



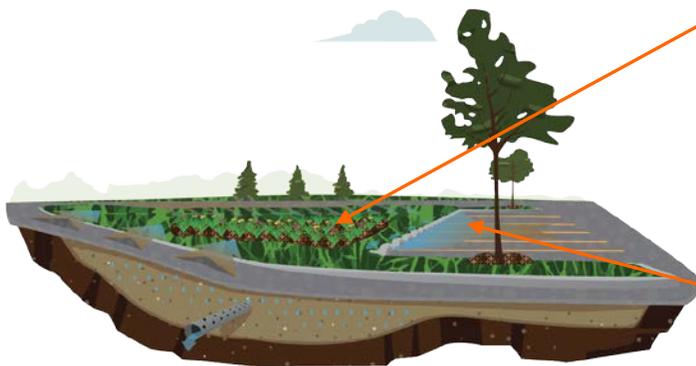
Unitarian Congregation

Location: Mississauga
 Constructed: 2011



Project Overview

The Unitarian Congregation of Mississauga (UCM) features a bioswale (rain garden) which has been planted with all perennial native species to attract pollinators and birds. CVC, in partnership with the City of Mississauga, is evaluating the performance of the bioswale.



naturally clear water drains directly to the Credit River

Bioswale

The bioswale collects stormwater run-off from the parking lot and cleans the water through a compost amended native soil mixture and selected vegetation. In the bioswale, the interaction of plants, soil and natural microbes remove pollutants to improve the quality of water flowing back into Lake Ontario – our drinking water source.

Sheet Flow

The design does not include a curb to promote inflow of stormwater runoff. The parking lot runoff enters the rain garden as sheet flow.

Successes

CVC, in partnership with UCM, is conducting regular maintenance inspection and evaluating the performance of the rain garden. The successes achieved with this project include:

Innovative project – UCM includes a number of gardens that have been planted with native species, making them more drought tolerant, and providing food and habitat to local birds and insects. The project demonstrates UCM's commitment to the environment and leading by example.

Protecting the Great Lakes – This project showcases how to manage and clean stormwater before it enters the Lake on a Public Land site.

Demonstration showcase – UCM has been showcased in presentations and documents. These efforts have helped educate numerous stakeholders on the benefits of LID, especially on Public Lands which make up a large part of our communities.

Public Acceptance – The bioswale landscape design has received a lot of positive feedback from the UCM community. This has helped to increase public recognition and acceptance of LID. The congregation volunteers have also taken ownership of this project and provide regular maintenance to the feature, and have spent time and funds contributing to its success.



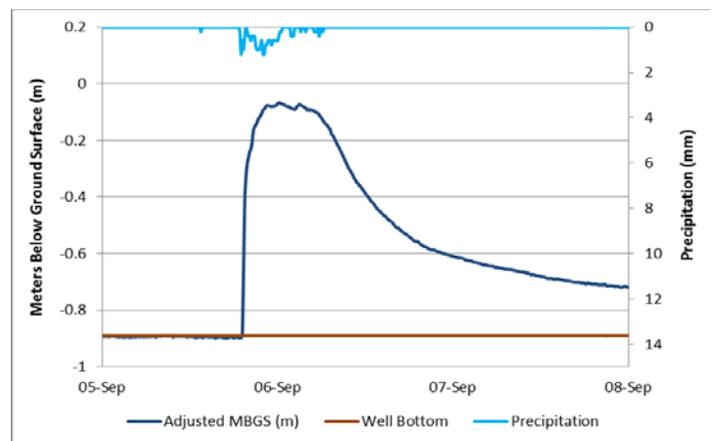
Infrastructure Assessment

As part of CVC's Infrastructure Performance and Risk Assessment Project, the performance of the UCM rain garden is being evaluated. This assessment will help to provide municipalities and property managers with the information and tools they need to ensure that LID practices on their property are working properly.

Landscaping – the bioswale landscaping consists of many different native shrubs, plants and trees. The plants have had four years to establish and have been found to thrive.

Maintenance – UCM has been performing maintenance including litter pickup, weeding, and mulching. The bioswale has received all of the required maintenance to keep it functioning as originally designed.

Performance – Analysis of water level data collected from 2013 to 2014 indicates that the bioswale is performing well and functions within the design parameters. Any ponding of water that occurs on the surface is able to soak into the bioswale within 24 hours. The figure below shows that stormwater was able to fully leave the bioswale and soak into the surrounding native soils in September 2014, as the monitoring well was dry. As precipitation fell during a storm, all of the stormwater was infiltrated into the system and there was no evidence of ponding, although the storm totaled 25 mm.



Precipitation event and measured water level in September 2014