

Appendix 2: Plumbing assessment survey

You should take this survey with a facility plumbing map in hand.

Sample plumbing assessment survey	
Questions to ask or actions to take	Your answers
<p>1. Was your original building constructed before January 1990?</p> <p>Does your building still have and use all or parts of its original plumbing?</p> <p>Have any parts of the building's plumbing infrastructure been replaced? (If yes, list locations.)</p> <p>Were any buildings or additions added to your original facility? (If yes, you will need to complete a separate plumbing profile for each building, addition or wing.)</p>	
<p>2. Was your building built or repaired after 1990?</p> <p>If so, what type of pipes and solder were used? (List locations of lead-free pipes.)</p> <p>Were they lead-free (pipes, pipe fittings, fixtures not more than 8% lead; solder and flux not more than 0.2% lead)? (List locations of lead free solder and flux.)</p>	
<p>3. Have you had plumbing repairs within the past five years?</p> <p>If so, when and where? (List year when repairs were done.)</p> <p>Was lead soldering used for these repairs?</p>	
<p>4. What type of water pipes are in your facility and how does water flow through them?</p> <p>Write the location of each different type of pipe, the direction that water flows through that pipe, and which areas receive water from the pipe first and last.</p>	<ul style="list-style-type: none"> • Lead pipe location and where the water flows: • Galvanized metal pipe location and where the water flows: • Copper location and where the water flows: • Plastic pipes location and where the water flows: • Cast iron pipe location and where the water flows:

Sample plumbing assessment survey

Questions to ask or actions to take

Your answers

5. Do you have tanks in your plumbing system, such as pressure or gravity storage tanks?

If so, note their location and any available information, such as manufacturer and date of installation.

You may:

- contact the supplier or manufacturer to obtain information about the tank coating;
- hire a plumber or tank service contractor to inspect your tanks, especially gravity storage tanks located outside the building.

Pressure tank information

Gravity storage tank information:

Other:

6. Do you have brass or bronze fittings, faucets, or valves in your drinking water system?

Mark the locations on your facility map, with notes for future analysis of lead sample results.

Locations:

7. Note on your facility map the number and locations of any of the following that provide water for consumption:

- kitchen taps
- drinking fountains or taps
- cold water washroom taps

Kitchen taps (number and location):

Drinking fountains or taps (number and location):

Cold water washroom taps (number and location):

8. Where does the water service line (the pipe that carries drinking water from a public watermain to your facility) enter your building and connect to the interior plumbing?

Is the service line made of lead?

Check for lead where the service line comes out of the wall near the building's shut-off valve by scratching the pipe with a knife or key. Lead is a dull grey colour, easily scratched by a knife or key, and shiny when scratched.

Service line location:

Service line material:

Sample plumbing assessment survey

Questions to ask or actions to take

Your answers

9. Note on your facility map the locations of all taps or fountains with screens or aerators (they are accessible on standard faucets), and whether these screens or aerators have been cleaned.

Is there a regular maintenance schedule for cleaning these screens? What is it?

Are particles and other materials found on these screens?

Location with screens or aerators:

Cleaned/not cleaned?

Maintenance schedule:

Debris? Yes or No

10. Note on your facility map the locations of any signs of corrosion, such as frequent leaks or fixture staining.

Also note on your facility map the locations where there have been complaints of stains on laundry or dishes.

Locations with signs of corrosion:

Locations with staining:

11. Note on your facility map the locations of any electrical equipment grounded to water pipes.

Locations:

12. Have there been any complaints about metallic taste or rust-coloured water? If so, note the locations.

Locations:

13. Do you have any known plumbing issues such as dead-ends, low use areas or other problem areas?

Are you planning renovations for part or all of the plumbing system?

Note the direction of water flow and the location of fixtures, valves, tanks, areas of debris accumulation, areas of corrosion, etc., on a sketch or blueprint of the plumbing.

Sample plumbing assessment survey

Questions to ask or actions to take

Why

1. Was your original building constructed before January 1990?

Does your building still have and use all or parts of its original plumbing?

Have any parts of the building's plumbing infrastructure been replaced? (If yes, list locations)

Were any buildings or additions added to your original facility? (If yes, you will need to complete a separate plumbing profile for each building, addition or wing.)

If any part of your building was constructed before January 1990, its pipes may have lead in them. Or it may have copper plumbing pipes soldered together with lead joints.

2. Was your building built or repaired after 1990?

If so, what type of pipes and solder were used? (List locations of lead-free pipes.)

Were they lead-free (pipes, pipe fittings, fixtures not more than eight per cent lead; solder and flux not more than point two per cent lead)? (List locations of lead free solder and flux.)

Since December 1989 the Ontario Building Code requires "lead-free" pipes, pipe fittings, and fixtures (not more than eight per cent lead) and "lead-free" solder and flux (not more than point two per cent lead).

If "lead-free" materials were not used, your building's drinking water could have elevated lead levels.

"Lead-free" pipes, pipe fittings and fixtures hold less potential for leaching lead, but it is still possible.

Buildings constructed after December 1989 are less likely to have lead pipes or solders in their plumbing, however, high-lead solder and fluxes may still have been used.

3. Have you had plumbing repairs within the past five years?

If so, when and where? (List year when repairs were done.)

Was lead soldering used for these repairs?

If lead solder was used in the piping installation, or in repairs or additions that are less than five years old, you may have elevated lead levels.

Even in lead-free repairs, corrosion can occur after plumbing repairs. Corrosion can be particularly strong in new piping for the first five years.

4. What type of water pipes are in your facility and how does water flow through them?

Write the location of each different type of pipe, the direction that water flows through that pipe, and which areas receive water from

Identifying the direction of water flow through every type of pipe and the areas that receive that water will enable you to select sampling locations for upstream testing to pinpoint the source of lead in water from a particular tap.

Sample plumbing assessment survey

Questions to ask or actions to take

Why

the pipe first and last.

Most buildings have a combination of different types of pipes that vary in their potential for lead contamination:

- Lead pipes are a major source of lead contamination in drinking water.
- Galvanized metal pipes may have compounds containing lead.
- Copper pipe joints were typically joined together with lead solders prior to January 1990.
- Plastic pipes, especially those that do not meet NSF International Standards or have been manufactured abroad may contain lead.

5. Do you have tanks in your plumbing system, such as pressure or gravity storage tanks?

If so, note their location and any available information, such as manufacturer and date of installation.

You may:

- contact the supplier or manufacturer to obtain information about the tank coating;
- hire a plumber or tank service contractor to inspect your tanks, especially gravity storage tanks located outside the building.

The inside of tanks can accumulate sediment that can be flushed back into the plumbing system or if the tank is older it may have an inside coating that is high in lead content.

6. Do you have brass or bronze fittings, faucets, or valves in your drinking water system?

Mark the locations on your facility map, with notes for future analysis of lead sample results.

If faucets, valves, and fittings made of brass or other lead-containing alloys were installed, lead levels in the water may be high.

Both brass and bronze can contain two to eight per cent lead, which is considered lead-free. Older brass faucets and fittings, however, may contain higher percentages of lead.

The degree to which lead will leach from brass/bronze products depends on the corrosiveness of the water and the manufacturing process used.

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Questions to ask or actions to take

Why

7. Note on your facility map the number and locations of any of the following that provide water for consumption:

- kitchen taps
- drinking fountains or taps
- cold water washroom taps

You need to identify the locations of all of these taps and fountains because components in the plumbing system may be sources of lead.

8. Where does the water service line (the pipe that carries drinking water from a public water main to your facility) enter your building and connect to the interior plumbing?

Is the service line made of lead?

Check for lead where the service line comes out of the wall near the building's shut-off valve by scratching the pipe with a knife or key. Lead is a dull grey colour, easily scratched by a knife or key, and shiny when scratched.

If the service line is made of lead, it could be leaching this lead into your drinking water.

9. Note on your facility map the locations of all taps or fountains with screens or aerators (they are accessible on standard faucets), and whether these screens or aerators have been cleaned.

Is there a regular maintenance schedule for cleaning these screens? What is it?

Are particles and other materials found on these screens?

Particles trapped on screens/aerators can be a source of lead contamination, or an indication of lead in the water.

Create and implement a routine maintenance program to clean the screens/ aerators frequently.

10. Note on your facility map the locations of any signs of corrosion, such as frequent leaks or fixture staining.

Also note on your facility map the locations where there have been complaints of stains on laundry or dishes.

Frequent leaks, rust-coloured water, and stains on fixtures, dishes, and laundry are signs of corrosive water.

Green deposits on pipes and sinks indicate copper corrosion and brown stains result from iron corrosion. High levels of lead, copper, and iron may be present where these occur.

11. Note on your facility map the locations of any electrical equipment grounded to water pipes.

Electric current can accelerate corrosion in a water pipe it is grounded to.

Sample plumbing assessment survey

Questions to ask or actions to take

Why

12. Have there been any complaints about metallic taste or rust-coloured water? If so, note the locations.

Although you cannot see, taste, or smell lead dissolved in water, the presence of a metallic taste or rusty appearance may indicate corrosion and possible lead contamination.

13. Do you have any known plumbing issues such as dead-ends, low use areas or other problem areas?
Are you planning renovations for part or all of the plumbing system?
Note the direction of water flow and the location of fixtures, valves, tanks, areas of debris accumulation, areas of corrosion, etc., on a sketch or blueprint of the plumbing.

Plumbing that is already known to have issues can be prioritized during sampling.