THUNDER BAY
STORMWATER FINANCING STUDY

Welcome

Thunder Bay Stormwater Financing Study
Public Information Centre #1

Presentations at 5p.m. and 7p.m.

Please complete the sign-in sheet, review display materials and fill out a comment sheet. The project team is available to answer your questions and address any concerns.

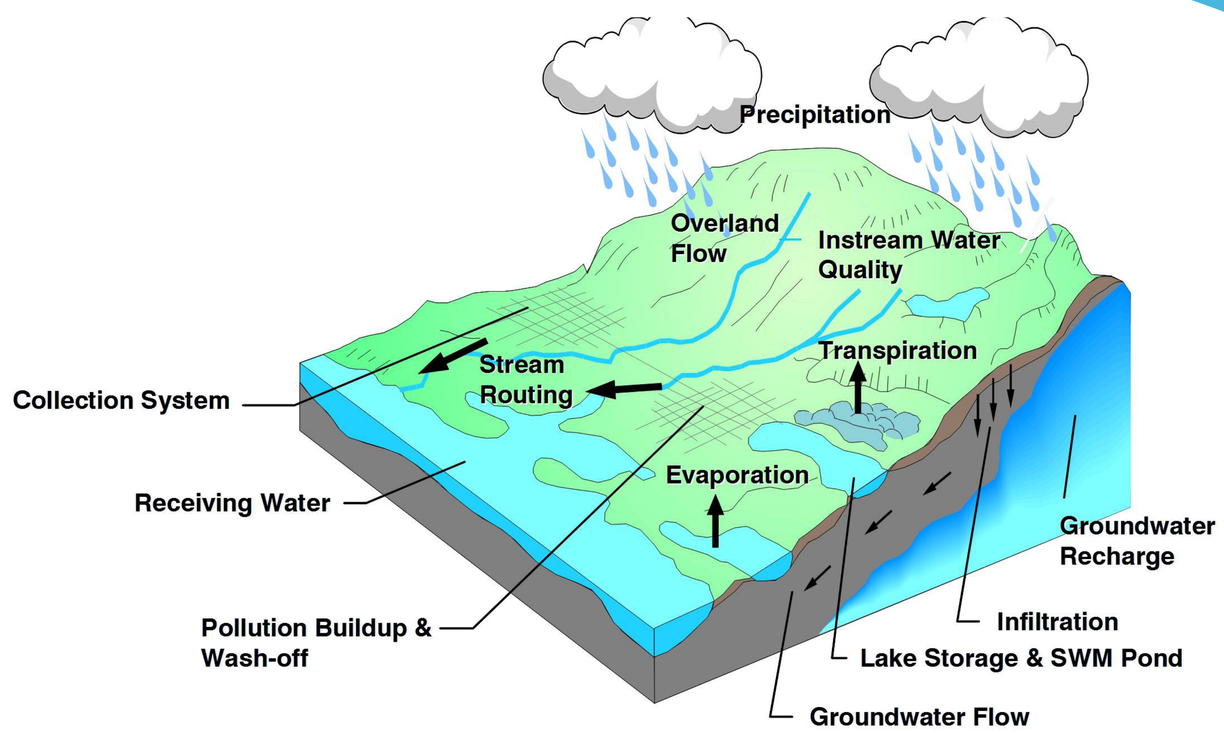
Why are we here?

The City of Thunder Bay is conducting a study to review and recommend a sustainable and fair funding source to support the City's current stormwater management program and help achieve the future goals of the Stormwater Management Plan.

CITY OF Thunder Bay
Superior by Nature

AECOM

Stormwater



Nature continuously recycles our water supply through the hydrologic cycle: evaporation, condensation, precipitation, infiltration, groundwater recharge and runoff.

Stormwater comes from the rain and melted snow that flows over land and into storm drains or streams, rivers and lakes.

Stormwater in Nature: The natural landscape soaks up stormwater like a sponge, nourishing plants and slowly replenishing streams, lakes, wetlands, and aquifers.

Stormwater in Built Landscapes: Impervious surfaces such as pavement and roofs prevent precipitation from naturally soaking into the ground. Instead the water runs quickly into storm drains, sewer systems, and drainage ditches, and then to our lakes and rivers.

Impervious areas create more runoff, transport it more quickly, and accumulate more pollutants than natural areas.

Increased stormwater runoff can affect:

Water Quality
Increased stormwater runoff carries a greater volume of pollutants to our rivers and lakes which contributes to closed beaches and habitat degradation, including fish habitat.

Flooding
Excessive stormwater runoff can lead to costly flooding of sidewalks, streets, properties and buildings.

Erosion
Increased stormwater runoff can accelerate streambank erosion and road washouts, and impact wildlife and fish habitat.

Debris
Flowing water carries whatever it can and deposits this material when obstructions are in the way. This can cause a build-up of debris that blocks the passage of water within the drainage system and may result in flooding.

Stormwater Management in Thunder Bay

The City's stormwater management systems protect the health and safety of the public and the environment by managing the quality and quantity of stormwater reaching our lakes and rivers.

Management of stormwater in Thunder Bay consists of:

Typical stormwater management challenges facing municipalities can include:

- **Urbanization:** Growth and development alters the amount of runoff and pollution
- **Aging infrastructure:** Pipes, culverts, facilities, and outfalls have limited life expectancy
- **Changing design standards:** Systems designed to old standards may be inadequate compared to current and future regulatory requirements
- **Insufficient long-term planning and funding:** Appropriate resources, facilities, and improvement projects must be proactively planned and funded to address needs and problems
- **Limited maintenance:** Facilities must be actively operated, watercourses maintained, and streets, ditches, catchbasins, culverts and outfalls inspected and maintained
- **Climate change:** Facilities must respond to increasing rainfall events that are becoming more intense and frequent, and seasonal changes such as rainfall in the winter

The City is responsible for managing all of these aspects of stormwater. However, the City's ability to effectively and adequately perform its duties are limited by available consistent funding.

Stormwater Management Plan

As part of its commitment to environmental stewardship and community sustainability, the City of Thunder Bay has developed a **Stormwater Management Plan**. This plan, adopted by Council in 2016, will guide the City's stormwater management actions for the next 20-years, based on the following goals:

ECOSYSTEM HEALTH: The ecological integrity of the City's surface water, groundwater and natural resources provide their original level of function and value

WATERSHED QUALITY: The streams, rivers, lakes and wetlands in the Lakehead Watershed meet their Beneficial Uses ("fishable and swimmable")

WATER QUANTITY: The City's stormwater system effectively manages the quantity and delivery of runoff in a manner that protects the environment, infrastructure, and the health and safety of residents

OPERATIONS and MAINTENANCE: The City of Thunder Bay's stormwater systems are properly maintained, managed and operated

MONITORING and DATA ASSESSMENT: There is a wealth of surface water and groundwater quality and quantity data in the Lakehead Watershed to assess the health of resources, evaluate trends, and track improvements related to implementation of the Stormwater Management Plan

REGULATION and ENFORCEMENT: Engineering and Design Standards and By-Laws are in place and enforced to effectively manage the impact of new development and re-development activities in the City of Thunder Bay

EDUCATION and OUTREACH: The City of Thunder Bay's residents, businesses, and institutions have a good understanding of stormwater management and are committed stewards of the Lakehead Watershed's resources

FUNDING and ORGANIZATION: The City of Thunder Bay has the resources and capacity needed to adequately implement an effective Integrated Stormwater Management Program

CLIMATE CHANGE: The City of Thunder Bay has evaluated the potential impacts related to climate change, built resiliency into its stormwater management system and incorporated adaptation strategies that will translate into long-term cost savings to the City and its inhabitants

Thunder Bay's Stormwater Management Plan

The City's Stormwater Management Plan outlines a recommended path towards sustainable stormwater management in Thunder Bay that can be funded through a refined financing strategy. Implementation will prepare the City's infrastructure for the growing challenges of climate change and will need to adapt to lessons learned through evaluating progress over the next 20 years.

The City funds the stormwater system primarily through property taxes, but also through the sewer surcharge rate. For the tax portion, homeowners and landowners across Thunder Bay contribute to the stormwater system based on assessed property value and some properties are exempt from these taxes.

Stormwater Management Funding Required Over the Next 20 Years (per capita)		
	Year 1	20-yr Avg.
Annual Stormwater Funding Required	$7,095,000*	$11,161,950
Per Capita (108,000) population	$65.7	$103.4

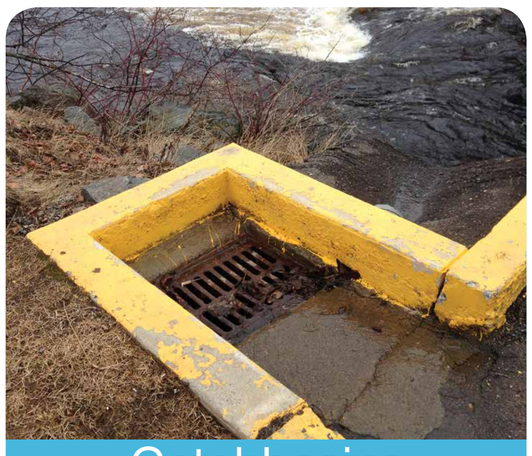
**Includes funding from all sources*

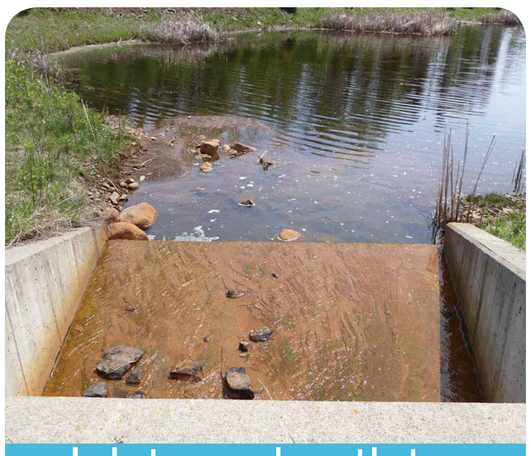
Green Infrastructure at the Bare Point WTP

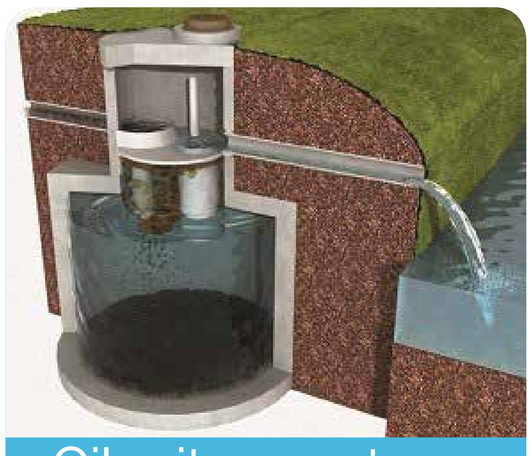
Stormwater Management Assets

The City's stormwater management system contains valuable infrastructure assets that include:

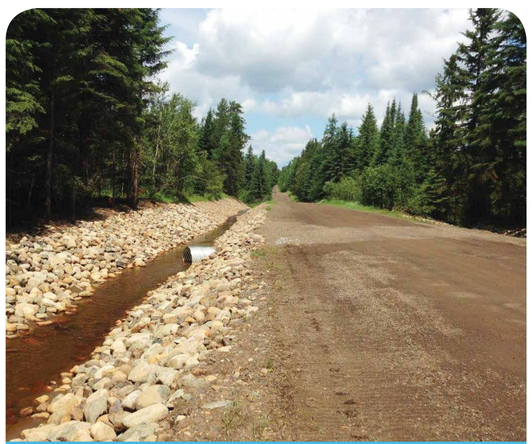

Storm sewers


Catchbasins


Inlets and outlets


Oil-grit separators


Bridges


Ditches and Culverts


Watercourse


Stormwater treatment facilities, including Green Infrastructure

Storm Sewer Network Assets

An inventory of the City's stormwater assets was undertaken, identifying an overall replacement value total of approximately $508 million, not including the value of ditches, watercourses, and ponds. This is equivalent to nearly $11,000 per household.

Thunder Bay's Stormwater Management Infrastructure Quantity and Value		
Assets Type	**Quantity**	**Replacement Value (as of 2018)**
Storm Sewers[1]	330 km, 11,000 catch basins, 4,200 manholes, 380 outfalls	$321,940,000
Pumping Stations[1]	4	$7,020,000
Bridges[1]	57	$179,150,000
Culverts (>3m span)[1]	16	$15,960,000
Dams[1]	2	$15,390,000
The information below is not currently included in the Asset Management Plan (AMP), but was identified in the Stormwater Management Plan to be included in future AMP's. Quantities and values below are preliminary in nature.		
Culverts (>3m span)	389	??
Ditches	486 km	??
Treatment Facilities	45	$3,600,000
Watercourses	74 km	??
		Total Replacement Value $543,060,000

As the infrastructure ages, a regular renewal/ replacement plan for the infrastructure will be required.

Thunder Bay's Stormwater Funding and Expenditures

Current Funding Sources

1. **Property Taxes:** The contribution each property owner makes to the stormwater program is based on assessed property value, and some properties are exempt from these taxes.

2. **Sewer Surcharge Rate:** Approximately 10% of funds collected from wastewater revenue are directed to stormwater operating and capital programs.

3. **Federal / Provincial Contributions:** Grants are available through various government programs to help communities implement capital and operational programs. Grants such as the Gas Tax Fund, Ontario Community Infrastructure Fund, the Clean Water and Wastewater Fund, and others are used to supplement the stormwater program.

4. **Other Grant and Funding Programs:** There are a number of other organizations and foundations that provide grants for habitat restoration, green initiatives, and public education and outreach, which continue to be accessed. Examples include RBC Blue Water Community Action Grants, CN EcoConnexions, and the Great Lakes and St. Lawrence Cities Initiatives.

Current Expenditures

According to Thunder Bay's 2016 Asset Management Plan:

Average spending from 2011-2015 = **$2.9 million annually**	Capital funding required to repair/ replace existing infrastructure = **$6.2 million annually**

This equates to a $3.3 million annual funding gap and grade of D.

Funding vs Need

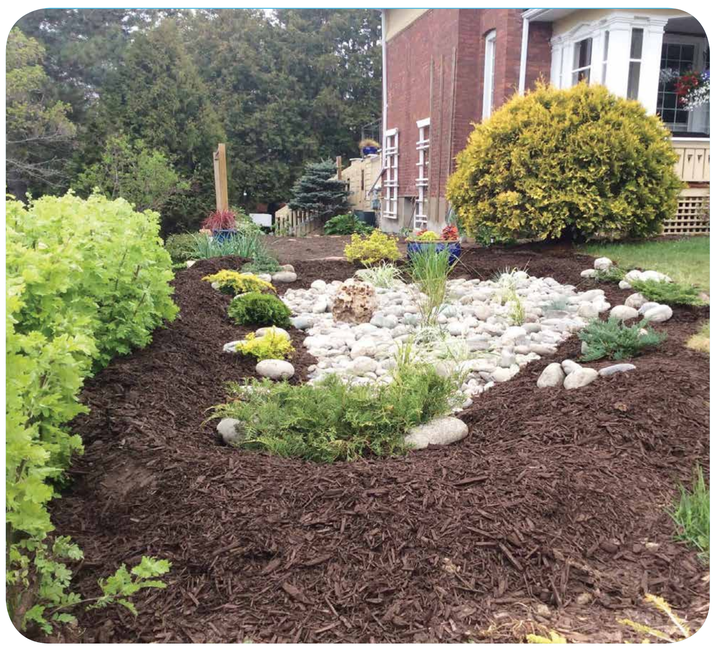
D

This does not include the construction of new infrastructure and treatment facilities.

Thunder Bay's Stormwater Financing Study Overview

To complete the Stormwater Financing Study, we will:

1. Determine the appropriate and affordable level of service for future stormwater management program projects and activities
2. Identify and evaluate stormwater funding options and alternatives
3. Actively solicit feedback from a Stormwater Advisory Committee as well as residents and business owners (a second Public Information Centre is planned later in 2018)
4. Recommend a preferred option and determine the impacts compared to the current tax-based funding approach
5. Present project findings and study recommendations to Council in late 2018



Alternative Funding Options Under Consideration

The City of Thunder Bay is investigating several options to provide funding for its stormwater management program. These options may include:

- Status Quo
- Increased property tax rates
- Modifications to the current Sewage & Drainage property tax levy
- A new Stormwater Management property tax levy
- Modifications to the current Development Charges program (partial program funding for new development and infill/re-development only)
- A new Development Impact Fee program (partial program funding for new development and infill/re-development only)
- A new Stormwater Management User Fee program

A user fee where users are charged based on how much stormwater they contribute to the stormwater management system - similar to a water and wastewater rate - could be applied in the following ways:

- A simple **flat fee** charged to all properties equally, or
- A **variable charge** based on the amount of impervious area on each property (i.e. the amount of runoff created by each property).

The following evaluation criteria will be used to identify a preferred funding option:

- Applicability of funding method citywide
- Eligibility to support capital improvement projects, operations & maintenance activities
- Eligibility to offset costs for engineering, support, and overall administration of the stormwater program
- Fair and equitable charges to the property owners
- Long-term funding source dedicated solely to stormwater program expenditures
- Level of effort to administrate and staffing/resource requirements
- Environmental benefits including opportunities for rebates and incentives to reduce stormwater and pollutant loads

Thank you for Attending!

We appreciate the time you have taken today. We value your input to this study and encourage you to stay connected:

- Please visit the **project website** at www.thunderbay.ca/stormwaterplan
- Complete the **online survey** available through the project website
- Join our **mailing list** – leave us your email address so we can keep you up-to-date as the project progresses
- Contact the Project Manager with any **additional comments or questions** at any time:

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***Please remember to drop off your completed comment form in before you leave or send it to us by email before February 5, 2018**