



STORMWATER ASSETS MANAGEMENT PLAN

The Town of Mahone Bay operates and maintains many assets for the delivery of public services and the benefit of residents. The Town's Asset Management Policy classifies these assets into nine categories and the Council's Strategic Plan prescribes the development of an Asset Management Plan for each.

This is the Town's Asset Management Plan for Stormwater Assets and as such will provide a high-level introduction to the Town's stormwater management systems.

ASSET MANAGEMENT GOALS

- Coordinate stormwater infrastructure rehabilitation with replacement of water and wastewater lines; look for opportunities to separate stormwater from sanitary sewer
- Ensure existing Town infrastructure is protected from flooding and reduce impacts on private property
- Explore opportunities to utilize natural assets in the Town's stormwater management systems
- Endeavor to manage interactions between stormwater on private and Town properties

RISKS:

- Heavy rains and coastal erosion threatening private properties and public infrastructure
- New development and infill resulting in a reduction in absorptive / stormwater holding capacity

The Public Works Department is responsible for stormwater management, coordinating closely with the Water / Wastewater Department. The Department operates in accordance with all federal and provincial regulations to ensure the safety of staff, the public and our natural environment. Department staff include:

Jonathan Uhlman – Manager of Public Works & Transportation

Tony Smith – Lead Public Works Technician

Duane Zwicker – Public Works Technician

Chris Sawler – Public Works Technician

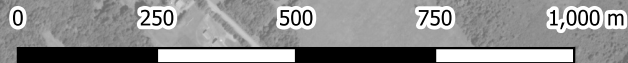
The following map depicts the Town's Stormwater Assets (natural assets – wetlands, brooks, etc. – are not shown but play a key role in stormwater management along with the assets referenced here):

Mahone Bay: Stormwater Overview



Storm Network

- Storm Ditch
- Main
- Culvert



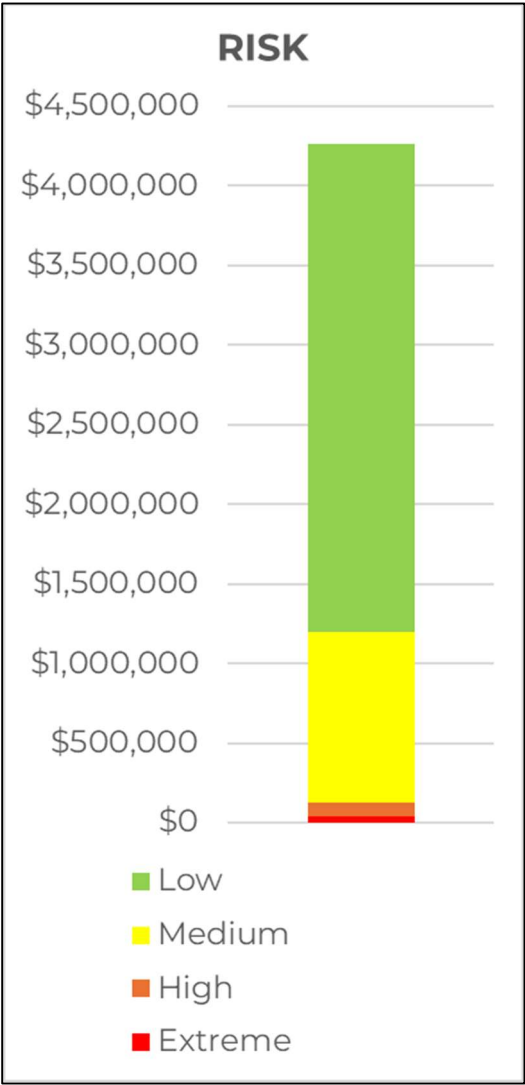
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Reviewed by Edward Van den Berg
evandenberg@landinfotech.com
Date created: 2024.10.02

	Length (m)	Number of Features
Catch Basin	0	109
Ditch	8,116	88
Manhole	0	14
Pipe	6,943	324
Culvert	1,963	151
Collection Gravity Main	4,980	173
Grand Total	15,058	549

	Renewal Cost	Annual Sustainable Investment
Catch Basin	\$506,850	\$8,448
Ditch	\$634,338	\$6,344
Manhole	\$260,400	\$4,340
Pipe	\$2,862,157	\$44,033
Culvert	\$977,911	\$15,045
Collection Gravity Main	\$1,884,247	\$28,988
Grand Total	\$4,263,745	\$63,164

Making smart investments in our Stormwater Assets to ensure they provide reliable service into the future requires understanding where investments are needed most. Our investment decisions are guided by the concept of Risk. In asset management planning Risk is a function of probability, the likelihood that an asset will fail to perform its expected role, and consequence, the impact such a failure would have on the delivery of services. Severity of impacts is generally determined by the number of customers impacted.

The following is an illustration of the Risk associated with the Town’s current Stormwater Assets:



In practice the Town Council must make smart investments to reduce Risk in the stormwater system while considering ratepayers’ ability to pay. This Asset Management Plan links the identified need for investment with Council’s planned capital spending.

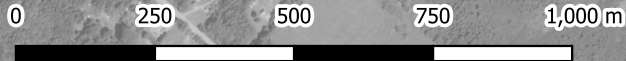
The following map depicts the Town’s stormwater system, showing associated Risk:

Mahone Bay: Risk Heat Map



Risk Level

- Extreme —
- High —
- Medium —
- Low —
- Minimal —
- Planned - - -

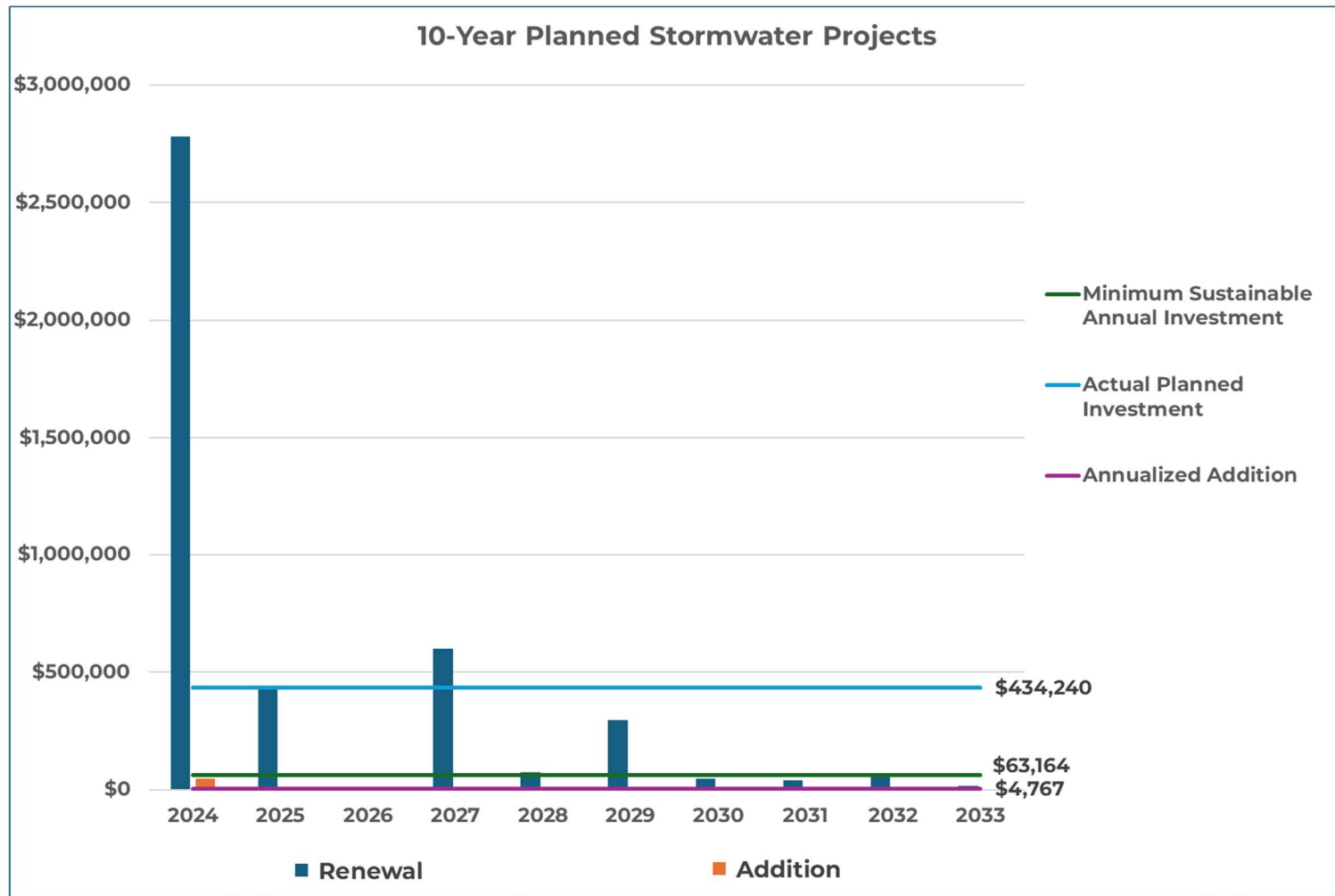


When Risk is used to inform asset management decision making it is possible to develop a picture of the investment decisions which will be necessary to keep our Stormwater Assets working as intended.

	Extreme	High	Low	Medium
Catch Basin		\$13,950	\$302,250	\$190,650
Ditch			\$627,673	\$6,665
Manhole Cover	\$37,200		\$130,200	\$93,000
Pipe		\$73,160	\$2,007,813	\$781,185
Culvert		\$63,860	\$798,111	\$115,940
Gravity Collection Main		\$9,300	\$1,209,702	\$665,245
Grand Total	\$37,200	\$87,110	\$3,067,935	\$1,071,500

The Sustainable Annual Investment level is the minimum investment needed to mitigate risks and continue with the provision of services. The cost estimates used to determine the Sustainable Annual Investment level are updated periodically but may understate the effects of inflation.

By incorporating Risk, along with the Sustainable Annual Investment level the Town is able to develop a sustainable 10-year Capital Investment Plan (CIP) for stormwater assets:



KEY 10-YEAR CAPITAL PROJECTS:

- Fairmont/Pinegrove Stormwater (2024-2025) - \$220,000
- Main Street West Project (2025-2026) - \$2,442,099
- Main Street East Project (2026-2027) - \$600,000

With Average Planned Spending exceeding Sustainable Annual Investment, the Town's planned 10-year capital expenditures are adequate to ensure our Stormwater Assets continue to provide expected levels of service. Upgrades and improvements are not reflected in the minimum Sustainable Annual Investment and additions / extensions are shown as Annualized Addition.

The following map depicts Planned Stormwater projects over the next 10 years, according to the CIP (not all projects may be shown, projects without a location will not be shown):

Mahone Bay: Planned Infrastructure



Storm Features

Stormwater Pipe Planned Type

- Mahone Bay: Planned Addition
- Mahone Bay: Planned Renewal

Stormwater Pipe Planned Date

- 12/31/2024
- 12/31/2025
- 12/31/2026
- 12/31/2027
- 12/31/2029
- 12/31/2030
- 12/31/2031
- 12/31/2032
- 12/31/2033
- 12/31/2034

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Finally, to carry out this 10-year Capital Investment Plan funding strategies must be considered.

Funding Strategies

The Town is significantly reliant on external funding support from higher levels of government to carry out the planned capital program. Town funding for Stormwater Assets comes through tax rates, including the Infrastructure Charge (\$202.23/unit dedicated to stormwater infrastructure), levied on all properties in Mahone Bay, which contributes to a reserve used for stormwater capital investments.

Improvement Plan

The Town continues to improve this document and our practice of asset management. The following improvements are planned:

- Implementation of new Stormwater Management Bylaw
- Update to the Town's Municipal Specifications
- Operationalization of asset management practice with new work order system.
- Development of standards for the collection and maintenance of asset management data.

Engagement

Staff respond to and track service complaints. The Town has a responsibility to maintain existing infrastructure. Council will consider strategic extension of services to support development.