



City of
Peterborough

To: **Members of General Committee**

From: **Cynthia Fletcher,
Commissioner of Infrastructure and Planning Services**

Meeting Date: **October 13, 2020**

Subject: **Report IPSIM20-007
Federation of Canadian Municipalities Application for
Smart Stormwater Grid Pilot Project**

Purpose

A report to recommend the City make application to Federation of Canadian Municipalities under the Green Municipal Fund for a Smart Stormwater Grid Pilot Project.

Recommendation

That Council approve the recommendation outlined in Report IPSIM20-007 dated October 13, 2020, of the Commissioner of Infrastructure and Planning Services, as follows:

That staff be directed to make application for funding to the Federation of Canadian Municipalities for a Smart Stormwater Grid Pilot Project.

Budget and Financial Implications

The Federation of Canadian Municipalities (FCM) Pilot Project Grant will fund 50% of a project's cost, up to a maximum amount of \$500,000. The City's contribution can be accommodated within the City-Wide Stormwater Quality Master Plan Implementation (2020 Capital Budget - Page 352). The project scope of the pending 2021 reconstruction project at the Cedargrove Stormwater Management Facility (SWMF) will be expanded to include the proposed work and the additional portion funded through the FCM Pilot Project Grant.

The application must be finalized in November 2020 to allow enough time for review/approval and to initiate a pre-condition monitoring program prior to construction activities at the Cedargrove SWMF.

Background

Through the Green Municipal Fund (GMF), the Federation of Canadian Municipalities (FCM) provides grants to support environmentally sustainable municipal feasibility studies and pilot projects. FCM also provides GMF knowledge products and services to help municipal governments build their capacity to become innovative and sustainable communities. The GMF vision is to develop "sustainable resilient Canadian cities and communities that improve air, water, soil and protect the climate".

Successful initiatives are those that reflect the very best examples of municipal leadership in sustainable development; feasibility studies and pilot projects that are expected to lead to high environmental benefit, link to existing plans and policies, use a strong management approach, can be scaled up and replicated by other communities.

FCM funds initiatives that can potentially allow a community to remove 60% of total suspended solids (TSS) or a significant amount of other contaminants (e.g., E.coli, salt, grease) from its stormwater runoff. Projects must assess solutions in real-life conditions and include either a small-scale version of a project or a full-scale, replicable version. Projects should involve several properties or sites. Projects are encouraged to also identify low-impact solutions that engage local residents. Available grants (for the Municipal Partner with a population > 20,000) are up to \$500,000 and cover up to 50% of eligible costs.

Staff will be leveraging an existing project proposed for 2021, the Cedargrove SWMF Maintenance and Retrofit Project as the City's 50% contribution. This approach has been approved in principal by FCM staff. Furthermore, this proposed approach will not result in any additional requests for funding or increased budgets in 2020 or 2021, as the FCM grant would be used entirely to fund the Pilot portion of the overall project.

Project Details

Stormwater has become a major issue as weather patterns become less predictable and more extreme. In the City of Peterborough, heavy winter snowfalls, frequent snowmelt plus rainfall events, intense summer rain events, and combined with increasing population, have made flood mitigation a high priority. The proposed project is located in the Byersville Creek subwatershed. Byersville Creek is an urban cold-water system, which supports Brook Trout, making it a valuable natural asset for the City.

This project will monitor Smart Rain Cistern (SRC) systems, dispersed through an upstream sub-catchment area of the Cedargrove SWMF and installed at the lot level for properties. A maximum of 50 internet-based and real-time monitored home roof SRCs will be provided and installed within an upstream sub-catchment area of the Cedargrove SWMF. Ideally, two cisterns will be installed at 25 properties and participating property owners will receive this equipment valued at ~\$500 per unit – for a maximum value of ~\$1000 per household – free of charge. In the unlikely event 25 property owners do not participate the FCM funds can be reallocated to other tasks in the pilot project with FCM approval.

The goal will be to reduce storm runoff by at least 50% during the most common rainfall events. The anticipated benefits include reduced TSS loads, reduced maintenance costs and additional capacity within the storm water facilities for Climate Change induced rainfall events.

Each SRC will be maintained during the non-winter periods. This technology includes weather monitoring so each ‘smart cistern’ can be discharged automatically before any significant rainfall event. Otherwise, the harvested stormwater runoff from each roof during the spring/summer/fall periods can be used for lawn watering, car washing, or other on-site non-potable water uses by the respective property owners.

Peterborough has the opportunity to lead in the area of investigating private lots as a unified system that together can work to reduce runoff through SRC installations and then be monitored and modeled to assess their full impact.

Municipal Declaration

Municipalities must declare their commitment to participate in the FCM program. This commitment is made through match funding, and a Council resolution in support of the application. If the recommendations of this report are approved by Council, staff will proceed with the application to FCM with an acknowledgement to FCM that the City’s matching fund will be subject to approval of the 2021 Capital Budget.

Summary

The City has the opportunity to apply for funding from FCM for an innovative Stormwater project, which will augment work already contemplated. The proposed pilot project does not result in any additional requests for funding outside those previously identified for the City-Wide Stormwater Quality Master Plan Implementation. The pilot project will only be undertaken upon successfully securing funds from the FCM.

Submitted by,

Cynthia Fletcher
Commissioner of Infrastructure and Planning Services

Contact Name

Michael Papadacos, P.Eng.
Manager, Infrastructure Planning
Phone 705-742-7777 ext. 1756
Toll Free: 1-855-738-3755
E-mail: mpapadacos@peterborough.ca

Ian Boland, C.E.T.
Senior Watershed Project Manager
Phone 705-742-7777 ext. 1504
Toll Free: 1-855-738-3755
Fax 705-876-4621
E-mail: iboland@peterborough.ca