SUBJECT: Lead Service Extension Replacement Program (City Wide)
FCS07087/PW07121 (Committee of the Whole Outstanding Business Item H)

RECOMMENDATION:

(a) THAT Council approve a $500,000 one-year pilot project Lead Service Extension Replacement Program for the purpose of assisting homeowners to reduce the potential risk of exposure to lead of water from water service lines;

(b) THAT at the end of the one-year pilot project, staff report back to Council the participation rate and associated level of funding, as well as, any further developments with respect to provincial funding programs related to lead;

(c) THAT the Lead Service pilot project and associated Lead Service Extension Replacement Fund be funded from the Waterworks Capital Reserve (108015); and

(d) THAT Item H be removed from the Committee of the Whole Outstanding Business List.
EXECUTIVE SUMMARY:

Report FCS07087/PW07121 recommends to Council the creation of a Lead Service Extension Replacement Program (LSERP) as a pilot project and the associated $500,000 Lead Service Extension Replacement Fund (LSERF), as well as, the recommendation that the funding be provided through a transfer from the Waterworks Capital Reserve. The purpose of the LSERP is to provide homeowners with an opportunity to access funding, through an interest bearing loan from the City, so that they may have their lead service extension lines replaced. The City’s goal, at this time, is to replace the City's service stub (located on City property) in conjunction with the property owner replacing the service extension (located on private property), subject to the availability of funds.

Report FSC07087/PW07121 recommends that the LSERF be funded to the initial amount of $500,000 and that Council in its’ sole discretion, from time to time, determine the need for additional funding to be placed in an interest-bearing revolving loan fund which will receive loan payments and accumulate interest. The cost of lien registrations, discharges, loan defaults and promotional costs will be charged to this fund. Loan commitments will be provided, subject to funding availability, as determined by Council at its' sole discretion from time to time. Each household will be eligible for a maximum loan of $2,000.00.

The loan program will enable eligible property owners of residential dwellings that meet the requirements of the commitment agreement (refer to Attachment “B” of report FCS07087/PW07121), to repay the cost of lead service extension replacements, in a like manner as taxes, over a 10-year period.

Transferring the loan to the tax roll enables homeowners wanting to replace their lead service extension with an option to repay the cost over a number of years and provides the City a convenient method in which to collect repayment of the loan. If the application for a loan is successful, the property owner may incur a registration cost of $150, representing the costs associated with placing a lien on the property. Attachment “A” of report FSC07087/PW07121 represents the LSERP Guidelines.

Staff are not recommending that the City provide any form of financial assistance with respect to plumbing replacement, other than the “Service Line Extension”, as the cost to administer an extended program would be prohibitive.

The LSERP is targeted at residential property owners, as property owners have the authority to undertake capital improvements and apply for a loan that will be transferred to the tax role.
BACKGROUND:

Report FCS07087/PW07121 is in response to section (a) of the following Motion, which was raised at the June 11, 2007, Committee of the Whole, requesting:

(a) That staff bring forward a feasibility report on providing financial assistance to homeowners required to replace lead service lines or other lead-based plumbing in their homes;

(b) That the Province of Ontario, as the regulatory body for building codes, be asked to participate in any financial assistance program; and

(c) That the MOH clearly outline to council health risks to residents as they relate to measured levels of lead in drinking water.

Lead exposure has been identified as a health concern, particularly for young children. Over the past few decades, blood lead levels in children have been falling due to the phasing out of leaded gasoline, lead paints and leaded pipes. Drinking water remains a minor route for exposure to lead. Young children are more sensitive to the effects of lead because they are still developing and can absorb ingested lead more easily than adults. Long-term exposure to lead, above the standards, may increase the risk in children of subtle effects on learning capacity and intellectual development. Pregnant women need to limit their lead intake, as much as possible, to protect the fetus.

The Ministry of Environment (MOE) passed legislation on July 2007 amending O. Reg 170/03 (Drinking Water Systems) under the Safe Drinking Water Act (SDWA). The new O. Reg 170/03 mandates Municipal Large and Small Residential systems to implement an extensive sampling and testing monitoring program for Lead. The MOE has also passed O. Reg 243/07 that requires additional flushing, sampling and testing for lead in drinking water taps in schools, day nurseries and private schools.

The recent changes to the Regulations were proposed by the MOE after indication that lead concentration, higher than the drinking water quality standard, were present in some drinking water taps mainly caused by lead piping and solder in plumbing.

In late April 2007, the MOE determined that drinking water samples from some consumers’ taps in the City of London contained levels of lead above the drinking water quality of 10 microgram/ Litre (10 ug/L). It was believed that water chemistry of the drinking water supply may have caused corrosion in lead pipes that may have resulted in the increased level of lead in the affected residences.

On May 23, 2007, the MOE ordered 36 municipalities, including the City of Hamilton, to collect samples from 20 private residences and 5 hydrants in an area known to have lead services to obtain more information. These samples were tested for lead and other designated parameters. The City of Hamilton reported results to the MOE and the Medical Officer of Health on Thursday May 31, 2007, and the homeowners on Friday June 1, 2007, as required by the Order.
On June 7, 2007, and based on the information provided by all the 36 municipalities’ data, the government announced its lead action plan to expand water safety protection and reduce the potential for elevated levels of lead in drinking water at the tap.

The Action Plan contains several non-regulatory elements to increase preventive action on lead in drinking water which include provincial and municipal public education and developing best practices that encourage municipalities to offer on-bill financing as a way to make lead plumbing replacement more affordable for homeowners.

The plan also included more stringent regulatory requirements for drinking water system. After a province-wide consultation, the MOE introduced amendment to O. Reg 170/03 and other related regulations that came into effect on July 26, 2007. (For additional information regarding the sampling and testing, refer to Attachment “C” of FCS07087/PW0712).

**ANALYSIS/RATIONALE:**

Based on best available information, it is estimated that the City of Hamilton has 25,000 to 30,000 households with potential lead exposure. While staff cannot identify the distribution of this figure by geographic boundary, it can be assumed that homes dated prior to the 1950’s are most likely to be impacted by some level of risk, assuming the service lines and plumbing have not been replaced to date.

As the City is currently replacing approximately 400-500 service lines annually, it is anticipated the participants of the LSERP would extend beyond this group to include property owners who may have previously deemed the cost prohibitive. The pilot project is projected to potentially impact up to 250 households, with an estimated cost of replacement of the service extension replacement of $2,000 per household.

The objective of the pilot project is to assess the need for financial assistance with respect to the replacement of lead service lines.

It is forecast that the replacement of the Public Service for the corresponding potential 250 households will have a cost of approximately $750,000. It is recommended that, for the purpose of the pilot project, that the estimated $750,000 be funded from any potential 2007 Rate Supported Budgeted surplus or a combination of surplus and waterworks reserve.

**ALTERNATIVES FOR CONSIDERATION:**

1. Status quo – the City is currently replacing approximately 400-500 public service lines annually, with an associated cost to the City of approximately $1.2M to $1.5M annually.
FINANCIAL/STAFFING/LEGAL IMPLICATIONS:

Financial: The pilot project aims at providing financial assistance to property owners, through a loan, repayable to the City over a period of up to 10 years. It is recommended that the source of funding for the pilot be a revolving loan fund, funded from the Water Reserve. It is anticipated that any funds forwarded to property owners, through a loan, would be repaid to the Water Reserve, anticipating that the Reserve will be funded completely.

Staffing: Currently in the Water and Wastewater Division, there is one construction inspector and one administrative person responsible for managing the 400-500 service replacements per year. In order to ensure that the service lines are installed according to standard and the administration of this program is carried out, one additional FTE would be required in the Water and Wastewater Division. This FTE would be hired as a one-year contract position, pending the outcome of future funding from the province or extension of this program, beyond one year.

POLICIES AFFECTING PROPOSAL:

N/A

RELEVANT CONSULTATION:

Public Works – Water and Wastewater Division
Public Health

CITY STRATEGIC COMMITMENT:

By evaluating the “Triple Bottom Line”, (community, environment, economic implications) we can make choices that create value across all three bottom lines, moving us closer to our vision for a sustainable community, and Provincial interests.

Community Well-Being is enhanced. ☑ Yes ☐ No
Shelter, care and satisfying employment are accessible to all Hamiltonians.

Environmental Well-Being is enhanced. ☑ Yes ☐ No
Human health and safety are protected.

Economic Well-Being is enhanced. ☐ Yes ☑ No

Does the option you are recommending create value across all three bottom lines? ☐ Yes ☑ No

Do the options you are recommending make Hamilton a City of choice for high performance public servants? ☐ Yes ☑ No
Purpose
Some homes in Hamilton built before the mid-1950s have lead levels in their water that are higher than Provincial Standards. Many of these homes have lead water service pipes running from the City’s water main in the street into the home. The City’s goal at this time is to replace the City’s service stub (located on City property) in conjunction with the property owner replacing the service extension (located on private property), subject to availability of funds. During this 12 month pilot project ending October 31, 2008, the property owner may be eligible for a loan to replace the owner’s portion of the water service pipe.

Definitions
“City Engineer” means the General Manager of Public Works or designate;
“Contractor” means the person hired by the owner to conduct the work;
“dwelling” means a building containing one to three dwelling units;
“dwelling unit” has the same meaning as contained in the City’s Zoning By-law;
“owner” means an owner in fee simple under the Land Titles Act, R.S.O. 1990, c. L.5;
“property” means a separate parcel of land which has been assigned a property identifier under section 141 of the Land Titles Act, R.S.O. 1990, c. L.5;
“service extension” means the portion of a water service pipe located on private property from the property line to the meter location, or for a fire service to the inside of the exterior wall of a structure, ie. an extension of a service stub;
“service stub” means the portion of a water service pipe located on City property from a main to the property line which will always include one control valve;
“water service pipe” means the pipe and fittings that convey potable water from a connection on a main or private main to the meter location, or, for a fire service, to the inside of the exterior wall of a structure.

Funding
For this 12 month Pilot Project, the Program will be funded in an amount determined by Council in its sole discretion from time to time, which will be placed in an interest-bearing revolving loan fund which will receive loan payments and accumulate interest. The cost of lien registrations, discharges, loan defaults, and promotional costs will be a charge to this fund. Loan commitments will be provided subject to funding availability as determined by Council at its sole discretion from time to time.

Eligible Work
The only work that is eligible for this Program is the replacement of service extensions by the owner that:
- are substantially composed of lead;
- are of the same size as existing or the minimum size for the area; and

Eligibility for Loan
The applicant(s) for the loan must meet the following criteria in order to qualify for the Program:
- must be the owner(s) of the property;
- all owners of the property must apply for the loan;
- have obtained a minimum of 3 quotes for the work from qualified Contractors;
- has not commenced replacement of service extension prior to loan approval;
- all property taxes must be paid in full at the time of application and throughout the loan process;
• there must be no other outstanding debts to the City of Hamilton;
• the owner(s) must not have defaulted on any City-sponsored loan or grant program in the past;
• the owner(s) must complete and sign the Commitment Letter;
• the owner(s) must meet all conditions of this Program.

Approval of all loan applications is also subject to availability of funding at any given time, as determined by council.

Manufacturing businesses, or industrial or commercial enterprises, are not eligible for this Program.

The Executive-Director of Water and Wastewater retains the right and absolute discretion to reject any application which provides three or more quotes which in his or her opinion are excessive.

**Loan Details**

Loans may be available to cover all or part of the estimated cost (as approved and determined by the Senior Director of Water and Wastewater) of replacing the owner's service extension (located on private property, from the water meter to the property line). Loans will not be available to cover any other associated costs (e.g. it will not cover the costs of relocating internal plumbing, repaving of an entire driveway, restoration of landscaped yards, or any other such costs that are deemed by the Senior Director of Water and Wastewater to be unnecessary for the replacement of the owner's service extension).

The loan if approved will only be paid to the owner upon receipt of invoices for completed work, and inspection of the completed work by City staff under the plumbing permit.

The amount of each loan will not exceed $2,000.

The loan amount plus interest will be transferred to the owner's tax roll, as a special charge, over a ten-year period. The yearly loan amount plus applicable interest will be repayable on the final tax installment due dates, and calculated in a like manner as Local Improvement charges are calculated.

Loan approvals are subject to the availability of funding at any given time, as determined by Council. Loan applications will be processed in chronological order based on the date of receipt of applications and all applications must be received by the City on or before October 31, 2008.

Loan approvals will be valid for six months and will expire if the work is not completed within that time period (unless extended at the Senior Director of Water and Wastewater's discretion).

**Security**

The loan will be added to the owner's tax roll, and may also be secured through the registration of a lien on title for the total loan amount. Liens will be noted on the next tax roll and will show on a Treasurers Certificate as a special charge. Liens will be registered and discharged by the City.

**Administrative Charges**

At the time of application, the owner must pay the registration fee of $150.00 to cover the costs of registering a lien on title. If the loan is not approved, this amount is refundable to the applicant.
Repayment of the Loan
Repayments of the loan plus interest will be made through taxes as set out in the commitment letter signed by the owner(s). Full repayment (including interest) can be made at any time with no penalty to the owner. At the discretion of the City, the loan may be transferable to a new owner provided that the new owner agrees in writing to the terms and conditions of the loan. In the event of default in loan repayment over 30 days, or in the event of sale of the property, the outstanding balance (including principal and interest) may be immediately payable. A further penalty of 15% per annum will be applied against any unpaid balance on taxes applied at 1.25% per month applied the first day past due.

Application Procedure
1. The applicant owner(s) will be required to complete an application form provided by Corporate Services Department (Taxation). Every person who is registered on title as an owner of the property is required to sign the application. The application must be received by the City on or before October 31, 2008.

In addition to the completed application form the applicant owner(s) must provide:
- a registration fee of $150.00 (refundable if the application is not approved);
- a minimum of one quote for the work from qualified Contractors. The quote must detail what work is to be done, and separate out costs for each portion of work (i.e. separate line item prices for service extension replacement, driveway restoration, front yard restoration, internal plumbing modifications up to the water meter, etc.). Only prices for service extension replacement are eligible for the loan;
- the Owner(s) will complete and sign the Commitment Letter;
- such other further information or documentation as may be required by the Senior Director of Water and Wastewater;
- owner must have City confirm that the service extension material is lead.

Any work that is started or completed prior to the loan application approval will be ineligible under this Program.

2. City reviews application and supporting documentation and decides whether to approve the loan amount, and determines approximately how much the loan amount will be. City advises applicant in writing of its decision.

3. Applicant or Contractor obtains any necessary permits, including a plumbing permit from the City’s Building and Licensing Division (City Centre, 77 James Street North, Suite 400, Hamilton, 905-546-2720) prior to work commencing. Failure to obtain a plumbing permit prior to work commencing will result in cancellation of any approved loan amounts.

4. The Contractor must co-ordinate work with the City well in advance. The Contractor is responsible to obtain all utility locates for the work for both private property and City property.

5. The Contractor or the applicant must arrange for an inspection by the City with respect to the plumbing permit. Plumbing permits that have not had an inspection by the City will result in cancellation of any approved loan amounts.
6. Within six months of receiving loan approval the owner(s) must submit to the City the final invoice from the Contractor setting out the amount due for the work. Any owner submitting an invoice more than six months after the loan approval will be ineligible for payment of the loan. The City will not provide a loan for an amount greater than the approximate loan amount set out in paragraph 2 above, even where the final invoice is greater than the approximate loan amount.

7. The City may register a lien on the owner’s title for the amount of the loan.

8. The City may advance either the invoice amount submitted by the Contractor, or the amount of the approximate loan amount as set out in paragraph 2 above, whichever is less, to the applicant owner(s).

**Information to Accompany Application**
- complete application form signed by all owners;
- registration fee of $150.00 (refundable if application is not approved);
- a minimum of one quotes for the work from qualified Contractors. The quotes must detail what work is to be done, and separate out costs for each portion of work (i.e. separate line item prices for service extension replacement, driveway restoration, front yard restoration, internal plumbing modifications up to the water meter, etc.). Only prices related to the service extension replacement are eligible for the loan;
- such other further information or documentation as may be required by the Senior Director of Water and Wastewater.

**Not Retroactive**
The Lead Service Extension Replacement Loan Program will not be retroactive to apply to works started before the commencement of the Program.

**Discontinuation of Program**
The terms of the Program are subject to change. Council may periodically review the Program Guidelines to determine if the Program should continue, be modified, or cease to issue any new loans. The City may discontinue the Program at any time.

**City Not Liable**
In order to qualify for a loan, the owner agrees that the City shall not be liable for any damages to the owner’s property as a result of any lead service extension replacement.
Re: the “Property”

Dear:

The City of Hamilton is pleased to inform you that your application for financial assistance pursuant to the Lead Service Extension Replacement Loan Program (LSERLP) has been approved, with the terms and conditions outlined herein. The purpose of this funding is to assist in the cost to replace service extension lines of residential units that are substantially composed of lead.

TERMS AND CONDITIONS

Borrower:

Loan Amount:

1. Canadian Dollars secured by the loan being added to the owner's tax roll, and also secured through the registration of a lien on title for the total loan amount.

2. The maximum loan will not exceed the loan amount of (amount) within the terms of the LSERLP.

Purpose:

Loan is made available to cover all or part of the estimated cost of replacing the owner’s lead service extension (located on private property, from the water meter to the property line).

This financial assistance shall not be used for any other purpose than as above stated, but the fact that the funds are used for some other purpose shall not affect the obligations of the Borrower to repay the City of Hamilton.
Term: The maximum loan term is ten (10) years (subject to prior termination on default) from the date of the advance payment. No extension or renewal shall be granted without the consent of the City.

Interest Rate: 1. The loan interest rate will be at 5.15% interest for the full term of the loan, such interest to be calculated and payable annually, not in advance.

Advance Payment: 1. The City's funding will be advanced in one payment in an amount equal to the approved loan amount.

2. Advances are to be made within ten (10) working days upon written request together with the required supporting materials. The Corporate Services Department is to receive verification of certain items which are standard form and available upon request.

3. As of the Payment Advance Date, there will be no actions, suits or proceedings pending or threatened against or affecting the Property that, if successful, would adversely affect the Property or the financial condition of the Borrower, as determined by the City, acting reasonably.

Construction Information: The Borrower within 6 months of receiving loan approval with this letter shall provide the City with the following for its approval (not to be unreasonably withheld) prior to the issuance of the Advance Payment:

a) Final invoice from the owner’s Contractor setting out the amount due for the work. The City will not provide a loan for an amount greater than the approved loan amount set out above, even where the final invoice is greater than the loan amount.

b) Requisite permits, licences and consents.

Construction Conditions: It is understood that Payment Advance will be made in accordance with the following construction conditions:

a) Owner/Contractor must obtain any necessary permits, including a plumbing permit from the City’s Building and Licensing Division.

b) Contractor must co-ordinate work with the City well in advance. The Contractor is responsible to obtain all utility locates for the work for both private and City property.

c) Owner/Contractor must arrange for an inspection by the City
with respect to the plumbing permit.

**Construction Default:** The Borrower will diligently pursue the work and complete and pay for the work as required by their contractor contract, all in conformity with approved plans and specifications and will keep the property free from construction liens. If construction ceases for a period of more than 30 days for any reason other than strike or walk out of construction crews or other *force majeure* or if there is any other default under the terms of this commitment letter or the security documentation, the whole of the loan then advanced plus interest thereon (if any) will, at the City's sole, absolute and unfettered option become immediately due and payable.

**Construction Inspection:** The City must inspect during construction with respect to the plumbing permit and reject and require to be replaced any material or work which does not comply with approved plans and specifications.

**Repayment:** Principal is repayable in annual amounts, in twelve (12) equal annual payments of the original loan amount. Payments will commence one (1) year following Advance Payment.

**Registration Fee:** The City's registration fee of $150 which is due upon and to be deducted from the first advance from the City.

**Security:**

1. The loan amount will be added to the owners tax roll.

2. The City will secure the total loan amount through the registration of a lien on title. Liens will be noted on the next tax roll. Liens will be registered and discharged by the City.

**Permitted Encumbrances:** The Borrower's title to the Property is to be subject only to prior and subsequent encumbrances approved by the City, acting reasonably.

**Affirmative Covenants:**

1. Realty taxes must be paid current and in good standing throughout the development process, and during the term of the City loan.

2. The Borrower shall ensure ongoing compliance with the laws of the Province of Ontario, the Government of Canada and the City of Hamilton.
Negative Covenants:

1. Owner applicant’s first mortgage shall not exceed 75% equity based upon the appraised value of the Property offered as security, including projected cost of improvements being financed and such first mortgage shall be at prevailing market rates having consideration for the usual underwriting criteria as applied to the Property. An accredited member of the Appraisal Institute shall complete the property appraisal prior to funding within a time frame acceptable to the City.

2. The Borrower may not, directly or indirectly sell, convey, transfer, or dispose of the Property, or any part thereof, or any interest therein, or unconditionally agree so to do, without the written consent of the City being first obtained (such consent not to be unreasonably withheld). Otherwise then the Lender shall have the right, at its option, to declare forthwith due and payable the entire balance of the unpaid principal with accrued and unpaid interest, if any, due thereon. Upon refinancing of the first mortgage, the loan is due to the extent that take-out financing takes place in an amount higher than the existing first mortgage.

3. The mortgage document will contain a clause restricting the Borrower from further encumbering the Property by any mortgage(s) or debenture debt, (including collateral debt), without the written consent of the City, such consent not to be unreasonably withheld.

Voting control of the Borrower shall not change without the prior written consent of the City whether the change is to the ownership of the shares of the Borrower or to any change in ownership of the shares of a corporation having effective voting control of the Borrower.

Events of Default:

Usual events of default and normal cure period will apply.

Costs:

1. The Borrower and Lender agree that all fees and costs incurred by or on behalf of the Lender, including but not being limited to legal, professional, registration, escrow agent, appraisal and survey costs and fees, Independent Engineer costs and Independent Insurance Advisor costs, are for the account of the Borrower, whether or not closing occurs.

Governing Law:

The validity, interpretation and performance of the transaction contemplated shall be governed by the laws in force in the Province of Ontario and the laws of Canada applicable thereto.

Lapsing Date:

Registration of the relevant security documents or notice thereof or the Advance Payment shall occur no later than October 31, 2008.
Independent Legal Advice: The Borrower may use the same legal counsel as the City provided that the Borrower obtains Independent Legal Advice prior to the completion of the loan transaction and provides the City with a certificate verifying such advice has been given.

The purpose of this letter is to confirm our mutual understanding of the general terms and conditions on which the financial assistance will be available to you.

You are asked to review this letter carefully with the assistance of your lawyer and accountant. Please note that neither the preparation nor the acceptance of this Commitment Letter shall bind the City of Hamilton to advance any amount under this letter unless and until such terms and conditions have been satisfied, and until all required security and loan documentation has been completed by you.

Further, the City of Hamilton shall not be obliged to advance any amount under this letter where at the time of closing of the transaction, you are, or if an advance was made, would be, in default under the terms of the Commitment Letter or any of the other Loan Documentations.

We ask that you sign back you acceptance of the terms and conditions herein by no later than (give 30 days) at which time this offer expires.

Yours truly,

Larry Friday
Director, Taxation

cc  Don Fisher, Assistant City Solicitor, Legal Services Division
    Joseph Rinaldo, General Manager, Corporate Services Department
    Ken Heyens, Manager of Tax Accounting
    Applicant's Solicitor
Accepted this _____ day of __________________, 2007, in the City of Hamilton,

Province of Ontario

Please print

_________________________________________
Name

_________________________________________
Name
Outline of Amendments to Ontario Reg. 170/03

Subject:
Lead : Sampling and Testing Monitoring Program under new MOE Regulation

Description of the Issue:
The Ministry of Environment (MOE) passed legislation on July 2007 amending O. Reg 170/03 (Drinking Water Systems) under the Safe Drinking Water Act (SDWA). The new O. Reg 170/03 mandates Municipal Large and Small Residential systems to implement an extensive sampling and testing monitoring program for Lead.
The MOE has also passed O. Reg 243/07 that requires additional flushing, sampling and testing for lead in drinking water taps in schools, day nurseries, and private schools.

The recent changes to the Regulations were proposed by the MOE after indication that lead concentration higher than the drinking water quality standard were present in some drinking water taps mainly caused by lead piping and solder in plumbing.

In late April 2007, MOE determined that drinking water samples from some consumers’ taps in the City of London contained level of lead above the drinking water quality of 10 microgram/Litre (10 ug/L). It was believed that water chemistry of the drinking water supply may have caused corrosion in lead pipes that may have resulted in the increased level of lead in the affected residences.

On May 23, 2007 the MOE ordered 36 municipalities, including the City of Hamilton, to collect samples from 20 private residences and 5 hydrants in an area known to have lead services to obtain more information. These samples were tested for lead and other designated parameters. The City of Hamilton reported results to the MOE and the Medical Officer of Health on Thursday May 31, 2007 and the homeowners on Friday June 1, 2007 as required by the Order.

On June 7, 2007, and based on the information provided by all the 36 municipalities’ data, the government announced its lead action plan to expand water safety protection and reduce the potential for elevated levels of lead in drinking water at the tap.

The Action Plan contains several non-regulatory elements to increase preventive action on lead in drinking water which include provincial and municipal public education and developing best practices that encourage municipalities to offer on-bill financing as a way to make lead plumbing replacement more affordable for homeowners.

The plan also included more stringent regulatory requirements for drinking water system. After a province-wide consultation, the MOE s introduced amendment to O. Reg 170/03 and other related regulations that came into effect on July 26, 2007.

The new regulation requires municipalities to have a semi-annual sampling and testing monitoring program for lead directed to homes and other facilities with lead plumbing or connected to lead service based on the population served by the Drinking Water System.

The focus of the new regulation is not only on the existence of lead water services but the chemistry of a systems water and the potential for absorption of lead from pipe and fittings materials

Sampling and Testing Program

The following is a summary of the sampling, testing and notification requirements for the lead program to be implemented for the Hamilton drinking water systems
Number of samples and selection of sampling points:

- The Regulation identifies the number of sampling points in plumbing that serves different kinds of premises including single-family homes, multi-unit residential buildings, commercial properties, public facilities.
- Sampling must be taken from different geographical areas that are served by the drinking water system.
- Samples must be taken from plumbing that is connected or is suspected of being connected to lead service pipes, When this is not reasonably possible, samples may be taken from plumbing connected to service pipes that have lead solder.
- Samples must be taken with the consent of the occupant of the premises served by the Owner of the Drinking Systems.

### TABLE

**STANDARD SAMPLING- NUMBER OF SAMPLING LOCATIONS**

<table>
<thead>
<tr>
<th>Drinking Water System</th>
<th>Population Served by the Drinking Water System</th>
<th>Number of Sampling Points in plumbing that serves private residences</th>
<th>Number of Sampling Points in plumbing that does not serve private residences</th>
<th>Number of Sampling Points in the Distribution System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hwy 50 Road</td>
<td>1-99</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Lynden, Greensville</td>
<td>100-499</td>
<td>10</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Freelton Carlisle</td>
<td>500-3,299 to 3300-9999</td>
<td>20</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Woodward</td>
<td>100,000 or more</td>
<td>100</td>
<td>10</td>
<td>20</td>
</tr>
</tbody>
</table>

**Total Number of Sampling Points:**

Based on the table above, the total number of sampling points to be taken from the various Hamilton drinking water systems is 482 per year.

- Woodward - 260 sampling points
- Carlisle - 104
- Freelton - 52
- Lynden - 26
- Greensville - 26
- Hwy 50 Road - 14

**Sampling Frequency**

The rounds of semi-annual testing are defined by dates to capture summer and winter periods. The samples must be taken during each of the following periods:

- Winter period: December 15 – April 15
- Summer period: June 15 – October 15

The first round of testing for lead must be completed by April 15, 2008.
## Reduced Sampling

- The Regulation has provisions for reduced sampling locations if certain conditions are met. All systems would have the ability to reduce the number of sampling locations by 50% after two years (4 consecutive rounds) of tests showing 10% or fewer of locations failed to meet the lead standard of 10µg/L.

- Systems serving less than 50,000 would have the ability to reduce the number of sampling locations by 50% after one year (two consecutive rounds) of testing showing 10% or fewer of locations did not exceed 5 µg/L and no results exceeding 10 µg/L. The testing frequency for these systems would be reduced to once (summer and winter) every three years.

- Systems on a reduced frequency would be required to revert back to annual twice-yearly testing when more than 10% of test results exceed the 10 µg/L lead standard.

- Based on the historical information for lead testing in the Hamilton drinking water plumbing system, it is expected that full sampling and testing will be required. Currently it is estimated that the City of Hamilton has approximately 25,000 lead water services still in service.

- City of Hamilton Communal Well systems may qualify for reduced sampling after the first two rounds of sampling if the testing based on testing history.

## Sampling protocol and Testing

- The Regulation specifies the required protocol for sampling including tap selection, volume of sample, waiting time for collection of sample and number of samples for locations.

- Two samples for lead and one sample for pH must be collected from each sampling location. Therefore the total number of samples for the program is approximately 1500 including close to 1000 lead tests and 500 tests for field pH and alkalinity.

- Sampling for lead must be carried out by a qualified person (e.g. certified operator, trained person, person under the supervision of a certified operator, water quality analyst, or public health inspector), consistent with testing for pH.

## Reporting Requirements

- For laboratory test results for samples from plumbing, the drinking water system owner must provide written notification to the occupant of the premises of all results from plumbing within 7 days including a copy of the lab report, a statement indicating if the result exceeded the Standard, any advice provided by the Medical Officer of Health to the Owner with respect to steps that the occupant should take, and a contact person for questions regarding the report.

## Corrosion Control

- The corrosion control requirements applies to owners of large municipal residential systems, if more than 10% of the test results exceed the 10 µg/L lead standard for any two of the three most recent rounds of lead testing or, for systems which test at 10 or fewer locations, 2 or more test results exceed 10 µg/L.

- The owner of a drinking water system to which corrosion control requirements apply is required to develop a “Corrosion Control Plan” and submit the Plan to the MOE Director to the Director’s satisfaction within one year of the last day of the sampling period which triggered lead testing results with more than 10% exceeding 10 µg/L.
- The Corrosion Control Plan must contain elements related to analyzing the potential for lead leaching into drinking water as a result of corrosion; characterizing and assessing conditions in their drinking water system to determine which measures may be viable; proposed measures and timing of their implementation; and proposed monitoring to assess effectiveness of corrosion control measures.

- If the Corrosion Control Plan requires any implementation or monitoring of effectiveness, the owner of the drinking water system will be required to apply to the Director to amend the system’s approval or municipal drinking water licence to reflect the requirements of the plan.

Financial Plans:
- O. Reg 453/07 also contains requirements for municipalities to include in their Financial Plans the costs associated with replacing lead service pipes that are part of the drinking water system.

**Financial/Staffing/Other Implications (If Applicable):**

- **Sampling and Testing Requirements:**
  The sampling and testing requirements under the new Reg 170/03 regulation will have a significant financial and staffing impact on the Water and Wastewater Division.
  - It is estimated that at least two FTE will be required during lead sampling periods to carry out the sampling as prescribed in the protocol. In addition, prior to the sampling period, additional staff time will be required to develop a sampling plan that meets the legislative requirements, select sampling location for both large and small municipal systems and obtain approval of residents to be included in the sampling program.
  - The high number of lead analysis combined with the associated legislative notification requirements will increase the operational costs and workload of the Environmental Laboratory.
  - The Customer Services group will also be impacted allocating dedicated staff to schedule the sampling appointments, upload information into Hansen, and notify test results to residents within prescribed time frames.

- **Corrosion Control:**
  Based on the lead data available so far from private residences in the Hamilton drinking water system, it is likely that the City will require preparing a Corrosion Control Plan following the first rounds of sampling. It is expected that significant resources may be necessary for the development, implementation and monitoring of the Plan as required by the Regulation.

- **Non-Regulatory Program**
  The City of Hamilton is working with the Health Department to develop public education campaigns to increase awareness of the issues associated with lead. Although the MOE encourages municipalities to implement such programs, no financial assistance to municipalities is currently provided for these initiatives.