



City of Mississauga
Stormwater Master Plan

“Build Beautiful”

Environmental Advisory Committee

February 2, 2021

Presentation Overview

1. Work Plan/Scope Overview
2. Vision Development
3. Role of Legislation
4. Mississauga Today
5. Communities & Stormwater
6. Establishing Actions
7. Next Steps

1. Work Plan / Scope Overview

SWMP Work Plan

- Task 1: Review Background Material
- Task 2: Establish/Document Legislative Framework
- Task 3: Consult with Stakeholders
- Task 4: Establish Details on Actions/Programs
- Task 5: Establish Planning & Implementation Requirements
- Task 6: Final Reporting



1. Work Plan/Scope Overview

Draft Table of Contents

1. Vision
2. Mississauga Today
3. Cities and Stormwater
4. Goals
5. Action Plan
6. Planning and Implementation
7. Conclusions / Recommendations

Appendices

- A. Legislated requirements
- B. Level of Service (AMP)

2. Vision Development

2. Stormwater Master Plan - *Vision*

Vision Development

- Developed through consultation with City staff, Stakeholders and the Public
- Strive to improve resilience, accounting for potentially new community priorities and considerations as a result of COVID-19
- Address core and emerging stormwater elements, such as green infrastructure, climate change, sustainability and attractive built form, to *Build Beautiful*



buildbeautiful
Stormwater Master Plan

2. Stormwater Master Plan - *Vision*

Consultation to date (November 2020)

- Online Survey: 111 Responses
- Social Flare: Engaged Broader Audience

Upcoming PIC (Planned March/April 2021)

- Survey findings to be shared with Public to confirm Vision
- Present draft Stormwater Master Plan Actions



2. Stormwater Master Plan - *Vision*

Survey Outcomes

Public Interest and Need for Stormwater Management



89% think stormwater is either extremely or very important for the City to manage



90% are concerned about the environmental quality of the streams and rivers located within the City

Where to Manage Stormwater in Creative Ways



Public Parks (22%)



City Facilities (20%)



Parking lots (20%)



On my street (15%)



Private businesses (13%)



On my property (8%)

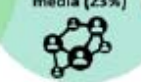
Signage along creeks (28%)



Info on City's website (24%)



Communication through social media (23%)



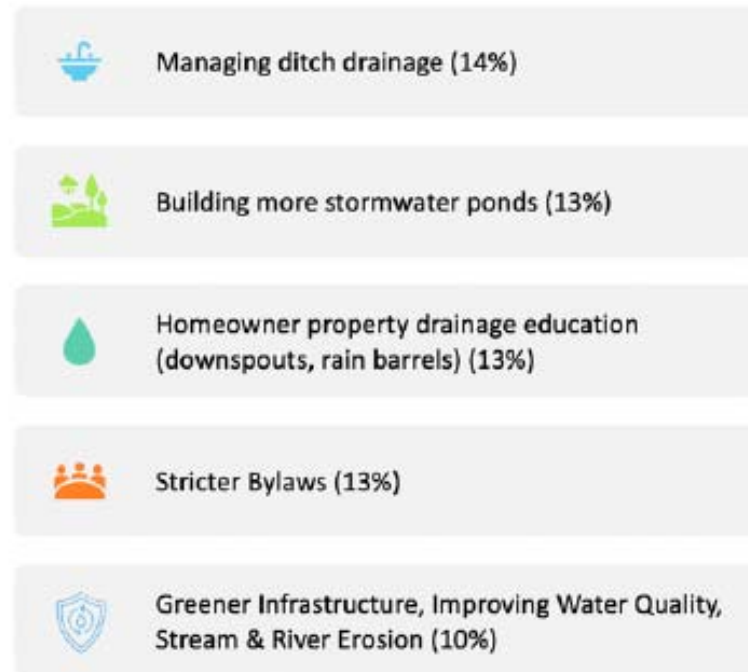
Decorative manhole covers (20%)



2. Stormwater Master Plan - *Vision*

Survey Outcomes

Tops areas for the City to focus on its in SWMP



During Covid-19, people looked for beauty in...



Spending time outdoors or connecting to nature(26%)



Focusing on home projects (20%)



Connecting with others virtually (14%)



Doing hobbies (12%)

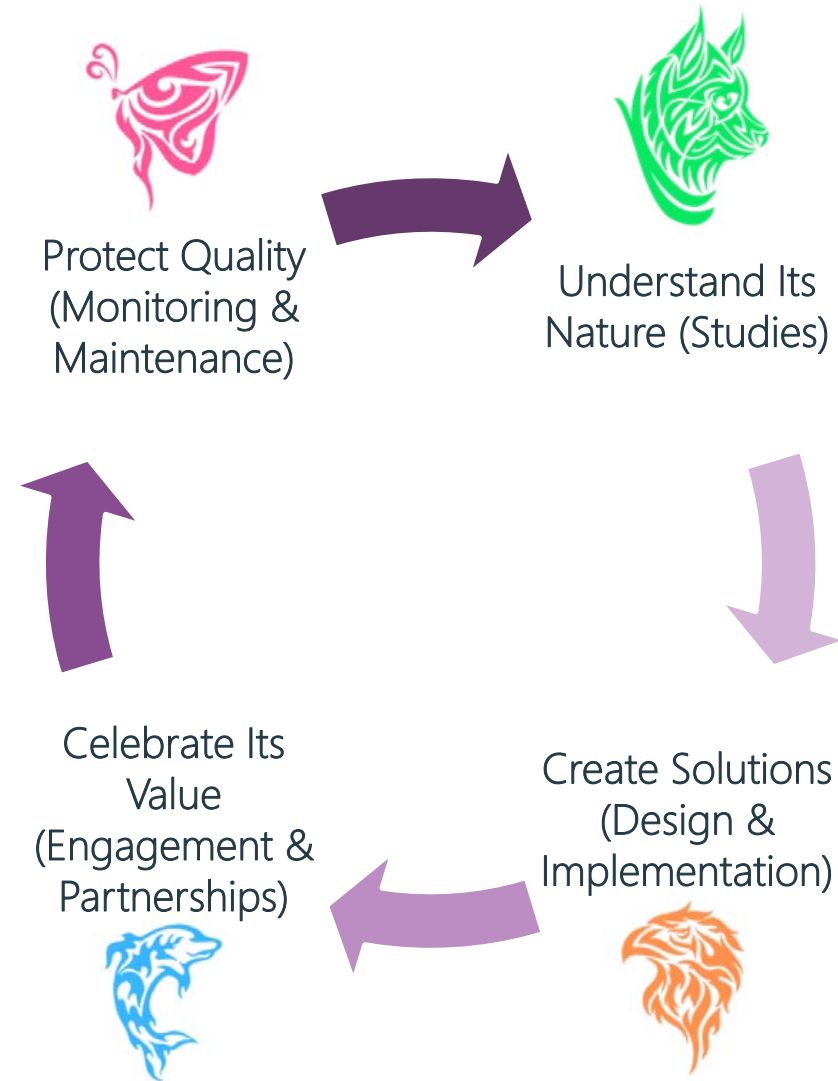


Learning a new skill (10%)

2. Stormwater Master Plan - *Vision*

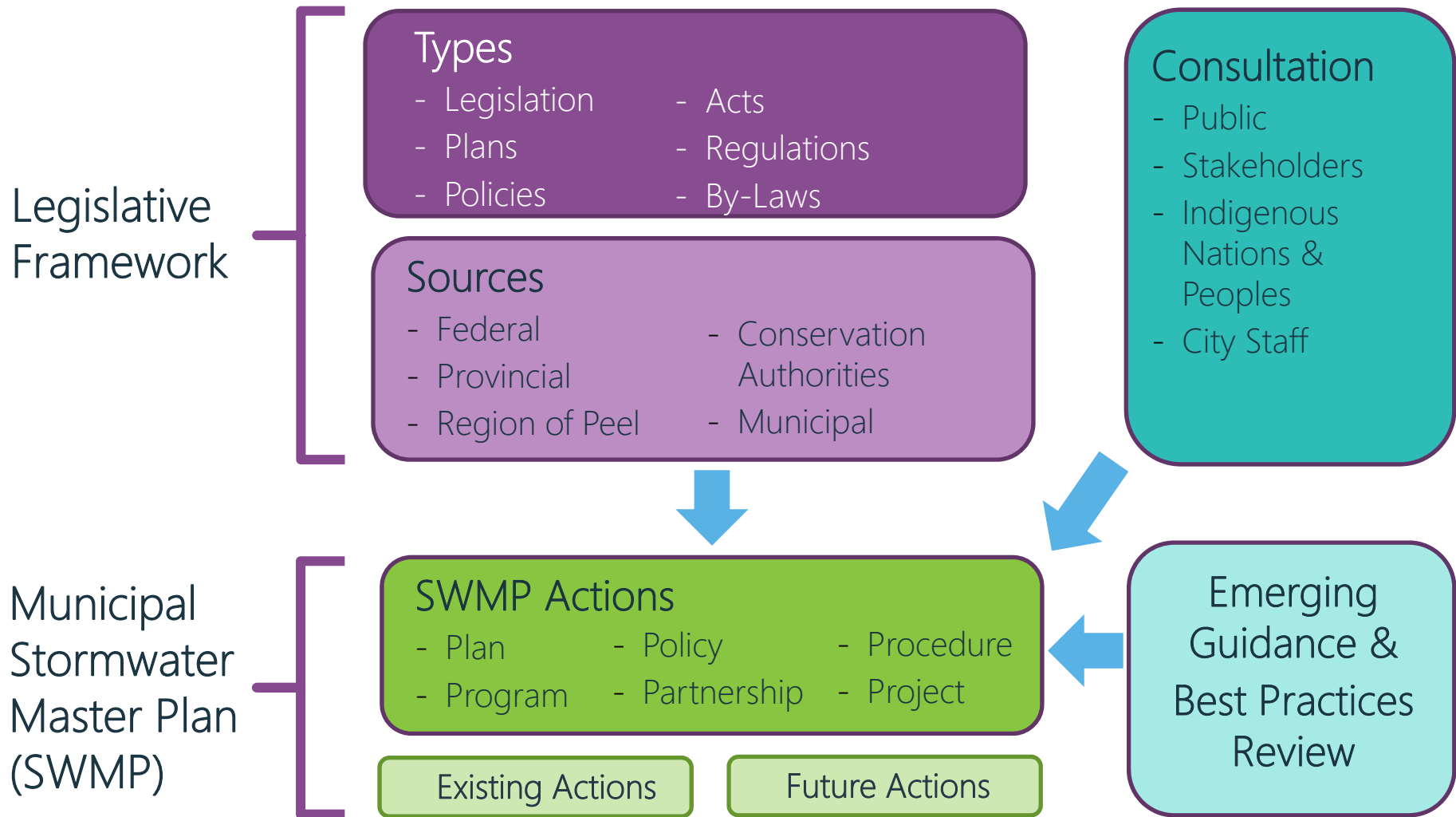
Vision Branding

- Focus on Wellbeing and regeneration
- Need to change the culture and understanding of stormwater planning
- Exploring metaphors, catchphrases and icons to create a new narrative and successful branding



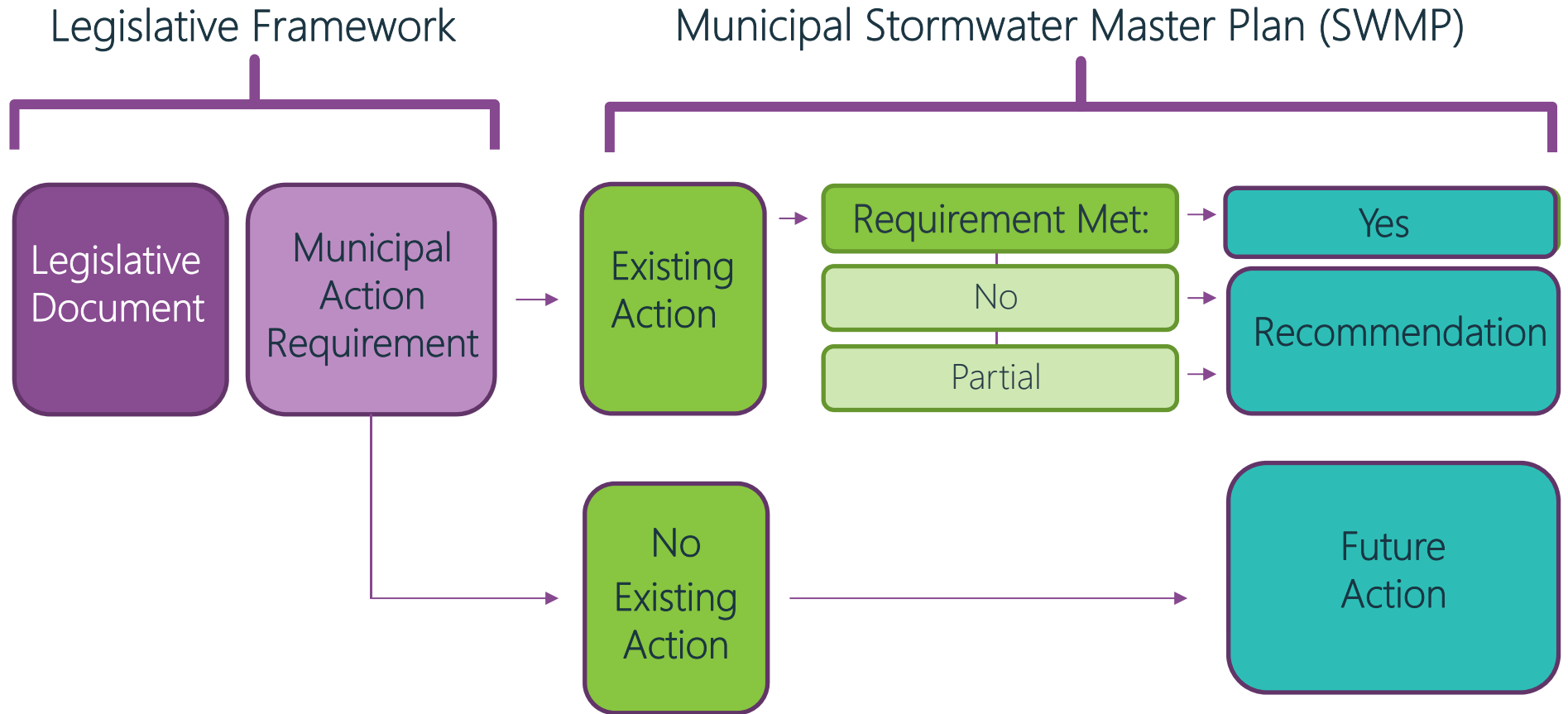
3. Role of Legislation

3.0 Role of Legislation



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The “**legislative checkbox**” will ensure that Mississauga’s legislative requirements are being addressed through City actions, no gaps exist, and stakeholder needs are being met.



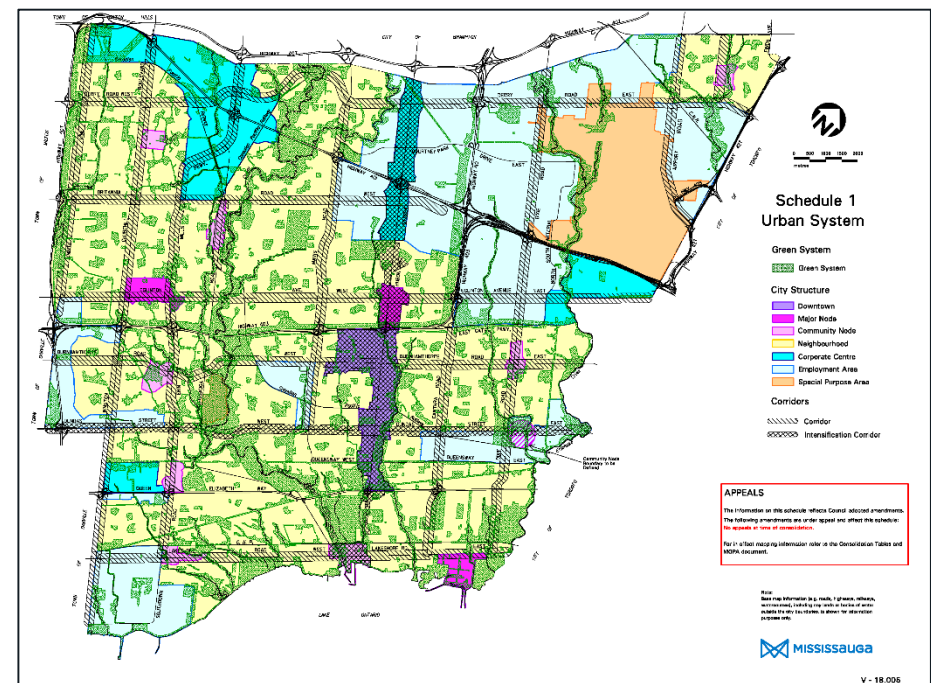
4. Mississauga Today

4. Mississauga Today

A complete and current understanding of the City's existing and future conditions, including built and natural infrastructure, is critical to understanding the City's stormwater system, and the factors which influence stormwater action/program priorities.

Accordingly, the following have been reviewed:

- Existing and Future Conditions
 - *Population*
 - *Land Use*
 - *Climate*
- Watershed and Storm Drainage Systems



5. Cities and Stormwater

5. Cities and Stormwater

Stormwater management approaches applied by other communities were reviewed to inform the development of the SWMP through a comparison of policies, programs and activities.

Local

- Town of Oakville – Stormwater Master Plan
- City of Kingston – Neighbourhood Level Drainage Assessments

National

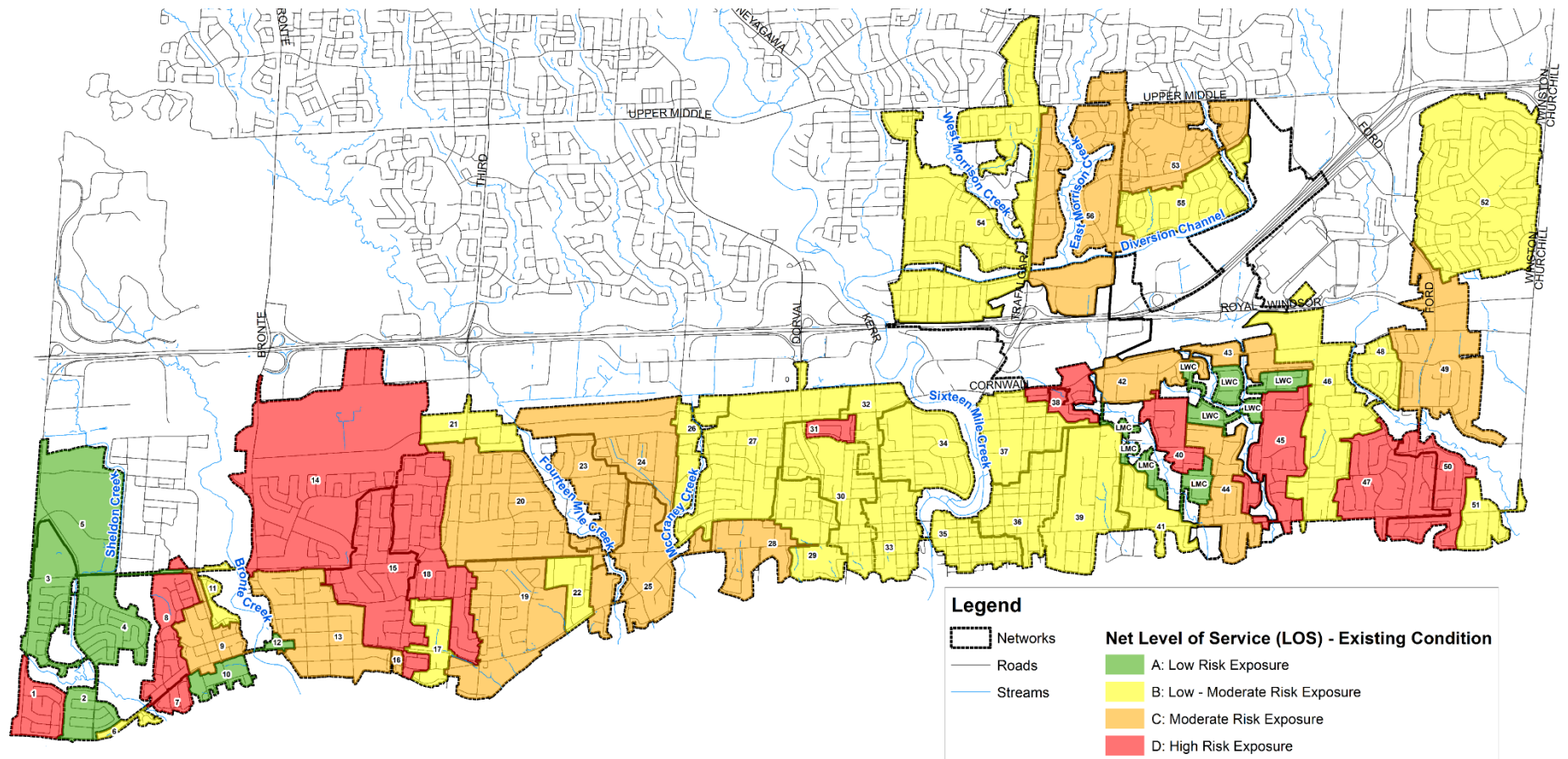
- City of Vancouver – City-wide Rainwater Management Plan
- City of Calgary – Stormwater Volume Control Target Update & Development Approvals Practices

International

- New York City Environmental Protection – Innovative & Integrated Stormwater Management
- City of Portland – Stormwater Management Manual
- City of Nashville – Stormwater Management Manual
- Seattle Public Utilities – Drainage and Wastewater Art Master Plan

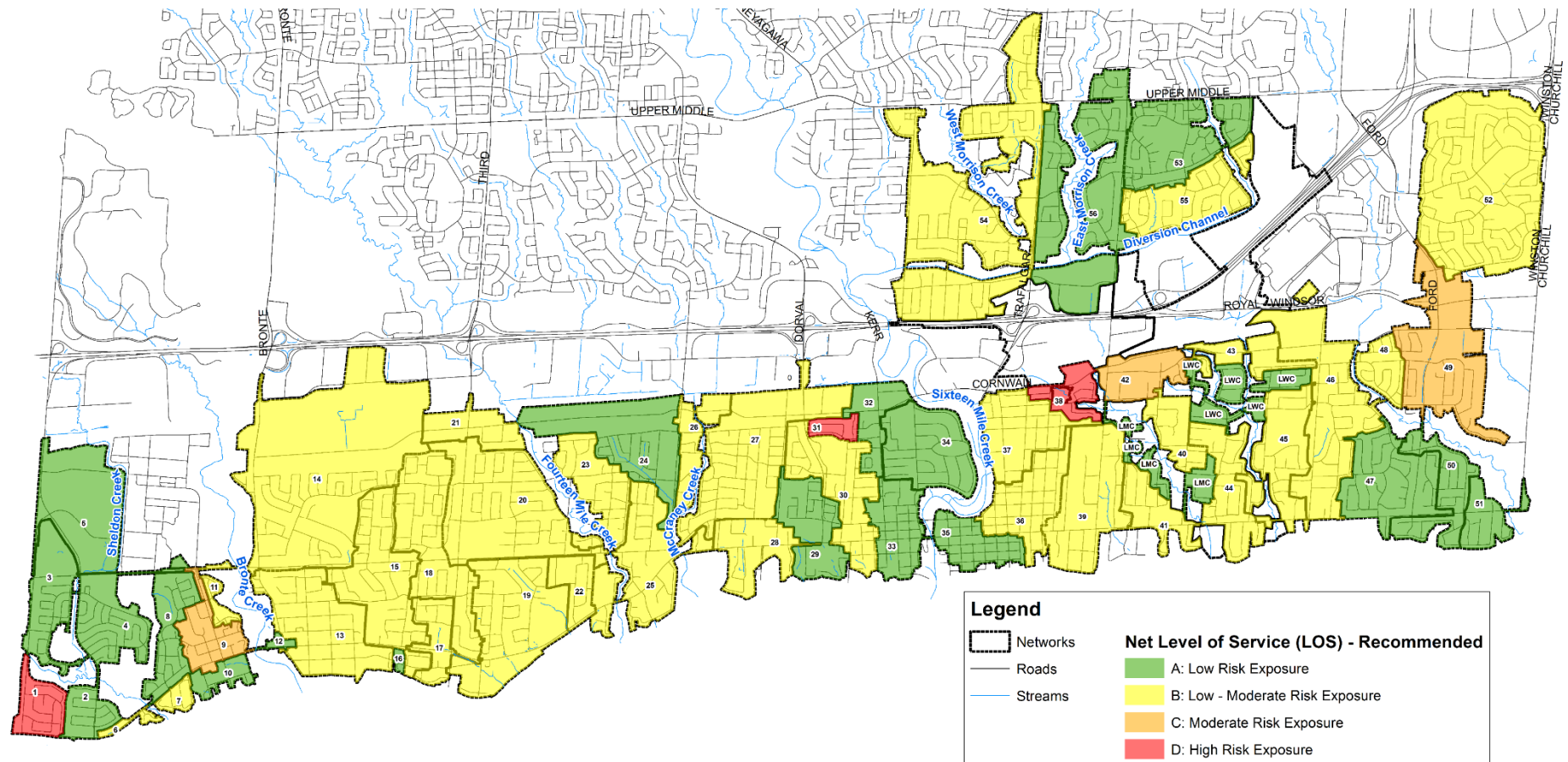
5. Cities and Stormwater – Local

Town of Oakville Stormwater Master Plan



5. Cities and Stormwater – *Local*

Town of Oakville Stormwater Master Plan



7.2 Cities and Stormwater - *National*

City of Vancouver – City-wide Rainwater Management Plan

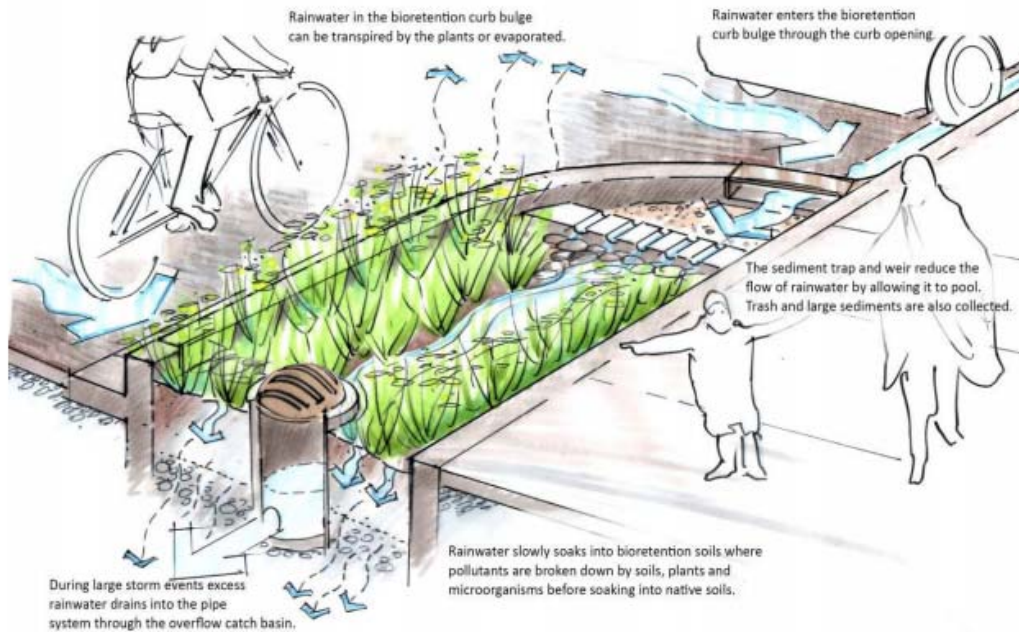


FIGURE 17: BIORETENTION

Aspirational target (no timeline):

- Manage 100% of Vancouver's impervious surfaces citywide using Green Rainwater Infrastructure (GRI)

Interim target:

- Manage 90% of average annual rainfall, to a design standard of 48 mm, to be applied to 40% of Vancouver's impervious areas by 2050

5. Cities and Stormwater – *International*



New York City Innovative & Integrated Stormwater Management (2017)

- Interviewed 34 Communities across North America and Abroad
- Provides overview of practices Communities are applying as a whole
- Identifies innovative approaches being applied by Communities on topics such as:
 - *Policies*
 - *Floatables Programs*
 - *Structural Stormwater Controls*
 - *Stormwater Monitoring*
 - *Funding*
 - *Public Outreach*
 - *Illicit Discharge and Detection Programs*



6. Establishing Actions

6. Establishing Actions

Four Theme Areas:

- A. Understand Its Nature
- B. Create Solutions
- C. Celebrate Its Value
- D. Protect Quality

Service Delivery Form:

- 1. Plan
- 2. Program
- 3. Policy
- 4. Partnership
- 5. Procedure
- 6. Project

Action Type:

- 1. Existing Actions
- 2. Future Actions



6. Establishing Actions

Process of Action Development:

- Interviews with City Staff in December 2020
- Establish Understanding of Actions
- Develop Recommendations based on:
 - *Best Practices*
 - *Legislative Requirements*
 - *City Staff Commentary*
 - *Emerging Changes*
- Consultation (Stakeholders, Public, EAC, City)
- Finalize Existing and Future Actions



6. Establishing Actions

Existing Action Templates

Action	Action X
Service Delivery	Plan/Program/Policy/Partnership/Procedure/Project
Description	City input
Rationale	City input
Department/Division/Section	City input
Partnerships	City input
FTEs	City input
Equipment	City input
Annual Budget (Capital budget, O&M, Year)	City input
Relevant Legislative/Policy/Emerging Practices link (Refer to legislative framework for detailed legislative requirements)	Wood input
Industry Best Practices	Wood input
Recommendations	Wood & City Input
a. People	Wood & City Input
b. Equipment	Wood & City Input
c. Policy	Wood & City Input
d. Program	Wood & City Input
e. Methodology	Wood & City Input
f. Other	Wood & City Input

6. Establishing Actions

Future Action – Draft Example:

Action	Groundwater Quality Management
Service Delivery	Policy
Description	<p>Improve groundwater quality management related to permanent and temporary groundwater discharges by:</p> <ul style="list-style-type: none"> - Refining Sewer Use By-law for naturally occurring parameters. - Adding groundwater discharge criteria to the Development Manual. - Adding monitoring requirements to Permits.
Rationale	<p>City allows proponents to discharge groundwater to storm sewer systems in two scenarios: temporary and permanent discharge. Discharges are managed by Development Manual, Sewer Use By-law and Permits. Groundwater quality management is required to control quality and quantity of water discharging to municipal sewer system and watercourses.</p>
a. Best Practices	<p>City of Toronto – requires system sampling port, monitoring and compliance reporting. Agreements renewed based on compliance. City of Calgary – Sewer Use By-law includes treatment requirements.</p>
b. Legislation/Policy Existing	Provincial Water Quality Objectives
c. Emerging Practices	Intensification resulting in deeper buildings encountering groundwater; increased need for groundwater management.
Suggested Department and Partnerships	N/A
Resource Needs	One (1) Full Time Employee (FTE)
Estimated Costs	TBD

6. Establishing Actions

A. Understand Its Nature (Studies)

1. Map sanitary/storm system flood risks in older neighbourhoods – Existing Action
2. *Map Groundwater (City-wide) – Future Action*
3. *Contemporary Economic Consideration Decision-Making Process – Future Action*
4. *Pursue System-wide ECA – Future Action*

B. Create Solutions (Design & Implementation)

1. *Strategic land acquisition of flood vulnerable lands (riverine) – Future Action*
2. *Implement Green Streets Decision Framework – Future Action*
3. *Open Ponds in Downtown – Future Action*
4. *Open Ditch Management Strategy – Future Action*
5. *Groundwater Quality Management – Future Action*
6. *Cooling BMPs – Future Action*

6. Establishing Actions

C. Celebrate Its Value (Engagement & Partnerships)

1. *Cost effective Artist in Residence program – Future Action*
2. Outreach – Existing Action
3. Overhaul Stormwater Charge Credit Program – Existing Action

D. Protect Quality (Monitoring & Maintenance)

1. Outfall Monitoring (Water Quality) – Existing Action
2. Pollution Prevention Plans – Existing Action
3. Asset Management: Watercourses – Existing Action
4. Asset Management: Pipes – Existing Action
5. Asset Management: SWMF's – Existing Action
6. *Culvert Assessments – Future Action*
7. Integrated Rainfall Monitoring Program (with CAs) – Existing Action

7. Next Steps

7. Next Steps

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|--|-------------------------|
| 1. Indigenous Engagement | <i>Ongoing</i> |
| 2. Stakeholder Consultation (Peel Region and CA's) | <i>Early March 2021</i> |
| 3. Public Information Centre | <i>Late March 2021</i> |
| 4. Implementation Requirements | <i>April-May 2021</i> |
| 5. Draft SWMP | <i>May 2021</i> |
| — Will be provided to EAC for commentary | |
| 6. Final SWMP | <i>June 2021</i> |
| — Present to Council | |