

Mid Murray Council

Kerbs

Asset Management Plan 2023

Adopted 23 January 2024

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Introduction

Mid Murray Council (MMC) controls a widespread urban roads network constructed with kerb within the Council area. These assets assist in delineating roads, directing stormwater, and preventing infiltration of water to sealed road pavements as well as affording safe access to pedestrians and other footpath users. This Kerbs Asset Management Plan (AMP) covers the capital and operational management of all Kerb assets within the Council's control.

This AMP is to be read in conjunction with Council's:

- Transport AMP (2022);
- Road Management Plan (2022); and
- Stormwater AMP (2020)

Asset Summary

Council's Kerbs portfolio consists of the following assets. 79% of Kerbing is within Mannum.

Table 1: Kerb Asset Summary

LOCATION	QTY (Meters)	Replacement Cost	% Qty by Town
CAMBRAI	1,010	\$138,875	1.60%
SEDAN	683	\$93,913	1.08%
BLANCHETOWN	265	\$36,438	0.42%
MORGAN	4,069	\$560,425	6.44%
SWAN REACH	3,048	\$441,775	4.82%
MANNUM	50,257	\$6,910,338	79.51%
TRURO	2,604	\$359,838	4.12%
PALMER	622	\$85,525	0.98%
CADELL	551	\$75,763	0.87%
BOWHILL	100	\$13,750	0.16%
Total	63,209	\$8,716,638	100.00%

Considerations

The key considerations of this AMP are:

- Current Service levels and usage of Kerbs
- Disability needs and requirements
- Anticipated future usage
- Current Condition of the kerbs
- Steepness of slope/gradient on some township roads
- Stormwater management and reduced risk of infiltration into property
- Available budget, resourcing and funding opportunities
- Construction techniques and materials
- Risks and Safety (including trip hazards)
- Maintenance, renewal and upgrade/enhancement requirements
- Kerb access structures such as ramps required

Objectives

The key objectives of this AMP are:

- to enable the assets to be available for use without increase in risk exposure

- describe how the Council plans to maintain, manage and operate the Kerb assets while be considerate of budget, funding and other resources
- Meet the needs of users including various demographic, community and recreational needs and road profile for stormwater management.
- Target and prioritise infrastructure investment for renewal and enhancement.
- Take a whole of life approach to asset investment.

IMPORTANT NOTE: All figures quoted are 1 July 2022 dollar values. Any future Maintenance, Renewal and Enhancement forecasts will need to be indexed appropriately.

Service Levels

There has not been any previously defined Kerbing service levels, however, reference can be made to related AMPs, including, Transport AMP, Footpaths, AMP and Stormwater AMP to define the following:

Priorities and materials

- For all townships, the preference is to ensure all roads have Kerbs to manage stormwater collected on or near roads. Steepness of slope/gradient on some township roads needs to be considered.
- Ensure that appropriate requirements are put in place to ensure that future development does not cause issues.
- Deliver works that mitigate flooding.
- Ensure that any discharges through private property are appropriate. Where such discharges are inappropriate, seek to work with the landowner(s) to formalise a safe drainage flow path, which ideally will become a Council asset/easement.
- Provide infrastructure that achieves a functional level of service, which does not result in accelerated damage to road surfaces and verges.
- Provide infrastructure that is durable and can provide reliable long term performance.
- For precincts, both sides of the road will be serviced, with the exception where the commercial properties are located on one side exclusively.
- Where renewal or enhancement is required priority will be given towards township facilities and key services.
- Priorities for the location of Kerb Access Ramps will follow the footpath and road hierarchy accordingly.

Future Demand

Generally, for most urban built-up areas, kerbs have been constructed to a modern standard. Council expects that future requirements will increasingly focus on greater safe access to footpaths and road crossings. Where greenfield development is undertaken Council would expect Developers to construct adequate kerb assets to service the new road infrastructure in line with standards relevant at the time of construction. In general, the result is a slow increase in portfolio size and renewals undertaken when capital budget is available. Where practical the kerb profile will be determined on a case by case process i.e. stand-up versus roll-over.

Asset valuation and condition

Valuation and Condition Assessment

MMC has recently undertaken independent asset revaluations of its kerb assets, including condition assessments, to accurately measure the value of the portfolio under AASB13 Fair Value accounting standard as at the 1 July 2022.

During this process updated replacement costs, revised useful lives and remaining useful lives were assessed and have been utilised as the primary financial data for this plan.

Condition

Condition ratings are described in the Table 2 below. Table 3 provides the condition of Kerb assets by location. Overall 34% of Kerbs are in very good or good condition – 18% of Kerbs are in a very poor or poor condition. These location ratings can help guide resourcing in respect of town needs.

Table 2: Kerb Condition

Condition Rating	Descriptor
1	Very Good: free of defects, only planned and/or routine maintenance required
2	Good: minor defects, increasing maintenance required plus planned maintenance
3	Fair: defects requiring regular and/or significant maintenance to reinstate service
4	Poor: significant defects, higher order cost intervention likely
5	Very Poor: physically unsound and/or beyond rehabilitation, immediate action required

Table 3: Kerb Condition by location

Location	0	1	2	3	4	5	Grand Total	% Very Good and Good	% Poor and Very Poor
BLANCHETOWN		265					265	100%	0%
BOWHILL		100					100	100%	0%
CADELL			58	493			551	11%	0%
CAMBRAI			1,010				1,010	100%	0%
MANNUM		477	16,077	24,886	8,652	165	50,257	33%	18%
MORGAN		739	80	1,576	1,599	75	4,069	20%	41%
PALMER			259		71	292	622	42%	58%
SEDAN		171	27	485			683	29%	0%
SWAN REACH		962	465	1,384	237		3,048	47%	8%
TRURO	27	388	570	1,484	10	125	2,604	37%	5%
Grand Total	27	3,102	18,546	30,308	10,569	657	63,209	34%	18%

Risk Management

An assessment of the risks, associated with the service delivery and management of the kerb infrastructure, has been undertaken by Council. The risk assessment process is in line with Council's Risk Management Policy and Framework. It identifies credible risks, the likelihood of the risk even occurring, the impact should the event occur, develops a risk rating and evaluates the risk and develops an appropriate treatment plan for non-acceptable risks.

Figure 1. Risk Management Framework – Risk Matrix

Consequence Likelihood	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain	Medium	High	High	Extreme	Extreme
Likely	Medium	Medium	High	Extreme	Extreme
Possible	Low	Medium	Medium	High	Extreme
Unlikely	Low	Low	Medium	High	Extreme
Rare	Low	Low	Low	Medium	High

Table 4: Risks and Treatments

Risk	Consequence	Likelihood	Risk Rating	Treatment/s	Responsibility	Due Date
Extreme weather event results in significant replacement or upgrade of capital works	Moderate	Likely	High	Emergency management policy and procedures, road capacity and demand reports and preventative works, asset maintenance program and asset insurance	WHS & Risk Management Coordinator and Asset Management Coordinator	Ongoing
Poor quality data in asset management systems	Moderate	Unlikely	Low	Independent asset valuation sampling, asset management and financial management dataset integration (Synergy), regular condition assessment, regular review of AMP	Asset Management Coordinator	Completed 2023
Insufficient resources available to deliver asset management plan requirements	Major	Almost Certain	Extreme	Review of LTFP and other asset management plan requirements, adjust service level provisions. to meet LTFP requirements, explore cost effective solutions for identified deficiencies. Seek external	Director Infrastructure and Director Corporate & Financial Services	Ongoing
Failure to deliver and maintain infrastructure that meets service level demands	Moderate	Possible	Moderate	Reactive and proactive routine maintenance program, staff training, asset management planning, community engagement, referencing Australian Standards.	Director Infrastructure	Ongoing
Service level standards and strategic targets not aligning with community expectations	Minor	Likely	Moderate	Community engagement (public consultation), community surveys, linking service levels directly to budget, constant review of asset and strategic plans.	Assets, Infrastructure & Elected Members	Ongoing

Asset Lifecycle Management

Lifecycle Management

Lifecycle Management provides a description of the key elements for managing the assets over a 15-year planning horizon – being:

- Maintenance;
- Renewal;
- Enhancement; and
- Monitoring, Evaluating and Improving – including planning.

Maintenance Plan

Planned/Preventative maintenance

The following preventative maintenance activities should be undertaken:

- Inspections
- Cleaning/debris clearing
- Slashing and spraying to reduce vegetation growth
- Short life component repairs

The following strategies should be utilised to reduce maintenance activities for newly constructed assets and simplify management of these assets:

- Capital works constructed utilising best practise designs including subsoil drainage under kerbs.
- Kerbs reinforced in areas likely to have significant subgrade deformation impacts, i.e., near tree plantings, black soil areas and other flood prone crossings.
- Particular attention paid to jointing and crack stress relieving design.

Maintenance budgets should be reviewed annually to ensure Kerb assets are being managed.

Reactive maintenance

This is unplanned repair work carried out in response and assessed from service requests and management/supervisory directions. The aim is to minimise reactive maintenance through the maintenance actions outlined above. Reactive maintenance still arises and is often work carried out in response to service requests or supervisory direction. An example being a Kerb's deformation due to vegetation impact or flood displacement.

Targeted Maintenance and Monitoring

Some Kerbs may have increased maintenance requirements due to age, use and defects. These also require elevated surveillance and are more likely to need unplanned maintenance.

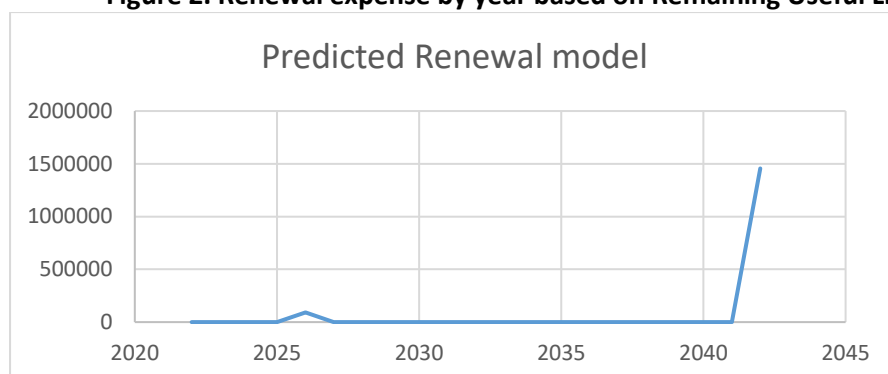
Renewal Plan

Renewal expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is covered in the Enhancement plan for new or upgrade works expenditure.

Council's Kerbs assets are of generally older insitu concrete design and performing well considering the age of these assets, as many assets are constructed in rural areas with low density populations, condition assessments have focused of functional capacity somewhat ignoring aesthetic factors due to budget constraints and capital prioritisation considerations.

As a consequence of this renewals have been modelled over a longer 21-year period to capture many asset renewals that will be required outside the 15-year planning horizon so that capital can be allocated progressively to replace these aging assets. Below is a plot of predicted capital renewal requirements over the next 21-year period.

Figure 2. Renewal expense by year based on Remaining Useful Life



Enhancement Plan

Overall, the current Kerbs asset pool is built to capacity, there will likely be some minor upgrades to crossings and ramps in the future to existing assets. Asset addition is largely covered by new development (Developer's cost) or through grants. Council does not expect a significant increase in capital input will be required over and above Renewal funding. Council's Asset & Project Management Team will continue to monitor the network and ensure opportunities to expand or increase service levels for modest capital outlay are taken.

Monitoring, Evaluation and Improvement

It is important for the Council to improve its collection and evaluation of quantitative and qualitative data about the condition of the assets, usage and resourcing. Data on this is limited currently. This is to be used to guide management decisions regarding resourcing, investment and improvement.

Monitoring, Evaluation and Planning

1. The Council will collect and evaluate data on condition, usage, maintenance and resourcing.
2. The ability to meet and fund the requirements of this AMP will be reviewed as part of Council's Long Term Financial Plan (LTFP) review process.
3. The annual budget planning process will consider this AMP to ensure budgeting meets maintenance, renewal and enhancements needs.
4. The AMP is also to be reviewed and amended if there are significant changes needed to the AMP. It is recommended that an Annual Report be made by the Asset Management Coordinator and Director of Infrastructure commenting on activities during the year and future alignment with the AMP. These Reports can be reviewing when the AMP is due for an update.
5. The Council will evaluate its annual maintenance activities and resourcing to ensure it meets the required needs of this AMP.

Financial Summary

The value of Council's Kerbs assets as at 1 July 2022 is summarised in the table.

Table 5: Kerb – Asset Financial Summary (01/07/2022 dollar values)

Asset Valuation	Current Replacement Cost	Annual Depreciation	Depreciated Amount	Depreciated Replacement Cost
Totals	\$8,716,638	\$108,958	\$4,439,079	\$4,277,558

Budget Forecast – 21 years

The 2023/24 to 2032/33 LTFP has provided some allocations for Kerbs of \$75,000 per year after 2024 but acknowledges that these figures will be reviewed when the AMP is created. The LTFP has an Asset Renewal Target range of 85%-115% in any one year, averaging 100% over any 5-year period. This Forecast below has been extended to include a large, predicted renewal event in 21 years to enable pre-emptive funding of this amount and the likelihood that renewals would be staggered over the preceding years. No allocations have been made for Enhancement – this is typically funded by Developers or grants.

Table 6: Maintenance and Renewal Forecast

Year	Renewal forecast	Averaged Renewal Forecast	Maintenance Forecast
2022	\$0	\$41,577	\$10,174
2023	\$0	\$75,008	\$55,000
2024	\$0	\$75,000	\$55,000
2025	\$0	\$75,000	\$55,000
2026	\$92,838	\$75,000	\$55,000
2027	\$0	\$75,000	\$55,000
2028	\$0	\$75,000	\$55,000
2029	\$0	\$75,000	\$55,000
2030	\$0	\$75,000	\$55,000
2031	\$0	\$75,000	\$55,000
2032	\$0	\$75,000	\$55,000
2033	\$0	\$75,000	\$55,000
2034	\$0	\$75,000	\$55,000
2035	\$0	\$75,000	\$55,000
2036	\$0	\$75,000	\$55,000
2037	\$0	\$75,000	\$55,000
2038	\$0	\$75,000	\$55,000
2039	\$0	\$75,000	\$55,000
2040	\$0	\$75,000	\$55,000
2041	\$0	\$75,000	\$55,000
2042	\$1,456,200	\$82,453	\$55,000
Total	\$1,549,038	\$1,549,038	\$1,110,174

Forecast Notes

- **IMPORTANT NOTE:** All figures quoted are 1 July 2022 dollar values. Any future Maintenance, Renewal and Enhancement forecasts will need to be indexed appropriately.
- Maintenance:
 - Street sweeping calculated at \$500/km /year = \$31,500/year; Plus
 - Maintenance assumed 10% of length replaced over the 60 year life of assets – multiplied by total portfolio value = \$14500/year; Plus
 - Inspections/year 10c/m = \$6300/year.
- Renewal Budget:
 - Condition ratings have been used to calculate remaining useful life. Many of these are condition 3 giving a grouping of remaining useful lives and therefore a large grouping of renewal years at 2042. In practice its likely these will be renewed over a number of years in the future, therefore we have spread out the capital renewal cost in preceding years to ensure the budget is available by the time renewals are required and works can be scheduled to meet construction and Project Management capacity.

Table 7: Kerb Renewals – by Asset ID, Type and Location

ASSET ID	TYPE	LOCATION	QTY	Gross Replacement Cost (\$)	Renewal Year
KB0291	KERBING	MANNUM	165	\$22,688	2026
KB0479	SPOON DRAIN	TRURO	31	\$4,650	2026
KB0498	SPOON DRAIN	MORGAN	61	\$9,150	2026
KB0505	SPOON DRAIN	MORGAN	14	\$2,100	2026
KB0529	KERBING	PALMER	292	\$40,150	2026
KB0549	SPOON DRAIN	TRURO	94	\$14,100	2026
KB0024	KERBING	MORGAN	76	\$10,450	2042
KB0025	KERBING	MORGAN	55	\$7,563	2042
KB0066	KERBING	MANNUM	177	\$24,338	2042
KB0084	KERBING	MANNUM	50	\$6,875	2042
KB0090	KERBING	MANNUM	87	\$11,963	2042
KB0094	KERBING	MANNUM	151	\$20,763	2042
KB0095	KERBING	MANNUM	152	\$20,900	2042
KB0097	KERBING	MANNUM	192	\$26,400	2042
KB0125	KERBING	MANNUM	221	\$30,388	2042
KB0136	KERBING	MANNUM	121	\$16,638	2042
KB0137	KERBING	MANNUM	63	\$8,663	2042
KB0140	KERBING	MANNUM	145	\$19,938	2042
KB0191	KERBING	MANNUM	98	\$13,475	2042
KB0196	KERBING	MANNUM	182	\$25,025	2042
KB0199	KERBING	MANNUM	68	\$9,350	2042
KB0200	KERBING	MANNUM	285	\$39,188	2042
KB0201	KERBING	MANNUM	44	\$6,050	2042
KB0205	KERBING	MANNUM	89	\$12,238	2042
KB0206	KERBING	MANNUM	373	\$51,288	2042
KB0220	KERBING	MANNUM	473	\$65,038	2042
KB0221	KERBING	MANNUM	129	\$17,738	2042
KB0222	KERBING	MANNUM	231	\$31,763	2042
KB0223	KERBING	MANNUM	87	\$11,963	2042
KB0224	KERBING	MANNUM	200	\$27,500	2042
KB0225	KERBING	MANNUM	136	\$18,700	2042
KB0226	KERBING	MANNUM	212	\$29,150	2042
KB0227	KERBING	MANNUM	123	\$16,913	2042

ASSET ID	TYPE	LOCATION	QTY	Gross Replacement Cost (\$)	Renewal Year
KB0228	KERBING	MANNUM	29	\$3,988	2042
KB0231	KERBING	MANNUM	83	\$11,413	2042
KB0232	KERBING	MANNUM	82	\$11,275	2042
KB0233	KERBING	MANNUM	80	\$11,000	2042
KB0234	KERBING	MANNUM	301	\$41,388	2042
KB0235	KERBING	MANNUM	308	\$42,350	2042
KB0236	KERBING	MANNUM	102	\$14,025	2042
KB0237	KERBING	MANNUM	212	\$29,150	2042
KB0238	KERBING	MANNUM	76	\$10,450	2042
KB0239	KERBING	MANNUM	134	\$18,425	2042
KB0242	KERBING	MANNUM	208	\$28,600	2042
KB0257	KERBING	MANNUM	83	\$11,413	2042
KB0258	KERBING	MANNUM	28	\$3,850	2042
KB0259	KERBING	MANNUM	82	\$11,275	2042
KB0260	KERBING	MANNUM	83	\$11,413	2042
KB0268	KERBING	MANNUM	14	\$1,925	2042
KB0271	KERBING	MANNUM	150	\$20,625	2042
KB0272	KERBING	MANNUM	25	\$3,438	2042
KB0275	KERBING	MANNUM	20	\$2,750	2042
KB0276	KERBING	MANNUM	103	\$14,163	2042
KB0277	KERBING	MANNUM	91	\$12,513	2042
KB0278	KERBING	MANNUM	37	\$5,088	2042
KB0280	KERBING	MANNUM	121	\$16,638	2042
KB0286	KERBING	MANNUM	139	\$19,113	2042
KB0288	KERBING	MANNUM	157	\$21,588	2042
KB0289	KERBING	MANNUM	128	\$17,600	2042
KB0290	KERBING	MANNUM	245	\$33,688	2042
KB0292	KERBING	MANNUM	39	\$5,363	2042
KB0293	KERBING	MANNUM	184	\$25,300	2042
KB0294	KERBING	MANNUM	68	\$9,350	2042
KB0295	KERBING	MANNUM	22	\$3,025	2042
KB0296	KERBING	MANNUM	72	\$9,900	2042
KB0297	KERBING	MANNUM	55	\$7,563	2042
KB0298	KERBING	MANNUM	106	\$14,575	2042
KB0370	KERBING	MANNUM	26	\$3,575	2042
KB0424	KERBING	MANNUM	269	\$36,988	2042
KB0425	KERBING	MANNUM	188	\$25,850	2042
KB0435	KERBING	MANNUM	198	\$27,225	2042
KB0439	KERBING	MANNUM	61	\$8,388	2042
KB0452	KERBING	MANNUM	100	\$13,750	2042
KB0455	KERBING	MANNUM	54	\$7,425	2042
KB0481	KERBING	TRURO	10	\$1,375	2042
KB0496	KERBING	MORGAN	180	\$24,750	2042
KB0497	KERBING	MORGAN	295	\$40,563	2042
KB0499	KERBING	MORGAN	284	\$39,050	2042
KB0502	KERBING	MORGAN	83	\$11,413	2042
KB0504	KERBING	MORGAN	93	\$12,788	2042
KB0507	KERBING	MORGAN	100	\$13,750	2042
KB0508	KERBING	MORGAN	16	\$2,200	2042
KB0509	KERBING	MORGAN	124	\$17,050	2042
KB0510	KERBING	MORGAN	95	\$13,063	2042
KB0518	KERBING	MORGAN	198	\$27,225	2042

ASSET ID	TYPE	LOCATION	QTY	Gross Replacement Cost (\$)	Renewal Year
KB0530	KERBING	PALMER	71	\$9,763	2042
KB0545	SPOON DRAIN	SWAN REACH	237	\$35,550	2042

IMPORTANT NOTE: All figures quoted are 1 July 2022 dollar values. Any future Maintenance, Renewal and Enhancement forecasts will need to be indexed appropriately.

Definitions

Asset Condition Assessment – The process of a continuous inspection program, assessment and record of condition (against an industry standard - IPWEA) which determines the timeline for current or future remediation.

Asset Management – The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost-effective manner.

Assets – Resources owned by Council which have a current and future economic value (AAS27.12).

Capital Expenditure – Expenditure which contributes to the resources required to construct and install a physical asset.

Capital Grants – money received from an external party, which is generally tied to the specific projects for which they are granted.

Component – The individual part of an asset which contributes to the composition of the whole and can be separated from an asset or system.

Current Replacement Cost – The cost to acquire the asset on the reporting date. The cost is based on the equivalent cost based on a modern asset with the same economic and performance benefits.

Consumption Rate – Theoretical rate that the asset is consumed based on the estimated useful life

Depreciated amount – The cost of an asset less its residual value (AASB 116.6).

Depreciated Replacement Cost – The current replacement cost of an asset less the accumulated depreciation calculated on the amount of useful life it has consumed.

Depreciated – The systematic allocation of the depreciable amount of an asset over its useful life.

Infrastructure Assets – Physical assets of Council that contribute to meeting the public's needs for access to economic and social facilities and services. The components of these assets may be separately maintained, replaced or upgraded individually so that the service level of the network of assets is sustained.

Level 1 Inspection - An operational inspection of assets to detail impacts from events or potential issues that need further investigation.

Level of Service – The defined service standard for a particular asset class. Service levels relate to quality, quantity, reliability, responsiveness, acceptability and cost.

Modern Equivalent Asset – The theoretical lowest cost replacement for an asset taking into account modern construction techniques.

Maintenance Expenditure – Recurrent expenditure which is required to deliver a schedule of works which ensure the asset achieves the designed and predicted useful life at the required service level.

Nuisance Inundation - Pooling of stormwater run-off in low-lying areas due to poor drainage. This is a frequent hazard but rarely causes major damage.

Optimisation – The process by which the lowest cost asset replacement is estimated that still meets the service level requirements.

Reactive Maintenance – Unplanned repair work that carried out in response to service requests and management/supervisory directions.

Routine Maintenance – Repair work that is managed through a routine maintenance program. Activities include inspections, assessing condition, actioning repair work, collecting maintenance history and seeking way to continuously improve maintenance efficiency.

Remaining life – The time remaining until an asset ceases to provide the required service level or economic usefulness.

Risk Management – The application of a formal process to assessing the key factors associated with the risk in order to determine the resultant range of outcomes and their probability of occurrence.

Useful Life – The period over which an asset is expected to be available for use.

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