



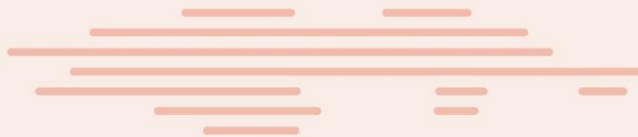
**Brighton
Council**

Asset Management Plan Stormwater



DECEMBER 2020

Brighton
going places



We acknowledge the traditional owners who once walked this country: the Mumirimina people.

The Mumirimina belonged to the Oyster Bay tribe. This was the largest tribe in Tasmania and covered 8000 square kilometres. kotalayna levee in Brighton was a significant meeting place where hundreds of generations of Aboriginal families hunted, gathered, corroboreed, camped and traded.

In the course of colonisation, dispossession of the Mumirimina was early, rapid and extensive.

We acknowledge the Tasmanian Aboriginal Community today as the continuing custodians of this land, and pay our respects to Elders past and present.

Through our words and actions we strive to build a community that reflects and respects the history and hopes for all the people of Brighton.



| Document Control | | Asset Management Plan | | | |
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The entity can choose either template to write/update their plan regardless of their level of asset management maturity and in some cases may even choose to use only the Executive Summary.

The illustrated content is suggested only and users should feel free to omit content as preferred (e.g. where info is not currently available).

This Asset Management Plan may be used as a supporting document to inform an overarching Strategic Asset Management Plan.

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1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

Asset management planning is a comprehensive process ensuring delivery of services from infrastructure is financially sustainable.

This Asset Management Plan (AM Plan) details information about infrastructure assets with 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 over the 20 year planning period. The Asset Management Plan will link to a Long-Term Financial Plan which considers a 10 year planning period.

This plan covers the infrastructure assets that provide a stormwater network to mitigate risks associated with flooding to protect Council's assets, private property and the personal safety of its residents and visitors.

The Stormwater network contains the following assets which are essential to the efficiency of its operation. Stormwater pipes, stormwater pits (includes manholes), and stormwater quality improvement devices (SQIDS).

1.2 Asset Description

The Stormwater network comprises:

- Pits – 4449 No.
- Pipes – 125066 metres
- Gross Pollutant Traps – 10 No.

The above infrastructure assets have significant total renewal value estimated at \$32,395,382

1.3 Levels of Service

Our present funding levels are sufficient to continue to provide existing services at current service levels in the medium term.

The main service consequences of the Planned Budget are:

Upgrading existing infrastructure that is currently under-capacity.

1.4 Future Demand

The main demands for new services are created by:

Increased development

Increased rain event due to climate change

These demands will be approached using a combination of managing existing assets, upgrading of 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.

Completion of urban stormwater management plans.

Interim water sensitive urban design contribution policy for developers to contribute towards downstream infrastructure to treat stormwater.

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AM Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AM Plan may be prepared for a range of time periods, it typically informs a Long-Term Financial Planning period of 10 years. Therefore, a summary output

from the AM Plan is the forecast of 10 year total outlays, which for the stormwater infrastructure is estimated as \$802250 or \$80225 on average per year.

1.6 Financial Summary

1.6.1 What we will do

Estimated available funding for the 10 year period is \$805000 or \$80500 on average per year as per the Long-Term Financial plan or Planned Budget. This is 100.34% 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 AM Plan emphasising the consequences of Planned Budgets on the service levels provided and risks.

The anticipated Planned Budget for stormwater leaves a shortfall of \$275 average per year of the forecast lifecycle costs required to provide services in the AM 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

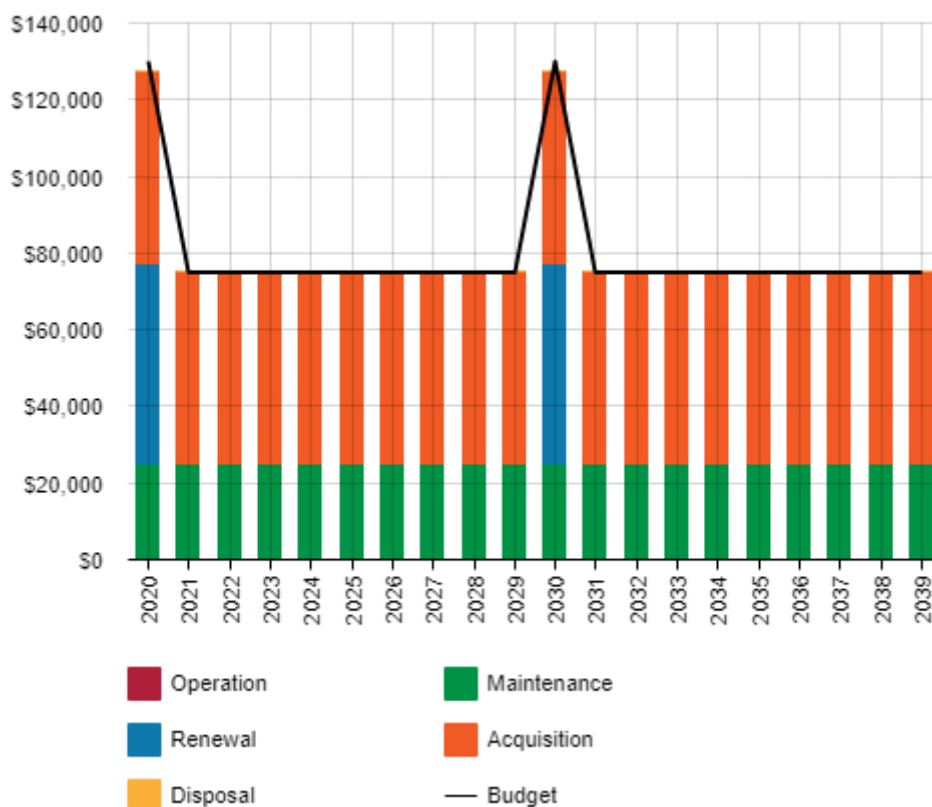


Figure Values are in current dollars.

We plan to provide stormwater services for the following:

- Operation, maintenance, renewal and upgrade of drains/pipes to meet service levels set by in annual budgets.
- Renewal of 2 Gross Pollutant Traps (GPT's) within the 10 year planning period.

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. Works and services that cannot be provided under present funding levels are:

All service requirements should be met.

1.6.3 Managing the Risks

Our present budget levels are sufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Loss of funding towards stormwater
- Flooding of areas that are identified in our urban catchment management plans

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

- Ensure that rates increase align with asset management plans
- Investigating, designing and funding flood mitigation options in identified areas.

1.7 Asset Management Practices

Our systems to manage assets include:

- Xero
- Assetic Cloud
- InfoWorks ICM

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

- If Asset Register data is used to forecast the renewal costs this is done using the acquisition year and the useful life,
- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems (such as Stormwater Management Systems) and may be supplemented with, or based on, expert knowledge.

The Asset Register in Assetic Cloud was used to forecast the renewal life cycle costs for this Asset Management Plan.

1.8 Monitoring and Improvement Program

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

- Finalise the Urban Catchment Management Plans
 - Review conditions of existing stormwater infrastructure
-

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 long term planning period.

The Asset Management Plan is to be read with the Stormwater planning documents. This should include the Asset Management Policy and Asset Management Strategy, where developed, along with other key planning documents:

- Brighton Council's 2050 Vision
- Brighton Council's Strategic Plan 2019-2029
- Brighton Council's Annual Plan
- Brighton Council's Long Term Financial Management Plan
- Brighton Council's 10 Year Asset Management Plan
- Brighton Council's Urban Catchment Plans

The infrastructure assets covered by this Asset Management Plan include stormwater pipes, pits and gross pollutant traps. For a detailed summary of the assets covered in this Asset Management Plan refer to Table 5.1.1 in Section 5.

These assets are used to provide stormwater services to convey stormwater flows with the intent to minimise risk of flooding damage to property and people in the urban areas.

The infrastructure assets included in this plan have a total replacement value of \$32,402,466.

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 AM Plan

| Key Stakeholder | Role in Asset Management Plan |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Brighton Councillors | Represent needs of community/shareholders, Allocate resources to meet planning objectives in providing services while managing risks, Ensure service sustainable. |
| General Manager | Direct Council Staff in the balancing of agreed service levels and the fiscal ability to provide services. |
| Council Staff | To maintain a proactive approach to customer requests, and to utilise a holistic asset management system and procedures which can better inform decisions by Council |
| The Community | Report perceived shortcomings, damage, safety concerns, etc. with the current infrastructure in relation to their needs |
| Developers | Providing input with regard to their interests in future investment in the infrastructure. Ensure that they are building appropriate infrastructure for now and the future |

2.2 Goals and Objectives of Asset Ownership

Our goal in 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,
- 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

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

3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

We currently have no research on customer expectations. This will be investigated for future updates of the Asset Management Plan.

3.2 Strategic and Corporate Goals

This Asset Management Plan is prepared under the direction of the Council's Strategic Plan.

Our purpose is "To Lead Change For Better Community Liveability."

Strategic goals have been set by the plan. The relevant 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 AM Plan |
|----------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Strengthen our Communities | S1.5: Build a resilient community and environmentally sustainable future | Stormwater infrastructure aims to facilitate the removal of stormwater in an ecologically responsible manner, to ensure ongoing service to the community |
| Drive Infrastructure Development | S3.2: Implement Strategic Asset Management Plan (Existing and New) | Stormwater assets are maintained in good, fit-for purpose condition to facilitate the provision of services to the community. |
| Ensure a Stable Organisation | S4.1: Ensure Financial & Risk Sustainability | Stormwater assets are management in a financially sustainable manner and designed and constructed to reduce risk to the community |

3.3 Legislative Requirements

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

Table 3.3: Legislative Requirements

| Legislation | Requirement |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Local Government Act 1993 | To provide for local government and establish councils to plan for, develop and manage municipal areas in the interests of their communities. |
| Urban Drainage Act 2013 | To protect people and property by ensuring that stormwater services, infrastructure and planning are provided so as to minimise the risk of urban flooding due to stormwater flows. |

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

Council have not done works on determining our customers values in any detail.

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

- Quality** How good is the service ... what is the condition or quality of the service?
- Function** Is it suitable for its intended purpose Is it the right service?
- Capacity/Use** Is the service over or under used ... do we need more or less of these assets?

Council have not done works on determining our customers level of service values in any detail.

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 Planned Budget allocation, and the Forecast activity requirements being recommended in this AM Plan.

Table 3.6: Technical Levels of Service

| Lifecycle Activity | Purpose of Activity | Activity Measure | Current Performance* | Recommended Performance ** |
|------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------|
| TECHNICAL LEVELS OF SERVICE | | | | |
| Acquisition | New stormwater Infrastructure | Determined from Masterplans, Strategic Planning zoning and Urban Catchment Management Plans | Adopted when maintenance period is completed | |
| | | Budget | \$50000 | \$50000 |
| | | Budget | \$0 | \$0 |
| Maintenance | Ongoing maintenance of | Routing maintenance as per asset | Cleaning of pipes and pits | Ensure ongoing maintenance programs |

³ IPWEA, 2015, IIMM, p 2|28.

| Lifecycle Activity | Purpose of Activity | Activity Measure | Current Performance* | Recommended Performance ** |
|--------------------|-----------------------------------------------------|-------------------------------------------|---------------------------------------|----------------------------|
| | stormwater infrastructure | management software and reactive requests | | |
| | | Budget | \$25000 | \$25000 |
| Renewal | Renewal infrastructure as required as per this plan | Asset Management Plan | Renewal infrastructure as required | Ensure ongoing renewals |
| | | Budget | \$5500 | \$5225 |
| Disposal | Dispose of surplus infrastructure | Catchment Management Plans | Dispose of items as they become known | |
| | | Budget | \$0 | \$0 |

Note: * Current activities related to Planned Budget.

** Forecast required performance related to forecast lifecycle costs.

It is important to monitor the service levels provided regularly as these will change. The current performance is influenced by work efficiencies and 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.

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 | Approx. 17,000 | It is expected that the municipality will experience an increase in population over the next 5-10 years | Could result in more demand being put on the existing infrastructure | Consider measures to encourage greater level of onsite retention of stormwater (e.g. use of permeable paving, on-site retention systems etc). Consider greater development restrictions on land with stormwater drainage issues. Continue to investigate alternative renewal treatments to lower lifecycle costs (e.g. pipe relining) |
| Land subdivision | Land/Property Subdivision continues to occur at a fast rate. | Expected to continue | Additional loading to existing stormwater infrastructure requiring more frequent maintenance. | Require land developers to assess the impact of developments on the capacity of existing infrastructure. Consider implementation of developer contributions toward upgrade of existing council infrastructure to cope with increased inflow from proposed developments (also known as a 'headworks charge') May require review of service levels and/or capital upgrade |

| | | | | |
|-------------------------|------------------------------------------------------------------------|----------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Environmental awareness | Trend amongst public toward greater awareness of environmental issues. | Expected to continue | Increased pressure to control pollution via stormwater system. | Increase use of sediment/pollutant traps. May require review of service levels and/or capital upgrade or increased maintenance costs |
|-------------------------|------------------------------------------------------------------------|----------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|

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 Stormwater 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 and Adaption

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

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

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

Opportunities identified to date for management of climate change impacts on existing assets are shown in Table 4.5.1.

Table 4.5.1 Managing the Impact of Climate Change on Assets

| Climate Change Description | Projected Change | Potential Impact on Assets and Services | Management |
|----------------------------|----------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Increased rain events | Increased intensity events | Stormwater Network being under capacity to meet current standards | Consider decreasing the design standard of new/upgraded stormwater infrastructure (e.g. 5-year ARI instead of 20-year ARI) |
| Increased rain events | Increased intensity events | Stormwater Network being under capacity to meet current standards | Ensuring that developer and council allow for climate change increases in their calculations for new public infrastructure |

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

Assets will withstand the impacts of climate change

Services can be sustained

Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

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

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Stormwater 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.

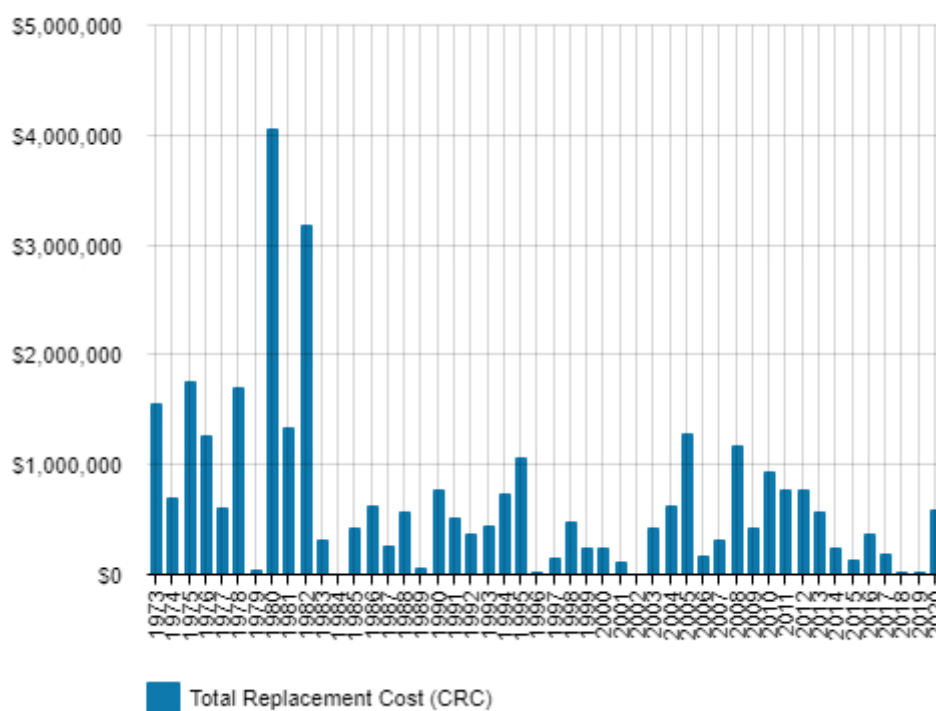
The Stormwater Infrastructure Asset Management Plan covers all assets contained within the stormwater network owned and maintained by Brighton Council. Kerb and channel assets, while serving a drainage function, are not within the scope of this document but are considered within the Transport asset management plan.

The age profile of the assets included in this AM Plan are shown in Figure 5.1.1.

Table 5.1.1: Assets covered by this Plan

| Asset Category | Dimension | Replacement Value |
|-----------------------|---------------|---------------------|
| Stormwater Pits | 4449 No. | \$9,250,608.55 |
| Stormwater Pipes | 125066 metres | \$22,818,567.79 |
| Gross Pollutant Traps | 10 No. | \$326,206.10 |
| TOTAL | | \$32,395,382 |

Figure 5.1.1: Asset Age Profile



All figure values are shown in current day dollars.

The data for the age profile is sourced from council's asset management system. Significant peaks can be seen during the States development of Bridgewater and Gagebrook housing commission areas in the early 1980's. These peaks should be able to be flattened out in the future with well managed replacement schedules. The age of all the stormwater assets is relatively low, 50 years or less, compared to the asset life of most of the assets that is over 100 years.

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 |
|---------------------------|-----------------------------------------------------------------------------------|
| Andrew Street, Brighton | There has been flooding issues on the downstream infrastructure of Andrew Street. |
| Tottenham Road, Gagebrook | The has been flooding of Tottenham Road during large rain events |
| | |

The above service deficiencies were identified from knowledge of Brighton Council staff and completed catchment models.

5.1.3 Asset condition

Condition is currently monitored through routine inspections of the stormwater network which are continually being carried out by road maintenance staff as a part of their normal duties and the locations and severity of defects used to plan maintenance activities. Defects are also reported to Council by community members and in such instances a reactive inspection is triggered to assess the concern in accordance with the same criteria used in the routine inspection process.

For the most part, however, reliable and consistent data describing the current condition of the many hundreds of individual assets which make up the stormwater network have not been recorded. For this reason the assets remaining life (useful life minus age) has been selected as the most appropriate basis on which to model future renewals expenditure. It should be noted that, while this approach provides robust results for the network as a whole, it is less than ideal when considering any particular individual asset.

Condition is measured using a 1 – 5 grading system⁴ as detailed in Table 5.1.3. It is important that consistent condition grades be used in reporting various assets across an organisation. This supports effective communication. At the detailed level assets may be measured utilising different condition scales, however, for reporting in the AM plan they are all translated to the 1 – 5 grading scale.

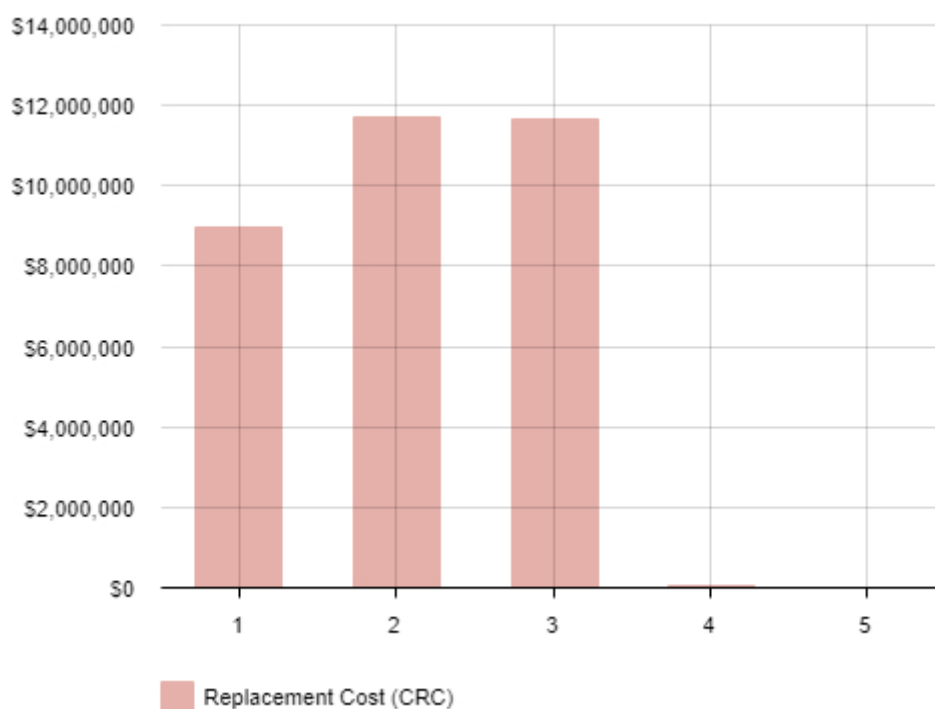
Table 5.1.3: Simple Condition Grading Model

| Condition Grading | Description of Condition |
|-------------------|-------------------------------------------------------------------|
| 1 | Very Good: only planned maintenance required |
| 2 | Good: minor maintenance required plus planned maintenance |
| 3 | Fair: significant maintenance required |
| 4 | Poor: significant renewal/rehabilitation required |
| 5 | Very Poor: physically unsound and/or beyond rehabilitation |

⁴ IPWEA, 2015, IIMM, Sec 2.5.4, p 2 | 80.

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

Figure 5.1.3: Asset Condition Profile



Condition is not currently monitored in a formal way

All figure values are shown in current day dollars.

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, street sweeping, asset inspection, and utility 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 pipe repairs, asphalt patching, and equipment repairs.

The trend in maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: Maintenance Budget Trends

| Year | Maintenance Budget \$ |
|---------|-----------------------|
| 2019/20 | \$25,000 |
| 2020/21 | \$25,000 |
| 2021/22 | \$25,000 |

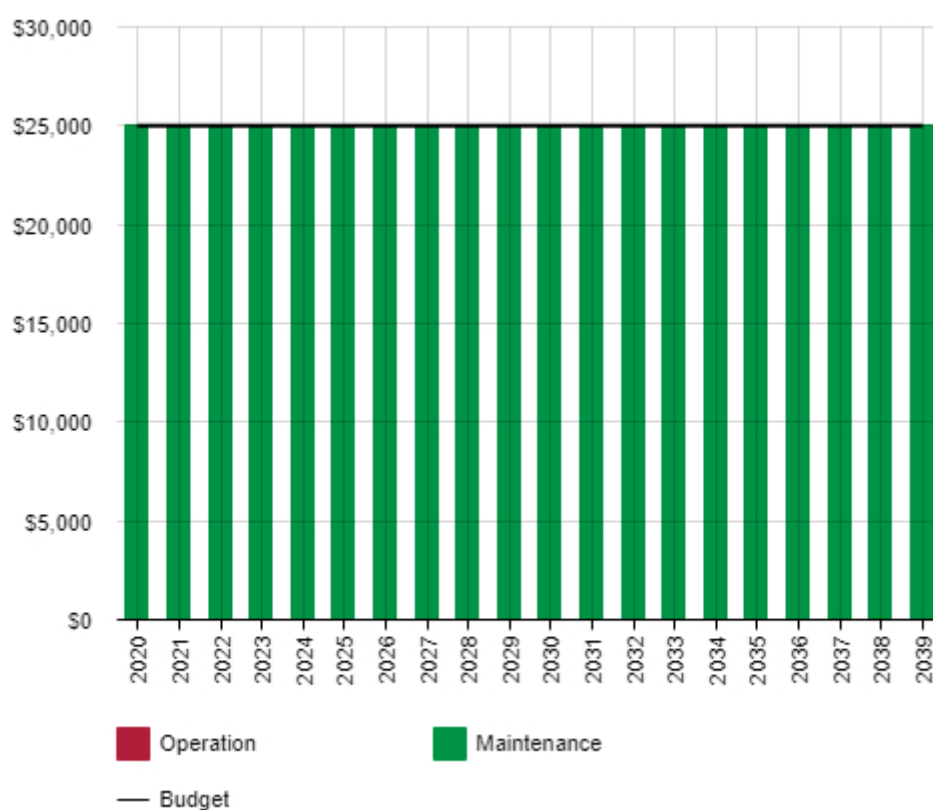
Maintenance figures are not recorded separately in the financial system, so the above figures are an estimate determined by Council staff based on knowledge and experience. Maintenance budget levels are considered to be adequate to meet projected service levels, which may be less than or equal to current 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 AM Plan and service risks considered in the Infrastructure Risk Management Plan.

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

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.

Deferred maintenance (i.e. works that are identified for maintenance activities but unable to be completed due to available resources) should be included in the infrastructure risk management plan.

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 on 30/6/2018.

Table 5.3: Useful Lives of Assets

| Asset (Sub)Category | Useful life |
|-----------------------|--------------|
| Stormwater Pipes | 100 Years |
| Stormwater Pits | 100 Years |
| Gross Pollutant Traps | 20-100 Years |

The estimates for renewals in this Asset Management Plan were based on the asset register or an alternate Method.

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).⁵

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.⁶

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

Table 5.3.1: Renewal Priority Ranking Criteria

| Criteria | Weighting |
|---------------------------------------------------------------------------------|-----------|
| Corporate planning – strategic planning for future development | 30% |
| Present capacity – amount in which current asset is being utilised | 20% |
| Safety – Potential for improvement to public safety | 30% |
| Cost - \$ value of work. Consideration must be given to the potential to obtain | 20% |

⁵ IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

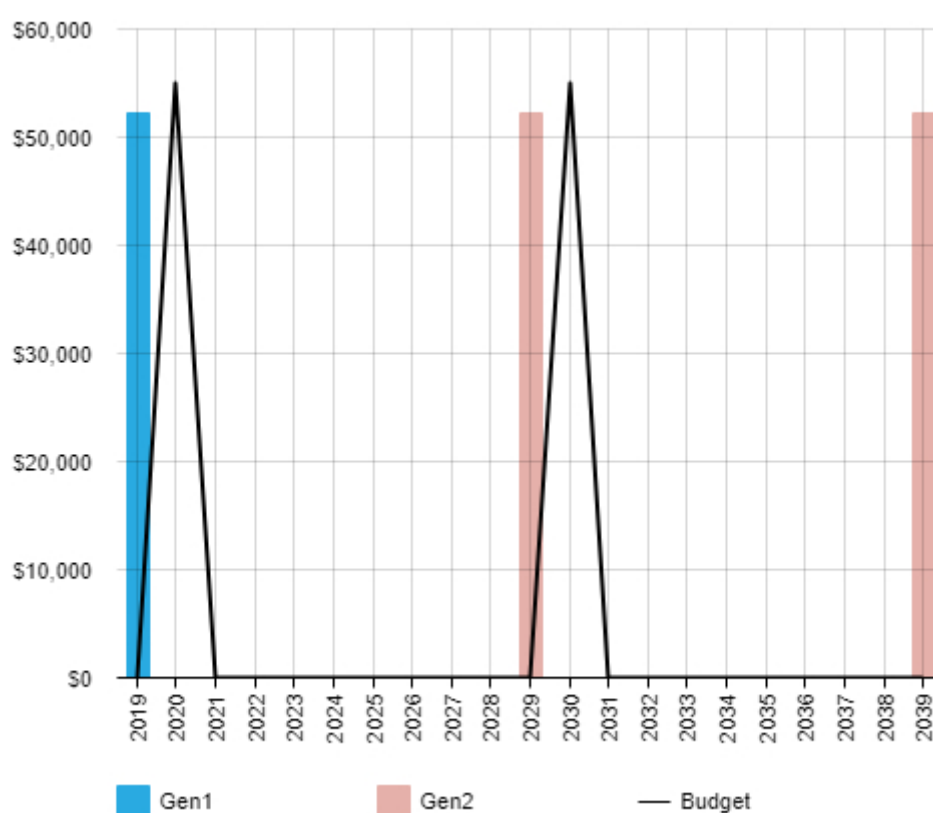
⁶ Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

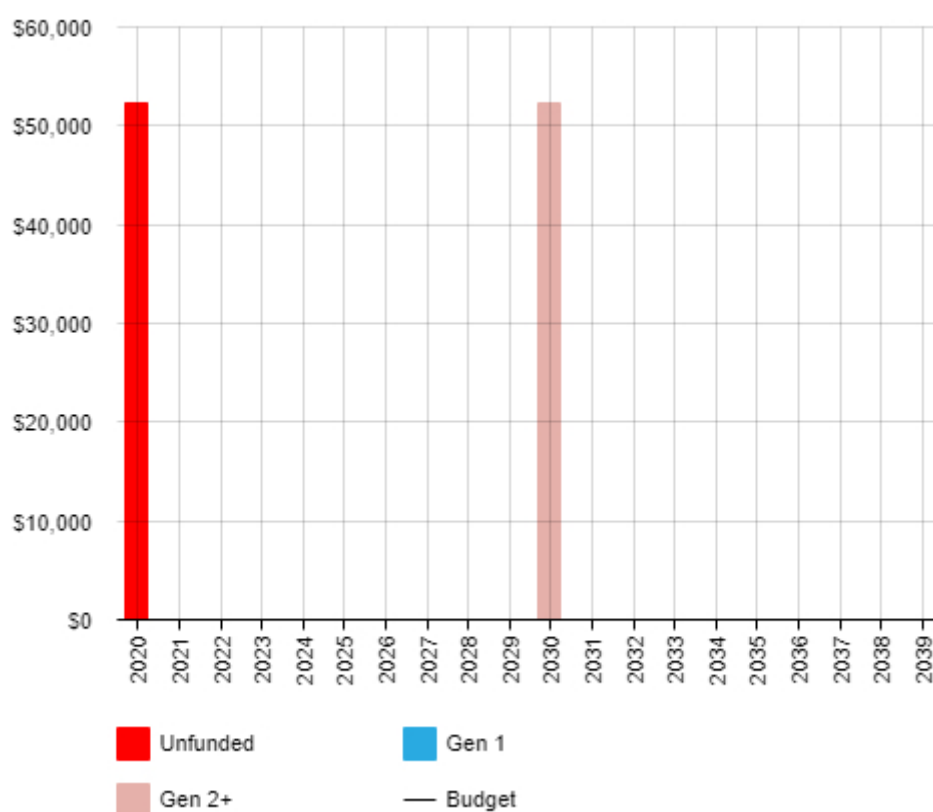
| Criteria | Weighting |
|--------------------------------------------------|-------------|
| contributions from local residents or developers | |
| Total | 100% |

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. A detailed summary of the forecast renewal costs is shown in Appendix D.

Figure 5.4: Forecast Renewal Costs





All figure values are shown in current day dollars.

Forecast renewal costs are projected to increase over time if the asset stock increases. Due to the age and standard lives of the assets in this class the majority of renewals are still around 50 years into the future and, as such, there is only the renewal of one GPT forecast for the life of this plan.

5.5 Acquisition Plan

Acquisition reflects are 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 the Stormwater portfolio.

5.5.1 Selection criteria

Proposed upgrade of existing assets, and new assets, are identified from various sources such as 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 the Entities 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 5.4.1.

Table 5.5.1: Acquired Assets Priority Ranking Criteria

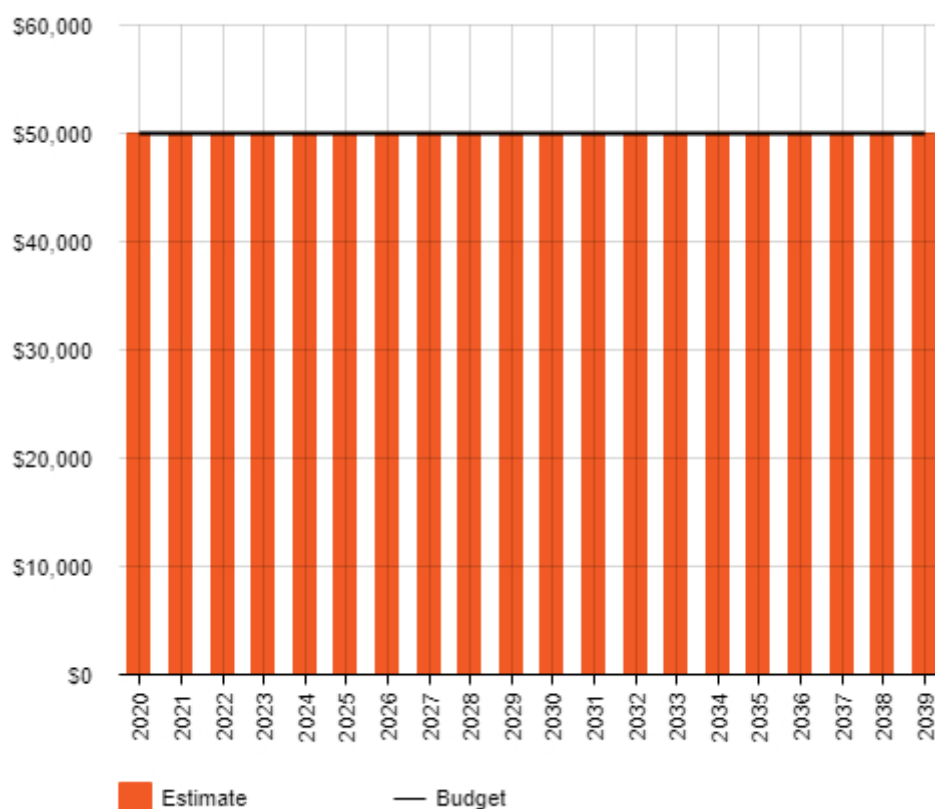
| Criteria | Weighting |
|--------------------------------------------------------------------|-----------|
| Corporate planning – strategic planning for future development | 30% |
| Present capacity – amount in which current asset is being utilised | 20% |

| | |
|----------------------------------------------------------------------------------------------------------------------------------|-------------|
| Safety – Potential for improvement to public safety | 30% |
| Cost - \$ value of work. Consideration must be given to the potential to obtain contributions from local residents or developers | 20% |
| Total | 100% |

Summary of future asset acquisition costs

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

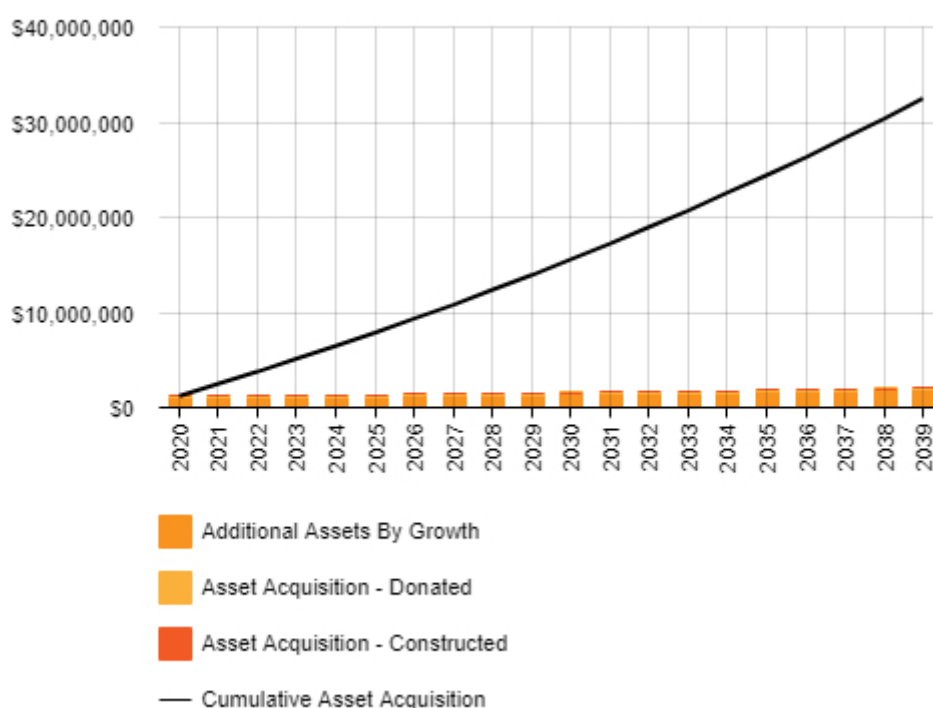
Figure 5.5.1: Acquisition (Constructed) Summary



All figure values are shown in current day dollars.

When an Entity 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 the Entity. The cumulative value of all acquisition work, including assets that are constructed and contributed shown in Figure 5.5.2.

Figure 5.5.2: Acquisition 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.

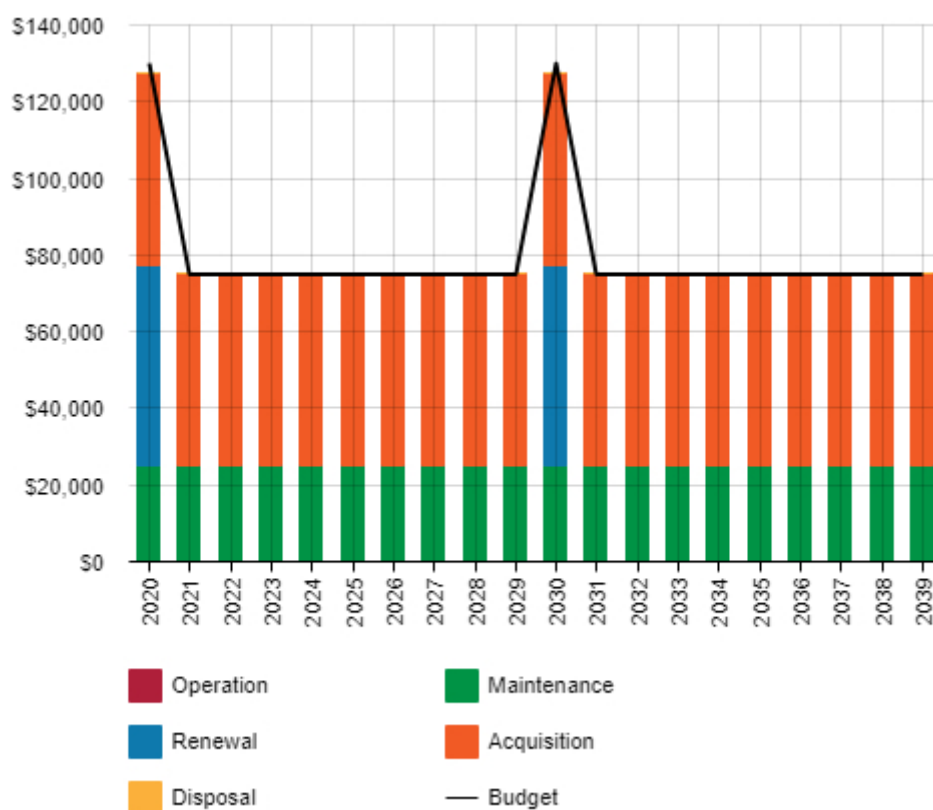
Brighton Council is projected to experience significant growth into the foreseeable future. Projected capital upgrade/new expenditure will require additional ongoing operations, maintenance and renewal funding for the period that the service provided from the assets is required into the future.

Summary of asset forecast costs

The financial projections from this asset 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 proposed budget.

The bars in the graphs represent the forecast costs needed to minimise the life cycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between the forecast work and the proposed 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.

Moderate upgrade/new capital expenditure is forecast and is considered able to be funded at this stage.

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Any costs or revenue gained from asset disposals is included in the long-term financial plan. No additional assets are identified for decommissioning at this stage.

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’⁷.

An assessment of risks⁸ 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 |
|---------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------|
| Stormwater drainage pipes | Pipe blockage | Flooding of adjacent roadway, footpath, park or private property which produces a hazard for road users, pedestrians or residents. |
| Stormwater drainage pits | Pit blockage | Flooding of adjacent roadway, footpath, park or private property which produces a hazard for road users, pedestrians or residents. |

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

6.2 Risk Assessment

The risk management process used is shown in Figure 6.2 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.

⁷ ISO 31000:2009, p 2

⁸ REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

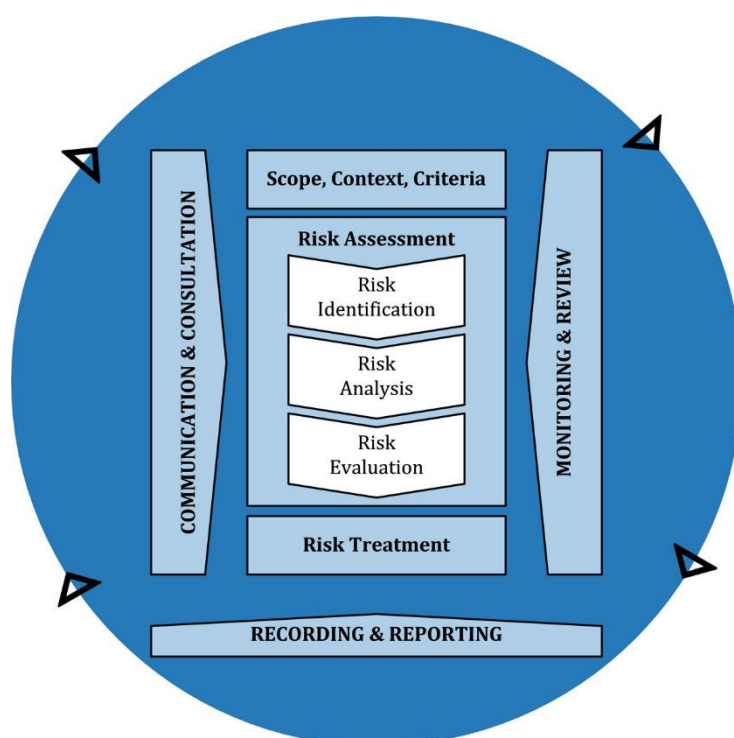


Fig 6.2 Risk Management Process – Abridged

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 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.

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 Brighton Council

Table 6.2: Risks and Treatment Plans

⁹ REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

| Service or Asset at Risk | What can Happen | Risk Rating (VH, H) | Risk Treatment Plan | Residual Risk * | Treatment Costs |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------|-----------------|-----------------|
| Stormwater drainage pipes | Flooding of adjacent roadway, footpath, park or private property which produces a hazard for road users, pedestrians or residents. | H | Maintenance pipe cleaning | M | \$10,000 |
| Stormwater drainage pits | Flooding of adjacent roadway, footpath, park or private property which produces a hazard for road users, pedestrians or residents. | H | Maintenance pit cleaning | M | \$15,000 |

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

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

6.4 Service and Risk Trade-Offs

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

6.4.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

No operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years have been identified at this stage, however, further work is underway to identify under-capacity parts of the network.

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. At this stage no service trade-off have been identified.

6.4.3 Risk trade-off

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences, namely higher risks of flooding for affected properties. These actions and expenditures are considered and included in the forecast costs, and where developed, the Risk Management Plan.

7.0 FINANCIAL SUMMARY

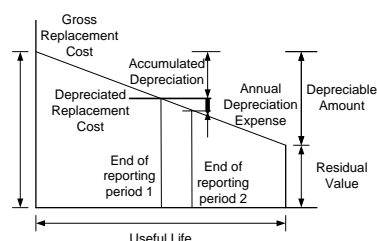
This section contains the financial requirements resulting from the information presented in the previous sections of this Asset Management Plan. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Statements and Projections

7.1.1 Asset valuations

The best available estimate of the value of assets included in this Asset Management Plan are shown below. The assets are valued at current replacement cost:

| | |
|--------------------------------------------|--------------|
| Current (Gross) Replacement Cost | \$32,402,466 |
| Depreciable Amount | \$32,402,466 |
| Depreciated Replacement Cost ¹⁰ | \$21,863,503 |
| Depreciation | \$330,360.0 |



7.1.2 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).

7.1.3 Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹¹ 105.26%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have 105.26% 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.

7.1.4 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 10 year period to identify any funding shortfall.

The forecast operations, maintenance and renewal costs over the 10 year planning period is \$30,225 on average per year.

The proposed (budget) operations, maintenance and renewal funding is \$30,500 on average per year giving a 10 year funding shortfall or funding excess of \$275 per year. This indicates that 100.91% of the forecast costs needed to provide the services documented in this Asset Management Plan are accommodated in the proposed budget. This excludes acquired assets.

¹⁰ Also reported as Written Down Value, Carrying or Net Book Value.

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

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.

7.1.5 Forecast Costs (outlays) for the long-term financial plan

Table 7.1.3 shows the forecast costs (outlays) for the 10 year long-term financial plan.

Forecast costs are shown in 2019/20 dollar values.

Table 7.1.3: Forecast Costs (Outlays) for the Long-Term Financial Plan

| Year | Forecast Acquisition | Forecast Operation | Forecast Maintenance | Forecast Renewal | Forecast Disposal |
|------|----------------------|--------------------|----------------------|------------------|-------------------|
| 2020 | 50000 | 0 | 25000 | 52250 | 0 |
| 2021 | 50000 | 0 | 25000 | 0 | 0 |
| 2022 | 50000 | 0 | 25000 | 0 | 0 |
| 2023 | 50000 | 0 | 25000 | 0 | 0 |
| 2024 | 50000 | 0 | 25000 | 0 | 0 |
| 2025 | 50000 | 0 | 25000 | 0 | 0 |
| 2026 | 50000 | 0 | 25000 | 0 | 0 |
| 2027 | 50000 | 0 | 25000 | 0 | 0 |
| 2028 | 50000 | 0 | 25000 | 0 | 0 |
| 2029 | 50000 | 0 | 25000 | 0 | 0 |
| 2030 | 50000 | 0 | 25000 | 52250 | 0 |
| 2031 | 50000 | 0 | 25000 | 0 | 0 |
| 2032 | 50000 | 0 | 25000 | 0 | 0 |
| 2033 | 50000 | 0 | 25000 | 0 | 0 |
| 2034 | 50000 | 0 | 25000 | 0 | 0 |
| 2035 | 50000 | 0 | 25000 | 0 | 0 |
| 2036 | 50000 | 0 | 25000 | 0 | 0 |
| 2037 | 50000 | 0 | 25000 | 0 | 0 |
| 2038 | 50000 | 0 | 25000 | 0 | 0 |
| 2039 | 50000 | 0 | 25000 | 0 | 0 |

7.2 Funding Strategy

The proposed funding for assets is outlined in the Entity's budget and Long-Term financial plan.

The financial strategy of the entity 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

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

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.

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 AM plan and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this Asset Management Plan are:

- The services provided by assets are consumed at a constant rate over the pre-defined standard useful lives recorded in council's asset management system for each of the asset sub-categories (eg stormwater pipes – 100yrs etc.)
- Present service levels will remain constant for the life of the plan.
- Present levels of expenditure (and the relative distribution of planned & reactive maintenance, and capital renewals & new/upgrades) will remain constant for the life of the plan.
- It is assumed that the Council will acquire \$50,000 worth of assets each year from subdivision donations. This can vary widely from year to year but is an average assumption.

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AM Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale¹² in accordance with Table 7.5.1.

Table 7.5.1: Data Confidence Grading System

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

The estimated confidence level for and reliability of data used in this AM Plan is considered to be B – Reliable.

¹² IPWEA, 2015, IIMM, Table 2.4.6, p 2 | 71.

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices¹³

8.1.1 Accounting and financial data sources

This Asset Management Plan utilises accounting and financial data. The source of the data is Xero financial management software.

8.1.2 Asset management data sources

This Asset Management Plan also utilises asset management data. The source of the data is Assetic Cloud asset management software.

8.2 Improvement Plan

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

Table 8.2: Improvement Plan

| Task | Task | Responsibility | Resources Required | Timeline |
|------|----------------------------------------------------------------------------------------------------------------|----------------|--------------------|----------|
| 1 | Consider and plan stormwater drainage upgrades related to land development. | Asset Services | Time | Ongoing |
| 2 | Continue to reduce the environmental impacts associated with stormwater management. | Asset Services | Time | Ongoing |
| 3 | Improve stormwater modelling for the municipality to ensure that capacity is suitable now and into the future. | Asset Services | Time | Ongoing |
| 4 | Document asset condition inspection procedures | Asset Services | Time | 2023/24 |

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 AM Plan will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, upgrade/new and asset disposal costs and proposed 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 AM Plan has a maximum life of 5 years and is due for complete revision and updating within 5 of plan adoption

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,

¹³ ISO 55000 Refers to this the Asset Management System

- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures take into account the 'global' works program trends provided by the 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 Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 1.0).

9.0 REFERENCES

- IPWEA, 2006, '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, 2015, 3rd edn., 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
 - IPWEA, 2012 LTFP Practice Note 6 PN Long-Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney
 - ISO, 2018, ISO 31000:2018, Risk management – Guidelines
 - Local Government Act 1993
 - Urban Drainage Act 2013
 - Urban Drainage (General) Regulations 2016
 - Brighton Council's Strategic Plan 2019-2029
 - Brighton Council's Annual Plan
 - Brighton Council's Long Term Financial Management Plan
 - Brighton Council's 10 Year Asset Management Plan
 - Brighton Council's Urban Catchment Plans
-

10.0 APPENDICES

Appendix A Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

The acquisitions forecast was determined from Council's staff experience, projections in the Brighton Structure Plan and look at historical data.

A.2 – Acquisition Project Summary

Assumed figure from new subdivision developments.

A.3 – Acquisition Forecast Summary

Table A3 - Acquisition Forecast Summary

| Year | Constructed | Donated | Growth |
|------|-------------|---------|---------|
| 2020 | 50000 | 200000 | 972074 |
| 2021 | 50000 | 200000 | 1007236 |
| 2022 | 50000 | 200000 | 1043453 |
| 2023 | 50000 | 200000 | 1080757 |
| 2024 | 50000 | 200000 | 1119180 |
| 2025 | 50000 | 200000 | 1158755 |
| 2026 | 50000 | 200000 | 1199518 |
| 2027 | 50000 | 200000 | 1241503 |
| 2028 | 50000 | 200000 | 1284748 |
| 2029 | 50000 | 200000 | 1329291 |
| 2030 | 50000 | 200000 | 1375169 |
| 2031 | 50000 | 200000 | 1422425 |
| 2032 | 50000 | 200000 | 1471097 |
| 2033 | 50000 | 200000 | 1521230 |
| 2034 | 50000 | 200000 | 1572867 |
| 2035 | 50000 | 200000 | 1626053 |
| 2036 | 50000 | 200000 | 1680835 |
| 2037 | 50000 | 200000 | 1737260 |
| 2038 | 50000 | 200000 | 1795377 |
| 2039 | 50000 | 200000 | 1855239 |

Appendix B Operation Forecast

B.1 – Operation Forecast Assumptions and Source

Operations have been included as part of maintenance as they are not separated by Brighton Council in the financials.

B.2 – Operation Forecast Summary

Table B2 - Operation Forecast Summary

| Year | Operation Forecast | Additional Operation Forecast | Total Operation Forecast |
|------|--------------------|-------------------------------|--------------------------|
| 2020 | 0 | 0 | 0 |
| 2021 | 0 | 0 | 0 |
| 2022 | 0 | 0 | 0 |
| 2023 | 0 | 0 | 0 |
| 2024 | 0 | 0 | 0 |
| 2025 | 0 | 0 | 0 |
| 2026 | 0 | 0 | 0 |
| 2027 | 0 | 0 | 0 |
| 2028 | 0 | 0 | 0 |
| 2029 | 0 | 0 | 0 |
| 2030 | 0 | 0 | 0 |
| 2031 | 0 | 0 | 0 |
| 2032 | 0 | 0 | 0 |
| 2033 | 0 | 0 | 0 |
| 2034 | 0 | 0 | 0 |
| 2035 | 0 | 0 | 0 |
| 2036 | 0 | 0 | 0 |
| 2037 | 0 | 0 | 0 |
| 2038 | 0 | 0 | 0 |
| 2039 | 0 | 0 | 0 |

Appendix C Maintenance Forecast

C.1 – Maintenance Forecast Assumptions and Source

The Maintenance forecast was an estimate sourced from the 2019/20 budget.

C.2 – Maintenance Forecast Summary

Table C2 - Maintenance Forecast Summary

| Year | Maintenance Forecast | Additional Maintenance Forecast | Total Maintenance Forecast |
|------|----------------------|---------------------------------|----------------------------|
| 2020 | 25000 | 0 | 25000 |
| 2021 | 25000 | 0 | 25000 |
| 2022 | 25000 | 0 | 25000 |
| 2023 | 25000 | 0 | 25000 |
| 2024 | 25000 | 0 | 25000 |
| 2025 | 25000 | 0 | 25000 |
| 2026 | 25000 | 0 | 25000 |
| 2027 | 25000 | 0 | 25000 |
| 2028 | 25000 | 0 | 25000 |
| 2029 | 25000 | 0 | 25000 |
| 2030 | 25000 | 0 | 25000 |
| 2031 | 25000 | 0 | 25000 |
| 2032 | 25000 | 0 | 25000 |
| 2033 | 25000 | 0 | 25000 |
| 2034 | 25000 | 0 | 25000 |
| 2035 | 25000 | 0 | 25000 |
| 2036 | 25000 | 0 | 25000 |
| 2037 | 25000 | 0 | 25000 |
| 2038 | 25000 | 0 | 25000 |
| 2039 | 25000 | 0 | 25000 |

Appendix D Renewal Forecast Summary

D.1 – Renewal Forecast Assumptions and Source

Due to the age and standard lives of the assets in this class the first renewals for the majority of the assets are still around 50 years into the future and, as such, there is currently only one GTP required for renewal.

D.2 – Renewal Project Summary

One GTP is due for renewal this financial year and will then again require renewal in 2030..

D.3 – Renewal Forecast Summary

Table D3 - Renewal Forecast Summary

| Year | Renewal Forecast | Renewal Budget |
|------|------------------|----------------|
| 2020 | 52250 | 55000 |
| 2021 | 0 | 0 |
| 2022 | 0 | 0 |
| 2023 | 0 | 0 |
| 2024 | 0 | 0 |
| 2025 | 0 | 0 |
| 2026 | 0 | 0 |
| 2027 | 0 | 0 |
| 2028 | 0 | 0 |
| 2029 | 0 | 0 |
| 2030 | 52250 | 55000 |
| 2031 | 0 | 0 |
| 2032 | 0 | 0 |
| 2033 | 0 | 0 |
| 2034 | 0 | 0 |
| 2035 | 0 | 0 |
| 2036 | 0 | 0 |
| 2037 | 0 | 0 |
| 2038 | 0 | 0 |
| 2039 | 0 | 0 |

Appendix E Disposal Summary

E.1 – Disposal Forecast Assumptions and Source

No additional assets are identified for decommissioning at this stage.

Appendix F Budget Summary by Lifecycle Activity

Table F1 – Budget Summary by Lifecycle Activity

| Year | Acquisition | Operation | Maintenance | Renewal | Disposal | Total |
|------|-------------|-----------|-------------|---------|----------|--------|
| 2020 | 50000 | 0 | 25000 | 55000 | 0 | 130000 |
| 2021 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2022 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2023 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2024 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2025 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2026 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2027 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2028 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2029 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2030 | 50000 | 0 | 25000 | 55000 | 0 | 130000 |
| 2031 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2032 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2033 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2034 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2035 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2036 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2037 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2038 | 50000 | 0 | 25000 | 0 | 0 | 75000 |
| 2039 | 50000 | 0 | 25000 | 0 | 0 | 75000 |

