Stormwater Management (SWM)

Agenda

1. What is the purpose of stormwater management?
2. Grand Valley's Stormwater Management Facilities
3. Why did the MECP implement the CLI-ECA for Stormwater Management Systems?
   - Consolidated Linear Infrastructure Environmental Compliance Approval
4. What additional requirements were implemented as a result?
5. What requests do staff receive from residents?
6. Common Maintenance Requirements
7. SWM Facility Cleanouts – Overall Process
8. What are the risks with lack of overall maintenance?
9. What changes is the Town implementing?
10. What are Municipalities doing to meet compliance issues and maintain their SWM Facilities?
11. How are Municipalities funding the costs to maintain their stormwater management systems?

1. What is the purpose of stormwater management?

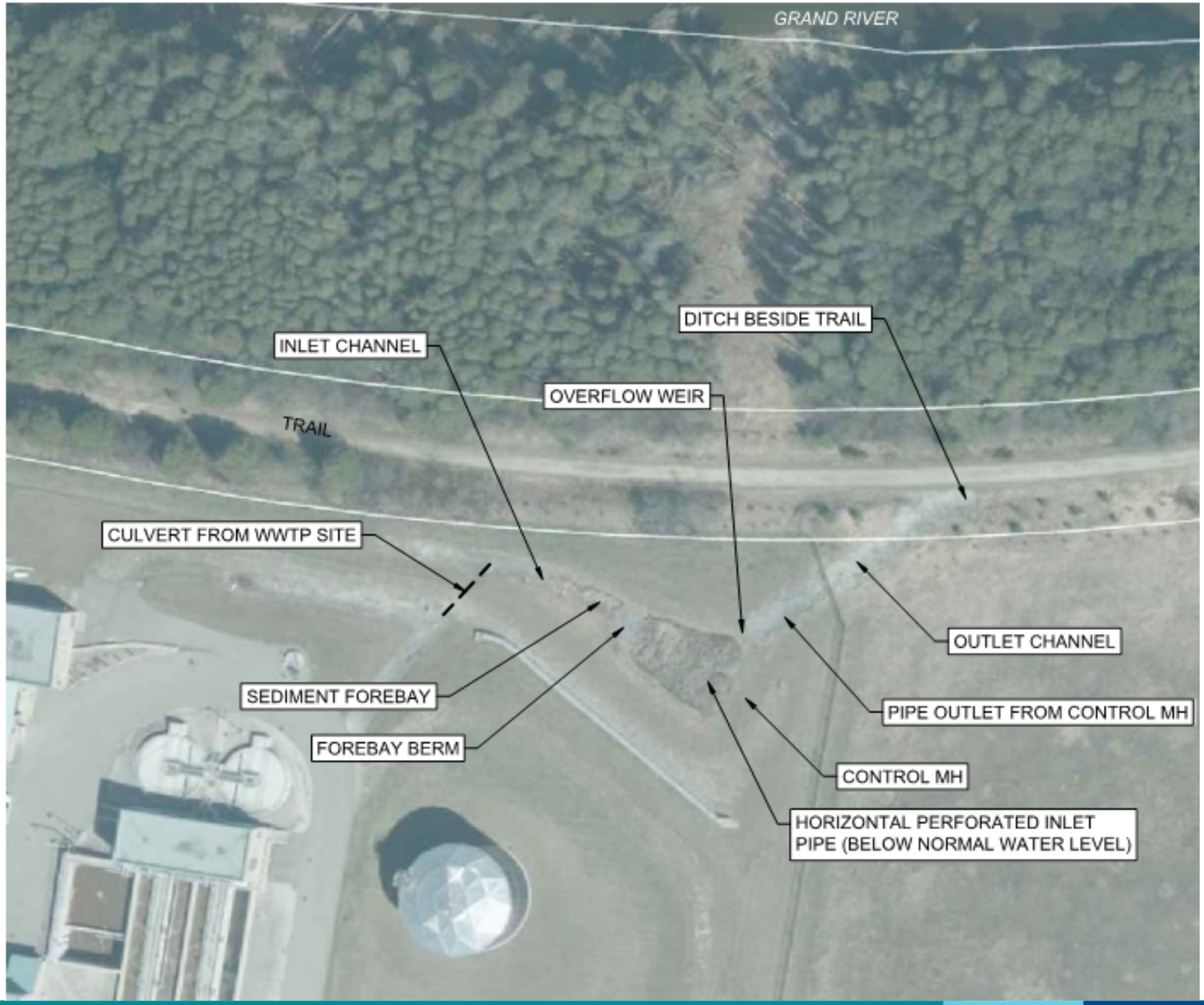
- To prevent an increased risk of flooding
- To prevent erosion in creeks/rivers
- To improve the quality of the runoff
- To maintain groundwater recharge per Source Water Protection studies where required

2. Grand Valley's Stormwater Management Facilities

- 6 SWM facilities and 2 Oil Grit Separators
- Upcoming facilities
  - Mayberry Phase 3B Ponds (constructed)
  - Corseed Pond (not yet constructed)
  - Moco Pond (not yet constructed)
  - 5 OGS (3 installed, 2 not yet installed)
  - Thomasfield Business Park (not yet constructed)

BURNSIDE

Mount Haven Crescent
Wetland Facility
Constructed: 2005

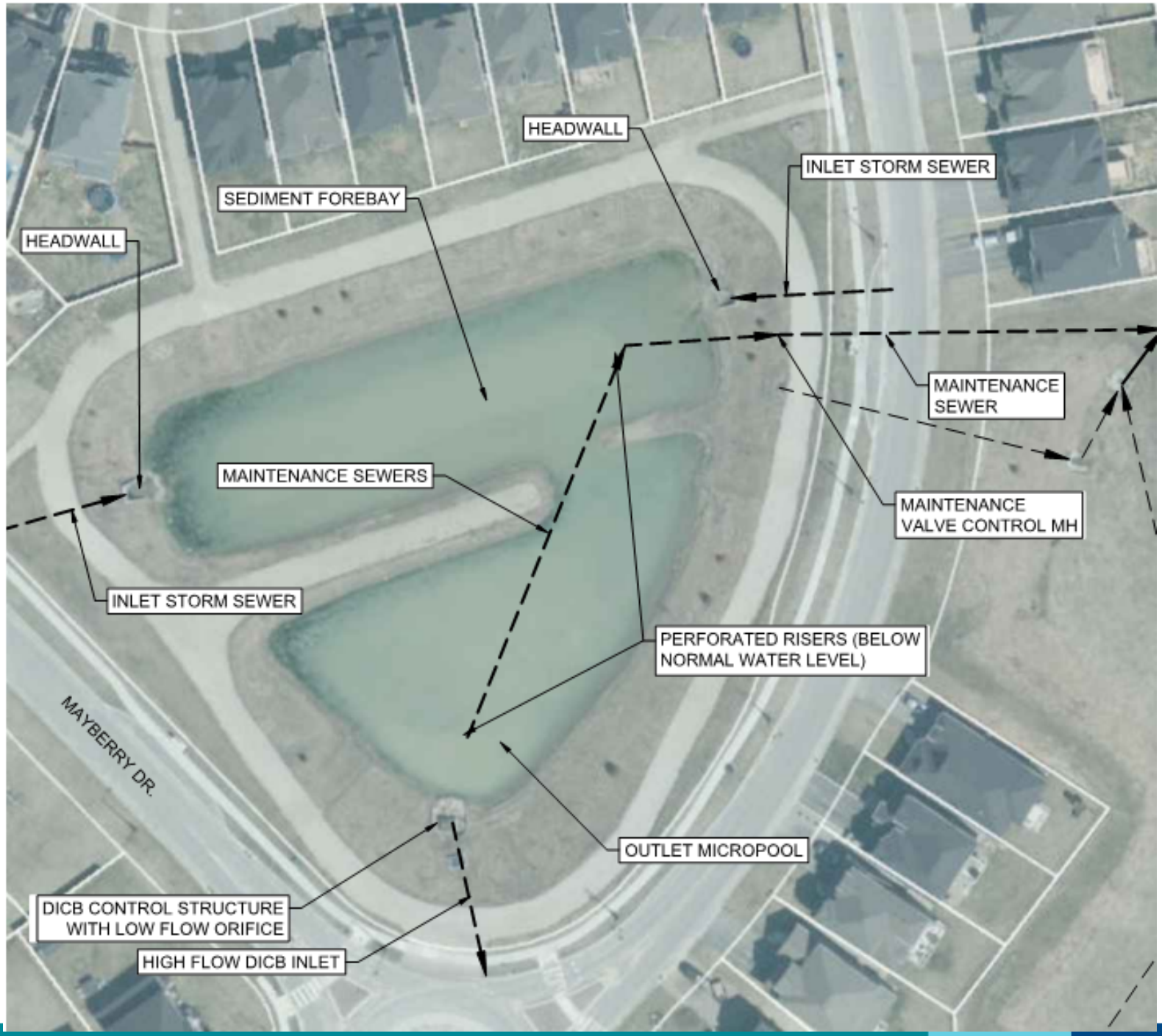


BURNSIDE

WWTP
Wet Pond
Constructed: 2012

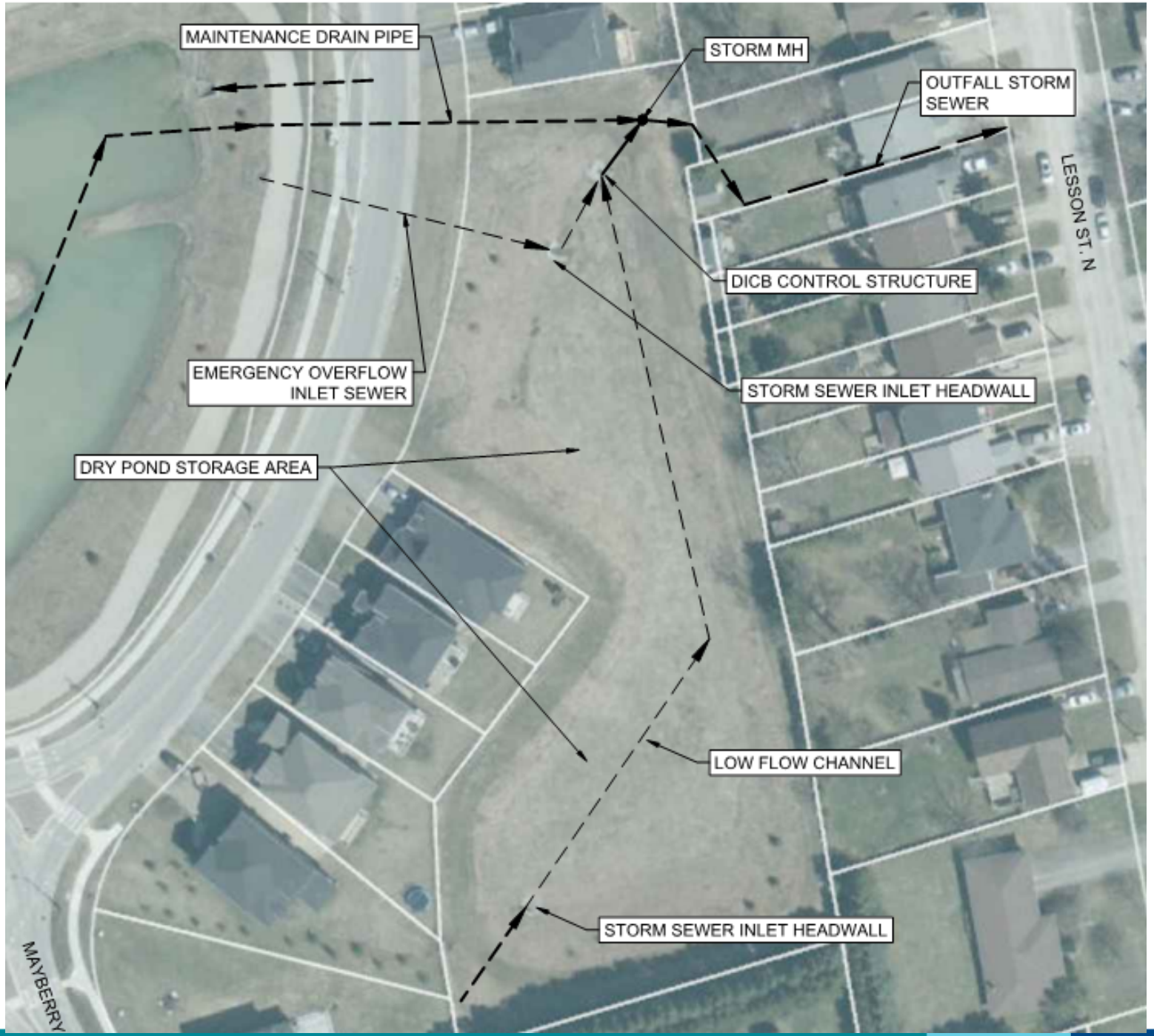
BURNSIDE

Taylor Drive
Wetland
Constructed: 2013



BURNSIDE

Mayberry Drive Wetland
Constructed: 2015



BURNSIDE

Ritchie Drive
Dry Pond
Constructed: 2015

BURNSIDE

Jenkins Street
Dry Pond
Constructed: 2018

3. Why did the MECP implement the CLI-ECA process?

****Reduces time to get infrastructure into the ground****

- Developed to address low risk projects (already reviewed by the Municipality and Conservation Authority)
- Only applies to municipal infrastructure, including infrastructure that will be assumed by the Town
- Provided an opportunity to bring in historical infrastructure where an existing Certificate of Approval or Environmental Compliance Approval did not exist (or the approval paperwork could not be located)

4. What additional requirements were implemented as a result?

- Operation & Maintenance Manual (Consolidated Manual was prepared to address the requirements within the CLI-ECA and will be updated as new facilities are assumed)
- Annual Performance Report (due April 30th of every year)
- Annual Significant Drinking Water Threat Assessment
- Annual Update of Drawings related to the System as new work is authorized under the CLI-ECA
- Signage (current signage did not address all MECP requirements – due October 31, 2025)
- Storm Sewer Catchment Assessment (due June 17, 2025)
- Monitoring Plan (due date not known)

5. What requests do staff receive from residents?

- Frequent grass cutting
- Enhanced landscaping
- Benches
- Garbage Cans

6. Common Maintenance requirements

- Catch basin sump cleanouts ($20,000 annually)
- OGS Cleanouts ($11,000 per cleanout, frequency varies but assume on average every 3 years, inspect annually for levels)
- Street Sweeping (helps reduce sediment from getting into the pond)
- Staff time (cutting grass, collecting debris, exercising valves, inspecting structures)
- Addressing invasive species (ex. phragmites)
- Pond clean-outs, erosion corrections, restoration (High Costs)

7. SWM Facility Cleanouts Overall Process

Task 1: Survey

Sediment Accumulation

Budget: Approx. $2,500-$5,000

Task 2: Review volume compared to the design volumes

Has the sediment volume been reached?

Task 3: Take samples for laboratory analysis and prepare sediment characterization report

Sediment often is high in road salt, metals, PAHs from asphalt, hydrocarbons from oil and grease, metals from cars and other sources and sometimes pesticides.

Budget: Approx. $5,000 - $20,000

Task 4: Determine Disposal Options

- At SWM Facility (typically not an option)
- Most SWM pond sediment is not suitable for typical disposal on lands
- Typically, SWM Pond sediment goes to a Class 1 Soil Management Site (site for poor quality soil)

Task 5: Permits/Environmental review

- General Environmental Review (Species at Risk)
- GRCA Permit (if required)
- License to collect fish (MNR)
- Wildlife Science Collector Authorization (MNR)

Budget: Approx. $15,000-$20,000 including construction involvement

Task 6: Public Tender Process

- Drawings (ESC, sediment management areas, site restoration)
- Tender Document
- Avoid cleanouts between April to July (due to nesting season)

Task 7: Cleanout

- Public Awareness/Notification
- Initial Dewatering
- Relocate impacted wildlife (typically frogs and turtles) & collect fish. Work is documented and report sent to MNR.
- Finish Dewatering/By-Pass Plan in place
- Excavate sediment, initial drying (avoid cost of hauling liquid), sediment hauling and disposal
- Restoration
- Final survey

BURNSIDE

Overall Estimated Budget (will vary significantly)

$100,000 to $400,000 anticipated range

8. What are the risks with lack of overall maintenance?

Maintenance Item	Result of Reduced Maintenance
- Reduced catch basin sump cleanouts - Reduced OGS Cleanouts - No spring street sweeping	Increased frequency of SWM pond cleanouts
Reduced staff time (reduced inspection, general vegetation management, debris removal)	Flooding and/or Erosion - Overgrowth can ultimately lead to reduced capacity at inlets or outlets - Debris can block inlets or outlets - By-pass flows, excessive flows or ponding could contribute to erosion issues - Invasive species taking over - Non exercised valves will ultimately fail
Lack of SWM facility cleanouts / Compliance with ECA-CLI	- Flooding - Lack of Quality Control - MECP imposing orders, fines, new conditions

9. What changes are being implemented?

- No more easements to access SWM Facilities (this was done in the past)
- Town guidelines are being updated:
  - Fences (along boundaries between Town owned land and SWM blocks)
  - Use of Oil Grit Separators before SWM facilities
    - Easy for Public Works to coordinate cleanouts
    - Reduces sediment entry into the SWM facility which will extend the periods between cleanouts which is costly
- Preference for Blocks over easements for all infrastructure (currently only RYCB leads are within 5m easements)
- Updating Town engineering guidelines to prohibit some forms of stormwater management (underground storage tanks for example)

10. What are Municipalities doing to meet compliance issues and maintain their SWM Facilities?

- Staffing up
- Retaining consultants for assistance

11. How are municipalities funding the costs to maintain their stormwater management systems?

- Through property taxes, or
- Dedicated Stormwater Utility Funds (like Water & Wastewater fees)

Municipality	Charges	Is a credit program in place?
Waterloo (since 2011)	• residential, multi-residential, institutional each have three tiers based on property size • commercial/industrial have four tiers based on property size	Yes – For all types of properties
Mississauga (since 2016)	• five tiers of residential charges based on roof areas • multi-res and non-residential are based on total hard surface	Yes – For multi-res and non residential
Guelph (since 2017)	• flat rate for residential • non-residential based on total hard surface	Yes – For multi-res and non residential

Other Examples: Kitchener, King, Aurora, Newmarket, Richmond Hill, Vaughan, Orillia, London, Ajax, Markham, Georgina