

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 24, 2017</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>EMERGENCY WORK: BIRCHWOOD DRIVE &amp; MEADOWVALE DRIVE SANITARY SEWER AND PRIVATE DRAIN CONNECTION FAILURES</b>

## RECOMMENDATION

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the sanitary sewer and private drain connection failures on Birchwood Drive and Meadowvale Drive:

- a) The following report **BE RECEIVED** for information; and,
- b) The Managing Director, Environmental and Engineering Services and City Engineer **BE DIRECTED** to reimburse those property owners on Birchwood Drive and Meadowvale Drive who have incurred costs to date related to the inspection of their private drain connection or the replacement of their private drain connection through the City's subsidy program.

## PREVIOUS REPORTS PERTINENT TO THIS MATTER

- None

## 2015-2019 STRATEGIC PLAN

This report supports the Strategic Plan in the following areas:

- Building a Sustainable City: robust infrastructure; strong and healthy environment; responsible growth.
- Leading in Public Service: open, accountable and responsive government; excellent service delivery.

## BACKGROUND

### Purpose

The purpose of this report is to inform municipal council of the recent sewer video investigation of a portion of sanitary sewer along Birchwood Drive (Byron area) and sanitary private drain connections (PDC) on Birchwood Drive and Meadowvale Drive. A sanitary private drain connection is the pipe that carries household waste from the home's plumbing system to the City's sanitary sewer under the roadway.

In addition, this report requests that Municipal Council authorize the reimbursement of the costs incurred by the property owners related to the inspection of their private drain connection or the replacement of their private drain connection through the City's subsidy program.

### Context

Recently, and over a relatively short period of time, a total of six PDC's were replaced under the City of London's PDC subsidy program along Birchwood Drive, near the

Byron Optimist Sports Complex. The PDC's developed sags in the pipe, which in turn lead to pipe blockages. The sewer infrastructure in this area was assumed by the City between the years 2004 and 2011. As such, the sewers are no longer under warranty.

After staff reviewed the issues, it was determined that as many as forty-one properties were at high risk of having private drain connection failures. As a result of this initial review, staff undertook a sewer video inspection of these PDC's and the mainline storm and sanitary sewers along Birchwood Drive and Meadowvale Drive. The results of this inspection showed existing problems with sixteen PDC's, as well as approximately 280 meters of the mainline sanitary sewer. It was determined that due to the scope and severity of the problem, immediate action would be needed and that the work should proceed on an emergency basis. The completion of this emergency work will minimize the likelihood of basement flooding and prevent sanitary sewer infrastructure failure in this impacted area.

## DISCUSSION

Birchwood Drive and Meadowvale Drive span multiple phases of the Summercrest Subdivision, an area which generally covers the newer residential development area west of Boler Road between Optimist Park Drive and Southdale Road. The six recent PDC failures, which have been replaced under the City's PDC Subsidy Program, are located on Birchwood Drive between Alomar Drive and Balsam Gate. When homeowners in the neighbourhood heard of the PDC failures, a number of Birchwood Drive residents were proactive and had their PDC's video inspected. This was important information in helping identify pipe sag causes and to estimate the number of properties that might be impacted.

Following this estimation of the impacted area, a comprehensive sewer video inspection was undertaken of the PDCs, sanitary, and storm sewers throughout the impacted area. This inspection helped determine the magnitude of the problem and the location of impacted PDCs. The inspection results identified pipe deformation along approximately 280 meters of the mainline sanitary sewer on Birchwood Drive as well as sags and pipe separation in sixteen of the forty-one PDC's. Due to the severity of the results, it was decided that replacement of this portion of mainline sanitary sewer, as well as these sixteen PDC's, should occur as soon as possible as emergency work. Replacement of the deformed sewer and PDC's is scheduled for October 2017.

Letters were issued by the Wastewater and Drainage Engineering Division in September advising homeowners of the emergency construction work. Each letter provided staff contact information and a brochure reminding the community to be wise about what they flush or drain into their sanitary PDC's, especially fats, oils and grease that can exacerbate blockages in pipe sags.

### **Drainage by-law WM 4 and PDC Replacement**

PDCs can fail for various reasons. Most residents experience PDC failures when their PDC has reached the end of life which in some instances can be 80-100 years. The provisions of the Drainage by-law WM 4 reflect this typical situation and state, "*An owner is responsible for the condition and maintenance of each private drain connection serving property under their ownership*". Through a subsidized program, residents can, at a fixed charge of \$5000, have their PDC repaired. Adhering strictly to Council approved by-laws, the City is under no obligation to make repairs or bear any costs, other than offering replacement coverage through our PDC Subsidy Program.

The sewer infrastructure on Birchwood Drive is relatively new and PDC failures and mainline sewer failures in newer developments are very rare. Given the rarity of this form of failure, and the fact that the City has assumed the infrastructure, staff request that property owners on Birchwood Drive and Meadowvale Drive be reimbursed for the costs they have incurred to date related to the video inspection and replacement of their PDC's. Residents would be required to provide receipts for all incurred costs. At the

time of this report, the amount being requested for reimbursement is approximately \$31,200 as detailed in the following table.

Table 1: Proposed total resident reimbursement.

	Residences	Cost per Residence	Total
PDC Subsidy Program	6	\$5,000	\$30,000
PDC Sewer Video Inspection	6	\$200	\$1,200
<b>Total:</b>			<b>\$31,200</b>

### Value of Sewer Reconstruction and PDC Replacement

The City of London's Sewer Operations Division will undertake the emergency reconstruction work. The approximate value of this work, based on our Infrastructure Replacement Program unit costs, is as follows:

- Installation of 280m of mainline sanitary sewer = **\$168,000**
- Full restoration of the right-of-way = **\$357,800**
- Assume \$5,000 per PDC repair. 16 x \$5,000 = **\$80,000**
- **Total = \$605,800**

By undertaking this work immediately, the City is able to rectify the PDC failures and prevent any further failures in the area while restoring the full asphalt surface before asphalt plants are closed for the winter season.

## CONCLUSIONS

The City's Infrastructure Replacement Program replaces sewer infrastructure that is in the order of a 100 years old. The sewer infrastructure on Birchwood Drive is relatively new and PDC failures and mainline sewer failures in newer developments are very rare. Staff is requesting that property owners on Birchwood Drive and Meadowvale Drive, who have incurred costs to date related to video inspections and replacing their PDC's, be reimbursed following submission of appropriate documentation.

### ACKNOWLEDGEMENTS

This report was prepared within the Wastewater and Drainage Engineering Division with assistance from Marcus Schaum, C.E.T., and Kevin Graham, E.I.T.

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