a period of 2 years. The existing runway inset lights are to be upgraded to medium intensity runway lighting (MIRL) systems to comply with CASA (subject to CASA safety case).

Budget Estimate

Total renewal demand over the 10 year period is $7.5M. Council airport staff have estimated cost of works from past similar projects.

Project Timing

The following table lists apron upgrading projects and their estimated timing.

Project Number	Asset Type	Asset Description	Timing Estimate	Budget Estimate ($)
959150	Lighting	Runway lighting (Electrical supply and Control)	2029/30	1,750,000
			2030/31	1,750,000
5000650	Lighting	Runway and Taxiway Lighting renewal (incliding new MIRL LED light fittings)	2029/30	4,000,000

[21] Civil Aviation Safety Authority (CASA) an Australian statutory authority responsible for the regulation and safety oversight of Australia's civil aviation.

[22] CASA aerodrome lighting requirements contained Part 139 Manual of Standards (MOS) Part 9 Visual aids provided by Aerodrome lighting.

A.5 Perimeter Security Fence Mesh Replacement

Background

Security assets are critical to the operation of an airport. The perimeter fence keeps the aerodrome secure.

Rational

Security assets are identified for renewal based on their condition. The perimeter fence is inspected as part of daily routine serviceability inspections. Security assets at the end of their physical life are planned for renewal.

Proposal

Renewal projects involve like for like replacement of assets with a modern equivalent asset.

Budget Estimate

The renewal work is estimated to cost $225K over the next 10 years. This is an airport cost estimate.

Project Timing

The following table sets out the estimated timing for perimeter fence renewals.

Project Number	Asset Type	Asset Description	Timing Estimate	Budget Estimate ($)
987715	Security	Perimeter Fence	2026/27	75,000
			2029/30	75,000
			2032/33	75,000

A.6 Apron Bay 7 Development

Background

The Rockhampton airport predominantly services commercial passenger aircraft operating to airports around Queensland. In addition the airport regularly services military aircraft from the Singapore Armed Forces (SAF), the Australian Defence Force (ADF) and other nations. Military operations can affect commercial passenger operations with military aircraft taking up apron (parking) spaces and impacting on normal commercial operations.

Rational

Apron (parking) efficiency is critical as must be able to accommodate arriving and departing aircraft without delay. Parking of large military aircraft is problematic during exercises and often Taxiway Juliet is closed to accommodate these aircraft. This causes issues for Air Traffic Control (ATC) and customer service can be affected through commercial aircraft being delayed in landing and takeoff due to runway occupancy times.

In addition some parking locations for military aircraft are non compliant with CASA MOS-139 requirements. Air Services Australia who operate the Aviation Rescue and Fire Fighting Service (ARFFS) and Air Traffic Control (ATC) operations have also lodged complaints about the noise generated from the military aircraft parked infront of their facilities.

Proposal

The project involves installing a new apron bay for use by military aircraft. The proposed location is shown in the figure below.

Budget Estimate

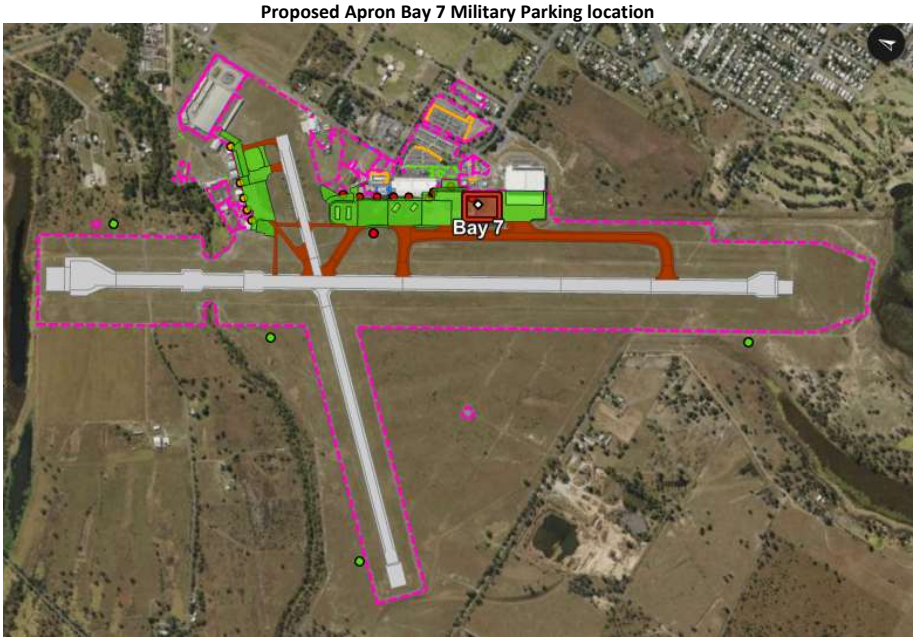
Council airport staff estimate of costs is $23M. Council is committing $3M for the project with the remaining $20M requiring either ADF, SAF or Federal government funding.

Project Timing

The current project budget over the next 3 years is for the planning and design of the project with any leftover Council budget being used to top up works once extra funding becomes available.

Project Number	Asset Type	Asset Description	Timing Estimate	Budget Estimate ($)
1160908	Pavement	Bay 7 Apron	2025/26	1,000,000
			2026/27	1,000,000
			2027/28	1,000,000

Proposed Apron Bay 7 Military Parking location



Appendix C Renewal and Acquisition Demand vs LTFF Funding

The following table summarises all renewal and acquisition demand at a project level compared to funding that is available in the LTFF.

Brief No.	Project Description	Renewal Demand	Acquisition Demand	Renewal Funding	Acquisition Funding
A.1	Airside Pavement Asphalt Resurfacing	16,065,750	0	16,065,750	0
A.2	Airside Pavement Rejuvination	1,700,000	0	1,700,000	0
A.3	RPT and GA apron lighting upgrade	0	1,200,000	0	1,200,000
A.4	Runway and Taxiway lighting renewals	7,500,000	0	7,500,000	0
A.5	Perimeter security fence mesh replacement	225,000	0	225,000	0
A.6	Bay 7 Development	0	3,000,000	0	3,000,000
	Totals	**25,490,750**	**4,200,000**	**25,490,750**	**4,200,000**

Appendix D Typical Airside Pavement Distresses

Ravelling

Description: The progressive disintegration of an asphalt layer from the surface downward because of the dislodgement of aggregate particles.

Problem: Loose debris on the pavement, roughness, water collecting in the ravelled locations resulting in vehicle hydroplaning, loss of skid resistance

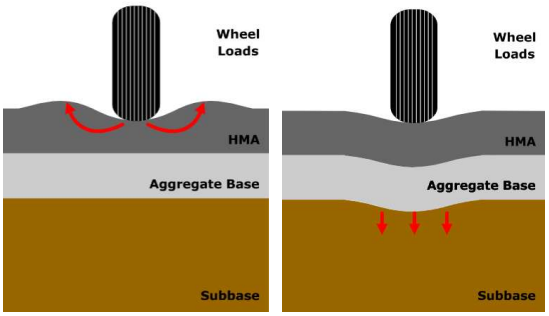
Possible Causes:

- Loss of bond between aggregate particles and the asphalt binder because of:
    - Asphalt binder aging. Aging is generally associated with asphalt binder oxidation as it gets older. As the asphalt binder gets older, oxygen reacts with its constituent molecules resulting in a stiffer, more viscous material that is more likely to lose aggregates on the pavement surface as they are pulled away by traffic.
    - A dust coating on the aggregate particles that forces the asphalt binder to bond with the dust rather than the aggregate.
    - Aggregate segregation. If fine particles are missing from the aggregate matrix, then the asphalt binder is only able to bind the remaining coarse particles at their relatively few contact points.
    - Inadequate compaction during construction. High density is required to develop sufficient cohesion within the asphalt. Often, inadequate compaction will also result in rutting because once the pavement is opened to traffic, it will continue to compact in the wheel paths under traffic loading.
    - Mechanical dislodging by certain types of traffic

Repair: A ravelled pavement should be investigated to determine the root cause of failure. Repair strategies generally fall into one of two categories:

- Small, localized areas of ravelling. Remove the ravelled pavement and patch. If the pavement is still structurally sound, the ravelling can be fixed with a fog seal or slurry seal.
- Large, ravelled areas indicative of general asphalt failure. Remove the damaged pavement and overlay.

Rutting



Description: Surface depression in the wheel path. Pavement uplift (shearing) may occur along the sides of the rut. Ruts are particularly evident after rain when they are filled with water. There are two basic types of rutting: mix rutting and subgrade rutting. Mix rutting occurs when the subgrade does not rut yet the pavement surface exhibits wheel path depressions because of compaction/mix design problems. Subgrade rutting occurs when the subgrade exhibits wheel path depressions due to loading. In this case, the pavement settles into the subgrade ruts causing surface depressions in the wheel path.

Problem: Ruts filled with water can cause aircraft hydroplaning, can be hazardous because ruts tend to pull an aircraft towards the rut path as it is steered across the rut.

Possible Causes: Permanent deformation in any of a pavement's layers or subgrade usually caused by consolidation or lateral movement of the materials due to traffic loading. Specific causes of rutting can be:

- Insufficient compaction of asphalt layers during construction. If it is not compacted enough initially, asphalt pavement may continue to densify under traffic loads.
- Subgrade rutting (e.g., because of inadequate pavement structure)
- Improper mix design or manufacture (e.g., excessively high asphalt content, excessive mineral filler, insufficient amount of angular aggregate particles)

Repair: A heavily rutted pavement should be investigated to determine the root cause of failure (e.g. insufficient compaction, subgrade rutting, poor mix design or studded tire wear). Slight ruts (< 1/3 inch deep) can generally be left untreated. Pavement with deeper ruts should be levelled and overlayed.

Bleeding

Description: A film of asphalt binder on the pavement surface. It usually creates a shiny, glass-like reflecting surface that can become sticky when dry and slippery when wet.

Problem: Loss of skid resistance when wet, unsightly

Possible Causes: Bleeding occurs when asphalt binder fills the aggregate voids during hot weather or traffic compaction, and then expands onto the pavement surface. Since bleeding is not reversible during cold weather or periods of low loading, asphalt binder will accumulate on the pavement surface over time. Likely causes are:

- Excessive asphalt binder in the hot mix asphalt (either due to a poor mix design or manufacturing problems)
- Excessive application of asphalt binder during BST application
- Low HMA air void content (e.g., not enough void space for the asphalt to occupy), likely a mix design problem.

Repair: The following repair measures may eliminate or reduce the asphalt binder film on the pavement's surface but may not correct the underlying problem that caused the bleeding:

- Minor bleeding can often be corrected by applying coarse sand to soak up the excess asphalt binder.
- Major bleeding can be corrected by cutting off excess asphalt with a motor grader or removing it with a heater planer. If the resulting surface is excessively rough, resurfacing may be necessary.

Cracking

Description: Cracking appears as a series of interconnected splits in the pavement surface.

Problem: Cracking of the surface does not itself constitute a pavement failure but unless attended to can lead to a failure condition. A cracked surface leaves the underlying pavement vulnerable to water egress, which in turn can lead to potholes and shorten the life of the pavement.

Possible Causes: Environmental cracking in the surface is due to the surface aging or pavement movements caused by temperature changes.

Repair: Crack sealing of asphalt surfaces involves applying a hot rubber modified bitumen sealant into cracks that penetrates the depth of the crack replacing the lost bitumen and aggregate.

Roughness

Description: Pavement roughness is an expression of irregularities in the runway/taxiway surface. These irregularities include a range of features including wheel path depressions, ruts and cracking.

Problem: Runway roughness effects aircraft ride quality, drainage and safety.

Possible Causes: Minor roughness is inherent in new runway/taxiway surfaces, but overtime roughness distress worsens due to environmental factors, heavy aircraft loads and material degradation leading to increased maintenance needs and potential safety hazards.

Repair: Asphalt resurface and grooving of the surface restores the structural strength and the friction resistance of runway/taxiway surfaces.

Appendix E Airside Precinct Inspection Schedule

Type	Inspection Description	Frequency	Management System
Routine Serviceability Inspection	Surface Condition of Movement Areas	Daily	AVCRM
Routine Serviceability Inspection	Aerodrome Lighting – (Approach lights, Runway lights)	Daily	AVCRM
Routine Serviceability Inspection	Wind Indicators	Daily	AVCRM
Routine Serviceability Inspection	Security of fencing and signage	Daily	AVCRM
Routine Serviceability Inspection	Evidence of any wildlife in the vicinity of aerodrome	Daily	AVCRM
Routine Serviceability Inspection	Movement Area Guidance signs	Daily	AVCRM
Extra Serviceability Inspection	After a severe wind event, a severe storm or a period of heavy rainfall	As required	AVCRM
Extra Serviceability Inspection	If a hazard to aircraft may be present on the manoeuvring area	As required	AVCRM
Extra Serviceability Inspection	When requested in writing by CASA or when requested by ATC	As required	AVCRM
Extra Serviceability Inspection	If there is a reason to believe a hazard to aircraft may be present in the manoeuvring area.	As required	AVCRM
Extra Serviceability Inspection	If a pilot or aviation rescue and firefighting service (ARFFS) provider reports a hazard.	As required	AVCRM
Extra Serviceability Inspection	Prior to commencement of reduced or low visibility operations.	As required	AVCRM
Serviceability Inspection	Test ALER Battery 1 and 2 on runway lighting standby generator	Daily	AVCRM
Serviceability Inspection	Test run runway lighting standby generator and place on ESS load. Check 5-minute engine cool down time	Monthly	AVCRM
Serviceability Inspection	Check runway lighting standby generator monitoring panel for any alarms, abnormal readings etc Carry out visual inspection and check battery	Weekly	AVCRM
Serviceability Inspection	Inspect/test runway electrical lighting control equipment	6 monthly	AVCRM
Technical Inspection	An instrument survey of the approach, the takeoff and the transitional surfaces	Yearly	
Technical Inspection	A check of aerodrome operators monitoring of the instrument approach procedure	Yearly	
Technical Inspection	Inspection and assessment of the movement area pavements, drainage and associated strips	Yearly	
Technical Inspection	Assessment of the aerodrome lighting	Yearly	
Technical Inspection	Assessment of visual aids on the aerodrome.	Yearly	
Technical Inspection	Inspection of equipment or facilities at the aerodrome used for wildlife hazard management (including aerodrome fencing and gates and aerodrome emergencies.	Yearly	
Technical Inspection	Check of the currency and accuracy of the aerodrome information published in the AIP (aeronautical information package).	Yearly	
Technical Inspection	A check of the aerodrome operating procedures specified in the aerodrome manual and supporting documents.	Yearly	
Technical Inspection	A check that the safety management system or risk management plan (as applicable) is up to date and is functioning as documented.	Yearly	
Technical Inspection	An inspection of airside vehicle control arrangements.	Yearly	

Technical Inspection	A check that personnel appointed as a reporting officer or works safety officer have been trained and assessed in accordance with the Part 139 MOS.	Yearly	
Electrical Technical Inspection	Inspection and testing of visual aids on the movement area	Yearly	
Electrical Technical Inspection	Inspection and testing of apron floodlighting, including illumination of the apron and parking positions.	Yearly	
Electrical Technical Inspection	Inspection and testing of Illuminated wind direction indicators.	Yearly	
Electrical Technical Inspection	Inspection and testing of pilot-activated lighting systems.	Yearly	
Electrical Technical Inspection	Inspection and testing of stand- by and emergency lighting systems.	Yearly	
Electrical Technical Inspection	Inspection and testing of the visual approach slope indicator system.	Yearly	
Electrical Technical Inspection	Inspection and testing of the approach lighting systems.	Yearly	
Electrical Technical Inspection	Inspection and testing of obstacle lights and beacons maintained by the aerodrome operator.	Yearly	
Electrical Technical Inspection	Inspection and testing of any earthing points on the apron.	Yearly	
Electrical Technical Inspection	Inspection and testing of runway, taxiway, papi electrical lighting circuitry	Yearly	
Pavement Inspection Report	Visual Inspection of Pavement by a Pavement Engineer	As required	
Preventative Maintenance	Transformers and Ring Main Unit testing (services terminal building).	Yearly	Technology One (R1)
Preventative Maintenance	Transformers and Ring Main Unit testing (services runway and general aviation lighting).	Yearly	Technology One (R1)
Preventative Maintenance	RPT Apron Lighting Poles 1 – 6, Int Baggage Pole, Check lamps work, check switchboards.	Monthly	Technology One (R1)
Preventative Maintenance	Transformers and Ring Main Unit testing (various).	Yearly	Technology One (R1)
Preventative Maintenance	GA Apron Lighting Poles 1 – 3, check lamps work, check switchboards.	Monthly	Technology One (R1)
Preventative Maintenance	SW board MS2 Plant Deck Baggage , RCD Injection testing (1 yr), SW board Insp and thermal imaging	Yearly	Technology One (R1)

11.6 MONTHLY PROJECT STATUS REPORT FOR CIVIL OPERTIONS - SEPTEMBER 2025

File No:	**7028**
Attachments:	**1. Monthly Project Status Report for Civil Operations - September 2025⇩**
Authorising Officer:	**Peter Kofod - General Manager Regional Services**
Author:	**Ryan Swadling - Acting Manager Civil Operations**

SUMMARY

Monthly Project Status Report on all major capital projects being delivered by the Civil Operations section.

OFFICER'S RECOMMENDATION

THAT the Monthly Project Status Report for Civil Operations for September 2025 be received.

COMMENTARY

The Civil Operations section submits a monthly project status report outlining the status, key milestones and deliverables of major capital projects managed by the Unit.

The following projects are reported on for the month of September 2025:

- Unsealed Road Network;
- 2025/2026 Capital Works Program;
- Alexandra Street / Birkbeck Drive – Roundabout;
- Murray Street (Fitzroy Street to Denham Street) – Rehabilitation;
- Rodboro Street – Traffic Calming Scheme;
- Parkhurst Industrial Area Road Upgrades (McLaughlin Street, Wade Street & Johnson Street).

MONTHLY PROJECT STATUS REPORT FOR CIVIL OPERTIONS – SEPTEMBER 2025

Monthly Project Status Report for Civil Operations - September 2025

Meeting Date: 16 September 2025

Attachment No: 1

CIVIL OPERATIONS

Monthly Project Report – July 2025

UNSEALED ROAD NETWORK

During the month of July 2025, approximately 38.25 kms of roads were graded and a further 8.35 kms of roads re-sheeted with approximately 100mm of gravel to improve wet weather trafficability.

Completed – July 2025			
Road Name	**Area**	**Total Length Graded (kms)**	**Total Length Re-sheeted (kms)**
Cooks Road	Hamilton Creek	0.65	
Craignaught Road	Morinish	9.8	
Glenroy Road	Glenroy	3.6	1.08
Hamilton Avenue	Hamilton Creek	0.5	
Lyttle Lane	Ridgelands	2.5	
Mandalay Road	Wura	1.45	0.65
Marble Ridges Road	Morinish	6.17	
Moller Road	Wura	2.43	
Oakey Creek Road	Oakey Creek	1.1	0.65
Offord Road	Marmor	0.4	0.3
Rookwood Road	Gogango	2.7	4.35
San Jose Road	Marmor	1.15	1.32
Seymour Road	South Yaamba	1.55	
South Yaamba Road	South Yaamba	1.85	
Toonda Road	Marmor	0.5	
William Palfrey Road	Parkhurst	1.9	

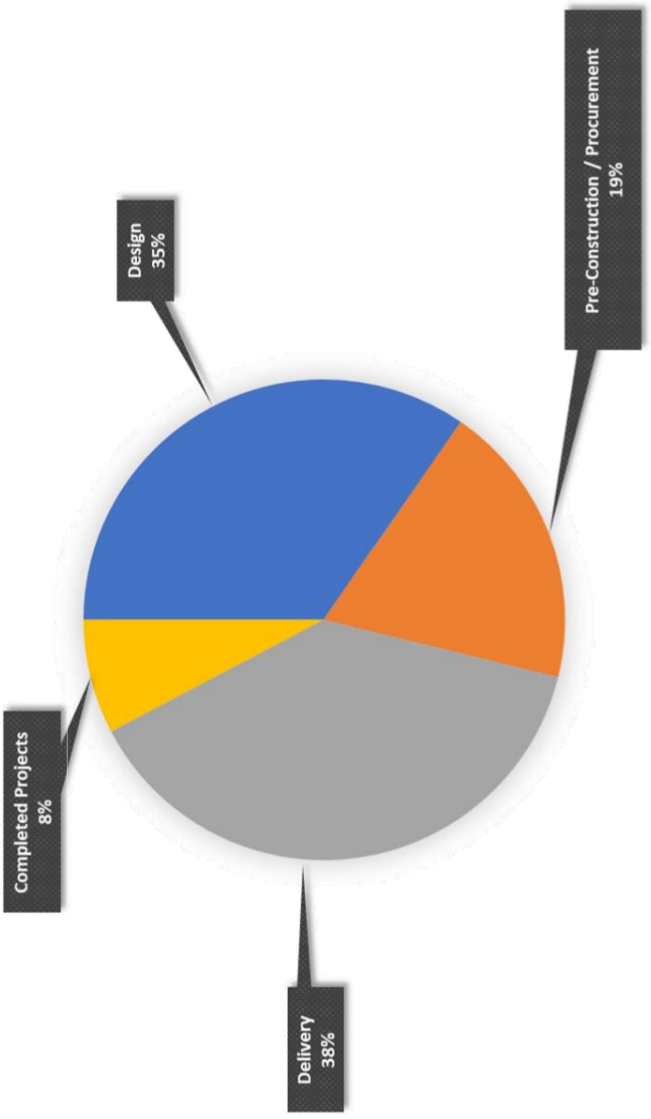
In Progress – August 2025		
• Cole Avenue • East Street South • Glenroy Road	• Smalls Road • Jackson Road • Rookwood Road	• San Jose Road • Randwick Lane

Areas Programmed for September 2025		
• Cowan Rd • Ohl Rd • Rubi's Rd • Munns Rd	• Tindal Rd • Goodwin Rd • Moses Rd • Andy Rd	• Bond Rd • T Ramm Rd • Duncan Rd • Kraatz Rd

CAPITAL WORKS PROGRAM

Summary (by project status)

2025-26 Capital Works Program - Civil Operations



Design	
2025-2026 Projects	**Comment**
Malchi-Nine Mile Road Safety Improvements – Hopper Rd Scrubby Creek *(SLRIP Funding)*	Underway
Ashford Street (Ch 0.5 to Ch 1.2) – Bitumen Seal	Underway
Canning Street - Rehabilitation	Underway
Crescent Lagoon State School – Footpath *(STIP Funding – Tranche 7)*	Underway
Gracemere State School – Footpath *(STIP Funding – Tranche 7)*	Underway
Mason Avenue (Yaamba Road to 12-14 Mason Street) - Rehabilitation	Scoped
Dean Street / Elphinstone Street - Intersection Safety Upgrades *(Black Spot Funding)*	Scoped
Denham Street Extended - Safety Improvements *(Black Spot Funding)*	Scoped
Cherryfield Road (Johnson Road to Washpool Road)	Scoped

Pre-Construction / Procurement		
2025-2026 Projects	**Estimated Start Date**	**Comment**
Waraburra State School (Middle Road) – Footpath *(STIP Funding – Tranche 7)*	September 2025	Contract Awarded
Witt Street (Dean Street to Ellis Street) - Rehabilitation	September 2025	
Rural - Annual Spray Seal Program	December 2025	
Urban - Annual Reseal Program – Spray Seals	December 2025	
Robison Street (Dooley Street to Glenmore Road) – Rehabilitation	January 2026	

Delivery			
2024-2025 Projects	**Actual Start Date**	**Estimated Completion Date**	**Comment**
Murray Street (Fitzroy Street to Denham Street) - Rehabilitation	March 2025	August 2025	Additional landscaping works required
Dale Park - Access Road	June 2025	September 2025	

Norman Road (German Street to Dodson Street) - Footpath *(LRCI Phase 4 Funding)*	March 2025	September 2025	
Parkhurst Industrial Area – Stage 3 - Johnson Street Rehabilitation *(SLRIP / REFF Funding)*	June 2025	September 2025	
Rodboro Street - Traffic Calming Scheme and Footpath *(Black Spot Funding)*	June 2025	September 2025	
2025-2026 Projects	**Actual Start Date**	**Estimated Completion Date**	**Comments**
McLeod Park - Open Drain	July 2025	October 2025	
South Yaamba Road – Reconstruction *(SLRIP Funding)*	July 2025	December 2025	
Rural - Unsealed Road Gravel Program	July 2025	June 2026	Refer to Unsealed Road Network Update
Urban - Annual Reseal Program – Asphalt Resurfacing	July 2025	June 2026	
Alexandra Street / Birkbeck Drive - Intersection Upgrade	July 2025	October 2026	
Completed			
2024-2025 Projects *(Carry Over Projects)*			
Alexandra Street / Birkbeck Drive Intersection – Early Works			
2024/2025 Annual Reseal Program – Micro-Surfacing (Slurry Seals)			

MAJOR PROJECTS UPDATE

Alexandra Street / Birkbeck Drive – Roundabout — ***Project Budget: $7,900,000***

Scope	Construction of a roundabout at the intersection of Alexandra Street, Belmont Road and Birkbeck Drive. One of the legs of the roundabout will be a new road linking with McLaughlin Street and Edenbrook Estate. Works include clearing, relocation of overhead electrical infrastructure, streetlighting, drainage, bulk earthworks, pavement, asphalt sealing, kerb and channel, concrete medians, landscaping and concrete footpaths. ***Actual Start Date:*** *June 2025* ***Estimated Completion Date:*** *October 2026*

Initial Construction Estimate	$8,620,000	**Estimated Cost at Completion**	$8,620,000	**Budget Health** 

On the Horizon – Key Milestones & Deliverables

July	**August**	**September**
• Continue with drainage works; • Continue with roadworks; • Ergon HV works to be completed.	• Continue with drainage works; • Continue with bulk earthworks; • Install water connection to roundabout for landscaping; • Install conduit road crossings for streetlighting.	• Complete drainage works; • Continue with bulk earthworks; • Commence pavement works; • Complete streetlighting conduit road crossing; • Topsoil and seed drainline 4.

Comments	• This project is jointly funded by RRC and the State Government's Works for Queensland Program; • Cost of Ergon's relocation work has increased significantly from their initial offer.

Murray Street (Fitzroy Street to Denham Street) – Rehabilitation — ***Project Budget: $600,000***

Scope	Works include the replacement of K&C on both sides of Murray Street. Undertake areas of pavement repairs and provide asphalt overlay. The works will also include renewed street scaping. ***Actual Start Date:*** *March 2025* ***Estimated Completion Date:*** *August 2025*

Initial Construction Estimate	$600,000	**Estimated Cost at Completion**	$690,000	**Budget Health** 

On the Horizon – Key Milestones & Deliverables

July	**August**	
• Continue remaining kerb and channel; • Continue street scaping.	• Complete remaining kerb and channel; • Complete remaining asphalt seal; • Complete streetscaping.	

Comments	• Civil Operation component of the project is complete; • Only remaining component is planting the tree plots.

Rodboro Street - Traffic Calming Scheme				***Project Budget: $1,500,000***
Scope	Project includes construction of mini-roundabouts at Rodboro Street / Tomkins Street and Rodboro Street / Nobbs Street intersections, installation of coloured local area traffic treatments at some intersections, installation of concrete centre islands at some locations, installation of improved line marking and construction of concrete footpath along Rodboro Street between McKean Street and Water Street. ***Actual Start Date:*** *May 2025* ***Estimated Completion Date:*** *September 2025*			
Initial Construction Estimate	$1,500,000	**Estimated Cost at Completion**	$1,584,000	**Budget Health** 

On the Horizon – Key Milestones & Deliverables

July	**August**	**September**
• Continue footpath works; • Commence asphalt works at Rodboro Street / Tomkins Street and Rodboro Street / Nobbs Street; • Commence kerb and channel works at Rodboro Street / Berserker Street; • Contractor to commence footpath works along Water Street / Bawden Street.	• Install rubber roundabouts at Rodboro Street / Tomkins Street and Rodboro Street / Nobbs Street; • Install coloured intersection treatments; • Commence kerb and channel works at Rodboro Street / Bawden Street; • Fencing works adjacent to Elizabeth Park.	• Completion of concrete footpath McKean – Tomkins; • Completion of concrete footpath (Contractor section) Tomkins – Water; • Installation of concrete medians. • Completion of signage and linemarking.

Comments	• This project is jointly funded by RRC and the State Government's Black Spot Program; • Multiple resources to be allocated during initial stages of project.

Parkhurst Industrial Area Road Upgrades (McLaughlin Street, Wade Street & Johnson Street)				***Project Budget: $10,000,000***
Scope	This project will enhance safety for heavy vehicle movements at key intersections within the Parkhurst Industrial Area and improve urban and regional freight supply chains and economic development due to its immediate proximity to the Rockhampton Ring Road project. Scope of works includes road widening, pavement strengthening and construction of kerb and channel. ***Actual Start Date:*** *November 2023* ***Estimated Completion Date: August 2025***			
Initial Construction Estimate	$9,147,000	**Estimated Cost at Completion**	$8,600,000	**Budget Health**

On the Horizon – Key Milestones & Deliverables		
July Johnson Street / Alexandra Street (Stage 3) ongoing.	**August** • Johnson Street / Alexandra Street (Stage 3) asphalt sealing works; • Johnson Street / Alexandra Street (Stage 3) linemarking and signage.	

Comments	• This project is jointly funded by RRC, the State Government's Regional Economic Futures Fund (REFF) and the Federal Government's Safer Local Roads Investment Program (SLRIP). • Stage 1 (McLaughlin Street) completed August 2024. • Stage 2 (Wade Street) completed June 2025. • Stage 3 (Johnson Street) will be completed August 2025 with the exception of streetlighting, which is currently with Ergon for assessment. The timeline for streetlighting delivery is unknown at this point.

11.7 FITZROY RIVER WATER- SPECIALISED SOLE SUPPLIERS REPORT

File No:	**11760**
Attachments:	**Nil**
Authorising Officer:	**Dan Toon - Manager Water and Wastewater** **Peter Kofod - General Manager Regional Services**
Author:	**Abby Carolan - Coordinator Engineering**

SUMMARY

This report refers to a number of items of equipment and services that are critical to Fitzroy River Water's water and sewerage operations. Council approval is sought for these items to be provided by the listed specialised suppliers in accordance with s235(b) of the Local Government Regulation (2012).

OFFICER'S RECOMMENDATION

THAT pursuant to s235(b) of the Local Government Regulation 2012, Council approves the use of the following nominated suppliers without the need to seek additional quotes or tenders:

1. The following Original Equipment Manufacturers for the supply, installation, maintenance, servicing and repairs of replacement pumps, pump motors and associated parts:
    a. KSB
    b. Xylem
    c. Sulzer
    d. Regent
    e. Flowserve
    f. Grundfos
    g. Prominent
    h. Verderflex
    i. Wallace and Tiernan
    j. Watson-Marlow Bredel
    k. Gorman-Rupp
    l. Pomona
    m. WEG
    n. ABB
2. ABB and NHP for the supply, installation, maintenance, servicing and repairs of electrical equipment including but not limited to variable speed drives, electrical instrumentation and Low and High Voltage power supply infrastructure.
3. HACH for the supply, installation, maintenance, servicing and repairs of inline, portable and laboratory process instrumentation and associated chemical reagents.

COMMENTARY

Fitzroy River Water relies on specialised items in many of its water and sewerage assets to ensure standardisation of design, operation and maintenance, and to help ensure optimal efficiency and reliability of services.

Table 1 below lists items of such equipment, associated maintenance services and the respective suppliers.

Seeking multiple quotes for these items is not an efficient or effective use of Council and the Supplier's time and resources, as these suppliers are continually selected due to the specialist nature of the equipment, compatibility with existing assets and the ability of the supplier and their equipment to satisfy Fitzroy River Water's operational requirements.

Table 1. Items of equipment or products for water and sewerage operations and their suppliers

Item	Suppliers	Justification
Pumps, pump motors and associated parts	KSB Xylem Sulzer Regent Flowserve Grundfos Prominent Verderflex Wallace and Tiernan Watson-Marlow Bredel Gorman-Rupp Pomona WEG ABB	FRW undertakes planned and reactive maintenance on water, sewerage and chemical dosing pumps across the region in order to provide efficient and reliable water and wastewater services to the Rockhampton Region. This maintenance includes: • Replacement of worn components; • Servicing of pump and motor assemblies; and • Inspection and performance testing. When compared to resellers or other providers, direct engagement of the Original Equipment Manufacturer (OEM) for each of these pumps has typically been found to be the most cost effective and efficient form of procurement for the replacement of parts and contract maintenance services. The estimated expenditure (Capital and Operational) per year, excluding procurement for new pump stations, is approximately $300,000 ex GST.
Electrical equipment including (variable frequency drives and other instrumentation)	ABB NHP	ABB and NHP electrical components and equipment have been installed across multiple major FRW sites, including but not limited to: • Glenmore Water Treatment Plant • Rockhampton North Sewage Treatment Plant – as part of the recent upgrade • Lucas Street Water Pumping Station When compared to resellers or other providers, direct engagement the Original Equipment Manufacturer (OEM) has typically been found to be the most cost effective and efficient form of procurement for the replacement parts and contract maintenance services (where required). Based on the above, and in an effort to standardise equipment across water and wastewater assets, it is recommended that ABB and NHP be engaged as sole suppliers for the supply, installation, maintenance, servicing and repairs of electrical equipment including but not limited to variable speed drives, electrical instrumentation (e.g. flow, pressure, level measurement) and Low and High Voltage power supply infrastructure. The estimated expenditure (Capital and Operational) per year, excluding procurement for new pump stations or treatment plants, is approximately $200,000 ex GST

Inline, portable and laboratory process instrumentation including reagents	HACH	HACH products are integral to FRW's water quality monitoring and compliance processes. When compared to resellers or other providers, direct engagement of HACH as the OEM has typically been found to be the most cost effective and efficient form of procurement for the replacement parts and contract maintenance services (where required). Based on the above, and in an effort to standardise equipment across water and wastewater assets, it is recommended that HACH be engaged as a sole supplier for the supply, installation, maintenance, servicing and repairs of Inline, portable and laboratory process instrumentation and associated reagents. The estimated expenditure (Capital and Operational) per year, excluding procurement for new pump stations or treatment plants, is approximately $50,000.

BACKGROUND

No additional background information is provided relevant to this matter.

PREVIOUS DECISIONS

In recent years, Council approved the establishment of specialised item suppliers for Fitzroy River Water. This report seeks to add to this list of specialised item suppliers to further improve the efficiency of procurement activities for these important items and improve the reliability and performance of water and sewerage assets.

BUDGET IMPLICATIONS

No budget implications expected.

LEGISLATIVE CONTEXT

Local Government Regulation (2012) –

235 Other exceptions

"A local government may enter into a medium-sized contractual arrangement or large sized contractual arrangement without first inviting written quotes or tenders if—"

"(b) the local government resolves that, because of the specialised or confidential nature of the services that are sought, it would be impractical or disadvantageous for the local government to invite quotes or tenders"

LEGAL IMPLICATIONS

There are no identified legal implications to Council relevant to this matter.

STAFFING IMPLICATIONS

Engagement of the above suppliers as sole suppliers of the stated items will enable more efficient delivery of services with the resources available.

RISK ASSESSMENT

The following key risks have been identified with respect to proceeding with this recommendation:

Risk	Commentary
Supplier ceases trading during the life of the asset	The nominated suppliers have long-standing operational histories, significantly reducing the risk of business discontinuity.

CORPORATE/OPERATIONAL PLAN

Engagement of the above supplier as sole supplier of the stated items aligns with the below goals / sections of Council's Corporate and Operational Plans.

Operational Plan 2025 / 2026

- 1.1.1.3 Deliver water and sewerage services in accordance with Fitzroy River Water 2025-2026 Performance Plan.
- 1.1.2.3 Undertake a series of reviews to find opportunities for improvement in productivity and efficiency for Council-delivered services, programs and projects in support of Council's long-term financial forecast and budget

Corporate Plan 2022-2027:

- Provide high-quality, safe, reliable and cost-effective water and sewerage services;
- Operate in an efficient and financially sustainable manner and provide Council with an appropriate rate of return;
- Responsibly manage, improve and augment infrastructure;
- Optimise costs;
- Undertake other commercial activities with a profit motive.

CONCLUSION

Fitzroy River Water can streamline procurement of critical items by Council approving the nominated suppliers as specialised suppliers for their respective equipment and services as they have consistently demonstrated an ability to meet our operational needs in an efficient and timely manner. This recommendation supports Fitzroy River Water's commitment to proactive asset management and working towards operational excellence.

12 NOTICES OF MOTION

Nil

13 QUESTIONS ON NOTICE

Nil

14 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

15 CLOSURE OF MEETING