

TORONTO STAFF REPORT

February 23, 2006

To: Works Committee

From: Lou Di Gironimo, General Manager, Toronto Water

Subject: Implementing the Green Roof Incentive Pilot Program 2006-2007
(City-Wide)

Purpose:

The purpose of this report is to outline the parameters of the Green Roof Incentive Pilot Program and to describe the eligibility criteria and process for application.

Financial Implications and Impact Statement:

The funding of \$200,000.00 required to support this program is available in the approved 2006 Toronto Water Capital Budget in account: WBS CWW475-01 - Green Roof Incentive Pilot Program 2006-2007.

The Deputy City Manager and Chief Financial Officer have reviewed this report and concur with the financial impact statement.

Recommendations:

It is recommended that:

1. The terms of reference set out in Attachment 1 to this report be adopted as the criteria for the Green Roof Incentive Pilot Program 2006-2007;
2. The General Manager of Toronto Water be authorized to establish and implement the administrative details of the Green Roof Incentive Pilot Program on terms and conditions satisfactory to him in accordance with the terms of reference adopted;
3. If there is a greater demand for grant funds than have been budgeted for the Pilot Program, then, in order to ensure a broad range of installation types (building form, size and location, and green roof design), the General Manager of Toronto Water be authorized to exercise his discretion in the selection of applications for inclusion in the Pilot Program the basis of:

- (a) where there is more than one application for a similar installation type, subject to meeting the terms and conditions of the Pilot Program, the successful applicant will be based on the first entry received;
 - (b) where there is more than one application by a property owner, the application for the building with the larger roof area will be selected, subject to meeting the requirements in Recommendation 3 (a); and
 - (c) subject to meeting the terms and conditions of the Pilot Program, the selection of applications will be based on the considerations noted in Recommendations 3 (a) and 3 (b) and then on a date of submission basis ie. first application received - first selected;
4. The General Manager of Toronto Water be authorized to enter into discussions with Toronto Hydro or other agencies with a view to securing additional funding for the Green Roof Incentive Pilot Program; and
 5. The appropriate City Officials be authorized and directed to take the necessary action to give effect thereto.

Background:

City Council at its meeting on January 31, February 1 and 2, 2006, approved a budget reallocation of \$200,000.00 to implement the Green Roof Incentive Pilot Program and requested that the General Manager of Toronto Water in consultation with the Chief Planner and the Chief Building Official, report to the Works Committee in March 2006, on the eligibility criteria and process of application for the Green Roof Incentive Pilot Program.

This report responds to the above referenced request.

Comments:

The overall goal of the Green Roof Incentive Pilot Program is to encourage green roof construction in the City, resulting in a number of highly visible projects. As noted in the previous staff report by the General Manager, Toronto Water, a recent Ryerson University cost-benefit study using unit cost data from the City's Wet Weather Flow Master Plan, estimated an equivalent cost saving in stormwater management costs of about \$1 to \$2 dollars per square metre of flat roof area, if all large flat roofs were retrofitted and sustained in perpetuity. This rationale provides a basis for establishing an upset funding limit if a permanent grant program were established.

A Green Roof Incentive Pilot Program providing to eligible property owners a grant of \$10 per square metre of acceptable green roof area to a maximum grant amount of \$20,000 as an incentive to install a green roof is proposed. The program will be open to all owners of private property in the City of Toronto irrespective of building size and type so long as the building is capable of supporting a green roof that meets the program requirements. The terms of reference

outlined in Attachment 1 are proposed for the establishment of this pilot program. Preference will be given to green roof pilots located in Employment Areas as per the previous staff report.

Preliminary discussions with Toronto Hydro suggest that it may be possible to streamline the City's Green Roof Incentive Pilot Program with Toronto Hydro's emerging green roof rebate initiative. Ideally, if this were to occur, the City would receive funds from Toronto Hydro and Toronto Water would administer both programs, providing eligible property owners with a single application process. Successful streamlining of both programs could result in a double incentive for prospective applicants. There may be other agencies that would be interested in participating in this program and therefore, it is recommended that the General Manager of Toronto Water be authorized to seek out and enter into discussions with other agencies with a view to securing additional funding for the Green Roof Incentive Pilot Program.

The Green Roof Incentive Pilot Program should result in the construction of a variety of green roof types which could be used for education and promotional purposes. Ideally, the roofs in the pilot program should range from an expansive industrial/commercial roof down to a small single family residential application. The pilot program will also provide an opportunity to showcase various green roof technologies and planting styles.

If there is a greater demand for grant funds than have been budgeted for the Pilot Program, then, in order to ensure a broad range of installation types (building form, size and location, and green roof design), it is recommended that the General Manager of Toronto Water be authorized to exercise his discretion in the selection of applications, subject to meeting the terms and conditions of the Pilot Program on the basis of:

- (a) where there is more than one application for a similar installation type, the successful applicant will be based on the first entry received;
- (b) where there is more than one application by a property owner, the application for the building with the larger roof area will be selected, subject to meeting the requirements in (a); and
- (c) the selection of applications will be based on the considerations noted in (a) and (b) and then on a date of submission basis ie. first application received - first selected.

As a condition of funding, the applicant will be required to provide reasonable access to City staff to view the roof for the duration of the pilot program and permit images of the roof to be used for promotional and educational purposes. Each applicant will also be required to provide an assessment of the incentive program itself in order to assist with an overall evaluation of the program.

Details of the Green Roof Incentive Pilot Program with respect to eligibility criteria and application procedures will be posted on the City's Green Roof Website. An information pamphlet with the same information will be prepared for distribution by the same date. A Communications Strategy will be prepared for the Green Roof Incentive Pilot Program which would include an advertising campaign and targeted distribution of the printed information.

Deadline for the applications will be set for October 15, 2006 and the successful applicants will be notified in writing by December 31, 2006.

It is expected that most of the green roofs approved under the pilot program would be constructed during 2007 and the grants would be provided to the eligible applicants after construction has been successfully completed in accordance with their building permit.

Throughout the pilot program (for the remainder of 2006 to the end of 2007), staff will provide regular program updates to the Executive Environment Team. The Green Roof Incentive Pilot Program will be evaluated at the end of 2007. Recommendations for the establishment of a permanent green roof program for the City will be prepared in a report to Council at the conclusion of the Green Roof Incentive Pilot Program.

Conclusions:

This report outlines the proposed terms of reference for the Green Roof Incentive Pilot Program commencing in 2006 and applicable to projects to be completed by the end of 2007.

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Attachment 1

The City of Toronto Green Roof Incentive Pilot Program 2006-2007 Criteria

What Is A Green Roof?

A green roof is defined as a system where a vegetated area becomes part of the building's roof and includes vegetation, a growing medium, a filter layer, a drainage layer, a root resistance layer and a waterproof membrane.

Who Is Eligible?

Any private property owner in the City of Toronto proposing to install a green roof as described below is eligible to apply to the Green Roof Pilot Incentive Program.

What Incentive is Available under the Pilot Program?

The Green Roof Pilot Incentive Program will provide a grant of \$10 per square metre of eligible green roof area up to a maximum of \$20,000.

Green Roof Specifications.

The Green Roof Incentive Pilot Program applies to:

- any size and building type as long as the building is heated and the green roof is above grade;
- both active (intensive) and passive (extensive) green roofs;
- new roofs and roof retrofits; and
- roofs with a maximum slope of up to 10%

Each Green Roof applicant must demonstrate that:

- The proposed green roof has a continuous coverage of growing media over at least 50% of the roof footprint of the building.
- The proposed green roof will have a vegetation mix as opposed to a monoculture.
- The proposed green roof system has a maximum runoff coefficient of 50%.
- On new buildings the proposed green roof must have a depth of at least 150 mm (6 inches). The depth will permit greater flexibility in terms of the type and variety of vegetation that can be incorporated and will help ensure greater survival of plants
- On existing buildings, proposed green roofs with a growing medium thickness as low as 75 mm (3 inches) will be considered for the pilot program if the applicant (or

manufacturer) submits test data indicating the performance of the system with respect to water runoff.

- Green roofs installed over spaces not heated or air-conditioned, such as underground garages will **not** be considered for the pilot program.

Building Permit Required.

All applicants, whether for a new building or the re-roofing of an existing building, will obtain a building permit from the City and meet all requirements. Upon successful completion of the construction of the green roof in accordance with the building permit provisions, the grant monies which form part of the Green Roof Incentive Pilot Program will be awarded to the applicant.

Application Package.

The Application Package for the Green Roof Incentive Pilot Program must be received by the City no later than October 15, 2006 and will include:

- A set of construction drawings showing green roof coverage and planting materials;
- Supporting documentation demonstrating runoff coefficients for the design;
- A construction schedule that ensures substantial completion by the end of 2007;
- The Applicant's Consent, in a prescribed form duly executed, to provide the City with digital images of the green roof (from construction to the completed project) to be used for promotional and educational purposes; and
- The Applicant's Consent, in a prescribed form duly executed, to respond to a questionnaire and provide a brief report assessing the value of the incentive program.

Approval Process.

The General Manager Toronto Water will notify all successful applicants of the Green Roof Incentive Pilot Program in writing by December 31, 2006. The letter will outline the amount of each grant individually, based on the project design, number of successful applicants and available funding partners. If there is a greater demand for grant funds than have been budgeted for the Pilot Program, then, in order to ensure a broad range of installation types (building form, size and location, and green roof design), it is recommended that the General Manager of Toronto Water be authorized to exercise his discretion in the selection of applications, subject to meeting the terms and conditions of the Pilot Program on the basis of:

- (a) where there is more than one application for a similar installation type, the successful applicant will be based on the first entry received;
- (b) where there is more than one application by a property owner, the application for the building with the larger roof area will be selected, subject to meeting the requirements in (a); and
- (c) the selection of applications will be based on the considerations noted in (a) and (b) and then on a date of submission basis ie. first application received - first selected.