

Service Business Plan



Service Name	Surface Water Drainage	Service Type	Public
Service Owner Name	Cary Clark	Budget Year	2019
Service Owner Title	Manager of Development and Stormwater Engineering		

Service Description

A public service to manage surface water drainage.

Current State

Customers & Their Expectations

This service is delivered to:

Residents, property owners, businesses, developers, builders/constructors, Planning & Building, Roads & Parks Maintenance and Council.

Expectations include:

- Flood and erosion protection for properties and structures
- Clean and safe creeks
- Protection of natural habitat, including trees
- Accessibility to trail systems along creeks, with well-maintained and attractive amenities
- Safety and risk avoidance related to flooding
- Delivery of approvals and permits in a timely and cost-effective manner
- Well-maintained storm water management ponds
- Well-maintained surface water drainage systems, including culverts and storm inlet grates
- Help addressing storm drainage concerns and complaints
- Inventory information and assessment of infrastructure condition
- Replacement of damaged infrastructure
- Good storm water quality
- Professionalism, expertise, innovation and education.

Existing Service Delivery	<p>The existing surface water drainage systems include:</p> <ul style="list-style-type: none"> • 11 major creeks and several minor creeks within the urban boundary, totalling 93 kms. • 1350 rural area culverts (16,000 m) • 900 urban area culverts (13,000 m) • 15,600 catchbasins • 27 storm water management ponds owned by the City • 14 City-owned oil and grit separator manholes. <p>This service is delivered in coordination with the Design & Construction and Asset Management sections of the Capital Works Department, Roads & Parks Maintenance (RPM), Halton Region, Conservation Halton, Niagara Escarpment Commission, Ministry of Environment & Climate Change, Ministry of Natural Resources and Department of Fisheries & Oceans.</p> <p>The service provides:</p> <ul style="list-style-type: none"> • Planning, design, construction, permits and inspection of surface water drainage systems • Assistance to residents and property owners in addressing concerns/complaints regarding drainage issues • Maintenance of creeks, road allowance drainage, catchbasins, storm inlet structures and oil and grit separator manholes • Site alteration review, permits, inspection and enforcement • In partnership with the Asset Management Service, collecting inventory information and assessing infrastructure condition for data management • Infrastructure renewal of storm sewers through road reconstruction projects, accomplished as a customer of Roads and Structures – Design and Construction for design of roads and storm sewers.
Existing Customer Engagement Tools / Methods	In person, telephone, 311, email, mail, City website, social media, newspapers, radio, television, media releases, public open houses, committee and Council reports.
Is this Service Provincially Legislated?	No N/A
For this Service are there Approved Service Standards?	Yes Conservation Authorities Act, Ontario Regulation 162/06, Department of Fisheries and Oceans Act, Canadian Environmental Protection Act Drainage By-law 56 2007, Site Alteration By-law 64-2014

Sub-Services

Surface Water Drainage Project Management – creeks, ditches, storm water management ponds, culverts	Oversee design, tendering, project management, contract administration and construction inspection of creek erosion rehabilitation projects, storm water management pond cleanouts, minor drainage improvements and culvert replacements.
Maintenance of Surface Water Drainage Systems	Inspect and maintain creeks clear of debris and blockages. Addressing drainage issues on City-owned road allowances and open spaces. Repairs are undertaken by RPM crews or where necessary by outside contractors.
Resident Drainage Customer Service	According to By-law 56-2007, address concerns/complaints from residents regarding storm water drainage. Inspect and assess issues. Make recommendations for actions where the City has responsibility.
Storm Water Management Design Review (for new development applications)	Provide storm water management design review services for new development applications. This is done in coordination with the Community Design and Development Review service.
Site Alteration Permitting and Administration	According to By-law 64-2014, provide site assessments, review of applications, issuance of permits, inspections and enforcement.

Recent Continuous Improvement Initiatives

On August 4, 2014 the City of Burlington experienced a major rain storm that caused extensive flooding. Council approved the addition of \$20M to the Storm Water Capital Budget over the next 10 years for infrastructure upgrades to mitigate flood risks. The design and construction of flood mitigation projects to reduce the risk of flooding have commenced. Flood Mitigation creek improvements are currently underway on Tuck Creek, with the replacement of the Regal Road bridge and flow capacity improvements to the creek channel.

Creek erosion protection improvements have recently been completed on Roseland Creek (Guelph Line to Upper Middle Road) and on Tuck Creek, north of Harvester Road.

A large storm water quality facility was recently retrofitted into the storm sewer system in Spencer Smith Park. This will improve the storm water quality outletting to Lake Ontario. Additional projects are being planned.

The Creek Condition and Assessment Survey report of urban creeks was completed in March 2016. This provided updated creek erosion, infrastructure and debris details. This data is being used to prioritize future creek improvement projects.

Emerging Opportunities and Anticipated Risks

Emerging Opportunities	<ul style="list-style-type: none"> - We have the ability to address additional storm water infrastructure needs. - New approaches to climate change modelling. - Improved communication with residents through public engagement, updates on City website and social media. <p>A Stormwater Quality Control Improvement "pilot study" was undertaken in 2017. This involved the assessment of the Downtown's storm sewer system, with resulting recommendations for new Oil Grit Separator locations to improve the stormwater quality outletting to Lake Ontario.</p>
Anticipated Risks	<ul style="list-style-type: none"> • Increasing flood risks to the City and private property owners due to climate change. • Aging storm water infrastructure increases the need for funding of repairs and replacements. <p>Further consideration of a feasibility review related to a potential Storm Water User Fee has been deferred until the next term of Council.</p>

Service Objectives	Target Completion
Update the Stormwater Design Standards manual	Jun 2019
Completion of the Phase 1 Tuck Creek Flood Mitigation project	Jun 2019
Construction of Phase 2 of the Tuck Creek Flood Mitigation project	Jun 2020
Construction of Phase 3 of the Tuck Creek Flood Mitigation project	Jun 2021
Complete design and construction of East Rambo Creek flood mitigation project.	Oct 2019

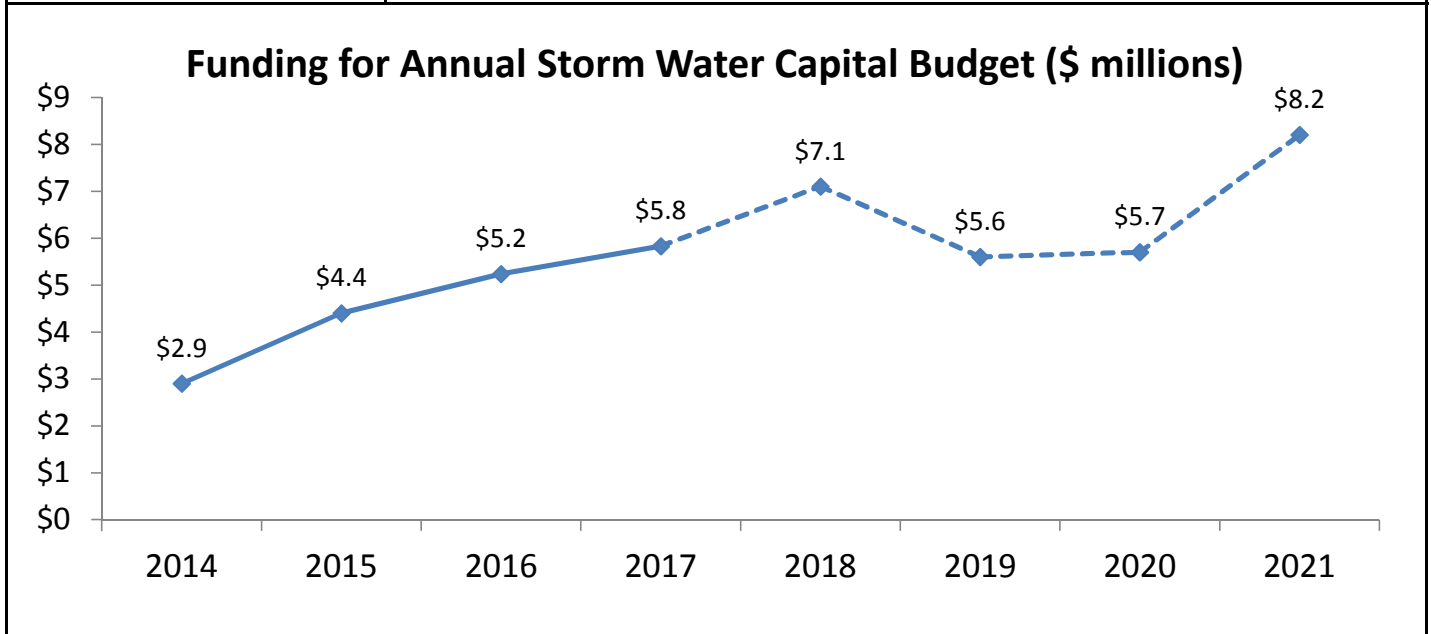
MEASURING SUCCESS

How much did we do?

Performance Measurement	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Forecast	2019 Forecast	2020 Forecast	2021 Forecast
Length of creek erosion control repairs completed (km) (existing 93km of urban creek)	0.62	0.39	0.07	1.98	0.87	0.93	1.16	2.86
Number of storm water management ponds cleaned out (existing 27 ponds)	-	1	1	2	1	1	2	2
Number of rural culverts replaced by Roads and Parks Maintenance and Development & Environmental Engineering (1350 rural culverts = 16,000m)	21	18	21	24	31	25	25	25

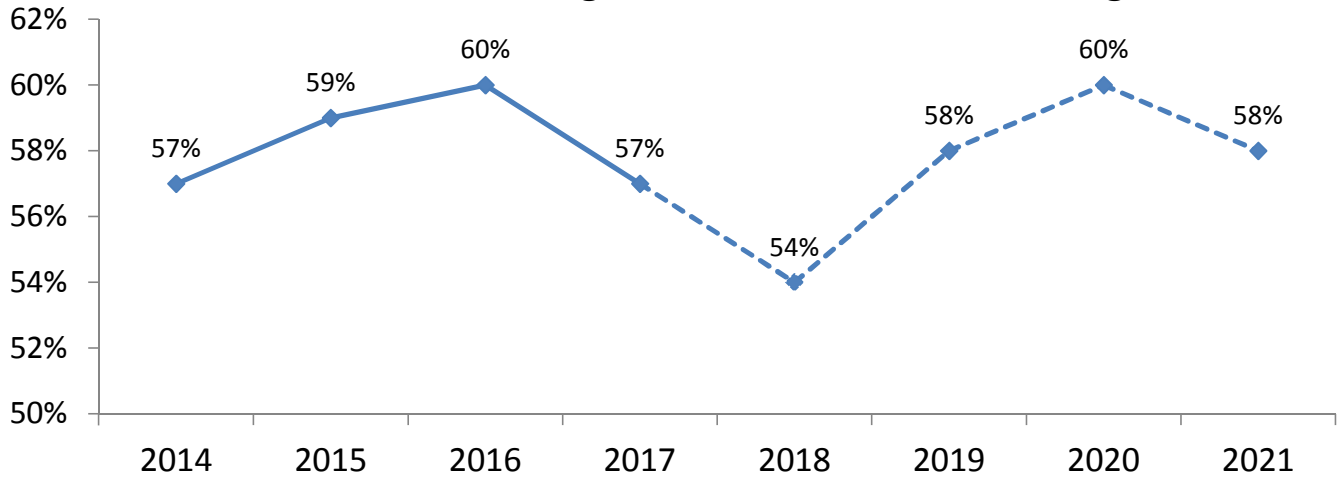
How well did we do it?

Performance Measurement	Funding for Annual Storm Water Capital Budget (\$ millions)
Story behind the data	Major Flood Mitigation construction projects have begun in 2018 with the reconstruction of the Regal Road Tuck Creek bridge. Continue considering infrastructure for flood mitigation improvements. Continue erosion control improvements to increase the Creek Condition Index.



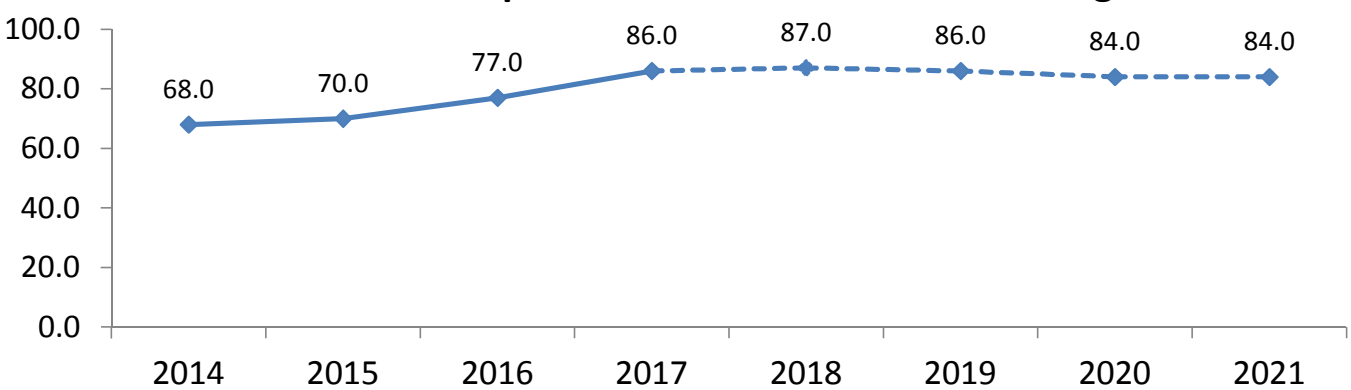
Performance Measurement	Storm Water Management Pond Condition Rating
Story behind the data	Environmental regulations are driving the cost of SWM Pond clean-outs up. We are reallocating more capital budget to this operation. Analyse tendered costs of pond clean-outs in 2019 and recommend adjustments to the 2020 budget, if necessary, to maintain ponds in good working order.

Storm Water Management Pond Condition Rating

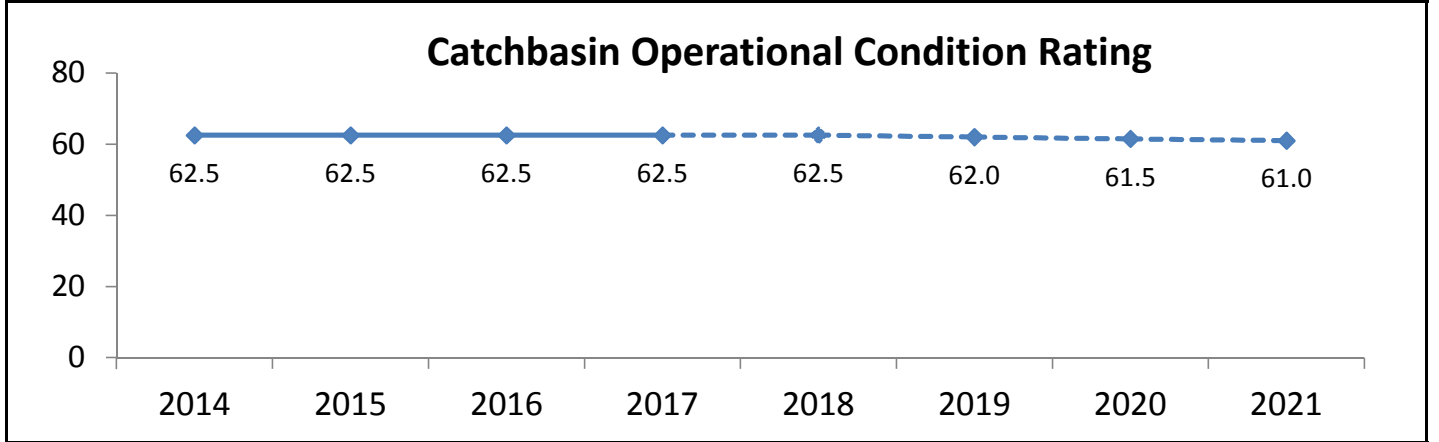


Performance Measurement	Oil and Grit Separator Manhole Condition Rating
Story behind the data	Maintenance program being shifted from RPF to Capital Works, to provide consistency with SWM Pond clean-out program.

Oil and Grit Separator Manhole Condition Rating



Performance Measurement	Catchbasin operational condition rating (average capacity of catchbasin to capture sediment)
Story behind the data	More catchbasins are being constructed in new subdivisions. Costs are marginally increasing on an annual basis due to increased number of catchbasins.
Where do we want to go?	As new development proceeds the number of catchbasins will increase. This will require an increase in funding to maintain the level of service.



Performance Measurement	Annual creek condition index (weighted average of % of kms of creeks in good condition)
Story behind the data	With the constant delivery of flood mitigation and erosion control projects in our creeks, the index is steadily increasing.
Where do we want to go?	Following the Aug 4, 2014 storm, our capital program has added the initiative to enhance the creek conveyance capacities along with the previous erosion control rehabilitation works. We are continuing to progress with both initiatives to gradually improve the overall Creek Condition Index.

