

INFRASTRUCTURE COMMITTEE MEETING

AGENDA

14 FEBRUARY 2017

Your attendance is required at a meeting of the Infrastructure Committee to be held in the Council Chambers, 232 Bolsover Street, Rockhampton on 14 February 2017 commencing at 12.30pm for transaction of the enclosed business.

A 11.

CHIEF EXECUTIVE OFFICER 8 February 2017

Next Meeting Date: 14.03.17

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.

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1 OPENING

2 PRESENT

Members Present:

Councillor A P Williams (Chairperson) The Mayor, Councillor M F Strelow Councillor R A Swadling Councillor N K Fisher Councillor C E Smith Councillor C R Rutherford Councillor M D Wickerson

In Attendance:

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

3 APOLOGIES AND LEAVE OF ABSENCE

4 CONFIRMATION OF MINUTES

Minutes of the Infrastructure Committee held 17 January 2017

5 DECLARATIONS OF INTEREST IN MATTERS ON THE AGENDA

6 BUSINESS OUTSTANDING

6.1 BUSINESS OUTSTANDING TABLE FOR INFRASTRUCTURE COMMITTEE

File No:	10097					
Attachments:	1. Business Outstanding Table					
Authorising Officer:	Evan Pardon - Chief Executive Officer					
Author:	Evan Pardon - Chief Executive Officer					

SUMMARY

The Business Outstanding table is used as a tool to monitor outstanding items resolved at previous Council or Committee Meetings. The current Business Outstanding table for the Infrastructure Committee is presented for Councillors' information.

OFFICER'S RECOMMENDATION

THAT the Business Outstanding Table for the Infrastructure Committee be received.

BUSINESS OUTSTANDING TABLE FOR INFRASTRUCTURE COMMITTEE

Business Outstanding Table

Meeting Date: 14 February 2017

Attachment No: 1

Date	Report Title	Resolution	Responsible Officer	Due Date	Notes
21 June 2016	Webber Park Preliminary Drainage Investigation	 THAT Council take the following action: a) proceed to preliminary design and cost estimating for Stages 1B and 1A of the Webber Park Drainage Scheme; b) include the Webber Park Drainage Scheme in the Stormwater Project Prioritisation process and list for consideration for future capital budgets; c) enter into discussions with members of the public directly impacted by the proposed Webber Park Drainage Scheme and 	Martin Crow	05/07/16	AECOM are currently progressing the preliminary design works. The Webber Park drainage scheme has been prioritised and stages 1A and 1B have been included in the forward works program. Preliminary discussions have taken place with the Bluebirds Sports Club management representatives. Further consultation is to happen when preliminary design work is nearing completion.
		 d) advise interested residents of the results of the preliminary investigation and the actions being undertaken in accordance with the recommendations above. 			

				r	
19 July 2016	Updated Fitzroy River Flood Mapping	 THAT Council: Adopt the attached Fitzroy River Flood Maps; Incorporate the attached Fitzroy River Flood Maps into the proposed Major Amendment of the Rockhampton Region Planning Scheme; Review planning and development controls in the North Rockhampton Flood Management Area during the proposed Major Amendment of the Rockhampton Region Planning Scheme; 	Angus Russell	02/08/16	Awaiting adoption of major amendment by Council to implement revised mapping and planning controls. Maps are available on Council's website. Insurance Council has been contacted but awaiting return of nominated liaison officer before sending mapping to them.
		 Make the attached Fitzroy River Flood Maps available on Council's web site and communicate them to the Insurance Council of Australia; and, Recognise the North Rockhampton Flood Management Area in Council's Flood Searches and Planning and Development Certificates. 			NR flood management area recognised in flood searches through manual correction. Automation to be pursued in future. Not available in planning certificates until major amendment is completed.

16 August 2016	Updated Splitters Creek Flood Modelling	TH 1. 2. 3.	Adopt the Splitters Creek Flood Maps as attached to the report; Incorporate the Splitters Creek Flood Maps attached to the report into the proposed Major Amendment of the Rockhampton Region Planning Scheme; and Make the Splitters Creek Flood Maps available on Council's website and communicate changes to the Insurance Council of Australia.	Angus Russell	30/08/16	Awaiting adoption of major amendment by Council to implement revised mapping and planning controls. Maps are available on Council's website. Insurance Council has been contacted but awaiting return of nominated liaison officer before sending mapping to them. NR flood management area recognised in flood searches through manual correction. Automation to be pursued in future. Not available in planning certificates until major amendment is completed.
18 October 2016	Somerset Road Drainage	TH	IAT Council proceed with negotiating the quisition of land outlined in this report.	Angus Russell	01/11/2016	Both Council and DTMR have obtained property valuations and are currently discussing differences. Preliminary discussions have been held with Powerlink in relation to co- use of the electricity easement for the proposed detention basin.

17 January 2017	Brooks Street Drainage	THAT the design for Option 3 be endorsed and the detailed design be finalised.	Martin Crow	31/01/2017	This project has been rescheduled into the design program to be finalised and ready for delivery in 2017/18.
17 January 2017	Edenbrook Infrastructure Agreement and Parkhurst West Development	THAT Council does not elect to continue with the Transport contribution outlined in the Edenbrook Infrastructure Agreement beyond 31 March 2017; and	Martin Crow	31/01/2017	Council officers have met with representatives of Edenbrook and discussed future progress of this development.
		THAT the Chief Executive Officer explores funding opportunities through the State's Catalytic Infrastructure Program			

7 PUBLIC FORUMS/DEPUTATIONS

Nil

8 OFFICERS' REPORTS

8.1 CIVIL OPERATIONS MONTHLY OPERATIONS REPORT - FEBRUARY 2017

File No:	7028
Attachments:	 Monthly Operations Report - Civil Operations 31 January 2017 Works Program February - March 2017
Authorising Officer:	Peter Kofod - General Manager Regional Services
Author:	David Bremert - Manager Civil Operations

SUMMARY

This report outlines Civil Operations Monthly Operations Report 31 January 2017 and also Works Program of planned projects for the months February - March 2017.

OFFICER'S RECOMMENDATION

THAT the Civil Operations Monthly Operations Report for February 2017 be received.

COMMENTARY

The Civil Operations Section submits a monthly report outlining the details of the programmed works for the upcoming month to assist Council's Executives and Councillors when they receive enquiries from their constituents in relation to road and associated road reserve works.

BACKGROUND

	January
Inspections Created	306
Inspections Completed	261
Work Orders Created	221
Work Orders Completed	297

BUDGET IMPLICATIONS

All works specified in this report are included in Council's current approved budget.

LEGISLATIVE CONTEXT

All works outlined in this report will be conducted in a manner to comply with all legislation.

STAFFING IMPLICATIONS

The works specified in this report have been programmed whilst taking into consideration current staffing levels.

RISK ASSESSMENT

Civil Operations Section's staff conduct a risk assessment of their job site before work commences to ensure they have identified assessed and controlled any possible hazards to ensure the safety of themselves and others.

CONCLUSION

This report outlines the planned works program and the customer requests received for Civil Operations, Urban and Rural Operations Capital Projects Report Financial Year to Date and are for the information of Councillors.

CIVIL OPERATIONS MONTHLY OPERATIONS REPORT – FEBRUARY 2017

Monthly Operations Report – Civil Operations 31 January 2017

Meeting Date: 14 February 2017

Attachment No: 1

MONTHLY OPERATIONS REPORT CIVIL OPERATIONS SECTION

January 2017

VARIATIONS, ISSUES AND INNOVATIONS

Improvements / Deterioration in Levels of Services or Cost Drivers

- Restoration of damage caused by Cyclone Marcia works packages are well underway.
- Pilbeam Drive, Urban repairs, Scott Street, Rockonia Road, Beasley Street, Frenchville Road, York Street, Dean Street, Capricorn Street and Kerrigan Street have all be completed. Note some defect repairs could be occurring over the next month.
- Elphinstone Street and Rural repairs are all underway and should be completed by end of February 2017 subject to rain.

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1. COMPLIANCE WITH CUSTOMER SERVICE REQUESTS

The response times for completing the predominant customer requests in the reporting period of January 2017 for Civil Operations are as below:



All Monthly Requests (Priority 3) **Civil Operations 'Traffic Light' report** January 2017

			Current N Req	uesta	TOTAL	in the second	Inder	Ave: 1400	Completion	10	Avg		Avg		Avg	Avg
	Balance B/F	Completed In Current Mth	Received	Completed	INCOMPLETE REQUESTS BALANCE	E Issued	Long Term Investigation	Issue Time (days) 12 months	Standard (days)	Co Thr Cu	Completion Time (days) Current Mth		completion Ime (days) 6 Months	Time (days) 12 Months		(days) 12 Months (complete and
Abandoned Vehicles (INFRA USE ONLY NOT CS) (Asset)	9	2	0	0	7	0	0	24.40	90	۲	0.00	٠	51.75	۲	24.00	35.96
Property Accesses	0	0	1	1	0	0	0	2.47	14	۰.	2.00	•	2.20	•	4.67	2.95
Rural Property Addressing (Existing)	0	0	1	0	1	0	0	0.00	28	۰	0.00	•	11.50	•	7.91	7.00
Rural Property Addressing (New)	0	0	0	0	0	0	0	0.00	28	٠	0.00	•	2.00	۰	34.72	35.74
Eridge Vandalism (Asset)	0	0	0	0	0	0	0	0.00	14		0.00	۲	0.00	•	0.00	0.00
Boat Ramps (Asset)	0	0	1	0	1	1	0	5.22	14	•	0.00	۲	3.00	۰	3.50	4.00
Bridge Maintenance (Asset)	0	0	1	1	0	0	0	8.56	60	•	6.00	۲	7.75	•	8.25	8.25
Burn Off Advice - Reduction Burning	0	0	2	2	0	0	0	0.00	5	•	1.50	•	2.64	•	2.05	1.61
Bus Stops, Seating, Bus Shelters (Asset)	2	0	4	2	4	0	0	6.06	60	•	3.50		11.78	•	15.38	14.44
Drainage Miscellaneous (Asset)	16	6	33	23	20	4	0	7.61	30		3.83	•	13.69	•	13.93	15.79
Drainage Inundation (Flooding Issues) (Asset)	2	0	4	2	4	0	0	10.89	30	•	2.00	•	26.00	•	72.62	74.44
Drainage Kerb & Chanel (Asset)	10	2	8	5	- 11	3	0	8.90	30		6.20		9.94	•	10.67	15.42
Drainage Gully Pits (Asset)	0	0	5	5	0	0	0	6.31	30	•	4.20	۰	4,50	•	5.29	5.29
Drainage Pipes and Culverts (Asset)	2	1	5	1	4	2	0	7.96	5	۲	4.00		43.19	•	22.07	30.08
Drainage Vandalism (Asset)	0	0	0	0	0	0	0	0.00	30	•	0.00	•	0.00	•	0.00	0.00
Grading Unsealed Road Maintenance (Asset)	17	9	17	8	16	5	0	-0.53	60	٠	11.75		138.03		144.34	137.17
Guard Ralis (Asset)	0	0	2	1	1	0	0	12.62	30	۲	9.00	٠	8.67	•	20.80	9.00
Guide Post (Asset)	0	0	0	0	0	0	0	6.78	14	٠	0.00	•	1.00	•	46.44	49.88
Illegal Dumping (INFRA ONLY-CSO USE NUILIT)(Asset)	0	0	2	2	0	0	0	25.54	14	۲	3.00	۲	5.41	•	6.55	6.55
Infrastructure - General Enquiry	4	1	6	4	5	0	0	7.87	2	•	2.33	0	7.96	0	7.29	4.52
Jettles/Wharves (Asset)	0	0	0	0	0	0	0	0.00	14	٠	0.00	•	0.00	•	0.00	0.00
Miscellaneous Road Issues (Asset)	42	17	55	32	47	7	0	5.10	14	٠	3.36	-	22.19	•	17.34	19.14
Footpath & Off-Road Cycle Ways Maint. (Asset)	15	7	28	12	24	5	0	7.81	30	•	5.50	•	10.48	•	10.87	12.25
Potholes - Sealed Roads (Asset)	11	6	66	43	28	21	0	1.36	5	٠	1.18	۲	23.68	۲	10.68	10.43
Railway Crossings (Asset)	0	0	1	1	0	0	0	13.19	60	•	32.00	•	17.00	•	60.00	17.00
Rural Roadside Vegetation Slashing (Asset)	0	0	1	1	0	0	0	4.39	30	٠	1.00	•	2.14	•	4.37	3.62
Signs & Lines (Already Existing) - (Asset)	26	11	28	20	23	3	0	6.57	10	•	1.80	۲	7.38	•	7.94	8.23
Street Lighting - Other (Asset)	3	1	3	0	5	S1.	0	4.14	30	٠	0.00	•	2.33	•	20.30	27.79
Street Lighting - Maintenance (Asset)	2	0	2	1	3	1	0	0.27	30	•	0.00	۲	63.00	•	37.31	35.76
Street Sweeping - (Asset)	3	3	20	13	7	5	0	2.76	14	•	2.31	•	4.48	•	4.49	3.59
Traffic Lights (Asset)	7	2	4	2	7	2	0	0.25	14		0.00	۲	7.70	•	4.16	8.23
Water Course Miscellaneous (Asset)	1	1	2	1	1	1	0	4.14	14	•	10.00	•	6.86	•	8.16	4.30
Water Course Vandalism (Asset)	0	0	0	0	0	0	0	5.01	14	•	0.00	٠	3.00	•	3.00	3.00

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Comments & Additional Information

Delivery statistics have improved and we will continue to strive to meet the stated timeframes.

Third flocon operating full time and is currently targeting potholes suburb by suburb.

Priority Escalation

This function allows the Actioning Officer and/or Responsible Officer of the Request to receive an e-mail message each time the Priority is escalated. These Priority escalations are notification / reminders to action the request and not necessarily to complete the request.

Estimated Duration Maintenance

The Estimated Duration Maintenance form displays the Estimated Duration Maintenance Timeframe (or Service Level) for Request Types ie. Minutes, Hours, Days, Weeks and Years.

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2. COMPLIANCE WITH STATUTORY AND REGULATORY REQUIREMENTS INCLUDING SAFETY, RISK AND OTHER LEGISLATIVE MATTERS

Safety Statistics

The safety statistics for the reporting period are:

	January
Number of Lost Time Injuries	1
Number of Days Lost Due to Injury	1
Total Number of Incidents Reported	3
Number of Incomplete Hazard Inspections	0

Risk Management Summary

Example from Section Risk Register (excludes risks accepted/ALARP)

Potential Risk	Current Risk Rating	Future Control & Risk Treatment Plans	Due Date	% Completed	Comments
Budget overrun (Capital Projects) resulting in inability to complete project to specification impacting on end user/fit for purpose, seeing corporate/operational plan objectives not being addressed and Council's credibility with the community being impacted.	Very High1. (2) Design Services to design high risk projects prior to drafting budget to provide design estimates. Apply cost indexation to design estimates to update estimate to proposed budget period.22. (2) Coordinators Urban and Rural Operations to prepare estimates for new projects and the Manager Civil Operations to review estimates.3. Project management framework including project plans to be		30/06/2017	60%	All high risk projects being scoped, designed and design estimates being checked by Coordinator and Works Engineers. All projects have project plans and estimates undertaken. This is being undertaken in most projects.
Increased input costs not factored in to budgets thus resulting in inability to fully complete stated work programs.	High 4			100%	Material costs and plant costs regularly updated in estimates.
Failure of operation asset condition (roads, drainage, etc) leading to:	Very High 2	(1) Fine tune and review the ongoing Civil Operation asset condition	28/06/2017	75%	Rural roads being regularly inspected. Use of RACAS

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Potential Risk	Current Risk Rating	Future Control & Risk Treatment Plans	Due Date	% Completed	Comments
injury or death of public/staff; damage to property/equipment - resulting in legal outcomes, financial impacts and		inspections, which are conducted in conjunction with Council's Asset Management Unit for assets, facilities &			inspection system to commence in September, 2014
negative publicity for Council.		major projects. (Note - Civil Operations inspect rural roads but the Asset Management Unit inspect urban roads)			Urban Roads have RACAS system driven over once a year.
					Meeting with asset management staff to coordinate repairs has been undertaken.
"Unacceptable response times on maintenance call outs resulting in low community confidence."	Moderate			100%	Callout escalates until a response from a Council officer is obtained.
	5			100%	Additional resources being allocated to improve the response times.
Interruption to program of works resulting in non-achievement of corporate targets and reduction in service delivery. (This includes Capital Works program)	Moderate 5	Project management framework/tool to provide a robust and prioritised forward works program.	30/06/2017	80%	10 year Works Program completed.
Contamination of land and waterways from inappropriate work practices / procedures.	Moderate 6			100%	All fuel trailers have spill kits. In field maintenance and fuelling kept to the minimum possible to reduce risk of contamination by hydrocarbons.
Landslip and/or rocks on road along Pilbeam Drive at Mt Archer - poses a threat to safety of road users resulting in public liability.	High 5			100%	Regular inspections are done after significant rain events

Legislative Compliance & Standards

3. <u>ACHIEVEMENT OF CAPITAL PROJECTS WITHIN ADOPTED BUDGET AND APPROVED</u> <u>TIMEFRAME</u>

The following abbreviations have been used within the table below:

	RW/C	Rural West Control		BDG	Bridges	RC	Reconstruction	TM	Traffic Management
	1100	Habar Ossteel Ossteel		BR	Boat Ramps	RF	Road Furniture	AS	Asphalt Seal
	000	Urban Central Control		FP	Footpaths	RS	Reseal	LA	Land Acquisition
	UWC	Urban West Control		GR	Gravel Re-sheet	SW	Stormwater	SL	Street Lighting
			NC	New Construction	TL	Traffic Lights			

As of the 25 January 2017			57.3%
Council Capital	Budget	Expenditure	
Urban	\$19,066,462	\$12,004,236	
Rural	\$5,036,800	\$2,627,326	
Urban West	\$1,793,700	\$561,095	
Council Capital total	\$25,896,962	\$14,719,874	56.8%
Revenue			
Revenue	-\$6,367,228	-\$4,942,537	77.6%
Quay St Works	\$8,008,817	\$6,289,934	66.9%
Other Units			
Flood Damage			
Rural	\$2,766,081	\$1,479,110	
Urban	\$15,000,000	\$11,451,397	
Disaster Total	\$17,766,081	\$13,338,087	75.1%
Total	\$51,671,860	\$33,417,175	64.7%

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End of Month General Ledger - (Inc Operating & Capital) - CIVIL OPERATIONS

As At End Of January

Report Rui.	OI-Feo-201	Paula ad	Durdeed Durdnet	. 2002,2314,28	11,2824	VTDCom mit 4		
	Budget	Budget	(Pro Rata YTD)	Commitments	YTDActual	Actual	Variance	On target
	s	Louger	\$	\$	\$	\$	%	58.3% of Year Gon
APITAL				-			Revised B	udget Companison
CIVIL OPERATIONS								
CP414 - July 2016 Rural Disaster Eve	ent							
1 - Revenues	0	(800,000)	(466,667)	0	0	0	0%	*
2 - Expenses	0	333,333	194,444	0	0	0	0%	1
Total Unit: Civil Operations Management	0	(466,667)	(272,222)	0	0	0	0%	*
CP415 - July 2016 Urban Disaster Ev	ent							
1 - Revenues	0	(445.000)	(259,583)	0	0	0	0%	*
2 - Expenses	0	350,000	204, 167	0	0	C	0%	1
Total Unit: Civil Operations Management	0	(95,000)	(55,417)	0	0	0	0%	
CP416 - 2015 RURAL DISASTER REC	CONSTRU	CTION						
1 - Revenues	(1.378,157)	(3,200,000)	(1.866.667)	0	(1.365,693)	(1.365.693)	43%	*
2 - Expenses	1,766,081	3,243,000	1,891,750	1,497,381	1,417,006	2,914,387	90%	*
3 - Transfer / Overhead Allocation	0	0	0	0	61,105	61,105	0%	*
Total Unit: Civil Operations Management	387,924	43,000	25,083	1,497,381	112,418	1,609,799	3744%	*
CP417 - 2015 URBAN DISASTER RE	CONSTRU	CTION						
1 - Revenues	(7,442,548)	(10,215,218)	(5,958,877)	0	(5,872,092)	(5,872,092)	57%	*
2 - Expenses	10, 193, 174	12,459,748	7,268,186	2,258,365	10,706,735	12,965,100	104%	*
3 - Transfer / Overhead Allocation	0	0	0	0	305,592	305,592	0%	*
Total Unit: Civil Operations Management	2,750,626	2,244,530	1,309,309	2,258,365	5,140,235	7,398,600	330%	
CP420 - CAPITAL CONTROL REVEN	UE CIML (OPERATIO	NS					
1 - Revenues	(6,332,129)	(7,201,638)	(4,200,956)	0	(9,273,689)	(9,273,689)	129%	1
Total Unit: Civil Operations Management	(6,332,129)	(7,201,638)	(4,200,956)	0	(9,273,689)	(9,273,689)	129%	· ·
CP421 - CAPITAL CONTROL RURAL	GRAVEL	CRUSH						
2 - Expenses	0	0	0	0	215,447	215,447	0%	*
3 - Transfer / Overhead Allocation	0	0	0	0	213,055	213,055	0%	*
Total Unit: Civil Operations Management	0	0	0	0	428,502	428,502	0%	
CP422 - CAPITAL CONTROL RURAL	OPERATI	ONS WES	т					
2 - Expenses	4,591,800	4,723,636	2,755,455	251,994	1,519,495	1,771,489	38%	1
3 - Transfer / Overhead Allocation		0	0	0	862,454	862,454	0%	×
Total Unit: Civil Operations Management	4,591,800	4,723,636	2,755,455	251,994	2,381,948	2,633,942	56%	
CP427 - CAPITAL CONTROL CENTR	AL URBA	OPERAT	IONS					
2 - Expenses	14,252,800	17,487,303	10,200,927	12,806,659	8,676,831	21,483,490	123%	*
3 - Transfer / Overhead Allocation	0	0	0	0	1,745,381	1,745,381	0%	*
Total Unit: Civil Operations Management	14,252,800	17,487,303	10,200,927	12,806,659	10,422,212	23,228,871	133%	*
CP428 - CAPITAL CONTROL WEST	URBAN OF	PERATION	S					
2 - Expenses	1,607,700	1,400,719	817,086	93,582	394,886	488,468	35%	-
3 - Transfer / Overhead Allocation	0	0	0	0	72,627	72,627	0%	x
Total Unit: Civil Operations Management	1.607.700	1.400.719	817.086	93,582	467,513	561,095	40%	· ·

Total Unit: Civil Operations Management	1,607,700	1,400,719	817,086	93,582	467,513	561,095	40%
Total Capital:	17,258,721	18,135,884	10,579,266	16,907,981	9,679,139	26,587,120	147%
Grand Total:	45,613,654	50,200,394	29,283,563	17,270,701	28,328,551	45,599,252	91%

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
CP427 - CAPITAL CONTROL CENTRAL URBAN OPERATIONS						
UCC-ALL-Preproject planning and design				204,000	0	187,000
UCC-AS-Annual Reseal Program				2,345,661	0	2,300,000
- UCC-AS-Archer Street-Agnes Street to Quarry Street					-338	
- UCC-AS-Asphalt Repairs				0	657,394	
- UCC-AS-Berserker Street-Kerrigan Street to Stewart Street					2,944	
- UCC-AS-Frenchville Road-Dean Street to Watt Street				0	81,793	81,544
- UCC-AS-Quarry Street-Little Kellow Street to Archer Street				0	65,330	65,330
- UCC-AS-Royal Street-Quay Street to East Street					546	
- UCC-AS-Thozet Road-Wigginton Street to Zervos Avenue				0	178	
- UCC-AS-Upper Dawson Rd-Cemetery Car Park to Church St					-180	
UCC-BDG-Bridge Rehabilitation				102,000	2,500	100,000
UCC-Bus Stop Program	02/02/2017	09/03/2017		161,200	28,056	160,000
UCC-Carpark- Exhibition Road Car Park					-6	
UCC-Carpark-4 Cambridge Street Rockhampton City			100% complete	0	3,943	3,950
UCC-FP-Agnes St-Penlington St to Ward St			100% complete	13,000	46,814	46,400
UCC-FP-Agnes St-Range College to Penlington St				7,000	177	
UCC-FP-Archer St-Alma St-Denison St				20,400	27,761	27,643
UCC-FP-Barrett St-Farm St to MacKinlay St				30,000	8,802	8,800
UCC-FP-Barrett St-MacKinlay St to Richardson Rd				0	4,750	4,750
UCC-FP-Bolsover St-Stanley St-Francis St				84,700	0	0

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
UCC-FP-Carlton St-Orr Av-McLaughlin St				102,000	0	0
UCC-FP-Dean Street (near Frenchville Rd)-Div 2					3,643	
UCC-FP-Denham St Ext (Agnes-Ann)				125,800	0	0
UCC-FP-Derby St-Gladstone Rd-Canning St	16/08/2016	20/09/2016	100% complete	50,000	73,825	50,000
UCC-FP-Hall St-Lion Creek Rd to Huish Drive				0	177	
UCC-FP-Haynes St (Richardson Rd-Harriette)				89,300	0	89,300
UCC-FP-High St (Eldon-Access to Salvation Army Property)				37,700	0	37,700
UCC-FP-Kerrigan Roundabout - Underpass					0	50,000
UCC-FP-Moores Creek Rd-Norman Gardens Cycle path				178,500	17,359	178,500
UCC-FP-Norman Rd-Norman Gardens Cycle path				146,500	5,520	146,500
UCC-FP-North St-Campbell St to Eventide					0	20,000
UCC-FP-OShanesy St-Thozet Rd to first cul de sac			100% complete	0	1,544	1,544
UCC-FP-Penlington St (Agnes cross connection)	08/07/2016	05/08/2016	100% complete	60,000	1,570	60,000
UCC-FP-Pilbeam Walkway Stage 1 Mt Archer				0	964,976	1,500,000
UCC-FP-Reconstruction Footpaths-To be determined from Asset				305,000	113,820	270,000
UCC-FP-Richardson Rd-Norman Rd-Bruigom St				183,600	0	0
UCC-FP-Talford Street-Albert Street to North Street				235,000	15,331	235,000
UCC-FP-Thozet Road-Dempsey Street to				162,000	1,644	0
UCC-FP-Thozet Road-Lilley Ave to Zervos St				180,000	999	0
UCC-FP-Upper Dawson Road-King Street	06/05/2016	11/08/2016	100% complete	50,000	208,841	209,000
UCC-FP-Yaamba Rd-Mason Ave to Olive St				0	90	

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
UCC-LA-Land acquisition costs associated with projects				233,000	-104,775	125,000
UCC-MISC-Miscellaneous Small Plant Purchases				0	10,209	10,209
UCC-NC-Ballard St-Totteridge St to end	18/07/2016	11/10/2016	100% complete	370,000	291,350	292,000
UCC-NC-Canning St-Cambridge St to Derby St cycle path				0	3,759	1,103
UCC-NC-Denison St-Denham St Kerbing-Blackspot				248,200	22,047	248,200
UCC-NC-Denison St-Derby St Kerbing-Blackspot			Started	454,000	18,902	454,000
UCC-NC-Denison St-William St Kerbing-Blackspot				246,600	221,324	246,600
UCC-NC-Jones St -Brosnan Cr to Norman Rd			Design	0	5,491	5,101
UCC-NC-North Rockhampton Flood Levee	01/07/2016	05/10/2016	100% complete	100,000	252,905	247,000
UCC-NC-North St-Victoria Pde to Campbell St cycle path				0	3,161	1,103
UCC-NC-Northside Boatramp Carpark				0	6,632	
UCC-NC-Pilbeam Drive Carpark Ch 0.2km				0	1,358	36,101
UCC-NC-Ski Gardens Boatramp Carpark				0	13,871	
UCC-NC-Southside Boatramp Carpark				0	3,624	
UCC-PM-RPMs on 60 kmh roads			100% complete	0	15,359	15,359
UCC-RC-Berserker St-Simpson St-Robinson St	15/12/2016	27/01/2017	100% complete	200,000	9,267	200,000
UCC-RC-Bertram Street _Main St to Thomasson St	06/09/2016	23/02/2017	50% Completed	900,000	464,918	900,000
UCC-RC-Bevis St-Wandal Rd to Cavell				0	612	120,000
UCC-RC-Birdwood Street-Dibden Street to Wandal Road					-323,239	
UCC-RC-Bolsover St-Stanley St intersection improvement			100% complete	0	2,511	2,511
UCC-RC-Campbell St-Albert St-North St				734,400	17,742	734,400

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
UCC-RC-Campbell Street-Archer Street	05/04/2016	30/08/2016	100% complete	340,000	409,645	410,000
UCC-RC-Campbell Street-North Street to Albert Street				0	-4,768	0
UCC-RC-Caroline St-Davies St intersection improvements			100% complete	0	611	611
UCC-RC-Design costs for future projects				100,000	0	100,000
UCC-RC-Dibden Street-Oakley Street to Birdwood Street			100% complete	0	-550,607	2,000
UCC-RC-Dooley St Depot road upgrade				200,000	0	200,000
UCC-RC-Dorly St (No39 to Rifle Range access)				60,000	30,252	60,000
UCC-RC-Eldon Street-High St to Clifton St					-15	
UCC-RC-Farm St-Alexandra St (Maloney-Hinchliff-Hollingsworth)			Design	0	17,252	15,927
UCC-RC-Francis Street-Quay Street to	15/06/2016	15/08/2016	100% complete	70,000	132,928	133,000
UCC-RC-Gregory Street-Johnson Street to Sturt Street					-10	
UCC-RC-Hindley Street-Elphinstone St				185,000	3,871	0
UCC-RC-Maloney Street-Quinn Street	09/08/2016	28/10/2016	100% complete	200,000	284,195	285,000
UCC-RC-Mason Ave-Hotham CI to Norman Rd			Design	0	5,726	5,517
UCC-RC-Murray St-Derby St intersection improvements			100% complete	0	5,540	5,206
UCC-RC-North Street-Canning Street to Robert Street	26/07/2016	31/01/2017	75% Completed	1,540,000	1,122,002	1,420,000
UCC-RC-Oakley St-Wandal Rd to Dibden St			98% completed	15,000	-215,824	15,000
UCC-RC-Pavement rehab CBD rds nearFitzroySt				200,000	0	200,000
UCC-RC-Pershing Street-Morgan Street to Dibden Street				0	-163,822	
UCC-RC-Rodboro Street-Dean Street to	28/06/2016	05/08/2016	100% complete	133,000	192,604	193,000
UCC-RC-Sharples Street (Berserker Street to Skardon Street)	01/07/2016	30/01/2017	100% complete	1,160,000	1,268,913	1,250,000

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
UCC-RC-Stamford Street-Dean Street to Bawden Street				0	16	
UCC-RC-Thozet Rd-Lakes Creek Rd-Elphinstone St				400,000	0	0
UCC-RC-Unnamed Laneway-Off Canning St				40,800	0	0
UCC-RC-Upper Dawson Rd-Nathan-Wakefield				350,000	12,333	12,300
UCC-RF-Replace guardrail at various locations					-16,626	
UCC-RS-Road Safety Minor Works Program				170,000	125,686	170,000
UCC-SLS-Harrow Street-Denham Street Ext to End				0	1,549	1,549
UCC-SL-Street Lighting Improvement Program				51,000	8,727	46,750
UCC-SL-Street Lighting Improvement Program				0	393	
UCC-SW-203 Peter Street Drainage Emt			Design	0	217	5,000
UCC-SW-Alexander Street Drainage				40,000	1,363	0
UCC-SW-Archer St main drain reline and repair				200,000	519	200,000
UCC-SW-Bawden St extsionpipepastNo10				25,000	7,518	25,000
UCC-SW-Canoona Rd Drainage - Opposite #91				0	203	
UCC-SW-Caribbea Estate Stg 2				180,000	5,762	5,762
UCC-SW-Cheney St Drainage Upgrade-Contribution to Develo				800,000	713	0
UCC-SW-Dean St Drainage_Rodboro St to Peter St	06/09/2016	30/11/2016	100% complete	500,000	35,319	35,000
UCC-SW-Dean Street-Rodboro Street				25,000	-1,775	25,000
UCC-SW-Harrow Street-Number 2/4	01/06/2016	21/10/2016	100% complete	250,000	612,961	605,000
UCC-SW-Harrow Street-Number 60			100% complete	0	2,448	2,448
UCC-SW-McLeod Park DrainageSchmStge2A				1,500,000	0	0

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
UCC-SW-McLeod Park Open Drain			Design		506	5,000
UCC-SW-Oakley Street-Dibden Street to Jardine Park Stage					0	
UCC-SW-Oakley Street-Dibden Street to Jardine Park Stage 1			100% complete	20,000	1,264,606	8,800
UCC-SW-Park Street Stage 2B_Alick St	01/07/2016	30/08/2016	100% complete	200,000	255,043	255,000
UCC-SW-Park Street Stage 3-Glenmore	01/09/2016	31/01/2017	100% complete	727,691	806,198	780,000
UCC-SW-Park Street SW Stage 3B-Robison St to Haynes St				0	460,116	425,000
UCC-SW-Quay Lane_North St to Albert St			Design		5,237	5,000
UCC-SW-Replace Stormwater Inlets			60% completed	56,100	32,613	56,100
UCC-SW-Road Safety Stormwater grate upgrades					0	
UCC-SW-Simpson Street Drainage - Hearn St to Moores Creek	12/08/2016	23/03/2017	80% Completed	290,310	2,402,409	3,000,000
UCC-SW-Stack St Stage 2				255,000	4,409	3,209
UCC-SW-Thozet Cr & Frenchmans Ck Debris community resilience				100,000	0	0
UCC-SW-Venables Street Drainage				60,000	0	0
UCC-SW-Western St (Meade)				110,000	4,346	0
UCC-TL- Misc Traffic Light Upgrades- (PAPL to Radio Link)				153,000	0	0
- UCC-TL-Bolsover St and Denham Street-Traffic Signal upgrade				0	27,832	38,000
- UCC-TL-Bolsover St and William Street-Traffic Signal upgrade				0	25,969	38,000
- UCC-TL-Dean St-Honour St \$21100-Traffic Signal upgrade			100% complete	0	3,651	3,538
- UCC-TL-East St and William St-Traffic Signal upgrade				0	30,081	39,000
- UCC-TL-Elphinstone St-Berserker-Traffic Signal full upgrade			100% complete	0	2,193	2,193
- UCC-TL-Feez St-St Anthonys entrance-Traffic Signal full upgrade			100% complete	0	1,209	1,209

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
- UCC-TL-High St at Stockland entrance-Traffic Signal upgrade				0	32,064	38,000
UCC-TM-Campbell St - North St Intersection				0	24,641	
				19,066,462	11,995,771	19,598,768

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
CP428 - CAPITAL CONTROL WEST URBAN OPERATIONS			-			
UWC-Annual Reseal Program				250,000	1,102	250,000
- UWC-AS-O'Shanesy Street-Capricorn Hwy to 17 Oshanesy St				0	2,787	
- UWC-SLS-O'Shanesy Street-1 O'Shanesy St to 17 O'Shanesy				0	-3,888	
UWC-Low cost sealing of minor roads				103,000	0	103,000
- UWC-SS-Gordon St (Black to end)				8,200	0	8,200
UWC-FP-Gordon St - East St to Hall St				0	868	
UWC-FP-Ranger St (Barry-Fisher)				130,000	0	130,000
UWC-FP-Russell St (Barry to Fisher)				70,000	0	70,000
UWC-NC-Baldwin St Mt Morgan 190m				0	10,089	
UWC-NC-Cifton St Low cost sealing		11/11/2016	100% complete	150,000	121,758	122,000
UWC-NC-Lister St Low cost sealing	30/01/2017	16/02/2017	30% complete	90,000	38,982	90,000
UWC-NC-Macks Esp Mt Morgan 190m				0	10,089	
UWC-NC-Middle Rd Stewart intersection	13/02/2017	22/02/2017		74,200	7,769	74,200
UWC-NC-Middle Rd-Capricorn-Macquarie Stage 3				350,000	110	350,000
UWC-NC-Middle Road-Capricorn Street to Macquarie Street				0	8,300	8,300
UWC-NC-School St South Mt Morgan 270m				0	14,455	
UWC-NC-West St (Huff to East)		11/11/2016	100% complete	45,000	33,106	35,000
UWC-NC-West St Mt Morgan-Dee-Gordon seal				100,000	2,362	100,000
UWC-RC-Allan Rd Upgrade-Conway Ct-Lucas St	06/02/2017	20/12/2016		120,000	930	120,000
UWC-RC-Capricorn St-Gracemere Creek extend to Middle Rd			Design	0	34,703	34,700

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
UWC-RC-Macquarie St-Somerset Rd to Middle Rd			Design	0	72,148	51,000
UWC-RC-Stewart Street - Somerset Road to Boongary Road			100% complete	0	7,654	7,654
UWC-SL-Johnson Road				86,000	0	87,000
UWC-SL-Streetlighting Improvement Program				81,600	8,937	81,600
UWC-SW-Brooks St Drainage FSC Plan 387	15/08/2016	15/11/2016		100,000	171,062	170,000
UWC-SW-Replace Stormwater Inlets				35,700	0	35,700
UWC-TM-Ranger St - Breakspear St to Lawrie St				0	17,772	3,005
	1,793,700	561,095	1,931,359			

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
CP422 CAPITAL CONTROL RURAL OPERATIONS WEST						
RWC-Annual Reseal Program		15/12/2016		306,000	0	306,000
RWC-NC-Renewal of Unsealed Road Gravel Program A	01/07/2016	30/06/2017	55% complete	1,700,000	0	424,333
- RWC-GR-Aremby Rd Bouldercombe Ch 0.0-0.35 2.2-2.4 3.7-4.		19/10/2016	100% complete	0	50,784	51,000
- RWC-GR-Bishop Rd Garnant Ch 2.95-3.39 3.47-3.58 5.25-5.5					-1	
- RWC-GR-Black Gin Creek Rd Alton Downs Ch 1.27 - 2.4km		01/09/2016	100% complete	0	17,269	18,000
- RWC-GR-Boulder Creek Rd Boulder Ck Ch 2.00-2.2 km		28/09/2016	100% complete	0	5,889	6,000
- RWC-GR-Boulder Creek Rd Boulder Ck Ch 4.50-4.90 km		14/10/2016	100% complete	0	23,743	24,000
- RWC-GR-Boulder Creek Rd Boulder Creek Ch 0.2-1.0 km		21/09/2016	100% complete	0	17,809	18,000
- RWC-GR-Calmorin Rd Ridgelands Ch 0.49-1.58km		15/11/2016	100% complete	0	28,472	30,000
- RWC-GR-Craigilee Rd Morinish Ch 0.0-0.03 0.1-0.5 1.15-2.		27/10/2016	100% complete	0	36,662	38,000
- RWC-GR-Culliungal Rd Baree Ch 0.0 - 0.7 km		13/09/2016	100% complete	0	11,360	12,000
- RWC-GR-Cunningham Rd Nine Mile Ch 1.215 - 1.515 km		19/08/2016	100% complete	0	3,987	4,000
- RWC-GR-Ellrott Rd Morinish Ch 1.2-2.2 2.6-3.0 4.4-5.1 km		06/08/2016	100% complete	0	47,007	46,000
- RWC-GR-Fernvale Road Nine Mile Creek Ch 0.4-0.55 1.4-1.5		05/12/2016		0	13,011	13,000
- RWC-GR-Glenroy - Marlborough Rd Glenroy Ch TBA			100% complete	0	228,968	230,000
- RWC-GR-Glenroy Rd Morinish Ch 22.45 - 22.75 km		16/09/2016	100% complete	0	12,767	13,000
- RWC-GR-Harding Rd Dalma Ch 10.52 - 12.5 km					-511	
- RWC-GR-Hopkins Rd Kalapa Ch 0.5 - 0.67 1.367 - 1.4km		20/09/2016	100% complete	0	10,312	11,000
- RWC-GR-Hume Rd Kabra Ch 0.00 - 0.4 km		28/07/2016	100% complete	0	20,442	21,000
- RWC-GR-Klaproth Rd Alton Downs Ch 0.00 - 0.2 km		19/01/2017		0	3,113	5,000

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
- RWC-GR-Lion Mountain Rd Nine Mile Ch 2.47-3.345 5.26-5.8		22/08/2016	100% complete	0	50,455	52,000
- RWC-GR-McCamley Rd Bajool Ch 0.25 - 0.67 km					-624	
- RWC-GR-McNamara Rd Alton Downs Ch 0.0 - 0.81 km		18/01/2017		0	11,650	20,000
- RWC-GR-Mogilno Rd Midge Ch 0.2-0.6km		06/10/2016	100% complete	0	13,348	14,000
- RWC-GR-Murphy Rd Kabra Ch 2.20 - 2.50 km		03/08/2016	100% complete	0	7,785	8,000
- RWC-GR-Pocock Rd Stanwell Ch TBA km		21/07/2016	100% complete	0	21,023	22,000
- RWC-GR-R Pierce Rd Port Curtis Ch 0.02-0.82 km		07/09/2016	100% complete	0	23,550	24,000
- RWC-GR-Reid Rd Alton Downs Ch 4.11 - 5.37km		01/09/2016	100% complete	0	20,124	20,000
- RWC-GR-Riverslea Rd Gogango Ch 1.87-2.37 2.37-2.87 2.9-3		20/07/2016	100% complete	0	86,617	65,000
- RWC-GR-Rosewood Rd Morinish Ch 23.3-24.17 25.86-25.9 30.		13/12/2016		0	41,779	42,000
- RWC-GR-Rosewood Rd Morinish Ch 53.0-54.9 55.2-56.2 56.6-		20/10/2016	100% complete	0	86,746	87,000
- RWC-GR-Sheehan Rd Alton Downs Ch 0.00 - 1.00 km		06/02/2017	30% complete		4,541	25,000
- RWC-GR-Sheldrake Rd Alton Downs Ch 0.09 - 1.09 km		04/07/2016	100% complete	0	11,466	12,000
- RWC-GR-South Yaamba Rd Alton Downs Ch 2.87-3.65 3.76-4.4		28/10/2016	100% complete	0	41,873	42,000
- RWC-GR-Stracey Rd Nine Mile Ch 1.25 - 2.25 km		17/08/2016	100% complete	0	35,444	36,000
- RWC-GR-Tucker Rd Alton Downs Ch 0-1.2 1.96-2.32 2.6-8.41		30/08/2016	100% complete	0	40,421	41,000
- RWC-GR-Warren Rd Stanwell Ch 0.5-0.67 0.87-1.0 1.4-2.0 k		12/09/2016	100% complete	0	22,702	23,000
- RWC-GR-Waynes Lane Bouldercombe Ch 0.0 - 0.53km		31/08/2016	100% complete	0	9,066	9,000
- RWC-GR-Wedel Rd Alton Downs Ch 0.00 - 1.00 km		10/02/2017	30% complete		100	25,000
- RWC-GR-Woodford Rd Alton Downs Ch 0.08 - 1.28 km		31/01/2017	100% complete	0	10,249	27,000
RWC-Inslay Avenue-Bouldercombe-Ch 0-0.67			100% complete	0	1,068	0

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
RWC-MC-Bishop Rd Louisa Creek	20/02/2017			360,000	74,562	220,000
RWC-MC-South Yaamba Rd Sandy Creek				50,000	6,176	150,000
RWC-NC-Isabella-Albert St Stanwell				0	0	171,400
RWC-NC-Clem Clark Rd		17/08/2016	100% complete	40,000	14,921	15,000
RWC-NC-Malchi Nine Mile Road-Ch 3.3 to Ch 4.7				0	-430	
RWC-NC-Mount Morgan Scenic Lookout				0	13,902	10,180
RWC-NC-Nine Mile Rd - Fogarty Rd Intersection			100% complete	0	18,905	0
RWC-RC-Gracemere Depot road upgrade	02/03/2017	24/02/2017	70% complete	100,000	70,691	100,000
RWC-RC-Malchi-Nine Mile Rd Ch 25.7 to Ch 28.2	28/11/2016	31/01/2017	100% complete	550,000	323,323	550,000
RWC-RC-Nine Mile Rd floodway Ch7.85-10.68		30/01/2017	100% complete	790,000	807,678	790,000
RWC-RC-Sheldrake Rd Works	10/03/2017			100,000	0	50,000
RWC-RC-Slaughterhouse Rd - Ch0 to 0.8 bit seal				0	0	200,000
RWC-RC-Stanwell Waroula Rd-Ch10.25-25.70	06/02/2016			450,000	6,649	450,000
RWC-RC-Struck Oil Road-Ch 1.20-1.80			100% complete	0	962	0
RWC-RS-Black Gin Ck Rd Ridgelands 0 to 1.26 km				0	1,577	
RWC-RS-Calmorin Rd Ridgelands 0 to 0.45 km				0	1,777	
RWC-RS-Garnant Rd Ridgelands 0.1 to 1.9 km				0	5,198	
RWC-RS-Hinchliffe Ave Bouldercombe 0 to 0.4 km				0	448	
RWC-RS-Leigh Close Bouldercombe 0 to 0.12 km				0	387	
RWC-RS-Linda Close Bouldercombe 0 to 0.28 km				0	308	
RWC-RS-Mark Close Bouldercombe 0 to 0.08 km				0	220	

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Project Description	Estimated/ Actual Start Date	Estimated/ Actual Completion Date	Status 30 January	Revised Budget 1	Total Committals	Estimated Final Cost
RWC-RS-Mount Usher Rd Bouldercombe 0.9 to 2.1 km				0	1,705	
RWC-RS-Old Coach Rd Bajool 0.1 to 0.25 km				0	1,181	
RWC-RS-South Ulam Rd Bajool 13.27 to 14.65 & 16.78 to 17				0	1,318	
RWC-RS-Stanwell-Waroula Rd Ridgelands 28.3 to 29.5 km				0	79	
RWC-SW-Alton Downs Nine Mile Road-Ch 1.57			100% complete	0	5,916	0
RWC-SW-Arthur St Wwood-Ch 2.49	07/04/2017			35,700	0	0
RWC-SW-Birrahlee Rd Ch 1.04 & 2.82	19/04/2017			45,900	2,058	50,000
RWC-SW-Bishop Rd Ch 0.06 & 3.41	15/12/2016			51,000	4,506	110,000
RWC-SW-J Pierce Rd Ch 1.54	03/03/2016			45,900	0	0
RWC-SW-Kabra Road-Ch 1.94	06/10/2016	23/11/2016	100% complete	165,000	156,924	165,000
RWC-SW-Lion Mountain Rd-Ch4.32 3.26&6.86	01/02/2016			153,000	163	0
RWC-SW-Neerkol Rd Stanwell	21/03/2017			28,000	0	0
RWC-SW-Rookwood Rd Ch 17.0		26/09/2016	100% complete	36,300	33,482	35,000
RWC-SW-South Yaamba Road-Ch 13.5			100% complete	0	1,685	0
RWC-SW-South Yaamba Road-Ch 14.4					-26	
RWC-SW-South Yaamba Road-Ch 3.76 9.70 13.79 14.66&17.				0	279	
RWC-SW-Wyvills Rd Ch 0.13	03/04/2017			30,000	0	30,000
				5,036,800	2,626,989	4,960,913

Total Urban and Rural

25,896,962

26,491,040

15,183,856

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4. ACHIEVEMENT OF OPERATIONAL PROJECTS WITHIN ADOPTED BUDGET AND APPROVED TIMEFRAME

As at period ended January 2017 – 58% of year elapsed.

Overall the expenditure is around the 59% including committals which are close to the budget forecast.

End of Month General Ledger - (Inc Operating & Capital) - CIVIL OPERATIONS

		ui Lougoi	- fine operad	ng a capita	y-orric			
KKL		A	s At End Of Ja	anuary				
Report Run	: 01-Feb-201	7 13:21:28 E	xcludes Nat Accs	: 2802,2914,29	17,2924			
	Adopted	Revised	Revised Budget	EOM		YTDCommit +		On target
	Budget	Budget	(Pro Rata YTD)	Commitments	YTDActual	Actual	Variance	-
	\$		\$	\$	\$	\$	%	38.3% of Tear Gone
OPERATIONS							Revised B	udget Comparison
CIVIL OPERATIONS								
Urban Operations								
1 - Revenues	(1,310,969)	(1,110,969)	(648,065)	0	(446,205)	(446,205)	40%	x
2 - Expenses	6,402,954	6,255,472	3,649,025	176,255	4,127,061	4,303,317	69%	x
3 - Transfer / Overhead Allocation	2,108,719	2,108,719	1,230,066	0	266,824	266,824	13%	1
Total Unit: Urban Operations	7,200,704	7, 253,222	4,231,046	176,255	3,947,680	4,123,936	57%	1
Rural Operations								
1 - Revenues	(947,156)	(947,156)	(552,508)	0	0	0	0%	x
2 - Expenses	3,788,307	3,651,093	2,129,804	141,460	1,307,890	1,449,351	40%	1
3 - Transfer / Overhead Allocation	1,290,601	1,305,601	761,601	0	1,090,422	1,090,422	84%	x
Total Unit: Rural Operations	4,131,751	4,009,538	2,338,897	141,460	2,398,312	2,539,772	63%	x
Civil Operations Management								
1 - Revenues	(23,000)	(23,000)	(13,417)	0	(15,689)	(15,689)	68%	1
2 - Expenses	19,111,435	22,890,708	13,352,913	45,004	13,282,674	13,327,677	58%	1
3 - Transfer / Overhead Allocation	(2,065,958)	(2,065,958)	(1,205,142)	0	(963,564)	(963,564)	47%	x
Total Unit: Civil Operations Management	17,022,477	20,801,750	12,134,354	45,004	12,303,420	12,348,424	59%	x
Total Occurrition of			40.000					
Total Operations:	28,354,933	32,064,510	18,704,297	362,720	18,649,412	19,012,132	39%	, x

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5. DELIVERY OF SERVICES AND ACTIVITIES IN ACCORDANCE WITH COUNCIL'S ADOPTED SERVICE LEVELS

5.1 Conquest Inspections

Customer Request / Conquest Inspections

(finalised within 14 working days)



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5.2 Unsealed Road Surface Condition Summary

Council's unsealed road network is maintained through scheduled actions, and not by the use of intervention levels. Grading and re gravelling priorities are determined through regular inspections by suitably experienced road inspectors.

Class	Description of Class	Network Total Length KM	Total KM per Class	Total Cost per Class	Average Cost Per KM	% of Network Graded
4a	Major Collector	88.39	22.34	\$74,834.92	\$3,349.82	25.28
4b	Minor Collector	177.66	36.11	\$142,249.63	\$3,939.34	20.33
5a	Local Access	264.21	90.08	\$375,659.39	\$4,170.29	34.09
5b	Minor Local Access	249.56	70.69	\$197,596.41	\$2,795.45	28.32
5c	Service Track	297.84	13.12	\$25,260.35	\$1,925.63	4.40
5d	Rural - Track	34.49	0.00	\$0.00	\$0.00	0.00
	Total	1112.15	232.33	\$815,600.70	\$3,510.48	20.89





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Road Name	KM	Cost	Road Name	KM	Cost
A. Pierce Road - Morinish	5.30	\$9,533.14	Lee Street	0.20	\$777.74
Allen Road	1.82	\$9,377.51	Mckenzie Road	2.01	\$5,368.84
Aremby Road	4.60	\$11,646.49	McLean Road	1.35	\$7,486.27
Ashford Street	0.80	\$2,184.58	McLoughlin Road	0.35	\$843.44
Barrett Road	11.69	\$23,009.08	Mandlay Road	0.80	\$6,688.53
Benedict Road	4.80	\$11,901.19	Mogilno Road	5.03	\$23,671.00
Black Gin Creek Road	1.13	\$8,830.31	Moller Road	2.00	\$3,025.50
Bob's Creek Road	3.30	\$18,689.12	Moore Road	0.90	\$3,025.88
Bond Road	1.54	\$7,865.40	Morgan Road	1.06	\$2,633.54
Calliungal Road	0.90	\$2,765.37	Murphy Road	3.80	\$25,049.22
Calmorin Road	0.59	\$3,960.82	Native Cat Road	1.89	\$7,245.25
Cavell Road - Gracemere	1.60	\$2,078.83	Pandora Road	2.62	\$10,629.68
Colliver Road	1.35	\$3,871.56	Pipeline Road	1.80	\$5,481.54
Comino Road	2.00	\$10,440.93	Pocock Road	1.53	\$5,787.23
Connor Road	3.22	\$7,175.65	Porters Lane	0.10	\$801.89
Craigilee Road	1.10	\$2,884.51	Porters Road	0.12	\$1,050.54
Craignaught Road	10.60	\$26,887.30	Ranger Road	2.10	\$5,467.52
Cunningham Road	1.24	\$7,228.95	Raspberry Creek Road	7.30	\$8,258.95
E Williams Road	1.30	\$8,373.06	Reid Road	4.31	\$16,047.30
Edgar Road	1.69	\$5,765.03	Riverslea Road	14.44	\$44,499.31
Fernvale Road	2.30	\$7,425.10	Rosewood Road	18.58	\$51,228.64
Geihe Road	0.98	\$2,083.14	Seeney Road	0.66	\$2,052.21
Glenroy-Marlborough Road	20.55	\$103,167.49	Somerset Road	2.17	\$6,453.27
Gold Escort Road	0.12	\$926.56	South Yaamba Road	6.25	\$34,900.51
Goodwin Road - Gracemere	2.85	\$9,759.41	Spragg Road	0.48	\$2,537.92
Greenup Road	0.80	\$1,278.77	Stanley Road	0.60	\$3,884.65
Halfpenny Road	2.73	\$8,870.55	Stewart Park Road	0.98	\$2,937.41
Hallam Road	0.80	\$1,540.28	Stracey Road	1.03	\$5,796.58
Harnsworth Road	0.58	\$1,507.33	Taylor Street	0.70	\$4,315.81
Hopkins Road	0.50	\$3,692.37	Thirsty Creek Road	18.78	\$57,315.83
Hopper Road	4.30	\$16,949.28	Tindall Road	1.20	\$6,993.86
Hume Road	3.40	\$18,831.62	Tipson Lane	1.03	\$4,639.07
Hunt Road	2.80	\$18,729.25	Truelson Road	1.10	\$2,125.61
Huxham Lane	0.50	\$2,199.57	Tucker Road	3.60	\$4,122.95
Josefski Road	1.76	\$8,508.88	Tyrell Road	1.40	\$6,282.86
Kabra-Scrubby Creek Road	2.25	\$11,469.47	V. Ramm Road	1.40	\$3,084.26
Kakoma Road	1.80	\$6,260.31	Warren Road	2.60	\$6,024.85
Kangaroo Crescent	0.25	\$569.80	Washpool Road	1.00	\$3,117.99
Kelly Road	2.92	\$7,851.10	Watts Road	0.51	\$2,660.53
Klaproth Road	0.50	\$443.97	Westwood Cemetery	0.99	\$3,076.52
Subtotal 1	113.26	\$416,533.08	Williams Road	0.30	\$1,677.12
			Subtotal 2	119.07	\$399,067.62
			Total	232.33	\$815,600.70

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CIVIL OPERATIONS MONTHLY OPERATIONS REPORT – FEBRUARY 2017

Works Program February - March 2017

Meeting Date: 14 February 2017

Attachment No: 2

Construction and Works Program - February - March 2017

Council's Civil Operations Section advises the proposed road and associated road reserve network works and other planned projects to be conducted throughout the Region in February - March 2017 subject to weather conditions and other competing priorities. Please note that the information listed in the Potential Interruptions section is general information and does not override the information that is provided to the Emergency Services Personnel and Bus Company's etc.

Rural West Area				
Work Location	Work Description	Start	Finish	Potential Interruptions
RWC-BDG-Bishop Rd , Louisa Ck Bridge	Bridge Work	Mid February 2017	Late March 2017	Traffic Controllers and Speed Restrictions
RWC-RC-Isabella - Albert St Starwell , bitumen seal	Re-Construction	Mid March 2017	Late March 2017	Traffic Controllers and Speed Restrictions
RWC-RC-Stanwell Waroula Road- Ch 23.72-28.22 , bitumen seal	Re-Construction	Late March 2017	Early August 2017	Traffic Controllers and Speed Restrictions
RWC-SW-Bishop Rd Ch 0.06 & 3.41	Stormwater	Late March 2017	Late April 2017	Traffic Controllers and Speed Restrictions
Urban Central Area				
Work Location	Work Description	Start	Finish	Potential Interruptions
UCC-FP-Haynes St-Richardson Rd to Hamiette St	Footpath	Early February 2017	Late March 2017	Traffic Controllers and Speed Restrictions
UCC-FP-Moores Creek Rd (Norman Gardens Cycle path)	Footpath	Early February 2017	Mid March 2017	Traffic Controllers and Speed Restrictions
UCC-FP-Norman Road (Norman Gardens cycle path)	Footpath	Early March 2017	Early March 2017	Traffic Controllers and Speed Restrictions
UCC-FP-Pilbeam Drive Footpath Crew 1	Footpath	Early February 2017	Early June 2017	Traffic Controllers and Speed Restrictions
UCC-FP-Pilbeam Drive Footpath Crew 2	Footpath	Early March 2017	Early June 2017	Traffic Controllers and Speed Restrictions
UCC-FP-Reconstruction Footpaths-To be determined from Asset Management Plan 2016/17	Footpath	Early October 2016	Late April 2017	Traffic Controllers and Speed Restrictions
UCC-FP-Talford Street_Albert Street to North Street	Footpath	Late March 2017	Early June 2017	Traffic Controllers and Speed Restrictions
UCC-NC-Denison Street - Derby St kerbing blackspot	Construction	Early February 2017	Late April 2017	Traffic Controllers and Speed Restrictions
UCC-NC-Denison Street - William St kerbing blackspot	Construction	Early November 2016	Early February 2017	Traffic Controllers and Speed Restrictions
UCC-NC-Landfill Piggy Back	Construction	Early September 2016	Late April 2017	Traffic Controllers and Speed Restrictions
UCC-RC-Bertram Street_Main St to Thomasson St	Re-Construction	Early September 2016	Early April 2017	Traffic Controllers and Speed Restrictions
UCC-RC-Bevis St-Wandal Rd to Cavell	Re-Construction	Late March 2017	Early May 2017	Traffic Controllers and Speed Restrictions
UCC-RC-Campbell Street-Albert St to North St	Re-Construction	Early March 2017	Early July 2017	Traffic Controllers and Speed Restrictions
UCC-RC-Campbell Street-North St Cycle paths	Re-Construction	Early February 2017	Early March 2017	Traffic Controllers and Speed Restrictions
UCC-RC-Kershaw Gardens Wetland Area	Re-Construction	Mid January 2017	Mid March 2017	Traffic Controllers and Speed Restrictions
UCC-RC-Learnington St	Re-Construction	Early March 2017	Late March 2017	Traffic Controllers and Speed Restrictions
UCC-RC-North Street-Canning Street to Robert Street	Re-Construction	Late July 2016	Late February 2017	Traffic Controllers and Speed Restrictions
UCC-RC-Pavement rehabiliation of CBD roads near fitzroy St	Re-Construction	Mid January 2017	Mid March 2017	Traffic Controllers and Speed Restrictions
UCC-RC-Pavement rehabiliation of Quay St (William to Stanley)	Re-Construction	Early March 2017	Late March 2017	Traffic Controllers and Speed Restrictions
UCC-RC-Quay Street- Stage 1B	Re-Construction	Early October 2016	Late April 2017	Traffic Controllers and Speed Restrictions
UCC-RMPC Works Stage 2	RMPC Work	Mid January 2017	Early May 2017	Traffic Controllers and Speed Restrictions
UCC-SW-Frenchville Road Culvert Extension	Stormwater	Late January 2017	Early February 2017	Traffic Controllers and Speed Restrictions
UCC-SW-McLeod Park Drainge Scheme (Stage 2A)	Stormwater	Mid August 2016	Late February 2017	Traffic Controllers and Speed Restrictions
Urban West Area				
Work Location	Work Description	Start	Finish	Potential Interruptions
UWC-FP-Ashes Garden Gracemere	Footpath	Early March 2017	Early April 2017	Traffic Controllers and Speed Restrictions
UWC-FP-Footpaths Division 4 (Cr Smith)	Footpath	Early February 2017	Mid March 2017	Traffic Controllers and Speed Restrictions
UWC-FP-Russel St (Barry to Fisher)	Footpath	Early February 2017	Early March 2017	Traffic Controllers and Speed Restrictions
UWC-NC-Low cost sealing Lister street	Construction	Late January 2017	Early February 2017	Traffic Controllers and Speed Restrictions
UWC-NC-Middle Road-Capricom Street to Macquarie Street Stage 3	Construction	Late March 2017	Mid May 2017	Traffic Controllers and Speed Restrictions
UWC-NC-West Street Mt Morgan Dee to Gordon St seal	Construction	Late February 2017	Early March 2017	Traffic Controllers and Speed Restrictions
UWC-RC-Allen Rd	Re-Construction	Early February 2017	Mid February 2017	Traffic Controllers and Speed Restrictions
UWC-RC-Middle Rd stewart intersection Blackspot	Re-Construction	Early February 2017	Mid February 2017	Traffic Controllers and Speed Restrictions
UWC-SS-Gordon Street-Black Street to end	Construction	Early March 2017	Early March 2017	Traffic Controllers and Speed Restrictions
UWC-SW-Capricorn St floodway	Stormwater	Early February 2017	Mid February 2017	Traffic Controllers and Speed Restrictions

8.2 ENGINEERING SERVICES MONTHLY OPERATIONS REPORT - FEBRUARY 2017

File No:	7028
Attachments:	1. Monthly Operations Report - Engineering Services - January 2017
Authorising Officer:	Peter Kofod - General Manager Regional Services
Author:	Martin Crow - Manager Engineering Services

SUMMARY

This report outlines Engineering Services Monthly Operations Report for the period to the end of January 2017.

OFFICER'S RECOMMENDATION

THAT the Engineering Services Monthly Operations Report for February 2017 be received.

COMMENTARY

The Engineering Services Section submits a monthly operations report outlining issues faced by the section and performance against nominated service level criteria.

Due to the reporting timeframes and agenda requirements of the Infrastructure Committee, the statistics utilised in the reports will lag the committee meeting dates by approximately 1 month.

ENGINEERING SERVICES MONTHLY OPERATIONS REPORT – FEBRUARY 2017

Monthly Operations Report -Engineering Services - January 2017

Meeting Date: 14 February 2017

Attachment No: 1

MONTHLY OPERATIONS REPORT ENGINEERING SECTION

Period Ended 31 January 2017

VARIATIONS, ISSUES AND INNOVATIONS

Innovations

The floodplain management and stormwater consultancy services contract has commenced. Initial projects include:

- 1. ARR Data Management and Policy review
- 2. South Rockhampton Local Creeks phase 1
- 3. Gracemere Regional Detention Basin
- 4. North Rockhampton Creek Model Updates

A small working group has also been initiated across several Council units to look at Council's processes and standards with regards to stormwater quality.

Improvements / Deterioration in Levels of Services or Cost Drivers

The traffic light report indicates that customer response times have been good in all areas. Development assessment timeframes have slipped in the operational works area. A brief explanation has been included in the report.

LINKAGES TO OPERATIONAL PLAN

1. COMPLIANCE WITH CUSTOMER SERVICE REQUESTS

The response times for completing the predominant customer requests in the reporting period for 31 January 2017 are as below:



All Monthly Requests (Priority 3) Engineering 'Traffic Light' report January 2017

			Current N Req	ionth NEW uesta	TOTAL		Linder	AND 1400	Completion		Avg		Avg		Avg	Avg
	Balance B/F	Completed In Current Mth	Received	Completed	INCOMPLETE REQUESTS BALANCE	TE Work Orders Issued E	Issued Long Term Investigation	Issue Time (days) 12 months	Standard (days)	Completion Time (days) Current Mth		Completion Time (days) 6 Months		Completion Time (days) 12 Months		(days) 12 Months (complete and
Urban Addressing (General)	1	1	6	3	3	0	0	0.00	28		1.67		3.38	۲	3.13	3.14
Development - Building Over Sewerline	0	0	2	0	2	0	0	0.00	7	•	8.00	•	2.33	٠	2.43	2.22
Engineering - Development Dust, Nolse, Road, Misc	o	0	0	0	0	0	o	4.08	7 14	•	0.00	•	12.00	•	13.70	9.22
Disaster Management - General Enquiry SES	0	0	0	0	0	0	0	0.00	5	•	0.00		23.00	•	25.75	0.00
Engineering - General Enquiry	1	1	3	3	0	0	0	4.90	14	•	2.67		14.34	•	21.66	8.44
Flood Management Creeks/Rivers	0	0	3	3	0	0	0	2.45	10		2.00	•	1.67		3.64	2.25
Heavy Vehicles (Not related to MTCE)	0	0	0	0	0	0	0	0.00	28	•	0.00		0.00		6.00	6.00
Infra. Ops Unit - G/E (DIPlanner) NOT FOR CSO USE	1	0	0	0	11	0	0	0.00	28	•	0.00	•	6.64		7.70	9.20
Water/Sewerage	0	0	0	0	0	0	0	0.00	28	•	0.00	•	14.00		7.09	0.78
Petition (Infra Use Only)	0	0	0	0	0	0	0	0.00	90		0.00	•	0.00		0.00	0.00
Roundabout/Medians (Not related to MTCE)	0	0	1	0	1	0	0	4.85	28	•	0.00	•	17.40	•	16.71	16.63
Speed Limits/Traffic Volumes (Not related to MTCE)	0	0	1	0	1	0	0	5.59	28	•	0.00	•	5.20	•	8.08	8.17
Signs & Lines (New Request - not aiready existing)	1	0	23	10	14	2	0	113.85	28	•	4.90	•	9.68		10.25	8.76
Traffic Signals (Stop Light) (Not related to MTCE)	0	0	0	0	0	0	0	4.62	28	•	0.00	•	0.00		14.83	14.83
Traffic Counts	0	0	2	1	0	0	0	0.92	28		1.00		3.29		9.30	5.52

Comments & Additional Information

As at 1 September 2014, Engineering Services have adopted Service Levels for their Child Request Codes.

The Priority Escalation timeframes are only used as a notification reminder process.

These Service Levels have been set up in Pathways under Priority Escalation and Estimated Duration Maintenance parameters.

Priority Escalation

This function allows the Actioning Officer and/or Responsible Officer of the Request to receive an e-mail message each time the Priority is escalated. These Priority escalations are notification / reminders to action the request and not necessarily to complete the request.

Estimated Duration Maintenance

The Estimated Duration Maintenance form displays the Estimated Duration Maintenance Timeframe (or Service Level) for Request Types ie. Minutes, Hours, Days, Weeks and Years.

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2. COMPLIANCE WITH STATUTORY AND REGULATORY REQUIREMENTS INCLUDING SAFETY, RISK AND OTHER LEGISLATIVE MATTERS

Safety Statistics

The safety statistics for the reporting period are:

	January
Number of Lost Time Injuries	0
Number of Days Lost Due to Injury	0
Total Number of Incidents Reported	0
Number of Incomplete Hazard Inspections	0

Risk Management Summary

Example from Section Risk Register (excludes risks accepted/ALARP)

Potential Risks	Current Risk Rating	Future Control & Risk Treatment Plans	Due Date	% Completed	Comments
Inability of Engineering Services to provide or maintain adequate levels of service for infrastructure planning, development assessment and infrastructure design resulting in reduced productivity, inadequate infrastructure, risk to the general public and workers and financial loss for Council.	High 4	 Undertake staffing level review and business planning for Engineering Services. Improve focus on professional development and training (including graduate development program) by management implementing appropriate training and development plans and staff completing them. 	01/07/16	70%	T&D plans implemented in Design Services. Staffing review and minor restructure proposal carried out in May 2015 and has been implemented. Training matrices for Strategic Infrastructure and Development Engineering have been developed and are to be implemented through the performance appraisal process.
Breach of the Professional Engineers Act resulting in installation of unsafe infrastructure or infrastructure that does not meet legislative requirements causing the following possible impacts to Council: Service delivery delays; negative financial impacts; possible serious harm to public/workers; and reputation tarnished.	High 4	 Make RPEQ qualification mandatory for some positions in the future. Request technical staff to obtain their RPEQ if possible. 	31/12/16	50%	RPEQ numbers in Engineering Services generally ok now however one coordinator position is to be followed up on.

Potential Risks	Current Risk Rating	Future Control & Risk Treatment Plans	Due Date	% Completed	Comments
Failure to maintain accuracy and value of the forward works program and adequately provide for the annual capital program resulting in projects nominated for delivery being deferred to accommodate increased costs within annual capital program and the Long Term Financial Strategy (LTFS).	High 4	 Continued refinement of forward works program. Development of indicative estimating tool. Develop Network specific prioritisation processes. 	01/07/16	75%	Development of the FWP has stalled. Future design and concept budget included in capital budget. Prioritization process for pathways has been developed. Prioritization process for stormwater has been developed.
Identified Disaster Mitigation Strategies not actioned resulting in increased impact/effect of disaster events on the community and potential for increased costs to Council in recovery & restoration costs.	High 5	 Forward works program to be developed for disaster mitigation strategies to be submitted through Council's project evaluation and management system (PEMS) process, and for Natural Disaster Relief and Recovery Arrangements (NDRRA) funding applications. Annual review and report on implementation of disaster mitigation strategies 	01/07/16	40%	Action has stalled due to competing priorities for DMO. Previous work is now somewhat dated and needs to be revisited. Appointment of Floodplain Management Engineer will assist in progressing flood mitigation planning.

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Legislative Compliance & Standards

All applicable legislative and compliance standards have been met.

3. ACHIEVEMENT OF CAPITAL PROJECTS WITHIN ADOPTED BUDGET AND APPROVED TIMEFRAME

The following abbreviations have been used within the table below:

Project	Start Date	Expected Completion Date	Status	Budget Estimate	YTD actual (incl committals)					
ENGINEERING SERVICES CAPITAL WORKS PROGRAM										
Costs as at 3/2/17										
Traffic and Road Safety Minor Works Program	1/7/16	30/6/17	Not Started	\$82,000	\$0					
Comment: Unallocated at this point in time.										
Preliminary design and concepts	1/7/16	30/6/17	In progress	\$100,000	\$135,913					
Comment: Budget to allow progression of preliminal	ry designs and estimate	es for future year works.	Wackford St Drainag	ge and Webber Park Drai	nage underway.					
Priority Infrastructure Planning Contingency	1/7/16	30/6/17	In progress	\$800,000	\$114,691					
Comment: Budget to allow for Strategic Priority Infrastructure expenditure that arise throughout the year. Funding land acquisition for Alexander St Ext.										
Design Office Survey equipment	1/7/16	30/6/17	Completed	\$75,000	\$74,809					
Comment: Equipment has been purchased and reco	eived.									

4. <u>ACHIEVEMENT OF OPERATIONAL PROJECTS WITHIN ADOPTED BUDGET AND APPROVED</u> <u>TIMEFRAME</u>

As at period ended 3 February 2017 – 58% of year elapsed

Project	Revised Budget	Actual (incl. committals)	% budget expended	Explanation
Traffic / Transport Planning Consultancy Budget	\$100,000	\$24,740	25%	Consultant Engineer
Stormwater Drainage Planning Consultancy Budget	\$200,000	\$447,714	224%	FMP and Stormwater consultancy
Road Safety Consultancy Budget	\$30,000	\$2,720	9%	Used for road safety audits and training
Roads Alliance Consultancy Budget	\$50,000	\$53,200	106%	Technical and administrative support for Rockhampton Regional Roads and Transport Group.
Water and Sewerage Planning Consultancy Budget	\$30,000	\$0	0%	Water Loss mapping.
Disaster Management Consultancy Budget	\$75,000	\$400	0%	Risk assessment. Early warning.

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5. DELIVERY OF SERVICES AND ACTIVITIES IN ACCORDANCE WITH COUNCIL'S ADOPTED SERVICE LEVELS

Service Delivery Standard	Target	Current Performance	
Development MCU, ROL Completed in 8 days	(Graph 1 below)	90%	76.92%

Comments

A total of 13 MCU & ROL referrals were completed in January 2017 in the required timeframe of 8 days.

3 MCU/ROL referrals were not completed in the required timeframe of 8 days.

1 x 17 days - Request for further information ; 1 x 16 days - Request for further information ; 1 x 9 days - Request for further information



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Service Delivery Standard Service Delivery Standard	Target	Current Performance
Development Operational Works Completed in 7 days (Graph 2 below)	90%	68.42%

Comments

A total of 19 Operational Works were completed in January 2017 in the required timeframe of 7 days.

6 Operational Works referrals were not completed in the required timeframe of 7 days.

2 x 9 days, 1 x 10 days, 1 x 14 days - Request for further information

1 x 30 days - Application was On Hold and under further investigation from Planning.



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FINANCIAL MATTERS

End	of Month Genera	l Ledger - (Ind	c Operating & 0	Capital) - ENC	SINEERING	SERVICE	S
RRG		As	At End Of Jan	uary			
	Report Run: 01-Feb-2	017 13:56:47 Ex	cludes Nat Accs: 2	802,2914,2917,2	924		
	Adopted		Revised Budget		YTD Commit +		On target
	Budget	Revised Budget	(Pro Rata YTD)	YTD Actual	Actual	Variance	58 3% of Year Gon
	\$		\$	\$	\$	%	30.5 % OF Teal GOI
OPERATIONS						Revised Budg	et Comparison
ENGINEERING SERVICES	5						
Development Engineerin	g						
1 - Revenues	(3,000)	(3,000)	(1,750)	(863)	(863)	29%	*
2 - Expenses	1,275,269	1,208,213	704,791	596,209	596,285	49%	1
3 - Transfer / Overhead Al	(502,313)	(502,313)	(293,016)	(220,049)	(220,049)	44%	*
Total Unit: Development	769,956	702,900	410,025	375,296	375,373	53%	~
Strategic Infrastructure							
1 - Revenues	(17,000)	(30,300)	(17,675)	(15,499)	(15,499)	51%	*
2 - Expenses	1,876,612	1,689,888	985,768	663,913	1,158,088	69%	*
3 - Transfer / Overhead Al	l (301,375)	(280,714)	(163,750)	(110,200)	(110,200)	39%	*
Total Unit: Strategic Infr	1,558,237	1,378,874	804,343	538,214	1,032,389	75%	. <u>*</u>
Engineering Services Ma	anagement						
2 - Expenses	383,898	366,594	213,847	183,058	187,744	51%	~
Total Unit: Engineering	383,898	366,594	213,847	183,058	187,744	51%	. 🖌
Design Services							
2 - Expenses	541.011	519,248	302,895	240.039	246.102	47%	1
3 - Transfer / Overhead Al	25,000	25.000	14,583	9,440	9.440	38%	1
Total Unit: Design Servio	566,011	544,248	317,478	249,478	255,542	47%	· 🗸
Disaster Coordination							
1 - Revenues	(86.574)	(83.954)	(48.973)	(86.953)	(86.953)	104%	1
2 - Expenses	310.829	302.501	176.459	109.600	115,114	38%	1
3 - Transfer / Overhead Al	236.000	236.000	137.667	125.657	125.657	53%	1
Total Unit: Disaster Coo	460,255	454,547	265,153	148,303	153,817	34%	· ·
Total Operations:	3,738,357	3,447,163	2,010,845	1,494,349	2,004,865	58%	· ·
CAPITAI							
ENGINEERING SERVICES	;						
CP430 - CAPITAL CONTR		SERVICES					
1 - Revenues	0	(150,000)	(87,500)	(150.000)	(150.000)	100%	~
2 - Expenses	330.000	1.094.000	638.167	194,350	332,449	30%	1
3 - Transfer / Overhead Al	1 0	0	0	10	10	0%	*
Total Unit: Disaster Coo	330,000	944,000	550,667	44,360	182,459	19%	· ·
CP431 - CAPITAL CONTR		SERVICES R	EVENUE				
1 - Revenues	(2,053,200)	0	0	0	0	0%	~
Total Unit: Disaster Coo	(2,053,200)	0	0	0	0	0%	
Total Capital:	(1,723,200)	944,000	550,667	44,360	182,459	19%	
Grand Total	2 015 157	4 301 163	2 561 512	1 538 700	2 187 324	50%	
Grand Total.	2,013,157	4,591,105	2,001,012	1,000,709	2,107,324	30%	. *

8.3 TRANSPORT AND MAIN ROADS PROJECT UPDATE

File No:	227
Attachments:	Nil
Authorising Officer:	Peter Kofod - General Manager Regional Services
Author:	Martin Crow - Manager Engineering Services

SUMMARY

Representatives from the Department of Transport and Main Roads have been invited to provide project updates on relevant Department of Transport and Main Roads projects within the Rockhampton Region.

OFFICER'S RECOMMENDATION

THAT the verbal report on transport projects on the State controlled network within the Rockhampton Region provided by the Department of Transport and Main Roads be 'received'.

COMMENTARY

Currently there are a number of major projects being planned for the State controlled road network within the Rockhampton Region. Projects of note include:

Road Train Access through Rockhampton to the Abattoir.

Northern Access Project on the Bruce Highway at Parkhurst.

Western Ring Road Project.

Capricorn Highway Duplication.

Gavial – Gracemere Road (Lawrie Street) Planning Project.

Acting Regional Director of the Department of Transport and Main Roads, Mr Peter Trim, has been invited to attend Infrastructure Committee and provide and update to Council on these projects.

BACKGROUND

From time to time the Department of Transport and Main Roads are invited to provide project updates on relevant Department of Transport and Main Roads projects within the Rockhampton Region.

8.4 GERMAN STREET TRAFFIC CONCERNS

File No:	5252		
Attachments:	 2017-GERM1 Community Engagement Report - German Street 		
Authorising Officer:	Angus Russell - Coordinator Strategic Infrastructure Martin Crow - Manager Engineering Services Peter Kofod - General Manager Regional Services		
Author:	Stuart Harvey - Traffic Engineer		

SUMMARY

In 2015 Council received a petition about road safety issues from concerned residents in German Street. Council carried out an investigation into the road safety issues identified by the residents and implemented some road safety treatments. This report presents a review of the raised traffic issues since the implementation of treatments and recommends enhancements.

OFFICER'S RECOMMENDATION

THAT Council

- Approve OPTION 4 line marking and raised pavement markers as shown in drawing 2017-GERM1 for consultation with the directly affected residents.
- Implement the recommended option, subject to no major objections being raised by affected residents.
- Construct the extension of the concrete footpath on the southern side of German Street from 206 German Street to 212 German Street in the 2017/18.

COMMENTARY

In April 2015, Council received a petition from the residents of 206-223 German Street regarding vehicles speeding in German Street and cutting the corner between Rosewood Drive and Permien Street, Norman Gardens.

Council Officers investigated the issue and implemented a treatment in November 2015. As a part of this treatment, Council re-marked the pavement lines throughout the curve and installed raised retroreflective pavement markers along the edge lines to better delineate the curve and to reduce the incidence of vehicles driving outside the lane lines.

Since the implementation of this treatment, the residents have been surveyed to determine if the treatment has been effective. The survey was mailed to the 13 properties immediately adjacent to the curve for their feedback on the treatments effectiveness. Five of the 13 residents responded to the survey with a majority of responses stating that residents had not seen a change and that the road safety issue is still prevalent (see attached Community Engagement Report – German Street). The majority of responses came from properties on the southern side of German Street (the inside of the curve). Officers also spoke with the resident who originally sent the petition to gain a better understanding of the perceived issues. Within the resident responses and after discussion with the petition submitter, it is clear that the prominent issue is vehicles cutting the corner when travelling westbound along German Street.

Officers inspected the site during the peak AM period. This is the period where the largest volume of vehicles is travelling westbound along German Street. During this peak period, approximately 35% of observed vehicles travelling westbound drove over the edge line and into the shoulder when traversing the corner.

Residents have indicated that vehicles driving into the shoulder whilst traversing the corner are an issue when vehicles are entering the roadway from their driveway but also an issue for pedestrians. This is because the pedestrian footpath on German Street ends outside 206 German Street and pedestrians walk in the road shoulder around this curve.

The following options have been investigated as a possible treatment to the issue:

OPTION 1: Do Nothing

Although vehicles are cutting the corner, this is not an uncommon occurrence throughout the region. Vehicles are travelling at low speeds and the occurrence of vehicles driving over the edge line can be enforced by the Police under the TORUM(2009). The edge line is clearly marked and this is issue represents a poor driver behavior. This matter can be raised again at the next 3E Meeting for increased Police enforcement.

OPTION2: Implement Chevron Line Marking

To address the issue of vehicles driving into the shoulder as they traverse the curve, chevron line marking could be implemented between the driveways of 208 and 210 German Street. The line marking treatment can be seen in the attached 2017-GERM1 drawing. Currently vehicles do not park in this space, so implementation would not restrict parking for residents and the treatment would clearly delineate the shoulder to help guide vehicles back into the lane. The proposed line marking will provide a clear delineation of the travel lane however it will not provide any physical deterrent for drivers. Given the lack of compliance with the existing edge lines and RRPM's, it is unlikely that this will form an effective deterrent for vehicles.

OPTION 3: Implement Chevron Line Marking with Rumble Strips

To address the issue of vehicles driving into the shoulder as they traverse the curve, a combination of chevron line marking and rumble strips could be implemented between the driveways of 208 and 210 German Street. This treatment would involve the Chevrons from OPTION 2 as seen in the attached Drawing 2017-GERM1. It would also include the installation of raised PVC rumble strips, along the chevron bars, to create vibration in the vehicle and to discourage driving in the shoulder. Due to the proximity to residential properties, there may be an amenity issue with the increase in noise caused by vehicles driving over the rumble strips. There is little data on the increase in road noise after implementation of these devices, however it is anecdotally known to be an issue when implemented in residential areas. The estimated cost of this works is approximately \$2500

OPTION 4: Implement Chevron Line Marking with RRPM's

As with OPTION 2, chevron line marking could be implemented between 208 and 210 German Street to discourage vehicles driving in the shoulder. However this option would include the installation of Raise Retroreflective Pavement Markers at 100mm spacings along the painted chevron bars (See attached 2017-GERM1). This would help to create a rumble effect and remind drivers that they should not be driving in the shoulder. As with the rumble strips, there is little data on the increase in road noise produced by this product. The Raised Pavement Markers will likely increase road noise for residents however it will not be as substantial as the rumble strips in OPTION 2. Estimated cost for this works is approximately \$3,500

A significant concern raised by the residents is that pedestrians walk along the road between 208 and 212 German Street. This is because the footpath ends at 206 German Street and the carriageway has a more level grade than the verge. When vehicles cut the corner, this presents a potential safety risk. It is proposed that the footpath is extended around the curve to remove the pedestrians from the carriageway. Estimated cost for this works is approximately \$8,500 and a concept can be seen in the attached 2017-GERM1.

Officers propose the adoption of OPTION 4. OPTION 4 will address the issue of vehicles driving in the shoulder on the curve by visually and physically deterring vehicles from entering the shoulder.

The residents immediately adjacent to and potentially affected by the recommended will be consulted on the proposed solution in accordance with Council's LATM Procedure. If no objections are raised, it is recommended that Council proceed to implement the recommended solution.

BACKGROUND

German Street has had repeated reports of speeding over the past 10 years. Council have continued to install traffic count tubes over this period to provide quantifiable evidence in relation to the speeding complaints. Traffic counts have been installed on German Street in 2015 and 2016. The data over the past few years has shown a decrease in speeds.

Traffic Counting tubes were installed for 2 weeks at two locations outside 205 and 223 German Street in 2015. These locations are either side of the curve where the residents have raised speeding concerns. The results of the two traffic counts found that vehicles were largely complying with the posted speed limit. The two locations recorded an 85th% speed, the speed at which 85% of vehicles are travelling at or below, of 54.7km/hr and 54.0km/hr respectively. In 2016 the traffic counting tubes were installed again, after the implementation of the line marking treatment. The data, from the same locations as 2015, indicated that the 85th% speed, the speed was 52.9km/hr and 53.6km/hr. This indicates a slight decrease in speed as a result of the line marking treatment applied in 2015. The mean speed at both of these locations had also decreased since the implementation of line marking on the curve.

According to the Queensland Government's Webcrash Crash Database, in the last 10 years there have been no reported crashes on the corner between Rosewood Drive and Permien Street.

Chevron line marking and RRPM's have been implemented on Frenchville Road, on approach to Pilbeam Drive, in a response to vehicles driving in the shoulder. This treatment appears to have been effective and has not received any noise complaints from residents.

Under Council's current Local Area Traffic Management Policy and Procedure, a community request is raised by residents, quantitative evidence is obtained and the issue is raised with the 3E committee before further action is taken. The quantitative evidence, obtained for various site inspections, has highlighted that there are vehicles driving in the shoulder when traversing the curve. The issues submitted in the petition were raised with the 3E committee and the committee decided that a centre median or speed hump was not a suitable solution to the issues raised by residents. Council officers have proposed a solution to address vehicles driving in the shoulder. With budgetary approval of a preferred option from Council, officers will proceed to consult with residents directly affected as per the LATM procedure.

PREVIOUS DECISIONS

In 2015, Council Officers presented a report to the Infrastructure Committee regarding the perceived safety issues and possible solutions. The committee recommended THAT:

- 1. THAT the report titled German Street Traffic Concerns be received and petitioners be advised in accordance with the recommendations;
- THAT 40km/hr advisory speed signs are installed underneath the existing Curve Warnings signs on the approach to the curve on German Street and Raised Retroreflective Pavement Markers (RRPM's) are installed along both edge lines for the length of the curve in accordance with drawing GERMAN-3; and
- 3. THAT Council continue to regularly monitor traffic for possible speed violations and notify the Queensland Police, as necessary, to take enforcement action.
- 4. THAT six months following the implementation of the recommendations above this matter be reassessed and a report be presented to the committee.

BUDGET IMPLICATIONS

The line marking and RRPM's can be covered under Council's 2016/17 Traffic and Road Safety Minor Capital Works Program.

The proposed footpath to funded from the Capital Footpath budget allocation.

STAFFING IMPLICATIONS

Nil

RISK ASSESSMENT

There is a risk that any one of the safety issues identified by the public could cause an incident. There is also a risk that a poorly placed and designed LATM could increase risk and cause an accident.

CORPORATE/OPERATIONAL PLAN

3.1.1 Consult on, advocate, plan, deliver and maintain a range of safe urban and rural public infrastructure appropriate to the Region's needs, both present and into the future.

CONCLUSION

Subsequent to the implementation of guide signage and line marking on German Street, Council officers have surveyed the residents on the treatment's perceived impact on road safety issues raised to Council in 2015. This report investigates these responses and provides further recommendations to Council for consideration.

GERMAN STREET TRAFFIC CONCERNS

2017-GERM1

Meeting Date: 14 February 2017

Attachment No: 1



GERMAN STREET TRAFFIC CONCERNS

Community Engagement Report -German Street

Meeting Date: 14 February 2017

Attachment No: 2

December 2016



Road Safety Feedback – German Street

Community Engagement Report

December 2016

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December 2016

Background

Rockhampton Regional Council has recently undertaken consultation with property owners immediately adjacent to the curve on German Street between Rosewood Drive and Permien Street. The intent of the survey is to understand if the line marking and signage implemented in 2015 has been effective by reducing the number of vehicles driving in the shoulder. Community consultation was undertaken as a result of a Council resolution on 05 August 2015 depicting:

- 1. THAT the report titled German Street Traffic Concerns be received and petitioners be advised in accordance with the recommendations;
- 2. THAT 40km/hr advisory speed signs are installed underneath the existing Curve Warnings signs on the approach to the curve on German Street and Raised Retroreflective Pavement Markers (RRPM's) are installed along both edge lines for the length of the curve in accordance with drawing GERMAN-3; and
- 3. THAT Council continue to regularly monitor traffic for possible speed violations and notify the Queensland Police, as necessary, to take enforcement action.
- 4. THAT six months following the implementation of the recommendations above this matter be reassessed and a report be presented to the committee.

Moved by: Councillor Williams Seconded by: Mayor Strelow

The objective of the engagement was to determine whether property owners had seen a decrease in illegal vehicle movements as a result of the implementation of signage and line marking.



Target Audience

December 2016

The target audience for the consultation was property owners located on the curve on German Street between Rosewood Drive and Permien Street. The blue border in the map above depicts the 13 targeted properties.

Executive Summary

A letter was sent to all affected residents and property owners on 11 November 2016 outlining the issue and inviting them to respond via an enclosed survey. Upon finalisation of the consultation, 5 respondents completed the survey.

Total response for the consultation was 5 respondents out of 13 which represent a 38% response rate.

Main Messages from respondents

- 80% of residents that responded (4 respondents) stated that implementation of line marking and guide signage had not improved any of the road safety issues highlighted in the original petition.
- 20% (1 respondent) stated that they were unsure of any changes
- Many respondents supplied additional comments in relation to the survey.

Survey - Overall Responses

Question 1 - Since the implementation of pavement marking and raised retroreflective pavement markers on the curve on German Street has there been any change in driver behavior with regards to vehicles driving outside the lane lines when traversing the curve?

Response	Yes	No	Unsure
Number of Responses	0	4	1

Comments

Drivers going east and west continue to cut the corner in German Street despite the
markers. We recently witnessed a motorbike rider heading towards Norman Road at
speed. He completely lost control on the corner and failed to stay on his bike – he
slid down the road on his bottom. We continue to be hyper vigilant as we reverse out
of our driveway (as do other residents) because of the vehicles that just do not slow
down. A better deterrent to slow the traffic is required before someone is killed

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December 2016

leaving their driveway. For us it is a constant fear that our daughter and her children will be cleaned up as they leave our home. We stand on the footpath and watch for traffic as she quickly reverses to the other side of the road for safety. Parking in front of our home is not an option – we have seen too many cars go across our footpath. When we come up the street and turn into our driveway we have cars tailgating us as we try to turn into our driveway despite having our indicator on for a length of time. They just do not slow down enough as they come over the hill. We understand that there is a new development planned for the Grieve Property in our street and we are fearful that as traffic increases so will the problems in our street. Please give consideration to some form of traffic calming before someone comes to grief.

- Motorists in this area have been allowed to demonstrate their bad driving habits for too long without any interference from Police and their total disregard for line marking requires some other action such as speed calming devices to slow them down and also show some respect for people who are entering or departing from driveways.
- The markers have not slowed vehicles cutting the corner. It is noisier as cars cut the corner and drive over the markers. I would hope that the Council could find it within their budget to place speed bumps on the corner to slow vehicles and deter vehicles from cutting the corner.
- The speed effects traffic in both ways

File No:	5960
Attachments:	 Presentation- Asset Management Plan Asset Class: Bridges and Major Culverts Bridges and Major Culverts Asset Management Plan
Authorising Officer:	Ross Cheesman - Deputy Chief Executive Officer
Author:	Alicia Cutler - Manager Finance

8.5 BRIDGES AND MAJOR CULVERTS ASSET MANAGEMENT PLAN

SUMMARY

Officers presenting the Bridges and Major Culverts Asset Management Plan for adoption.

OFFICER'S RECOMMENDATION

THAT in accordance with S.167 of the Local Government Regulation 2012, the Bridges and Major Culverts Asset Management Plan be adopted.

COMMENTARY

The Local Government Regulation 2012 stipulates that a Local Government must prepare and adopt a long-term asset management plan. The bridges AMP was previously adopted by Council in 2012 and has now been done in a much greater level of detail and based upon detailed condition information.

As with other Asset Management Plans, it is has been more about the journey of developing the document rather than the final document itself. Officers have had many discussions around what should be done with this asset class and an improvement plan has been incorporated into Section 8 of the document.

The timing of capital expenditure is expected to vary slightly with the development of the 17/18 budget and 5 year program that is being undertaken at present. However as this is always a moving target, it is better to adopt the position which is reflective of the work and analysis done to date.

Bridges and Major Culverts are somewhat high risk assets that require solid inspection regimes and condition assessments, which have also been documented. Council will note there are a number of bridges with load limits in place and that there is a plan to improve these within the 10 years.

A presentation of the key aspects of the plan has been attached and will be discussed at the meeting.

BRIDGES AND MAJOR CULVERTS ASSET MANAGEMENT PLAN

Presentation- Asset Management Plan Asset Class: Bridges and Major Culverts

Meeting Date: 14 February 2017

Attachment No: 1

Asset Management Plan

Asset Class: Bridges and Major Culverts

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The updated Asset Management Plan for Bridges and Major Culverts is an attempt to provide answers to the following questions.

Do we know what Bridges and Major Culverts we have ?

- Conquest is used as an asset register, how accurate and current is the • content of the asset register ?
- Do we know where to find what asset in the current asset structure, and ٠ to which Asset Class it belongs?
- Is the current asset structure functional? •
- Does the structure meet the needs of the Asset Owner, Asset Manager, and the Maintainer where applicable?
- Do we know how important each asset in the supply chain is ?, and the • outcome would be if the asset loses it's functionality?
- What asset and maintenance information are recorded, and how is this • information used for the management of the asset?
- Do we know what the organisational risks associated with the asset is, ٠ and what the likelihood and consequences associated with these risks are.
- What the optimum lives of the components are? ۰
- What the needs of the assets in the asset portfolio are (planned and • unplanned maintenance and capital renewal)?
- What the need for new assets, and the upgrade of existing assets are. •

What is the state of our Bridges and Major Culverts assets?

- What is the average age of our Bridges and Major Culverts asset portfolio?
- What dictate and prioritise asset renewals ?
- What assets in the Bridges and Major Culverts portfolio pose the greatest risk ?
- What is the condition of the Bridges and Major Culvert Asset portfolio, and are there standouts ?
- Do we inspect all our Bridges and Major Culverts?
- How often are they inspected?
- What are inspected, and is the recorded data useable?
- How do we utilise the collected inspection data?
- Does inspection data allow us to compare the Assets with each other, and with other Bridges and Major Culverts in other Local Government authorities (benchmarking) ?
- Is there a consistent relationship between the age of assets (of a particular type), and the condition they are in?
- Is there formal service levels (Asset related and operational)?
- Are maintenance and capital programs prioritized?, and does the prioritization reflect Council's ability or willingness to manage the associated risks?
- How accurate are estimates (for defect mitigation and renewal)?
- Which structures poses the highest risks for Council?
- What is a desirable target condition and Asset related service levels?
- Are enough funds allocated to manage the network and maintain service levels?

allocated to, and the impact?

Do we know where funding has been

- What component of the funding is required to meet statutory, regulatory and ownership requirements (like the cost of level 1,2,3 inspections)?
- What effect does the mitigation of defects or partial renewal of the asset have on the useful life of the asset ? (the interpretation and analysis of inspection data is essential)
- Do we know how much should be spent to improve the state and condition of Bridges and Major Culverts?
- How much was invested in the renewal of assets in the past (to get the network to a particular standard)?
- Are there condition improvement targets?
- Is funding allocated to maintenance and renewals that are associated with an extended safety risk?
- Does the funding allocation have a strategic objective?, and is it targeted towards a long term benefit?
The new Asset Management Plan

for Bridges and Major Culverts

The Bridges and Major Culverts network

Туре		Material	Number (No)	Length (m)	Area (m²)	Replacement Value (\$)	Accumulated Depreciation (\$)	Fair Value (\$)
Long life bridges (Road bridges)		Concrete	19		5503	\$22,716,933	\$9,096,196	\$13,620,737
		Timber	13		839	\$1,453,988	\$828,509	\$625,479
		Steel	1		109	\$941,246	\$617,490	\$323,757
	Total Road Bridges		33		6451	\$25,112,167	\$10,542,195	\$14,569,973
Short life bridges (pedestrian bridges)	Pedestrian Bridge	Concrete	4			\$883,421	\$462,677	\$420,465
		Timber	17			\$774,560	\$333,908	\$440,652
		Steel	1			\$136,588	\$22,135	\$114,453
	Total Pedestrian Bridges		22			\$1,566,461	\$641,819	\$924,642
Major Culverts	Major Culverts	Concrete	63			\$23,973,675	\$7,858,107	\$16,115,568
Total Bridges and Major Culverts			118			\$50,652,303	\$19,042,121	\$31,610,183

Levels of service

1. Community Levels of Service

Service Attribute	Service Objective	Performance Measure Process	Current Performance	Performance target based on the current 10 year LTFP
COMMUNITY OUTCOMES				
Provide value for money cons	struction, maintenance and community respo	nse services for bridges and major culverts as	ssets	
COMMUNITY LEVELS OF SER	VICE			
Quality	Bridges / Major Culverts meet user's needs.	Service requests and complaints related Bridge or major culvert condition, and ability to provide a safe and efficient service.	17 service requests / complaints per year	As bridges and major culverts are replaced with current standard compliant structures, service requests should decline to 5 per year
	Organisational measure Confidence levels with regards to the condition of the structures.	% of Bridges / Major Culverts in very good/good (1-2), poor/ very poor (4-5) and unknown (0).	Very good / Good -4.5% Average - 81.8% Poor / Very poor - 13.7% Unknown - 23.5% (after current inspection round would be zero)	Very good / Good -20%, Average – 75% Poor / Very poor – 5%, Unknown -0%
Function	Bridges / Major Culverts meet their functionality (fit for purpose).	Service requests relating to network connectivity during flooding or inundation.	Included in Quality Measure	Replacement structures should be able to ensure network connectivity along at least major routes
	The ability of the structures to operate to requirements	% of Bridges / Major Culverts that have hydraulic capacity in accordance with road hierarchy requirements	Approximately 90% of Bridges and Major Culverts meet the service level requirements of the road.	All Bridges and Major Culverts meet the service level requirements of the road.
Capacity/ Utilisation	Bridges / Major Culverts have appropriate capacity to accommodate traffic.	Service requests related to congestion, delay or lane width.	Included in Quality Measure	No delays contributed to the inability of the structure to accommodate traffic during peak hours
	Structures meet load requirements.	% of Bridges / major Culverts that have the capacity to meet load requirements.	Current load limits 5 structures	No load limits on any of the bridges or major culverts

2. Technical Levels of Service

Service Attribute	Service Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **	Agreed Sustainable Position ***
TECHNICAL LEVE	LS OF SERVICE				
Operations	Bridge / Major Culverts meet the needs of the user with regards to: 1. Safety 2. Load capacity 3.Access and network connectivity (flood immunity) 4. Low utilisation risk 5.Good overall condition and fit for purpose	Regular inspections to the requirements of the Queensland Main Roads Bridge Inspection Manual	Currently the major culvert and bridge network are: Long life assets: Level 1: Culverts = 56, bridges = 17 Level 2: Culverts = 5, bridges = 6 Level 3: Culverts = 2, bridges = 10 Short life assets: Level 1: pedestrian bridges = 21 Level 2: pedestrian bridges = 1 Level 3: pedestrian bridges = 0	Level 1,2,3 inspections on all bridges and major culverts carried out in accordance with the DTMR Bridge Inspection Manual. Visual inspections after floods and rainfall events that resulted in water across the structures.	Yet to formalise
		Budget and funding availability for Bridge and Major Culvert inspections.	Current Lifecycle expense for the bridge and major culvert network as projected in LTFP for future operational demands, capital works, and the projected maintenance forecast for planned and unplanned maintenance.	Current operational budget: \$55,000 to meet inspection requirements (average over the next 5 years).	Yet to formalise
Maintenance	Respond to Service requests and the mitigation of defects identified during inspections and assessments.	Reactive service requests completed within adopted timeframe of 14 days or as programmed dependant of risks involved. Serious structural defects call for the immediate closure of the structure and mitigation prior to re-opening.	Reactive service requests are on average completed within 5 days depending on the nature of the defect.	Reactive service requests are completed within a day pending its nature and risk involved.	Yet to formalise
		Budget	Current maintenance budget: \$77,919 per year (average over the next 5 years)	Optimum maintenance budget: \$131,930 per year(average over the next 5 years)	Yet to formalise.

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Service Attribute	Service Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **	Agreed Sustainable Position ***
Renewal	Sustain Bridge / major Culvert Infrastructure assets.	% of Bridge/Major Culvert Assets in condition 4 or 5 (poor = 4, unusable = 5)	Seven bridges are operated under load restrictions, the structures or parts of them have to be renewed to ensure they operate as designed. Four to be replaced in the next 3 years. A few pedestrian bridges (short life assets) in parks and reserves have been identified for replacement in 2016/17 11% of Bridges and Major culverts are in a condition 4, none of our structures are unusable	Replace all seven structures in the next 10 years	Replace all seven structures in the next 5 years
		Budget	Current available capital renewal funding: \$779,000 per year for the next 5 years	Optimal renewal funding of \$878,392 per year for the next 5 years	Increase the renewal funding allocation with at least 2.5% every year for the next 10 years
Upgrade/New	Bridge / Major Culverts meet road hierarchy standards with regards to network connectivity and traffic capacity. Short life assets to fill the functionality GAPS in parks and reserves.	% of Bridge/Major Culverts that have the same functional service level as the road.	90% of Bridges and Major Culverts meet the functional service level requirements of the road.	All Bridges and major Culverts meet the functional service level requirements of the roads, dependant on what the service level requirements are.	Status Quo, but ensure alternative and continuous access is available.
		% of Bridge/Major Culverts that have traffic (lane) Capacity	90%	All Bridges and major Culverts meet the functional service level requirements of the roads, dependant on what the service level requirements are.	Upgrades due to perceived lane capacity demands likely to be deferred beyond 10 years.
		Budget	An average of \$1,100,000 per year over the next 10 years, with \$0 per year for the next 5 years	An average of \$1,100,000 per year over the next 10 years, with \$0 per year for the next 5 years	Yet to be considered.

Note:

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* Current activities and costs (currently funded).

** Desired activities and costs to sustain current service levels and achieve minimum life cycle costs (not currently funded).

*** Activities and costs communicated and agreed with the community as being sustainable (funded position following trade-offs, managing risks and delivering agreed service levels).

How the performance of the Bridges and Major Culvert Network is measured

- The number and extent of defects identified during asset inspections
- The age of the Bridges and Major Culverts network
- The remaining life of the bridges and major culvert network (for the individual components)
- The asset's present, past and anticipated future planned maintenance and capital renewal requirements
- The asset's reactive maintenance history (to gauge the future renewal demands)
- The maintenance expenditure correlation with the condition rating
- Maintenance requirements and the associated expenditure, benchmarked against other bridge and major culverts in our network.
- Comparison of the life cycle expenditure with similar infrastructure owned by other local Government Authorities (benchmarking)
- A determination of how successfully the Footpath and Cycle ways network is managed compared with the organisation's service standards and objectives
- The long term performance and condition requirements and targets of the assets
- Compliance with best practice requirements and standards

Condition of Bridges and Major Culverts

- Most (82% of the network) of our Bridges and Major Culverts is in an average condition
- Only 13.7% of the Bridges and Major Culvert network is in a poor condition
- One structure (Riverslee bridge) is still submerged and haven't been condition assessed



Known structures with performance deficiencies

- Service deficiencies were identified through inspections and condition assessments, using the DTMR Bridge Information Manual, the structures below operate under load restrictions, and require work to ensure they can operate to their design specifications
- Short life structures damaged during Cyclone Marcia, are not listed as a few has been demolished and are in the process of being replaced

Location	Service Deficiency
Rosewood Road (Neerkol Creek)	15 Ton Load Limit in place. To be replaced in the next 18 months
O'Shannessy St Culvert	20 Ton Load Limit in place.
Causarina Road Bridges (two)	15 Ton Load Limit in place for both bridges.
Calmorin Road (Hanson's Bridge)	22 Ton Load Limit in place.
Quay Street Ext (Gavial Creek)	36 Ton Load Limit in place.
South Yaamba Road (Sandy Creek)	15 Ton Load Limit with side track in place. On the 2017/18 bridge replacement program
Bishops Bridge Garnant	15 Ton Load Limit with side track in place. On the 2016/17 bridge replacement program
Mt Hopefull Road (Bellegins Bridge)	15 Ton Load Limit in place. On the 2020/21 bridge replacement program

Critical risks and treatment plan for Bridges and Major Culverts

Asset at risk	Issue	Hazard	Risk Type	Possible Outcome	Impact (On who or what?)	Existing controls in place	Risk level
Bridge	Subsidence in the approaches	Sharp bump on approach to the bridge	Safety	Accident due to loss of control	Public safety	Bridge inspections, road condition assessments	L
Bridge	Narrow traffic lanes	Collision with other cars or pedestrians	Safety	Accident on bridge	Public safety	Speed control and possible signage	м
Bridge	Failure of a structural member	Bridge becomes un trafficable	Financial impact	Bridge collapse	Capital budget and public access	Bridge inspections (level 1,2,3)	н
Bridge	Blocked scuppers	Water ponding on bridge	Safety	Accident	Public, safety	Regular inspections	L
Bridge	Corrosion of metal components	Metal rusting away	Asset management	Structural failure	Maintenance budget	Regular inspections	м
Bridge	Inadequate maintenance	Major future unnecessary expenditure	Financial impact	Structural failure	Capital budget	N/A	н
Bridge	Flood damage	Trees blocking waterway	Safety	Road and property flooding	Public safety and maintenance budget	Inspections after events	н

Asset at risk	Issue	Hazard	Risk Type	Possible Outcome	Impact (On who or what?)	Existing controls in place	Risk level
Bridge	Insufficient reserves to fund a failed structure	Cannot afford to replace bridge	Financial impact	Council may seek grant funding	Capital budget and road user having to use an alternative route	None	м
Bridge	Suitability of structure	May have alternative uses	Safety	Personal injury	Public safety	None	L
Bridge	Vandalism	Unbudgeted maintenance	Financial impact	Unscheduled expenditure	Maintenance budget	None	м
Bridge	Inadequate safety rail on bridges	Accident between cars and pedestrians	Safety	Personal injury	Public safety	None	н
Bridge	Clearance below an over bridge	Oversize vehicle exceeding limitations	Financial impact	Damage to bridge	Capital budget	Inventory	м
Bridges and Major Culverts	Emergency routes not known	Heavy vehicles are stranded, alternative routes are not known	Safety and Financial impact	Stranded and disgruntled road users	Councils inability to provide adequate services and lack of communication	State Government provide information, operators have to know where to look	н
Bridges and Major Culverts	Structure flooded	Structure cannot be used	Safety, Financial, Disaster Management	Damage to property, Personal injury, loss of life etc.	Public safety, Councils ability to provide services and access	None, Council know which structures will generally be flooded	н

Planned and Reactive Maintenance

• Reactive maintenance is for example requests for the seeping of a bridge, the replacement of damaged guard rails after an accident etc. Complaints and requests for maintenance from customers are recorded and appropriately coded in Pathways, defects are also recorded during Asset Inspections.

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Total Bridges & Major Culverts reactive expenditure	15,825	38,497	16,062	16,303	16,548	16,796	17,048	17,304	17,563	17,827	18,094

 Planned maintenance include the mitigation of "non – critical" defects identified during asset inspections, and also include maintenance activities required to ensure the asset performs as intended throughout its lifecycle.

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Total Bridges & Major Culverts planned expenditure	57,807	58,674	59,554	60,448	61,354	62,275	63,209	64,157	65,119	66,096

• Total maintenance expenditure

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Total Bridges & Major Culverts Total maintenance expenditure	73,632	97,171	75,616	76,751	77,902	79,071	80,257	81,461	82,682	83,923

Planned and Reactive Maintenance Benchmarking

- Planned and Reactive Maintenance expenditure are very hard to accurately benchmark, predominantly due to the make-up and condition of the asset portfolio. A council with a large percentage of older timber structures, will spend a lot more on maintenance than would be the case for a newer portfolio of concrete structures.
- RRC spend an average of \$82,143 p.y (over the next 10 years including the escalation allowance), while the median expenditure for the benchmarked Councils is \$72,965 p.y



Long term Capital Renewal demand for Bridges and Major Culverts

Below a graph of:

- Projected future renewal and replacement expenditures are forecasted to fluctuate over time as the asset stock in a poor or very poor condition are replaced. Post 2025 expenditures are nominal allocations only. The large year to year movements are due to the high replacement cost associated with the structures
- The renewal demand based on the age of the asset, the useful life and condition



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Capital Renewal Funding shortfalls

- The difference between the Capital Renewal funding requirement and the funding allocated in the Long Term Financial Plan for the renewal of Bridges and Major Culverts infrastructure is referred to as the GAP (a negative GAP refer to a budget shortfall and a positive to a budget surplus), an average short fall of \$173,733 per year for the next 10 years.
- The nature of asset renewals in this Asset Class is such that renewal expenditure will fluctuate in "blocks", and thus cannot be averaged out.



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Capital renewal expenditure benchmarked against other Local Government Authorities

- RRC spend on average slightly more on capital renewals compared to the median capital renewal expenditure of other Local Governments
- The type, age and condition of Bridges and Major Culverts in the asset portfolio dictate the need and thus the required expenditure, all of the benchmarked Councils are deemed to have a very different asset make-up, and thus different renewal needs.



Capital new and upgrade expenditure

 The requirement for new assets associated with new developments, and the need to upgrade/expand existing Bridge and Major Culvert assets are identified from various sources such as councilor/senior management and community requests, infrastructure network modelling, strategic bulk services plans and projections or through partnerships with other organisations. Candidate proposals are expected to verify need and to include an reasonable accurate preliminary estimate. The need to provide new bridge and major culvert infrastructure or to upgrade the existing is identified through strategic development and bulk services plans, and is usually the outcome of negotiations with developers.



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Future demand for services

- The future demand for new Bridges and Major Culverts, and the upgrade of existing structures are generated by:
 - Population growth through strategic development and bulk services plans, and is usually the outcome of negotiations with developers
 - Economic growth and associated investment, opening areas up for development
 - Governance and other regulatory requirements to provide services at a particular level, requiring the upgrade of existing infrastructure
 - Council's social responsibility and population demographics
 - Environmental restrictions, requirements and duty of care
 - Changes in standards and specifications required for compliance
 - Existing infrastructure have reached it's use-by date it's existing state (increase in heavy traffic may deem narrow single lane structures to be unsuitable)
- Demand drivers for capital renewal and maintenance works include:
 - Increase in services provided
 - Increased age of the assets
 - Increased community expectations
 - Remaining useful lives and thus the age of structures
 - Increasing maintenance demands due to deferring of maintenance and capital renewal works

Sustainability Ratios for Asset Class: Bridges and Major Culverts

Ratio	Result	Calculation	Target	Description
Asset Consumption	62.4 %	DRC/CRC	40% -80%	A relatively high ratio indicates the assets are new, a lower ratio indicate the assets are old (BUT could be still functional). The ratio needs to be considered with the average asset age
Asset Sustainability ratio (Asset Renewal Rate)	180%	Annual average capital renewal funding expenditure / Annual depreciation	70% - 80%	Ratio indicates whether RRC are replacing assets at a higher rate than the is wearing out. The high percentage indicate a longer term review is required or depreciation too low
Asset Renewal Funding Ratio	76%	Average annual capital renewal expenditure / Projected average annual renewal demand	90% - 100%	A measure of the rate at which assets are being renewed . RRC does not renew enough of its Bridges and Major Culvert assets
Rate of annual asset upgrade and new	152%	Average annual upgrade and new expenditure / annual depreciation	70% - 80%	RRC spend probably too much on capital new and upgrade, the relationship with the sustainability ratio should not be that far apart
The 10 year sustainability index	76%	Total 10 year Renewal Budget/ Total 10 year renewal demand	80% - 100%	The ratio indicates whether the organisation is able to renew assets that expires over the next 10 years

The interpretation of the sustainability rations:

- The asset consumption ratio is acceptable (depreciation lower, assets newer or in good condition)
- Not enough assets are being renewed in the short term:
 - Renewal funding is too low

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- Annual depreciation is too high which could mean that the remaining lives are too short (assets in a poor condition)
- Creation dates not correct as no information on previous asphalt path renewal exist
- The asset sustainability ratio is very low it should be at least 70%, almost double should be spend on renewals per year
- The 10 year sustainability index shows signs of improvement

BRIDGES AND MAJOR CULVERTS ASSET MANAGEMENT PLAN

Bridges and Major Culverts Asset Management Plan

Meeting Date: 14 February 2017

Attachment No: 2



BRIDGES AND MAJOR CULVERTS

Asset Management Plan



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1. EXECUTIVE SUMMARY

Context

The Road Bridges and Major Culvert Assets form part of the Transport Network for the Rockhampton Region and are critical for providing continuous road links across various waterways throughout the region.

Council has been operating a bridge maintenance system (SIMBRIDGE) for the past 18 months, and have also recently changed the definition for bridge and major culvert assets. The definition change resulted in the addition of approximately 30 major culverts to the Class, which will allow Council to manage these assets in a more structured manner, and reduce the risk for the organisation. The integrity of the bridge and major culvert data have improved significantly and Council is currently completing level 1 and 2 inspections for all the structures as well as those that have not been assessed before, after which the integrity of the data would consider to be from a very high standard. A number of rural bridges have reached the end of their useful life and a significant renewal program is to be undertaken by Council.

Туре		Material	Number (No)	Length (m)	Area (m²)	Replacement Value (\$)	Accumulated Depreciation (\$)	Fair Value (\$)
Long life bridges (Road bridges)		Concrete	19		5503	\$22,716,933	\$9,096,196	\$13,620,737
		Timber	13		839	\$1,453,988	\$828,509	\$625,479
		Steel	1		109	\$941,246	\$617,490	\$323,757
	Total Road Bridges		33		6451	\$25,112,167	\$10,542,195	\$14,569,973
Short life bridges (pedestrian bridges)	Pedestrian Bridges	Concrete*	4			\$883,421	\$462,677	\$420,465
		Timber ®	17			\$774,560	\$333,908	\$440,652
		Steel	1			\$136,588	\$22,135	\$114,453
	Total Pedestrian Bridges		22			\$1,566,461	\$641,819	\$924,642
Major Culverts	Major Culverts	Concrete	63			\$23,973,675	\$7,858,107	\$16,115,568
Total Bridges and Major Culverts			118			\$50,652,303	\$19,042,121	\$31,610,183

1.1 Councils bridges and major culverts network (What do we have?)

[®]These timber bridges are located in Parks or recreational reserves (Kershaw Gardens, Botanical Gardens etc.)

*Three of these are redundant road infrastructure

The replacement value and supporting financial information is as per the 31 March 2016 asset register and associated asset valuation.

1.2 Service Objectives (The objective of this Bridges AMP?)

In order to prevent extensive damage or deterioration of a bridge or major culvert Council need to execute regular maintenance activities and attend to structural and other defects in a timely manner. Regular maintenance activities include:

- Reactive maintenance: The type of maintenance required when a defect requires immediate action to ensure that the structure functions as it was intended to. These defects are usually associated with considerable risks to users and the organisation.
- Planned maintenance: No specific defects have been identified, but pro-active maintenance has been identified that will ensure that the asset operates as it was designed to do, and will reduce the risk of later reactive maintenance.

One of the purposes of the Asset Management Plan is to provide a direction for the execution of planned and unplanned maintenance, and to ensure that the resources are available.

This AMP will also address the capital works required to retain the functionality of the structure, and include:

- New capital works is works associated with the provision of a new asset
- Upgrade works are works associated with the upgrade of an asset to enable it to meet the extended demand.
- Renewal works are works associated with the replacement or rehabilitation of the structure or its components.

The ultimate objective of capital and maintenance works is to ensure that the asset retains it functional capability through its useful life, and it performs to expectations through its lifecycle.

The following basic levels of service apply:

- Strategic levels of service to meet key customer outcomes:
 - The structure must constantly meet community needs and expectations, and provide continuous access across a creek or waterway.
 - The service can be delivered at an agreed level (it could be to a particular flood immunity level etc.)
 - $\circ~$ The impact of load limits on Bridges and Major Culverts that is part of key traffic routes.
- Operational levels of service
 - The service provided need to be reliable, functional and adequate
 - The asset shall be maintained to an agreed standard
 - Maintenance will be carried out when required and will be managed accordingly
- Capital levels of service
 - \circ $\;$ The structure is replaced, rehabilitated or upgraded when required

- The relevant standards and specifications are complied with.
- Maintenance levels of service
 - All maintenance work are of an expected quality and compliant with standards and specifications
 - Inspections are conducted to a schedule, and closed out after being done. Intervention works identified during inspections will be programmed for execution pending the nature of the work and the urgency
 - There shall be a prioritisation regime in place for identified works

1.3 Measuring the performance of our Bridges network (What do we measure to know how our network is performing?)

The performance of our assets is measured by the following:

- The amount of defects identified during asset inspections
- The type of defects identified
- The age of the asset components
- The condition of the individual and combination of asset components
- The remaining life of the asset and its components based on their condition
- The asset's present, past and anticipated future maintenance requirements
- The maintenance history of the asset
- The planned and unplanned maintenance expenditure
- Maintenance requirements and the associated expenditure benchmarked against similar assets (within and outside the organisation)
- The comparison of the lifecycle expenditure of similar assets (within and outside the organisation)
- The impact of changing standards and specifications on the way assets are or will be managed in the organisation
- The long term performance requirements of the asset
- Compliance with safety standards and requirements
- Ability of the structures to accommodate various classes of vehicles on emergency traffic access routes.

1.4 Lifecycle management plan (How will Councils Bridges Assets be managed through their lifecycles)

The safety and condition of bridges and major culverts are monitored through a three level hierarchy inspection regime, and the frequency of the inspections relates to the structure type, age and condition depending on the assessed risk of deterioration or damage.

All Council's bridges and major culverts are condition assessed to the standards, specifications and the requirements of the Queensland Main Roads Bridge Inspection Manual – 2004 during the inspections. The condition rating system reflects on the performance, integrity and durability of the structure and its principal components. The assessment of the nature and extent of defects are detailed in the procedures as appropriate to each component type. The overall condition rating of the structure is based on the condition of its principal load bearing components. The short life assets to the likes of pedestrian bridges will be handled slightly different as they have much reduced lives, and aren't subject to the same standards bridges that carries traffic are, they will however still be inspected, their defects recorded and actioned appropriately.

One of the objectives of this Asset Management Plan and the software (SIMBRIDGE) is to establish an integrated and easy accessible base information system for bridge inventory, condition, load capacity, inspection, and defects throughout the lifecycle of the structure, the data collected can be used to:

- Develop and budget for future inspection and maintenance programmes
- Carry out load capacity assessments
- Provide feedback on the feasibility of type structures
- Monitor and establish an overview on the health of Councils Bridge and Major culvert portfolio, and the effectiveness of maintenance treatments throughout its lifecycle.

1.5 The Financial expenditure (How much does it cost to manage Councils bridges network?)

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal and upgrade of the existing assets over a 10 year planning period.



 Table 1.5.1: The financial expenditure associated with the asset class over a 10 year period

The average projected maintenance and capital expenditure budgeted over the next 5 year period is \$856,919 and \$625,430 over the next 10 year period.

The average projected required maintenance and capital funding based on the latest asset condition assessment for the next 5 year period is \$1,010,322 and for the 10 year period is \$860,733 on average per year which is \$153,403 / year more than the available funding for the first 5 years and \$235,303 / year over the next 10 year period. The shortfall "growth" will depend on:

- The type of assets transferred (the majority of assets to be transferred is major culverts the impact is thus minor as they do not have excessive maintenance and capital funding requirements)
- The age of the assets transferred (the majority of the assets to be transferred is new, funding requirements are small, and the impact minor)
- Condition of the assets transferred (the majority of the assets to be transferred is in a good condition the funding requirements are little and the impact minor)
- It is important to prioritise maintenance and capital funding and to ensure key infrastructure is maintained in a condition adequate to meet their service requirements.
- It is also assumed that the required maintenance funding will be maintained. The assumption depends on the levels of renewal investment and how fast the assets will deteriorate.

		Next 5 years (2015/16 -	Next 5 years (2020/21 -
Average budget and		2019/20)	2024/25)
demand (\$/year)		(\$/year)	(\$/year)
Total Maintenance	Budget	77,919	80,930
(planned & reactive)	Demand	131,930	142,520
	Budget	779,000	544,500
Capital (renewal)	Demand	878,392	718,233
Capital (upgrade &			
new)	Budget	0	1,100,000
	Budget	779,000	1,644,500
Total Capital	Demand	878,392	1,818,233
Total Maintenance and			
Capital	Budget	856,919	1,725,430
	Demand	1,010,322	1,960,753
Total shortfall		153,403	235,323

Table 1.5.2: Funding shortfall over the next 5 years and following 5 year period

A future challenge is to find a balance between the provision of new, the upgrade and maintenance of existing bridge and major culvert infrastructure in the LTFP.

This Asset Management Plan is a best scenario assessment and is based on the latest adopted Long Term Financial Plan.

1.6 Improvements since the previous Bridges Asset Management Plan (How does this plan differ from previous versions?)

The definition of structures to which this plan applies have changed, the change resulted in a large transfer of culvert structures from the Drainage Asset Class to the Bridges and Major Culverts Asset Class. Most of the new additions to the class have not previously been assessed or inspected, they are being inspected at the moment and later versions of this Asset Management Plan will fully incorporate these assets. Better

prioritization of maintenance and capital funding to ensure key infrastructure are maintained to required standards and able to meet service requirements at all times.

This plan also follows a lifecycle approach and its major purpose is to not only comply with legislative requirements, but to also ensure the application of efficient and effective Asset Management principles.

1.7 Future improvements

Future improvements include but are not limited to:

- A review of the asset components for bridges and culverts to ensure an accurate overall condition assessment
- A more consistent approach to the estimation of defects and a better budget approach
- Improve modelling techniques to increase the level of confidence in estimating maintenance requirements, and the associated budget requirement projections.
- The development of better levels of service, what they cost, and how they align with community expectations.
- Refine maintenance and capital works programs.
- Develop and refine performance reporting on service level compliance.
- Review the impact of service level and budget allocation changes and advise the impact.
- Develop a better and more sustainable balance between unplanned and planned maintenance.
- Refine this Asset Management Plan to support the Asset Policy and associated Asset Strategy adopted by Council in 2015

1.8 How are deficiencies identified and addressed in this Asset Management Plan

All bridge and major culvert inspections are carried out in accordance with the Department of Transport and Main Roads Bridge Inspection Manual which provide Council with a basis for the efficient and effective management of its assets.

There are three levels of inspections detailed in the manual, they are:

- Level 1 These are routine maintenance inspections usually carried out by competent and trained Council staff member. The general functionality of the structure is assessed and any major deficiencies or defects are identified for further investigation. Short life assets pending their construction properties usually only require Level 1 inspections. All the Bridge and Major Culvert Assets have had level 1 inspections completed by the level 2 bridge inspector prior valuation in March 2016.
- Level 2 These are detailed and more advanced inspections conducted by specialist trained consultants. These inspections could also include the drilling of the timber bridge components and will identify any structural deficiencies. All the structural components of the assets are condition assessed, and an overall condition rating for the structure is also given. Defects as well as the associated remedial actions (including estimates, time frames etc.) are recorded against the asset.
- Level 3 This is a detailed structural inspection which is carried out by an appropriately certified structural engineer, it is carried out when a structure is deemed to have major structural deterioration, damage, or is behaving in a manner different to the original design. Inspections at this level usually identify serious defects that pose a high risk for the organisation if remedial actions don't proceed as recommended by the investigator.

Defects and other maintenance requirements are recorded against the particular structure in SIMBRIDGE and Conquest, and forwarded to Civil Operations for action. Once completed the remedial action and associated expense are recorded against the asset (it does not happen at the moment, but procedures will follow to ensure future compliance).

1.9 Managing the Risks

There are risks associated with providing the service and not being able to complete all the identified activities and projects. The major risks are:

- The structural failure of assets or asset components resulting in either a reduced level of service or a total inability to provide the service.
- The failure of structures to provide the required flood immunity and/or to be submersed and inaccessible for extended periods beyond those of the levels of service.
- The inability of heavy traffic to use the bridge due to the application of extended load restrictions on bridges that forms part of emergency access routes during disasters.

These risks will be managed within the limits of <u>available</u> funding through:

- Renewing those assets that are critical and in a poor or very poor condition.
- Ensuring that proper targeted maintenance is executed when required.
- Programmed asset inspections and condition assessments are completed when required.
- Inspect all bridges and major culvert assets that were inundated during flood events for structural damage.
- Targeted planned maintenance programs that not only identify future issues but deal with them in an efficient and effective manner.
- Investigate high risk key assets in the urban environment, and identify ways to reduce the associated risks.
- Prioritised funding to meet the "risks of the day", for example natural disasters such and flooding, and human induced damage to structures like accidents, loading related failures, terrorism etc.

1.10 Confidence Levels

This AM Plan is based on a current high level of confidence information, the asset register has been completed and all assets have been inspected and condition assessed.

2. INTRODUCTION

2.1 Background

The purpose of this asset management plan is to improve Councils short, medium and long term management of its long and short life bridges and major culverts network, in order to provide a safe and compliant service at a particular service level in the most efficient and economical manner. This AMP achieves this by reviewing the current set of standards, and service levels, and how Council comply through appropriate maintenance and capital programs.

The asset management plan broadly follows the format for AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual¹.

The asset management plan is to be read with the organisation's Asset Management Policy, Asset Management Strategy and the following associated planning documents:

- Rockhampton Regional Council Corporate Plan
- Rockhampton Regional Council Operational Plan
- Rockhampton Region Towards 2050 Strategic Framework
- Rockhampton Regional Council Asset Management Policy
- Rockhampton Regional Council Capital Works Program
- Priority Infrastructure Plans (Draft)

Key stakeholders in the preparation and implementation of this asset management plan are as per Table 2.1.1.

Key Stakeholder	Role in Asset Management Plan			
Council	 Represent needs of community/shareholders, Allocate resources to meet the organisation's objectives in providing services while managing risks, Ensure organisation is financially sustainable. 			
Chief Executive Officer	Implement the policies and strategic direction provided by Council			
General Manager Regional Services	Setting direction and facilitating approval of policies on asset management and ensuring their integration with corporate planning			
Manager Finance	Overall direction for asset management plans and the development of new ones			
Manager Civil Operations	Responsible for operation, construction and maintenance of assets			
Manager Engineering Services	Responsible for infrastructure planning, design and development assessment			
Coordinator Assets & GIS	Asset Management technical support and the development of the capital works program based on condition assessments and feedback from engineering transportation planning and need assessments. Identify and relay maintenance requirements to Civil Operations. Develop detail AMP across all asset classes.			

Table 2.1.1:	Ke	, Stakeholders	in	the	ΔМ	Plan
10010 2.1.1.1.	AC J	Juncholacis		unc	~	

Council's follows a corporate asset management approach, refer to Annexure E for a diagrammatic version of how the policy is applied.

¹ IPWEA, 2011, Sec 4.2.6, *Example of an Asset Management Plan Structure*, pp 4|24 – 27.

2.2 Goals and Objectives of the Asset Management Plan for Bridges and Major Culverts

The focus of this Asset Management Plan is on the short, medium and long term maintenance and capital works planning, and how to use this planning to pro-actively manage Council's bridges network in order to:

- Have a precise and accurate account of what we own, and have a legal responsibility for.
- Record asset information down to an appropriate level, to ensure the asset can be effectively managed.
- Report on annual depreciation and asset consumption at an asset component level to meet accounting requirements.
- Measure and monitor the condition, performance, utilisation and cost of assets down to an appropriate management level and interpret this data to provide information on expenditure and resulting performance at the higher portfolio level.
- Understand and confirm the current levels of service.
- Understand future service level expectations/requirements and the associated financial impact.
- Identify any shortfalls in the current levels of service, funding and asset management practices and set achievable targets to overcome the shortfalls.
- Project future short, medium and long term funding requirements and how they correspond with the Council's capital and maintenance projections.
- Measure, monitor and report on the condition, performance and functionality of Council's assets against prescribed service levels and regulatory requirements.
- Have uniform processes across the organisation in place for the evaluation of funding investment in:
 - Renewal, upgrade and expansion of existing assets;
 - Acquiring of new assets;
 - Maintenance (planned, unplanned/reactive) of existing assets;
 - Operational expenditure associated with the delivery of services;
- Ensure that the lifecycle cost for RRC's bridges and major culvert assets are the lowest it can be

2.3 Asset Management Plan framework

Key elements of this Asset Management Plan are:

- Levels of service specifies the services and levels of service to be provided by the organisation,
- Future demand how this will impact on future service delivery targets, and how these targets will be met,
- Life cycle management how Council will manage its existing and future assets across their lives to provide defined levels of service,
- Financial summary funding required to provide the defined services at the agreed levels,
- Asset management practices to efficiently and effectively manage the bridges and major culverts asset portfolio,
- Monitoring how the plan will be monitored to ensure it is meeting the organisational objectives,
- Asset Management improvement plan to value future editions to this AMP.

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

Road Map for preparing an Asset Management Plan

Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11.



2.4 Key Assets covered by this Bridges and Major Culverts Asset Management Plan

The following bridges and major culverts are covered in this plan:

Туре		Material	Number (No)	Length (m)	Area (m²)	Replacement Value (\$)	Accumulated Depreciation (\$)	Fair Value (\$)
Long life bridges (Road bridges)		Concrete	19		5503	\$22,716,933	\$9,096,196	\$13,620,737
		Timber	13		839	\$1,453,988	\$828,509	\$625,479
		Steel	1		109	\$941,246	\$617,490	\$323,757
	Total Road Bridges		33		6451	\$25,112,167	\$10,542,195	\$14,569,973
Short life bridges (pedestrian bridges)	Pedestrian Bridge	Concrete	4			\$883,421	\$462,677	\$420,465
		Timber	17			\$774,560	\$333,908	\$440,652
		Steel	1			\$136,588	\$22,135	\$114,453
	Total Pedestrian Bridges		22			\$1,566,461	\$641,819	\$924,642
Major Culverts	Major Culverts	Concrete	63			\$23,973,675	\$7,858,107	\$16,115,568
Total Bridges and Major Culverts			118			\$50,652,303	\$19,042,121	\$31,610,183

Table 2.4: Bridges and	Major	culvert	register
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Bridge and Major Culvert Assets	Asset purpose	Asset Owner	Number of assets
Long Life Bridges	Road Infrastructure	Civil Operations	33
Short Life Pedestrian Bridges	Pedestrian Infrastructure	Civil Operations	5
	Pedestrian Infrastructure	Parks	17
Major Culverts	Road Infrastructure	Civil operations	62
	Airport	Airport	1

2.5 Council's role and responsibilities

Council has to meet many legislative requirements including Australians and State regulations

Logiclation	Paquiroment
Legislation	Requirement
Local Government Act 2009 and Local Government Regulations 2010	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a LTFP supported by infrastructure and asset management plans for sustainable service delivery.
Transport Planning and Co-ordination Act 1994	Sets agenda for overall transport effectiveness and efficiency through strategic planning and management of transport resources.
Transport Operations (Road Use Management) Act 1995	The overall objective of this Act is to provide for the effective and efficient management of road use in the State.
Transport Operations (Road Use Management – Road Rules) Regulation 1999	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
Other reference	ed legislation associated with transport and drainage
State Legislation	
- Forestry Act 1959	
- Water Act 2000	
- Environmental Protection Act	
1994	
- Environmental Protection	
(Noise) Policy 1997	
- Environmental Protection (Mater) Policy 1007	
- Civil Liability Act 2003	
- Building Act 1975	
- Acts Interpretation Act 1954	
- Dividing Fences Act 1953	
- Integrated Planning Act 1997	
 Infrastructure Act 2003 	
- Survey and Mapping	
- Aboriginal Cultural Heritage	
Act 2003	
- Electricity Act 1994	
- Telecommunications Act 1997	
- Native Title Act 1993	
- Workplace Health and Safety	
Act 1995	
- Health Act 1937	
 Acquisition of Land Act 1967 	
- Land Protection (Pest and	
Stock Route Management)	
ACI ZUUZ	
- Commonwealth Disability	
Discrimination Act 1992	
- Telecommunications Act	
1997	
- Native Title Act 1993	

2.6 Bridges and Major Culverts responsibility matrix

The responsibilities associated with the various asset management activities are:

Туре	Asset Owner	Asset Manager	Programmed Inspection	Condition assessment	Planned maintenance and Capital programs	Execution of programs	Reactive maintenance
Road Bridges (Timber, Steel and Concrete)	CO	AM	AM /CO	АМ	AM/CO/ES	CO	СО
Pedestrian Bridges (Timber, Steel and Concrete)	CO / P / Air	AM	AM /CO	АМ	AM/P/CO/ES/ Air	CO	CO
Major Culverts	CO / Air	AM	AM /CO	AM	AM/Air/CO/ES	CO	CO

AM / Asset Management	CO / Civil Operations	ES / Engineering	P / Parks	Air / Airport

2.7 Management of Bridges and Major Culverts

To enable Council to manage its bridges and major culverts, responsibilities are divided as follows:

• Maintenance and Capital works (Civil Operations):

- Reactive maintenance attending to daily work requests.
- Programmed planned maintenance
- Programmed capital upgrade, rehabilitation and renewals
- New capital works as per the capital works program
- Works that originated from visual inspections and unexpected incidents and events
- Activities included in the strategic planning of new and upgrade of existing assets (Engineering, Parks and Airport):
 - Planning and design of new bridges and major culverts to supplement the existing network, and service new developments.
 - Upgrade of existing bridges and major culverts to meet service level requirements, and accommodate growth.
 - Assess new assets contributed to Council by private developers.
- Activities included in the Asset Management of the asset (Assets):
 - Specialist bridge and major culvert asset inspections and condition ratings
 - Rate and prioritise assets identified for work during specialist inspections
 - Development of planned maintenance programs
 - Upgrade, rehabilitation and renewal programs for bridges and major culverts
 - Compiling of short, medium and strategic capital works programs
 - Asset disposal and associated strategic disposal strategies
2.8 The business process for the management of bridge and culvert assets

In order to be able to manage the asset class effectively, all assets are broken up into individual components, which are then "micro managed", this helps to ensure that all the maintenance needs are considered individually and in combination with each other to deliver the best and most economical outcomes. This method also assists in using a consistent approach towards the management of all bridges and major culverts. The consistent use of terminology is encouraged in the establishment of condition standards associated with the assessment, costing, planning, implementation and the reporting of maintenance works. A bridge is broken up into the following attributes:

- Sub structure
- Superstructure
- Waterway
- Surface





These operational and maintenance processes are linked by work order through Councils corporate asset management system, Conquest. Requests for maintenance are reported through Councils corporate customer request system, Pathway which interfaces with Conquest. Updates and closing comments are reported on work orders which when completed, complete the Pathway request and advise the creator of the outcomes of the request. Requests (priority based) are escalated if not actioned within set timeframes.



Figure 2.8: The business process flowchart for planned and re-capitalisation: Bridge network

2.9 Core and Advanced Asset Management

This asset management plan is prepared as a 'core' asset management plan over a 10 year planning period in accordance with the International Infrastructure Management Manual², and supported by Council's LTFP. It is developed to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a 'top down' approach where analysis is applied at the 'system' or 'network' level.

Future revisions of this asset management plan will move towards 'advanced' asset management using a 'bottom up' approach for gathering asset information for individual assets to support the optimisation of activities and programs to meet agreed service levels in a financially sustainable manner.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

Council conduct a Facilities and Services Satisfaction Survey every 3 years. This survey polls a sample of residents on their level of satisfaction with Council's services. Bridges and Major Culverts are not polled explicitly however the service they provide can be related to the roads and stormwater drainages services. The most recent community satisfaction survey carried out in 2014 reported satisfaction levels for the following services

3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of the organisation's vision, mission, goals and objectives.

Our vision is:

One Great Region

Our mission is:

To create a region that our community values and others admire.

Relevant organisational goals and objectives and how these are addressed in this asset management plan are:

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

Goal	Objective	How Goal and Objectives are addressed in AM Plan		
Safe, Secure and reliable infrastructure serving current and future community needs	Provide value for money construction, maintenance and community response services for all bridges and major culverts assets.	This AMP looks at the current and future needs of the Bridges and Major Culverts asset class by identifying renewal, upgrade and new asset expenditure requirements, and prioritizes that within a risk management framework.		

The organisation will exercise its duty of care to ensure public safety is accordance with the infrastructure risk management plan prepared in conjunction with this AM Plan. Management of infrastructure risks is covered in Section 5.2

² IPWEA, 2011, IIMM.

3.3 Community Levels of Service

Community Levels of Service measure how the community receives the service and whether the organisation is providing value to the community.

Community levels of service measures used in the asset management plan are:

Quality:	How safe and reliable is the infrastructure that provide the service?
Function:	Is the bridge and culvert infrastructure fit for purpose?
Capacity/Utilisation:	Utilisation levels and their importance at different times?

The organisation's current and expected community service levels are detailed in Tables 3.4 and 3.5. Table 3.4 shows the agreed expected community levels of service based on resource levels in the current long-term financial plan and community consultation/engagement.

Service Attribute	Service Objective	Performance Measure Process	Current Performance	Performance target based on the current 10 year LTFP
COMMUNITY OU	TCOMES			
Provide value for	money construction, main	tenance and community res	ponse services for bridge	s and major culverts assets
	/ELS OF SERVICE			
Quality	Bridges / Major Culverts meet user's needs.	Service requests and complaints related Bridge or major culvert condition, and ability to provide a safe and efficient service.	17 service requests / complaints per year	As bridges and major culverts are replaced with current standard compliant structures, service requests should decline to 5 per year
	Organisational measure Confidence levels with regards to the condition of the structures.	% of Bridges / Major Culverts in very good/good (1-2), poor/ very poor (4-5) and unknown (0).	Very good / Good - 4.5% Average – 81.8% Poor / Very poor – 13.7% Unknown - 23.5% (after current inspection round would be zero)	Very good / Good -20%, Average – 75% Poor / Very poor – 5%, Unknown -0%
Function	Bridges / Major Culverts meet their functionality (fit for purpose).	Service requests relating to network connectivity during flooding or inundation.	Included in Quality Measure	Replacement structures should be able to ensure network connectivity along at least major routes
	The ability of the structures to operate to requirements	% of Bridges / Major Culverts that have hydraulic capacity in accordance with road hierarchy requirements	Approximately 90% of Bridges and Major Culverts meet the service level requirements of the road.	All Bridges and Major Culverts meet the service level requirements of the road.
Capacity/ Utilisation	Bridges / Major Culverts have appropriate capacity to accommodate traffic.	Service requests related to congestion, delay or lane width.	Included in Quality Measure	No delays contributed to the inability of the structure to accommodate traffic during peak hours
	Structures meet load requirements.	% of Bridges / major Culverts that have the capacity to meet load requirements.	Current load limits 5 structures	No load limits on any of the bridges or major culverts

Table 3.3: Community Level of Service

3.4 Technical Levels of Service

Technical Levels of Service that support the community service levels are operational or technical measures of performance. These technical services relate to the allocation of resources to service activities that the organisation undertakes to best achieve the desired community outcomes and demonstrate effective organisational performance.

Technical service measures are linked to annual budgets covering:

- Operations the regular activities to provide services such as lighting, mowing grass, inspections, etc. in essence to ensure that the bridge can be utilised for its purpose
- Maintenance the activities necessary to retain an asset as near as practicable to an appropriate service condition (eg surface patching, structure repairs, signage repairs, guardrail repairs etc.), it also attend to defects identified during bridge inspections and assessments,
- Renewal the activities that return the service capability of an asset up to that which it had originally (eg frequency and cost of road resurfacing, pavement reconstruction and component replacement),
- Upgrade the activities to provide a higher level of service (eg widening a road, sealing an unsealed road, replacing a bridge with one able to accommodate heavier loads),
- Budget estimates to rectify defects identified during inspections
- New Providing a new bridge or culvert where one did not previously exist.

Service and asset management plan, implement and control technical service levels to influence the customer service levels.³

Table 3.4 shows the technical level of service expected to be provided under this AM Plan. The agreed sustainable position in the table documents the position agreed by the Council following community consultation and trade-off of service levels performance, costs and risk within resources available in the long-term financial plan.

³ IPWEA, 2011, IIMM, p 2.22

Table 3.4: Technica	I Levels of Service
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Service Attribute	Service Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **	Agreed Sustainable Position ***
TECHNICAL LEVE	LS OF SERVICE				
Operations	Bridge / Major Culverts meet the needs of the user with regards to: 1. Safety 2. Load capacity 3. Access and network connectivity (flood immunity) 4. Low utilisation risk 5.Good overall condition and fit for purpose	Regular inspections to the requirements of the Queensland Main Roads Bridge Inspection Manual	Currently the major culvert and bridge network are: Long life assets: Level 1: Culverts = 56, bridges = 17 Level 2: Culverts=5, bridges = 6 Level 3: Culverts = 2, bridges = 10 Short life assets: Level 1: pedestrian bridges = 21 Level 2: pedestrian bridges = 1 Level 3: pedestrian bridges = 0	Level 1,2,3 inspections on all bridges and major culverts carried out in accordance with the DTMR Bridge Inspection Manual. Visual inspections after floods and rainfall events that resulted in water across the structures.	Yet to formalise
		Budget and funding availability for Bridge and Major Culvert inspections.	Current Lifecycle expense for the bridge and major culvert network as projected in LTFP for future operational demands, capital works, and the projected maintenance forecast for planned and unplanned maintenance.	Current operational budget: \$55,000 to meet inspection requirements (average over the next 5 years).	Yet to formalise
Maintenance	Respond to Service requests and the mitigation of defects identified during inspections and assessments.	Reactive service requests completed within adopted timeframe of 14 days or as programmed dependant of risks involved. Serious structural defects call for the immediate closure of the structure and mitigation prior to re-opening.	Reactive service requests are on average completed within 5 days depending on the nature of the defect.	Reactive service requests are completed within a day pending its nature and risk involved.	Yet to formalise
		Budget	Current maintenance budget: \$77,919 per year (average over the next 5 years)	Optimum maintenance budget: \$131,930 per year(average over the next 5 years)	Yet to formalise.

Service Attribute	Service Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **	Agreed Sustainable Position ***
Renewal	Sustain Bridge / major Culvert Infrastructure assets.	% of Bridge/Major Culvert Assets in condition 4 or 5 (poor = 4, unusable = 5)	Seven bridges are operated under load restrictions, the structures or parts of them have to be renewed to ensure they operate as designed. Four to be replaced in the next 3 years. A few pedestrian bridges (short life assets) in parks and reserves have been identified for replacement in 2016/17 11% of Bridges and Major culverts are in a condition 4, none of our structures are unusable	Replace all seven structures in the next 10 years	Replace all seven structures in the next 5 years
		Budget	Current available capital renewal funding: \$779,000 per year for the next 5 years	Optimal renewal funding of \$878,392 per year for the next 5 years	Increase the renewal funding allocation with at least 2.5% every year for the next 10 years
Upgrade/New	Bridge / Major Culverts meet road hierarchy standards with regards to network connectivity and traffic capacity. Short life assets to fill the functionality GAPS in parks and reserves.	% of Bridge/Major Culverts that have the same functional service level as the road.	90% of Bridges and Major Culverts meet the functional service level requirements of the road.	All Bridges and major Culverts meet the functional service level requirements of the roads, dependant on what the service level requirements are.	Status Quo, but ensure alternative and continuous access is available.
		% of Bridge/Major Culverts that have traffic (lane) Capacity	90%	All Bridges and major Culverts meet the functional service level requirements of the roads, dependant on what the service level requirements are.	Upgrades due to perceived lane capacity demands likely to be deferred beyond 10 years.
		Budget	An average of \$1,100,000 per year over the next 10 years, with \$0 per year for the next 5 years	An average of \$1,100,000 per year over the next 10 years, with \$0 per year for the next 5 years	Yet to be considered.

Note: * Current activities and costs (currently funded).

** Desired activities and costs to sustain current service levels and achieve minimum life cycle costs (not currently funded).

*** Activities and costs communicated and agreed with the community as being sustainable (funded position following trade-offs, managing risks and delivering agreed service levels).

3.5 Desired levels of service

A more aware and sophisticated community continues to generate a demand for an increased service from Council's bridge and major culvert infrastructure. Whilst these community expectations are very real, it is important that the cost of providing infrastructure at the current and higher service levels be quantified so that informed decisions can be made on prioritising Council's resources. One of the primary functions of this Asset Management Plan is to identify (and quantify) the link between the cost required to provide a service and the growing service level expectations.

In assessing this information it is important to consider service levels achieved in the broader sense of quality, function and safety rather than purely focusing on the condition of the infrastructure as the only measure of performance. It is quite valid to question whether Council is providing the appropriate infrastructure in the right place at the appropriate standards. This commences the challenging task of aligning strategic goals; legislative requirements, road user expectations, risk, technical standards and available resources.

At present, indications of desired service levels are obtained from various sources including Customer Satisfaction surveys, residents' feedback to Councillors and staff, service requests and other correspondence. This plan is based on the assumption that current levels of service continue to meet client expectations.

It is anticipated that proposed service level changes will focus on achieving efficiencies, these amendments include:

- The development of an item focussed planned maintenance program to ensure optimum efficiencies (due to numbers) across the network. Examples are guardrail replacements, timber bridge over sniping replacement etc.
- The introduction of proactive treatments to illuminate or reduce extensive future maintenance. Examples are the preventative treatment of spillway damage, debris removal etc.
- Inclusion of newer technology treatments to the treatment "toolbox", this technology need to be tested and determined whether they can be applied with confidence. Examples are to the likes of crack repairing in structural concrete members.
- Adopting a cheaper and more fit for purpose approach for some bridge infrastructure considering a total alternative access solution (e.g having only a few strategic and critical Q100 bridges which service the network during flood events, and exploring creative ways of securing continuous access).
- Movement patterns and accessibility through reserves and parks will also call for new fit for purpose short life assets that meet access requirements for parks

4. FUTURE DEMAND

4.1 Demand Drivers

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

4.2 Demand Forecast

The present position and projections for demand drivers that may impact future service delivery and utilisation of assets were identified and are documented in Table 4.3.

4.3 Demand Impact on Bridges and Major Culvert Assets

The impact of demand drivers that may affect future service delivery and utilisation of Road Bridge and Major Culvert assets are shown in Table 4.3.

Demand drivers	Present position	Projection	Impact on services
Population Growth	83,992 residents within the Rockhampton Regional Council Local Government Area. (2012)	Projected growth rate of 1.4% over the next 20 years resulting in 109,969 residents within the Rockhampton Regional Council Local Government Area	Likely to exceed traffic carrying capacity of bridge assets or result in new assets being contributed to Council as a result of development.
Significant Industrial or Commercial development	The Rockhampton Region has a diverse economy supported by agricultural, resource and service sector industries.	The economy will continue to diversify with increasing activity in the agriculture and resource sectors.	Likely requirement for new or upgraded heavy vehicle routes in both urban and rural areas.
Changes in Heavy Vehicle axle loads and configurations.	Bridges and Major Culverts were designed to the load requirements applicable at the time.	Continued push for greater access for overweight or over dimension vehicles onto local access roads.	Load Limits will restrict access to industrial or commercial areas both on the urban and rural network.
Changes in Community Expectations	Bridges and Major Culverts were designed to the flood immunity or budgetary constraints requirements applicable at the time. Makes all areas of parks more accessible	Expectation of higher flood immunity or less delay arising from bridges or major culverts being inundated.	Possible budgetary impacts where bridges or culverts are replaced prior to the end of their useful lives.

Table 4.3: Demand Drivers, Projections and Impact on Services

4.4 Demand Management Plan

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

Non-asset solutions focus on providing the required service without the need for the organisation to own the assets and management actions including reducing demand for the service, reducing the level of service (allowing some assets to deteriorate beyond current service levels) or educating customers to accept appropriate asset failures⁴. Examples of non-asset solutions include providing services from existing infrastructure such as identifying existing routes capable of supporting over mass or over dimension heavy vehicles in their current format and utilising the permitting system available through the National Heavy Vehicle Regulator.

Opportunities identified to date for demand management are shown in Table 4.4. Further opportunities will be developed in future revisions of this asset management plan.

⁴ IPWEA, 2011, IIMM, Table 3.4.1, p 3|58.

Demand Driver	Impact on Services	Demand Management Plan
Population Growth	Likely to consume traffic carrying capacity of bridge assets, bridges could become "bottle necks" if not upgraded in conjunction with adjacent roads or can result in new assets being contributed to Council as a result of development. Examples are to the likes of the High Street bridge etc.	Modelling of traffic impacts as a result of population growth will be carried out in 2015/16. Deficiencies identified will be addressed through inclusion in the LGIP, appropriate conditioning of development and inclusion in the forward works program.
Significant Industrial or Commercial development	Likely requirement for new or upgraded heavy vehicle routes in both urban and rural areas.	Deficiencies identified will be addressed through inclusion in the LGIP, appropriate conditioning of development and inclusion in the forward works program.
Changes in Heavy Vehicle axle loads and configurations.	Load Limits will restrict access to industrial or commercial areas or to the rural network.	Appropriate load limits will be identified for structures and alternative access identified where available.
Changes in Community Expectations	Possible budgetary impacts where bridges or culverts are replaced prior to the end of their useful lives. Makes larger areas of parks more accessible.	Further work is to be undertaken in relation to the costs associated with different levels of service.

Table 4.4:	Demand Management Plan Sumn	nary
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4.5 Asset Programs to meet Demand

The new assets required to meet growth will be acquired either free of cost or at a reduced cost from land developments or constructed by the Council. New assets constructed by the Council are discussed in Section 5.5. The cumulative value of new contributed and constructed asset values are summarised in Figure 4.5. A nominal percentage has been allowed for asset growth beyond 2025.

Some challenges include:

- Population growth ensure that the bridge and culvert network can service the growing population, and that user delays are being managed to expectations.
- Economic growth and investment ensure the bridge and culvert network support and contribute to economic growth.
- Good governance ensure that the platform for the delivery of essential and regulatory local government services are strong, and are continuously strengthen.
- Social ensuring that a reliable bridge and culvert network is provided to connect all members of the community.
- Environmental ensure that the impact of bridges and culverts on the environment is minimized.
- Cultural Ensuring that the bridge and culvert network contribute to an environment that reinforces the distinctive and diverse character of Council.

Regional resource development may influence and stimulate population growth, the extent is not known and more data is required to review the impacts and pressures of population growth on the bridge and culvert network.



Figure 4.5: Upgrade and New Bridge and Major Culvert Expenditure

Acquiring these new assets will also commit the organisation to fund ongoing operations, maintenance and renewal costs for the period that the service provided by the long and short life bridge or major culvert asset is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs in Section 5.

5. LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the organisation plans to manage and operate the assets to ensure services are provided at an agreed service level (defined in Section 3) while optimising the associated life cycle costs.

5.1 Background Data

5.1.1 Information on Bridge and Major Culvert assets

The assets covered by this asset management plan are shown in Table 2.4: Bridges and Major Culverts Asset Register.

The Road Bridges and Major Culverts assets can be found in both the rural and urban settings of the Local Government area. The bridge structures are predominantly of concrete construction however there is a number of aged timber and steel structures, Bridges and Major Culverts on roads and major highways are referred to as long life assets.

Pedestrian Bridges can be found in parks and reserves and in road reserves, along pedestrian paths. These bridges are referred to as short life assets, most of these assets have not been inspected to date, and will be incorporated in the asset register once inspected.



Figure 5.1.1: Asset Age Profile

The age profile information is available through Council's asset register, and has been amended to ensure it is as realistic as possible in instances where there wasn't prove of the assets age, the age has been professionally estimated and was based on the condition of the structure.

Asset information includes:

- The bridge dimensions (length, width, spans etc.)
- Date of construction (as well as the age, remaining life, etc.)
- Bridge characteristics (materials, foundation, type, design loads etc.)
- Inspection dates and inspection data collected

- The condition information
- Financial and other reporting information

Plans showing the Road Bridges and Major Culverts assets are:

- Indicated in a layer available through Council's Geographical Information System; and
- Linked to historical "as-constructed" engineering plans; and
- In some instances available in hard copy through the engineering design office.

5.1.2 Asset capacity and performance

Bridges and Major Culverts are generally provided to meet design standards.

Locations where known performance deficiencies exists are detailed in Table 5.1.2.

Location	Service Deficiency
Rosewood Road (Neerkol Creek)	15 Ton Load Limit in place. To be replaced in the next 18 months
O'Shannessy St Culvert	20 Ton Load Limit in place.
Causarina Road Bridges (two)	15 Ton Load Limit in place for both bridges.
Calmorin Road (Hanson's Bridge)	22 Ton Load Limit in place.
Quay Street Ext (Gavial Creek)	36 Ton Load Limit in place.
South Yaamba Road (Sandy Creek)	15 Ton Load Limit with side track in place. On the 2017/18 bridge replacement program
Bishops Bridge Garnant	15 Ton Load Limit with side track in place. On the 2016/17 bridge replacement program
Mt Hopefull Road (Bellegins Bridge)	15 Ton Load Limit in place. On the 2020/21 bridge replacement program

Table 5.1.2: Known structures with service performance defficiencies

The above service deficiencies were identified through inspections and condition assessments, using the DTMR Bridge Information Manual.

5.1.3 Bridge and Major Culverts condition assessments

All structures are inspected to the requirements of the DTMR Bridge Inspection Manual (BIM), and the inspection reports are recorded in Council's Bridge Management System database. Council operates SIM Bridge (formally AustBridge), which has been implemented for approximately 18 months, and is used to manage all aspects of the structures (condition assessments/inspections/defects).



Figure 5.1.3: Asset Condition Profile

Condition is measured using a 1-5 grading system⁵ as detailed in Table 5.1.3.

Condition Grading	Description of Condition
1	Very good: only planned maintenance required
2	Good: minor maintenance required plus planned maintenance
3	Average: significant maintenance required
4	Poor: significant renewal/rehabilitation required
5	Not useable / Very poor: physically unsound and/or beyond rehabilitation

Table 5.1.3: Simple Condition Grading Model

The condition profile indicates the overall majority of Bridges and Major Culverts in the asset register are in an average (Condition grading of 3) condition, and is the result of a considerable number of major culverts and pedestrian bridges being added to the asset register in the past 12 months.

5.1.4 Asset valuations

Assets were last revalue at 30th March 2016 by third party consultants Australis. Assets are valued at the current replacement cost on a fit for purpose modern equivalent basis. It is important to note that since the valuation the definition of Major Culverts have changed (during 2013) resulting in a large number of culverts reclassified as major culverts and added to the Bridges and Major Culverts portfolio. Pedestrian bridges in parks and on dual purpose routes have also been added to this Asset Class (short life Bridge Assets)

Current Replacement Cost	\$51,042,154
Depreciable Amount	\$51,042,154
Accumulated Depreciation (\$)	\$19,283,831
Fair Value (\$)	\$31,758,323



Useful lives have not been reviewed in recent times. Examination of the raw data within the asset register would indicate that a number of structures or elements within structures have exceeded their useful lives. In some cases this appeared to be in conflict with the condition rating assigned to the structure, which is the reason why the annual depreciation expense and written down values should not only be age related, but should also take the true condition of the asset and / or its component into account. Despite this a review of useful lives would be beneficial in the determination of more accurate and reliable depreciation figures.

There were no consideration given to residual values in light of a recent decision by the AASB.

Various ratios of asset consumption and expenditure have been prepared to help guide and gauge asset management performance and trends over time.

Rate of Annual Asset Consumption	75%
(Depreciation/Depreciable Amount)	

⁵ IPWEA, 2011, IIMM, Sec 2.5.4, p 2 | 79.

Interpretation: Standards are met when the ratio is 50% or greater, and standards are improving when the ratio is between 60% and 75%

Asset Renewal funding ratio 47% (Planned ccapital renewal expenditure/Required Capital expenditure amount)

Interpretation: The ratio is the measurement of the ability of RRC to funds its projected asset renewal / replacement in the future, 47% indicates that the standard is not met.

The organisation plans to renew assets at 47% of the rate they are being consumed and it is assumed that there would not be any new assets added to the existing portfolio.

5.2 Bridges and Major Culverts inspections and condition assessments

All assets in this asset class are subjected to level 1, 2 and 3 inspections. The extent of the inspections is conformant with the Queensland Main Roads Bridge Inspection Manual -2004 (BIM). Level 1 inspections are completed on a yearly basis for all assets, and are a basic condition and safety assessment, completed by level 1 inspectors. Level 2 inspections are recommended when defects that may influence the ability of the structure to meet its original purpose are identified, these inspections are more comprehensive and are completed by adequately trained and certified level 2 inspectors. Should level 2 inspections identify any serious defect that effect the structural integrity of the structure, a level 3 inspection by an appropriately qualified structural bridge engineer is completed.

The extend and scope of all these level 1,2,3 inspections are defined in the BIM, and are easy to interpret by adequately trained staff.

5.3 Asset defect recording

Not all bridge components affect the useful life or the remaining useful life of a bridge or major culvert equally, the surface of the bridge deck have for example a much shorter useful life than the sub or super structure but is crucial for the operation of the bridge. Various defects impact differently on the operational efficiency of the structure, it is thus important that the defects are prioritised and weighted in terms of severity, defects that can be programmed are to the likes of painting, tightening of bolts etc. and commonly referred to as Preventative Maintenance. Defects that have to be attended to without delay are for example pavement cracks, terminate nests, scour damage etc. and are referred to as Reactive Maintenance.

Refer to Annexure B for specific Preventative and Reactive Maintenance activities, as defined in the Bridge / Culvert Servicing Manual – 2008 (Part 3 – Servicing Activities).

5.4 Asset valuations

The value of assets (and/or their attributes) as per the recent asset valuation dated 31 March 2016 are:

- Replacement cost: \$51,042,154
- Depreciated replacement cost: \$31,758,323
- Accumulated depreciation expense: \$19,283,831

Valuations are undertaken either by internal or external resources in the following manner:

- A yearly inflation adjustment
- On a four year basic principal cycle
- In the event that the applicable industry escalation figure exceed 5% (if between a 1 and 4 year period)

A valuation work paper forms the basis for all the decisions with regards to revaluations.

5.5 Asset Risk Assessment and Management Process

The organisation has prioritised decisions made in adopting this AM Plan to obtain the optimum benefits from its available resources. In order to decide on a way forward, consideration must be given to three important aspects of the Asset Management Plan, being:

- Aspect 1 What we would like to do based on asset register data to ensure all Council's assets are managed in an effective and efficient manner.
- Aspect 2 How much funding is required to optimally manage our assets, and what the impact on services would be if adequate funding was not provided (i.e. what are the operations and maintenance and capital projects we are unable to be done, and what are the service and risk consequences associated with this position). This may require several versions of the AM Plan, as the funding requirements change every year after the identification of new or elevated priority projects.
- Aspect 3 What we can do and how financially sustainable we are with AM Plans matching the Long Term Financial plans.

The development of aspect 1 and aspect 2 AM Plans provides the tools for discussion with Council and the community on trade-offs and sacrifices between what we would like to do (scenario 1) and what we should be doing with existing budgets (scenario 2).

5.5.1 Service consequences

Operational, maintenance activities and capital works that have to be delayed, will create service consequences for users. These activities include:

• The rationalisation of renewal expenditure will require the continued operation of load limits on some structures for a longer period. This will impede efficient access into some rural areas requiring vehicles to detour to longer routes or increased maintenance costs for Council where side tracks are in place.

A future updated AMP will also address the impact of load restrictions on existing major culvert and bridge infrastructure in the event of a disaster and the accessibility across the region. Certain critical routes may be open and able to only provide access for general traffic as the structures on these routes may not be able to cope with higher axle load limits.

5.5.2 Risk consequences

The operational and maintenance activities along with capital projects that cannot be undertaken may maintain or create risk consequences for the organisation. These include:

- Delaying of renewal projects where structural capacity issues for prolonged periods can create an environment of non-compliance with drivers ignoring load limits.
- The specific risks associated with other capital projects
- The risk associated with not meeting Council's asset related corporate objectives e.g asset failure risks, deferred asset maintenance risks, deferred asset renewal risks, deferred asset upgrade risks etc.
- Bridges and major culverts on major routes may be flood prone, and could in the event of flooding not be able to provide the necessary connectivity throughout the region.

5.5.3 What the risk assessment shall consider

The risk assessment shall:

- Consider all the identified known risks for similar assets
- Identify additional risks due to the scope and extent of the project
- Identify ways in which the risks can technically be removed or reduced
- Where risks cannot be eliminated through redesign, reengineering etc. options must be developed to eliminate or reduce the risk impact.

The identification and quantification of operational risk are the responsibility of the Asset owner, who is also responsible for the development of risk management options to reduce the risk for the business.

A risk assessment ⁶ associated with service delivery from infrastructure assets has identified critical risks that will result in the total loss or reduction in services provided using infrastructure assets and could have a serious financial impact on the organisation. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment process also

⁶ Road Bridges and Major Culverts Core Infrastructure Risk Management Plan June 2015

incorporate a risk rating modelling which ensures that the risk is properly evaluated and rated, it also contains a risk treatment plan for the treatment (or reduction) of unacceptable risks.

Table 5.5.3.1: Generic critical risks and treatment plan	n for risks associated with bridges and major culverts
--	--

Asset at risk	Issue	Hazard	Risk Type Possible Outcome		Impact (On who or what?)	Existing controls in place	Risk level
Bridge	Subsidence in the approaches	Sharp bump on approach to the bridge	Safety	Accident due to loss of control	Public safety	Bridge inspections, road condition assessments	L
Bridge	Narrow traffic lanes	Collision with other cars or pedestrians	Safety	Accident on bridge	Public safety	Speed control and possible signage	м
Bridge	Failure of a structural member	Bridge becomes un trafficable	Financial impact	Bridge collapse	Capital budget and public access	Bridge inspections (level 1,2,3)	н
Bridge	Blocked scuppers	Water ponding on bridge	Safety	Accident	Public, safety	Regular inspections	L
Bridge	Corrosion of metal components	Metal rusting away	Asset management	Structural failure	Maintenance budget	Regular inspections	М
Bridge	Inadequate maintenance	Major future unnecessary expenditure	Financial impact	Structural failure	Capital budget	N/A	н
Bridge	Flood damage	Trees blocking waterway	Safety	Road and property flooding	Public safety and maintenance budget	Inspections after events	н
Bridge	Insufficient reserves to fund a failed structure	Cannot afford to replace bridge	Financial impact	Council may seek grant funding	Capital budget and road users having to use an alternative route	None	м
Bridge	Suitability of structure	May have alternative uses	Safety	Personal injury	Public safety	None	L
Bridge	Vandalism	Unbudgeted maintenance	Financial impact	Unscheduled expenditure	Maintenance budget	None	м
Bridge	Inadequate safety rail on bridges	Accident between cars and pedestrians	Safety	Personal injury	Public safety	None	н
Bridge	Clearance below an over bridge	Oversize vehicle exceeding limitations	Financial impact	Damage to bridge	Capital budget	Inventory	м

Bridges and Major Culverts	Emergency routes not known	Heavy vehicles are stranded, alternative routes are not known	Safety and Financial impact	Stranded and disgruntled road users	Councils inability to provide adequate services and lack of communication	State Government provide information, operators have to know where to look	н
Bridges and Major Culverts	Structure flooded	Structure cannot be used	Safety, Financial, Disaster Management	Damage to property, Personal injury, loss of life etc.	Public safety, Councils ability to provide services and access	None, Council know which structures will generally be flooded	н

Critical risks, being those assessed as 'Very High' - requiring immediate corrective action and 'High' – requiring prioritised corrective action identified in the Infrastructure Risk Management Plan, together with the estimated residual risk after the selected treatment plan is operational are summarised in Table 5.5.4.2. These risks are reported to management and Council.

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Rosewood Road (Neerkol Creek)	Structural failure leading to collapse	Н	Replace bridge within 3 years.	Low	\$100,000
South Yaamba Road (Sandy Creek)	Structural failure leading to collapse	Н	Replace bridge within 3 years.	Low	\$900,000
Bishops Bridge Garnant	Structural failure leading to collapse	н	Replace bridge within 3 years.	Low	\$300,000
River St Bridge	Structural failure leading to collapse	Н	Replace bridge within 3 years.	Low	\$150,000
Mt Hopefull Road (Bellegins Bridge)	Structural failure leading to collapse	Н	Replace bridge within 5 years.	Low	\$400,000
Glenroy Road (Louisa Creek) Bridge	Structural failure leading to collapse	Н	Replace bridge within 5 years.	Low	\$500,000
All Bridges and major Culverts	Hydraulic performance compromised by silt and debris.	Н	Risk based assessment of urban waterway crossings prone to flash flooding.	Low	\$50,000

Table 5.5.3.2: Specific critical Risks and Treatment Plans

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

5.6 Maintenance and operational expenditure

The organisation will operate and maintain assets in order to provide the defined level of service in the most cost-efficient manner. The operational and maintenance activities include:

- Scheduling operational activities to deliver the defined level of service in the most efficient manner,
- Undertaking maintenance activities through a planned maintenance system to reduce maintenance costs and improve maintenance outcomes. Undertake cost-benefit analysis to determine the most cost-effective split between planned and unplanned maintenance activities (50 – 70% planned desirable),
- Maintain the current infrastructure risk register for assets and present service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council,
- Review current and required skills base and implement workforce training and development to meet required operations and maintenance needs, Council could also consider a private contracting arrangement for the provision of maintenance services,
- Review asset utilisation to identify underutilised assets and appropriate remedies, and over utilised assets and customer demand management options,
- Maintain a current hierarchy of critical assets and the required operations and maintenance activities,
- Develop and regularly review the appropriate emergency response capability,

• Review the management of operations and maintenance activities to ensure Council is obtaining best value for resources used.

Critical Bridge and Major Culvert assets are those assets which have a high consequence of failure but not necessarily a high likelihood of failure. By identifying critical assets and critical failure modes, organisations can target and refine investigative activities, maintenance plans and capital expenditure plans at the appropriate time.

Operations and maintenances activities may be targeted to mitigate critical asset failure and maintain service levels. These activities may also include increased inspection frequencies, higher maintenance intervention levels, etc. Critical asset failure modes and required operational and maintenance activities have not been assessed as part of the development of this Asset Management Plan. This work shall be undertaken in the development of future asset management plans for Bridge and Major Culvert infrastructure.

Maintenance work is carried out in accordance with the following Standards and Specifications.

- Transport and Main Road Bridge Inspection Manual
- Transport and Main Roads Manual of Uniform Traffic Control Devices
- Transport and Main Road Bridge / Culvert Servicing Manual
- Various Transport and Main Roads Specifications and Standard Drawings

Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded are to be included in the risk assessment and analyse in the infrastructure risk management plan.

Operations include regular activities to provide services such as public health, safety and amenities, e.g cleaning, street sweeping, grass mowing and street lighting.

The following maintenance work types are considered:

- Unplanned or Reactive Maintenance occurs when an asset or any of its components fails, and work is required to make it functional again. It is maintenance that cannot be planned for, and it is reactive to the performance of the asset.
- Planned or Preventative Maintenance occurs when maintenance are done to avoid failure and the associated downtime. It is maintenance done to prevent failures.
- Cyclic or Scheduled Maintenance occurs at regular intervals to ensure the optimal performance of the asset, this type of maintenance is usually limited to the plant and equipment, typical examples are schedule oil changes, adjustments etc. and ensure the optimal performance of that piece of equipment. Scheduled maintenance at regular intervals may also extend the life of plant and equipment, and reduces the amount of reactive maintenance necessary to keep the asset operating in a safe and acceptable manner.

Maintenance expenditure levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance expenditure levels decrease, it will result in a lesser level of service, the service consequences and service risks have been identified and highlighted in this AM Plan and service risks are considered in the Infrastructure Risk Management Plan.

5.6.1 Unplanned or reactive maintenance expenditure

5.6.1.1 Historical unplanned / reactive expenditure

Historical reactive maintenance expenditure has been sourced from the Council's finance system for the 2013/14 and 2014/15 financial years. Where expenditures have not been clearly identified as relevant to Bridges and Major Culverts, assumptions have been made based on advice from the relevant operational areas. Calculation of Historical maintenance expenditures is as follows.

Table 5.6.1.1: Historical reactive maintenance expenditure

	2013/14	2014/15
Total Bridges & Major Culverts reactive expenditure	15,825	38,497

5.6.1.2 Projected unplanned / reactive maintenance expenditure

The reactive maintenance expenditure associated with bridges and major culverts may increase or decrease depending on:

- The rate of replacement of structures that are close to or have exceeded their useful lives.
- Flood events and other natural disasters that calls for an unusual amount of maintenance
- An increase in the damage to structures due to accidents etc.

The 2013/14 allocation has been used as the basis, and have been escalated (escalated with 1.5% per year) for future reactive maintenance allocations, The 2014/15 expenditure include cyclone Marcia related reactive maintenance works, which cannot be classified as ordinary expenditure.

Table 5.6.1.2: Projected reactive maintenance expenditure

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Total Bridges & Major Culverts reactive expenditure	15,825	38,497	16,062	16,303	16,548	16,796	17,048	17,304	17,563	17,827	18,094

5.6.2 Planned maintenance expenditure

5.6.2.1 Historical planned maintenance expenditure

Planned maintenance activities are essential to ensure all Council's bridge and major culvert assets remains functional in a safe and effective manner, and include:

- Asset defect inspections and condition assessments (Level 1,2,3 bridge inspections)
- Inspections and damage assessments after flood events and other natural disasters
- Regular sweeping of the bridge surface
- The assessment of the load bearing capacity of the structure through load testing at pre-determined intervals
- Specific works programmed through the Maintenance Management System (MMS), these activities include expansion joint replacements, signage replacement, line marking of deck surface etc.

Planned maintenance includes all actions necessary for retaining an asset as near as practicable to its original condition enabling it to provide the service at the agreed level, it also include regular ongoing day-to-day work necessary to keep assets operating, eg. road patching, inspections etc. but excluding rehabilitation and renewal related works.

	2013/14	2014/15
Bridges and Major Culverts planned expenditure	57,807	58,674

 Table 5.6.2.1: Historical planned maintenance expenditure

Planned maintenance records aren't comprehensive, and the 2014/15 expenditure has due to its nature not been influenced by Cyclone Marcia.

5.7 Capital Expenditure

Renewal and replacement expenditure is major capital work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original or lesser required service potential. Work over and above restoring an asset above and beyond its original service potential is upgrade/expansion or new works expenditure. If a bridge requires widening to cope with an increased traffic demand, it would be funded through the upgrade of existing infrastructure.

5.7.1 Capital Renewal

5.7.1.1 Identification of a renewal program

Assets requiring renewal/replacement are identified from one of three methods provided:

- Method 1 uses Asset Register data to project the renewal costs using the acquisition year and useful life to determine the year of renewal (the current condition of the asset is not taken into account, and the standard life is assumed to be correct), or
- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as SIM Bridge, bridge management software) this method takes into consideration how much the asset is being used and how well it was constructed , or
- Method 3 uses a combination of average *network renewals* and *defects identified for the bridge*. If the piling for example has serious cracks, and the deck is close to its expiry date it would be more economical to replace the bridge in favour of replacing individual piles.

Method 2 and 3 which reflect the true expiry date of the asset deemed superior, and was the best options for this asset management plan.

The useful lives of assets used to develop projected asset renewal expenditures are shown in Table 5.7.1.1. Asset useful lives were reviewed in conjunction with the 2015/16 asset valuation.

Asset (Sub)Category	Standard useful life	Asset (Sub)Category	Standard useful life
Long Life Assets (Traffic Bridges)		Short Life Assets (Pedestrian Bridges)	
Timber Bridge		Timber Bridge	
Surface	10 Years	Superstructure	20
Deck	15 Years	Sub Structure	20
Superstructure	80 Years		
Sub Structure	80 Years		
Waterway	100 Years		
Miscellaneous	20 Years		
Concrete Bridge		Concrete Bridge	
Surface	20 Years	Superstructure	50
Deck	100 Years	Sub Structure	50
Superstructure	100 Years		
Sub Structure	100 Years		
Waterway	100 Years		
Miscellaneous	20 Years		
Steel Bridge		Steel Bridge	
Surface	20 Years	Superstructure	50
Deck	80 Years	Sub Structure	50
Superstructure	100 Years		
Sub Structure	100 Years		
Waterway	100 Years		
Miscellaneous	20 Years		
Major Culvert			
Surface	20 Years		
Superstructure	100 Years		
Sub Structure	100 Years		
Waterway	100 Years		
Miscellaneous	20 Years		

Table 5.7.1.1: Useful Lives of Bridge Assets

5.7.1.2 Renewal and Replacement Strategies

The organisation will plan capital renewal and replacement projects to meet level of service objectives and minimise infrastructure service risks by:

- Planning and scheduling renewal projects to continue to deliver the defined level of service in the most effective and efficient manner,
- Undertaking project scoping for all capital renewal and replacement projects to identify:
 - o the service delivery 'deficiency', present risk and optimum time for renewal/replacement,
 - the project objectives to rectify the deficiency,
 - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
 - o and evaluate the options against evaluation criteria adopted by the organisation, and
 - o select the best option to be included in capital renewal programs,
- Using 'low cost' renewal methods (cost of renewal is less than replacement) wherever possible,
- Maintain a current infrastructure risk register for assets and service risks associated with providing services utilising infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council/Board,
- Review current and required skills base and implement workforce training and development to meet required construction and renewal demands,

- Maintain a current hierarchy of critical assets and capital renewal treatments to meet the associated critical delivery timing,
- Review the management of capital renewal and replacement activities to ensure Council is obtaining the best value for resources used.

5.7.1.3 Renewal ranking criteria and prioritisation

Bridge and Major Culvert Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was meant to (e.g. replacing a bridge that has a load limit that is impeding the efficiency of the network), or
- To ensure the infrastructure resource is of sufficient capacity to meet the service requirements (e.g. lane capacity on a high volume road or hydraulic capacity where network availability is critical).⁷

It is possible to get some indication of capital renewal and replacement priorities through consideration to risks, and identifying assets or asset groups that:

- Have a high consequence of failure,
- Have a high utilisation and where the subsequent impact on users would be greatest,
- The total value represents the greatest net value to the organisation,
- Have the highest average age relative to their expected lives,
- Are identified in the AM Plan as key cost impact factors,
- Have high operational or maintenance costs, and
- Where replacement with modern equivalent assets would yield material savings.⁸

At present Council use the QDTMR priority ranking model for bridges and major culverts to drive the renewal and defect repair program. The evaluation and ranking criteria is properly explained in Annexure A

5.7.1.4 Renewal and replacement standards

Renewal work is carried out in accordance with the following Standards and Specifications.

- Transport and Main Roads Standards and Specifications for Bridge Structures
- Transport and Main Roads Standards and Specifications for Culvert Structures
- Austroads Bridge Design Code

But less formal for short life assets than for long life assets

5.7.1.5 Historical capital renewal and replacement expenditure

The historical expenditure are influenced by:

- The de amalgamation of Rockhampton Regional Council in 2013
- The reclassification of major culverts for this Asset Class resulting in a fluctuation of culvert numbers

Figure 5.7.1.5: Historical renewal and replacement expenditure



⁷ IPWEA, 2011, IIMM, Sec 3.4.4, p 3 60.

⁸ Based on IPWEA, 2011, IIMM, Sec 3.4.5, p 3|66.

5.7.1.6 Projected capital renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecasted to fluctuate over time as the asset stock in a poor or very poor condition are replaced. Post 2025 expenditures are nominal allocations only that require verification on the completion of all the condition assessments. The expenditure is summarised in Fig 5.7.1.6 Note that all amounts are shown in real values.

The projected capital renewal and replacement program is shown in Appendix B.





Deferred renewal and replacement, i.e. those assets identified for renewal and/or replacement and not scheduled in capital works programs are to be included in the risk analysis process in the risk management plan.

Renewal and replacement expenditure that feature in the organisation's capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

5.7.2 New and upgrade capital expenditure

5.7.2.1 What is new and upgrade capital expenditure?

New assets are assets that did not previously exist on Councils asset register, while the upgrade of existing assets allows the asset to perform well in access of its existing capacity. The additional capacity or service potential may result from growth, social or environmental needs. Ownership of Assets are also handed over to Council as part of the development process, Council then become responsible for the maintenance of these assets. These contributed assets, the result of growth and land development are considered in Section 4.4 & Section 4.5.

5.7.2.2 Selection criteria for new and upgrade capital expenditure

The requirement for new assets associated with new developments, and the need to upgrade/expand existing Bridge and Major Culvert assets are identified from various sources such as councillor/senior management and community requests, infrastructure network modelling, strategic bulk services plans and projections or through partnerships with other organisations. Candidate proposals are expected to verify need and to include an reasonable accurate preliminary estimate. The need to provide new bridge and major culvert infrastructure or to upgrade the existing is identified through strategic development and bulk services plans, and is usually the outcome of negotiations with developers.

5.7.2.3 Capital investment strategies

The organisation will plan new projects and upgrade existing ones to meet service objectives by:

- Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner,
- Undertake project scoping for all capital upgrade/new projects to identify:
 - the service delivery 'deficiency', present risk and required timeline for the delivery of the upgrade/new asset,
 - the project objectives to rectify the deficiency including value management for major projects,
 - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
 - o identification and management of the risks associated with alternative options,
 - evaluate the options against the evaluation criteria adopted by Council, and
 - o select the best option to be included in capital upgrade/new programs,
- Review the current and required skills base and implement training and development to meet required construction and project management needs for the delivery of these projects,
- Review the management of capital project management activities to ensure Council is obtaining best value for resources used.

Standards and specifications for new assets and for the upgrade/expansion of existing assets are the same as those for renewal shown in Section 5.7.1.4

5.7.2.4 Historical new and upgrade capital expenditure for RRC

The historical expenditure are influenced by:

- The de amalgamation of Rockhampton Regional Council in 2013/14
- The reclassification of major culverts for this Asset Class resulting in a fluctuation of culvert numbers
- Growth projections that didn't eventuate due to a slowdown in the resources boom.



Figure 5.7.2.4 Historical new and upgrade capital expenditure

It is evident from the graph that the investment in new and upgrade of major culverts and bridges have declined rapidly over the last 5 years. Tropical Cyclone Moira damaged a few structures in parks and reserves that will be replaced (maybe upgraded) mostly under insurance arrangements.

5.7.2.5 Projected new and upgrade capital expenditure for RRC

Projected upgrade/new asset expenditures are summarised in Figure 5.7.2.5: Projected new and upgrade capital expenditure for RRC. Post 2025 expenditures are nominal estimated allocations only, and need to be improved once the Local Government Infrastructure Plan is finalised. The projected new / upgrade capital works program is shown in Appendix C. Expenditure on new assets and services in the organisation's capital works program will also feature in Council's LTFP (Long Term Financial Plan), whether the necessary funding can be secured to meet the demand remains to be seen. This is further discussed in Section 6.2.

Figure 5.7.2.5 Projected new and upgrade capital expenditure



No investment in the construction of new or the upgrade of existing bridges and major culvert infrastructure will be made for the next 5 years until 2021.

5.7.3 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset and includes the sale, demolition or relocation. There are currently no assets identified for possible decommissioning and disposal. A small number of bridge and major culvert assets should be considered for further investigation to determine the required levels of service and see what options are available for alternate service delivery, if any.

6. FINANCIAL INFORMATION

This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on the desired levels of service and current and projected future asset performance.

6.1 Financial Statements and Projections

The financial projections are shown in Fig 6.1 for projected maintenance and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in real values.





6.1.1 Capital renewal expenditure GAP

The Capital renewal expenditure GAP is the difference between the budgeted renewal expenditure and the renewal need. The renewal need is identified from a recent condition assessment (July 2015), executed by RICOR and Stirling Engineering Services. Not all the bridges and major culvert assets were condition assessed as the definition recently change, and new assets have been included in the asset register.

Figure 6.1.1: Capital renewal GAP



Table 6.1.1: Renewal GAP vs. Averaged renewal GAP (Pos. is a budget shortfall, Neg. a surplus)

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Real renewal	-137,240	-1,051,990	-164,530	-160,800	+2,011,520	-628,000	+78,800	+247,600	+894,790	+647,180
GAP (2014/15 asset register)										
Average renewal GAP	+173,733	+173,733	+173,733	+173,733	+173,733	+173,733	+173,733	+173,733	+173,733	+173,733

The renewal GAP means that:

- Based on the existing asset register the renewal deficit is an average of \$173,733 per year over a 10 year period.
- The specific detail of each renewal is such that an average cannot be used as the works have to be completed during a particular financial period.

6.1.2 Capital new and upgrade GAP

The GAP between the funding allocated for new and upgrade capital works and the real requirement for new and upgrade capital works is currently \$0 as the Long Term Financial Plan makes provision for the funding of all new and the upgrade of existing road and major culvert infrastructure. The GAP is based on the assets contained in the 2014/15 asset register prior valuation, and depends on demand projections, geographical distributions etc.

6.1.3 Planned and unplanned maintenance GAP

The planned and unplanned maintenance GAP is calculated as the difference between the projected, reactive and planned maintenance expenditure and the average maintenance expenditure incurred by other Councils for the same asset types. The projected maintenance GAP is an average of \$61,589 over the next 10 years. The benchmarked maintenance expenditure was used as the real maintenance expenditure is not accurately recorded.

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Maintenance												
expenditure	73632	97171.11	75616.59	76750.84	77902.1	79070.63	80256.69	81460.54	82682.45	83922.69	85181.53	86459.25
Maintenance												
expenditure (\$ /												
\$'000												
replacement												
value)	2.282856	3.012653	2.344386	2.379552	2.415245	2.451474	2.488246	2.525569	2.563453	2.601905	2.640933	2.680547
Average												
benchmarked												
maintenance												
expenditure												
(\$/\$'000												
replacement												
value)	2.36174	2.397166	2.433124	2.46962	2.506665	2.544265	2.582429	2.621165	2.660483	2.70039	2.740896	2.782009
Maintenance												
shortfall (\$/\$'000												
replacement												
value)	-0.07888	0.615487	-0.08874	-0.09007	-0.09142	-0.09279	-0.09418	-0.0956	-0.09703	-0.09849	-0.09996	-0.10146
Maintenance												
shortfall GAP (\$)	-2544.34	19852.12	-2862.17	-2905.11	-2948.68	-2992.91	-3037.81	-3083.38	-3129.63	-3176.57	-3224.22	-3272.58

Figure 6.1.3: Planned and unplanned maintenance GAP

6.2 Sustainability of service delivery

There are four key indicators for service delivery sustainability that have been considered in the analysis of the services provided by this asset category, these being the asset renewal funding ratio, long term life cycle costs/expenditures and medium term projected/budgeted expenditures over the next 5 and 10 years planning window.

Asset Renewal Funding Ratio

Asset Renewal funding ratio = planned capital renewals / required capital renewal

Asset Renewal	Funding Ratio ⁹	75.8%
	~	

The Asset Renewal Funding Ratio is the most important indicator and reveals that over the next 10 years, Council is forecasting that it will have 75.8% of the funds required for the optimal renewal and replacement of its assets, the general industry consensus is that standards are met if the ratio is between 75% and 95%. This is a pleasing result but should be treated with some caution given the large number of assets that are yet to have their condition assessed. The asset renewal funding ratio only apply to the current extent of the asset register, the additional assets will affect the ratio.

Long term - Life Cycle Cost

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the asset life cycle. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation expense). The life cycle cost for the services covered in this asset management plan is \$971,930 per year (average operations and maintenance expenditure plus depreciation expense over next 10 years).

Life cycle costs can be compared to life cycle expenditure to give an initial indicator of affordability of projected service levels when considered with age profiles. Life cycle expenditure includes operations, maintenance and capital renewal expenditure, and will vary depending on the timing of asset renewals. The life cycle expenditure over the 10 year planning period is \$625,430 per year (average operations and maintenance plus capital renewal budgeted expenditure in LTFP over 10 years).

The difference between life cycle cost and life cycle expenditure is the life cycle gap. The life cycle gap for services covered by this asset management plan is -\$346,500 per year (deficit).

Life cycle expenditure is 64% of life cycle costs.

The life cycle costs and life cycle expenditure comparison highlights any difference between present outlays and the average cost of providing the service over the long term. If the life cycle expenditure is less than that life cycle cost, it is most likely that outlays will need to be increased or cuts in services made in the future. This result should be treated with some caution as there are a number of influential factors that may see a reversal of this position. These factors include:

- The initial 10 year period an annual depreciation of \$832,498 per year which increases as the replacement value increase (inflation), the average renewal and maintenance expenditure over the next 10 years is only \$606,089 which cannot even cover the depreciation cost.
- Capital renewal costs may increase across the full assessment lifespan as a better understanding of condition is achieved and more robust renewal planning is undertaken.
- These figures are based on all the bridges and major culvert assets (as per the asset register dated 31 March 2016).
- Depreciation costs may increase as a result of revaluation of assets and inclusion of assets not previously identified.

⁹ AIFMG, 2012, Version 1.3, Financial Sustainability Indicator 4, Sec 2.6, p 2.16

The extent and timing of any required increase in outlays, and the associated service consequences if funding is not available will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and long term financial plan.

Medium term – 10 year financial planning period

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 10 year period (2015/16 to 2024/25). This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

These projected expenditures compared to budgeted expenditures over the following 10 year period, identify all the funding shortfalls. In a core asset management plan, a gap is generally due to increasing asset renewal demands of ageing assets.

The projected capital renewal expenditure required over the 10 year planning period is on average \$718,233 per year, the expenditure projection is based on the condition of the assets at the time. The LTFP projected renewal expenditure is an average of \$544,500 which accounts to an average defecate of \$173,733 per year.

The projected operational, maintenance and capital renewal expenditure is \$625,430 on average per year, and the capital renewal and maintenance requirement is \$860,733 (requirement based on benchmarked demand) resulting in a 10 year funding deficit of \$235,303 per year that indicated a 24% shortfall over the next 10 years. No depreciation (asset usage) has been funded yet.

The medium term outlook could also be influenced by the factors identified for the long term outlook with regard to capital renewal and depreciation costs. Whereas there may be some thought given to a reduction in average expenditures over the 10 year period, a more prudent approach would be to increase maintenance and capital renewal funding until all condition assessments are undertaken, planned maintenance and renewal planning is revisited.

Short Term – 5 year financial planning period

The projected operational, maintenance and capital renewal expenditure required over the first 5 years of the planning period is \$1,010,322 on average per year.

Estimated (budget) operational, maintenance and capital renewal funding is \$856,919 on average per year, resulting in a 5 year funding shortfall of \$153,403 on average per year. This indicates that Council expects to have a shortfall of around 15% over the next 5 years to provide the services shown in this asset management plan.

The difference between the short term and medium term outlooks indicates a renewal program that is weighted towards the short term period. It is likely that rationalisation of renewal project expenditures will be required to meet budget limitations. The 10 year outlook identifies that the renewal demand will reduce if the renewal allocation for the first 5 years are met.

The difference between projected asset renewal/replacement expenditure and amounts accommodated in the LTFP indicates that further work is required for condition based renewal planning, particularly post 2025 (including possibly revising the LTFP) before finalising the asset management plan to manage required service levels and funding to determine the real funding gap that applies to the full asset register.

6.3 Projected expenditures for the long term financial plan

Table 6.3 shows the projected expenditures for the 10 year long term financial plan.

Expenditure projections are in 2015 real values.

Year	Maintenance (\$) (not demand)	Projected Capital Renewal (\$) (not demand)	Capital Upgrade/ New (\$)	Disposals (\$)
2015/16	\$75,617	\$395,000	\$0	\$0
2016/17	\$76,751	\$1,350,000	\$0	\$0
2017/18	\$77,902	\$1,250,000	\$0	\$0
2018/19	\$79,071	\$550,000	\$0	\$0
2019/20	\$80,257	\$350,000	\$0	\$0
2020/21	\$81,461	\$750,000	\$0	\$0
2021/22	\$82,682	\$650,000	\$800,000	\$0
2022/23	\$83,923	\$50,000	\$1,250,000	\$0
2023/24	\$85,182	\$50,000	\$1,250,000	\$0
2024/25	\$86,459	\$50,000	\$1,250,000	\$0

 Table 6.3: Projected Expenditures for Long Term Financial Plan (\$)

Table 6.3 indicates that a significant new bridge project is to be carried out over the 3 year period 2022/23 to 2024/25.

6.4 Funding Strategy

After reviewing service levels, as appropriate to ensure ongoing financial sustainability, projected expenditures identified in Section 6.3 will be accommodated in the Council's 10 year long term financial plan with some alterations to project timing required.

6.5 Valuation Forecasts

Asset values are forecasted to increase as additional assets are added to the asset register either contributed by local developers or constructed by Council. Figure 6.5.1 shows the projected replacement cost asset values over the planning period in real values.



Figure 6.5.1: Projected Asset Values: Bridges and Major Culverts

Accumulated depreciation expense values are forecast in line with asset values as shown in Figure 6.5.2.





6.6 Key Assumptions made in Financial Forecasts

This section details the key assumptions made for presenting the information contained in this asset management plan and in preparing forecasts of required operating and capital expenditure, asset values, depreciation expense and carrying amount estimates. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this asset management plan and the associated risks are shown in Table 6.6.

Table 6.6:	Key Assumptions	made in AM Plan	and Risks of Change
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Key Assumptions	Risks of Change to Assumptions
All renewal projects have been identified for the next 10	The absence of condition assessments on a number of
Year period.	bridge structures and a significant number of major culverts
	leaves a relatively high level of uncertainty. Unidentified
	renewal works required to maintain service levels would
	require additional funding. Council is however busy with
	level 1 inspections on the "not previously inspected"
	structures.
All new and upgrade projects have been identified for the	Demand drivers, in particular population growth may
next 10 Year period.	require the bringing forward or deferral of projects.
	Bringing forward of projects in the current financial climate
	would be difficult and may require acceptance of short term
	reductions in service levels.
Nominal allocation and nominal splits between renewal and	There is a high level of uncertainty in the accuracy of the
new / upgrade funding has been used post 2025.	budgets with regards to needs and so medium to long term
	assessments within this AMP have only a low level of
	confidence.

6.7 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a 5 level scale¹⁰ in accordance with Table 6.7.1.

¹⁰ IPWEA, 2011, IIMM, Table 2.4.6, p 2|59.

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

Table 6.7.1: Data Confidence Grading System

The estimated confidence level for and reliability of data used in this AM Plan is shown in Table 6.7.2

Table 6.7.2: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	С	Historical Drivers for Roads infrastructure used.
Growth projections	В	Planning Assumptions Model from new planning scheme.
Operations expenditures	С	Historical expenditures with some assumptions.
Maintenance expenditures	С	Historical expenditures with some assumptions.
Projected Renewal	В	Valuations appear low compared to recent projects.
expenditures.		Comparative rates used for assets without values.
- Asset values		
- Asset residual values	NA	
- Asset useful lives	В	Industry Standard with some minor anomalies.
- Condition modelling	С	Partially incomplete but predominantly concrete culverts.
- Network renewals	С	Will be accurate for the first 5 years after all the assets
		have been assessed and reasonable for first 10 year
		period.
- Defect repairs	С	Defect repair list is available for inspected assets
Upgrade/New	С	Reasonable for first 10 year period.
expenditures		
Disposal expenditures	E	

Over all data sources the data confidence is assessed as Medium confidence level for data used in the preparation of this AM Plan.

7. ASSET MANAGEMENT PRACTICES

7.1 Financial Systems

Finance One is used for all Council's financial management requirements, and Conquest (Councils corporate Asset Management System) for traditional asset management requirements and associated reporting.

The financial system is used to provide the following information

- Financial expenditure, management and budget reconciliation
- Accurate business statements
- Accurate reports to the extent required in the relevant AASB standard.

Accounting standards and regulations

- AASB Framework for preparation and presentation of financial statements
- AASB 13: Fair value valuations
- AASB 101: Presentation of financial statements
- AASB 108: Accounting policies, changes in accounting estimates and errors
- AASB 116: Property plant and equipment
- AASB 136: Impairment of assets
- AASB 1031: Materiality
- API professional practice guide

Capital/maintenance thresholds

For bridge assets, all capital works exceeding the value of \$10,000 are to be capitalised. Assets and/ or associated works less than \$10,000 are only capitalised if they are part of a network (group of assets) that work together to provide the same outcome or objective.

Required changes to accounting financial systems arising from this AM Plan

The following changes / practices require a review:

- Accounting for capital and maintenance expenditure to ensure an accurate recording of expenditure incurred
- Definitions around whether maintenance is planned or reactive, and how each is accounted for
- Definitions around as to how capital works are classified, whether it is new, upgrade or renewals
- Council has reviewed its chartered accounts which will address current expenditure recording issues.

7.2 Specific Bridge Asset Management systems (SIMBRIDGE)

Simbridge is a bridge management system in which bridge inspections, condition assessments and the associated defects are managed. Maintenance and capital works programs are created through condition and inspection data maintained in Simbridge.

7.3 Corporate Asset Management system (CONQUEST)

Council utilise Conquest as the corporate asset management system.

Conquest is also as Council's asset register for all assets (across all the asset classes). A separate asset register is kept for Council's Bridges and Major culverts which reconciles with Simbridge. All the properties and dimensions of Councils bridges portfolio is maintained in both Simbridge and in Conquest.

Linkage between asset management and financial management

Currently there are no direct link between Conquest and Finance One. Maintenance and capital expenditure are managed and documented in Finance One, and the cost associated with actions etc. are manually updated when the associated actions are closed out. Information with regards to the maintenance and capital expenditure are essential for the development of future budgets.

Accountabilities for asset management system and data maintenance

The management of the corporate asset management system is the responsibility of the Finance Systems unit of Council, who also manages the data.

Required changes to asset management system arising from this AM Plan

The following improvements with regards to the functionality of Conquest:

- A link between Conquest, Finance One and Geocortex (previously Gecko) will ensure accurate information across all the databases.
- Detail information with regards to what information is held in what system

8. Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 8.1.

Table 8.1: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Conduct a review of the Road Bridges and Major Culverts asset register scrutinising the information currently in the register and incorporating where necessary all missing information. Lists of long life and short life bridges and major culvert assets that are not in the register have been identified.	Assets and GIS	Internal Staff	October 2016
2	Complete condition assessments on all assets that are yet to have a condition assigned to them. Level 1 inspections for "new" assets have started	Civil Operations & Assets	Internal Staff and External Consultants	October 2016
3	Complete function and capacity assessments on all assets that are yet to have a condition assigned to them.	Civil Operations & Engineering Services	Internal Staff	November 2016
4	Undertake a review of useful lives for the Road Bridges and Major Culverts based on condition assessments.	Civil Operations & Assets	Internal Staff	December 2016
5	Carry out a revaluation of all Road Bridges and Major Culverts.	Civil Operations & Assets	Internal Staff and External Consultants	June 2020
6	Review an update the Risk Management Plan for Road Bridges and Major Culverts.	Civil Operations , Engineering Services & Assets	Internal Staff	June 2016
7	Develop a prioritisation process for renewal of Road Bridges and Major Culverts incorporating a criticality assessment and actions arising from the risk management plan.	Civil Operations	Internal Staff	June 2017
8	Develop a prioritisation process for new or upgraded Road Bridges and Major Culverts incorporating a criticality assessment and actions arising from the risk management plan.	Engineering Services	Internal Staff	June 2017
9	Review and update a capital renewal program for Bridges and Major Culverts once tasks 1 to 7 are completed.	Civil Operations	Internal Staff	June 2017
10	Review and update a capital new and upgrade program for Bridges and Major Culverts and align with the LGIP.	Engineering Services	Internal Staff	June 2017
11	Incorporate a revised capital program planning for Bridges and Major Culverts into the LTFP.	Civil Operations , Engineering Services & Finance	Internal Staff	Jan 2017
12	Investigate benefits that might arise from nominating designated routes for overweight or over dimension vehicles through the NHVR.	Civil Operations	Internal Staff	June 2017
13	Link all Road Bridges and Major Culverts asset data to the GIS.	Assets and GIS	Internal Staff	May 2017
14	Align operations and maintenance job costing with the Bridges and Major Culverts assets. Consider individual job costing codes for each Bridge and Major Culvert asset.	Civil Operations & Finance	Internal Staff	June 2017
15	Consider incorporating the Bridges and Major Culverts AMP into a Transport AMP to better align with service delivery requirements and better account for the overall financial sustainability of the transport service.	Civil Operations , Engineering Services & Assets	Internal Staff	June 2017
16	Develop Maintenance Intervention and service levels.	Civil Operations	Internal staff	June 2016
17	Further identification of emergency traffic able routes for different vehicle classes to provide access across the region, this will be in collaboration with State Government. Provide visual easy to use links through Council's website and GIS	Engineering Services, Assets and GIS	Internal Staff	June 2017
8.1 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget planning processes and amended to recognise any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

The AM Plan will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the organisation's long term financial plan.

The AM Plan has a life of 4 years (Council election cycle) and is due for complete revision and updating within 1 year of each Council election.

8.2 Performance Measures

The effectiveness of the asset management plan can be measured in the following ways:

- The degree to which the required projected expenditures identified in this asset management plan are incorporated into Council's long term financial plan,
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the asset management plan,
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the Council's Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the target of 1.0.

9. **REFERENCES**

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, <u>www.ipwea.org/IIMM</u>
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus
- IPWEA, 2009, 'Australian Infrastructure Financial Management Guidelines', Institute of Public Works Engineering Australasia, Sydney, <u>www.ipwea.org/AIFMG</u>.
- IPWEA, 2011, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, <u>www.ipwea.org/IIMM</u>

Sample Council, 'Strategic Plan 20XX – 20XX',

Sample Council, 'Annual Plan and Budget'.

10. APPENDICES

Appendix A	Maintenance Response Levels of Service
Appendix B	Projected 10 year Capital Renewal and Replacement Works Program
Appendix C	Projected 10 year Capital Upgrade/New Works Program
Appendix D	LTFP Budgeted Expenditures Accommodated in AM Plan
Appendix E	Abbreviations

Appendix F Glossary

Appendix A Planned and unplanned maintenance schedule

1. Deck surface servicing

- a. Preventative
 - i. Maintain clear trafficable surface 6 months
 - ii. Litter removal 1 month
 - iii. Pressure wash structure 60 month
 - iv. Clean / maintain drainage components 12 months
- b. Reactive
 - i. Emergency and temporary pavement repairs
 - ii. Sealing of pavement cracks
 - iii. Pavement repairs (manual and mechanical)
 - iv. Footway repairs (manual and mechanical)
 - v. Re-apply non slip treatment surfacing
 - vi. Graffiti treatment

2. Guardrail and bridge railing

- a. Preventative
 - i. Clean, paint and maintain handrail, barrier and guardrail furniture 12 months
 - ii. Pressure wash structure 60 months
 - iii. Tighten existing bolts for concrete and steel structures 12 months
- b. Reactive
 - i. Graffiti treatment
 - ii. Repair handrail, barrier and guardrail furniture
 - iii. Treat accident damage to handrail, barrier and guardrail furniture
 - iv. Clean aggressive contamination of steel bridge elements
 - v. Spot clean and paints steelwork

3. Sign and delineation servicing

- a. Preventative
 - i. Vegetation control 12 months
 - ii. Herbicide spraying 12 months
 - iii. Maintain delineation, markers and signs 24 months

4. Substructure servicing

- a. Preventative
 - i. Vegetation control 12 months
 - ii. Herbicide spraying 12 months
 - iii. Clean and maintain structural components 12 months
 - iv. Pressure washing of structure 60 months
 - v. Clean and maintain drainage components 12 months
 - vi. Tighten existing bolts for concrete and steel structures 12 months
 - b. Reactive
 - i. Graffiti treatment
 - ii. Remove flood debris from the waterway
 - iii. Install and maintain bird control fencing
 - iv. Clean aggressive contamination of steel bridge elements
 - v. Spot clean and paints steelwork

5. Superstructure servicing

- a. Preventative
 - i. Vegetation control 12 months
 - ii. Herbicide spraying 12 months
 - iii. Clean and maintain structural components 12 months
 - iv. Pressure washing of structure 60 months
 - v. Clean and maintain drainage components 12 months
 - vi. Tighten existing bolts for concrete and steel structures 12 months
- b. Reactive

iii

iv.

- i. Graffiti treatment
- ii. Remove flood debris from the waterway
 - Install and maintain bird control fencing
 - Clean aggressive contamination of steel bridge elements

v. Spot clean and paints steelwork

6. Waterway servicing

- a. Preventative
 - i. Vegetation control 12 months
 - ii. Herbicide spraying 12 months
- b. Reactive
 - i. Repair scouring and disposition of waterway materials
 - ii. Remove flood debris from the waterway
 - iii. Maintain a clear waterway
 - iv. Maintain existing waterway protection

7. Approach road / Embankment servicing

- a. Preventative
 - i. Maintain clean traffic surface 12 months
 - ii. Vegetation control 12 months
 - iii. Herbicide spraying 12 months
 - iv. Litter removal 12 months
 - v. Clean and maintain drainage components 12 months
- b. Reactive
 - i. Emergency temporary pavement repairs
 - ii. Sealing of pavement cracks
 - iii. Pavement repairs manual
 - iv. Pavement repairs mechanical
 - v. Footway repairs (manual and mechanical)
 - vi. Repair scouring and deposit waterway material
 - vii. Maintain a clear waterway
 - viii. Maintain existing waterway protection
- 8. Timber bridge servicing
 - a. Preventative
 - i. Apply chemical preservatives to the timber -60 months
 - ii. Apply preventative grease to member ends and contact surfaces 12 months
 - iii. Paint or repaint timber members 24 months
 - iv. Apply end sealant to plywood decking 12 months
 - v. Drill and inject termite poison into the timber 24 months
 - vi. Clean and maintain structural components 12 months
 - vii. Pressure washing of the structure 60 months
 - viii. Tighten existing bolts timber structures 12 months
 - ix. Tighten footpath fasteners 12 months
 - b. Reactive
 - i. Lay tingling
 - ii. Replace defective distribution planking

9. Culvert servicing

- a. Preventative
 - i. Vegetation control 12 months
 - ii. Herbicide spraying 12 months
 - iii. Clean and maintain structural components 12 months
 - iv. Pressure washing of structure 60 months
 - v. Clean and maintain drainage components 12 months
- b. Reactive
 - i. Repair scouring and deposits in the waterway
 - ii. Clean culverts and pipes, pits, gullies and manholes
 - iii. Seal the Gaps between the culvert elements and the wing walls
 - iv. Clean the aggressive contamination from the steel girders and other culvert components
 - v. Spot clean and repaint specific culvert elements to the likes of screens etc.

Appendix B Projected 10 year Capital Renewal and Replacement Works Program

Description	2015/16 TOTAL	2016/17 TOTAL	2017/18 TOTAL	2018/19 TOTAL	2019/20 TOTAL	2020/21 TOTAL	2021/22 TOTAL	2022/23 TOTAL	2023/24 TOTAL	2024/25 TOTAL	10 YEAR TOTAL
[R] RWC-BDG-Bishop Rd , Louisa Ck Bridge		300,000									300,000
[R] RWC-BDG-Calmorin Rd , Hansons Bridge						700,000					700,000
[R] RWC-BDG-Casuarina Rd , replace two bridges							600,000				600,000
[R] RWC-BDG-Glenroy Rd , Louisa Ck Bridge				500,000							500,000
[R] RWC-BDG-Mount Hopeful Road Ch 0.4km	0	0	400,000	0	0	0	0	0	0		400,000
[R] RWC-BDG-Old Cap Hwy , Scrubby Ck			700,000								700,000
[R] RWC-BDG-O'Shannessy St culvert , replace with low level f'way					300,000						300,000
[R] RWC-BDG-Rosewood Road-Neerkol Creek	100,000	0	0	0	0	0	0	0	0		100,000
[R] RWC-BDG-South Yaamba Rd , Sandy Ck Bridge		900,000									900,000
[R] RWC-BR-River Street	145,000	0	0	0	0	0	0	0	0		145,000
[R] UCC-Br-Bridge Rehabilitation	150,000	150,000	150,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	800,000
[U] UCC-BDG-Repair Elphinstone St Footbridge	0	0	0	0	0	0	0	0	0		0
Total (renewal and replacement)	395,000	1,350,000	1,250,000	550,000	350,000	750,000	650,000	50,000	50,000	50,000	5,445,000

Appendix C Projected New and Upgrade Bridges and Major Culverts 10 year Capital Works Program

						-	Year			· <u>-</u>	
ltem	Description	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
	Network Renewals										
1	High St Bridge Duplication							800,000	1,200,000	1,200,000	1,200,000
2											
3											
	Total	\$0	\$0	\$0	\$0	\$0	\$0	\$800,000	\$1,200,000	\$1,200,000	\$1,200,000

• The third crossing over the Fitzroy River is part of the National Highway network and not noted

Annexure D Abbreviations

AAAC	Average annual asset consumption
AM	Asset management
AM Plan	Asset management plan
ARI	Average recurrence interval
ASC	Annual service cost
BOD	Biochemical (biological) oxygen demand
CRC	Current replacement cost
CWMS	Community wastewater management systems
DA	Depreciable amount
DRC	Depreciated replacement cost
EF	Earthworks/formation
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
LTFP	Long term financial plan
MMS	Maintenance management system
PCI	Pavement condition index
RV	Residual value
SoA	State of the Assets
SS	Suspended solids
vph	Vehicles per hour
WDCRC	Written down current replacement cost

Appendix E Implementation of the RRC Corporate Asset Management Policy



Annexure F Glossary

Annual service cost (ASC)

Reporting actual cost 1) revenue.

2) For investment analysis and budgeting An estimate of the cost that would be tendered, per annum, if tenders were called for the supply Average annual asset consumption (AAAC)* operations, revenue.

Asset

A resource controlled by an entity as a result of past useful events and from which future economic benefits are benefits/service potential) and totalled for each and expected to flow to the entity. Infrastructure assets every asset in an asset category or class. are a sub-class of property, plant and equipment which are non-current assets with a life greater than Borrowings 12 months and enable services to be provided.

Asset category

financial reporting and management purposes.

Asset class

A group of assets having a similar nature or function in finance outlays (typically physical assets) when it has the operations of an entity, and which, for purposes of insufficient funds of its own to do so, and for the disclosure, is shown as a single item without lending entity to make a financial return, normally in supplementary disclosure.

Asset condition assessment

assessment, measurement and interpretation of the benefits, expected to last for more than 12 months. resultant data to indicate the condition of a specific Capital expenditure includes renewal, expansion and asset so as to determine the need for some upgrade. Where capital projects involve a combination preventative or remedial action.

Asset hierarchy

A framework for segmenting an asset base into appropriate classifications. The asset hierarchy can be **Capital expenditure - expansion** based on asset function or asset type or a combination Expenditure that extends the capacity of an existing of the two.

Asset management (AM)

engineering and other practices applied to physical because it increases the organisation's asset base, but assets with the objective of providing the required may be associated with additional revenue from the level of service in the most cost effective manner.

Asset renewal funding ratio

The ratio of the net present value of asset renewal The annual (accrual) cost of providing a service funding accommodated over a 10 year period in a long including operations, maintenance, depreciation, term financial plan relative to the net present value of finance/opportunity and disposal costs less projected capital renewal expenditures identified in an asset management plan for the same period [AIFMG Financial Sustainability Indicator No 8].

of a service to a performance specification for a The amount of an organisation's asset base consumed fixed term. The Annual Service Cost includes during a reporting period (generally a year). This may maintenance, depreciation, and be calculated by dividing the depreciable amount by finance / opportunity and disposal costs, less the useful life (or total future economic benefits/service potential) and totalled for each and every asset OR by dividing the carrying amount (depreciated replacement cost) by the remaining life (or remaining future economic

A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of Sub-group of assets within a class hierarchy for time or at a specified point in time, to cover both the initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to the form of interest revenue, on the funding provided.

Capital expenditure

The process of continuous or periodic inspection, Relatively large (material) expenditure, which has of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

asset to provide benefits, at the same standard as is currently enjoyed by existing beneficiaries, to a new group of users. It is discretionary expenditure, which The combination of management, financial, economic, increases future operations and maintenance costs, new user group, eg. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

Capital expenditure - new

Expenditure which creates a new asset providing a Specific parts of an asset having independent physical new service/output that did not exist beforehand. As it or functional identity and having specific attributes increases service potential it may impact revenue and such as different life expectancy, maintenance will increase future operations and maintenance regimes, risk or criticality. expenditure.

Capital expenditure - renewal

existing asset, which returns the service capability of job resource management, inventory control, the asset up to that which it had originally. It is condition assessment, simple risk assessment and periodically required expenditure, relatively large defined levels of service, in order to establish (material) in value compared with the value of the alternative treatment options and long-term cashflow components or sub-components of the asset being predictions. Priorities are usually established on the renewed. As it reinstates existing service potential, it basis of financial return gained by carrying out the generally has no impact on revenue, but may reduce work (rather than detailed risk analysis and optimised future operations and maintenance expenditure if decision-making). completed at the optimum time, eg. resurfacing or resheeting a material part of a road network, replacing Cost of an asset a material section of a drainage network with pipes of The amount of cash or cash equivalents paid or the the same capacity, resurfacing an oval.

Capital expenditure - upgrade

provide a higher level of service or expenditure that management costs. will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary Critical assets and often does not result in additional revenue unless Assets for which the financial, business or service level direct user charges apply. It will increase operations consequences of failure are sufficiently severe to and maintenance expenditure in the future because of justify proactive inspection and rehabilitation. Critical the increase in the organisation's asset base, eg. assets have a lower threshold for action than nonwidening the sealed area of an existing road, replacing critical assets. drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.

Capital funding

Funding to pay for capital expenditure.

Capital grants

Monies received generally tied to the specific projects existing asset with a technologically modern for which they are granted, which are often upgrade equivalent new asset (not a second hand one) with the and/or expansion or new investment proposals.

Capital investment expenditure

See capital expenditure definition

Capitalisation threshold

The value of expenditure on non-current assets above to that required to maintain the service potential of an which the expenditure is recognised as capital asset. expenditure and below which the expenditure is charged as an expense in the year of acquisition.

Carrying amount

The amount at which an asset is recognised after deducting any accumulated depreciation - / amortisation and accumulated impairment losses thereon.

Class of assets

See asset class definition

Component

Core asset management

Asset management which relies primarily on the use of Expenditure on an existing asset or on replacing an an asset register, maintenance management systems,

fair value of the consideration given to acquire an asset at the time of its acquisition or construction, including any costs necessary to place the asset into Expenditure, which enhances an existing asset to service. This includes one-off design and project

Current replacement cost (CRC)

The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs.

Deferred maintenance

The shortfall in rehabilitation work undertaken relative

Depreciable amount

The cost of an asset, or other amount substituted for its cost, less its residual value.

Depreciated replacement cost (DRC)

The current replacement cost (CRC) of an asset less, Physical assets that contribute to meeting the needs where applicable, accumulated calculated on the basis of such cost to reflect the economic and social facilities and services, eg. roads, already consumed or expired future economic benefits drainage, footpaths and cycle ways. These are typically of the asset.

Depreciation / amortisation

(service potential) of an asset over its useful life.

Economic life

See useful life definition.

Expenditure

The spending of money on goods and services. Property held to earn rentals or for capital Expenditure includes recurrent and capital outlays.

Expenses

Decreases in economic benefits during the accounting (b) sale in the ordinary course of business. period in the form of outflows or depletions of assets or increases in liabilities that result in decreases in Key performance indicator equity, other than those relating to distributions to A qualitative or quantitative measure of a service or equity participants.

Fair value

The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing reliability, efficiency, environmental protection and parties, in an arms length transaction.

Financing gap

A financing gap exists whenever an entity has The defined service quality for a particular insufficient capacity to finance asset renewal and service/activity against which service performance other expenditure necessary to be able appropriately maintain the range and level of services quality, its existing asset stock was originally designed and environmental impact, acceptability and cost. intended to deliver. The service capability of the existing asset stock should be determined assuming no Life Cycle Cost * productivity 1. additional operating revenue, improvements, or net financial liabilities above levels currently planned or projected. A current financing gap means service levels have already or are currently falling. A projected financing gap if not addressed will 2. result in a future diminution of existing service levels.

Heritage asset

An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture and this purpose is central to the objectives of the entity holding it.

Impairment Loss

The amount by which the carrying amount of an asset exceeds its recoverable amount.

Infrastructure assets

depreciation of organisations or the need for access to major large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced The systematic allocation of the depreciable amount individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence the assets have long lives. They are fixed in place and are often have no separate market value.

Investment property

appreciation or both, rather than for:

(a) use in the production or supply of goods or services or for administrative purposes; or

activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, customer satisfaction.

Level of service

to may be measured. Service levels usually relate to quantity, reliability, responsiveness,

- Total LCC The total cost of an asset throughout its life including planning, design, construction, acquisition. operation, maintenance. rehabilitation and disposal costs.
- Average LCC The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises average operations, maintenance expenditure plus asset consumption expense, represented by depreciation expense projected over 10 years. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

Life Cycle Expenditure

The Life Cycle Expenditure (LCE) is the average The notion of materiality guides the margin of error operations, maintenance and capital renewal acceptable, the degree of precision required and the expenditure accommodated in the long term financial extent of the disclosure required when preparing plan over 10 years. Life Cycle Expenditure may be general purpose financial reports. Information is compared to average Life Cycle Cost to give an initial material if its omission, misstatement or nonindicator of affordability of projected service levels disclosure has the potential, individually or when considered with asset age profiles.

Loans / borrowings

See borrowings.

Maintenance

All actions necessary for retaining an asset as near as Assets that replicate what is in existence with the practicable to an appropriate service condition, most cost-effective asset performing the same level of including regular ongoing day-to-day work necessary service. It is the most cost efficient, currently available to keep assets operating, eg road patching but asset which will provide the same stream of services excluding rehabilitation or renewal. It is operating as the existing asset is capable of producing. It allows expenditure required to ensure that the asset reaches for technology changes and, improvements and its expected useful life.

Planned maintenance

Repair work that is identified and managed Net present value (NPV) through a maintenance management system The value to the organisation of the cash flows (MMS). prioritising criteria/experience, maintenance and service delivery performance.

Reactive maintenance

Unplanned repair work that is carried out in outflows. response to service requests and management/ supervisory directions.

Specific maintenance

maintenance budget.

Unplanned maintenance

Corrective work required in the short-term to Operations restore an asset to working condition so it can Regular activities to provide services such as public maintain its level of security and integrity.

Maintenance expenditure *

Recurrent expenditure, which is periodically or Recurrent expenditure, which is continuously required regularly required as part of the anticipated schedule to provide a service. In common use the term typically of works required to ensure that the asset achieves its includes, eg power, fuel, staff, plant equipment, onuseful life and provides the required level of service. It costs and overheads but excludes maintenance and is expenditure, which was anticipated in determining depreciation. Maintenance and depreciation is on the the asset's useful life.

Materiality

collectively, to influence the economic decisions of users taken on the basis of the financial report or affect the discharge of accountability by the management or governing body of the entity.

Modern equivalent asset

efficiencies in production and installation techniques

MMS activities include inspection, associated with an asset, liability, activity or event assessing the condition against failure/breakdown calculated using a discount rate to reflect the time scheduling, value of money. It is the net amount of discounted actioning the work and reporting what was done total cash inflows after deducting the value of the to develop a maintenance history and improve discounted total cash outflows arising from eg the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash

Non-revenue generating investments

Investments for the provision of goods and services to Maintenance work to repair components or sustain or improve services to the community that are replace sub-components that needs to be not expected to generate any savings or revenue to identified as a specific maintenance item in the the Council, eg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

continue to deliver the required service or to health, safety and amenity, eg street sweeping, grass mowing and street lighting.

Operating expenditure

other hand included in operating expenses.

Operating expense

The gross outflow of economic benefits, being cash its value in use. and non cash items, during the period arising in the course of ordinary activities of an entity when those Recurrent expenditure outflows result in decreases in equity, other than Relatively small (immaterial) expenditure or that decreases relating to distributions to equity which has benefits expected to last less than 12 participants.

Operating expenses

Recurrent expenses continuously required to provide a Recurrent funding service, including power, fuel, staff, plant equipment, Funding to pay for recurrent expenditure. maintenance, depreciation, on-costs and overheads.

Operations, maintenance and renewal financing ratio See capital renewal expenditure definition above.

Ratio of estimated budget to projected expenditure for operations, maintenance and renewal of assets Remaining useful life over a defined time (eg 5, 10 and 15 years).

Operations, maintenance and renewal gap

Difference between budgeted expenditures in a long term financial plan (or estimated future budgets in Renewal absence of a long term financial plan) and projected See capital renewal expenditure definition above. expenditures for operations, maintenance and renewal of assets to achieve/maintain specified Residual value service levels, totalled over a defined time (e.g. 5, 10 The estimated amount that an entity would currently and 15 years).

Pavement management system (PMS)

A systematic process for measuring and predicting the its useful life. condition of road pavements and wearing surfaces over time and recommending corrective actions.

PMS Score

from a Pavement Management System.

Rate of annual asset consumption *

The ratio of annual asset consumption relative to the depreciable amount of the assets. It measures the Risk management amount of the consumable parts of assets that are The application of a formal process to the range of consumed in a period (depreciation) expressed as a possible values relating to key factors associated with percentage of the depreciable amount.

Rate of annual asset renewal *

The ratio of asset renewal and replacement Section or segment expenditure relative to depreciable amount for a A self-contained part or piece of an infrastructure period. It measures whether assets are being replaced asset. at the rate they are wearing out with capital renewal expenditure expressed as a percentage of depreciable Service potential amount (capital renewal expenditure/DA).

Rate of annual asset upgrade/new *

upgraded and expanded per annum with capital sector/public sector to value assets, particularly those upgrade/new expenditure expressed as a percentage not producing a cash flow. of depreciable amount (capital upgrade/expansion expenditure/DA).

Recoverable amount

The higher of an asset's fair value, less costs to sell and

months. Recurrent expenditure includes operations and maintenance expenditure.

Rehabilitation

The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life is useful life.

obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of

Revenue generating investments

Investments for the provision of goods and services to sustain or improve services to the community that are A measure of condition of a road segment determined expected to generate some savings or revenue to offset operating costs, eg public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.

a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.

The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of A measure of the rate at which assets are being service potential is used in the not-for-profit

Service potential remaining

A measure of the future economic benefits remaining in assets. It may be expressed in dollar values (Fair Value) or as a percentage of total anticipated future economic benefits. It is also a measure of the percentage of the asset's potential to provide services that is still available for use in providing services (Depreciated Replacement Cost/Depreciable Amount).

Specific Maintenance

Replacement of higher value components/subcomponents of assets that is undertaken on a regular cycle including repainting, replacement of air conditioning equipment, etc. This work generally falls below the capital/ maintenance threshold and needs to be identified in a specific maintenance budget allocation.

Strategic Longer-Term Plan

A plan covering the term of office of councillors (4 years minimum) reflecting the needs of the community for the foreseeable future. It brings together the detailed requirements in the Council's longer-term plans such as the asset management plan and the long-term financial plan. The plan is prepared in consultation with the community and details where the Council is at that point in time, where it wants to go, how it is going to get there, mechanisms for monitoring the achievement of the outcomes and how the plan will be resourced.

Sub-component

Smaller individual parts that make up a component part.

Useful life

Either:

- (a) the period over which an asset is expected to be available for use by an entity, or
- (b) the number of production or similar units expected to be obtained from the asset by the entity.

It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the Council.

Value in Use

The present value of future cash flows expected to be derived from an asset or cash generating unit. It is deemed to be depreciated replacement cost (DRC) for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, where the entity would, if deprived of the asset, replace its remaining future economic benefits.

Source: IPWEA, 2009, Glossary

Additional and modified glossary items shown *

9 NOTICES OF MOTION

Nil

10 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.

11 CLOSURE OF MEETING