



# Dingman Creek EA – Stakeholder Group Update



Dingman Stakeholder Meeting #8  
June 12, 2019

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# Outline

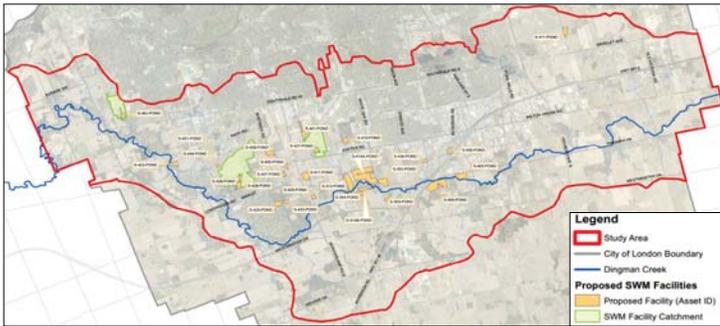


- Overview of EA Process
- Since Dec 5, 2018
  - UTRCA Monitoring Plan
  - Advisory Services
  - Evolution of the EA process
- Master Plan Recommendations (Aquafor)
- Design Standards Update
- Available Financing
- Next Steps

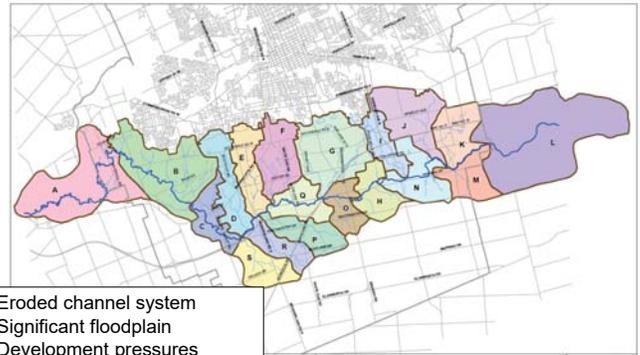


# Dingman Creek Subwatershed Environmental Assessment

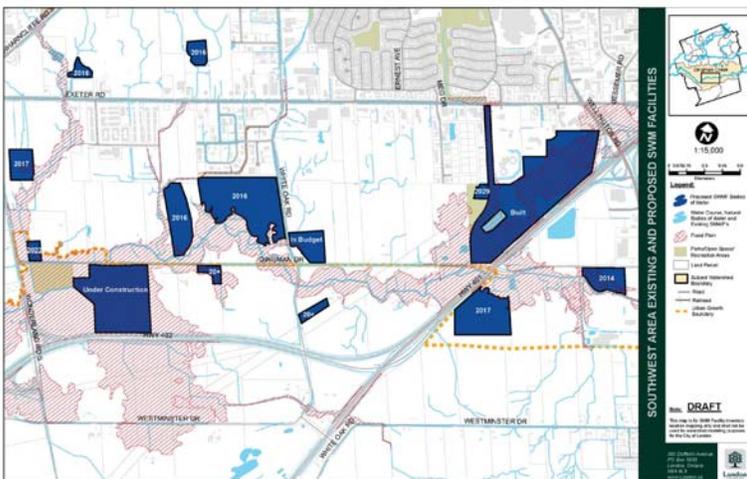
**Purpose:** To develop an innovative stormwater servicing strategy with consideration for current and potential flooding, erosion concerns, as well as wildlife/aquatic habitat and natural corridor enhancement.



# Dingman Creek Subwatershed



- Eroded channel system
- Significant floodplain
- Development pressures
- Several EAs completed
- Natural heritage features

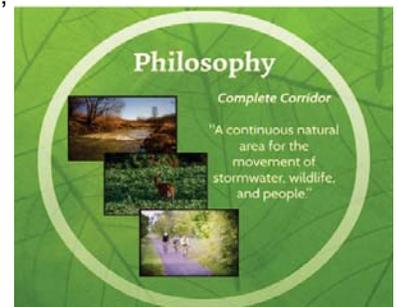


Dingman Creek – 2015 Proposed SWMFs – “Land of Lakes”



# Complete Corridor Approach

- Integrate natural heritage, open space, recreational, and SWM
- Continuous corridor for the protection, maintenance, rehabilitation, and restoration of ecological function
- Potential to replace wet ponds with LIDs and dry ponds along the floodplain





# EA Problem Statement

The Dingman Creek Subwatershed (DCS) suffers from poor water quality, a lack of wildlife habitat, loss of trees and vegetation, as well as flooding and erosion issues. Sustainable growth within the Urban Growth Boundary of the DCS is a City of London priority. To maintain, enhance, and restore the DCS, the City needs a comprehensive plan to support both environmental and development goals. This plan must:

- Build on the 1995 and 2005 Dingman Creek Subwatershed Studies and be consistent with the goals and objectives of the Official Plan and Southwest Area Secondary Plan;
- Meet the targets established in the Environmental Compliance Approval (ECA);
- Create a “complete corridor” that provides a continuous natural area for the movement of water, wildlife, and people.

Note: The Dingman Creek Environmental Assessment will not delay construction of draft approved subdivisions.



# Since December 5, 2018

1. Subwatershed-wide monitoring Pilot Project with UTRCA adopted by Council
2. UTRCA Floodplain - Advisory Services of Floodplain modelling
3. Evolution of the Dingman Creek EA process



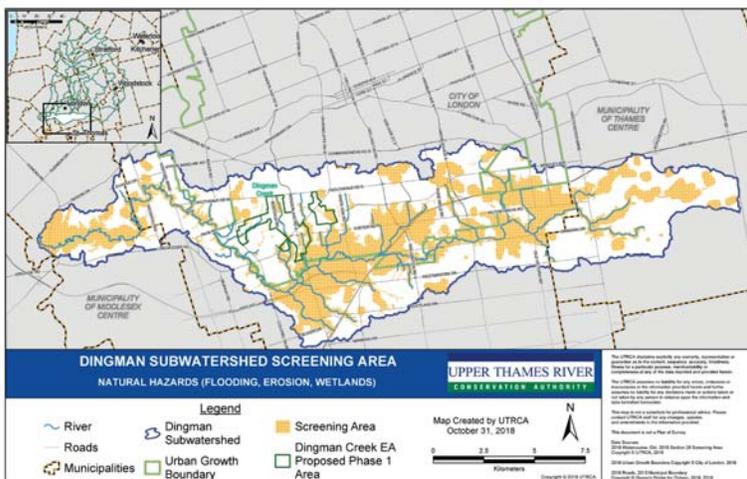
## 1. Subwatershed-wide Monitoring Plan

- Pilot Project with UTRCA adopted by Council in March 2019
- Review, compile, and analyze historical surface water monitoring baseline data using WISKI data sharing platform
- Continue existing monitoring program, including benthic and water chemistry
- Establish two additional flow or level monitoring stations
- Develop framework for annual monitoring report and 5-year trend analysis



## 2. UTRCA Floodplain

- Upper Thames River Conservation Authority (UTRCA) conducting Regional Floodplain Update in parallel with EA.
- Preliminary floodplain “screening area” presented to Planning Committee on November 12, 2018.
- Significant floodplain expansion along certain lengths of Dingman Creek and select tributaries.



Dingman Creek “Screening Area” – Draft Hazard Lands



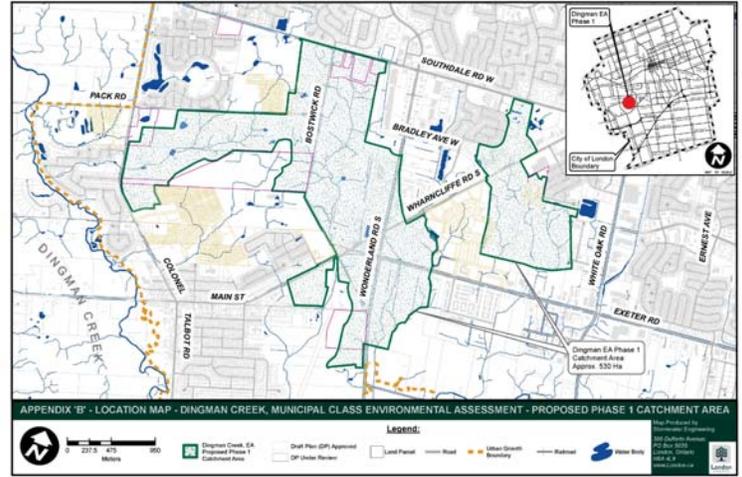
## Advisory Services

- Consultant engaged to complete Advisory Services for UTRCA Floodplain since January 2019
- Scope includes:
  - Policy and best practices review across Ontario/Canada
  - Review of modelling assumptions
- Results presented to UTRCA/City/LDI in mid-May
- Consultant to work with UTRCA to revise modelling based on findings
- Consultant to prepare report end of July 2019
- Goal: To establish baseline Regulatory Floodplain



# 3. Evolution of Dingman Creek EA

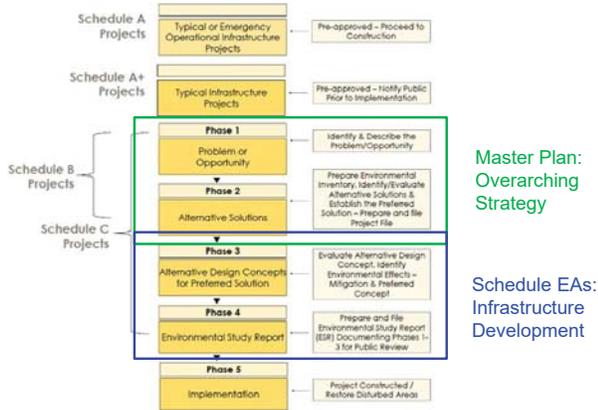
- Stage 1:** lands less impacted by floodplain expansion
  - Recommend Stormwater Servicing solutions for developable lands
  - Lands within recently completed EAs, outside of Dingman Creek zone of influence
- Stage 2:** lands directly impacted by the proposed floodplain
  - Assess storage options to mitigate expansion of floodplain, including Complete Corridor
  - Recommend Stormwater Servicing solutions for developable lands



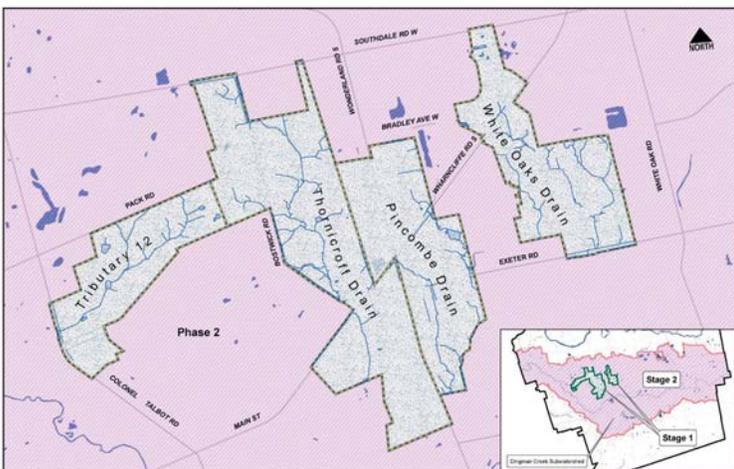
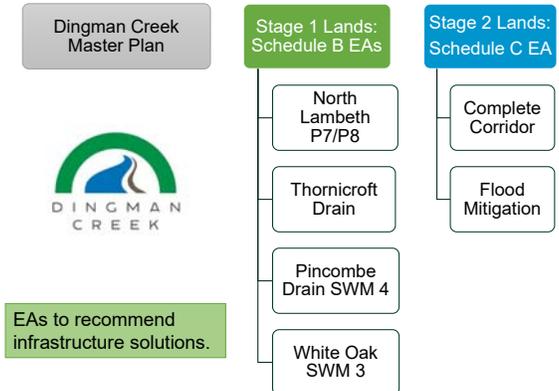
Dingman Creek EA – Stage 1 Catchment Areas



# Environmental Assessment Process



# Dingman EA Flow Chart



Study Area Limits of Stage 1 Mini EAs



# Advantages of Revised Process

- Master Plan to provide overarching strategy for Stage 1 lands, incorporate LIDs.
- Mini EAs:
  - Facilitate development within the 0-10 year period.
  - Expedite delivery of projects with up to four consultants working at the ground level.
  - Level of detail at EA stage adequate to move into detailed design and construction.
- Stage 2 Corridor EA to run in parallel
  - Evaluate concepts for Complete Corridor and floodplain mitigation.



# Acknowledgements

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# Questions?

<https://getinvolved.london.ca/DingmanCreek>



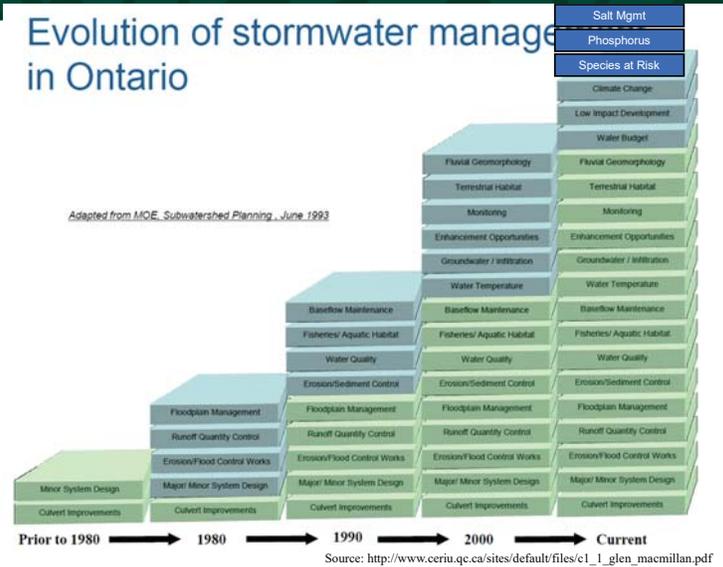
# Making room for LIDs

Design Specifications and Requirements Manual  
2019 Update – External Stakeholder Meeting  
June 3, 2019

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## Evolution of stormwater management in Ontario



# Opportunity for LIDs

- Ontario Ministry of Environment, Conservation and Parks (MECP) Bulletin, Expectations Re: Stormwater Management (MECP, February 2015)
- Regard for subwatershed conditions and maintain natural hydrologic cycle to the greatest extent possible
- Pending provincial LID Guidance Manual under new government

Going forward, the Ministry expects that stormwater management plans will reflect the findings of watershed, sub-watershed, and environmental management plans, and will employ LID in order to maintain the natural hydrologic cycle to the greatest extent possible.



## Design Standards Update

Waterloo Street Bioretention Cell



# Design Standard Update

## Section 6.0 Stormwater Management

### LID Highlights:

- Groundwater Considerations (NEW)
- Best Management Practices (NEW)
- Low Impact Development (NEW)



# Runoff Control Hierarchy

General 25mm capture target (90<sup>th</sup> percentile of rain events)

**Better Site Design** (reduced land clearing, preserve natural systems etc) & **Pollution Prevention**

**Approach 1 (Retention)** Infiltration, evapo-transpiration and or re-use. The volume does not become runoff.

**Approach 2** includes LID application in tight/clay soils = Majority of sites in London

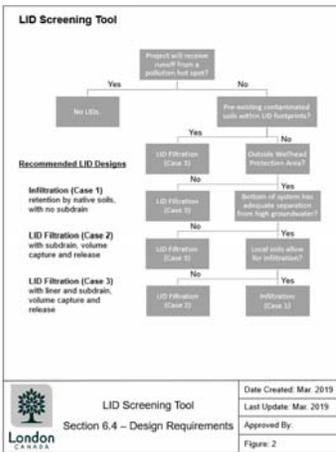
**Approach 2 (LID Volume Capture and Release)** –utilize filtration to filter runoff. The controlled volume is filtered and released to the municipal sewer networks or surface waters at a reduced rate and volume (a portion may be infiltrated or evapotranspired).



**Approach 3 (Other Volume Detention and Release)** – Other technologies which utilize filtration, hydrodynamic separation and or sedimentation (to detain and treat runoff. The controlled volume is treated and released to the municipal sewer networks or surface waters at a reduced rate.



# Stormwater Practices



## Low Impact Development

- Lot level stormwater management designs to complement traditional systems or as stand alone solution.
- LID Screening Tool: best suited LID type for specific site conditions. Can be used for site plan applications.



# LIDs by Land Use

## LIDs within Municipal Right-of-Way or Easement

1. Third Pipe Systems
2. Bioretention Systems, Infiltration Swales or Dry Swales)

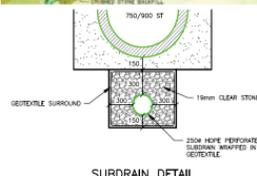
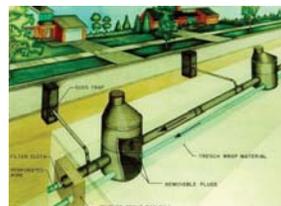
### Selected based on:

- Effectiveness in meeting the 25mm volume capture;
- Integration into current construction practices;
- Cost; and,
- Long-term access, operations and maintenance.



# Low Density: Municipal Right of Way

- Construct with local servicing
- Third pipe system
- Infiltration swales



# Medium and High Density: Private Permanent Systems

- Linear infiltration (third pipe system and infiltration swales), plus:
  - Green/white roof storage
  - Green parking lot standards



Waterloo Street, London Ontario, Constructed 2017



Firehall 11, London Ontario, Constructed 2017



## Other LID related updates

- Sediment and Erosion Controls
- Assumption process
- Operations and Maintenance requirements
- Updated IDF curves based on historical rainfall; addition of 25mm-4 hour event

Consultants and Developers encouraged to review updates.



## Design Standards Review Process

- May 8, 2019 - design standard updates circulated to external stakeholders
- June 2, 2019 – presentation of stormwater design standard changes to external stakeholders
- June 14, 2019 (this Friday) - deadline for feedback



## Development Charges

- DC Budget:
  - Total of \$94.5M of proposed 2014 DC and 2019 DC SWM projects:
    - \$34.1M of previously budgeted 2014 DC SWM works
    - \$60.4M of proposed 2019 DC SWM works

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## Stage 1 Projects

- \$25.6M of new projects under review in Stage 1:
  - Tributary B12: North Lambeth SWMFs P7\* & P8 (2020)
  - Thornicroft Drain: North Lambeth SWMFs 1, 3, 4, 5 (2023-2033)
  - Pincombe Drain: SWMF 4 (2020)
  - White Oak Drain: SWMF 3 (2022)
- Mini EAs target completion by Fall 2020.
- Roll into detailed design and construction of preferred alternative as soon as practical.



## Stage 2 Projects

- \$34.8M of new projects under review in Stage 2:
  - Thornicroft Drain: North Lambeth SWMFs 6 & 10 (2026)
  - Pincombe Drain: SWMF 5 (2025)
  - White Oak Drain: SWMF 4 (2027)
  - Old Oak 2 (2027)
  - Dingman Creek Online 2 (2019)
  - Dingman Creek Channel Remediation (2020)
  - *Dingman Creek Online 1\**
  - *Pincombe Drain Remediation\**
  - *Murray Marr 4 – Phase 1\**
- Target EA completion in 2021.
- Roll into design/construction of recommended improvements.

*Previously budgeted\**

*Previously budgeted\**

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## DC Local Servicing Policy

The 2019 Development Charges introduces an LID Subsidy intended to be applied to greenfield low density residential development when:

- The LID works are infiltration systems designed to improve water quality or the water balance within the new development;
- The LID works are constructed in conjunction with local stormwater servicing on City-owned lands or within a dedicated municipal easement; and,
- The design has been accepted by the City Engineer (or designate).



## LID DC Subsidy

- Based on a 250mm diameter third pipe system installation but represents the maximum subsidy value per linear metre.
- Subsidy may be applied to other features such as linear swales, rain gardens, or biofilter technologies, all in accordance with the Local Servicing Policy.

Depth of Storm Sewer (m)	LID Subsidy
2.5	\$279
3.0	\$301
3.5	\$324
4.0	\$346
4.5	\$369
5.0	\$391
5.5	\$414
6.0	\$436
6.5	\$458
7.0	\$481
7.5	\$503
8.0	\$648
8.5	\$792
9.0	\$937
9.5	\$1,081
10.0	\$1,225

*\*in force and effect August 4, 2019.*



## Site Plan Storm Credit

- Current storm rate (>1 acre) = \$135.71 per ha/month
- ICI properties eligible for storm fee credit:

### Case 1: Pervious Surface Credit

- Demonstrate contributing impervious area is less than storm sewer design sheet

### Case 2: Green Infrastructure/LID

- Demonstrate infiltration measures/at source controls reduces runoff to the municipal system

- Up to 50% rate reduction available.
- More details at the bottom of this page:

<http://www.london.ca/residents/Water/water-bill/Pages/Water-and-Wastewater-Rates.aspx>



## Summary

- Design Standards have been updated to encourage opportunities for LIDs
- 2019 Development Charges includes funding for traditional SWM systems and Linear LIDs as recommended by the Dingman Master Plan

## Next Steps



Talbot Village SWMF



## Next Steps: Master plan

### Wrap up Master Plan for Stage 1:

- Present overarching SWM strategy with LID targets for development lands in Stage 1 boundary
- Public Meeting #2 on June 19, 2019: Preferred Recommended Solution for Traditional & LIDs
- Notice of Completion: September CWC
- Report available for 30-day review period



## EA Timelines

Fall 2019:

- Master Plan Notice of Completion
- Initiate 4 Mini-EAs for Stage 1 Lands
- Initiate Stage 2 Corridor EA



By end of 2020:

- Complete Mini EAs
- Move to design and construction



By end of 2021:

- Complete Stage 2 Corridor EA



## Stakeholder Outcomes

- Developed Problem Statement
- Confirmed EA Objectives
- Discussed what, where, & why of Low Impact Development technologies
- Established Watershed Goals, Objectives, Indicators and Targets
- Defined long list of EA alternatives
- Reviewed Evaluation Matrix



## Stakeholder Group

- Transparent means to communicate project evolution
- A forum for personalized involvement in the process.
- Stakeholder Group will be offered for Stage 2
  - Group vote!



## Questions?



<https://getinvolved.london.ca/DingmanCreek>

## Thank You!



Dingman Creek Sunrise

Photo Credit: Paul Roedding Photography