

PW-CI-1

DATE: November 23, 2010

REPORT TITLE: **BASEMENT FLOODING REMEDIATION AND SUBSIDY PROGRAM
UPDATE, CITY OF MISSISSAUGA, WARDS 1,3,4,5,6, AND 7**

FROM: Dan Labrecque, Commissioner of Public Works

RECOMMENDATION

That the existing Phase 1 - Basement Flooding Remediation and Subsidy Program for the installation of backwater valves, be modified to increase the Region of Peel's share from an upset limit of \$675 to an upset limit of \$1,250 per household to more accurately reflect the homeowners experience to date related to costs incurred for the installation of a backwater valve;

And further, that an additional backwater valve subsidy payment be made up to the amended subsidy amount of \$1,250 to those residents that have already installed a backwater valve and submitted an application for subsidy reimbursement or received payment for their subsidy claim, where their claim exceeded the initial \$675 subsidy level;

And further, that Phase 1 of the Basement Flooding Remediation and Subsidy Program be expanded to include a subsidy on sump pumps for those homes which were flooded during the August 4, 2009 storm event through a one-third cost sharing arrangement between the Region of Peel, the City of Mississauga and the homeowner to a maximum contribution of \$2,000 per household by the Region of Peel;

And further, that a copy of the report of the Commissioner of Public Works, dated November 23, 2010, titled "Basement Flooding Remediation and Subsidy Program Update, City of Mississauga, Wards 1, 3, 4, 5, 6 and 7" be forwarded to the Cities of Mississauga and Brampton, the Town of Caledon, the Toronto and Region Conservation Authority and the Credit Valley Conservation Authority, for information.

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BASEMENT FLOODING REMEDIATION AND SUBSIDY PROGRAM UPDATE, CITY OF MISSISSAUGA, WARDS 1,3,4,5,6, AND 7**REPORT HIGHLIGHTS**

- The completion of over 150 Household Drainage Surveys has identified that approximately 11 per cent of the homes require the installation of a sump pump to permit the installation of a backwater valve in order to protect their properties from potential future flooding, and that a sump pump subsidy program be implemented.
- An adjustment to the subsidy for the installation of backwater valves is warranted based on actual costs being experienced by the impacted residents and to encourage program participation based on the minimal uptake to date.
- The Region's existing Ex Gratia grant policy fulfils the purposes for which it was intended and that there is no need to amend circumstances to which it would be applied.
- That compassionate grants or "good will" payments to assist in covering deductibles not be applied to the August 4, 2009 basement flooding occurrence as the causal factors are not similar to the Park Royal situation.
- Grants are potentially available from the Federal and Provincial government related to Storm Water works such as the Green Municipal Fund and the Gas Tax fund. Regional staff will work with City of Mississauga staff to further explore any opportunity to attract grant funding to Basement flooding storm water related remediation projects.

DISCUSSION**1. Background**

At its meeting held on September 9, 2010, Regional Council directed staff to report back on the progress of the Flooding Remediation and Subsidy Program including:

1. An update on the program's progress to date;
2. Investigate the availability of federal or provincial grants for upgrades to storm water run-off systems;
3. Develop a marketing campaign to encourage residents to disconnect their storm water pipes from the sanitary sewer system and advising them of the environmental benefits that result;
4. Review the actions taken during the flooding at Park Royal in 1995-1996, Port Credit and what similarities exist, if any, between that of the August 4, 2009 storm event; and
5. Provide recommendations on alternatives for mitigating the impacts of flooding, such as sump pumps and grants from the City of Mississauga and/or the Region of Peel, including information related to compassionate grants that have been offered in the past.

2. Program Update

- a) **Household Drainage Survey Program Participation** - On August 4, 2009 254 homes were flooded and were identified as participants in Phase 1 of the Basement Flooding Remediation and Subsidy Program. Of the 254 homes initially identified only 93 homeowners signed up for the Household Drainage Survey. Based on program findings Regional Council approved the expansion of the program to include other homes that subsequently came forward as having been flooded on August 4, 2009. Those homes were on a shared sanitary connection with the flooded homes, and the homeowners in the impacted areas that did not flood wanted to have the ability to protect themselves from a potential flood in the future.

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Staff sent out a follow-up communication by registered mail to the expanded list of 255 potential participants over and above the initial 254 residents that originally reported basement flooding. This communication resulted in a further 58 homeowners signing up for the drainage inspection. As a result, 151 Household Drainage Surveys have been completed as of November 18, 2010, inclusive of 16 condominium units. Homeowners are continuing to call in on a weekly basis to enroll in the Household Drainage Inspection Program, and staff will send another reminder letter encouraging homeowners to participate in the program in the next few weeks.

As indicated above, staff had an opportunity to conduct Household Drainage Surveys for one of the Condominium Corporations that experienced flooding. As a result of these inspections, it was identified that the installation of backwater valves would not be appropriate based on their plumbing configuration as all of the residences were serviced off of a common lateral making it extremely difficult, if not impossible, to proceed with the installation of backwater valves in these situations. The majority of recommendations in these cases were directed at grading and the rerouting and disconnecting of downspouts.

b) Subsidy Programs

- i. Backwater Valve Subsidy** - The Household Drainage Survey inspections have identified 119 homes as suitable candidates for the installation of a backwater valve. Uptake on the subsidy program has been minimal to date with five homeowners installing a backwater valve. In some of these cases the installations were mandatory in order for the homeowner to obtain or keep insurance coverage. Feedback from participants indicates that they may be more willing to participate in the Backwater Valve Subsidy Program if the subsidy levels were higher. This would further offset the homeowners' out-of-pocket expenses in light of the cost estimates for the work that are being received and the inconvenience of the disruption to their home during construction.
- ii) Downspout Disconnection Subsidy** – The disconnection of downspouts is one of the primary opportunities to remove direct inflows from entering both the storm water and sanitary systems. The disconnection and redirection of downspouts has been recommended for every homeowner that has participated in the Household Drainage Survey program. Most, if not all, residents have disconnected their downspouts. Although there is a subsidy program in place fully funded by the City and the Region, only one application has been received to date due to the general low cost of undertaking these works. Discussion on this program will continue in the future.
- iii) Sump Pump Subsidy** - Currently there is not a subsidy program for the installation of sump pumps. At the time of program initiation it was unclear as to whether or not they may be required as the magnitude of the number of homes that may warrant the installation of a sump pump was unknown. Through the inspection of over 150 homes it has been identified that 16 are cross connected requiring a sump pump in order to install a backwater valve. Using this as a broad indicator of the magnitude of the issue with approximately 11 per cent of the homes requiring a sump pump, staff are recommending that a sump pump program be implemented.

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- iv) **Sanitary Laterals** – Currently, there is not a subsidy program to assist homeowners with the repair or replacement of their sanitary lateral although studies indicate that sanitary laterals are one of the primary contributors to infiltration. As they age the overall condition deteriorates providing significant opportunity for extraneous flows to enter the sanitary system. Sanitary laterals are currently inspected on an as needed or emergency basis only in response to Peel's blocked lateral remediation service or as part of the Household Drainage Survey process to confirm possible cross connections with storm water management infrastructure. Staff will be reviewing the potential implementation of a pro-active lateral inspection and rebate program as a follow-up activity from the Inflow and Infiltration studies that are in the process of being completed now.
 - c) **Manhole Sealing** – The manhole sealing project is underway. Staff has identified 56 manholes within the Cooksville Creek lower reaches where sealing them from direct inflows due to their proximity to the creek would be beneficial. This work is 60 per cent complete and is continuing. An additional 40 maintenance holes within the road right-of-way have been identified as being in low lying areas where ponding may occur and would be suitable candidates for sealing. Sealing of these manholes is underway.
3. **Federal and Provincial Grants** — There are three potential funds offered by the Federal government which could be used to fund storm water runoff projects. Potential grants for storm water projects include the Gas Tax Fund, the Green Municipal Fund and the Green Infrastructure Fund. Criteria can be quite stringent for potential grant candidates and the work currently proposed for flooding remediation may not qualify for any of the available grants. Regional staff will work with City staff to review potential funding opportunities.
 4. **Outreach and Education Campaign** – Staff have been collaborating with City staff on developing educational and outreach materials that have been and will continue to be distributed to impacted homeowners on basement flooding prevention. Staff have ensured that 3-1-1 Customer Service Representatives have appropriate scripts to effectively diagnose the problem cause and direct homeowners to the correct agency for emergency response; distributed education pamphlets on "How to Protect Yourself from Basement Flooding" along with other relevant outreach materials; and both the Region's and City's websites have been updated with relevant basement flooding information. Currently, Public Works staff is working with Communication Services Division to finalize a broad education and outreach Communication Strategy regarding basement flooding to reach residents across Peel Region. The Communications Strategy will be implemented in the spring of 2011.
 5. **Compassionate Grants** – The Region of Peel has an existing Ex Gratia grant policy that is available to homeowners who have experienced basement flooding related to a sanitary blockage or malfunction that has occurred within the public right-of-way. Homeowners that have blockages occur on private property on their side of the property line are responsible for all costs that result including repair costs to the lateral and their basement. In addition, the Ex-Gratia grant policy specifically excludes damage caused by surcharging of the sanitary system as a result of storm events.
 - i) **Park Royal** - The Region of Peel did provide one time compassionate grant or "good will" payments to the residents of the Park Royal community to assist with the payment of their deductible. These payments were provided as they had experienced frequent flooding events. The Park Royal flooding issue was remediated

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- through a comprehensive downspout disconnection program affecting approximately 2,600 homes and significant capital improvements to the sanitary infrastructure.
- ii) One of the major undertakings on the Park Royal project was to disconnect downspouts from the weeping tiles of homes. This initiative was originally implemented as a volunteer program with free rain barrels being offered. However, due to the low uptake on the program it was changed to a mandatory program utilizing the Region's Sewer By-law 90-90 which does not allow storm water to be discharged into the sanitary system. Peel's current Sewer By-law 53-2010 still includes this provision.
 - iii) Port Credit – The Region of Peel did not provide any compassionate grants payments to the residents of the Port Credit community.
 - iv) On the August 4, 2009 storm event in the Cooksville Creek, the sanitary system was not found to be deficient in any way and the flooding was a direct result of the severe intensity of the storm and the overloading of overland flow routes and storm water systems, providing sufficient opportunity for excess storm water to enter the sanitary system through both direct and indirect connections. Therefore, compassionate or "good will" payments to flooded homeowners from August 4, 2009 have not been considered.

3. PROPOSED DIRECTION

a) Sump pump Subsidy

Investigations have identified that approximately 11 per cent of the homes require a sump pump to be installed in order to permit the installation of a backwater valve and effectively remove the cross connection between the private property storm water system and the Region's sanitary system. As a result of the magnitude of the number of homes that are being recommended for a sump pump and the benefits to the sanitary system by removing these direct inflow connections, staff are recommending that a sump pump subsidy program be added to the existing subsidy program as the high cost of installation is a deterrent for many of the residents to proceed with the installation.

Region and City of Mississauga staff are recommending the implementation of a tri-party cost sharing arrangement with the homeowner, where the Region and the City each contribute up to \$2,000 per household towards the cost of the installation of a sump pump which is estimated to be approximately \$6,000. The inclusion of sump pumps in flooding remediation subsidy programs is consistent with programs being offered by neighboring municipalities such as City of Toronto, Region of Halton and City of Hamilton. Staff are also recommending that this subsidy program be applied retroactively to those participants in the Household Drainage Survey. At this time there has been only one sump pump installed.

Despite the implementation of a sump pump subsidy program, staff's assessment is that the uptake on this program will be low due to the disruption to the home, cost implications to the homeowner and the belief of some residents that the likelihood of a flooding reoccurrence is minimal. Therefore, staff estimates that the cost to the Region will be approximately \$50,000 and these funds are available within the existing project budget based on the overall low uptake of all existing subsidy programs to date.

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b) Backwater Valve Subsidy

As noted above, staff completed 151 Household Drainage Surveys to date. One hundred and nineteen (119) homes have been identified as suitable candidates to have a backwater valve installed, however only five backwater valves have been installed to date. Feedback from the Cooksville Creek taskforce members and the homeowners who participated in the Household Drainage surveys indicate that they are reluctant to install the backwater valve due to the disruption to their homes and felt that the low level of the available subsidy exposes them to significant costs beyond what they can afford.

The initial cost estimate was predicated based on what other municipalities were offering as subsidy levels. However, recent cost estimates received by impacted residents indicate that current costs are substantially higher than the original subsidy level suggested. Therefore, staff are recommending that the gross cost estimate for a backwater valve be increased from \$1,350 to \$2,500. This would result in the Region's subsidy level being increased from \$675 to \$1,250.

Staff is also recommending that the increased subsidy level be applied retroactively to those residents that have already elected to proceed and have their backwater valve installed. This would result in an additional payout of \$2,875 if all the homeowners' costs were \$2,500 or higher for the five subsidy applications received to date. Should the increased subsidy level motivate the entire 114 remaining homeowners to install a backwater valve the net cost to the Region would be a \$142,500. However, based on Greater Toronto Area (GTA) wide experience staff feels that this level of uptake is highly unlikely. Due to the overall lower than anticipated subsidy program uptake there are sufficient funds in the project budget remaining to absorb these costs.

c) Manhole Sealing Program

Staff has initiated a second phase of the Manhole Sealing Program. Staff will start conducting a visual inspection of the upper reaches of the Cooksville Creek drainage area shortly to further protect the potential direct inflows into the sanitary system. Any deficiencies found in the condition of the manholes will be identified for remediation as required.

FINANCIAL IMPLICATIONS

The recommended revisions to the Subsidy program can be found in Table 1 below.

Subsidy Program	Cost/Unit	Peel	City	Homeowner
Downspout Disconnection	\$1,000	50%	50%	0
Backwater Valve	\$2,500	50%	0	50%
Household Drainage Survey	\$750	50%	50%	0
Sump Pump Subsidy	\$6,000	33%	33%	33%

There are no overall financial implications from this report as all of the recommendations can be accommodated within the existing project budget.

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CONCLUSION

Staff continues to work collaboratively with City of Mississauga staff and Credit Valley Conservation and the Cooksville Creek Task Force to resolve the immediate issues associated with the August 4, 2009 storm and develop innovative concepts to address the longer term issues of removing extraneous flows from the sanitary and storm water systems.

Staff is currently working to expand Peel's permanent flow monitoring and rain gauge network to provide improved data collection and knowledge about system performance with input from the City of Mississauga, Toronto and Region Conservation Authority and Credit Valley Conservation Authority. The current Inflow and Infiltration Study targeted at Bolton and Mississauga is nearing completion and recommendations for addressing any issues found will be brought forward in a separate report.

Overall, this project is being considered as a successful partnership and a collaborative framework to be used as a model for implementation in other municipalities in the development of similar programs for other drainage areas and communities. The program was recently presented to Inflow and Infiltration Task Force, a working committee of the National Water and Wastewater Benchmarking Initiative and was received with great interest from other municipalities that attended from across Canada.

The Ontario Public Works Association will be awarding this the "Project of the Year" in the less than \$2 million environmental category at the January 2011 Annual Conference and Award meeting.

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Approved for Submission:



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c. Legislative Services

