



**CITY OF HAMILTON**  
**PUBLIC WORKS DEPARTMENT**  
**Hamilton Water Division**

<b>TO:</b>	Chair and Members Public Works Committee
<b>COMMITTEE DATE:</b>	June 13, 2016
<b>SUBJECT/REPORT NO:</b>	Hamilton Lead Awareness Program (PW16055) (City Wide) (Outstanding Business List Item)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Dan McKinnon (905) 546-2424, Extension 5941
<b>SUBMITTED BY:</b>	Dan McKinnon Director, Hamilton Water Public Works Department
<b>SIGNATURE:</b>	

**RECOMMENDATION**

- (a) That Hamilton Water staff be directed to implement the "Hamilton Lead Awareness Program" "(HLAP)" as described in the analysis section of this report;
- (b) That the Hamilton Water complement be increased by 0.5 FTE to support the "HLAP" until 2020;
- (c) That Hamilton Water Operating Budget be increased by \$50,000 annually for advertising and outreach material to support the "HLAP" until 2020;
- (d) That the Outstanding Business List item related to "HLAP" be identified as complete and removed from the list.

**EXECUTIVE SUMMARY**

During the March 23, 2016 General Issues Committee (GIC) Meeting the issue of lead in drinking water was discussed. The following motion was approved by Council on March 30, 2016: "That staff be directed to develop a comprehensive community outreach program to increase the awareness of the adverse health effects of lead in water, with an emphasis on drinking water, living with lead in water and to promote City programs that assist with lead pipe service replacement, including the waterline replacement loan program, and report back to the Public Works Committee." The following report discusses the issue and makes recommendations to improve the City's outreach programming in this regard.

Lead in tap water remains an issue of concern for some Hamilton residents, due to the presence of lead water service pipes through which drinking water is delivered. Lead

water service pipes are typically found at homes built prior to 1955. These homes are also more likely to have plumbing and fixtures within the home that may contain lead in the form of plumbing solder and fixture components. Drinking water produced and delivered to the City consistently meets provincial regulations with respect to lead concentrations, however, the lead in lead water service pipes and plumbing solder and fixtures in older homes can dissolve into the drinking water.

***Alternatives for Consideration – See Page 5***

An alternative to the recommendation in this report is to continue with the current level of outreach presently being undertaken however, staff believe there is an opportunity to derive greater community benefit by increasing the resources in this regard.

**FINANCIAL – STAFFING – LEGAL IMPLICATIONS**

Financial: The HLAP will require \$50,000.00 funding to support the outreach program envisioned in the analysis section of this report. It is expected that this amount will be required annually and will be included in future annual rate budgets requests. The complement addition of 0.5 FTE will result in an operating budget increase of approximately \$50,000.00.

Staffing: 0.5 FTEs will be required to develop and deliver the outreach described in this report. It is envisioned that the program will continue until the City's Corrosion Control Program is implemented at which time City Council's reconsideration of the program will be requested.

Legal: N/A

**HISTORICAL BACKGROUND**

The City of Hamilton has undertaken a number of activities since 2007 respecting the issue of lead and its adverse health effects. There is growing evidence that exposure to even small amounts of lead can be harmful to human health, especially in infants, young children and pregnant women (impacts to fetus). Lead primarily impacts the brain, kidneys and bones. Some of the symptoms of lead exposure include forgetfulness, tiredness, headaches, changes in mood and behaviour, lower IQ, an increased risk of developing kidney disease, anaemia and future risk of osteoporosis in children exposed to lead. There is no recommended level of lead ingestion that is considered safe. Board of Health Report BOH07049 explains the sources and health effects of lead.

The Province of Ontario through the Safe Drinking Water Act and its associated regulations, mainly O.Reg. 170/03 and O.Reg. 169/03 sets out operating conditions and the parameters which must be tested for as well as the maximum allowable concentrations of each parameter. City's drinking water is tested for a wide range of parameters including lead and testing consistently demonstrates that the City's drinking water is safe and complies with Provincial regulations while it is in the municipal portion of the distribution system. Additionally, Regulation 243/07 under the Safe Drinking Water Act requires all schools and childcare centres to flush the internal plumbing to reduce lead concentrations in the drinking water and to annually test the lead

concentrations at the tap and take corrective action if the lead concentration exceeds the Ontario Drinking Water Standard for lead.

Hamilton is fortunate to have Lake Ontario as its raw water source which provides a stable and reliable supply of clean water. Hamilton does continue to have a significant number of lead water services within its inventory and the presence of these lead water service pipes as well as older, lead-containing solder in plumbing and older fixtures within homes allows for the potential of lead to be released into drinking water within these older homes. However, water quality within the distribution system itself has consistently met all provincial water quality requirements respecting lead. Houses that were constructed before 1955 are more likely to have water service pipes made of lead. While many of these lead service pipes have been replaced over the years there remains a significant number still in service. When drinking water is allowed to reside in a lead service pipe for an extended period of time, the potential for lead release increases.

In December of 2015 Hamilton City Council approved a recommendation to implement a Corrosion Control Program (CCP) for the City. The main element of the CCP is the addition of Orthophosphate, which will dramatically reduce the potential for lead release into the drinking water. The CCP will create a thin film on the inside of lead pipes to eliminate contact between the water and the lead surface and stop the release of lead. This approach will also positively impact plumbing within older homes where lead may be present in solder and individual fixtures. The CCP is anticipated to begin in late 2018.

Since the 1980's the City has made available programs to assist property owners who choose to replace their water lines including replacing the portion within the road allowance and more recently providing loans to assist with the replacement of lead water lines on private property. Additionally, information respecting how to minimize the health effects of lead in drinking water is on the City's web site and available at City facilities. At the request of committee, Hamilton Water staff provides this report for consideration.

## **POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS**

Not Applicable

## **RELEVANT CONSULTATION**

Consultation has occurred with Public Health Services (PHS) and their comments have been included in this report. PHS and Hamilton Water will continue to work collaboratively on the program as it is implemented.

## **ANALYSIS AND RATIONALE FOR RECOMMENDATION**

The City of Hamilton Corrosion Control Program (CCP) will become fully implemented when chemical addition to the city's drinking water begins in late 2018 and the stabilization period confirms that the chemical addition has successfully reduced lead concentrations within homes. While this will dramatically reduce the potential for lead release into drinking water it will be required to remain in place until such time as all

lead containing materials are removed from the piping and plumbing that services individual residences. This is likely to take decades to achieve and as a result the addition of orthophosphate as a corrosion control strategy will remain in place for a long period of time.

It is widely accepted that elevated blood lead levels can occur as a result of the presence of lead within the environment and not exclusively from drinking water. Air, dust, food and paint are sources of lead exposure. A robust outreach program designed to raise awareness respecting the adverse health effects of lead in drinking water may also include information about the other sources of lead exposure. To be effective, outreach should occur in a number of different forms and target those most at risk. This suggests outreach should be targeted at residents within homes built prior to 1955 and occur regularly to ensure that residents moving into these areas receive meaningful information when they first move. This program could be established for a set period of 5 years to support implementation of the CCP or extended until such time as an evaluation can determine the effectiveness of the CCP.

Additional community outreach to increase the awareness of adverse health effects of lead in drinking water is welcome support and energy for the continuation of ongoing community outreach and awareness work initiated in 2007.

The recommendations in this report reiterate and support the Public Health Services Child Blood Lead Study and public outreach and awareness regarding the adverse health effects of lead from drinking water and other environmental sources of lead that can contribute to elevated blood lead levels. A comprehensive community outreach program should include/target areas in the City of Hamilton with old housing stock, low socioeconomic status (SES) areas, tenants in rented homes and low rise apartments, those who do not speak English or French at home, and households where adults do not have a post-secondary education.

Key elements of the “Hamilton Lead Awareness Program” (HLAP) program may include;

1. Bill inserts to be delivered annually to homes built before 1955
2. Automated voicemail to be delivered to residents of homes built before 1955
3. Advertising campaign through local media annually
4. Bus shelter and bus advertising to be established on a regular basis
5. Development of instructional videos to assist homeowners to identify if they have a lead water service pipe
6. Staff and educational material to be available at neighbourhood and community events
7. Hamilton Water will work collaboratively with Public Health Services on a variety of outreach activities delivered through both Divisions in support of the spirit of the program.

## **ALTERNATIVES FOR CONSIDERATION**

An alternative to the recommendation in this report is to continue with the current level of outreach presently being undertaken however, staff believe there is an opportunity to derive greater community benefit by increasing the resources in this regard.

**ALIGNMENT TO THE 2012 – 2015 STRATEGIC PLAN**

**Strategic Priority #2**

*Valued & Sustainable Services*

*WE deliver high quality services that meet citizen needs and expectations, in a cost effective and responsible manner*

**APPENDICES AND SCHEDULES ATTACHED**

None