

# Activity Management Plan 2021 Oxford Urban Drainage Scheme

3 Waters | July 2021



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## **1** Executive Summary

The following table provides a summary of the key asset management issues of the Oxford Urban Drainage Scheme identified through consideration of the levels of service, consents, asset condition, risk analysis, disaster resilience, growth projections, and capacity assessment:

Levels of Service	Two of the four scheme specific LoS have been met, but it is unknown if the other two have been met, due to the lack of a current hydraulic model. The AMP improvement plan includes a project to update this in 2022 Although not a scheme specific service level, with analysis now possible down to scheme level, customer satisfaction (high and very high) can be reported for this scheme at 80% Two Service Requests related to flooding on the road/land were recorded in 19/20, for which long term solutions have been programmed
Resource Consents	The scheme is currently achieving its targets relating to resource consent compliance. However, a new urban network discharge consent has been applied for as required under the Land and Water Regional Plan and the outcome is pending. It is expected that the new consent conditions will require considerable expenditure (both opex and capex) over time to improve water quality discharging into receiving waters. Budget allowance has been made for this, commencing in 2026/27, but further work is needed to clarify exactly how the required outcomes will be achieved.
Capacity & Performance	The stormwater reticulation system is generally working satisfactorily, although assessment of its ability to meet full levels of service has not yet been made. Assessment is planned via an update of the hydraulic model in 2022. There are three improvement projects planned within the 2021 LTP period, which have been identified from ongoing issues arising during rain events
Asset Condition	The asset condition of the reticulation system is assumed to be moderate to good, with some known exceptions. This is due to the relatively recent construction of much of the reticulation, and will be verified in time with the targeted CCTV programme.
Risk Assessment	There are no extreme or high risks on this scheme as identified through the Risk Assessment.
Disaster Resilience	No specific mitigation actions have been identified for this scheme for piped and open drains.
Growth Projections	All new major development will be required to maintain stormwater discharge at predevelopment levels, but infill development may impact on discharges.

#### Table 1: Key Asset Management Components

# 2 Introduction

The purpose of this Activity Management Plan (AMP) is to outline the significant issues associated with the Council's assets and to show how the Council proposes to manage the schemes in the future.

This plan summarises the various components of the Oxford Urban Drainage Scheme, its condition and performance, and identifies future funding requirements including upgrades where necessary.

The data that has been relied upon to produce this document was taken at the end of the 19/20 financial year. i.e. 30 June 2020.

Further details of the asset management practices used by Council to manage this scheme are summarised in the District Drainage AMP Overview document.

Projects identified to improve asset management processes for this scheme will also benefit the performance of the other 3 waters schemes and are managed at a District level for efficiency.

Projects are also identified within this AMP that will maintain or improve levels of service.

All figures within this AMP exclude inflation.

# 3 Related Documents

The following related documents have been used as reference documents or for guidance in the development of some of the sections in this Activity Management Plan.

- Waimakariri District Plan
- Population in the Waimakariri District (TRIM 170328030077)
- New Projections for LTP 2021-2031 (TRIM 200908117997
- WDC Asset Management Policy (TRIM 180605062091)
- 2019 Customer satisfaction Survey (TRIM 200313034937)
- Development Contributions Policy 2021/22 (TRIM 200729095963)
- Flood Mitigation Works and Funding (TRIM 141009110892[v2])

# 4 Scheme Description (What Do We Have?)

Oxford Township is situated at the base of a range of heavily forested foothills, just north of the Eyre River. The area around Main Street is predominantly urban while the area to the north is a combination of rural and urban development.

The town is crossed by 3 main drains roughly in a west to east direction; namely Findley's Drain, Pearson's Drain and Flanigan's Drain. Two contain small spring fed base flows, and the third takes stormwater from the hill catchments and a network of urban road drains. Soak pits drain the runoff from a number of the buildings and roads in the town but are not always successful and flooding of roads can occur.

There are two cut-off drains above the town diverting stormwater to the Eyre River (Rowes Drain and Frahms Creek), and one diversion drain south of the town (Mill Road Drain) moving flow away from the Cust and into the Eyre. The town itself is predominantly serviced by open drains with a small amount of stormwater piping.

Some key statistics (end of 2019/20 year) of the scheme are shown in Table 2 to 6.

The extent of the currently serviced area is presented in Appendix A, and a schematic of the network is shown in Figure 1 below.

Scheme Parameter	Statistics	Source			
Drainage System	Gravity fed				
Drainage Area	174 hectares	Source - GIS Layer			
Reticulation and Treatment	Piped and open drains – 3 soak pits and 1 stormwater detention basin (Weka St SMA)				
Length of Reticulation	1.5 km Mains 6.1 km Channel	Drainage Asset Valuation			
Total Replacement Value	\$1,376,503	Tables 9-4 and 9-5, pages 66 to 68.			
Depreciated Replacement Value	\$1,249,946				
Connections	750	Source 2019/20 Rating Query			

Table 2: Scheme Statistics for 2019/2020

Stormwater pipe length (m) by diameter and pipe material													
		Pipe Diameter (mm)											
Pipe Material	100	150	225	300	375	450	525	600	750	900	1050	>1200	Total
Concrete	0m	0m	170m	158m	18m	0m	139m	146m	0m	0m	19m	0m	649m
Рvс	0m	0m	11m	205m	475m	0m	0m	0m	0m	0m	0m	0m	691m
Other	0m	0m	202m	0m	0m	0m	0m	0m	0m	0m	0m	0m	202m
Total	0m	0m	383m	363m	493m	0m	139m	146m	0m	0m	19m	0m	1,542m

#### Table 3: Stormwater Pipe Data Summary

#### Table 4 Open Channel Drain Data Summary

Open Channel Drains						
Material	Length (m)					
Unlined Drain	6,069					
Lined Drain	0					
Total	6,069					

#### Table 5 Other Stormwater Asset Data Summary

Stormwater Assets							
Asset Type Count							
Inlet (Sump)	5						
Manhole	27						
Node	1						
Valve	1						
Total	34						

## Table 6: Data References

Data Reference	Trim Reference
2020 3 Waters Asset Valuation	<u>200824109857</u>
2017 30 Year Connection & Rating Unit projection	<u>171026115834</u>
2020 50 Year Water and Sewer Growth Forecast	<u>200224024348</u>

#### Figure 1: Network Schematic



# 5 Scheme Management Issues (What Do We Need to Consider?)

There are a number of key aspects to consider when managing a drainage scheme; these include:

- Desired & actual levels of service
- Asset condition & criticality
- Capacity & performance
- Risks
- Growth predictions for the scheme

These issues have been assessed in detail and are summarised in the following sections.

## 5.1 Levels of Service

Table 7 sets out the performance measures and targets for the scheme, and performance achievement against targets since 2008.

Mandatory performance measures are measured at the district wide level and are not included in the individual drainage scheme AMPs. They are located in the District Overview Drainage Activity Management Plan. However, there is considerable overlap between the measures at Scheme and District levels. Mandatory measures cover flooding, consent compliance, time to respond to faults, and complaints. The scheme LOS measures include more detail, and cover complaints, consent compliance, flooding, but not response times, which are only measured at scheme level

None of the WDC targets are planned to change over the 10 year LTP period, so only the one target value has been shown in this document.

Performance in Table 7 is measured against the performance measures set in 2018, as part of the 2018-28 Long Term Plan process. Going forward from 2021 onwards, performance will be against the modified set of performance measures that were presented to the Council's Utilities and Roading Committee in 2020 (refer report 200406043184[v2]), and subsequently approved by Council. These revised levels and targets are detailed in the District Overview Water Supply Activity Management Plan.

#### Table 7: Elective (non-mandatory) Levels of Service Targets and Performance Measures as Assessed in 2020

#### \* Note "Y" indicates that the LOS has been met, and "N" indicates it has not been met

<sup>#</sup> Details of performance measures may have been modified between various revisions of the AMP. The Previous Results reported are as assessed against the most relevant performance measure at the time of assessment.

	Level of	2018 – 2021 Performance	2018 – 2021		2020	Previous Results*					
Section	Service	Measure	Target	Result	Commentary	Status	Action to Address	2017	2014	2011	2008
Resource Consent	Consent Breach	Number breaches of consent conditions that result in an ECan report that identifies compliance issues.	Nil per year	Nil	There were no consent breaches that resulted in non-compliance reports being received from Environment Canterbury for FY 19/20.	Achieved	N/A	Y	Y	Y	Y
Flooding	Flooding - CBD Nuisance or Carriageway	Minimum return period of flood event that can be accommodated in the system without having nuisance flooding of properties or road carriageways in the CBD area.	1 in 10 year	-	No modelling has been carried out.	-	None. LOS is changing from 2021 forward, to be based on complaints	-	-	-	NA
	Flooding - Dwellings	Minimum return period of flood event that can be accommodated in the system without having flooding of dwellings.	1 in 50 year	-	The impact of a 50 year storm in Oxford has not been assessed in any detail. There are known issues but previous proposals to the Community Board for improvements have been turned down	Not achieved	Create/update Oxford storm water network model	N	Y	Y	Y

Section	Louglast	2018 – 2021 Performance	2018 – 2021	2020					Previous	Previous Results*			
	Service	vice Measure Target Result Commentary		Status	Action to Address	2017	2014	2011	2008				
	Flooding - Nuisance or Carriageway	The percentage of complaints about nuisance flooding caused by lack of capacity that are investigated and a project planned to resolve the issue. Applies to rain events with an Average Recurrence Interval of 5 years or less.	100%	100%	No outstanding nuisance drainage issues recorded	Achieved	N/A	N	N	Ν	Y		

## 5.2 Asset Condition

The current assessment of asset condition is based on theoretical remaining useful life derived from component age and adopted useful life. Adjustments to the remaining life are made to individual components where information is available to suggest the theoretical remaining life is inappropriate.

A targeted wastewater CCTV programme was started in 2016 to survey the reticulation network and assign evidence based condition ratings. Only a small amount of the District network has been inspected so far and while the data has been placed in the Asset Register, it has not yet been analysed. The expected purchase of the widely used InfoAssets software for this purpose will aid this analysis. As data is gathered and analysed, the rate of CCTV inspections may need to be increased.

The data has been used in the renewals model.

Figure 2 below, shows the assessed pipe condition for all pipes within the scheme. Figure 3 summarises the theoretical asset condition for both the network and headworks in a graph, while Table 8 provides more detail about the value of the assets within different asset condition categories.

#### Figure 2: Pipe Condition Assessment Plan





Figure 3: Asset Condition Summary

"Headworks" is inclusive of all above ground assets associated with the scheme e.g. buildings, pump sets.

Condition Grade	Definition	Pipeline Quantity	Total Reticulation Value	Total Headworks Value	Total Value
1	Very Good More than 80% of life remaining	1.2 km <i>81%</i>	\$ 967,000 <i>86%</i>	\$ 13,000 <i>26%</i>	\$ 980,000 <i>83%</i>
2	Good Between 50% and 80% of life remaining	0.3 km <i>19%</i>	\$ 163,000 14%	\$ 37,000 74%	\$ 200,000 <i>17%</i>
3	Adequate Between 20% and 50% of life remaining	0.0 km <i>0%</i>	\$ - 0%	\$ - 0%	\$ - 0%
4	Poor Between 10% and 20% of life remaining	0.0 km <i>0%</i>	\$ - 0%	\$ - 0%	\$ - 0%
5	Very Poor Less than 10% of life remaining	0.0 km <i>0%</i>	\$ - 0%	\$ - 0%	\$ - 0%
	Total	1.5 km	\$1,130,000	\$50,000	\$1,180,000

## 5.3 Asset Criticality

Asset criticality provides an indication of the importance of an individual asset and the corresponding impact on the service delivery should the asset fail for any reason. Criticality is used in risk based investment decisions to help decide when an asset should be replaced to avoid the consequences of failure. For 3 waters the Council has developed an assessment process which scores assets from most critical 'AA' to least critical 'C'. Further details of the criticality assessment methodology is covered in the Drainage Overview AMP.

The pipe criticality scoring process has been significantly improved through automation and dynamic links to GIS data layers for this AMP.

Figure 4 provides a spatial view of asset criticality for the scheme.

#### Figure 4: Pipe and Facilities Criticality



## 5.4 Risk Assessment

An Operational Risk Assessment was first undertaken for the components of the Drainage Scheme in 2004, and it has been regularly updated since that time. It was last updated for the 2015 AMP review. There have been no extreme or high risks associated with this drainage scheme since 2004.

The District Wide Overview details the risk events considered and includes a summary of the risk assessment results for all the drainage supply schemes and is useful in indicating overall wastewater network priorities.

Table 9 summarises the risks for the Oxford Urban Drainage scheme.

Risk Level	2004	2008	2011	2014
Extreme risks	0	0	0	0
High risks	1	0	0	0
Moderate risks	4	5	6	6
Low risks	10	10	11	11
Not applicable	12	12	12	12
Total	27	27	29	29

 Table 9: Number of Events per Level of Risk

The two additional risks that were introduced in the 2011 Risk Assessment for the Oxford Urban drainage scheme were:

- The potential collapse or failure of pipes or open drains.
- High groundwater preventing stormwater discharge to ground.

District wide, moderate risks are being deferred until extreme and high risks have been addressed.

## 5.5 Disaster Resilience Assessment

The 2009 Disaster Resilience Assessment (DRA) is a desk top study that primarily considered the risks to above ground structures presented by natural hazard events across all Council operated 3 Waters schemes. The original assessment was updated in 2012 using revised hazard and asset behaviour information captured during the 2010-11 Canterbury earthquake sequence.

The Oxford Urban scheme area is not susceptible to liquefaction, so the pipeline vulnerability assessment process carried out within other scheme boundaries is not relevant. However reticulation mains were assessed for earthquake risk. No specific mitigation actions were identified.

## Above Ground Assets

No above ground drainage assets for this scheme were assessed. The only above ground asset within the scheme is the Mill Road drop structure

Table 10 details the hazard impacts that the scheme is exposed to.

#### Table 10: Risks to Assets

Threat	Hazard Impact
Flood risk	Up to 1.5 metres of flooding from local sources in small areas of the scheme. Over 2 metres flooding possible from an Ashley River breakout in small parts of the scheme.
Earthquake	Vulnerable to shaking effects
Liquefaction	High threat
Slope Hazard	Low to very low threat
Tsunami	Greater than 3 metres of inundation modelled to affect part of the scheme
Wildfire threat	Low to extreme threat
Snow	30-40cm could be expected
Wind risk	Medium and High threat
Lightning	District wide hazard
Terrorism/sabotage	District wide hazard

400 metres of mains in this scheme have been rated as moderate and low risk to earthquake.

The Councils response to these risks is being managed at a district level via the DRA Action Plan and related projects. Refer to the District Level Overview AMPs for details.

## 5.6 Growth Projections

There are a number of factors that are likely to influence future demand on land drainage systems. These may include:

- Population trends
- Changes in land use
- Climate change
- Changes in legislation
- Advancements in drain management

Growth in recent years has taken place within the existing town boundary, and as there is still land available for development, there is no pressure to extend the urban area beyond its present boundaries.

It is considered that the impact of future major development on stormwater runoff in the Oxford Urban Drainage Scheme area would be limited. Infill development of up to 10% over the next 10 years may have some impact on total flows, as the percentage of impervious surfaces increases.

However with a policy of runoff being held to predevelopment levels, any new development should not adversely impact on land drainage in the area.

The overall district population growth scenario used for the 2021 AMP update was supplied by Council's Development Planning Unit, broken into towns and rural areas. Stormwater growth projections were calculated using the New Projections for LTP 2021-2031 (TRIM200908117997), which was the basis for infrastructure planning.

Due to issues that have occurred with the Census 2018, the population projections that would normally be used as a basis for updating the work previously developed by the Council's Development Planning Unit have not been released by Stats NZ in time for the development of this assessment.

However, based on the historical growth patterns of new dwelling Building Consents over the last three years (636 in 2017/18, 661 in 2018/19 and 615 in 2019/20), the projections used for the previous LTP/infrastructure strategy remain valid to be used for infrastructure planning. As the timeframe for this infrastructure planning is for the thirty years between 2021 to 2051, the previous population projections have been extended out a further three years, as documented in New Projections for LTP 2021-2031 (TRIM200908117997).

It is important to provide a brief comment on COVID19 and the impact it could have on population projections. At the time of writing this paragraph (August 2020), New Zealand is currently in Level 3 restrictions in Auckland and Level 2 restrictions in the remainder of the country. While international migration is currently low arising from the COVID19 travel restrictions, a significant number of New Zealanders are returning home due to the impact of COVID19 on overseas countries. This has contributed to a high level of population growth nationally over the last six months, which has had a flow on effect to growth in the Greater Christchurch and Waimakariri Districts. How long this might continue for and when international migration (from other countries) might return to pre COVID levels is still to be determined. However the existing population projections remained the most appropriate to use for infrastructure planning at this time.

Growth for the Stormwater schemes was calculated using the WDC population projections (TRIM200908117997). Growth in the number of properties expected to be included within the whole drainage scheme are included in Table 11 below.

Oxford Urban	Rates Strike	Years 1 - 3	Years 4 - 10	Years 11 - 20	Years 21 - 30
	2019/20	2021/22 to 2023/24	2024/25 to 2030/31	2031/32 to 2040/41	2041-42 to 2050/51
Projected Properties	750	832	947	1100	1233

Table 11: Growth projections

Note that the time frames have been chosen to reflect the periods 3, 10, 20, 30 and 50 years from the AMP release date, however due to the time it takes to complete the analysis the base rates strike data used was from 2019/20.

To calculate connection growth numbers from the population projections, existing Oxford Urban drainage connections were counted then the Oxford population growth profile (from New Projections for LTP 2021-2031 (TRIM200908117997)) was applied, for the development horizons in Table 11.

## 5.7 Capacity & Performance

The capacity of the Oxford stormwater system was assessed some time ago and it was found that it cannot cope with a 1 in 5 year storm event in some areas. At that time not all the issues identified were addressed due to community concern over the costs. That assessment is now outdated, and an update to the hydraulic model is planned in 2021/22. This will enable priority projects to be confirmed and re-submitted to Council/the Community Board through subsequent Annual Plan and LTP processes

Ordinary rain events are known to cause ongoing concern to some residents, with issues arising from the limited capacity of the system to drain storm water away in conjunction with the decreasing capacity of the roadside soak pits. Three projects have been included in the scheme budget to address specific concerns:

- Diversion of urban stormwater along York St to the Eyre River. 2022/23
- Constructon of a secondary overland flow path from Matai Place to Park Avenue (through Ericksons Lane) 2024/25
- Provision of a secondary flow path from Kowhai Street to High Street and through the cemetery. 2026/27

# 6 Future Works & Financial Projections (What Do We Need To Do?)

This section covers the future works required to meet the target levels of service, maintain the asset in an acceptable condition, reduce the risks to an acceptable level and accommodate growth.

## 6.1 Operation & Maintenance

Maintenance of the open drains is a combination of proactive and reactive work. Drains known to require clean out are completed on an annual basis, with other drains being cleaned when notification is given by adjacent landowners. Much of the routine work is done in the summer months when weed growth is at its peak. In some locations only hand cleaning and or spraying is possible given the limited access available.

Depending on weed growth, some areas may be cleaned more than once a year. This is particularly so where drains are in highly visual areas such a retention ponds. In addition to weed-spraying, drains are cleaned out and re-shaped with a digger depending on condition.

There are no pump stations in the Oxford Urban Drainage Scheme, so the WDC Water Unit has no maintenance role. Other structures, culverts and open drains are the responsibility of the Council's Roading section.

Little active maintenance is carried out on the reticulated network. The CCTV programme now under way will provide information as to whether more active maintenance is required.

Figure 5 shows the projected Operations and Maintenance budget over the next 30 years.

Systems are not yet in place to capture the cost distinction between planned and unplanned maintenance, and while there is no known deferred maintenance, the CCTV programme may reveal asset condition in some pipes to be less than what has been assumed.



#### Figure 5: Projected Operations & Maintenance 30-Year Budget

## 6.2 Renewals Programme

The renewals programme is determined in two stages. The renewals model, details of which are provided in the overview document, provides a long term view of the income required to ensure that a renewals fund is sufficient to enable future asset renewals, without needing to borrow.

The model prioritises candidates for consideration by Asset Managers for renewal based on criticality, risk, and expected asset life. Renewal of pipework assets are then programmed on an annual basis, taking into account the outputs from the renewals model, but also being informed by other works that may be planned in the area, as well as local asset history for the cases where a particular asset may be performing differently than its base life suggests.

The planned renewals for this scheme, which are the outcome from this two stage process, are shown spatially and temporally in Figure 6 below.

#### Figure 6: Pipe Renewal Time Frames



Figure 7 below shows the financial output from the model alone. Over a 150 year period it shows the projected expenditure; the value in the renewals fund; the level of funding required to ensure the fund can meet the required renewals programme, and the annual depreciation.

The figure only shows the output from the model, so expenditure shown in the graph for the first ten years may be different from the expenditure shown in the LTP, as adjustments may have been made by the Asset Manager from the direct renewals model outputs. Individual scheme AMPs detail the actual planned renewals budgets for the first ten years.

Since the average condition of the assets is assumed to be good, and the assets are relatively young, no significant renewals are expected to be needed until at least 2060



## Figure 7: Annual Drainage Projected Renewals 150 year Budget

The key parameters in the figure above are explained below:

• Modelled Annual Renewals Expenditure: This is the direct output from the renewals model, recommending the annual investment to be made in renewals each year.

• Modelled Annual Funding Required: This is the amount of annual renewals funding required, to ensure there are sufficient funds available to carry out the recommended annual renewals each year.

• Budgeted Depreciation Funding: This is the actual amount of depreciation being collected, which is extracted from the Council's budgets.

• Modelled Renewals Fund: This is the modelled balance in the renewals account, assuming the annual funding and annual expenditure is completed as per the recommendations from the renewals model. As can be seen, this account is maintained as a surplus, peaking later this century, before being drawn down as the first lifecycle of current assets is completed.

As may be seen from the depreciation funding line being greater than the modelled annual funding required line, future renewals are fully funded.

## 6.3 Capital Works

The following graph shows the 50 year budget for all capital works, including projects driven by growth and levels of service (Figure 8). It does not show flood improvement works which is expenditure funded by the district drainage rate. An allowance has been made starting in 2026/27 to meet the requirements of the new global discharge consent that is required to be obtained, which accounts for the majority of the expenditure shown between 2027/28 and 2032/33



#### Figure 8: Annual New Works Budget

Table 12 below summarises the projected capital works for the next 50 years, including renewals.

The level of confidence in the budget for the works (High / Medium / Low) is included in the table. For a more complete discussion on the level of optimisation, refer to the introductory chapter of the AMP. The upgrades predominantly relate to improvements in levels of service and future open drains. The figures in the table are not adjusted for inflation.

Any programme or project that occurs over a number of years, such as the renewals programme, is only shown within the table for the first year in which it occurs. The Project Value indicates the projected total cost of the project over the number of years it occurs.

Year	Project ID	Project Name	Level of Confidence	vel of Project Value		LOS Component		Renewals Component		Growth Component	
Year 1 - 10											
2022	URD0074	Stormwater Minor Improvements	1 - Coarse	\$	500,000	\$	500,000	\$	-	\$	-
2022	URD0110	York Street Diversion	3 - Low	\$	250,000	\$	250,000	\$	-	\$	-
2024	URD0132	Matai Place Stage 2	0	\$	120,000	\$	120,000	\$	-	\$	-
2026	URD0134	Flannigans Drain Downstream Upgrade	1 - Coarse	\$	350,000	\$	350,000	\$	-	\$	-
2027	URD0093	Network Discharge Consent Implementation Works	1 - Coarse	\$	1,720,000	\$	1,720,000	\$	-	\$	-
Year 11 - 20											
2032	URD0140	Oxford Urban Drainage Long Term Headworks Renewals	3 - Low	\$	18,801	\$	-	\$	18,801	\$	-
Year 31 - 50											
2062	URD0087	Oxford Urban Drainage Long Term Reticulation Renewals	3 - Low	\$	47,229	\$	-	\$	47,229	\$	-
Grand Total				\$	3,006,030	\$	2,940,000	\$	66,030	\$	-

#### Table 12: Summary of Capital Works (Includes Renewals)

Note: the Oxford Urban Drainage Scheme renewals item indicates the total renewals programme value for the 50 years beginning 2021/22. The budget has been derived directly from the renewals model and no specific assets have yet been identified for replacement, so they do not appear on Figure 8 below.

#### **Flood Response Programme**

There are no works for the Oxford Urban scheme planned to be funded from the district wide drainage rate

#### Figure 9: Projected Capital Upgrade Works (not to scale)

Includes works funded through the flood response works (if any)



## 6.4 Financial Projections

The following graph summarises the breakdown of projected total expenditure over a 30 year time horizon. It includes both operational and capital expenditure. Operational costs include operations and maintenance, and indirect expenditure.

Indirect expenditure includes interest, rating collection costs, costs associated with maintaining the Asset Register, and internal overhead costs. Capital includes expenditure for growth, levels of service and renewals (including carry forwards), but excludes projects funded by the district wide drainage rate.



#### Figure 10: Projected Total Expenditure

## 6.5 Valuation

A full peer reviewed valuation of assets is carried out on a three yearly cycle, using the asset data in our asset management information system. Table 13 below provides a summary of the replacement cost, depreciated replacement cost and annual depreciation for this scheme

Asset Type	Unit	Quantity	Replacement Cost	Depreciated Replacement Cost	Annual Depreciation
Manhole	Manhole No. 27		\$262,864	\$245,343	\$2,629
Sump	Sump No. 5		\$11,528	\$10,890	\$115
Valve	No.	1	\$6,283	\$5,885	\$63
Network Main	m	1,542	\$857,415	\$768,173	\$8,574
Open Channel	m	6,069	\$187,618 \$187,618		\$-
Facilities			\$50,794	\$32,036	\$764
Total			\$1,376,503	\$1,249,946	\$12,145

Table 13: Asset Valuation

## 6.6 Revenue Sources

Revenue is provided from two key sources; targeted rates and Development Contributions. Development contributions are calculated in accordance with Council's Development Contributions Policy (TRIM <u>191129168016</u>), while targeted rates are charged in accordance with Council's Revenue and Financing Policy (TRIM 180522056008).

Generally rates are targeted rates charged to homeowners within the schemes geographical boundaries. There is also a district wide Flood Response rate which is used to fund flood improvement works anywhere within the district.

# 7 Improvement Plan

## 7.1 2021 Improvement Plan

Table 14 details the scheme specific improvements and relevant district wide improvements recommended to address the management issues identified in Section 3. Each improvement item has been tagged to either a capital project or, a process improvement project to help manage and track Councils response. Short term indicates within the first three years of the LTP, long term, out beyond 2021.

If the table is empty, this indicates that all improvements required are either district wide improvements (covered by the Overview AMP), or covered by a capital project or projects, covered in the Capital Works section.

Project Ref	AMP Section	Project Description	Priority	Status	Estimated Cost
IP051	Levels of Service	Update or create a new model for the Oxford stormwater network	Medium	Planned for 2022	\$36,000
IP052	Levels of Service	Define CBD areas, as these feed into Level of Service reporting.	High	Planned for 2021	No budget required, done using in-house resources

## Table 14: 2021 AMP Improvement Plan

# PLANS



#### Figure 11: A1 - Plan of Serviced Areas as of November 2017