

# Basement Flooding Improvements Study

Websites: [toronto.ca/bf42](http://toronto.ca/bf42) & [toronto.ca/bf44](http://toronto.ca/bf44)

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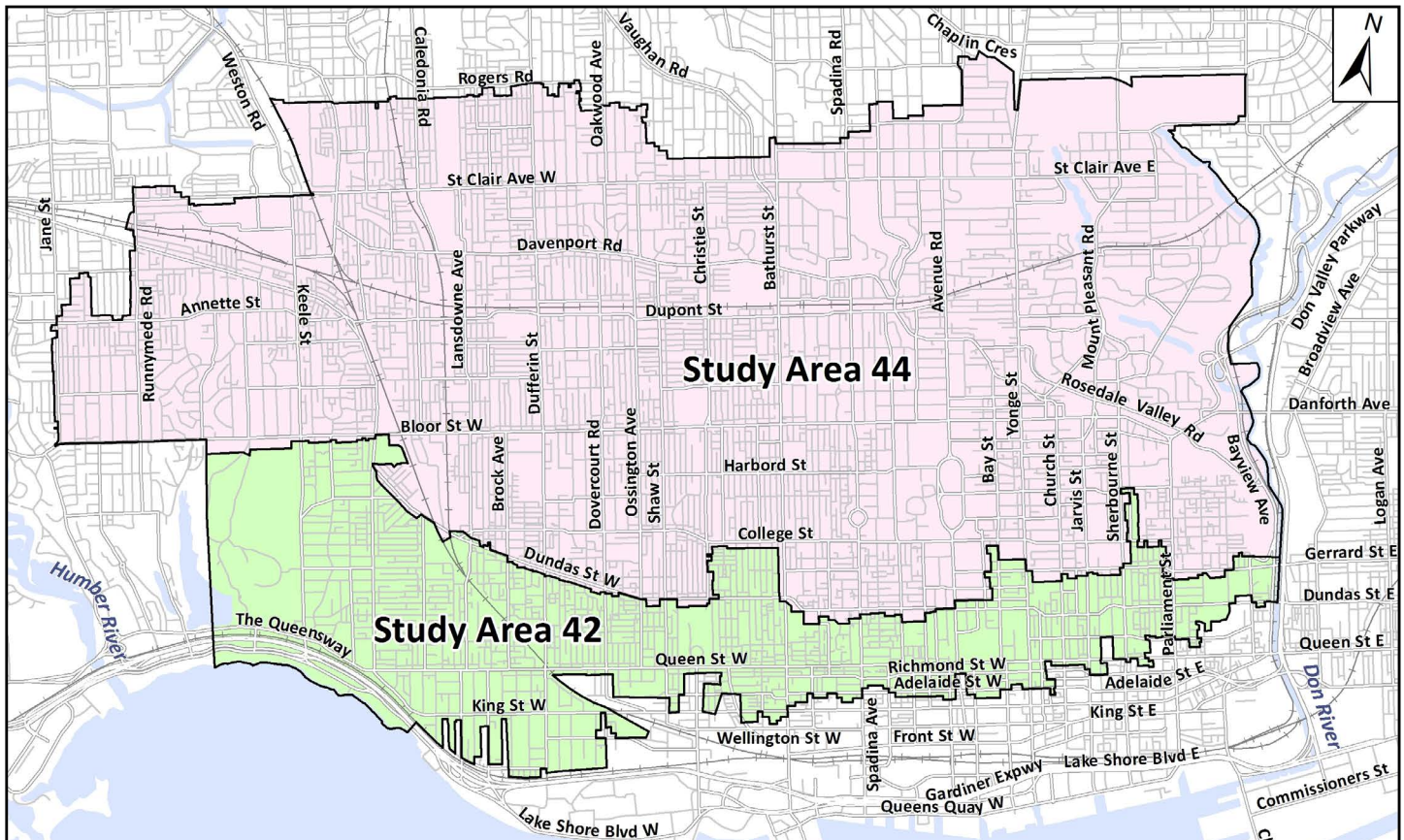


During heavy rain, sewers can become overloaded. This increase puts pressure on the sewer systems and overland drainage routes, such as roads, local rivers and streams, which can lead to basement flooding.

In 2013, City Council approved plans to develop comprehensive plans in 67 areas across the City to reduce the risk of flooding. The City is now launching a study in area 42 and 44 to determine the factors that contribute to surface and basement flooding and recommend solutions to help reduce the risks.

**Study Area 42** consists of the Lower Level Combined Sewer Interceptor distributed in portions of Wards 4, 9, 10 and 13. The sewershed is roughly located in the area bounded by Keele-Dundas-Queen Streets & Don Valley Parkway and Lake Ontario.

**Study Area 44** consists of the Lower Level Combined Sewer Interceptor distributed in portions of Wards 9, 11, 12 and 14. The sewershed is roughly located in the area bounded by Bloor Street to St. Clair Avenue/Jane Street to the Don Valley Parkway.



## What is Covered by this Study

This study will look at improvements to the sewer and drainage system to be made within the City's right-of-way or City property, such as parks and ravines.

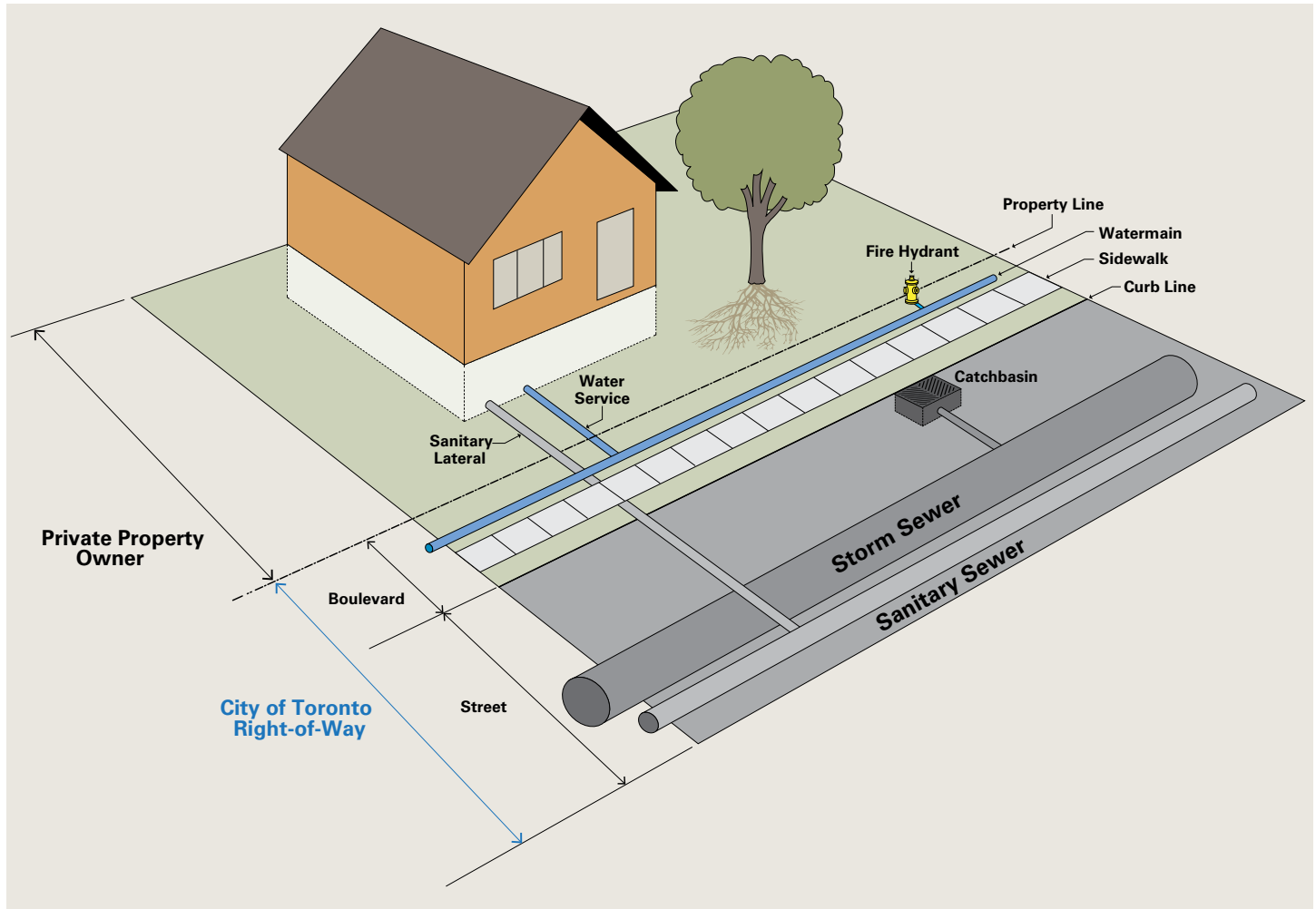
## What is Not Covered by this Study

Each property owner is responsible for the operation and maintenance of drainage systems on private property. This includes:

- Lot grading
- Driveway drainage and private property catchbasins

- Foundation drains in the basement or underground parking garage
- Sump pumps and back water valves
- Clogged drains due to private tree roots or items poured down the drain, such as fats and grease

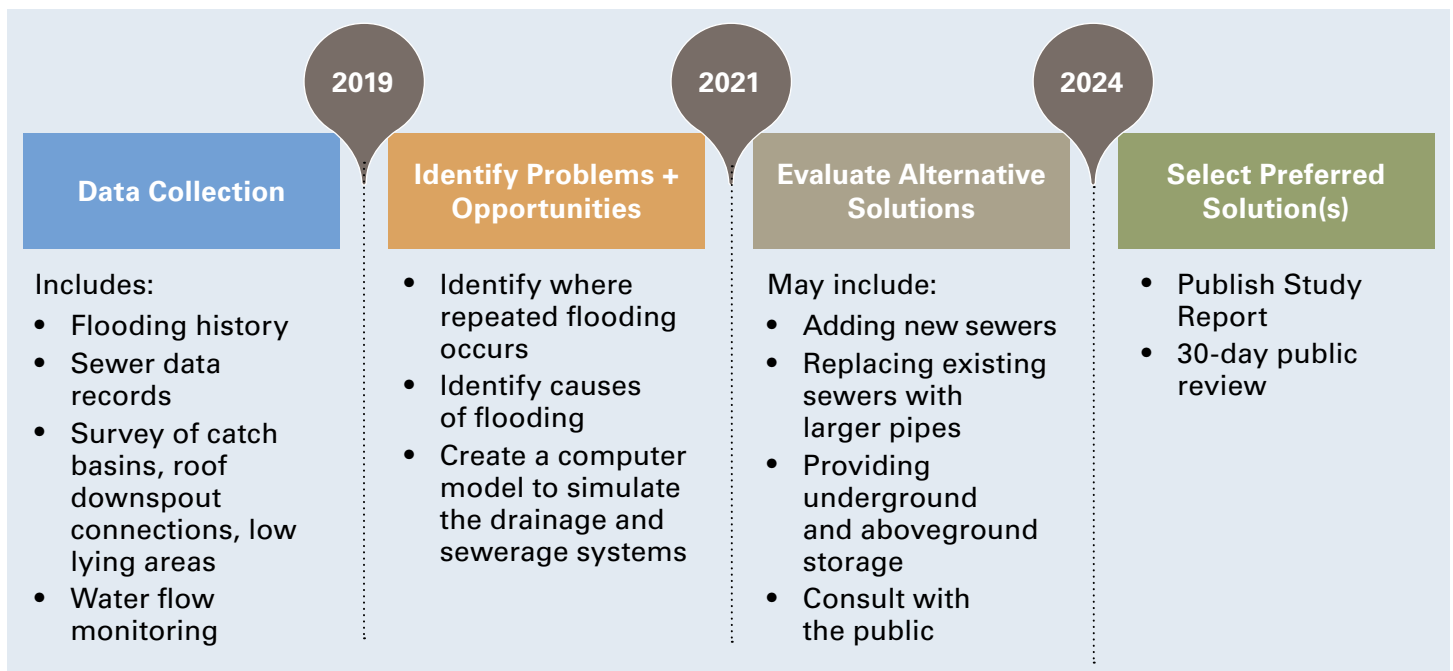
Property owners can take steps to help protect their home from basement flooding such as installing sump pumps and/or backflow valves. There is a homeowner subsidy of up to \$3,400 per home for eligible applicants. To learn more about the steps you can take, please call 3-1-1 or visit [toronto.ca/water](http://toronto.ca/water).



## Steps in the Study Process

As part of the study, a complete and thorough assessment of the existing sewer system and overland drainage systems will be completed. This work will help to identify what is at risk during a storm event.

The study will follow the steps in the Municipal Class Environmental Assessment process for planning and designing municipal infrastructure. The process includes identifying the problem or opportunity to be addressed, development and evaluating a range of alternative solutions, providing opportunities for public input and identifying a preferred solution.



Our first steps is to collect data. We are looking for input from an **online survey** to determine the source of flooding from private properties. Then our next step is on internal technical assessment, which includes:

- Sewer modelling, by building a computer model of various sewers such as sanitary, storm and combined pipes to simulate overland drainage
- Using the City's sewer asset data, engineering drawings, field survey (curbside walk), online surveys, geospatial data and historical flooding complaints to aid in developing the models
- Simulating flow monitoring and compared with actual sewer flow observed in the field
- Validating model results against historical

flood records, such as from August 19, 2005, July 8, 2013 or August 8, 2018

Finally, the model is used to identify and size sewer projects that resolve the sewer system capacity issues. Potential improvements may include:

- New or larger storm or sanitary sewers
- Underground and above ground storage facilities
- Inlet control devices (to slow the drain of rain into the sewer system)
- Additional catchbasins (square grates on the side of the road) in low-lying areas
- Sealing sanitary manhole covers

## Frequently Asked Questions

### 1. Why will this study take a few years to complete?

There is a lot of data and engineering work that must first be completed before solutions can be found. Please see details on what steps are taken on **page 3**.

### 2. The underground parking garage of my condo building floods during heavy storms. What can be done?

If you own or rent a building unit, please see your property manager, as it is the responsibility of the property owner(s) to maintain the drainage system on private property.

### 3. Water remains on our street for some time after a storm – is this okay?

Our streets are designed to carry stormwater flows that exceed the capacity of the storm sewer. Temporary ponding on streets is expected during major rainstorms. If the road has not drained two hours after the rain has stopped, residents are asked to call 3-1-1.

### 4. I have experienced flooding, yet sewer upgrades are not planned for my street. Why?

Flooding issues could be the result of any upstream or downstream system overloaded capacity, bottlenecks and/or constraints. Upgrades are aimed at improving the overloaded system upstream or relieving the system downstream of the flooding location. These system upgrades will improve areas on adjacent streets and this is why works may not be planned for every street. Flooding can also be caused by private property issues (e.g. poor lot grading or drainage, clogged/blocked catch basins and cracks/leaks in private side in the building's foundation or walls). In these cases, sewer system upgrades would not resolve flooding on your property. These issues are the responsibility of the property owner.

Please provide us with additional comments by filling the **online survey**.

### 5. Why should I report flooding incidents to 3-1-1?

While it is not mandatory for you to report instances of flooding to the City, it is

recommended. City staff will review the problem and attempt to determine the source(s) of the flooding and include solutions if found to be a system deficiency or renovation by your neighbour. If you live in a condo tower or townhomes, please go through your building property manager (to connect with the City and track the incident). Your building management is encouraged to call 3-1-1 at any time 24/7 or email at **311@toronto.ca**.

### 6. Can't the City just increase the size of all the sewers to handle extreme storms?

Unfortunately it is not as simple as making the pipes bigger. The challenge is which pipes, how big to make them, and how it will affect other residents. Other constraints can include space availability, conflicts with existing or proposed future infrastructure, basement elevations, pipe depth and environmental impacts. The variability in the amount of rainfall and how fast it falls is so vast that it is impractical to design a pipe system to capture it all.

As well, City Council approved funding priority and availability is also a factor in implementing these sewer system upgrades.

## Take the Survey

If you are the owner of a single-family residence, a street level storefront business, free-hold townhomes or a condominium property manager, we want to hear from you.

Please fill out the **online survey** to give us a better understanding of the source of any flooding you've experienced.

## For More Information

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**General Information:** [toronto.ca/bfea](http://toronto.ca/bfea)

**Area 42:** [toronto.ca/bf42](http://toronto.ca/bf42)

**Area 44:** [toronto.ca/bf44](http://toronto.ca/bf44)