



STORMWATER

(INCLUDING FLOOD LEVEES)



Asset Management Plan

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This Asset Management Plan is a supporting document used to inform Council's overarching *Strategic Asset Management Plan*.

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Contents

1.0	EXECUTIVE SUMMARY	5
1.1	The Purpose of the Plan.....	5
1.2	Asset Description	5
1.3	Levels of Service.....	5
1.4	Future Demand	5
1.5	Lifecycle Management Plan	6
1.6	Financial Summary.....	6
1.7	Asset Management Planning Practices.....	8
1.8	Monitoring and Improvement Program	9
2.0	Introduction	10
2.1	Background.....	10
2.2	Goals and Objectives of Asset Ownership	11
3.0	LEVELS OF SERVICE	14
3.1	Customer Research and Expectations	14
3.2	Strategic and Corporate Goals.....	14
3.3	Legislative Requirements.....	15
3.4	Customer Values	16
3.5	Customer Levels of Service	16
3.6	Technical Levels of Service.....	18
4.0	FUTURE DEMAND	21
4.1	Demand Drivers	21
4.2	Demand Forecasts	21
4.3	Demand Impact and Demand Management Plan	22
4.4	Asset Programs to meet Demand.....	22
4.5	Climate Change Adaptation	23
5.0	LIFECYCLE MANAGEMENT PLAN	24
5.1	Background Data	24
5.2	Operations and Maintenance Plan	27
5.3	Renewal Plan	29
5.4	Summary of future renewal costs.....	31
5.5	Acquisition Plan	32
5.6	Disposal Plan.....	35

6.0	RISK MANAGEMENT PLANNING	37
6.1	Critical Assets	37
6.2	Risk Assessment.....	37
6.3	Infrastructure Resilience Approach	39 40
6.4	Service and Risk Trade-Offs	40
7.0	FINANCIAL SUMMARY	41
7.1	Financial Sustainability and Projections	41
7.2	Funding Strategy	42
7.3	Valuation Forecasts	42
7.4	Key Assumptions Made in Financial Forecasts	43
7.5	Forecast Reliability and Confidence.....	43
8.0	PLAN IMPROVEMENT AND MONITORING	45
8.1	Status of Asset Management Practices	45
8.2	Improvement Plan	46
8.3	Monitoring and Review Procedures	48
8.4	Performance Measures	48
9.0	REFERENCES	49
10.0	APPENDICES	50
Appendix A	Acquisition Forecast.....	50
Appendix B	Operation Forecast	52
Appendix C	Maintenance Forecast	53
Appendix D	Renewal Forecast Summary	54
Appendix E	Disposal Summary.....	55
Appendix F	Budget Summary by Lifecycle Activity	56

1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

This Asset Management Plan details information on how Council manages its stormwater assets. It details actions required to provide an agreed level of service in the most cost-effective manner, while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide these over the 20 year planning period. The Asset Management Plan will link to a Long Term Financial Plan which typically considers a 10 year planning period.

NOTE: Where 'stormwater assets' are referenced in this plan, it includes all flood levee infrastructure.

1.2 Asset Description

This plan covers all Council owned or maintained stormwater assets.

The stormwater asset network comprises:

Asset Category	Number of Assets/Length	Replacement Value
Stormwater pipes (including culverts where recorded)	97.08 km	\$34,596,272
Stormwater pits (manholes, side entry pits, grated pits, gross pollutant traps etc.)	3061	\$8,134,429
Longford Flood Levees (including earth levees, low height concrete wall, flood gates etc.)	4.5 km	\$5,205,942
TOTAL	-	\$47,936,643

The above stormwater assets have significant total renewal value estimated at **\$47,936,643**. (This currently excludes detention basins which are mostly considered to be non-depreciating assets and hence have not been included in this plan.)

1.3 Levels of Service

The allocation in the planned budget is considered sufficient to continue providing existing services at current levels for the planning period.

The main service consequences of the Planned Budget are:

- There are several capital works projects that require completion to improve the stormwater drainage network, however they can only be undertaken gradually over the planning period with the current planned budget, plus reliance on external funding. This means some known stormwater drainage issues will remain for several years before they are able to be fully resolved.
- Levels of service may be impacted over the planning period due to the current shortfall between forecast lifecycle costs and planned budget, however this shortfall is considered minor.
- In some cases, low priority assets may not be improved over the planning period.
- Asset management maturity is expected to gradually improve over the planning period.

1.4 Future Demand

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

- Climate change (and associated increase in frequency of extreme weather events)
- Future development of previously vacant land

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

- Refer *Northern Midlands Council Draft Urban Stormwater System Management Plan 2020*

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this Asset Management Plan includes acquisition, operation, maintenance, renewal, and disposal of assets. Although the Asset Management Plan may be prepared for a range of time periods, it typically informs a Long Term Financial Planning period of 10 years. Therefore, a summary output from the Asset Management Plan is the forecast of 10 year total outlays, which for stormwater assets is estimated as **\$3,945,597** or **\$394,560** on average per year.

1.6 Financial Summary

1.6.1 What we will do

Estimated available funding for the 10 year period is **\$3,915,680** or **\$391,568** on average per year as per the Long Term Financial Plan or Planned Budget. This is **99.24 %** of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the Long Term Financial Plan can be provided. The informed decision making depends on the Asset Management Plan emphasising the consequences of Planned Budgets on the service levels provided, and risks.

The anticipated Planned Budget for stormwater assets leaves a **shortfall** of **\$2,992** on average per year of the forecast lifecycle costs required to provide services in the Asset Management Plan, compared with the Planned Budget currently included in the Long Term Financial Plan. This is shown in the figure below.

Forecast Lifecycle Costs and Planned Budgets

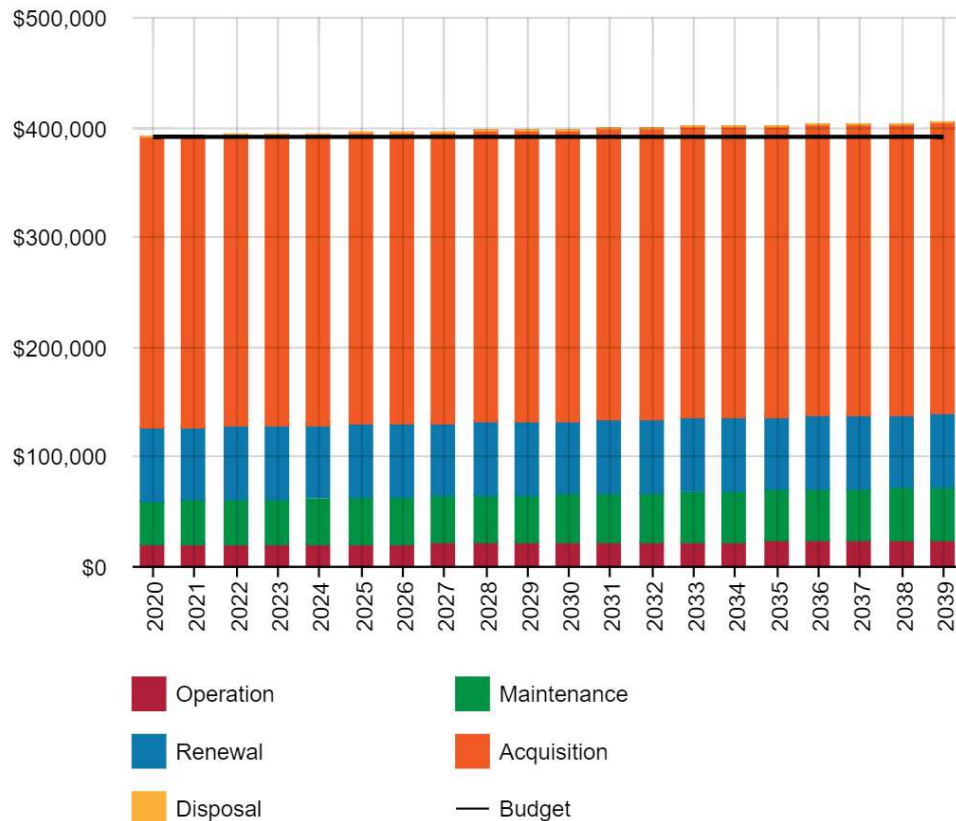


Figure values are in current day dollars.

We plan to provide stormwater drainage and protection services for the following:

- Operation, maintenance, renewal and acquisition of stormwater assets to meet service levels set by Council in annual budgets.
- Within the next 10 years the following major capital works (acquisitions or renewals) are forecast (however will likely require sourcing of external funding to complete): Drummond Street (Sheepwash Creek) culvert; Sheepwash Creek rail culvert; Youl Road (Sheepwash Creek) culvert; Edward Street (Sheepwash Creek) culvert; Phillip Street (Sheepwash Creek) culvert; Hudson Fysh Drive detention Basin upgrade; Boral Road detention basin and diversion. Refer also to Appendix A.

1.6.2 What we cannot do

We currently do **not** allocate enough budget to sustain these services at the proposed standard or to provide all new services being sought over the planning period. Works and services that cannot be provided under present funding levels are:

- Operation (to the existing level of service) of any new assets acquired over the planning period.
- Delivery of all proposed capital works, relating to stormwater assets, within the next five years - refer Appendix A.
- Major upgrades of stormwater systems at Translink Industrial Precinct and West Perth may need to be staged over several years, unless external funding sources are identified.

- Extension of the Longford Flood levee systems.
- Fund any major acquisitions from internal funding (reliant on external funding).
- Fund all community/management committee requests without external funding and long term planning.

1.6.3 Managing the Risks

Our present budget levels are insufficient to manage all risks in the medium term. Major risks identified are:

- Loss of knowledge/key staff
- Financial constraints on infrastructure asset management
- Underfunding of required stormwater drainage upgrades leading to a lower level of service in some instances
- Future renewal spikes due to unknown asset condition
- Flooding

We will endeavour to manage these risks within available funding by:

- Developing a succession plan for key staff and improve record keeping
- Ensuring sufficient experienced staff are resourced to manage Council's stormwater assets, including using and continual updating of Asset Management Plans and Long Term Financial Plans
- Ensuring the Long Term Financial Plan is informed by the asset management plan
- Undertaking condition assessments at defined intervals
- Undertake improvement works to prevent flooding

1.7 Asset Management Planning Practices

Key assumptions made in this Asset Management Plan are:

- No additional unplanned major stormwater assets will be acquired by Council in the next 10 year period. If this changes the Asset Management Plan is to be updated to reflect this, and allocation in planned budget to meet full lifecycle costs.
- External funding will continue to be a significant source of funding for major acquisitions.
- Future demand assumptions as mentioned in Section 4.0.
- Asset construction costs to remain stable in real (current dollar) terms - If asset construction costs rise faster than the general rate of inflation, then Council's projected future asset renewal costs will be higher than indicated by this plan.
- The age of many stormwater assets.
- Financial data used in the development of this plan was from the end of the 2020-21 financial year.
- Several assumptions were required in the derivation of planned budget and lifecycle forecast figures. This is due to the nature of long term forecasting.
- Some success in grant funding application processes is achieved.
- Professional judgement has been applied in the absence of good quality data, however where applied, it has been noted for improvement in Section 8.0.
- All figures are presented in current day dollars.

Assets requiring renewal are identified from either the asset register or an alternative method.

- The timing of capital renewals based on the asset register is applied by adding the useful life to the year of acquisition or year of last renewal,

- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems and may be supplemented with, or based on, expert knowledge.

A combination of the asset register method and the alternate method was used to forecast the renewal lifecycle costs for this Asset Management Plan.

The estimated confidence level for and reliability of data used in this Asset Management Plan is considered to be **Low** (refer Table 7.5.1).

1.8 Monitoring and Improvement Program

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

- Adoption of the *NMC Draft Urban Stormwater System Management Plan 2020*
- Customer service requests tracked by asset category so numbers can be tracked and included in Asset Management Plans.
- Ensure asset register (Moloney) is updated to include all Flood Levee assets, as some are not currently formally recorded on the asset register.
- Improve confidence in useful lives (and all other data) within asset register, ensure correlates well with assessed condition. Some useful lives currently appear high.
- Develop a detailed capital works program for the 2022/23 financial year.
- Update Geographical Information System (GIS) to include all previously missing stormwater drainage assets (including pipes, headwalls, pits, culverts, open drains and levees) once they have been recorded.
- Assess yearly performance (budgeted vs. actual costs) and update Asset Management Plan and Long Term Financial Plan accordingly.
- Encourage implementation of water sensitive urban design principles for both new developments and the existing stormwater network.
- Establish a formal program for clearing open drains, pipes, culverts, and gross pollutant traps etc.
- Separate 'operation and maintenance' lifecycle activity into 'operation' and 'maintenance' in finance system to allow improved tracking and budgeting.
- Community/Council consultation required to ensure appropriate levels of service are being provided (reduce/improve level of service accordingly)
- Continue improvements to strategic maintenance and capital works programs for upcoming years (using renewal ranking criteria). Use to inform future Asset Management Plan and Long Term Financial Plan updates.
- Undertake detailed condition assessment (every four years) to provide higher confidence condition data and better inform Asset Management Plan
- Continually improve correlation between Long Term Financial Plan and Asset Management Plan. (Conduct regular meetings of responsible persons – aim for 'high' confidence level)
- Increase confidence and maturity of Asset Management Plan
- Develop appropriate Risk management plans

2.0 Introduction

2.1 Background

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

This Asset Management Plan is to be read alongside Council's other key planning documents, being the:

- *Northern Midlands Strategic Plan – 2017-2027*
- *Asset Management Policy and Asset Management Strategy*
- *Strategic Asset Management Plan* (in development)
- *Northern Midlands Council Strategic Risk Register*
- *Long Term Financial Plan 2020-2030*
- *Financial Management Strategy*
- *Annual Plan* (for current year)
- *Annual Report* (for current year)

Council is continually improving its asset management practices to ensure they adhere to the *Local Government Act 1993* and best practice asset management. Part of this process is the regular updating and use of asset management plans, such as this document, and the above mentioned strategic documents. Council first began developing key asset management documents in 2011. Since then, Council has continually updated, maintained, improved, and created new documents as required, endeavouring to achieve best practice asset management.

The infrastructure assets covered by this Asset Management Plan include all Council owned or maintained stormwater assets, including the Longford Flood Levees.

For a detailed summary of the assets covered, refer to Table 5.1.1.

Council provides a stormwater drainage network within town areas to drain the majority of properties, roads reservations and public open spaces. Council employs a Plumbing Inspector to oversee stormwater property connections. New stormwater works are predominantly undertaken as a result of private development.

Council employs a *Works Manager*, an *Engineering Officer* and a *Works Supervisor* to oversee acquisition, operation, maintenance, renewal and disposal (where relevant) of Council stormwater assets. Acquisitions and other major works are predominantly undertaken by private contractors, whereas maintenance and minor works is generally undertaken by Council maintenance staff, or by contractors.

Stormwater assets:

- Pipes
- Culverts
- Pits (manholes, side entry pits, grated pits)
- Detention basins
- Gross pollutant traps
- Longford Flood Levees (including earth levees, flood gates and other flood protection devices)

The assets included in this plan have a total replacement value of **\$47,936,643**.

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

Table 2.1: Key Stakeholders in the Asset Management Plan

Key Stakeholder	Role in Asset Management Plan
Councillors	<ul style="list-style-type: none"> ■ Represent needs of community/shareholders, ■ Allocate resources to meet planning objectives in providing services, while managing risks, ■ Ensure service is sustainable, ■ Make informed decisions, in the best interests of the community.
General Manager	<ul style="list-style-type: none"> ■ Custodian of the assets ■ Maintain a proactive approach to holistic asset management practices and ensure staff do the same. ■ Inform Councillors to enable educated decisions to be made.
Works Manager, Engineering Officer & Works Supervisor	<ul style="list-style-type: none"> ■ Manage acquisition, operation, maintenance, renewal and disposal of assets. ■ Maintain a proactive approach to holistic asset management practices. ■ Ensure the Asset Management Plan is used and updated regularly. ■ Inform Councillors to enable educated decisions to be made.
General Public	<ul style="list-style-type: none"> ■ Report shortcomings, damage, safety concerns and other issues with current buildings.
Emergency Services	<ul style="list-style-type: none"> ■ Emergency services reporting concerns with the current infrastructure in relation to their needs.
Developers	<ul style="list-style-type: none"> ■ Developers providing input with regard to their interests in future investment in the infrastructure

Our organisational structure for service delivery from infrastructure assets is detailed below:

Works Manager >> Engineering Officer >> Works Supervisor

2.2 Goals and Objectives of Asset Ownership

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

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and

- Linking to a Long Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are

- Levels of service – specifies the services and levels of service to be provided,
- Risk Management,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

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

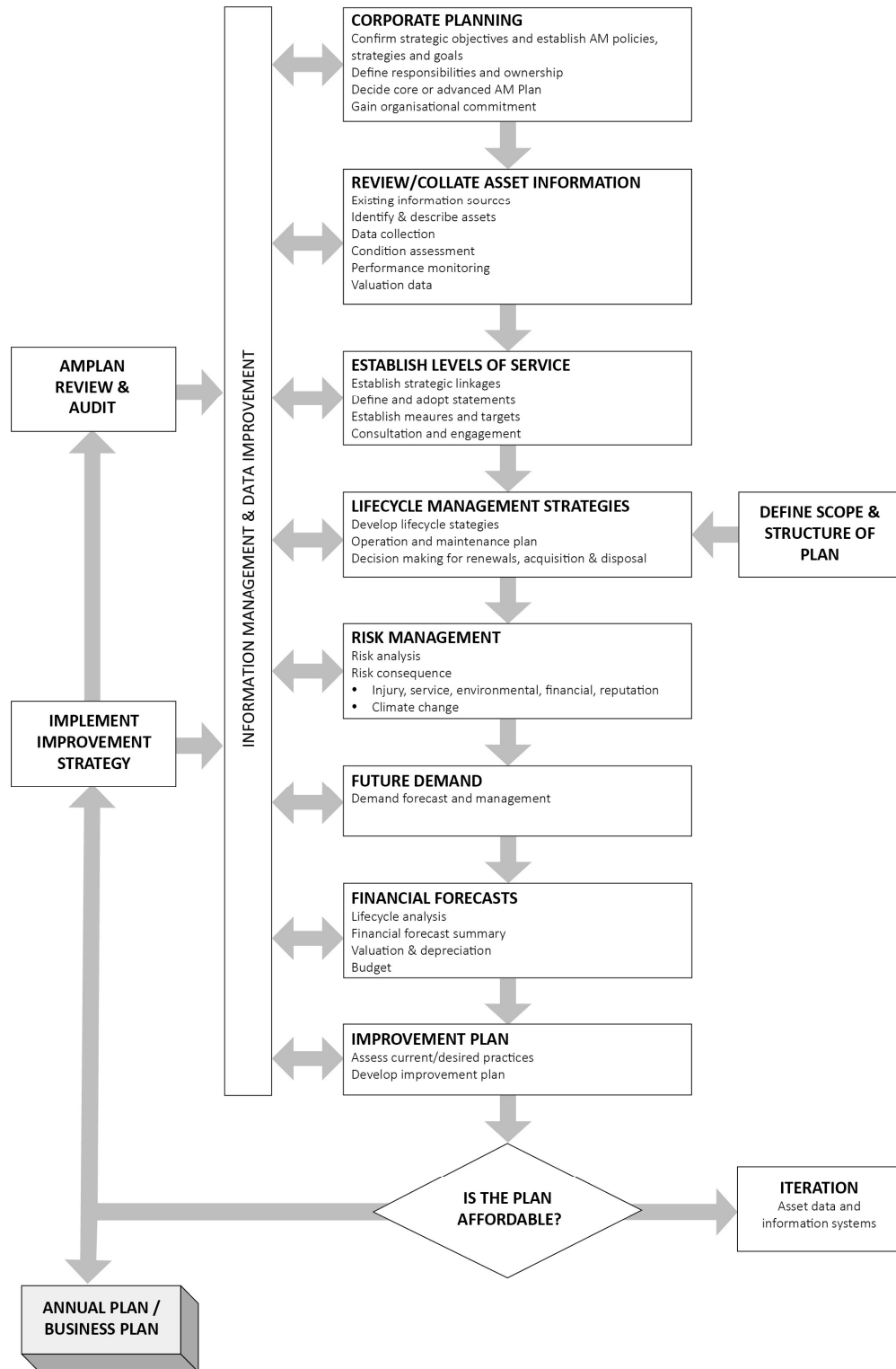
- International Infrastructure Management Manual 2015 ¹
- ISO 55000²

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

¹ Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2 | 13

² ISO 55000 Overview, principles and terminology

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



3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

This Asset Management Plan is prepared to facilitate consultation prior to adoption of formal levels of service by Council. Council has traditionally worked to the provision of a level of service that is assumed to be the community's, which includes:

- Provision of adequate drainage for the transport network, and public open spaces to ensure the safety of the public and allow use of these areas at all times of year (where practically achievable);
- Provision of adequate drainage to protect properties and businesses;
- Provision of adequate flood protection;
- Providing acceptable stormwater quality at point of discharge;
- The use of Water Sensitive Urban Design principles including re-use of stormwater and reducing the amount of stormwater discharged to the stormwater system.

During any future consultation process Council will test these assumed expectations.

Future revisions of the Asset Management Plan will incorporate any customer consultation on service levels and costs of providing the service. This will assist Council and stakeholders in matching the level of service required, service risks and consequences with the community's ability and willingness to pay for the service.

Council undertakes community consultation for proposed works and also receives vast community feedback on the services and facilities it currently provides. Council's customer request system is also used to determine trends in community expectations. Budget submissions are invited from local district committees and community groups for Council consideration. Council operates a Local District Committee Structure for the towns and villages of Ross, Campbell Town, Avoca/Rossarden, Perth, Longford, Cressy and Evandale. These forums provide Council advice on a wide range of issues. Information obtained from the above is used in developing key planning documents and in allocation of budget resources.

3.2 Strategic and Corporate Goals

This Asset Management Plan is prepared under the direction of the Northern Midlands Council vision, mission, goals and objectives.

Our vision is:

Northern Midlands is an enviable place to live, work and play. Connected communities enjoy safe, secure lives in beautiful historical towns and villages. Our clean, green agriculture products are globally valued. Local business and industry is strongly innovative and sustainable.

Our mission is:

Leadership – Serve with honesty, integrity, innovation and pride

Progression – Nurture and support economic health and wealth

People – Build a vibrant society that respects the past

Place – Nurture our heritage environment

Municipal Goals:

- *Bold leadership guides innovation and growth*
- *Economically sound and flexible management*
- *Sustainable progress creates a vibrant future*

- *We strategically plan and deliver infrastructure*
- *Our culture respects the past in building the future*
- *Our historical landscapes are cherished and protected*
- *Connected communities are strong and safe*
- *The municipality is diverse and innovative*

Council's strategic goals and objectives, and how these are addressed in this Asset Management Plan, are summarised in Table 3.2.

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

Goal	Objective	How Goal and Objectives are addressed in the Asset Management Plan
To provide safe and reliable stormwater assets for the community to enjoy.	Maintain and develop stormwater assets to appropriate standards.	Continue to develop and maintain regular inspection of asset condition, defects and develop maintenance and capital works programs for inclusion in the Asset Management Plan.
Good Governance	Provide asset management services in a sustainable manner. Deliver services effectively and efficiently.	Constant review, use and updating of asset management plans (this plan)
Appropriate service levels	Identify current service levels and target sustainable levels	An ongoing task that will be monitored and improved. Refer Section 8.
Improved risk management	Identify and address all known high risk items relating to stormwater assets	Implement a structured approach to identify and manage significant risks. Refer Section 6.
Financial sustainability	Identify financial inefficiencies and optimise lifecycle costs	Implement a structured approach to identifying financial inefficiencies and optimisation opportunities. Alignment of Asset Management Plan with Long Term Financial Plan.

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery services associated with stormwater assets are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act 1993	Sets out role, purpose, responsibilities, and powers of local governments including the preparation of a Long Term Financial Plan supported by asset management plans for sustainable service delivery.
Work Health and Safety Act 2012	Sets out the roles and responsibilities to secure the health, safety and welfare of persons at work.
Urban Drainage Act 2013	Sets out the roles and responsibilities for ensuring the safe and sustainable provision of stormwater services to the community.

Building Act 2016	Details requirements of buildings in riverine and coastal inundation areas.
Local Government (Highways) Act and Regulations	An Act concerning the functions with respect to highways and certain other ways and places open to the public

3.4 Customer Values

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

Customer Values indicate:

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

Table 3.4: Customer Values

Service Objective:			
Customer Values	Customer Satisfaction Measure	Current Feedback	Expected Trend Based on Planned Budget
Adequate condition of stormwater assets	Number of customer service requests	Some stormwater assets and sites require improvement	Expected to improve over planning period
Stormwater network to prevent flooding and damage to properties and other infrastructure	Number of customer service requests	Improvements required	Gradual improvement over planning period (<i>NMC Draft Urban Stormwater System Management Plan 2020</i> has been prepared, awaiting Council adoption)
A safe stormwater infrastructure network	Number of customer service requests	Some improvements required	Expected to remain similar to existing or slightly improve over planning period

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Condition How good is the service? What is the condition or quality of the service?

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

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

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

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

Table 3.5: Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Quality of stormwater assets	Professional judgement	Some stormwater assets require improvement – condition assessment to be undertaken.	Condition of stormwater assets expected to remain relatively constant over planning period.
	Confidence levels		Low (professional judgement with no data evidence)	Low (professional judgement with no data evidence)
Function	Appropriate and compliant (with relevant Acts and Standards) stormwater assets	Staff assessment and number of customer service requests	Improvements required for several stormwater assets	Required improvements to be gradually undertaken over the planning period, hence a gradual improvement and reduction in customer service requests.
	Confidence levels		Low (professional judgement with no data evidence)	Low (professional judgement with no data evidence)
Capacity	Appropriate capacity to meet with flows/demand.	Number of customer service requests	Based on customer service requests, existing service level requires some improvements	Expected to improve over the planning period (refer <i>NMC Draft Urban Stormwater System Management Plan 2020</i>)
	Confidence levels		Medium (professional judgement supported by data sampling)	Medium (professional judgement supported by data sampling)

3.6 Technical Levels of Service

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

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

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

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

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

Table 3.6: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Acquire assets that align with Council's strategic objectives	Number of and funds spent on acquisitions	Council acquires stormwater assets generally via developer donation (new subdivision) or through construction of new assets (pipes, drains etc.)	Only acquire assets that align with Council's strategic objectives and that Council can afford to maintain, operate, renew and/or dispose of (must consider full asset lifecycle costs). Prioritise and budget for completion of any proposed works – refer Appendix A and <i>NMC Draft Urban Stormwater System Management Plan 2020</i> .
		Budget	\$264,866 per year (10 year average)	\$264,866 per year (10 year average)

³ IPWEA, 2015, IIMM, p 2|28.

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
Operation	Keep stormwater assets serviceable and safe	Number of customer service requests	User feedback suggests several minor issues with stormwater drainage network.	Make improvements, where required, to minimise number of customer service requests.
	Regular condition inspections	Percentage of assets inspected, number of customer service requests relating to blocked culverts, pipes, pits etc.	No formal inspection program is in place however prior to forecasted significant rain events known problematic areas are inspected to ensure stormwater assets are operational (free of debris).	Adopt a formal condition inspection and cleaning program.
		Budget	\$20,000 per year	\$21,068 per year
Maintenance	Keep stormwater assets safe.	Frequency of maintenance	Reactive minor repairs and minor upgrades are undertaken	Reactive minor repairs, minor upgrades, and a planned preventative maintenance programme
	Keep stormwater assets serviceable	Frequency of maintenance	Reactive minor repairs and minor upgrades are undertaken	Reactive minor repairs, minor upgrades, and a planned preventative maintenance programme
		Budget	\$40,000 per year	\$41,923 per year
Renewal	Ensure stormwater assets are in a good serviceable condition	Frequency of renewal	Renewals have not been regularly undertaken in recent times, but if so they have been completed on a priority basis.	Renewal programme to be developed based on condition assessment data and professional judgement by staff, in conjunction with recommendations from the <i>NMC Draft Urban Stormwater System Management Plan 2020</i> .
	Ensure stormwater assets remain fit for purpose and in-line with current standards	Frequency of renewal (including component renewal)	Not currently monitored in any formal way. Pipe network currently judged to have approximately 1 in 5-10 year event capacity. Overland flow currently judged to be approximately 1 in 20 year event capacity.	Renewal programme to be developed based on condition assessment data and professional judgement by staff. Pipe network capacity to have a 1 in 10-20 year event capacity and overland flow path to have 1 in 100 year equivalent flow capacity.
		Budget	\$66,702 per year (10 year average)	\$66,702 per year (10 year average)

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
Disposal	Identify assets and activities that do not align with Council's strategic objectives	Number of assets and activities identified for disposal	No specific assets have been identified to date	Develop a list of potential asset and activity disposals for Council assessment (as required)
	Dispose of assets and activities that do not align with Council's strategic objectives	Number of identified asset and activity disposals undertaken	No disposals are currently planned	Develop a plan for, and dispose of, any future identified assets following Council approval
		Budget	\$0	\$0

Note: * Current activities related to Planned Budget.

** Expected performance related to forecast lifecycle costs.

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged changing circumstances such as technology and customer priorities will change over time.

4.0 FUTURE DEMAND

4.1 Demand Drivers

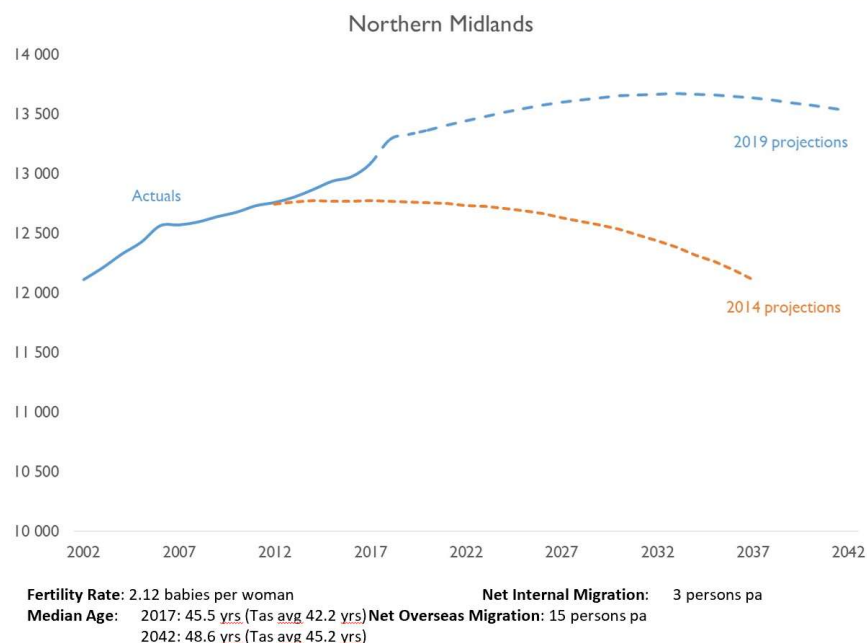
Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecasts

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

Population of the Northern Midlands Local Government Area was last estimated in 2020 to be 13,598 (*Australian Bureau of Statistics*). Figure 4.2 below shows the 2019 projected population over the planning period. Analysis of this figure shows a gradual projected rise in population of approximately 200 people from 2021 to around 2032, and then a gradual decline of approximately 100 people by the end of the planning period (2040). The discrepancy between the 2020 estimate and the 2019 projection line can be put down to greater than expected population growth over the last two years. Saying this, the magnitude of the projected rise is the best current source of information for population growth in the region, hence it is considered that a population of around 13,800 can be projected for 2032. Given current projections, it is anticipated that there will be little need for change to the adopted 'Levels of Service' relating to population growth. However, saying this, the rate of population increase is to be monitored regularly by Council to ensure the above projections remain valid.

Northern Midlands Projections – Medium Series



Department of Treasury and Finance



Figure 4.2 – Department of Treasury and Finance – Northern Midlands population projections (medium series).

It is considered that the existing capacity provided by the stormwater assets is sufficient to meet demands over the planning period. There is, however, a general expectation within the community for ongoing improvement

to basic service. Council's Long Term Financial Plan ensures that significant and appropriate funds are provided in relation to the renewal of all stormwater assets in order to cater for these community expectations.

4.3 Demand Impact and Demand Management Plan

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

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

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

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population	13,598 people (2020 estimate).	Refer Figure 4.2	The change is not foreseen to impact services	No impact to services, hence management plan is not required.
Demographic	Median age of 45.5 years (2017)	Increase in median age to approx. 49 years by 2040	The change is not foreseen to impact services.	No impact to services, hence management plan is not required.
Existing stormwater drainage issues and climate change	Experiencing more extreme weather patterns and events	Continue to experience increased frequency and intensity of extreme weather events (~30% increase in stormwater design flows)	Will require upgrade to some of the stormwater drainage network to increase capacity.	Refer <i>NMC Draft Urban Stormwater System Management Plan 2020</i>
Future development	Development of previously vacant land gradually occurring and density increasing	Forecast to continue	Additional demand on local stormwater networks	Refer <i>NMC Draft Urban Stormwater System Management Plan 2020</i>
Water quality	Water Sensitive Urban Design requirements not currently enforced.	Water quality requirements for stormwater runoff and outfall to be increased in the future.	Increased requirements for treating stormwater runoff similar to other Council's (Water Sensitive Urban Design)	Increase in cost to install, maintain, and replace a stormwater system that reduces pollution. Look to implement Water Sensitive Urban Design requirement for new developments.

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.4.

Acquiring new assets will commit the Northern Midlands Council to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the Long Term Financial Plan (Refer to Section 5).

4.5 Climate Change Adaptation

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

How climate change impacts on assets varies depending on the location and the type of services provided, as does the way in which we respond and manage those impacts.⁴

As a minimum we consider how to manage our existing assets given climate change impacts for our region.

Risk and opportunities identified to date are shown in Table 4.5.1

Table 4.5.1 Managing the Impact of Climate Change on Assets and Services

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Increased frequency and intensity of extreme rainfall events	Upgrade to stormwater drainage infrastructure, and possibly flood levees.	Increased drainage renewal, acquisition, and maintenance costs	Refer <i>NMC Draft Urban Stormwater System Management Plan 2020</i>

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

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

Table 4.5.2 summarises some asset climate change resilience opportunities.

Table 4.5.2 Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact on these assets?	Build Resilience in New Works
Stormwater assets	Greater capacity required	Only renew with, or acquire, assets that have been designed to allow for climate change flows. Refer also with the <i>NMC Draft Urban Stormwater System Management Plan 2020</i> .

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

⁴ IPWEA Practice Note 12.1 Climate Change Impacts on the Useful Life of Infrastructure

5.0 LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

5.1.1 Physical parameters

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

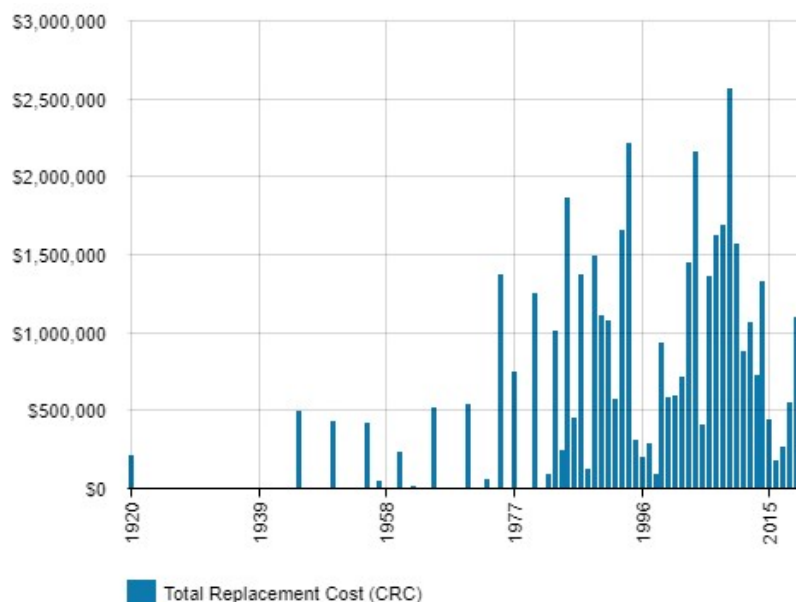
Table 5.1.1: Assets covered by this Plan

Asset Category	Number of Assets/Length	Replacement Value
Stormwater pipes (including culverts where recorded)	97.08 km	\$34,596,272
Stormwater pits (manholes, side entry pits, grated pits, gross pollutant traps etc.)	3061	\$8,134,429
Longford Flood Levees (including earth levees, low height concrete wall, flood gates etc.)	4.5 km	\$5,205,942
TOTAL	-	\$47,936,643

The above stormwater assets have significant total renewal value estimated at **\$47,936,643**. (This currently excludes detention basins which are mostly considered to be non-depreciating assets and hence have not been included in this plan.)

The age profile of the stormwater assets are shown in Figure 5.1.1 below. However, due to construction dates of stormwater assets being largely unknown (especially those constructed prior to 1993), this graph shows estimated ages only, with a low confidence rating. This is noted for improvement in Section 8.0. This graph would normally outline past peaks of investment that may require peaks in future renewals. All figure values are shown in current day dollars.

Figure 5.1.1: Asset age profile



5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Northern Midlands Council	Refer Appendix B – <i>Specific Stormwater Actions</i> of the NMC Draft Urban Stormwater System Management Plan 2020 for a list of identified actions, based on known, reported or perceived service deficiencies. (High priority items, and other major known issues are noted below)
Drummond Street, Perth	An open drain maintained by State Growth runs along the southern side of Drummond Street. Due to the flat nature of the land in the Drummond Street area it is not possible to drain surface water from some properties to the stormwater system and localised flooding occurs in the yards of these properties.
West Perth	Refer West Perth Drainage Study (Sheepwash Creek)
Translink Precinct	Refer Translink Stormwater Improvement Study
Ross	Refer Downs Creek Flood Study
West Street (north), Campbell Town	Inspect and assess culvert inlets. Consider headwalls to prevent blockages and upgrades to network to reduce flood footprints. Ensure flood footprints are transferred to NMC Intramaps.
King Street, Cressy	Localised flooding. Undertake survey of the stormwater system to asset information. Update model and rerun as required.

George Street, Perth	Inspect open drain within No. 1-3 George Street. Consider the acquisition of a formal easement, remove barriers as necessary, and undertake regular maintenance.
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The above service deficiencies were identified from discussion with Council's contract hydraulic engineer who authored the *NMC Draft Urban Stormwater System Management Plan 2020*.

5.1.3 Asset condition

The condition of stormwater assets (excluding flood levee assets) is not currently monitored in any formal way and hence the actual individual condition of each asset is largely unknown. For accounting purposes, these stormwater drainage assets have currently been depreciated by approximately 25 % of their replacement value (noting a 100 year average design life, meaning their estimated remaining useful life is assumed to be approximately 75 years). Condition inspections and condition rating of individual assets have been noted for improvement in Section 8.

In the future, condition is to be measured using a 1 – 5 grading system⁵ as detailed in Table 5.1.3. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level, however, for reporting in the Asset Management Plan results are translated to a 1 – 5 grading scale for ease of communication.

Table 5.1.3: Condition Grading System

Condition Grading	Description of Condition
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

The condition profile of our assets is shown in Figure 5.1.3.

Figure 5.1.3: Asset Condition Profile

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All figure values are shown in current day dollars.

There are known assets that have not yet been valued or included in this plan. An example of this is stormwater drainage assets that are currently missing from the asset register and Geographical Information System. A project to identify these missing stormwater drainage assets and include in the asset register and Geographical Information System is currently being considered by Council. Hence, this plan is to be updated on completion of this project.

⁵ IPWEA, 2015, IIMM, Sec 2.5.4, p 2 | 80.

5.2 Operations and Maintenance Plan

Council operates and maintains assets to provide the defined level of service to approved budgets in the most cost-efficient manner. The operation and maintenance activities include:

- Scheduling operations 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 as measured by cost),
- Maintain a 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,
- 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 required operations and maintenance activities,
- Develop and regularly review appropriate emergency response capability,
- Review management of operations and maintenance activities to ensure Council is obtaining best value for resources used.

Operations include regular activities to provide services. Examples of typical operational activities include cleaning out stormwater pipes/culverts/drains, asset inspection, and staff costs.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include patch repairs, equipment repairs and any other activity that physically changes the asset.

Maintenance may be classified as preventative maintenance or reactive maintenance. Essentially, preventative maintenance is planned maintenance (repair work that is identified and managed through a maintenance management system), and reactive maintenance is unplanned (identified by works requests or staff observation).

The trend in maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: Maintenance Budget Trends

Financial Year	Maintenance Budget \$
2021/2022	\$40,000
2022/2023	\$40,000
2023/2024	\$40,000

Maintenance budget levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this Asset Management Plan. Reference should also be made to the *Northern Midlands Council Strategic Risk Register*.

Assessment and priority of reactive maintenance is undertaken by staff using experience and judgement.

Maintenance work is carried out in accordance with the Council standard operating procedures, the *Tasmanian Municipal Standard Drawings*, *Department of State Growth* standards, and any relevant *Australian Standards*.

Asset hierarchy

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

The service hierarchy is shown in Table 5.2.2.

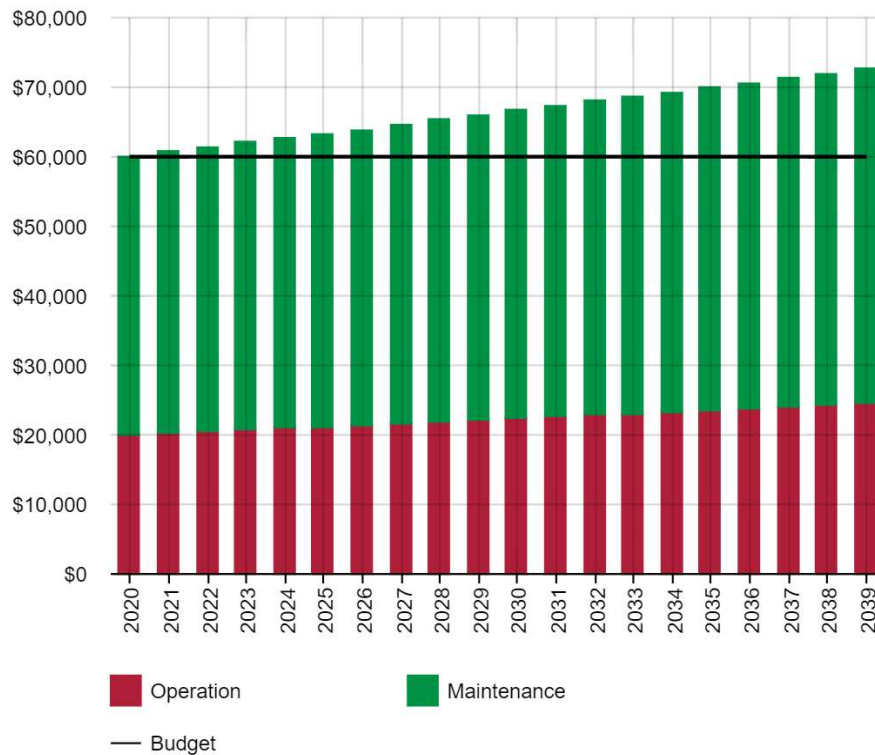
Table 5.2.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Level 1 (Critical, high priority) - Main stormwater drainage assets, Flood Levees	Maintain main trunk and other high importance drainage system assets (inclusive of levees, pits, pipes, open channels and detention basins) so that the risk of flooding to dwellings or roads is mitigated. Regular inspections undertaken to ensure serviceable.
Level 2 (High importance) - Collector type stormwater drainage assets	Maintain collector drainage systems and their elements (inclusive of pits, pipes, open channels) so that the risk of flooding of any adjacent property or road is mitigated. Only known problematic areas inspected prior to forecast significant rain events.
Level 3 (Non-critical, low priority) - Minor collector stormwater drainage assets (if these fail, consequences are low)	Not generally inspected. Normally only a reactive type service provided when issues present.

Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

Figure 5.2: Operations and Maintenance Summary



All figure values are shown in current day dollars.

As can be seen in Figure 5.2, operation cost forecasts increase over the planning period. This is due to additional operation costs associated with acquired assets. When acquiring assets over the planning period, it is expected for operation and maintenance costs to also increase. Figure 5.2 highlights that Council does not currently have sufficient planned budget to undertake all the forecast operation and maintenance beyond 2021. The difference between the forecast costs and the planned budget is specifically related to the additional operation costs associated with acquired assets, however the shortfall is considered minor.

Deferred maintenance (i.e. works that are identified for maintenance activities but unable to be completed due to available resources) should be included in Section 6.0 of this plan where it poses a 'high' or 'very high' risk to Council – refer Table 6.2.

5.3 Renewal Plan

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

Assets requiring renewal are identified from one of two approaches in the Lifecycle Model.

- The first method uses Asset Register data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year), or
- The second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives were last reviewed in October 2021.

Table 5.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
Stormwater pipes and culverts	75-100 years
Stormwater pits (manholes, side entry pits, grated pits, gross pollutant traps etc.)	75-100 years
Longford Flood Levees (depreciable components)	100 years

The estimates for renewals in this Asset Management Plan were based on a combination of both the asset register and alternate methods.

5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a playground).⁶

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.⁷

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.3.1.

⁶ IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

⁷ Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

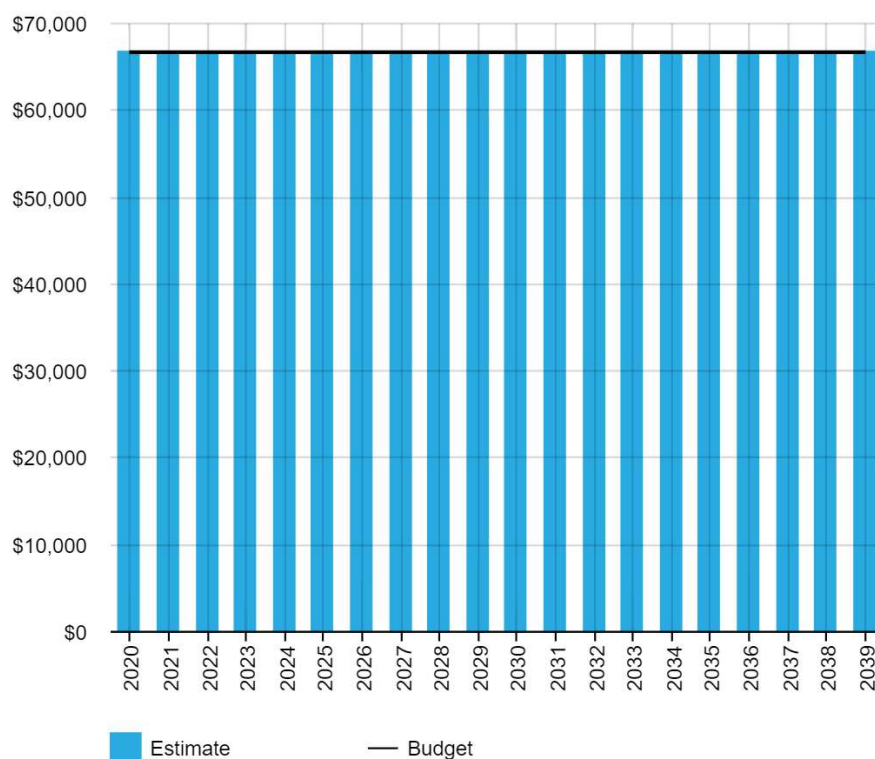
Table 5.3.1: Renewal Priority Ranking Criteria

Criteria	Weighting
Risk/Safety Risk priority is assessed in accordance with Council's Infrastructure Risk Management process which is based on probability and consequence of failure	25 %
Technical Technical priority is assessed based on the project's ability to improve stormwater drainage capacity	20 %
Corporate Corporate priority is linked to whether the projects are commitments through a Council resolution or included in Council policy and strategic plan.	20 %
Social/Community Impact Priority based on amount of community benefit through project completion	15 %
Environment Environmental impact is assessed based on the significance of the surrounding environment.	20 %
Total	100%

5.4 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4.1. Refer also to Appendix D.

Figure 5.4.1: Forecast Renewal Costs



All figure values are shown in current day dollars.

Figure 5.4.1 shows that the forecast renewal costs currently match the proposed renewal budget over the planning period.

Deferred renewal (assets identified for renewal and not scheduled in capital works programs) should be included in Section 6.0 of this plan where they pose a 'high' or 'very high' risk to Council – refer Table 6.2.

5.5 Acquisition Plan

Acquisition reflects new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to Council.

5.5.1 Selection criteria

Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as professional advice, community requests, proposals identified by strategic plans or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential to Council's needs. Proposed upgrade and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority and available funds, and scheduled in future works programmes. The priority ranking criteria is detailed in Table 5.5.1.

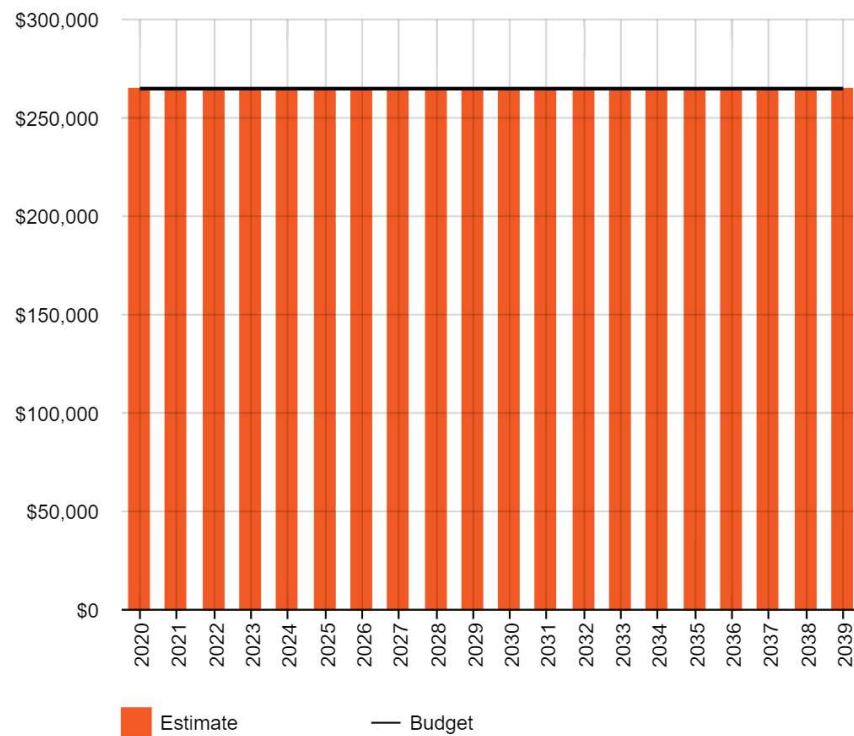
Table 5.5.1: Acquired Assets Priority Ranking Criteria

Criteria	Weighting
Is the acquisition in line with Council's strategic objectives?	30 %
Necessity/demand	25 %
Are lifecycle costs known and funds available in planned budget?	20 %
Risk consequence of not providing	25 %
Total	100%

Summary of future asset acquisition costs

Forecast asset acquisition costs are summarised in Figure 5.5.1 and shown relative to the proposed acquisition budget. The forecast capital works (acquisitions) program is shown in Appendix A.

Figure 5.5.1: Acquisition (Constructed) Summary



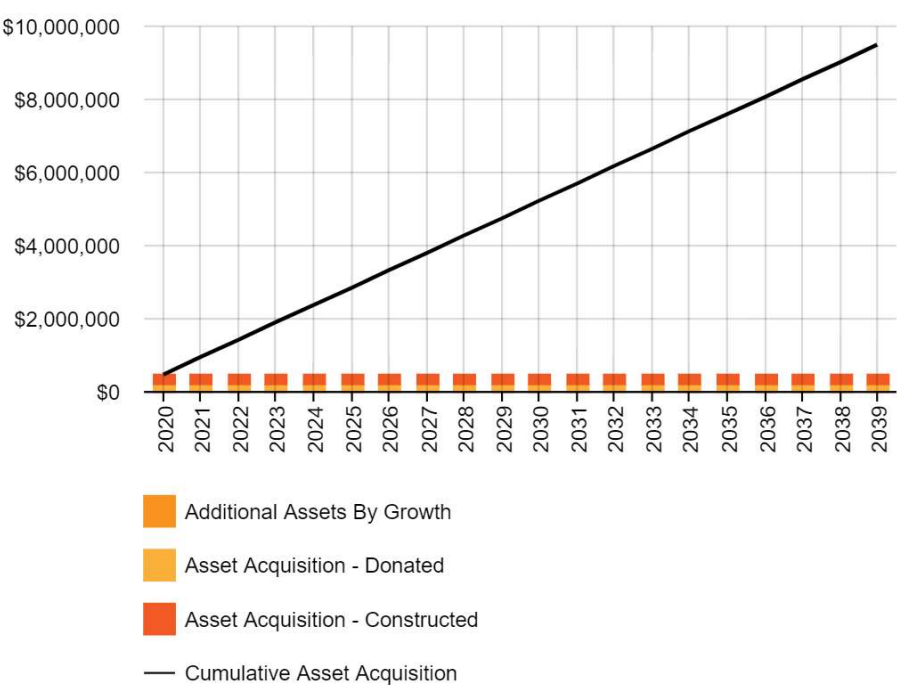
All figure values are shown in current day dollars.

As can be seen in Figure 5.5.1, acquisition (constructed) cost forecasts are estimated to remain constant over the planning period. Figure 5.5.1 highlights that Council currently has sufficient planned budget to undertake all of the budgeted forecast acquisitions over the planning period, however it is noted that most significant

acquisitions (e.g. detention basins or significant culvert upgrades) will be reliant on the provision of external funding.

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

Figure 5.5.2: Acquisition Summary



All figure values are shown in current dollars.

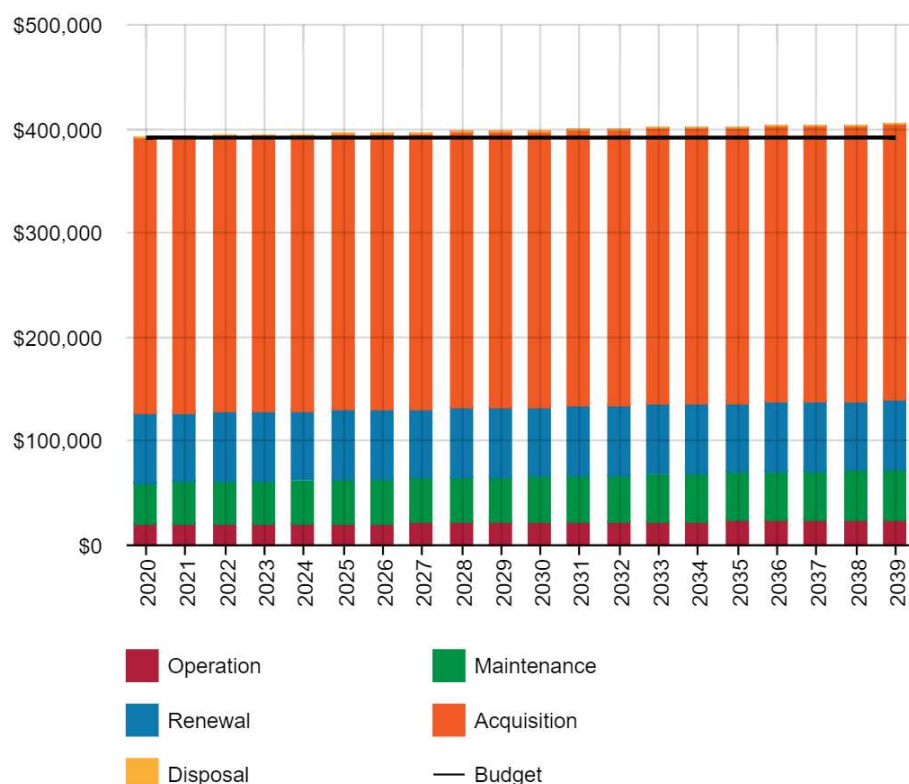
Expenditure on new assets and services in the capital works program will be accommodated in the Long Term Financial Plan, but only to the extent that there is available funding.

Summary of asset forecast costs

The financial projections from this plan are shown in Figure 5.5.3. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the planned budget.

The bars in the graphs represent the forecast costs needed to minimise the life cycle costs associated with the service provision. The planned budget line indicates the estimate of available funding. The gap between the forecast work and the planned budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

Figure 5.5.3: Lifecycle Summary



All figure values are shown in current day dollars.

As can be seen in Figure 5.5.3, the forecasted lifecycle costs essentially match the planned budget (black line) over the planning period. The forecast lifecycle cost for operations and maintenance (increasing forecast costs due to acquisitions) is the main reason for the slightly increasing shortfall between the planned budget and the forecast lifecycle costs towards the later stages of the planning period. All other lifecycle forecast components are in balance with the planned budget, which is good.

5.6 Disposal Plan

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

Table 5.6: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
Stormwater drainage assets that are under capacity (or renewed for any other reason) and will be replaced prior to the end of their useful life (as part of any works recommended from the <i>NMC Draft Urban Stormwater System Management Plan 2020</i>).	To improve stormwater drainage network	2021-2031	Currently unknown	N/A

6.0 RISK MANAGEMENT PLANNING

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

Risk Management is defined in ISO 31000:2018 as: ‘coordinated activities to direct and control with regard to risk’⁸.

An assessment of risks⁹ associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a ‘financial shock’, reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

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

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
All stormwater drainage assets (notably flood levees, stormwater detention basins, culverts, pipelines, open drains, overland flow paths, drainage pits etc.)	Flooding/blockage.	Damage to buildings, roads and other infrastructure.

By identifying critical assets and failure modes Council can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

6.2 Risk Assessment

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

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

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

⁸ ISO 31000:2009, p 2

⁹ Refer *Northern Midlands Council Strategic Risk Register*

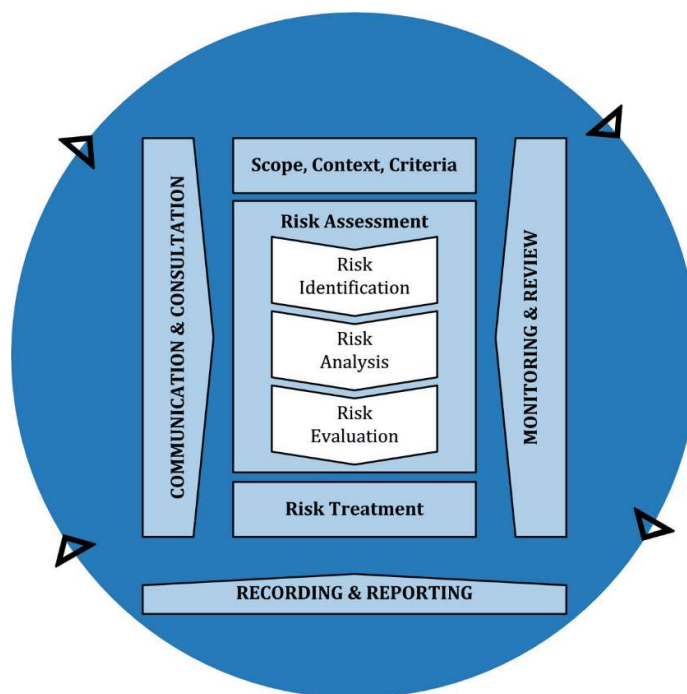


Fig 6.2 Risk Management Process – Abridged

Source: ISO 31000:2018, Figure 1, p9

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks¹⁰ associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

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

¹⁰ Refer Northern Midlands Council Strategic Risk Register

Table 6.2: Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating	Risk Treatment Plan	Residual Risk *	Treatment Costs
Stormwater assets	Loss of knowledge/key staff	High	Develop a succession plan and improve record keeping	Low	TBC
Stormwater assets	Underfunding	High	Ensure prioritised renewal and acquisition works are budgeted	Low	TBC
Stormwater assets	Flooding to dwellings and transport networks.	High	Upgrade stormwater assets in strategic locations. Assessment of all new developments to ensure that the capacity of the network is sufficient, or sufficient alternatives are provided.	Low	TBC
Stormwater assets	Financial constraints on infrastructure asset management.	High	Continued use and updating of Asset Management Plan and Long Term Financial Plan	Low	TBC
Discharge of pollutants into waterways	Environmental damage	High	Installation of gross pollutant traps if required. Encourage implementation of water sensitive urban design principles. Impose planning conditions on potential polluters to control pollutants at source with interceptor traps or other methods.	Low	TBC

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

6.3 Infrastructure Resilience Approach

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

Resilience recovery planning, financial capacity, climate change risk assessment and crisis leadership.

We do not currently measure our resilience in service delivery. This will be included in future revisions of the Asset Management Plan.

6.4 Service and Risk Trade-Offs

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

6.4.1 What we cannot do

The planned budget does not allow all capital works (acquisitions and renewals) stemming from actions or recommendations in the *NMC Draft Urban Stormwater System Management Plan 2020* to be undertaken immediately, however, Council will endeavour to complete these works on a priority basis over the next 5-10 years, should appropriate external funding be made available. Nor does it allow for:

- Operation (to the existing level of service) of any new assets acquired over the planning period.
- Delivery of all proposed capital works, relating to stormwater assets, within the next five years - refer Appendix A.
- Major upgrades of stormwater systems at Translink Industrial Precinct and West Perth - may need to be staged over several years, unless external funding sources are identified.
- Extension of the Longford Flood levee systems.
- Funding of any major acquisitions from internal funding (reliant on external funding)
- Funding of all community/management committee requests without external funding and long term planning.

6.4.2 Service trade-off

If there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. The service consequences will generally be related to a reduction in level of service provided.

6.4.3 Risk trade-off

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

- A reduction to the level of service provided
- Reputational consequences

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

7.0 FINANCIAL SUMMARY

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

7.1 Financial Sustainability and Projections

7.1.1 Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the Asset Management Plan for this service area. The two indicators are the:

- asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years), and
- medium term forecast costs/proposed budget (over 10 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹¹ **100.0 %**

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have **100.0 %** of the funds required for the optimal renewal of assets.

The forecast renewal work along with the proposed renewal budget, and the cumulative shortfall, is illustrated in Appendix D.

Medium term – 10 year financial planning period

This Asset Management Plan identifies the forecast operations, maintenance and renewal costs required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

This forecast work can be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall.

The forecast operations, maintenance and renewal costs over the 10 year planning period is **\$129,694 on average per year**.

The planned (budget) operations, maintenance and renewal funding is **\$126,702 on average per year** giving a 10 year funding **shortfall of \$2,992 per year**. This indicates that **97.69 %** of the forecast costs needed to provide the services documented in this Asset Management Plan are accommodated in the planned budget. Note, these calculations exclude acquired assets.

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately 1.0 for the first years of the Asset Management Plan and ideally over the 10 year life of the Long Term Financial Plan.

7.1.2 Forecast Costs (outlays) for the Long Term Financial Plan

Table 7.1.3 shows the forecast costs (outlays) required for consideration in the 10 year Long Term Financial Plan.

Providing services in a financially sustainable manner requires a balance between the forecast outlays required to deliver the agreed service levels with the planned budget allocations in the Long Term Financial Plan.

A gap between the forecast outlays and the amounts allocated in the financial plan indicates further work is required on reviewing service levels in the Asset Management Plan (including possibly revising the Long Term Financial Plan).

¹¹ AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

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

Forecast costs are shown in 2021 dollar values.

Table 7.1.2: Forecast Costs (Outlays) for the Long Term Financial Plan

Financial Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2020/21	\$264,866	\$20,000	\$40,000	\$66,702	\$0
2021/22	\$264,866	\$20,237	\$40,427	\$66,702	\$0
2022/23	\$264,866	\$20,475	\$40,855	\$66,702	\$0
2023/24	\$264,866	\$20,712	\$41,282	\$66,702	\$0
2024/25	\$264,866	\$20,950	\$41,710	\$66,702	\$0
2025/26	\$264,866	\$21,187	\$42,137	\$66,702	\$0
2026/27	\$264,866	\$21,425	\$42,564	\$66,702	\$0
2027/28	\$264,866	\$21,662	\$42,992	\$66,702	\$0
2028/29	\$264,866	\$21,899	\$43,419	\$66,702	\$0
2029/30	\$264,866	\$22,137	\$43,846	\$66,702	\$0
2030/31	\$264,866	\$22,374	\$44,274	\$66,702	\$0
2031/32	\$264,866	\$22,612	\$44,701	\$66,702	\$0
2032/33	\$264,866	\$22,849	\$45,129	\$66,702	\$0
2033/34	\$264,866	\$23,087	\$45,556	\$66,702	\$0
2034/35	\$264,866	\$23,324	\$45,983	\$66,702	\$0
2035/36	\$264,866	\$23,561	\$46,411	\$66,702	\$0
2036/37	\$264,866	\$23,799	\$46,838	\$66,702	\$0
2037/38	\$264,866	\$24,036	\$47,265	\$66,702	\$0
2038/39	\$264,866	\$24,274	\$47,693	\$66,702	\$0
2039/40	\$264,866	\$24,511	\$48,120	\$66,702	\$0

7.2 Funding Strategy

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

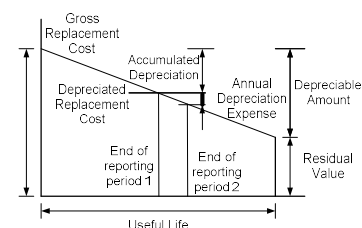
The financial strategy of Council determines how funding will be provided, whereas the Asset Management Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimates of the value of stormwater assets included in this Asset Management Plan are shown below.

Replacement Cost (Current/Gross)	\$47,936,643
Depreciable Amount	\$47,936,643



Depreciated Replacement Cost ¹²	\$37,371,794
Annual Depreciation Expense	\$446,241

7.3.2 Valuation forecast

Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council, and from assets constructed by developers and others, that are donated to Council.

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

Forecast acquisitions noted in Appendix A have been identified to address known deficiencies in the stormwater drainage network. Many stormwater drainage assets are currently missing from Council's Geographical Information System and asset register. A project is currently being considered by Council to update the Geographical information system. The works being considered would be undertaken by a trainee engineering officer and involve updating spatial data and the asset register. On completion of forecast acquisitions and the data collection project, there will be an increase in stormwater drainage asset values and this plan should be updated to reflect this.

7.4 Key Assumptions Made in Financial Forecasts

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

Key assumptions made in this Asset Management Plan are:

- No additional unplanned major stormwater assets will be acquired by Council in the next 10 year period. If this changes the Asset Management Plan is to be updated to reflect this, and allocation in planned budget to meet full lifecycle costs.
- External funding will continue to be a significant source of funding for major acquisitions.
- Future demand assumptions as mentioned in Section 4.0.
- Asset construction costs to remain stable in real (current dollar) terms - If asset construction costs rise faster than the general rate of inflation, then Council's projected future asset renewal costs will be higher than indicated by this plan.
- The age of many stormwater assets.
- Financial data used in the development of this plan was from the end of the 2020-21 financial year.
- Several assumptions were required in the derivation of planned budget and lifecycle forecast figures. This is due to the nature of long term forecasting.
- Some success in grant funding application processes is achieved.
- Professional judgement has been applied in the absence of good quality data, however where applied, it has been noted for improvement in Section 8.0.
- All figures are presented in current day dollars.

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this Asset Management Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale¹³ in accordance with Table 7.5.1.

¹² Also reported as Written Down Value, Carrying or Net Book Value.

¹³ IPWEA, 2015, IIMM, Table 2.4.6, p 2 | 71.

Table 7.5.1: Data Confidence Grading System

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

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

Table 7.5.2: Data Confidence Assessment for Data used in Asset Management Plan

Data	Confidence Assessment	Comment
Demand drivers	Medium	Requires Council input, review and acceptance
Growth projections	Medium to High	State government provided projections used
Acquisition forecast	Medium to High	Based on the average of acquisition costs over the last 10 years
Operation forecast	Low to Medium	Some estimates and assumptions made.
Maintenance forecast	Low to Medium	Some estimates and assumptions made.
Renewal forecast - Asset values	Low	Last reviewed by <i>pitt&sherry</i> in 2015, requires review. Missing assets to be added to asset register which will increase total replacement value. To be revised on completion of data pickup.
- Asset useful lives	Low	Based on professional judgement of staff
- Condition modelling	Low	Based on professional judgement/estimate by staff only, no condition assessments undertaken
Disposal forecast	Medium	Stormwater drainage assets that are under capacity and will be replaced prior to the end of their useful life.

The estimated confidence level for and reliability of data used in this Asset Management Plan is considered to be in **Low** (refer Table 7.5.1).

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices¹⁴

8.1.1 Accounting and financial data sources

This Asset Management Plan utilises accounting and financial data. The source of the data is Council's accounting and finance software *Open Office Local Government Solutions*. The Corporate Services Department is responsible for the management of the financial systems. This system includes fully integrated creditor, debtor, payroll, general ledger and receipting modules. The system has a fully integrated asset system however this is only currently used for fleet operating management.

Accounting standards and regulations

Council is required to prepare its annual financial report in accordance with *Australian Accounting Standards* and other authoritative pronouncements of the *Australian Accounting Standards Board* and the *Local Government Act 1993* (as amended).

AASB 116 Property, plant and equipment, AASB 136 Impairment of Assets, AASB 140 Investment Property and AASB 5 Non-current Assets held for Sale and Discontinued Operations are applied when preparing Council's annual financial statements.

The cost method of accounting is used for the initial recording of all assets acquired. Cost is determined as the fair value of the assets given as consideration plus cost incidental to the acquisition including architects fees, engineering design fees, consulting fees, administration charges and all other costs incurred in getting the assets ready for use. In addition the cost of non-current assets constructed by Council, 'cost' includes all material used in construction, direct labour used on the project and an appropriate proportion of overheads.

Non-monetary assets received in the form of grants and donations are recognised as assets and revenues at their fair value at the date of receipt. Fair value means the amount for which an asset could be exchanged between knowledgeable, willing parties in an arm's length transaction.

The asset management policies and references used by Northern Midlands Council include:

- Northern Midlands *Asset Management Policy*
- Northern Midlands *Strategic Asset Management Plan*
- International Infrastructure Management Manual, Institute of Public Works Engineering Australia 2020
- Australian Infrastructure Financial Management Guidelines, Institute of Public Works Engineering Australia 2016

Capitalisation threshold

Generally maintenance, repair costs and minor renewals are charged as expenditure when incurred unless the total value exceeds 10% of the assets written down value, or increases the economic life by more than 10%.

Expenditure is capitalised when it provides a future economic benefits which extends beyond one year and can be measured reliably. As per the *Northern Midlands Council Accounting Policy*, the following limits apply to the recognition of the acquisition of new assets:

¹⁴ ISO 55000 Refers to this as the Asset Management System

Table 8.1.1: Capitalisation threshold

Asset Class	Capitalisation threshold
Stormwater infrastructure	\$3,000
Flood levee infrastructure	\$3,000

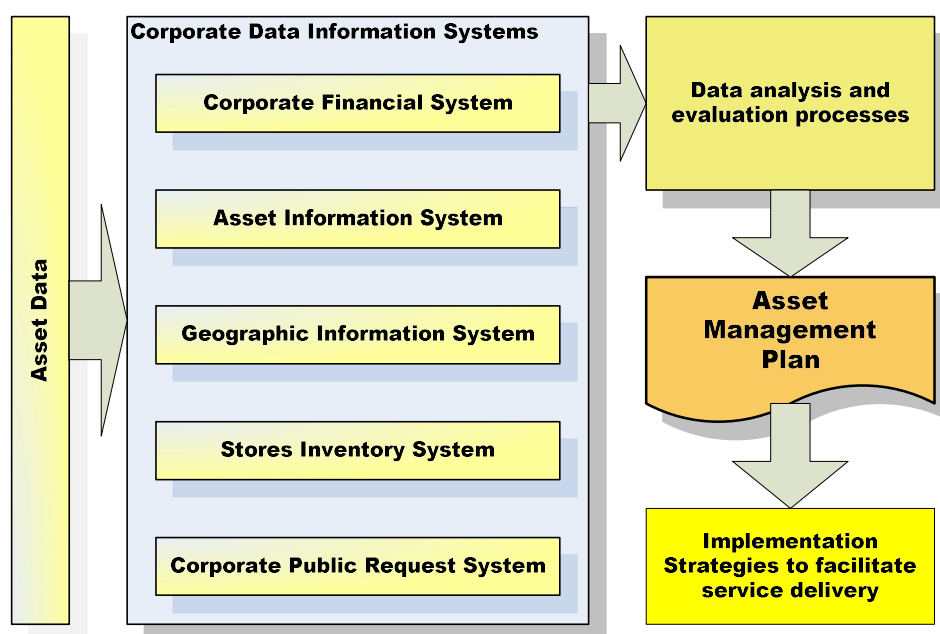
8.1.2 Asset management data sources

This Asset Management Plan also utilises asset management data. The source of the data is generally from Council's *Moloney Asset Management* system, but also utilises data from *Intramaps* (Geographic Information System), *Technology One 'ECM' Customer Request System*, and individual asset registers.

The *Moloney Asset Management* system is not linked to, however is constantly reconciled to, the *Open Office Local Government Solutions* accounting system.

The ongoing responsibility of Council's Asset Management system is primarily that of the Asset Management Officer, however strategic oversight and provision of required resources for best practice asset management is the responsibility of the General Manager, the Corporate Services Manager, and the Works Manager.

The following chart illustrates the relationship between the Council's information management systems:



8.2 Improvement Plan

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

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Adoption of the <i>NMC Draft Urban Stormwater System Management Plan 2020</i> , including all associated recommendations. This includes completion of catchment modelling to better understand/identify deficiencies (currently underway).	General Manager	Internal	2021
2	Customer service requests tracked by asset category so numbers can be tracked and included in Asset Management Plans.	Corporate Services Manager	Internal	2021-2022
3	Ensure asset register (Moloney) is updated to include all Flood Levee assets, as some are not currently formally recorded on the asset register.	Works Manager, Corporate Services Manager	Internal	2022
4	Improve confidence in useful lives (and all other data) within asset register, ensure correlates well with assessed condition.	Corporate Services Manager, Works Manager	Internal	2022
5	Develop a detailed capital works program for the 2022/23 financial year.	Works Manager	Internal	2022
6	Update Geographical Information System (GIS) to include all previously missing stormwater drainage assets (including pipes, headwalls, pits, culverts, open drains and levees) once they have been recorded.	Works Manager	Trainee Engineering Officer	2022
7	Assess yearly performance (budgeted vs. actual costs) and update Asset Management Plan and Long Term Financial Plan accordingly.	Corporate Services Manager, Works Manager	Internal	2022
8	Encourage implementation of water sensitive urban design principles for both new developments and the existing stormwater network.	General Manager, Corporate Services Manager, Works Manager	Internal	2022
9	Establish a formal program for clearing open drains, pipes, culverts, and gross pollutant traps etc.	Works Manager	Internal	2022
10	Separate 'operation and maintenance' lifecycle activity into 'operation' and 'maintenance' in finance system to allow improved tracking and budgeting.	Corporate Service Manager	Internal	2023
11	Community/Council consultation required to ensure appropriate levels of service are being provided	General Manager	Internal	2025

	(reduce/improve level of service accordingly)			
12	Continue improvements to strategic maintenance and capital works programs for upcoming years (using renewal ranking criteria). Use to inform future Asset Management Plan and Long Term Financial Plan updates.	Works Manager, Engineering Officer	Internal	Ongoing
13	Undertake detailed condition assessment (every four years) to provide higher confidence condition data and better inform Asset Management Plan	Works Manager	Engineering Officer	Ongoing
14	Continually improve correlation between Long Term Financial Plan and Asset Management Plan. (Conduct regular meetings of responsible persons – aim for ‘high’ confidence level)	General Manager, Corporate Services Manager, Works Manager	Internal	Ongoing
15	Increase confidence and maturity of Asset Management Plan	Corporate Services Manager, Works Manager	Internal	Ongoing
16	Develop appropriate Risk management plans	General Manager	Internal	Ongoing

8.3 Monitoring and Review Procedures

This Asset Management Plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The Asset Management Plan will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the Long Term Financial Plan or will be incorporated into the Long Term Financial Plan once completed.

The Asset Management Plan has a maximum life of 4 years (Council election cycle) and is due for complete revision and updating within 6 months of each Council election.

8.4 Performance Measures

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

- The degree to which the required forecast costs identified in this Asset Management Plan are incorporated into the Long Term Financial Plan,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures consider the ‘global’ works program trends provided by the Asset Management Plan,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Planning documents and associated plans,
- The Asset Renewal Funding Ratio achieving Council’s target (100%).

9.0 REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
- IPWEA, 2015, 2nd edn., 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMM.
- IPWEA, 2020 'International Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2018, Practice Note 12.1, 'Climate Change Impacts on the Useful Life of Assets', Institute of Public Works Engineering Australasia, Sydney
- IPWEA, 2012, Practice Note 6 Long Term Financial Planning, Institute of Public Works Engineering Australasia, Sydney, <https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn6>
- IPWEA, 2014, Practice Note 8 – Levels of Service & Community Engagement, Institute of Public Works Engineering Australasia, Sydney, <https://www.ipwea.org/publications/ipweabookshop/practicenotes/pn8>
- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- *Northern Midlands Strategic Plan 2017 – 2027*
- *Northern Midlands Council Annual Plan: 2021-2022*
- *Northern Midlands Council Budget Report: 2021-2022*

10.0 APPENDICES

Appendix A Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

A key assumption in the writing of this Asset Management Plan is that no major unplanned acquisitions are to be undertaken during the planning period (e.g. acquisitions where full lifecycle costs have not been allocated in the Long Term Financial Plan).

The 'donated' acquisition forecast summary estimate is based on the long term average of works completed by others/developers, mostly subdivisions.

Several estimates and assumptions were required to be made in the acquisition forecast figures due to the extent of information currently available. This has been noted for improvement in Section 8.0.

A.2 – Acquisition Project Summary

The acquisitions forecast and planned budget are based off the average acquisition for stormwater assets over the last 10 years. Major forecast acquisitions (currently additional to the included forecasts and planned budget) stemming from the recommendations in the *NMC Draft Urban Stormwater System Management Plan 2020* will be reliant on the provision of external funding, these projects include, but are not limited to;

- Sheepwash Creek flood study *Hydrodynamica 2016* recommended works – upgrade Drummond Street culvert = \$400,000 (2022/23). Upstream rail culvert = \$250,000 (2024), Youl Road Culvert = \$200,000 (2025), Edward Street culvert \$250,000 (2028/29), Phillip Street Culvert upgrade \$250,000 (2029/30)
- Hudson Fysh Drive Detention Basin upgrade - \$410,000 (2024/25)
- Boral Road Detention Basin and diversion - \$500,000 (2022-2024)
- Barclay Street Stormwater – TBC

A.3 – Acquisition Forecast Summary

Table A3 displays the forecast acquisition value each year over the planning period.

Table A3 - Acquisition Forecast Summary

Financial Year	Constructed	Donated	Growth
2020/21	\$264,866	\$210,000	\$0
2021/22	\$264,866	\$210,000	\$0
2022/23	\$264,866	\$210,000	\$0
2023/24	\$264,866	\$210,000	\$0
2024/25	\$264,866	\$210,000	\$0
2025/26	\$264,866	\$210,000	\$0
2026/27	\$264,866	\$210,000	\$0
2027/28	\$264,866	\$210,000	\$0
2028/29	\$264,866	\$210,000	\$0
2029/30	\$264,866	\$210,000	\$0
2030/31	\$264,866	\$210,000	\$0
2031/32	\$264,866	\$210,000	\$0
2032/33	\$264,866	\$210,000	\$0
2033/34	\$264,866	\$210,000	\$0
2034/35	\$264,866	\$210,000	\$0
2035/36	\$264,866	\$210,000	\$0
2036/37	\$264,866	\$210,000	\$0
2037/38	\$264,866	\$210,000	\$0
2038/39	\$264,866	\$210,000	\$0
2039/40	\$264,866	\$210,000	\$0

Appendix B Operation Forecast

B.1 – Operation Forecast Assumptions and Source

Several estimates and assumptions were required to be made in the operation forecast figures. This has been noted for improvement in Section 8.0.

B.2 – Operation Forecast Summary

Table B2 displays the forecast operation costs each year over the planning period. Note the 'Additional Operation Forecast' is a percentage of the asset acquisitions value forecast over the planning period and this represents additional funds required to 'operate' these acquired assets.

Table B2 - Operation Forecast Summary

Financial Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2020/21	\$20,000	\$237	\$20,000
2021/22	\$20,000	\$237	\$20,237
2022/23	\$20,000	\$237	\$20,475
2023/24	\$20,000	\$237	\$20,712
2024/25	\$20,000	\$237	\$20,950
2025/26	\$20,000	\$237	\$21,187
2026/27	\$20,000	\$237	\$21,425
2027/28	\$20,000	\$237	\$21,662
2028/29	\$20,000	\$237	\$21,899
2029/30	\$20,000	\$237	\$22,137
2030/31	\$20,000	\$237	\$22,374
2031/32	\$20,000	\$237	\$22,612
2032/33	\$20,000	\$237	\$22,849
2033/34	\$20,000	\$237	\$23,087
2034/35	\$20,000	\$237	\$23,324
2035/36	\$20,000	\$237	\$23,561
2036/37	\$20,000	\$237	\$23,799
2037/38	\$20,000	\$237	\$24,036
2038/39	\$20,000	\$237	\$24,274
2039/40	\$20,000	\$237	\$24,511

Appendix C Maintenance Forecast

C.1 – Maintenance Forecast Assumptions and Source

Several estimates and assumptions were required to be made in the maintenance forecast figures. This has been noted for improvement in Section 8.0.

C.2 – Maintenance Forecast Summary

Table C2 displays the forecast maintenance costs each year over the planning period. Note the 'Additional Maintenance Forecast' is the forecast amount required to account for maintenance of acquisitions undertaken over the planning period.

Table C2 - Maintenance Forecast Summary

Financial Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2020/21	\$40,000	\$427	\$40,000
2021/22	\$40,000	\$427	\$40,427
2022/23	\$40,000	\$427	\$40,855
2023/24	\$40,000	\$427	\$41,282
2024/25	\$40,000	\$427	\$41,710
2025/26	\$40,000	\$427	\$42,137
2026/27	\$40,000	\$427	\$42,564
2027/28	\$40,000	\$427	\$42,992
2028/29	\$40,000	\$427	\$43,419
2029/30	\$40,000	\$427	\$43,846
2030/31	\$40,000	\$427	\$44,274
2031/32	\$40,000	\$427	\$44,701
2032/33	\$40,000	\$427	\$45,129
2033/34	\$40,000	\$427	\$45,556
2034/35	\$40,000	\$427	\$45,983
2035/36	\$40,000	\$427	\$46,411
2036/37	\$40,000	\$427	\$46,838
2037/38	\$40,000	\$427	\$47,265
2038/39	\$40,000	\$427	\$47,693
2039/40	\$40,000	\$427	\$48,120

Appendix D Renewal Forecast Summary

D.1 – Renewal Forecast Assumptions and Source

The renewal forecast of \$66,702 per year is based on the average of renewal budgets over the past decade. This figure has been used in lieu of known, condition based, forecast renewals and has also been adopted in the Long Term Financial Plan. Refer also improvement plan in Section 8.0.

D.2 – Renewal Project Summary

In the absence of physical condition data for stormwater drainage assets, a renewal program cannot be developed and hence there is currently no project renewal summary. This has been noted in the improvement plan in Section 8.0.

D.3 – Renewal Forecast Summary

Table D3 displays the forecast renewal costs and planned budget each year over the planning period. These figures are matched.

Table D3 - Renewal Forecast Summary

Financial Year	Renewal Forecast	Renewal Budget
2020/21	\$66,702	\$66,702
2021/22	\$66,702	\$66,702
2022/23	\$66,702	\$66,702
2023/24	\$66,702	\$66,702
2024/25	\$66,702	\$66,702
2025/26	\$66,702	\$66,702
2026/27	\$66,702	\$66,702
2027/28	\$66,702	\$66,702
2028/29	\$66,702	\$66,702
2029/30	\$66,702	\$66,702
2030/31	\$66,702	\$66,702
2031/32	\$66,702	\$66,702
2032/33	\$66,702	\$66,702
2033/34	\$66,702	\$66,702
2034/35	\$66,702	\$66,702
2035/36	\$66,702	\$66,702
2036/37	\$66,702	\$66,702
2037/38	\$66,702	\$66,702
2038/39	\$66,702	\$66,702
2039/40	\$66,702	\$66,702

Appendix E Disposal Summary

E.1 – Disposal Forecast Assumptions and Source

Through discussion with relevant staff, the noted potential disposals have been identified. No disposals with foreseen costs to Council are forecast to occur over the planning period.

E.2 – Disposal Project Summary

Refer Table E2 below.

Table E2: Potential Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
Stormwater drainage assets that are under capacity (or will be renewed for any other reason) and will be replaced prior to the end of their useful life (as part of any works recommended from the <i>NMC Draft Urban Stormwater System Management Plan 2020</i>)	To improve stormwater drainage network	2021-2031	Currently unknown	N/A

E.3 – Disposal Forecast Summary

Table E3 displays the disposal forecast and disposal budget over the planning period.

Table E3 – Disposal Activity Summary

Financial Year	Disposal Forecast	Disposal Budget
2020/21	\$0	\$0
2021/22	\$0	\$0
2022/23	\$0	\$0
2023/24	\$0	\$0
2024/25	\$0	\$0
2025/26	\$0	\$0
2026/27	\$0	\$0
2027/28	\$0	\$0
2028/29	\$0	\$0
2029/30	\$0	\$0
2030/31	\$0	\$0
2031/32	\$0	\$0
2032/33	\$0	\$0
2033/34	\$0	\$0
2034/35	\$0	\$0
2035/36	\$0	\$0
2036/37	\$0	\$0
2037/38	\$0	\$0
2038/39	\$0	\$0
2039/40	\$0	\$0

Appendix F Budget Summary by Lifecycle Activity

Several estimates and assumptions were required to be made in the development of the planned budget figures shown in Table F1. This was due to the maturity of information currently available. Future improvements are noted in Section 8.0.

Table F1 – Budget Summary by Lifecycle Activity

Financial Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2020/21	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2021/22	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2022/23	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2023/24	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2024/25	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2025/26	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2026/27	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2027/28	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2028/29	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2029/30	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2030/31	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2031/32	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2032/33	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2033/34	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2034/35	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2035/36	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2036/37	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2037/38	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2038/39	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568
2039/40	\$264,866	\$20,000	\$40,000	\$66,702	\$0	\$391,568