



Re: BU36.1

Briefing Note

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2018 Capital Budget Briefing Note Basement Flooding Protection Program – Program Status Update

Issue:

City Council, through the creation of the City's Basement Flooding Protection Program, has directed staff to reduce the risk of basement flooding across the City through a combination of public drainage system improvements and through the use of policies, by-laws, and incentives to reduce flood risks on private and public properties.

This briefing note provides an update on Toronto Water's efforts to reduce the risk of basement flooding in the City. Specifically, ward by ward progress updates are provided to summarize the progress to date on Environmental Assessment studies, infrastructure upgrades, and private property flood protection device subsidies.

Background:

Basement Flooding Environmental Assessment (EA) Studies

Environmental Assessment (EA) studies are undertaken that assess the capacities of the City's existing storm, sanitary, and combined sewer drainage systems and recommend infrastructure improvements to these systems to reduce future basement and surface flooding. Deficiencies in private drainage systems are not identified and not assessed through the City's Basement Flooding EA studies.

The Basement Flooding Protection Program (BFPP) was expanded to be City-wide following the severe storm of July 8, 2013. This expansion resulted in the creation of new Basement Flooding study areas, bringing the total to 67 study areas. City Council, at its meeting on March 10 and 11, 2015, requested the General Manager, Toronto Water, to initiate and expedite the completion of new Basement Flooding EA studies for the remainder of the City, specifically Study Areas 42 through 67, and in the order of priority as shown in Schedule A to the report (December 18, 2014) from the General Manager, Toronto Water. The Council decision can be viewed at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.EX3.1>

As of September 30, 2017, EA studies have been completed for 32 Basement Flooding Study Areas. EA studies for eleven study areas are underway, of which one EA study is planned to be completed by the end of 2017 (Study Area 20), eight EA studies are planned for completion in 2018 (Study Areas, 34, 35, 36, 37, 38, 39, 40 and 41), and two EA studies are planned for completion in 2020 (Study Areas 43 and 45). The 32 completed Basement Flooding EA studies have recommended an estimated \$1.643

billion of infrastructure improvement projects. The EA Studies for Study Areas 42, 44 and 62 are scheduled to commence in 2018. Study Area 62 is hydraulically connected with Study Areas 42 and 44, which warrants its advancement. A preliminary schedule (subject to future adjustments) for undertaking Basement Flooding EA studies was provided in the December 18, 2014 Staff Report. Toronto Water is committed to providing City Council with an updated schedule when there is a change in the EA schedule (e.g. advancement or delay of an EA study start) that exceeds one year. As per the commitment in the 2014 Staff Report and following the update provided with the approved 2017 Capital Budget, the revised schedule for study areas 42, 44 and 62 are provided in Table 1.

Table 1: Revised Schedules for Basement Flooding Areas 42, 44 and 62

Basement Flooding Study Area	EA Study Start Year	Revised EA Study Start Year
42	2017	2018
44	2017	2018
62	2017	2018

Implementation of Infrastructure Upgrades

Infrastructure upgrades to reduce the risk of basement flooding are prioritized and scheduled, as per Council approved criteria to protect the greatest number of properties as soon as possible, within approved budgets, and are coordinated with other capital projects. By the end of 2017, it is projected that approximately \$349 million will have been spent on construction and activities supporting construction (engineering, design, studies, flow monitoring, etc.) within the BFPP. This includes completed and ongoing projects.

A key criteria in the decision to proceed with the design and construction of BFPP infrastructure upgrades is the requirement for storm sewer upgrade projects to cost less than or equal to \$32,000 cost per benefitting property. This threshold was adopted by City Council at its meeting of September 21, 2011. The adopted staff report can be found at: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2011.PW7.6>

Projects that meet the \$32,000 cost per benefitting property threshold at the completion of the EA stage, proceed to preliminary design. At the completion of preliminary design, projects that meet the \$32,000 cost per benefitting property threshold, proceed to detailed design and construction. While many projects meet the \$32,000 cost per benefitting property threshold, there are also many projects that do not meet it. Of the \$1.643 billion of recommended infrastructure improvement projects identified to date, approximately \$724 million or 44% of the total value did not meet the \$32,000 cost per benefitting property threshold. These projects have not been scheduled for implementation within the 5 year capital plan, in accordance with City Council direction. \$691 million of recommended infrastructure projects are in various stages of implementation. These stages include: under construction, in the design process (i.e. preliminary design or detailed design stages), and planned to begin the design process. The remaining \$228 million of recommended infrastructure projects have been constructed.

Basement Flooding Protection Subsidy Program

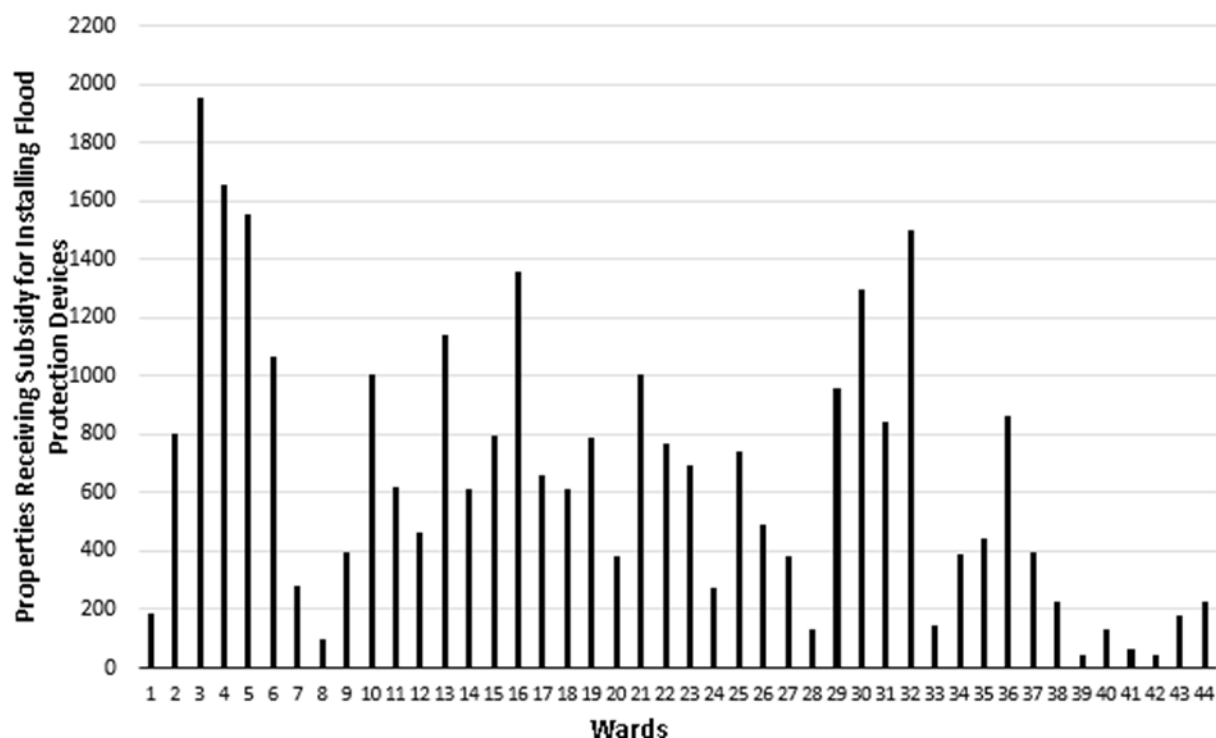
The City's Basement Flooding Protection Subsidy Program (BFPSP) offers property owners of single-family, duplex and triplex residential homes financial assistance of up to \$3,400 per property to install flood protection devices, including a backwater valve, sump pump, and pipe severance and capping of the home's storm sewer or external weeping tile.

The BFPSP was initially created for homeowners in response to the May 12, 2000 storm event, and was initially known as the "Voluntary Private Home Isolation from Public Sewer System Program". As a result of properties being impacted by subsequent storm events including the August 14, 2003, August 19, 2005 and May 17, 2006 storm events, the program was expanded City wide. City Council at its meeting in July 2006 adopted a report to expand the program City-wide and requested the General Manager of Toronto Water to incorporate funding to support the Program in its 2007 Capital Budget submission. The Council decision can be viewed at:

<http://www.toronto.ca/legdocs/2006/agendas/council/cc060725/pof6rpt/cl041.pdf>

Since the subsidy program was expanded City wide in 2006, over 28,700 applications have been approved with \$38.9 million in total subsidy payments issued to property owners by Toronto Water as of the end of June 2017. On average, the City currently issues approximately \$1,600 in subsidy payments to participating properties. The number of subsidy applications approved by the City have varied considerably from ward to ward as shown in Figure 1.

Figure 1: Number of Properties Receiving a Subsidy for Installing Flood Protection Devices by Ward (up to end of June 2017)



Key Points:

Progress in the Basement Flooding Protection Program varies considerably from ward to ward. This briefing note provides a ward by ward summary in Schedule A and highlights the accomplishments achieved to date. Specifically, the progress regarding EA studies, construction of infrastructure upgrades, and participation in the subsidy program is provided.

These summaries highlight that while significant effort has been expended, there still remains a great deal of effort to achieve the enhanced level of service to reduce the risk of basement flooding across the entire City.

The summary for each City ward includes:

- A map showing the limits of each ward, the private properties that have installed flood protection devices, and the boundaries for the EA studies along with different shading to identify the portions of each ward where EA studies have been completed, are ongoing, or are planned to begin;
- A pie chart and table illustrating the proportion of each ward where an EA study has been completed, is ongoing, and is planned to begin in the future.
- A pie chart illustrating the status of the infrastructure improvement works that were recommended through completed EA studies. The chart is subdivided into five categories, namely 'Constructed', 'Under Construction', 'Design Process Initiated', 'Planned for Design Initiation', and 'Deferred Projects'. To align with the typical budgeting cycle, expected construction costs to the end of the 2017 calendar year have been estimated. The pie charts represent the portions of the ward where EA studies have been completed. Infrastructure improvement costs for the portions of the ward not yet studied are not estimated within the provided values.
- As projects move through the implementation process, cost estimates are updated and replaced with actual costs, which results in variations in the values from year to year.
- Bar charts are provided to illustrate the accomplishments of the City's Basement Flooding Protection Subsidy Program, which provides financial assistance to pay for some of the costs of installing flood protection devices. Both program participation and program expenditure summaries up to the end of June 2017 are provided.

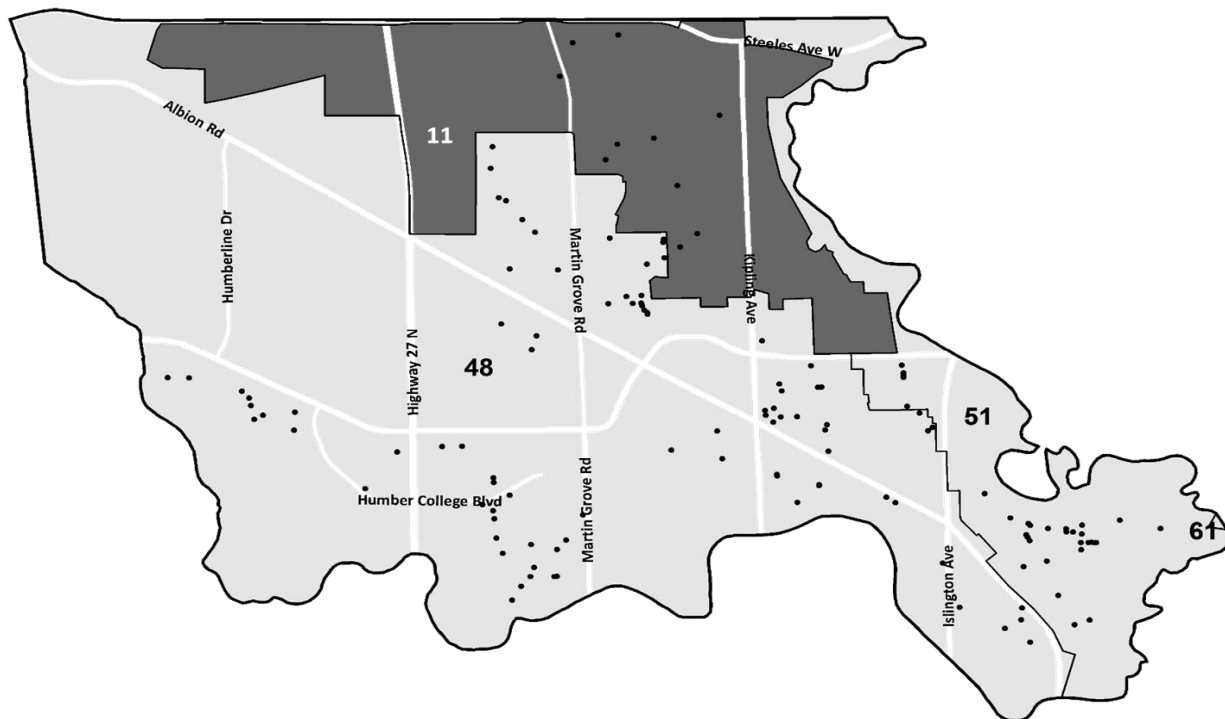
Prepared by: David Kellershohn, Manager, Stormwater Management, Toronto Water

Further information: Graham Harding, Director, Water Infrastructure Management, Toronto Water, Phone: 416-397-4631, Email: Graham.Harding@toronto.ca

Date: October 20, 2017

Basement Flooding Protection Program Summary

Ward 1 - Etobicoke North



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017



Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
11	Completed (2012)	
48	To begin in 2018	
51	To begin in 2020	

Basement Flooding Protection Program Implementation Summary - to end of 2017

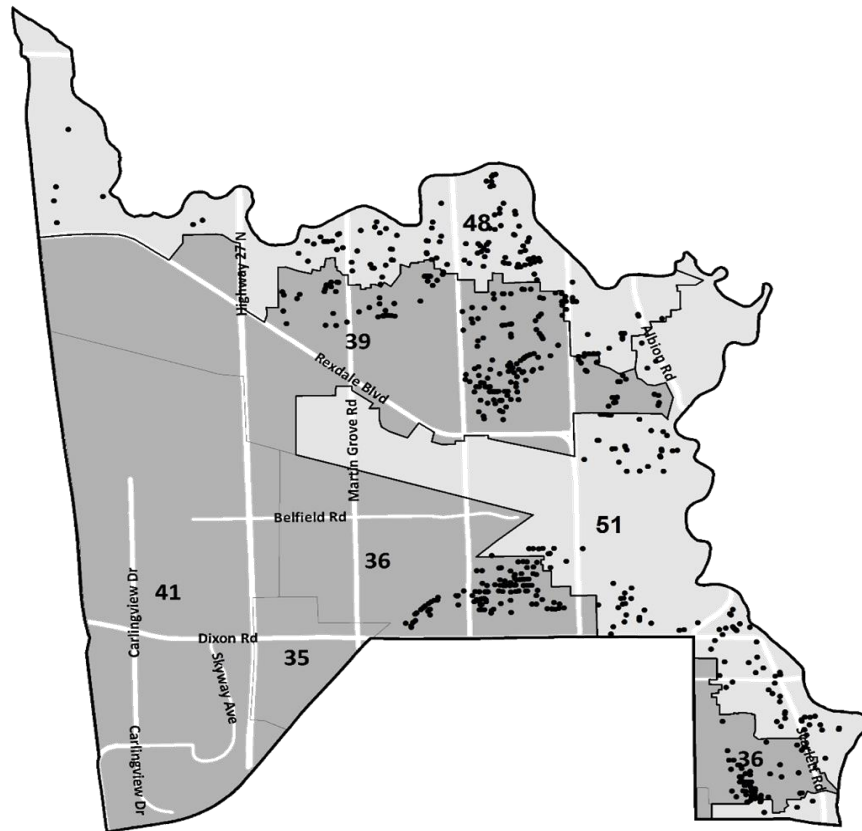
Project Implementation Progress	Project Highlights
<ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	<ul style="list-style-type: none"> • 1.1 km of storm sewer upgrades installed

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<ul style="list-style-type: none"> Properties with FPD Properties without FPD <p>187 3494</p>	<ul style="list-style-type: none"> Subsidized by City Cost to Property Owners <p>\$ 0.25 M \$ 0.20 M</p>

Basement Flooding Protection Program Summary

Ward 2 - Etobicoke North



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017



Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
35	Underway (began in 2015)	
36	Underway (began in 2015)	
39	Underway (began in 2015)	
41	Underway (began in 2015)	
48	To begin in 2018	
51	To begin in 2020	

Basement Flooding Protection Program Implementation Summary - to end of 2017

Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>802 3450</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 1.03 M \$ 0.79 M</p>

Basement Flooding Protection Program Summary

Ward 3 - Etobicoke Centre



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
7	Completed (2012)	<p>Area Studied Study is Underway Area to be Studied</p>
8	Completed (2012)	
9	Completed (2012)	
10	Completed (2012)	
38	Underway (began in 2015)	
41	Underway (began in 2015)	
50	To begin in 2020	
54	To begin in 2022	

Basement Flooding Protection Program Implementation Summary - to end of 2017

Project Implementation Progress	Project Highlights
<p>TOTAL \$ 54.4 M</p> <p>\$ 22.3 M, 41%</p> <p>\$ 29.7 M, 55%</p> <p>\$ 2.4 M, 4%</p> <p>Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property)</p>	<p>•2.9 km of storm sewer upgrades installed</p> <p>•3.1 km of sanitary sewer upgrades installed</p>

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>1955 4053</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 2.56 M \$ 1.78 M</p>

Basement Flooding Protection Program Summary

Ward 4 - Etobicoke Centre



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017



Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
8	Completed (2012)	<p>Area Studied Study is Underway Area to be Studied</p>
35	Underway (began in 2015)	
36	Underway (began in 2015)	
41	Underway (began in 2015)	
51	To begin in 2020	

Basement Flooding Protection Program Implementation Summary - to end of 2017

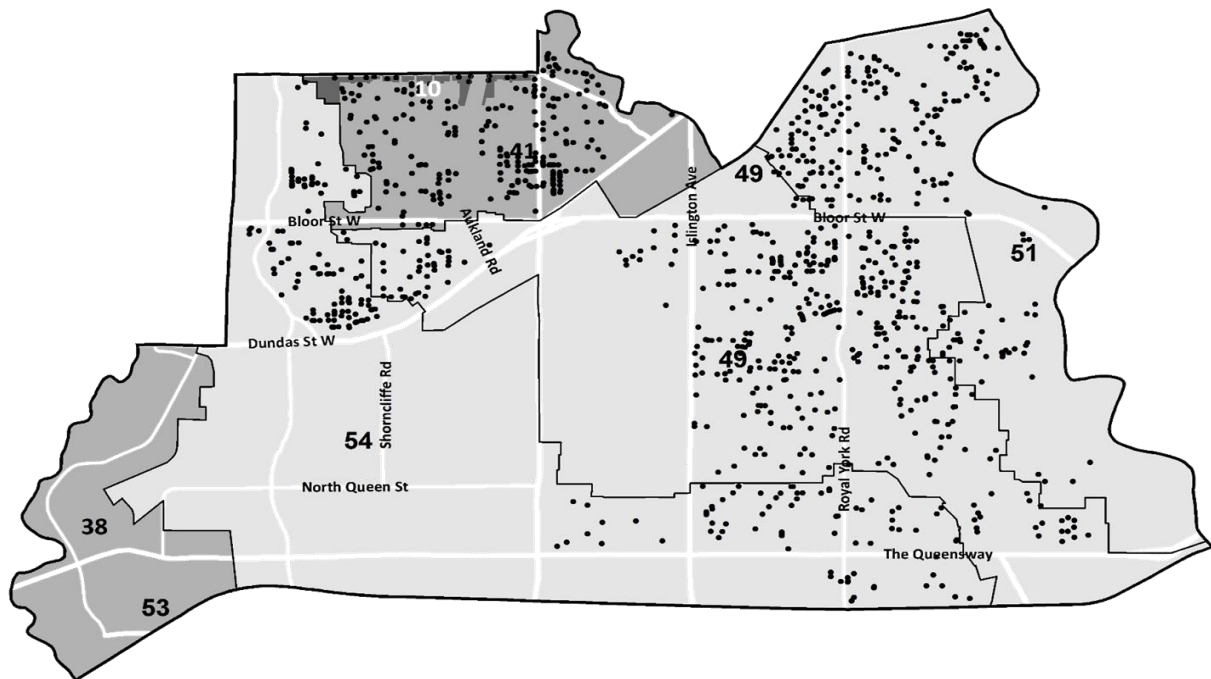
Project Implementation Progress	Project Highlights
<p>TOTAL \$9.4 M</p> <p>\$ 3.7 M, 40%</p> <p>\$ 5.7 M, 60%</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>1658 5445</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 2.15 M \$ 1.57 M</p>

Basement Flooding Protection Program Summary

Ward 5 - Etobicoke—Lakeshore



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

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Ongoing Environmental Assessment (EA) Study Area

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Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
10	Completed (2012)	<p>0.5% 17% 82%</p> <p>■ Area Studied ■ Study is Underway ■ Area to be Studied</p>
38	Underway (began in 2015)	
41	Underway (began in 2015)	
49	To begin in 2018	
51	To begin in 2020	
54	To begin in 2022	

Basement Flooding Protection Program Implementation Summary - to end of 2017

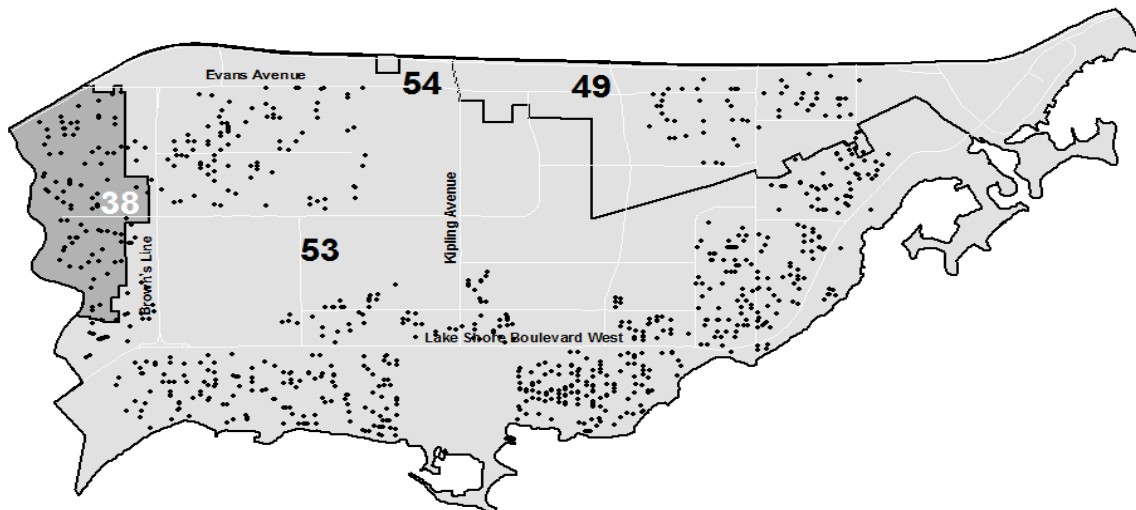
Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the next Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>1558 6485</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 2.08 M \$ 1.59 M</p>

Basement Flooding Protection Program Summary

Ward 6 - Etobicoke—Lakeshore



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

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Ongoing Environmental Assessment (EA) Study Area

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Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
38	Underway (began in 2015)	
49	To begin in 2018	
53	To begin in 2020	
54	To begin in 2022	

Basement Flooding Protection Program Implementation Summary - to end of 2017

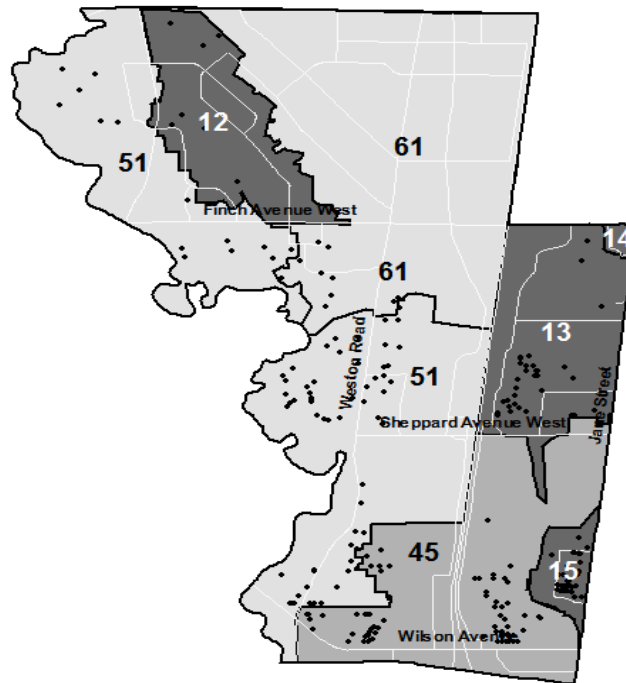
Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>1070 6944</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 1.44 M \$ 1.10 M</p>

Basement Flooding Protection Program Summary

Ward 7 - York West



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

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Ongoing Environmental Assessment (EA) Study Area

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Future Environmental Assessment (EA) Study Area

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Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
12	Completed (2010)	<p>21% 17% 62%</p> <ul style="list-style-type: none"> Area Studied Study is Underway Area to be Studied
13	Completed (2014)	
14	Completed (2009)	
15	Completed (2014)	
45	Underway (began in 2017)	
51	To begin in 2020	
61	To begin in 2024	

Basement Flooding Protection Program Implementation Summary - to end of 2017

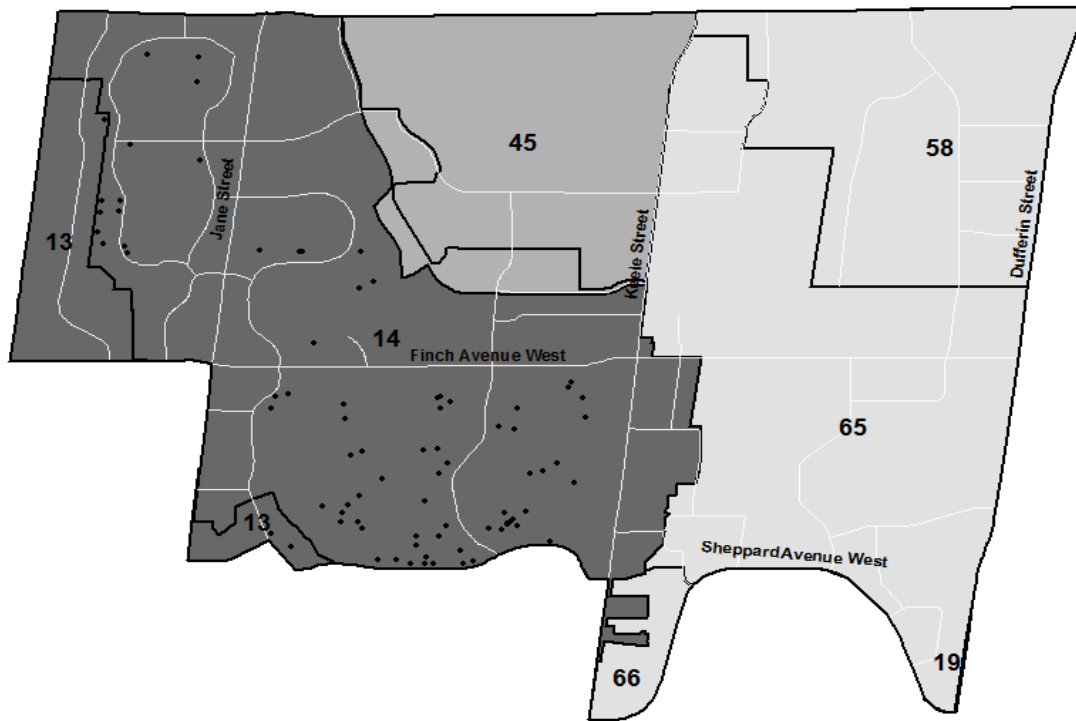
Project Implementation Progress	Project Highlights
<p>TOTAL \$47.4 M</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	<ul style="list-style-type: none"> •1.7 km of storm sewer upgrades installed •2.4 km of sanitary sewer upgrades installed

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>283 4109</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.37 M \$ 0.31 M</p>

Basement Flooding Protection Program Summary

Ward 8 - York West



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

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Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
13	Completed (2014)	<p>45% 15% 40%</p> <ul style="list-style-type: none"> Area Studied Study is Underway Area to be Studied
14	Completed (2009)	
45	Underway (began in 2017)	
58	To begin in 2022	
65	To begin in 2025	
66	To begin in 2025	

Basement Flooding Protection Program Implementation Summary - to end of 2017

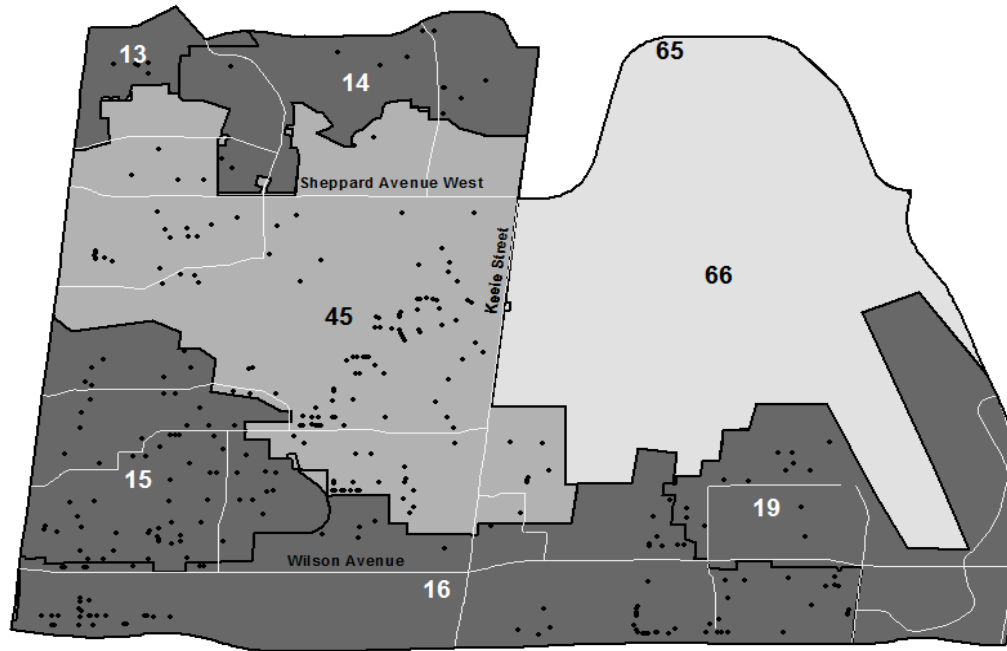
Project Implementation Progress	Project Highlights
<p>TOTAL \$83.4 M</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	<ul style="list-style-type: none"> •4 km of storm sewer upgrades installed •200 m of sanitary sewer upgrades installed

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>97 2658</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.14 M \$ 0.09 M</p>

Basement Flooding Protection Program Summary

Ward 9 - York Centre



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

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Ongoing Environmental Assessment (EA) Study Area

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Future Environmental Assessment (EA) Study Area

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Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
13	Completed (2014)	<p> Area Studied Study is Underway Area to be Studied </p>
14	Completed (2009)	
15	Completed (2014)	
16	Completed (2012)	
19	Completed (2014)	
45	Underway (began in 2017)	
66	To begin in 2025	

Basement Flooding Protection Program Implementation Summary - to end of 2017

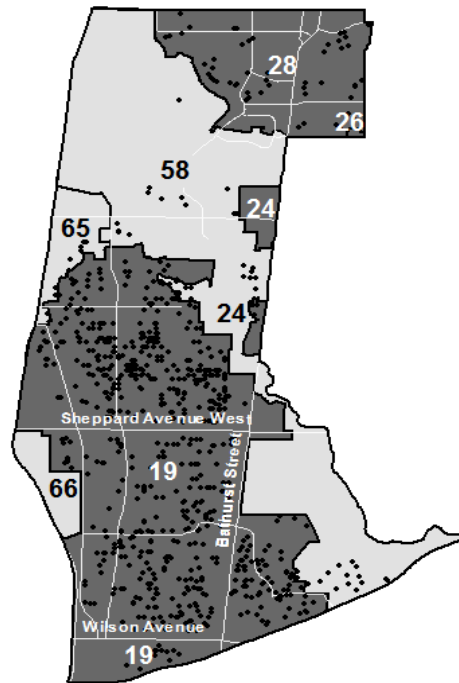
Project Implementation Progress	Project Highlights
<p> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) </p>	<p>•250 m of storm sewer upgrades installed</p>

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p> Properties with FPD Properties without FPD </p> <p>394 5348</p>	<p> Subsidized by City Cost to Property Owners </p> <p>\$ 0.52 M \$ 0.39 M</p>

Basement Flooding Protection Program Summary

Ward 10 - York Centre



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

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Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
19	Completed (2014)	<p>39% 61%</p> <p>■ Area Studied ■ Study is Underway □ Area to be Studied</p>
24	Completed (2016)	
28	Completed (2008)	
58	To begin in 2022	
65	To begin in 2025	
66	To begin in 2025	

Basement Flooding Protection Program Implementation Summary - to end of 2017

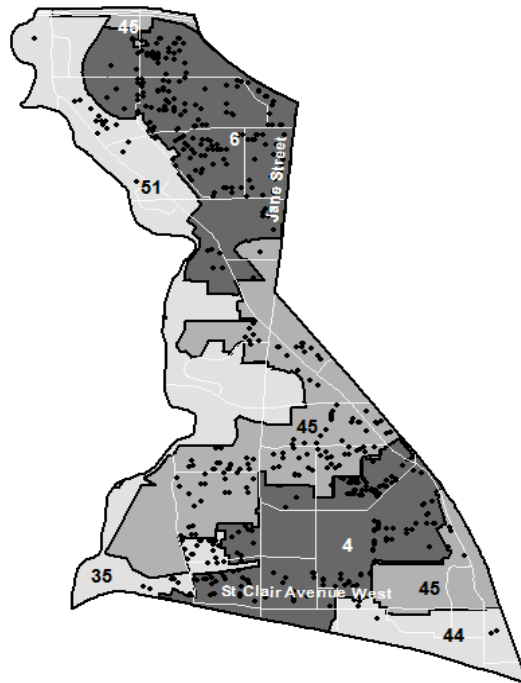
Project Implementation Progress	Project Highlights
<p>\$ 9.5 M, 5%</p> <p>\$ 40.3 M, 23%</p> <p>\$ 19.8 M, 11%</p> <p>\$ 108.6 M, 61%</p> <p>TOTAL \$ 178.2 M</p> <p>■ Constructed ■ Under Construction ■ Design Process Initiated ■ Planned for Design Initiation ■ Deferred (>\$32,000 per benefitting property)</p>	<p>• 2.5 km of storm sewer upgrades installed</p>

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>1008 4604</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 1.36 M \$ 0.99 M</p>

Basement Flooding Protection Program Summary

Ward 11 - York South—Weston



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

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Ongoing Environmental Assessment (EA) Study Area

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Future Environmental Assessment (EA) Study Area

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Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
4	Completed (2014)	<p> Area Studied Study is Underway Area to be Studied </p>
6	Completed (2014)	
44	To begin in 2018	
45	Underway (began in 2017)	
51	To begin in 2020	

Basement Flooding Protection Program Implementation Summary - to end of 2017

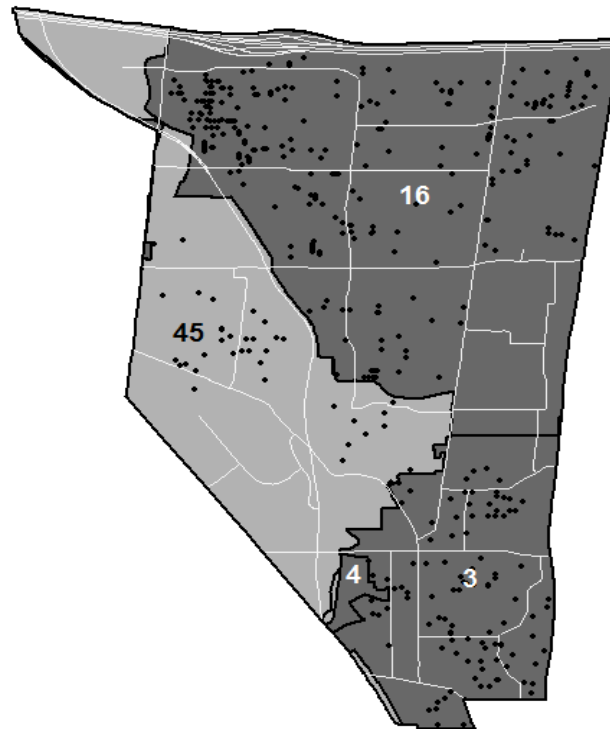
Project Implementation Progress	Project Highlights
<p> TOTAL \$ 62.6 M \$ 29.7 M, 47% \$ 9.9 M, 16% \$ 20.0 M, 32% </p> <p> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) </p>	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2016

Program Participation	Program Expenditures
<p> Properties with FPD Properties without FPD </p> <p> 618 5522 </p>	<p> Subsidized by City Cost to Property Owners </p> <p> \$ 0.82 M \$ 0.72 M </p>

Basement Flooding Protection Program Summary

Ward 12 - York South—Weston



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

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Ongoing Environmental Assessment (EA) Study Area

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Future Environmental Assessment (EA) Study Area

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Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
3	Completed (2011)	<p>31% 69%</p> <p>■ Area Studied ■ Study is Underway □ Area to be Studied</p>
4	Completed (2014)	
16	Completed (2012)	
45	Underway (Began in 2017)	

Basement Flooding Protection Program Implementation Summary - to end of 2017

Project Implementation Progress	Project Highlights
<p>\$ 82.2 M, 56%</p> <p>TOTAL \$ 147.8 M</p> <p>\$ 22.5 M, 15%</p> <p>\$ 33.9 M, 23%</p> <p>\$ 0.2 M, 0%</p> <p>\$ 8.9 M, 6%</p> <p>■ Constructed ■ Under Construction ■ Design Process Initiated ■ Planned for Design Initiation ■ Deferred (>\$32,000 per benefitting property)</p>	<ul style="list-style-type: none"> •2.4 km of storm sewer upgrades installed •Maple Leaf Park stormwater pond •Gracefield Park stormwater pond installed •Rustic Park stormwater management pond installed

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>465 4988</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 0.63 M \$ 0.50 M</p>

Basement Flooding Protection Program Summary

Ward 13 - Parkdale—High Park



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

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Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
4	Completed (2014)	
5	Completed (2014)	
42	To begin in 2018	
44	To begin in 2018	
49	To begin in 2018	
51	To begin in 2020	

Basement Flooding Protection Program Implementation Summary - to end of 2017

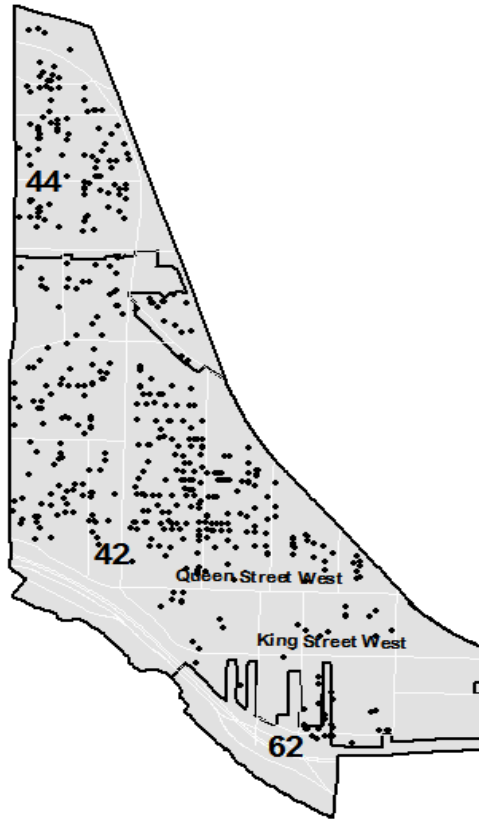
Project Implementation Progress	Project Highlights
<ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<ul style="list-style-type: none"> Properties with FPD Properties without FPD 	<ul style="list-style-type: none"> Subsidized by City Cost to Property Owners
<div>1145</div> <div>4145</div>	<div>\$ 1.53 M</div> <div>\$ 1.34 M</div>

Basement Flooding Protection Program Summary

Ward 14 - Parkdale—High Park



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
42	To begin in 2018	<p>100%</p>
44	To begin in 2018	
62	To begin in 2018	

Basement Flooding Protection Program Implementation Summary - to end of 2017

Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>616 1990</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 0.84 M \$ 0.67 M</p>

Basement Flooding Protection Program Summary

Ward 15 - Eglinton—Lawrence



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017



Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
3	Completed (2011)	<p>17% 83%</p> <p>Area Studied Study is Underway Area to be Studied</p>
16	Completed (2012)	
17	Completed (2014)	
18	Completed (2014)	
19	Completed (2014)	
37	Underway (began in 2015)	
40	Underway (began in 2015)	

Basement Flooding Protection Program Implementation Summary - to end of 2017

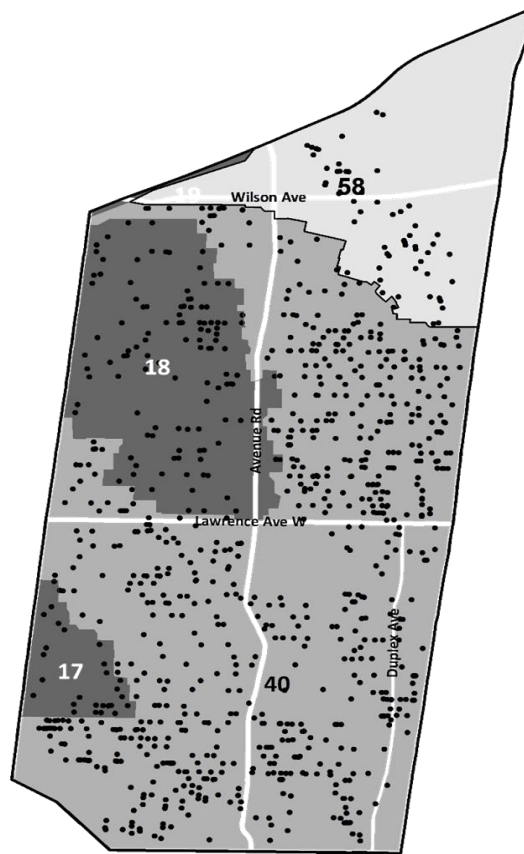
Project Implementation Progress	Project Highlights
<p>\$ 96.4 M, 36%</p> <p>\$ 6.7 M, 2%</p> <p>\$ 46.7 M, 17%</p> <p>\$ 122.2 M, 45%</p> <p>TOTAL \$ 271.9 M</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	<ul style="list-style-type: none"> •1 km of storm sewer upgrades installed •500 m of sanitary sewer upgrades installed

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>796 5762</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 1.06 M \$ 0.82 M</p>

Basement Flooding Protection Program Summary

Ward 16 - Eglinton—Lawrence



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
17	Completed (2014)	<p>18% 20% 62%</p> <p>■ Area Studied ■ Study is Underway □ Area to be Studied</p>
18	Completed (2014)	
40	Underway (began in 2015)	
58	To begin in 2022	

Basement Flooding Protection Program Implementation Summary - to end of 2017

Project Implementation Progress	Project Highlights
<p>TOTAL \$115.5 M</p> <p>\$100.6 M, 87%</p> <p>\$14.4 M, 13%</p> <p>\$0.5 M, 0%</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>1362 7555</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$1.87 M \$1.50 M</p>

Basement Flooding Protection Program Summary

Ward 17 - Davenport



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
3	Completed (2011)	<p>26% 1% 74%</p> <p>Area Studied Study is Underway Area to be Studied</p>
37	Underway (began in 2015)	
44	To begin in 2018	

Basement Flooding Protection Program Implementation Summary - to end of 2017

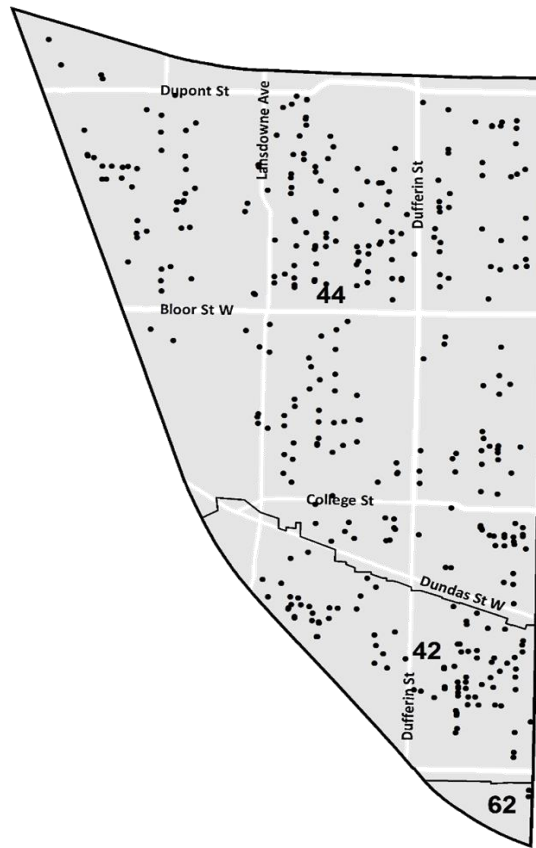
Project Implementation Progress	Project Highlights
<p>TOTAL \$60.0 M</p> <p>\$52.3 M, 87%</p> <p>\$7.7 M, 13%</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	<ul style="list-style-type: none"> •800 m of storm sewer upgrades installed •Charles Garcia Tank installed

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>660 5797</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.89 M \$ 0.74 M</p>

Basement Flooding Protection Program Summary

Ward 18 - Davenport



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017



Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
42	To begin in 2018	<p>100%</p>
44	To begin in 2018	
62	To begin in 2018	

Basement Flooding Protection Program Implementation Summary - to end of 2017

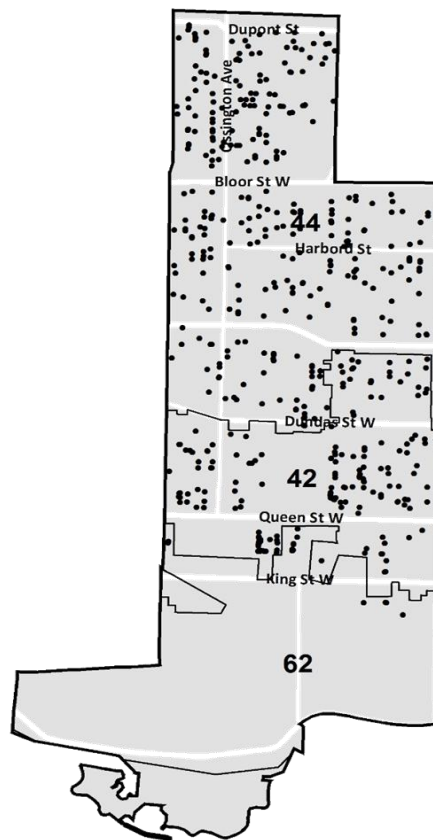
Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>615 2698</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.83 M \$ 0.63 M</p>

Basement Flooding Protection Program Summary

Ward 19 - Trinity—Spadina



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
42	To begin in 2018	<p>100%</p>
44	To begin in 2018	
62	To begin in 2018	

Basement Flooding Protection Program Implementation Summary - to end of 2017

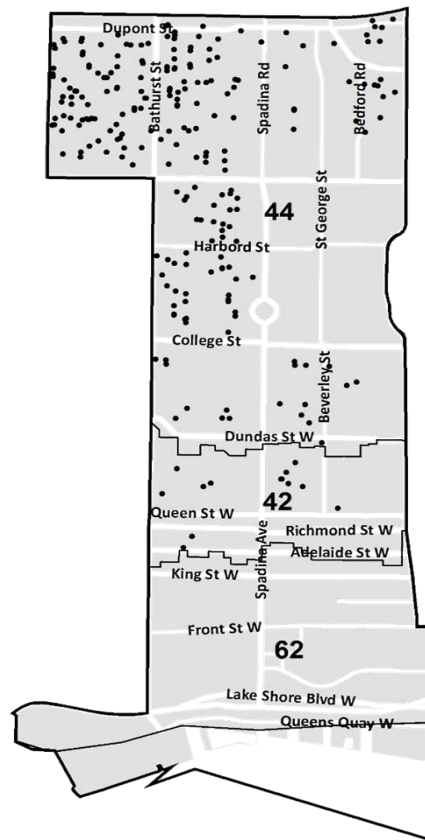
Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>506 4645</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 0.89 M \$ 0.67 M</p>

Basement Flooding Protection Program Summary

Ward 20 - Trinity—Spadina



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
42	To begin in 2018	<p>100%</p>
44	To begin in 2018	
62	To begin in 2018	

Basement Flooding Protection Program Implementation Summary - to end of 2017

Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>242 2681</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 0.42 M \$ 0.31 M</p>

Basement Flooding Protection Program Summary

Ward 21 - St. Paul's



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017



Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
37	Underway (began in 2015)	
40	Underway (began in 2015)	
44	To begin in 2018	

Basement Flooding Protection Program Implementation Summary - to end of 2017

Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>1008 4107</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 1.41 M \$ 1.06 M</p>

Basement Flooding Protection Program Summary

Ward 22 - St. Paul's



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
40	Underway (began in 2015)	
44	To begin in 2018	

Basement Flooding Protection Program Implementation Summary - to end of 2017

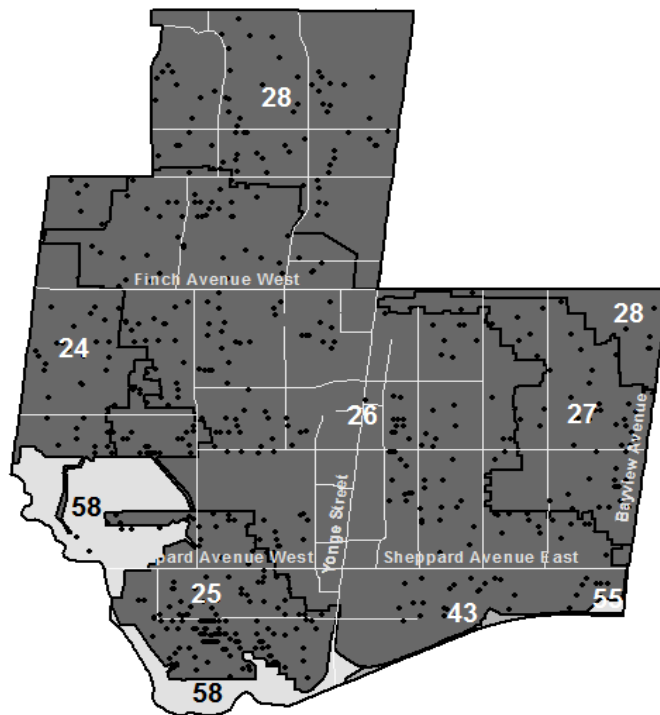
Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>767 4151</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 1.07 M \$ 0.82 M</p>

Basement Flooding Protection Program Summary

Ward 23 - Willowdale



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
24	Completed (2016)	<p>92%</p> <p>7%</p> <p>Area Studied</p> <p>Study is Underway</p> <p>Area to be Studied</p>
25	Completed (2016)	
26	Completed (2016)	
27	Completed (2017)	
28	Completed (2008)	
43	Underway (began in 2017)	
58	To begin in 2022	

Basement Flooding Protection Program Implementation Summary - to end of 2017

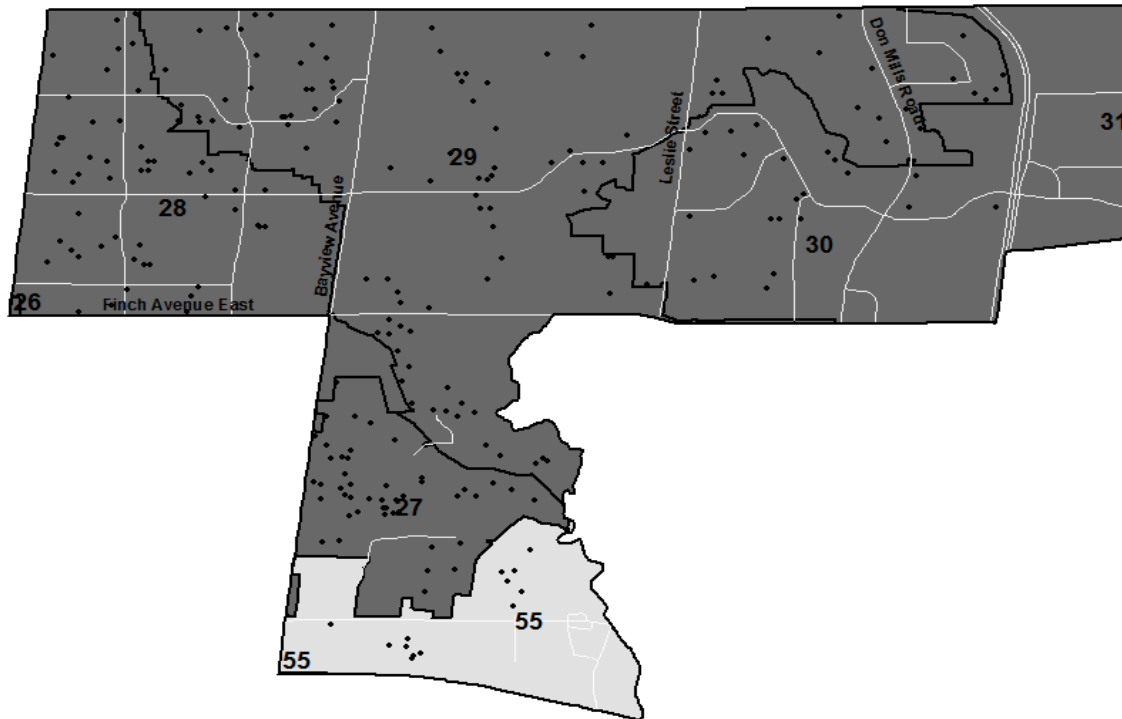
Project Implementation Progress	Project Highlights
<p>TOTAL \$ 61.7 M</p> <p>\$ 37.4 M, 60%</p> <p>\$ 5.3 M, 9%</p> <p>Constructed</p> <p>Under Construction</p> <p>Design Process Initiated</p> <p>Planned for Design Initiation</p> <p>Deferred (>\$32,000 per benefitting property)</p>	<ul style="list-style-type: none"> • 9.5 km of storm sewer upgrades installed • 300 m of sanitary sewer upgrades installed • Installation of Moore Park Stormwater Management Pond

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>693 7658</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.93 M \$ 0.74 M</p>

Basement Flooding Protection Program Summary

Ward 24 - Willowdale



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
27	Completed (2017)	<p>91%</p> <p>9%</p> <p>Area Studied</p> <p>Study is Underway</p> <p>Area to be Studied</p>
28	Completed (2008)	
29	Completed (2008)	
30	Completed (2008)	
55	To begin in 2022	

Basement Flooding Protection Program Implementation Summary - to end of 2017

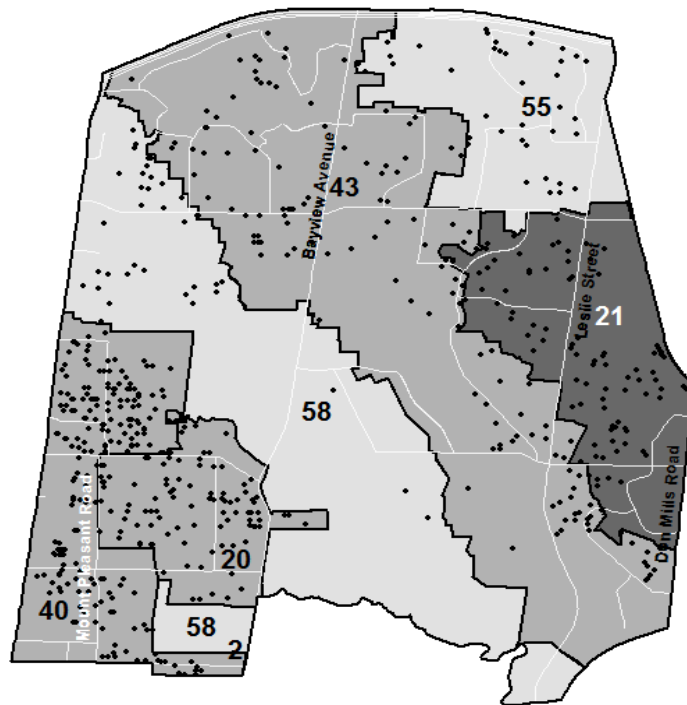
Project Implementation Progress	Project Highlights
<p>TOTAL \$172.9 M</p> <p>\$145.8 M, 84%</p> <p>\$12.7 M, 7%</p> <p>\$8.3 M, 5%</p> <p>\$6.1 M, 4%</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	<p>•1.9 km of storm sewer upgrades installed</p>

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD</p> <p>Properties without FPD</p> <p>275</p> <p>6523</p>	<p>Subsidized by City</p> <p>Cost to Property Owners</p> <p>\$ 0.38 M</p> <p>\$ 0.31 M</p>

Basement Flooding Protection Program Summary

Ward 25 - Don Valley West



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
20	Underway (began in 2012)	<p>36% 12% 52%</p> <p>■ Area Studied ■ Study is Underway □ Area to be Studied</p>
21	Completed (2016)	
40	Underway (began in 2015)	
43	Underway (began in 2017)	
55	To begin in 2022	
58	To begin in 2022	

Basement Flooding Protection Program Implementation Summary - to end of 2017

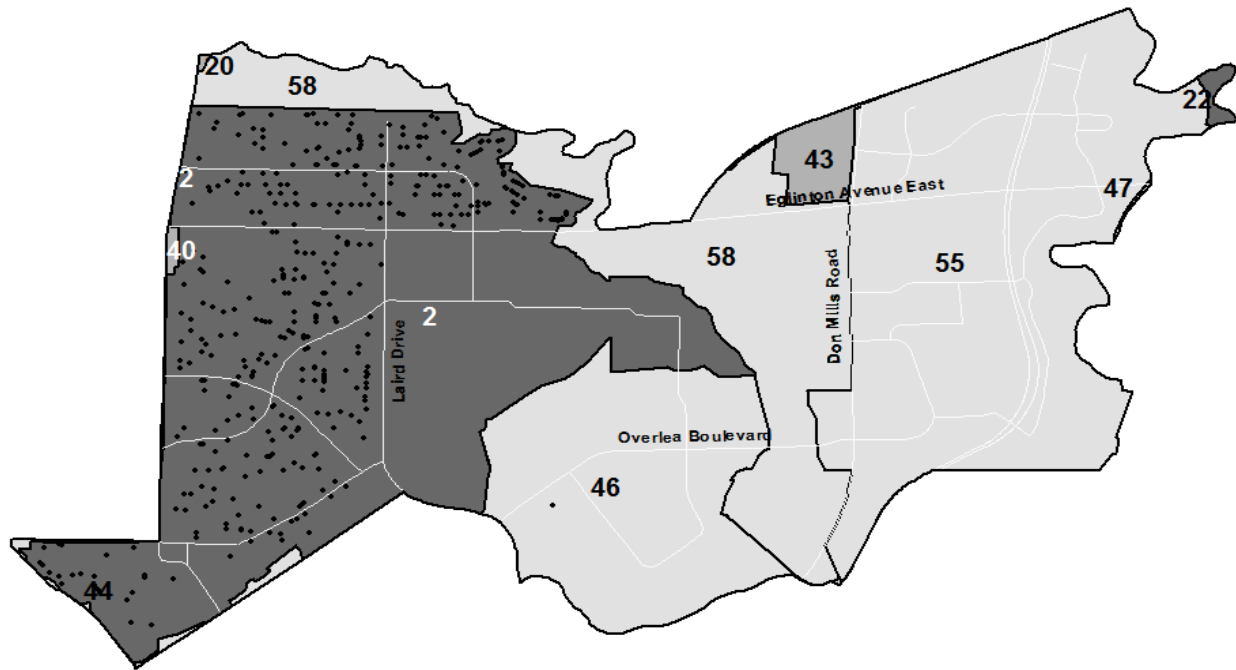
Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the next Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>743 7842</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 1.00 M \$ 0.88 M</p>

Basement Flooding Protection Program Summary

Ward 26 - Don Valley West



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
2	Completed (2015)	<p>42% 57% 2%</p> <ul style="list-style-type: none"> Area Studied Study is Underway Area to be Studied
46	To begin in 2018	
55	To begin in 2022	
58	To begin in 2022	

Basement Flooding Protection Program Implementation Summary - to end of 2017

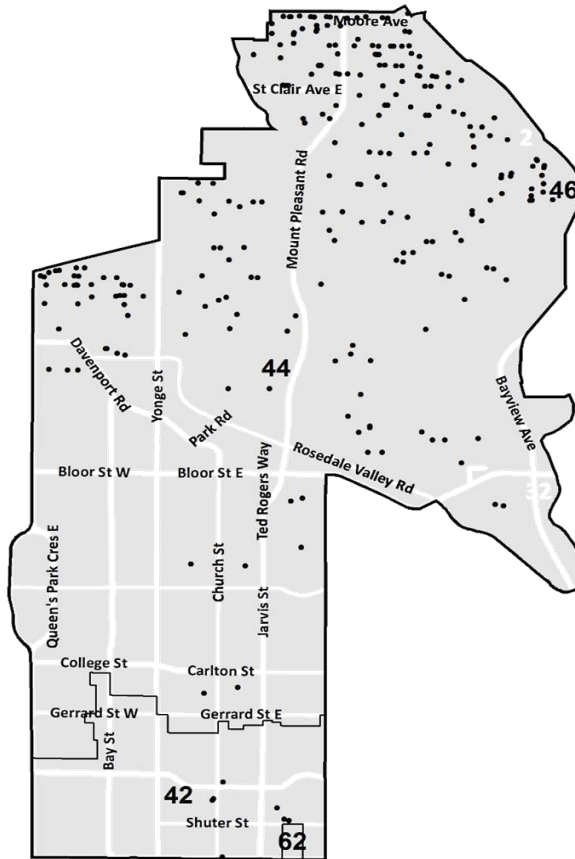
Project Implementation Progress	Project Highlights
<p>TOTAL \$18.5 M</p> <p>\$10.72 M, 58%</p> <p>\$7.09 M, 38%</p> <p>\$0.69 M, 4%</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>494 2754</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.66 M \$ 0.59 M</p>

Basement Flooding Protection Program Summary

Ward 27 - Toronto Centre—Rosedale



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017



Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
42	To begin in 2018	<p>100%</p>
44	To begin in 2018	
62	To begin in 2018	

Basement Flooding Protection Program Implementation Summary - to end of 2017

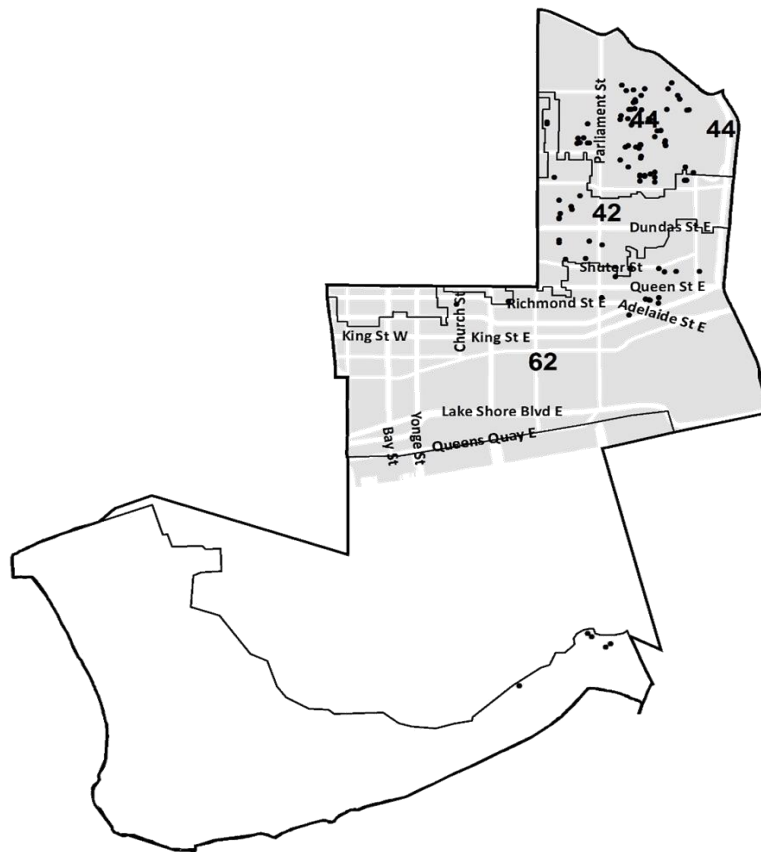
Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>384 2794</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.52 M \$ 0.46 M</p>

Basement Flooding Protection Program Summary

Ward 28 - Toronto Centre—Rosedale



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
42	To begin in 2018	<p>100%</p>
44	To begin in 2018	
62	To begin in 2018	

Basement Flooding Protection Program Implementation Summary - to end of 2017

Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>92 1991</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 0.16 M \$ 0.11 M</p>

Basement Flooding Protection Program Summary

Ward 29 - Toronto—Danforth



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
2	Completed (2015)	
32	Completed (2012)	
46	To begin in 2018	
47	To begin in 2018	

Basement Flooding Protection Program Implementation Summary - to end of 2017

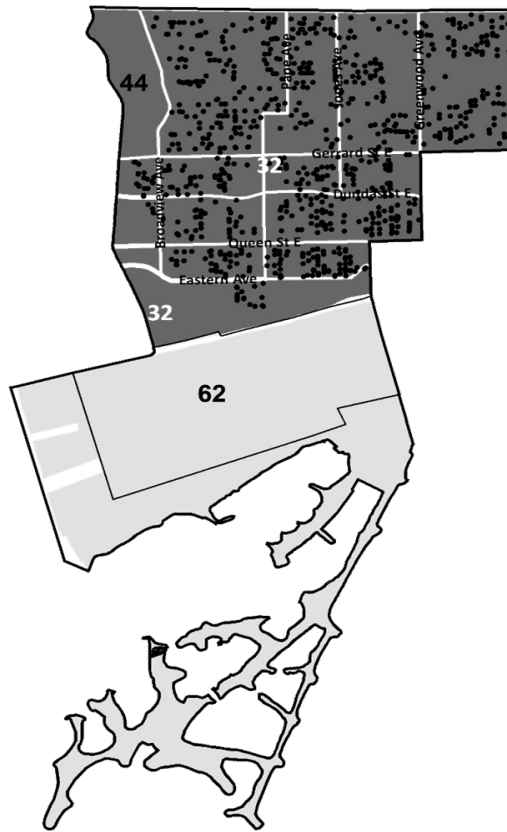
Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the next Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>960 6099</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 1.30 M \$ 1.01 M</p>

Basement Flooding Protection Program Summary

Ward 30 - Toronto—Danforth



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
32	Completed (2012)	<p>42% 58%</p> <p>Area Studied Study is Underway Area to be Studied</p>
62	To begin in 2018	

Basement Flooding Protection Program Implementation Summary - to end of 2017

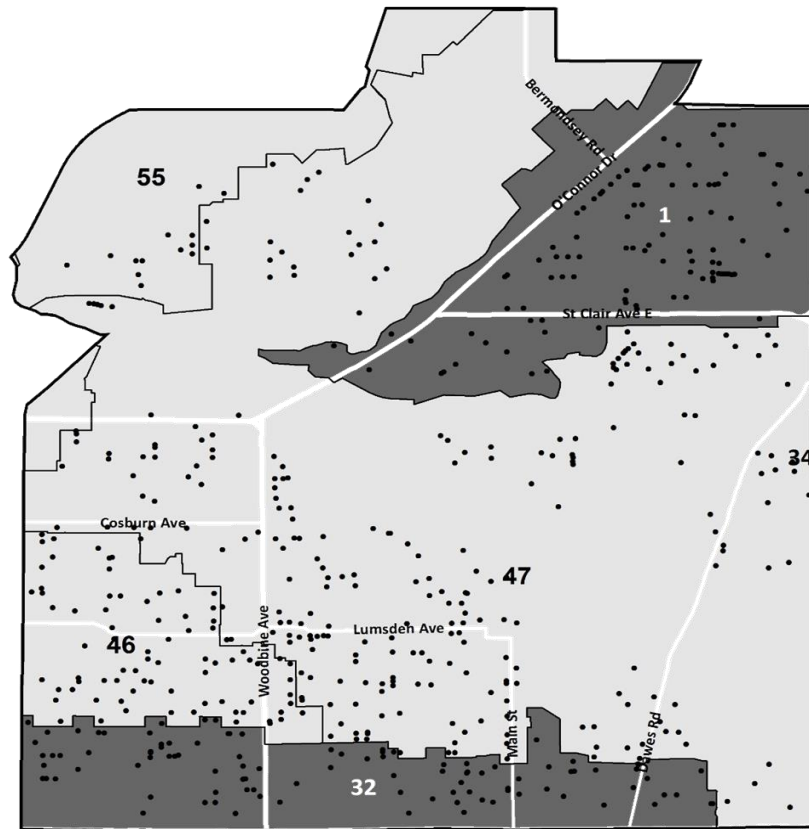
Project Implementation Progress	Project Highlights
<p>TOTAL \$11.9 M</p> <p>\$11.5 M, 97%</p> <p>\$0.4 M, 3%</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	<ul style="list-style-type: none"> 150 m of storm sewer upgrades installed

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>859 6686</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$1.47 M \$1.06 M</p>

Basement Flooding Protection Program Summary

Ward 31 - Beaches—East York



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
1	Completed (2014)	
32	Completed (2012)	
46	To begin in 2018	
47	To begin in 2018	
55	To begin in 2022	

Basement Flooding Protection Program Implementation Summary - to end of 2017

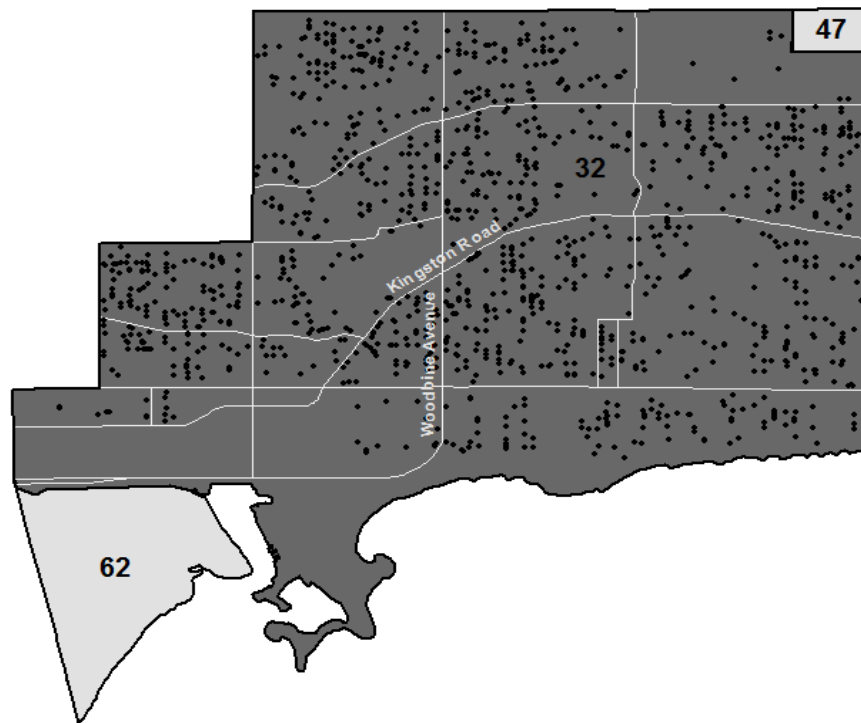
Project Implementation Progress	Project Highlights
<ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>842 6700</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 1.16 M \$ 0.87 M</p>

Basement Flooding Protection Program Summary

Ward 32 - Beaches—East York



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
32	Completed (2012)	<p>92%</p> <p>8%</p> <p>Area Studied</p> <p>Study is Underway</p> <p>Area to be Studied</p>
47	To begin in 2018	
62	To begin in 2018	

Basement Flooding Protection Program Implementation Summary - to end of 2017

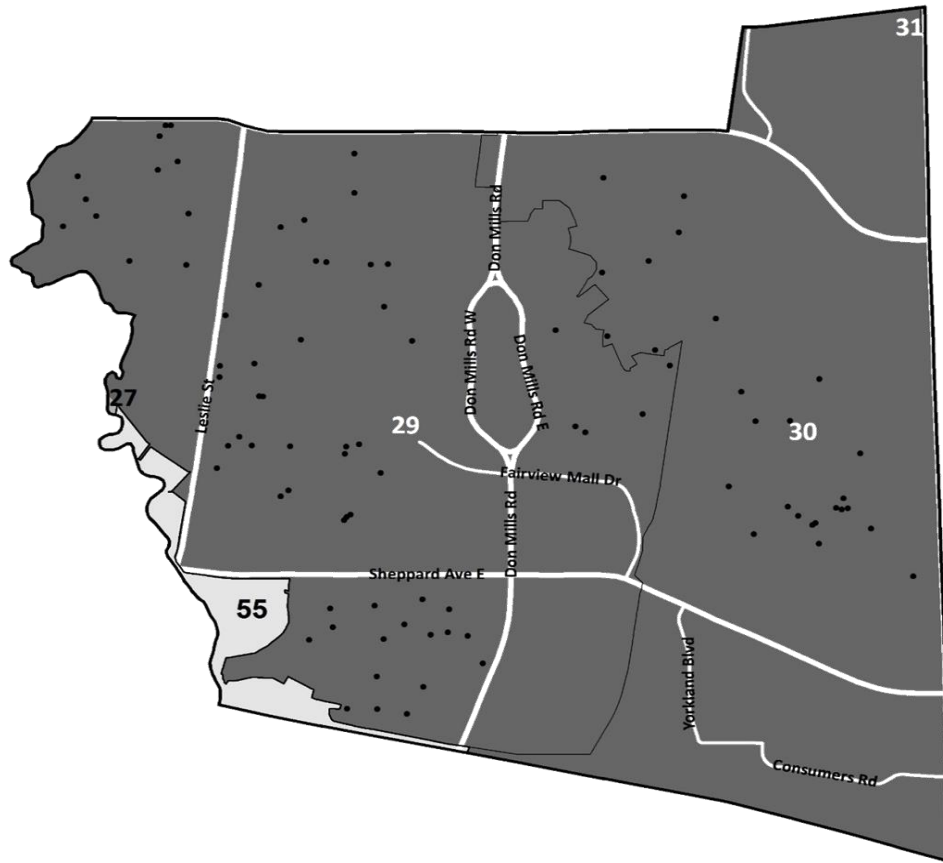
Project Implementation Progress	Project Highlights
<p>TOTAL \$ 15 M</p> <p>\$ 6.7 M, 45%</p> <p>\$ 5.2 M, 35%</p> <p>\$ 1.3 M, 8%</p> <p>\$ 1.2 M, 8%</p> <p>\$ 0.6 M, 4%</p> <p>Constructed</p> <p>Under Construction</p> <p>Design Process Initiated</p> <p>Planned for Design Initiation</p> <p>Deferred (>\$32,000 per benefitting property)</p>	<p>•240 m of combined sewer upgrades installed</p>

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD</p> <p>Properties without FPD</p> <p>994</p> <p>7881</p>	<p>Subsidized by City</p> <p>Cost to Property Owners</p> <p>\$ 1.58 M</p> <p>\$ 1.34 M</p>

Basement Flooding Protection Program Summary

Ward 33 - Don Valley East



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
29	Completed (2008)	<p>3%</p> <p>97%</p> <p>Area Studied</p> <p>Study is Underway</p> <p>Area to be Studied</p>
30	Completed (2008)	
55	To begin in 2022	

Basement Flooding Protection Program Implementation Summary - to end of 2017

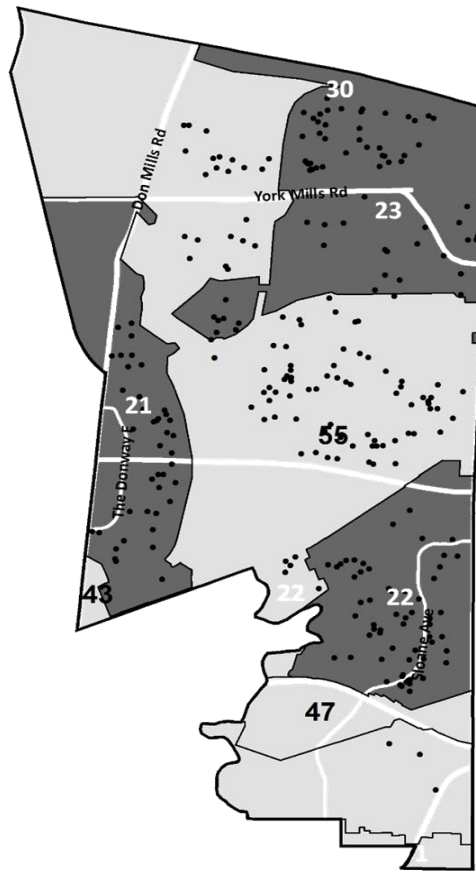
Project Implementation Progress	Project Highlights
<p>\$ 115.6 M, 70%</p> <p>TOTAL \$ 142.1 M</p> <p>\$ 41.4 M, 25%</p> <p>\$ 9.0 M, 5%</p> <p>Constructed</p> <p>Under Construction</p> <p>Design Process Initiated</p> <p>Planned for Design Initiation</p> <p>Deferred (>\$32,000 per benefitting property)</p>	<ul style="list-style-type: none"> • 4.9 km of storm sewer upgrades installed • 100 m of sanitary sewer upgrades installed • Muirhead Park SWM Pond, Old Sheppard Underground Storm Tank

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>143 5494</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.20 M \$ 0.16 M</p>

Basement Flooding Protection Program Summary

Ward 34 - Don Valley East



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
21	Completed (2016)	<p>41% 58% 1%</p> <ul style="list-style-type: none"> Area Studied Study is Underway Area to be Studied
22	Completed (2014)	
23	Completed (2016)	
30	Completed (2008)	
43	Underway	
47	To begin in 2018	
55	To begin in 2022	

Basement Flooding Protection Program Implementation Summary - to end of 2017

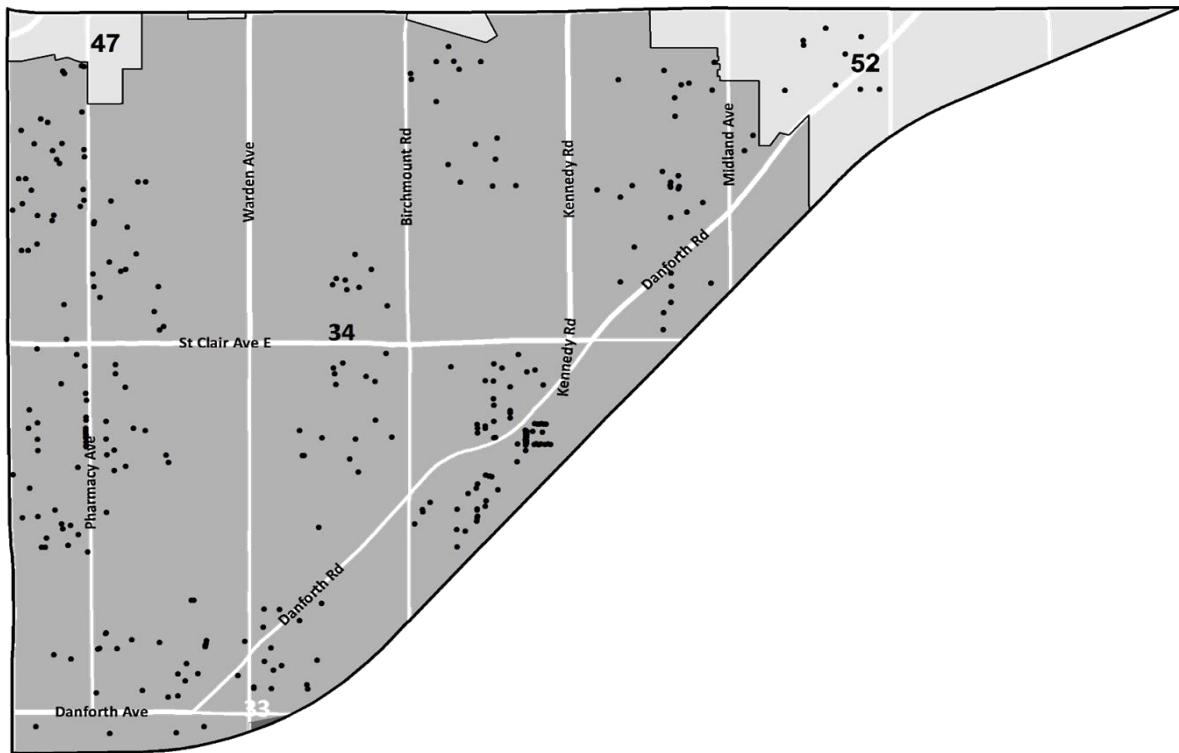
Project Implementation Progress	Project Highlights
<p>\$17.45 M, 100%</p> <p>TOTAL \$17.51 M</p> <p>\$0.06 M, 0%</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>389 4784</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$0.53 M \$0.46 M</p>

Basement Flooding Protection Program Summary

Ward 35 - Scarborough Southwest



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
34	Underway (began in 2015)	<p>11% 89%</p> <p>■ Area Studied ■ Study is Underway □ Area to be Studied</p>
47	To begin in 2018	
52	To begin in 2020	

Basement Flooding Protection Program Implementation Summary - to end of 2017

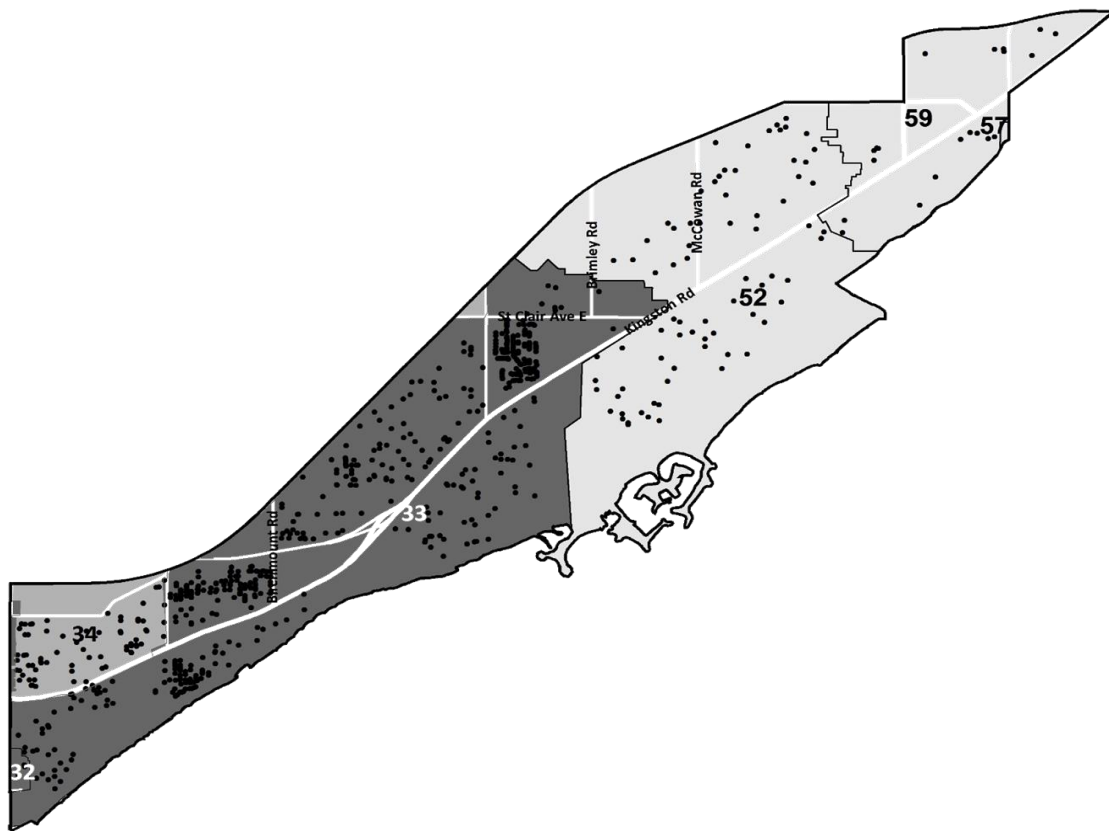
Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>447 7058</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 0.63 M \$ 0.43 M</p>

Basement Flooding Protection Program Summary

Ward 36 - Scarborough Southwest



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
32	Completed (2012)	<p>49% 44% 7%</p> <p>Area Studied Study is Underway Area to be Studied</p>
33	Completed (2011)	
34	Underway (began in 2015)	
52	To begin in 2020	
59	To begin in 2024	

Basement Flooding Protection Program Implementation Summary - to end of 2017

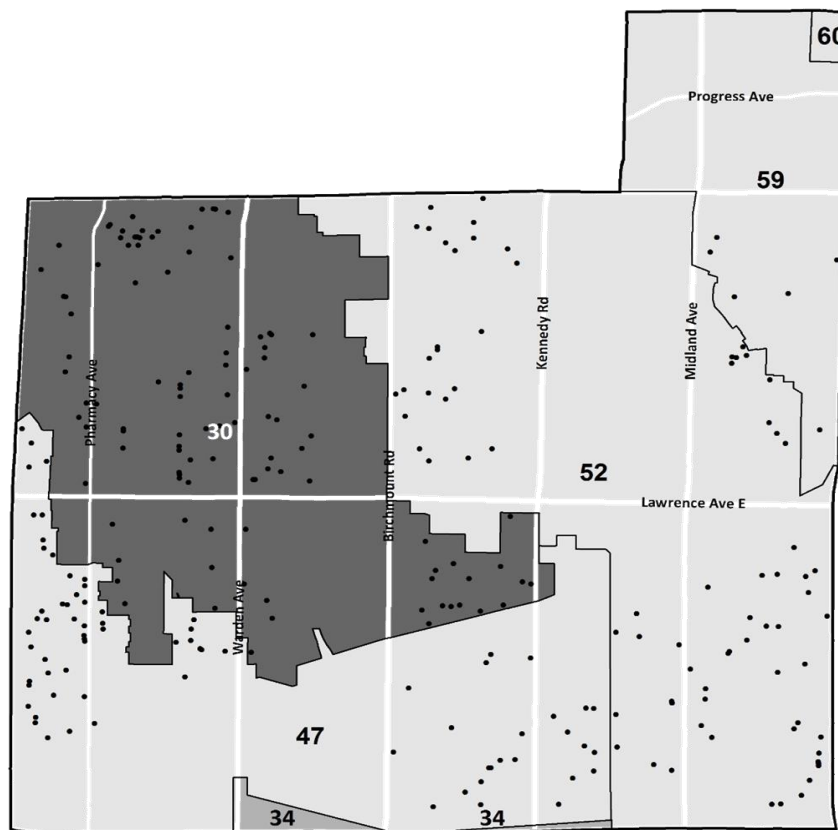
Project Implementation Progress	Project Highlights
<p>TOTAL \$ 6.1 M</p> <p>\$ 5.9 M, 97%</p> <p>\$ 0.2 M, 3%</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>864 7398</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 1.31 M \$ 0.78 M</p>

Basement Flooding Protection Program Summary

Ward 37 - Scarborough Centre



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
30	Completed (2008)	<p>28% 71% 1%</p> <p>Area Studied Study is Underway Area to be Studied</p>
34	Underway (began in 2015)	
47	To begin in 2018	
52	To begin in 2020	
59	To begin in 2024	
60	To begin in 2024	

Basement Flooding Protection Program Implementation Summary - to end of 2017

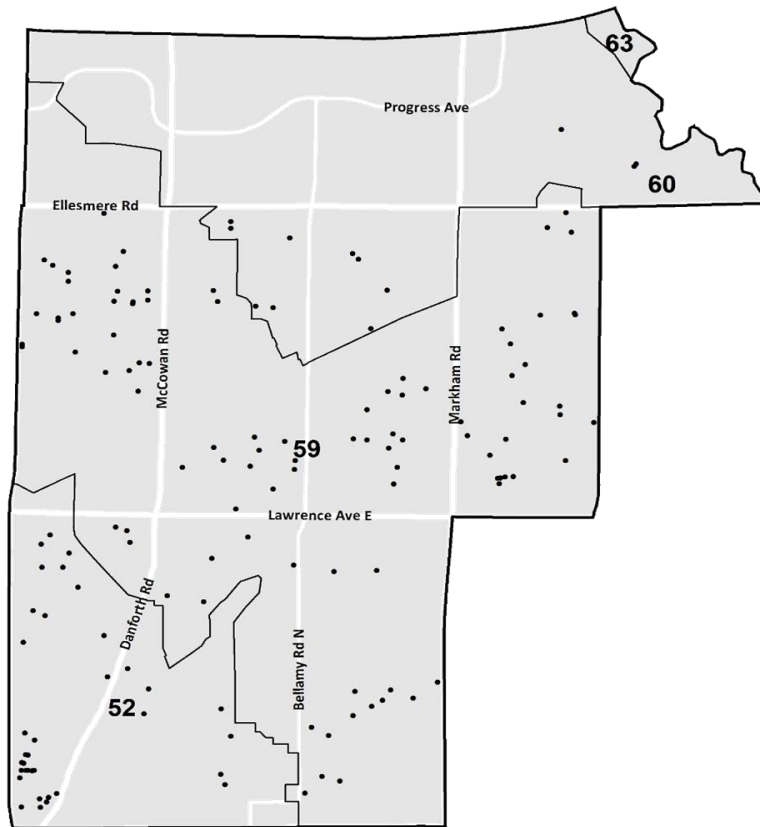
Project Implementation Progress	Project Highlights
<p>TOTAL \$ 19.0 M</p> <p>\$ 19.0 M, 100%</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>397 8948</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.56 M \$ 0.42 M</p>

Basement Flooding Protection Program Summary

Ward 38 - Scarborough Centre



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017



Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
52	To begin in 2020	<p>100%</p>
59	To begin in 2024	
60	To begin in 2024	
63	To begin in 2025	

Basement Flooding Protection Program Implementation Summary - to end of 2017

Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	<p>•1 km of storm sewer upgrades installed</p>

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>227 7017</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.32 M \$ 0.23 M</p>

Basement Flooding Protection Program Summary

Ward 39 - Scarborough—Agincourt



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
30	Completed (2008)	<p>88% 12%</p> <p>Area Studied Study is Underway Area to be Studied</p>
31	Completed (2011)	
59	To begin in 2024	
60	To begin in 2024	

Basement Flooding Protection Program Implementation Summary - to end of 2017

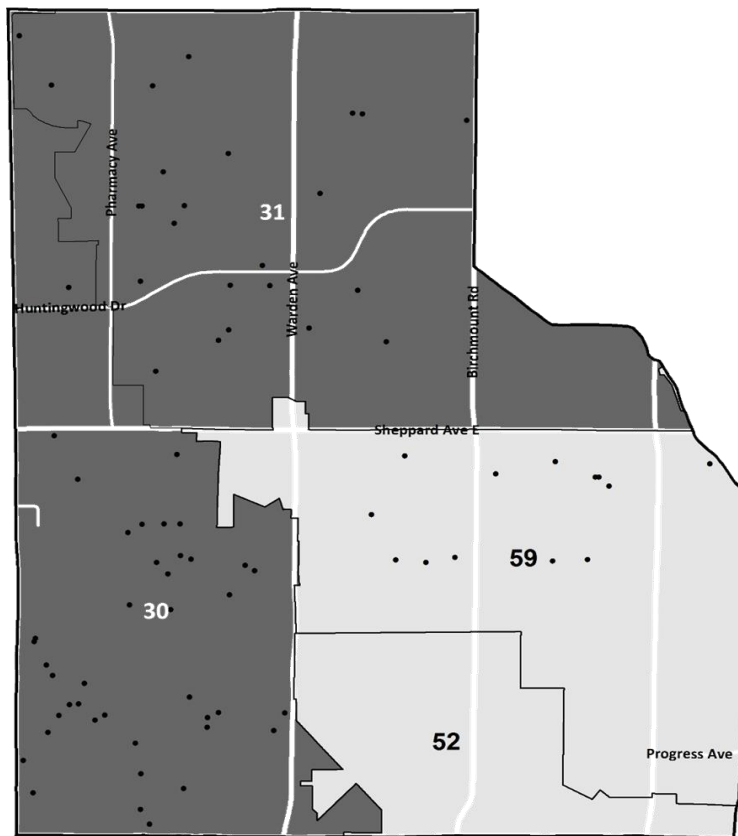
Project Implementation Progress	Project Highlights
<p>TOTAL \$ 12.9 M</p> <p>\$ 6.5 M, 50%</p> <p>\$ 6.0 M, 47%</p> <p>\$ 0.4 M, 3%</p> <p>Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property)</p>	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>41 6173</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.06 M \$ 0.03 M</p>

Basement Flooding Protection Program Summary

Ward 40 - Scarborough—Agincourt



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017

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Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
30	Completed (2008)	
31	Completed (2011)	
52	To begin in 2020	
59	To begin in 2024	

Basement Flooding Protection Program Implementation Summary - to end of 2017

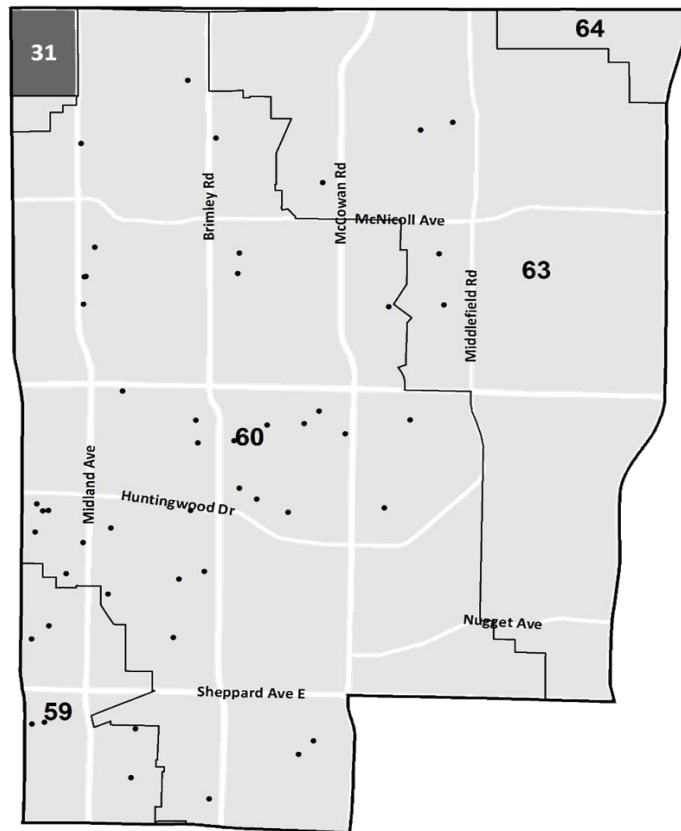
Project Implementation Progress	Project Highlights
<ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	<ul style="list-style-type: none"> •800 m of storm sewer upgrades installed •400 m of sanitary sewer upgrades installed

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<ul style="list-style-type: none"> Properties with FPD Properties without FPD <p>129 5806</p>	<ul style="list-style-type: none"> Subsidized by City Cost to Property Owners <p>\$ 0.18 M \$ 0.15 M</p>

Basement Flooding Protection Program Summary

Ward 41 - Scarborough—Rouge River



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017



Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
31	Completed (2011)	<p>1%</p> <p>99%</p> <ul style="list-style-type: none"> Area Studied Study is Underway Area to be Studied
59	To begin in 2024	
60	To begin in 2024	
63	To begin in 2025	
64	To begin in 2025	

Basement Flooding Protection Program Implementation Summary - to end of 2017

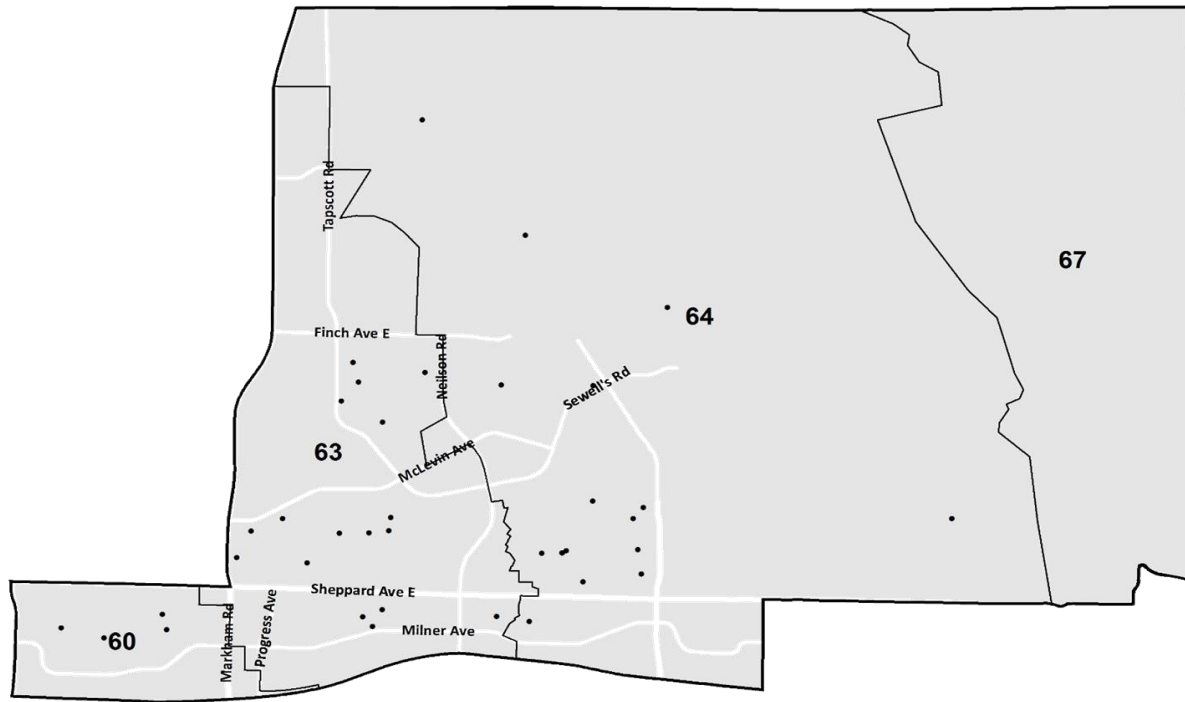
Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the next Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>63 8960</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.09 M \$ 0.07 M</p>

Basement Flooding Protection Program Summary

Ward 42 - Scarborough—Rouge River



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017

•

Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
60	To begin in 2024	<p>100%</p>
63	To begin in 2025	
64	To begin in 2025	
67	To begin in 2025	

Basement Flooding Protection Program Implementation Summary - to end of 2017

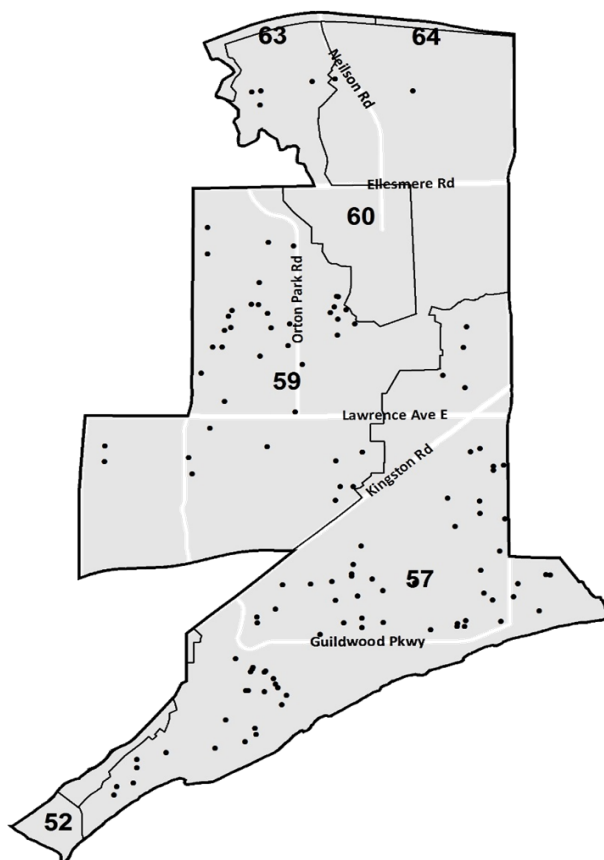
Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>■ Properties with FPD ■ Properties without FPD</p> <p>46 9409</p>	<p>■ Subsidized by City ■ Cost to Property Owners</p> <p>\$ 0.06 M \$ 0.05 M</p>

Basement Flooding Protection Program Summary

Ward 43 - Scarborough East



Properties With Installed Flooding Protection Device(s) (FPD), 2006 to Q2 2017



Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
52	To begin in 2020	<p>100%</p>
57	To begin in 2022	
59	To begin in 2024	
60	To begin in 2024	
63	To begin in 2025	
64	To begin in 2025	

Basement Flooding Protection Program Implementation Summary - to end of 2017

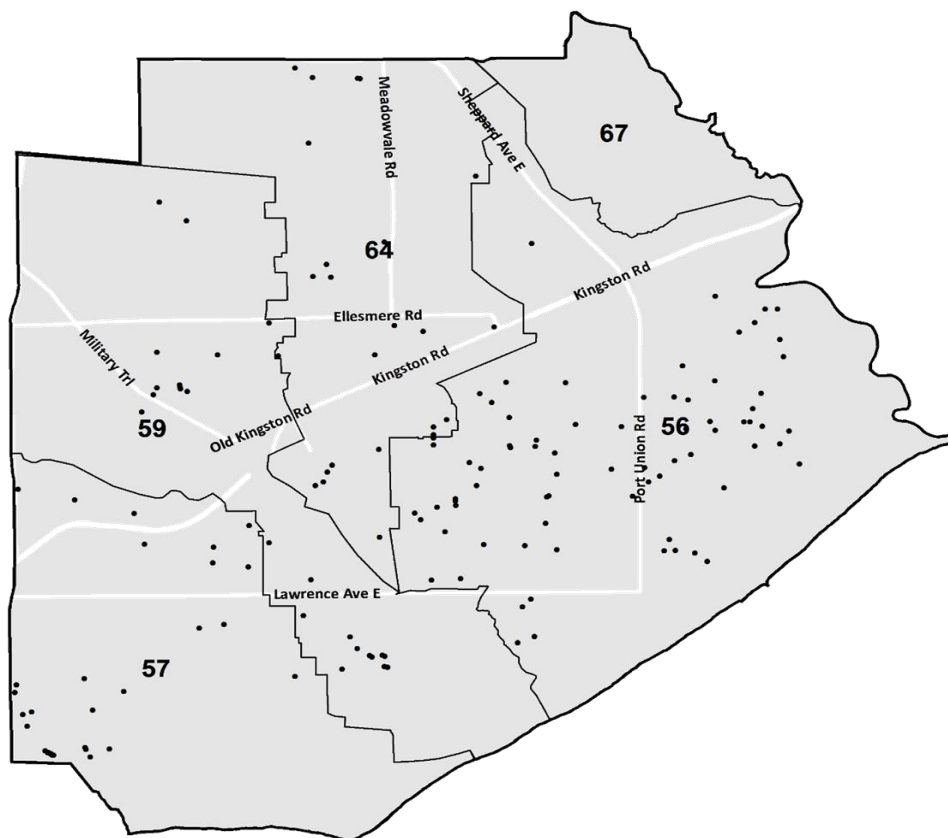
Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>180 6410</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.26 M \$ 0.19 M</p>

Basement Flooding Protection Program Summary

Ward 44 - Scarborough East



Properties With Installed Flooding Protection Device(s)
(FPD), 2006 to Q2 2017



Completed Environmental Assessment (EA) Study Area

#

Ongoing Environmental Assessment (EA) Study Area

#

Future Environmental Assessment (EA) Study Area

#

Basement Flooding Environmental Assessment (EA) Studies Summary - to end of 2017

Study Areas in Ward	Status of EA Studies	EA Study Progress in Ward
56	To begin in 2022	<p>100%</p>
57	To begin in 2022	
59	To begin in 2024	
64	To begin in 2025	
67	To begin in 2025	

Basement Flooding Protection Program Implementation Summary - to end of 2017

Project Implementation Progress	Project Highlights
<p>Implementation will proceed following completion of the first Environmental Assessment Study in this ward</p> <ul style="list-style-type: none"> Constructed Under Construction Design Process Initiated Planned for Design Initiation Deferred (>\$32,000 per benefitting property) 	

Basement Flooding Protection Subsidy Program Summary - 2006 to Q2 2017

Program Participation	Program Expenditures
<p>Properties with FPD Properties without FPD</p> <p>225 9264</p>	<p>Subsidized by City Cost to Property Owners</p> <p>\$ 0.32 M \$ 0.24 M</p>