

Opportunities for Growing Food and Building an Apiary on the Rooftop Gardens at City Hall as an Urban Agriculture Demonstration Site

Date: May 18, 2017

To: Parks and Environment Committee

From: General Manager, Parks Forestry and Recreation

Wards: All

SUMMARY

Urban agriculture is growing in popularity, and plays an important role in demonstrating to our communities how easy and rewarding it is to grow one's own food, the importance of eating locally sourced food and providing for those that may struggle to afford fresh food for themselves and their families. This report responds to the request from the Parks and Environment Committee to review the opportunity to implement raised bed rooftop food gardens and to build an apiary, to be used as an Urban Agriculture demonstration site on the podium roof at City Hall. This report summarizes that, at this time, this is not a feasible option for a number of reasons. However there is work already underway to create a pollinator demonstration garden at Nathan Phillips Square which should meet many objectives of the Toronto Agricultural Program, the Pollinator Protection Strategy, as well as support education about the City's Community and Allotment Gardens program.

RECOMMENDATIONS

The General Manager, Parks, Forestry and Recreation recommends that:

1. The Parks and Environment Committee receive this report for information.

FINANCIAL IMPACT

There are no financial implications resulting from the adoption of this report.

As the rooftop of City Hall is not an appropriate location for either an apiary or demonstration garden, cost estimates cannot be provided.

The Pollinator Demonstration Garden planned for Nathan Phillips Square, as outlined in this report is included in the 2017 Council Approved Operating Budget.

The Deputy City Manager & Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At its meeting of February 27, 2017, the Parks and Environment Committee, through item PE17.4, directed the General Manager, Parks, Forestry and Recreation to review the opportunity to implement raised bed rooftop food gardens and to build an apiary, to be used as an Urban Agriculture demonstration site on the City Hall green roof, and report to the Parks and Environment Committee by the end of the second quarter 2017.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.PE17.4>

COMMENTS

Communities across Toronto have been expressing a growing interest in, and support for the production, consumption and sale of locally-grown food. This interest has resulted in rising demand for farmers' markets, waiting lists for space at City community and allotment gardens, and new urban farms, social enterprises and new partnerships. As the market for local food expands in Toronto, new opportunities for urban agriculture are emerging. The City has responded through the Toronto Agricultural Program, the Pollinator Protection Strategy and increased numbers of community gardens and allotment gardens.

Urban Agriculture

City Council in 2012 adopted GrowTO: An Urban Agriculture Action Plan for Toronto ("GrowTO"). The GrowTO Action Plan established a framework to help the City of Toronto realize the full potential of urban agriculture. In November 2013, City Council adopted the Toronto Agricultural Program (TAP), the work plan for GrowTO. The TAP identifies a series of immediate and short-term activities aligned with GrowTO priority areas that can be implemented within existing resources. It also presents longer-term opportunities and potential for extending existing partnerships to promote growth of the agricultural sector across the city. As of 2014, most of these activities have been completed or were well underway.

Progress on the work plan has led to improved collaboration and partnership with community organizations and institutions, emerging ideas for scaling up agriculture in the city, and increased coordination and improved documentation of the City's activities supporting urban agriculture.

Parks, Forestry and Recreation supports Urban Agriculture through its community and allotment gardens. As of 2017, there were 73 community and 13 allotment gardens managed by Parks, Forestry and Recreation, located throughout the city. These gardens provide a venue for interested individuals to produce their own food.

Pollinator Protection Strategy

At its meeting of May 4, 2017, the Parks and Environment Committee endorsed the Pollinator Protection Strategy, which has the goal to identify additional actions that the

City and community can take to create and enhance habitat for pollinators. The strategy identifies six key priorities, and proposes a series of actions for each priority. The primary focus of the strategy is the protection of native bees and butterflies.

Suitability of the Green Roof

The existing podium roof planting at Nathan Phillips Square was designed by PLANT Architect Inc. The plant material was carefully selected to be successful in shallow soil, dry, windy conditions in order to support the long term plan for this green roof planting to be self-sufficient and not require watering by the irrigation system, except during very long droughts in the summer, changing daylight exposure and potentially some foot traffic by visitors. The green roof was opened to the public upon completion in late May 2010, to coincide with the Doors Open Toronto in 2010.

The Roof design has won numerous awards, including the 2013 Caterpillar Award of Excellence for Commercial Landscape Construction/Installation from the Canadian Nursery Landscape Association for the Toronto City Hall Green Roof. The Nathan Phillips Square Toronto City Hall Podium Green Roof is also the recipient of a 2011 Canadian Society of Landscape Architects (CSLA) Regional Honour Award; 2011 Design Exchange Award (DXA) Silver Award for Landscape Architecture - Public; and the 2011 Green Roofs For Healthy Cities 2011 Award of Excellence - Extensive Institutional Category. To modify the design of this highly designed, and award-winning roof would be a challenge from an aesthetic perspective.

Aside from the aesthetic and design constraints, the conditions on the roof are not amenable to the successful cultivation of many plants, including food crops. Parks, Forestry and Recreation has run trial gardens on the roof, with seven experimental plots, including one incorporating the three sisters (corn, beans and squash) traditionally found in Indigenous agricultural plantings. Unfortunately, the vegetables did not thrive. The soil depth on the roof is 15 cm which is too shallow for most vegetables to survive. Additionally, vegetables depend on a large volume of water to survive. The roof is designed to need minimal irrigation, with the vision being that ultimately the drought-hardy plants that are incorporated in the existing design would not require irrigation except during very warm dry spells. Finally, there is almost always a breeze, and often a very strong wind on the podium roof. During the experiment, the windy conditions consistently blew in invasive weed seeds which became so prevalent that eventually Parks had to replace the soil completely due to its heavy infestation of weed seeds.

An apiary on the podium roof at City Hall is not recommended for many of the same design and environmental reasons. There are additional challenges with installing an apiary in a dense, highly urbanized environment including legislative and liability considerations.

Pollinator Demonstration Garden at Nathan Phillips Square

Although the podium roof at City Hall is not suitable to grow pollinator friendly food or plant crops, Parks, Forestry and Recreation is currently planning a new Pollinator Demonstration Garden to be located in the concrete planter on Nathan Phillips Square, adjacent to the water feature which will include:

- Easy-to-grow pollinator friendly plants native to Toronto (no food crops to be included)
- Educational signage explaining the importance of pollinators (including bees)
- On-site demonstrations/tours of the garden for school groups and other community groups
- Information on how to access more details on how Toronto is taking action to protect our pollinators.

The planter is located in the south east corner of Nathan Philips Square and is a more appropriate location for a pollinator demonstration. It does not have watering restrictions, it is easier to access, it has more exposure to the public, as well as providing excellent growing conditions including full sun exposure and lower wind levels. It is also better for pollinators as they are more likely to forage on plant material at ground level than on the green roof.

As this planter is already planted and maintained annually by Parks, Forestry and Recreation, there is no additional cost to this initiative.

Conclusion

Although it may not be suitable for urban agriculture or an apiary, City Hall's green roof is an example of a success – it increases habitat for insects and birds in the heart of the city, improves air quality and creates a public green space downtown among many other benefits. It is, however, not an appropriate location for either an apiary or demonstration garden.

While no food crops will be included, the Pollinator Demonstration Garden at Nathan Phillips Square will support the goals of the Toronto Agriculture Program, as well as the Pollinator Protection Strategy.

CONTACT

Richard Ubbens, Director, Parks, Parks, Forestry and Recreation, Tel: 416-392-7911,
Email: Richard.Ubbens@toronto.ca

SIGNATURE

Janie Romoff
General Manager, Parks Forestry and Recreation