




**TO:** GENERAL COMMITTEE


**SUBJECT:** RAINSCAPING LOW IMPACT DEVELOPMENT (LID) GARDEN PILOT PROJECT

**WARD:** 4

**PREPARED BY AND KEY CONTACT:** W. FISCHER  
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**GENERAL MANAGER APPROVAL:** D. FRIARY  
GENERAL MANAGER OF INFRASTRUCTURE & GROWTH MANAGEMENT  
(Acting) 

**CHIEF ADMINISTRATIVE OFFICER APPROVAL:** C. LADD  
CHIEF ADMINISTRATIVE OFFICER 

**RECOMMENDED MOTION**

1. That the proposed RainScaping Low Impact Development Garden Pilot Project site in Sunnidale Park be approved so that the design of the project may proceed.
2. That staff report back to General Committee once the design of the proposed RainScaping LID Garden Pilot Project is completed to a level that allows the annual maintenance costs to be established.

**PURPOSE & BACKGROUND**

3. The purpose of this staff report is to obtain Council approval of the location for a RainScaping Low Impact Development (LID) Garden Pilot Project (LID Garden Pilot Project) in Sunnidale Park so that design may be initiated. The idea is to create a public demonstration area to show how LID principles can be adopted and applied on a wide scale to effectively protect the health of Lake Simcoe. The Lake Simcoe Region Conservation Authority (LSRCA) and City staff have been discussing the potential for locating a LID Garden Pilot Project in Sunnidale Park since 2013. In March 2014, staff received a draft concept plan proposal from the LSRCA. The LSRCA would fund the project and lead the project implementation. The City of Barrie's role would be to provide a suitable park location and provide staff support to review the design and monitor construction activities.
4. LID is a stormwater management approach that aims to mimic predevelopment hydrologic processes by increasing detention, infiltration and treatment of stormwater runoff at its source. By dealing with rainwater before it runs off the property, homeowners can reduce the amount of water entering conventional stormwater drainage infrastructure (i.e. watercourses, storm sewers and stormwater management ponds). LID is a key element of the stormwater management system to achieve reduced impacts from development runoff and to reduce phosphorus loads from stormwater runoff.
5. Most residents are unaware of the difference between the stormwater system (flows go to Lake Simcoe or to the Nottawasaga River) and the sanitary sewer (flows go to the City's wastewater treatment facility). To educate homeowners, the LSRCA is approaching municipal partners across the entire Lake Simcoe watershed to create local demonstration sites. LID has been branded as "RainScaping" to engage the public regarding how low impact development can function within the context of their own residential properties.

## ANALYSIS

6. The Sunnidale Park Master Plan was approved in 2009, with a priority on passive recreational activities. The LID Garden Pilot Project would provide a new passive viewing attraction and align with the passive activity recommendations of the Master Plan.
7. In the 2014 Business Plan, Council approved the reconstruction of the existing playground in Sunnidale Park at a new location near the Dorian Parker Centre in accordance with the Sunnidale Park Master Plan. This will leave the existing playground sand-surfacing footprint available for restoration (approximately 1,500 m<sup>2</sup> or 0.37 acres) as shown in Appendix "A".
8. The proposed LID Garden Pilot Project would have the following benefits:
  - a) Restoration of the playground area into a demonstration garden would enhance the landscaping of the park with the introduction of additional floral beds and gardens. This would allow the garden to be both an educational opportunity as well as a floral display for other opportunities such as another photography site within the park (e.g. wedding photos).
  - b) A display garden would create additional opportunities within the park for pollinator plant species, host and food plants for native birds, bees and butterflies. This additional pollinator garden in the park would also benefit the pollination of the community garden located off Coulter Street.
  - c) As an educational site, the demonstration garden would show the public how water from their own property and the health of Lake Simcoe and other watersheds are connected. This location is within the Kidds Creek subwatershed. As a priority subwatershed, creating a display in the park will publicly illustrate the benefits of stormwater reduction on local creek systems thus allowing for future benefits such as stream bank stabilization, reduced sedimentation of creek systems and the creation of addition fish habitat
  - d) The pilot project would help the City better understand the LID maintenance requirements and techniques which will help the City be prepared for larger scale municipal projects that are anticipated as part of the City's growth through intensification and greenfield development in the annexed lands.
  - e) The enhancement as a LID garden and floral display area generated interest from local groups and business interested in supporting the development of the garden. The Barrie Garden Club has expressed interest in donating a tree, and possible assistance with planting, to celebrate their 100<sup>th</sup> Anniversary of the Garden Club.
9. A key design element of the proposed LID Garden Pilot Project would be a roofed structure for water capture for demonstration of such items as permeable pavement, bio-swales and infiltration trenches. The garden is also anticipated to use a series of demonstration elements, interactive displays and interpretive signage to inspire citizens to implement RainScaping on their own properties.
10. If the pilot project is successful, additional elements could be added in subsequent phases. Refer to Appendix "B" for examples of public educational opportunities that may be explored in the project both through the current project or subsequent phases.
11. The design phase of the current project is expected to begin upon approval of this report. Pending Council approval in August 2014, the project would continue with base preparation in the fall of 2014 and plant material installation in early 2015. The official launch through a public event would then be anticipated for mid-2015.
12. Staff has reviewed the LSRCA proposal and recommend that the LID Garden Pilot Project be approved to proceed to design.

13. The LSRCA provided the details of the proposed LID Pilot Project to the City's Environmental Advisory Committee on June 4, 2014 and the Committee is supportive of the project.
14. Given that the maintenance requirements for the LID Garden Pilot Project will not be known until completion of the design, staff intend to report back to General Committee regarding the estimated maintenance costs prior to proceeding with construction. Through the detailed design process, staff will coordinate with the Friends of Sunnidale Park Consultation Group to solicit input on garden components.

### **ENVIRONMENTAL MATTERS**

15. The following environmental matters have been considered in the development of the recommendation:
  - a) The 2013 Communities In Bloom Evaluation provided two related environmental recommendations for consideration, which would be supported by this initiative:
    - i) Business and institutional participation in the environmental effort; such as water conservation.
    - ii) Residential adoption of water conservation practices & policies, including rainwater collection.
  - b) The water quality and health of Lake Simcoe is directly affected by stormwater flows received from the built environment. More than 75% of the land in Barrie is privately owned. By engaging non-municipal landowners to reduce their stormwater flow impacts, there is an environmental benefit to the City's watershed through the reduction of water flow into watercourses, like Kidds Creek, and reduced erosion and sedimentation of creek systems.
  - c) Increased water conservation on private property can reduce the demand for municipal infrastructure, such as using rain barrels to water lawns and gardens.
  - d) The use of permeable pavements, infiltration trenches and gardening for conservation supports the natural hydrological cycle of water infiltration and evaporation. Ground water recharge also promotes healthier trees and vegetation, which in turn helps to establish a healthy urban forest.

### **ALTERNATIVES**

16. There is one Alternative available for consideration by General Committee:

#### **Alternative #1**

General Committee could choose not to endorse the LID Garden Pilot Project in Sunnidale Park and direct staff to restore the existing playground with topsoil and sod.

This Alternative is not recommended as the following benefits to Sunnidale Park would not be realized:

- a) The creation of public educational opportunities for the reduction of storm water runoff, rainwater capture, LID opportunities at a local residential scale and the use of drought resistant plant material to reduce water consumption;
- b) The enhancement and strengthening of plant material diversity in the park; and,
- c) The enhancement of public enjoyment of the park through additional floral displays and photographic opportunities.

**FINANCIAL**

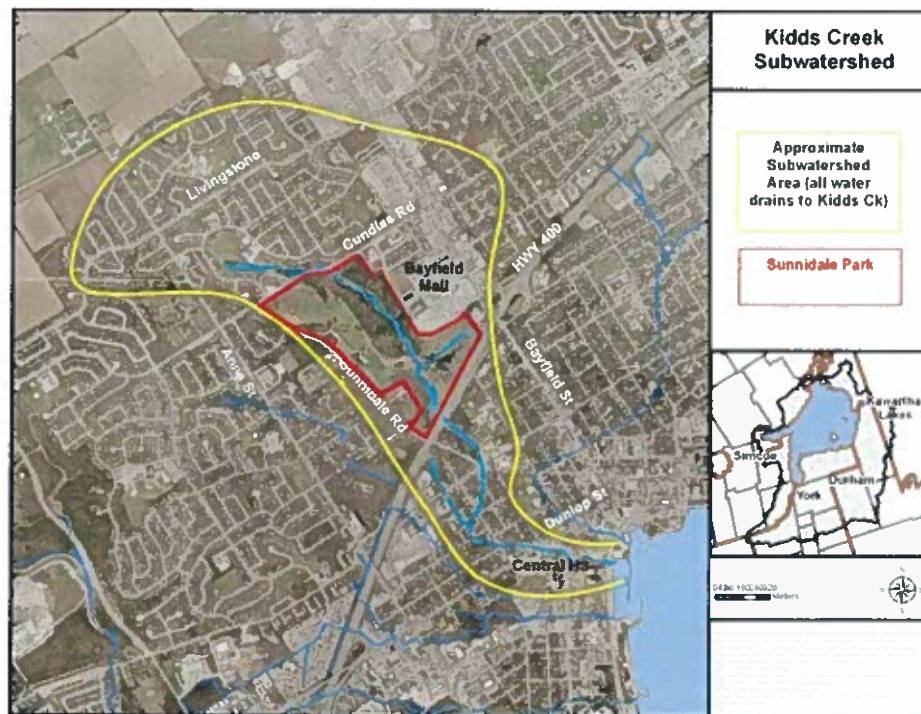
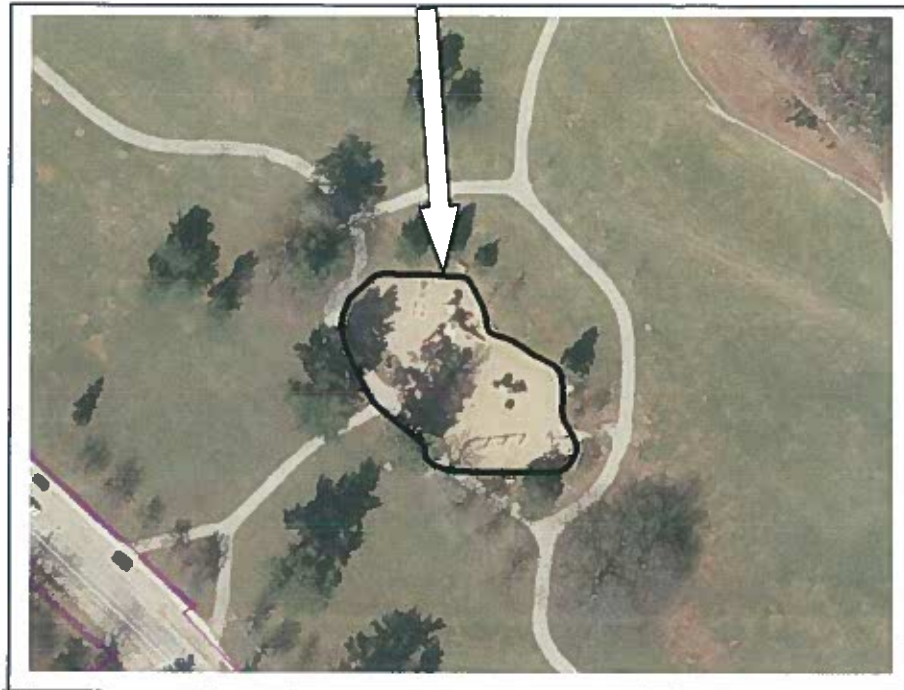
17. The capital cost of the first phase of the project is estimated at approximately \$60,000, which would be covered by the LSRCA. Two-thirds of the cost would be funded through a grant as part of the Lake Simcoe Georgian Bay Clean Up Fund. While the remaining one-third of the cost would typically be funded by the municipality, in this case, the LSRCA will fund this amount through the LSRCA Landowner Environmental Assistance Program. The program is partially funded by the City on an annual basis.
18. The City would also need to provide an estimated 30 hours of staff time to review the design and monitor construction activities. This time was included in the 2014 work plans in anticipation of the project proceeding in 2014.
19. The City would also be expected to maintain the LID garden once it is constructed. Generally speaking, LID installations are intended to be relatively low maintenance. The maintenance costs for the proposed LID Garden Pilot Project will be estimated through the design process, and City staff will report back to General Committee with the estimated costs prior to commencement of construction.
20. Any funding requirements for future phases of the proposed garden would be considered through the annual Business Plan process.

**LINKAGE TO 2010 – 2014 COUNCIL STRATEGIC PLAN**

21. The recommendation(s) included in this Staff Report support the following goals identified in the 2010-2014 City Council Strategic Plan:
  - Manage Growth and Protect the Environment
  - Improve and Expand Community Involvement and City Interactions
22. Privately managed stormwater practices would lead to a reduction in overland stormwater flows, resulting in less stormwater impacting Lake Simcoe and other area watercourses. This would reduce the impacts of urban growth and help protect the quality of our water and our urban ecosystems.
23. The LID Garden Pilot Project would provide the City of Barrie with an opportunity to engage citizens by offering an easily accessible demonstration tool to learn how to naturally process water on their own properties through collection and infiltration.

APPENDIX "A"

Existing Sunnidale Park Playground Equipment Location and Proposed Location for RainScaping LID Garden Pilot Project within Existing Sand Surfacing



APPENDIX "B"

RainScaping Design Components

