



Finance Department
INTER-OFFICE MEMORANDUM
Office of the Commissioner

TO: Chair and Members of the Development Charges Advisory Committee

FROM: Mark Scinocca, Commissioner, Finance and Regional Treasurer

DATE: October 13, 2016

RE: **Supplementary Information Package following October 6, 2016 DCAC Meeting #1**

Further to the October 6, 2016 DCAC meeting, attached please find a Package of Supplementary Information related to some of the items discussed.

1. Summary of Capital Costs by Service
2. Actual population growth versus Best Planning Estimates (BPE); Actual employment growth versus Best Planning Estimates (BPE); and BPE employment growth by location & employment type
3. Halton Region Floor Space per Worker (FSW) assumptions, including results of 2015 Employment Survey
4. Illustration of adjustments made for No Fixed Place of Work (NFPOW) and Work at Home (WAH)
5. The shortfall in DC collections (\$10.6M per year) due to the changes in the *Development Charges Act, 1997* (DCA).
6. Development Charge Reserve Fund and Regional Interim Financing

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Mark Scinocca
Commissioner, Finance and Regional Treasurer

1. Summary Of Capital Costs by Service

1-A. Summary of Capital Costs

1-B. Capital Costs - Water, Wastewater & Roads (PW-33-16)

1-C. Capital Costs - General Services

Summary of Capital Costs (\$000s)

Services	2012 DC Study (2017-2031)	2017 DC Study (2017-2031)	Difference
W/WW:			
Water	\$ 379.3	\$ 564.6	\$ 185.4
Wastewater	365.9	625.7	259.7
Sub-Total	\$ 745.2	\$ 1,190.3	\$ 445.1
Roads	\$ 1,701.4	\$ 2,189.9	\$ 488.5
General Services:			
Growth Studies	\$ 16.5	\$ 17.6	\$ 1.1
Police	27.0	115.8	88.8
Paramedic Services	4.0	25.5	21.5
Facilities	3.5	11.8	8.3
Social Housing	44.0	95.0	51.0
Conservation Halton	29.3	N/A	N/A
Waste Diversion	N/A	9.8	9.8
Waterfront Parks	N/A	40.1	40.1
Sub-Total	\$ 124.4	\$ 315.6	\$ 220.5
Total	\$ 2,571.0	\$ 3,695.8	\$ 1,154.1



The Regional Municipality of Halton

Report To:	Chair and Members of the Planning and Public Works Committee
From:	Jim Harnum, Commissioner, Public Works
Date:	October 5, 2016
Report No. - Re:	PW-33-16 - 2017 Development Charges Update - Water, Wastewater and Transportation Infrastructure Projects

RECOMMENDATION

1. THAT the Water, Wastewater and Transportation capital projects identified in Report No. PW-33-16, re: "2017 Development Charges Update – Water, Wastewater and Transportation Infrastructure Projects" be incorporated into the 2017 Development Charges Background Study.
2. THAT staff be directed to submit a Notice of Filing of Addendum to the Environmental Study Report for the Britannia Road (Regional Road 6) Transportation Corridor Improvements to remove the phasing of the road widening as noted in Report No. PW-33-16, re: "2017 Development Charges Update – Water, Wastewater and Transportation Infrastructure Projects" and proceed directly from two lanes to the final configuration of six lanes.
3. THAT staff be directed to proceed with the decommissioning of the Milton Wastewater Treatment Plant, as set out in Report No. PW-33-16, re: "2017 Development Charges Update – Water, Wastewater and Transportation Infrastructure Projects" in accordance with the requirements of the Environmental Assessment Act.
4. THAT the Regional Clerk forward a copy of Report No. PW-33-16 to the City of Burlington, the Town of Halton Hills, the Town of Milton and the Town of Oakville for their information.

REPORT

Executive Summary

- As outlined in Report No. LPS17-16/FN-03-16 re: "2017 Development Charges (DC) Update Work Plan, Terms of Reference and Council Appointments to the 2016-2018 Development Charges Advisory Committee (DCAC)", Halton Region's current Development Charges (DC) By-law expires in September 2017 and work is underway to update the By-law.

- The 2017 Development Charges Water, Wastewater and Transportation Technical Reports have been prepared to support the 2017 Development Charges update process.
- The Technical Reports are based on the 2011 Water, Wastewater and Transportation Master Plans incorporating updated infrastructure cost estimates, design criteria review and results of specific infrastructure planning studies.
- This report will also seek Council direction to take the steps necessary to proceed with the widening of Britannia Road (Regional Road 6) from two to six lanes and to proceed with the decommissioning of the Milton Wastewater Treatment Plant.

Background

In October 2011, significant updates to the infrastructure Master Plans for water, wastewater and transportation were completed to support the Regional Official Plan Amendment (ROPA 38/39) implementation based on Halton Region's Best Planning Estimates (June, 2011). The development capital requirements identified in these Master Plans, as outlined in Report No. PW-59-11/LPS73-11/CS-45-11 re: "Infrastructure Master Plans – Water and Wastewater, and Transportation – Implementation of Sustainable Halton", served as key inputs into the establishment of Halton Region's 2012 Development Charges By-law and associated 2012 Allocation Program. As noted in Report No. LPS17-16/FN-03-16 and Report No. LPS106-15 re: "2012 Allocation Program Update and Proposed Framework for the 2018 Allocation Program", Halton Region is required to update its 2012 Development Charges By-law which will expire in September 2017.

Accordingly, in support of the Development Charge By-law update the 2017 Development Charges Water, Wastewater and Transportation Technical Reports have been completed with updated infrastructure cost estimates, design criteria review and results of specific infrastructure planning studies. It should be noted that the Development Charges Technical Reports identify capital infrastructure programs required to support growth to 2031 based on theoretical master plan modelling in support of the Development Charges By-law update. Once the Development Charges By-law is successfully in place, the timing, scope and phasing of the projects will be further refined through the infrastructure staging plan and Allocation Program as set out in Report No. LPS17-16/FN-03-16.

Discussion

Water and Wastewater Technical Report

The Water and Wastewater Technical Report incorporates results from specific infrastructure planning studies which have been completed since the last Master Plan. Specifically:

- A review of the wastewater servicing strategy for the core of the Town of Milton and opportunity to decommission the Milton Wastewater Treatment Plant was completed.
- Revisit the wastewater servicing scheme in west area of the City of Burlington to determine whether further infrastructure optimization was feasible.
- A review of the alignment of water pressure zone boundaries in the Town of Milton and the Town of Oakville (Zones 3, 4, 5) to assess opportunities to further optimize water service delivery.
- A comprehensive analysis of the water and wastewater design criteria incorporating the latest water consumption and wastewater generation rates.
- Updating water and wastewater hydraulic models with current system field data.

The findings from these planning studies have been incorporated into the 2017 Development Charges Water and Wastewater Technical Report. The notable changes since the 2011 Master Plan are outlined as follows:

Decommissioning of the Milton Wastewater Treatment Plant

The capital program contemplates the diversion of wastewater flow from the Milton Wastewater Treatment Plant to the Mid-Halton Wastewater Treatment Plant. A servicing review was undertaken to assess the benefits of decommissioning the Milton Wastewater Treatment Plant as the facility is in need of significant reinvestment as identified through a capital needs assessment and a feasible alternative is available.

The review evaluated several alternative servicing strategies which considered environmental, economic, social, legislative and technical impacts with the preferred option including decommissioning the Milton facility and diverting flow to the much larger lake-based Mid-Halton Wastewater Treatment plant.

In addition to having a significantly lower 50 year life cycle cost, it is anticipated that this flow diversion strategy will return 16 Mile Creek in the vicinity of the Milton Wastewater Treatment Plant to a more natural state and eliminate the need for trucking sludge. Projects related to this strategy include:

- Modifications to the Fulton Street Wastewater Pumping Station;
- New forcemain including a crossing under 16 Mile Creek;
- Milton Wastewater Treatment Plant Decommissioning , and;
- Treatment capacity at the Mid-Halton Wastewater Treatment Plant.

This flow diversion has been included in the assessment of wastewater infrastructure required to 2031. The decommissioning of the Milton Wastewater Treatment Plant is a Schedule A+ undertaking under the Municipal Class Environmental Assessment, requiring the public to be advised. Twinning the existing forcemain under 16 Mile Creek is a Schedule B undertaking.

Wastewater Servicing in West Area of the City of Burlington

The diversion of wastewater flow from the Grandview Wastewater Pumping Station (west area of Burlington) will be achieved by extending the sewage force-main from the Bridgeview Wastewater Pumping Station to the Plains Road Trunk Sewer.

Through this revised wastewater strategy, the 2011 Master Plan need to upsize the Grandview Wastewater Pumping Station and its associated upstream inlet sewers have been eliminated. In addition, updated wastewater system flow information (i.e. reduced sewer infiltration and inflow) and model recalibration in this area have determined that the 2011 Master Plan need to upsize the existing Plains Road trunk sewer is no longer required.

Alignment of Water Pressure Zone Boundaries in the Town of Milton and Town of Oakville

The water pressure zone boundaries in the Town of Milton and the Town of Oakville (Zones 3, 4 and 5) will be realigned to accommodate growth by optimizing water pressure in these areas. Accordingly, some water capital projects from the 2011 Master Plan are no longer required and several new projects are required to undertake this system optimization which will result in a capital cost savings of approximately \$9 M relative to the original 2011 Master Plan approach.

Design Criteria Review – Water and Wastewater

The development of updated water design criteria (average day demand reduction from 314 to 265 litres per capita per day) and wastewater design criteria (average day flow reduction from 365 to 360 litres per capita per day) reflects decreasing per capita residential water consumption and wastewater generation trending observed over the last several years.

The application of the updated design criteria to the 2031 growth projections and the recommended diversion of flow noted above has altered the previous timing requirements for some of the major water and wastewater capacity infrastructure projects as follows:

- Burloak Water Purification Plant Expansion – Phase II (start of construction shifted from 2016 to 2023);
- Burloak Water Purification Plant Expansion – Phase III (start of construction shifted from 2026 to post-2031);
- Oakville Water Purification Plant Rerating - Phase III (start of construction shifted from 2015 to 2018);
- Mid-Halton Wastewater Treatment Plant Expansion – Phase VI/VII (start of construction shifted from 2019 to 2021).

Infrastructure capital projects identified within the 2017 to 2022 timeframe have been updated to reflect best available estimated cost to construct as of January 1, 2017.

Projects previously identified (2012 Development Charges By-law) within the 2023 to 2031 timeframe have been cost indexed from 2012 to 2017 dollars. Where available, cost estimates from Municipal Class Environmental Assessment Studies or preliminary/detailed design have been applied. The magnitude of the overall water and wastewater program cost updates are summarized in the Financial/Program Implications section of this Report.

Water Infrastructure Projects

The overall water development capital program from 2017 to 2031 has been estimated to be approximately \$565 M in 2017 dollars as referenced in Attachment #1. Below is a list of significant water projects which have been identified for implementation over the next 15 years.

Significant Water Projects 2017-2031:

- Oakville Water Purification Plant Rerating
- Washburn Second Feed Watermain
- Georgetown Lake-based Booster Pumping Station and Feedermain (Zone 6)
- Georgetown Groundwater to Lake-based Servicing Transfer (Stewarttown, Georgetown South and Georgetown Southwest)
- Oakville/Milton Water Pressure Zone Realignment (Zones 3,4,5) and alterations to Eighth Line, Fourth Line and Neyagawa Pumping Stations
- Boyne East Britannia Trunk Watermain
- 407 West Employment Area Trunk Watermain
- Burloak Water Purification Plant – Phase II Expansion
- Georgetown Lake Based Storage Reservoir and Feedermain (Zone 6)
- Zone 4 Reservoir Expansion
- Burloak Booster Pumping Station and Feedermain (Zone 2)
- Wyecroft Zone 2 Interconnecting Trunk Watermain
- Kitchen Booster Pumping Station Expansion
- Neyagawa Booster Pumping Station Expansion

Wastewater Infrastructure Projects

The overall wastewater development capital program from 2017 to 2031 has been estimated to be approximately \$626 M in 2017 dollars as referenced in Attachment #2. Below is a list of significant wastewater projects which have been identified for implementation over the next 15 years.

Significant Wastewater Projects 2017-2031:

- Mid-Halton Wastewater Treatment Plant – Phase VI / VII Expansion
- Georgetown Eighth Line and Trafalgar Road Trunk Sewer
- Britannia Road Wastewater Pumping Station, Twinned Forcemain, East Trunk Sewer
- Boyne West Internal Trunk Sewer

- Maple Avenue Trunk Sewer
- Skyway Wastewater Treatment Plant Inlet Sewer Upsizing
- West River Wastewater Pumping Station Upgrades
- Junction Street Wastewater Pumping Station Upgrades
- Agnes Street Wastewater Pumping Station Upgrades
- Tremaine Road Wastewater Pumping Station and Forcemain
- South Milton Fourth and Fifth Line Trunk Sewers
- Lower Baseline Wastewater Pumping Station and Twinned Forcemain
- Mid-Halton Wastewater Treatment Plant – Phase VIII / IX Expansion (Design only) and Wastewater Pumping Station Expansion at Mid-Halton Wastewater Treatment Plant

Transportation Technical Report

The Transportation Technical Report is based on the 2011 Transportation Master Plan incorporating updated infrastructure cost estimates and validating the long range Transportation Capital Plan to 2031 (i.e. project scope, timing, need and cost) as identified in the 2011 Master Plan, including potential timing shifts of previously identified infrastructure projects.

The notable changes since the 2011 Master Plan are outlined as follows:

- Delays in Municipal Class Environmental Assessment process review and approval timelines (approximately 1.5 years) by the Ministry of the Environment and Climate Change has shifted the start of construction timing for Britannia Road widening (Tremaine Road to 407 ETR) from 2013-2015 to 2017-2018.
- Property acquisition, development activity coordination, additional natural environment investigation and review agency approval requirements, has altered the start of construction timing for Tremaine Road widening (north of Steeles Avenue) and the new associated interchange at Highway 401 from 2012-2013 to 2017.
- Overall co-ordination of Municipal Class Environmental Assessment Studies with Local Municipal planning studies / initiatives (i.e. Midtown Oakville) has shifted the start of construction for Trafalgar Road widening (Leighland Avenue to 407 ETR) from 2014-2016 to 2017-2018.
- Harmonization of road capital works with other Regional infrastructure works (i.e. water, wastewater, road and intersection improvements) within common road corridors has altered the start of construction for Ninth Line (Steeles Avenue to 10 Side Road) from 2016 to 2020, and William Halton Parkway (Third Line to Sixteen Mile Creek area and Neyagawa Boulevard to Sixth Line) from to 2014-2015 to 2018, in order to minimize community disruption and impacts.
- Inclusion of active transportation construction projects for new off-road capital infrastructure (~ \$36.5 M) on Regional roadways consistent with Report No. PW-17-15. This new off-road infrastructure will complement the on-road active transportation infrastructure (~ \$40.6 M) planned from 2017 to 2031.

- Infrastructure capital project costs updated to reflect best available estimated cost to construct as of January 1, 2017.

The magnitude of the overall transportation program cost updates are summarized in the Financial/Program Implications section of this Report.

Transportation Projects

The overall transportation development and non-development capital program from 2017 to 2031 has been estimated to be approximately \$2.2 B in 2017 dollars as referenced in Attachment #3. Below is a list of significant transportation projects which have been identified for implementation over the next 15 years.

Significant Transportation Projects 2017-2031:

- Trafalgar Road widening to six lanes (Leighland Avenue to 407 ETR)
- Trafalgar Road widening to four lanes (Steeles Avenue to Highway 7)
- Brant Street widening to six lanes (North Service Road to Dundas Street)
- Dundas Street widening to six lanes (Bronte Road to Kerns Road)
- Britannia Road widening to six lanes (Tremaine Road to 407 ETR)
- Ninth Line widening to four lanes (Steeles Avenue to 10 Side Road)
- Tremaine Road widening to four lanes (including Highway 401 Interchange)
- William Halton Parkway new four lane road (Third Line to Sixth Line)
- Trafalgar Road widening to six lanes (407 ETR to Steeles Avenue)
- Upper Middle Road widening to six lanes (Bronte Road to Winston Churchill Boulevard)
- James Snow Parkway widening to six lanes (407 ETR to Tremaine Road)
- Tremaine Road widening to six lanes (Derry Road to Highway 401)
- Derry Road widening to six lanes (Tremaine Road to 407 ETR)
- Steeles Avenue widening to six lanes (Regional Road 25 to Winston Churchill Boulevard)
- 10 Side Road widening to four lanes (Trafalgar Road to Winston Churchill Boulevard)
- Appleby Line widening to six lanes (Fairview Street to Taywood Drive)
- Regional Road 25 widening to six lanes (Speers Road to Derry Road)
- Additional North/South roadway capacity in the vicinity of Derry Green “5 ½ line” (Britannia Road to Steeles Avenue)

As noted, there have been delays in fulfilling the Environmental Assessment Act requirements for Britannia Road (Regional Road 25 to Highway 407 ETR). In addition, there has been a shift in the development patterns in the Boyne Secondary Plan Area to the east side of Regional Road 25. Currently, the Environmental Study Report for Britannia Road (Regional Road 25 to Highway 407 ETR) reflects the phasing that was endorsed in the Transportation Master Plan in 2011 with widening from two to four lanes to proceed now (~\$71 Million, construction only) and the start of construction to widen from four to six lanes (~\$57 Million, design and construction) proceeding in 2028. Staff

are recommending that the phasing from two to four lanes, and then from four to six lanes be eliminated and that Britannia Road be constructed to the ultimate six lane configuration. To eliminate the phasing of construction requires filing an addendum to the Environmental Study Report to amend this aspect of the document.

Filing of an Addendum to remove the phasing requires notification to be provided to all parties that are potentially impacted by the change and were notified through the preparation of the Environmental Study Report. This includes notification to the public, property owners, review agencies, First Nations and Aboriginal Peoples and any individuals who requested a Part II Order during the filing of the Environmental Study Report addendum. Parties have 30 days to request a Part II Order related to the materials within the addendum. If a Part II Order request is received, the resolution may take 12 to 18 months. Given the addendum only deals with the phasing, the design to six lanes can proceed in parallel with the addendum minimizing the risk of project delays.

Growth Management Program

As outlined in Report No. LPS106-15, 2017 Development Charges Water and Wastewater, and Transportation Technical Reports, are a critical step in the Development Charges Update process.

The next steps and anticipated timelines are outlined below:

- Development Charges Advisory Committee (Fall, 2016);
- Release of 2017 Development Charges Background Study (December, 2016);
- Approval of 2017 Development Charges By-Law (Spring, 2017);
- Approval of Financial and Implementation Plan and 2018 Allocation Program Expression of Interest (Fall, 2017);
- 2018 Infrastructure Staging Plan (Winter, 2018);
- Approval of 2018 Allocation Program Agreements (Spring, 2018).

FINANCIAL/PROGRAM IMPLICATIONS

As summarized below, the overall development capital program from 2017 to 2031 for water, wastewater and transportation infrastructure is approximately \$3.4 billion (2017\$) which consists of water and wastewater infrastructure of \$1.2 billion and transportation infrastructure of \$2.2 billion. This represents \$445.1 million increase in the water and wastewater program and \$488.5 million increase in transportation program when compared to the program projected in the 2012 Development Charges Study.

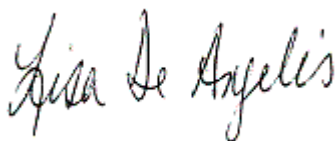
It should be noted, several projects have been reprogrammed due to varying issues such as delays in approvals, property acquisition challenges and changes in actual greenfield development uptake. In addition, project cost estimation was refined through additional analysis (i.e. Municipal Class Environmental Assessment, Preliminary/Detailed Design, Water/Wastewater System Technical Studies); current indexing of unit cost benchmarking (2017 dollars), project scope changes, and new project requirements. The

resulting Development Charges impacts will be presented to Council as part of the Development Charges By-law Update Process.

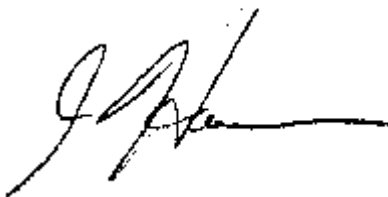
Halton Region 2017 DC Update Comparison Water and Wastewater Development Capital Program to 2012 DC Study (2017-2031) (\$millions)				
	Per 2017 DC Study	Per 2012 DC Study	Increase/ (Decrease)	
W/WW Cost (2017-2031) (\$million's)	\$ 1,190.3	745.2	\$ 445.1	
Drivers for Increase:				
EA/Design	\$ 89.3			to reflect the results of EA and detailed designs
Revised Cost Estimates	96.6			based on updated benchmarks and indexing from 2012 to 2017 cost
New projects	117.4			mainly resulting from Zone 3,4,5 realignment, North WWPS expansion, and new sewer inlet to Skyway WWTP
Projects Removed	(180.6)			mainly resulting from system optimization (Burlington) and deferral of Burloak Water Purification Plant Phase III Expansion to post 2031
Scope Change	76.5			mainly resulting from Lower Base Line Forcemain construction method change and Zone 2 Interconnecting Watermain design change
Reprogramming	245.9			moved the projects previously identified between 2012 & 2016
Total	\$ 445.1			

	Per 2017 DC Study	Per 2012 DC Study	Increase/ (Decrease)
Road Cost (2017-2031) (\$million's)	\$ 2,189.9	\$ 1,701.4	\$ 488.5
Drivers for Increase:			
EA/Detailed Design	\$ 73.2		to reflect the results of EA and detailed designs
Revised Cost Estimates	78.3		based on updated benchmarks and indexing from 2012 to 2017 cost
New projects	9.8		additional intersection improvements
ATMP Projects	83.2		to implement Active Transportation Master Plan
Projects removed	(42.1)		mainly resulting from road resurfacing and Campbellville Road reconstruction
Reprogramming	286.0		moved the projects previously identified between 2012 and 2016 to align timing of projects with expected growth
Total	\$ 488.5		

Respectfully submitted,



Lisa De Angelis P. Eng.
Director, Infrastructure Planning and Policy



Jim Harnum
Commissioner, Public Works

Approved by



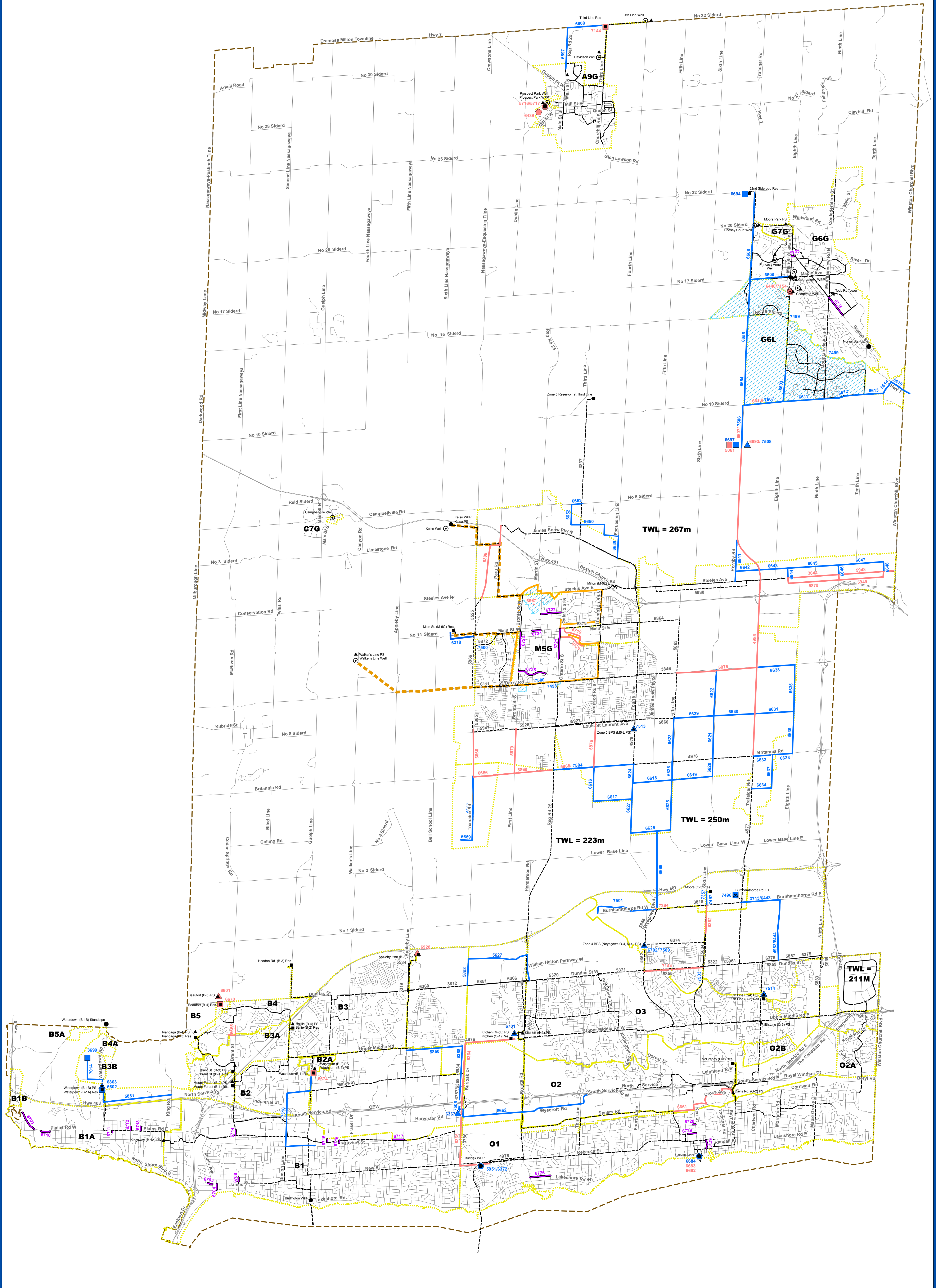
Jane MacCaskill
Chief Administrative Officer

If you have any questions on the content of this report,
please contact:

Lisa De Angelis
David Simpson

Tel. # 7574
Tel. # 7601

Attachments: Attachment #1 – 2017-2031 Water Development Capital Implementation Plan
Attachment #2 – 2017-2031 Wastewater Development Capital Implementation Plan
Attachment #3 – 2017-2031 Transportation Development and Non-Development Capital Implementation Plan



2017-2031 WATER DEVELOPMENT CAPITAL IMPLEMENTATION PLAN

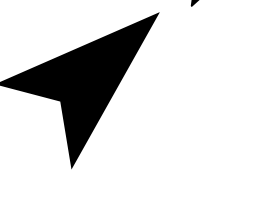
PROJECT ID#	MUNICIPALITY	PROJECT DESCRIPTION	PROJECT COST (2017 \$)
3699	BUR	4.5 ML North Aldershot in ground Reservoir (Zone B3A) (BUR)	\$ 5,623,000
3713	OAK	400mm WM on Burnhamthorpe Rd from Trafalgar Rd to new North Oakville road (Zone O4) (Design) (OAK)	\$ 468,000
4983	OAK	400mm WM on new North Oakville road from Burnhamthorpe Rd to Dundas St (Zone O4) (Design) (OAK)	\$ 635,000
5627	OAK	600mm WM through North Oakville Lands from Tremaine Rd to Bronte Rd (Zone O3) (OAK)	\$ 7,739,000
5850	BUR	1050mm WM on Upper Middle Rd from Burloak Drive to Appleby Line (Zone B2) (Construction) (BUR)	\$ 10,283,000
5853	OAK	600mm WM on Tremaine Rd from Dundas St to approximately 950 m north (North Oakville Lands) (Zone O3) (OAK)	\$ 1,422,000
5881	BUR	400 mm WM from Waterdown pumping station along North Service Rd to King Rd (Zone B2) (BUR)	\$ 7,055,000
5951	OAK	Design of Burloak WPP Phase 2 Expansion from 55 to 165ML/d (OAK)	\$ 11,975,000
6367	BUR	120 ML/d Burloak Pumping Station Construction, Phase 1, 60 ML/d (Zone B2) - Construction (BUR)	\$ 13,693,000
6368	OAK	1050mm WM on Burloak Dr from the QEW to Upper Middle Rd (Zone B2) (Construction) (OAK)	\$ 9,766,000
6372	OAK	Construction of Burloak WPP Phase 2 Expansion from 55 to 165ML/d (OAK)	\$ 130,601,000
6443	OAK	400mm WM on Burnhamthorpe Rd from Trafalgar Rd to new North Oakville road (Zone O4) (Construction) (OAK)	\$ 2,547,000
6444	OAK	400mm WM from Burnhamthorpe Rd to Dundas St on new North Oakville road (Zone O4) (Construction) (OAK)	\$ 3,461,000
6597	HHACT	300mm WM on RR 25 from No. 32 Siderd to 640 m north of Wallace St. (Zone A9G) (HHACT)	\$ 1,430,000
6600	HHACT	300 mm WM on No. 32 Siderd from RR 25 to 3rd Line Reservoir (Zone A9G) (HHACT)	\$ 1,333,000
6602	BUR	7.5 ML storage expansion at Waterdown Reservoir (existing site) (Zone B1A) (BUR)	\$ 8,305,000
6603	HHGEO	400mm WM on 8th Line from 10th Siderd to existing 400mm (Zone G6L) (HHGEO)	\$ 2,324,000
6608	HHGEO	750mm WM on Trafalgar from 15th Siderd to 22nd Siderd Lake Based Reservoir (Zone G6L) (HHGEO)	\$ 16,339,000
6609	HHGEO	400mm WM on 17th Siderd from Trafalgar Rd to Main St (Zone G6L) (HHGEO)	\$ 2,504,000
6611	HHGEO	600mm WM on No 10 Siderd from 8th Line to 9th Line (Zone G6L) (HHGEO)	\$ 3,951,000
6612	HHGEO	600mm WM on No 10 Siderd from 9th Line to 10th Line (Zone G6L) (HHGEO)	\$ 4,459,000
6613	HHGEO	600mm WM on No 10 Siderd from 10th Line to Adamson St S (Zone G6L) (HHGEO)	\$ 1,606,000
6614	HHGEO	600 mm WM on Adamson St from 10th Siderd to Guelph St and on Guelph St from Adamson St to 10th Siderd (Zone G6L) (HHGEO)	\$ 2,661,000
6615	HHGEO	600mm WM on No 10 Siderd from Guelph St to Bovaird Dr (Region of Peel) (Zone G6L) (HHGEO)	\$ 1,971,000
6616	MIL	400mm WM on Thompson Rd South from Britannia Rd to approx. 1,211 south (Zone M4) (MIL)	\$ 1,746,000
6617	MIL	400mm WM on new roadway south of Britannia Rd from Thompson Rd South to 4th Line (Zone M4) (MIL)	\$ 2,278,000
6618	MIL	400mm WM on new roadway south of Britannia Rd from 4th Line to 5th Line (Zone M4) (MIL)	\$ 2,314,000
6619	MIL	400mm WM on new roadway south of Britannia Rd from 5th Line to 6th Line (Zone M4) (MIL)	\$ 1,559,000
6620	MIL	400mm WM on 6th Line from Britannia Rd to 600 m south (Zone M4) (MIL)	\$ 1,078,000
6621	MIL	400mm WM on 6th Line from Britannia Rd to future Louis St. Laurent Blvd. (Zone M4) (MIL)	\$ 2,763,000
6622	MIL	400mm WM on 6th Line from Derry Rd to future Louis St. Laurent Blvd (Zone M4) (MIL)	\$ 3,328,000
6623	MIL	400mm WM on 5th Line from Britannia Rd to future Louis St. Lauren Blvd (Zone M4) (MIL)	\$ 2,034,000
6624	MIL	400mm WM on 4th Line from Britannia Rd to 650 m south (Zone M4) (MIL)	\$ 724,000
6625	MIL	400mm WM on Lower Base Line (East) from 4th Line to 5th Line (Zone M4) (MIL)	\$ 2,714,000
6626	MIL	400mm WM on 5th Line from Britannia Rd to 650 m south (Zone M4) (MIL)	\$ 736,000
6627	MIL	400mm WM on 4th Line from 650 m south of Britannia Rd to Lower Base Line (West) (Zone M4) (MIL)	\$ 2,322,000
6628	MIL	400mm WM on 5th Line from 650 m south of Britannia Rd to Lower Base Line (West) (Zone M4) (MIL)	\$ 3,081,000
6629	MIL	600mm WM on Louis St. Laurent Ave from 5th Line to 6th Line (Zone M4) (MIL)	\$ 2,651,000
6630	MIL	600mm WM on Louis St. Laurent Ave from 6th Line to Trafalgar Rd (Zone M4) (MIL)	\$ 4,358,000
6631	MIL	400mm WM on Louis St. Laurent Ave from Trafalgar Rd to 8th Line (Zone M4) (MIL)	\$ 2,725,000
6632	MIL	400mm WM on Britannia Rd from Trafalgar Rd to 600 m east (Zone M4) (MIL)	\$ 1,071,000
6633	MIL	400mm WM on Britannia Rd from 600 m east of Trafalgar Rd to 8th Line (Zone M4) (MIL)	\$ 1,167,000
6634	MIL	400mm WM on new Milton Rd from Trafalgar Rd to approximately 700 m east (Zone M4) (MIL)	\$ 1,571,000
6635	MIL	400mm WM on 8th Line from Derry Rd. to future Louis St. Laurent Blvd (Zone M4) (MIL)	\$ 2,947,000

2017-2031 WATER DEVELOPMENT CAPITAL IMPLEMENTATION PLAN

PROJECT ID#	MUNICIPALITY	PROJECT DESCRIPTION	PROJECT COST (2017 \$)
6636	MIL	400mm WM on 8th Line from Britannia Rd to future Louis St. Laurent Blvd (Zone M4) (MIL)	\$ 2,338,000
6637	MIL	400mm WM on new roadway from Britannia Rd to approx. 1,200 m south (Zone M4) (MIL)	\$ 1,679,000
6638	MIL	400mm WM on Derry Rd from Trafalgar Rd to 8th Line (Zone M4) (MIL)	\$ 1,528,000
6641	HHS	400 mm WM on Hornby Rd from Steeles Ave to Trafalgar Rd (Zone 250) (HHS)	\$ 2,368,000
6642	HHS	400 mm WM in the 401 growth corridor north of Steeles from Hornby Rd to Trafalgar Rd (Zone 250) (HHS)	\$ 1,810,000
6643	HHS	400 mm WM in the 401 growth corridor north of Steeles from Trafalgar Rd to approximately 400m east of 8th Line (Zone 250) (HHS)	\$ 2,640,000
6644	HHS	400mm WM in the 401 growth corridor from Steeles Ave to approximately 300 m north (Zone 250) (HHS)	\$ 1,141,000
6645	HHS	400mm WM in the 401 growth corridor north of Steeles Ave. from 1,000 m west of 9th Line to 900 m east of 9th Line (Zone 250) (HHS)	\$ 1,931,000
6646	HHS	400mm WM in the 401 growth corridor from Steeles Ave to approximately 330 m north (Zone 250) (HHS)	\$ 1,110,000
6647	HHS	400mm WM in the 401 growth corridor north of Steeles Ave. from 600 m west of 10th Line to 1,000 m east of 10th Line (Zone 250) (HHS)	\$ 2,136,000
6648	HHS	400mm WM in the 401 growth corridor from Steeles Ave to 340 m north (Zone 250) (HHS)	\$ 1,512,000
6649	MIL	400mm WM on Esquesing Line from James Snow Parkway to approximately 800 m north (Zone 267) (MIL)	\$ 1,270,000
6650	MIL	400mm WM on new roadway from Esquesing Line to approximately 360 m west of Boston Church Rd (Zone 267) (MIL)	\$ 3,443,000
6652	MIL	400mm WM on new roadway from 400 m west of Third Line to No 5 Siderd (Zone 267) (MIL)	\$ 1,177,000
6653	MIL	400mm WM on No 5 Siderd from approximately 400 m west of 3rd Line to 3rd Line (Zone 267) (MIL)	\$ 465,000
6654	HHGEO	750mm WM on Trafalgar Rd from 10th Siderd to approximately 1,700 m north of 10th Siderd (Zone G6L) (HHGEO)	\$ 5,423,000
6655	HHGEO	750mm WM on Trafalgar from 1,700 m north of 10th Siderd to 15th Siderd (Zone G6L) (HHGEO)	\$ 4,861,000
6657	MIL	400mm WM on Tremaine Rd from Britannia Rd to 2,200 m south of Britannia Rd (Zone 223.5) (MIL)	\$ 3,632,000
6659	MIL	400mm WM on new road alignment from Tremaine Rd to approximately 360 m west (Zone 223.5) (MIL)	\$ 467,000
6662	OAK	600 mm WM on Wycroft Rd from Burloak Dr to the 900mm WM on the SE corner of the 3rd line and QEW (OAK)	\$ 16,341,000
6666	MIL	750mm WM on Neyagawa Blvd. from Burnhamthorpe Rd W to Lower Base Line W (MIL)	\$ 8,699,000
6684	OAK	Construction of Oakville WPP Re-rating from 109 to 130 ML/d (OAK)	\$ 10,000,000
6685	REG	Bulk Water Stations on Existing Sites (REG)	\$ 1,997,000
6694	HHGEO	10 ML Zone G6L Storage at 22nd Siderd (HHGEO)	\$ 11,660,000
6697	HHGEO	15 ML storage expansion at Zone M4 Reservoir (TWL = 250m) (HHGEO)	\$ 16,609,000
6701	OAK	Kitchen Zone O3 Pumping Station Expansion by 80 ML/d (OAK)	\$ 12,830,000
6702	OAK	40 ML/d Expansion at the Neyagawa Pumping Station (OAK)	\$ 7,200,000
6704	BUR	200mm WM on Brock Ave from Elgin Street to Lakeshore Rd (BUR)	\$ 454,000
6705	BUR	200mm WM on Regina Drive from Maple Avenue to Ecole Renaissance Schoolyard (BUR)	\$ 377,000
6708	BUR	300mm WM on Elizabeth St from James St to approximately 95 m north (BUR)	\$ 192,000
6709	BUR	300mm WM on Plains Rd East from north of Grandview Rd to twinned section on Plains Rd (BUR)	\$ 2,460,000
6710	BUR	300mm WM on Plains Rd East (Twinning adjacent to 6709) (BUR)	\$ 671,000
6711	BUR	300mm WM on Birchwood Avenue from Plains Rd East southwards towards Fairwood Place East (BUR)	\$ 111,000
6712	BUR	300mm WM on Gallagher Rd from Plains Rd East to 160 m Northerly (BUR)	\$ 256,000
6713	BUR	300mm WM on Downsview Rd from Plains Rd East to Dowland Crescent (BUR)	\$ 238,000
6714	BUR	300mm WM on Brant St from Fairview St to 180 m northerly (BUR)	\$ 405,000
6715	BUR	300mm WM on Woodview Rd from Fairview St to 100 m Northerly (BUR)	\$ 231,000
6716	BUR	200mm WM on from end of Commerce Crt north to Fairview St (BUR)	\$ 370,000
6717	BUR	300mm WM on Fairview St from Appleby Line to Taylor Crescent (BUR)	\$ 1,000,000
6721	MIL	300mm WM on Ontario St North from Main St East to Parkway Drive East (MIL)	\$ 2,082,000
6722	MIL	300mm WM on Woodward Avenue between Martin St and Ontario St North (MIL)	\$ 1,776,000
6723	MIL	400mm WM on Bronte St between Main St West and Barton St (MIL)	\$ 1,212,000
6724	MIL	300mm WM on Main St East between James St and Martin St (MIL)	\$ 575,000
6725	MIL	300mm WM on Laurier Avenue between Bronte St and Commercial St (MIL)	\$ 2,436,000

2017-2031 WATER DEVELOPMENT CAPITAL IMPLEMENTATION PLAN

PROJECT ID#	MUNICIPALITY	PROJECT DESCRIPTION	PROJECT COST (2017 \$)
6726	OAK	300mm WM on Sovereign St between Bronte Rd and East St (OAK)	\$ 2,097,000
6728	OAK	300mm WM on Cowan Ave between Kerr St and Inglewood Drive (OAK)	\$ 653,000
6729	OAK	300mm WM on Deane Ave between Kerr St and Felan Ave (OAK)	\$ 1,049,000
6731	OAK	300mm WM on Forsythe St between Rebecca St and Burnet St (OAK)	\$ 617,000
6733	HHGEO	300 mm Replacement on Cross St from Guelph St to Main St (HHGEO)	\$ 214,000
6735	HHGEO	300 mm replacement on Guelph St between Mountainview Rd North and Sinclair Ave (HHGEO)	\$ 1,955,000
6863	BUR	Waterdown Road Pumping Station Expansion (Zones B2, B3A & B5A) (BUR)	\$ 5,629,000
7014	BUR	400 mm WM from Waterdown Reservoir Pumping Station to new North Aldershot Reservoir (Zone B3A) (BUR)	\$ 2,437,000
7284	OAK	400mm WM and valve chamber to be constructed on Neyagawa Blvd (Regional Road 4) (OAK)	\$ 223,000
7357	OAK	400mm WM on Sixth Line from the proposed William Halton Parkway (RR 40) southward approximately 300m (OAK)	\$ 270,000
7497	OAK	400mm WM on Sixth Line from approximately 300m southward of William Halton Parkway (RR 40) to Burnhamthorpe Rd (OAK)	\$ 642,000
7496	OAK	Decommissioning of Burnhamthorpe Water Tower (OAK)	\$ 1,000,000
7498	MIL	Lake Based Servicing transfer of Derry Rd/R.R. 25 area (MIL)	\$ 280,000
7499	HHGEO	2 system PRV's on Mountain View and Eighth Line at the creek (Georgetown Lakebased Transfer Implementation) (Construction) (HHGEO)	\$ 345,000
7500	MIL	Milton West Looping - 400mm WM on Derry Rd from Santa Maria Blvd. to Bronte St South, and a 400 mm WM on Main St West from Scott Blvd. to Tremaine Road. (MIL)	\$ 3,737,000
7501	OAK	400mm WM on new North Oakville Rd west of Fourth Line (OAK)	\$ 3,000,000
7502	REG	Halton Water Master Plan (REG)	\$ 1,950,000
7503	OAK	300 mm WM on Sixth Line from Hays Blvd to River Glen Blvd. Project required to support Zone 3/4/5 Boundary Re-alignment (OAK)	\$ 150,000
7504	MIL	1200mm WM on Britannia Rd from 4th Line to RR 25 (Zone M4) - Construction (MIL)	\$ 25,000,000
7505	OAK	1050mm WM on Burloak Dr from Burloak Pumping Station to the QEW - Construction (OAK)	\$ 6,690,000
7506	HHGEO	750mm WM on Trafalgar Rd from Zone 4 Reservoir to No 10 Siderd (Zone G6L) - Construction (HHGEO)	\$ 5,639,000
7507	HHGEO	600mm WM on 10th Siderd from Trafalgar Rd to 8th Line (Zone G6L) - Construction (HHGEO)	\$ 3,675,000
7508	HHGEO	20 ML/d Zone G6L Pumping Station at Zone 4 Reservoir - Construction (HHGEO)	\$ 4,880,000
7509	OAK	Neyagawa Pumping Station retrofits to support Zone 3/4/5 Boundary Re-alignment (100 MLD) (OAK)	\$ 7,466,000
7510	REG	Water Distribution System Analysis (REG)	\$ 1,650,000
7511	REG	Water Supply Capacity Annual Monitoring Report (REG)	\$ 750,000
7512	REG	System Wide Transient Analysis Modelling Study (REG)	\$ 500,000
7513	MIL	4th Line Pumping Station Retrofits to support Zone 3/4/5 Boundary Re-alignment (MIL)	\$ 1,884,000
7514	OAK	8th Line Zone 4 Pumping Station Retrofits to support Zone 3/4/5 Boundary Re-alignment (OAK)	\$ 4,500,000
7515	REG	System PRV implementation to support Zone 3/4/5 Boundary Re-alignment (REG)	\$ 8,000,000
7516	BUR	900 mm WM Second feed to Washburn Reservoir (Zone B1) (BUR)	\$ 29,518,000
6318	MIL	300mm WM on No 14 Siderd from Tremaine Rd. to Milton Reservoir (Zone M5G) (MIL)	\$ 1,799,000
TOTAL			\$ 564,630,000



Legend

Existing Wastewater Infrastructure

- ▲ Wastewater Pumping Station (WWPS)
- Wastewater Treatment Plant (WWTP)
- Gravity Sewer
- Forcemain

DC Projects

Linear

- DC Project - Sewer
- DC Project - Forcemain
- Project Constructed/Imminent/Funded - Sewer
- Project Constructed/Imminent/Funded - Forcemain
- Intensification Project - Sewer

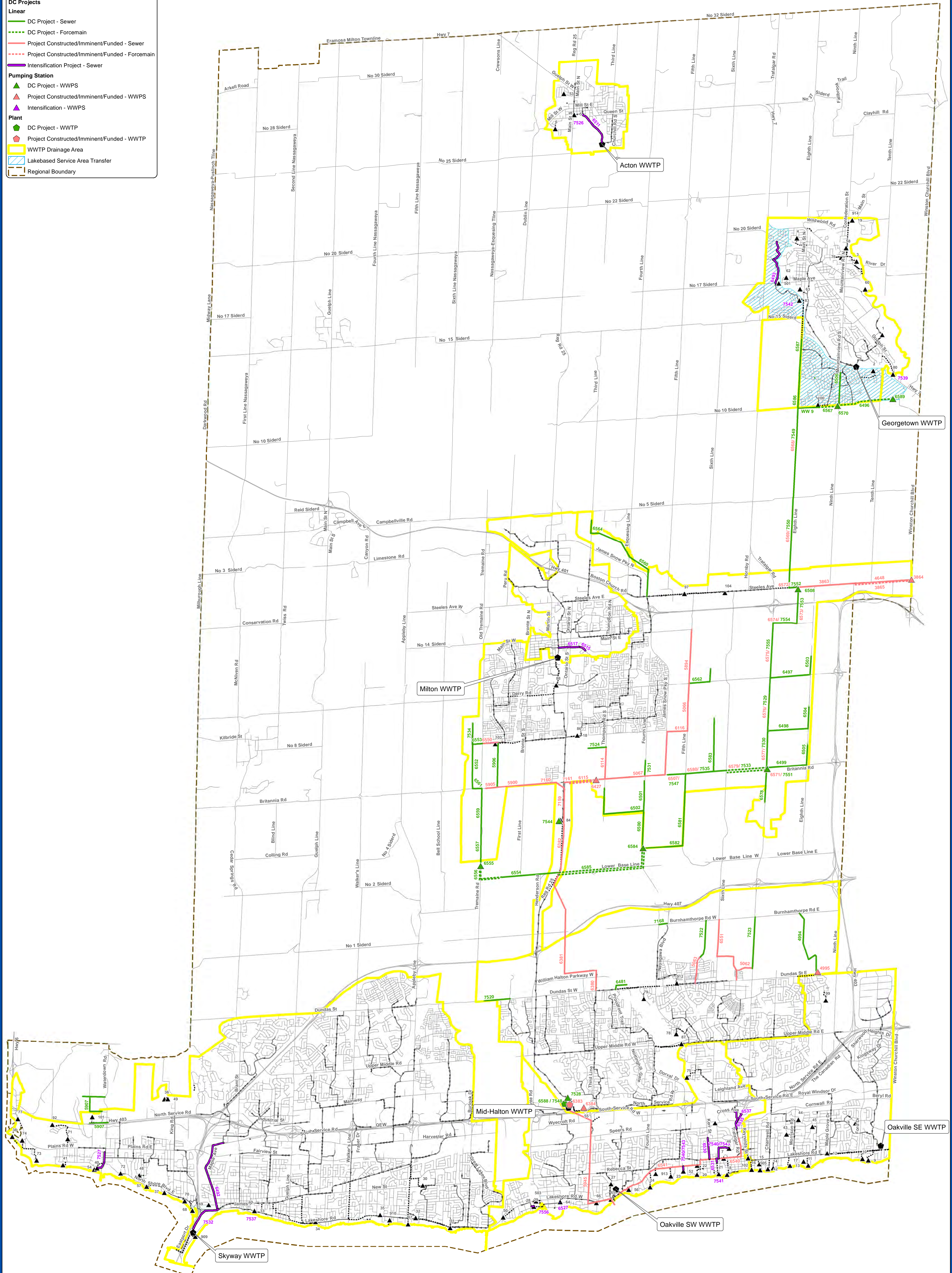
Pumping Station

- ▲ DC Project - WWPS
- ▲ Project Constructed/Imminent/Funded - WWPS
- ▲ Intensification - WWPS

Plant

- DC Project - WWTP
- Project Constructed/Imminent/Funded - WWTP

WWTP Drainage Area
 Lakebased Service Area Transfer
 Regional Boundary

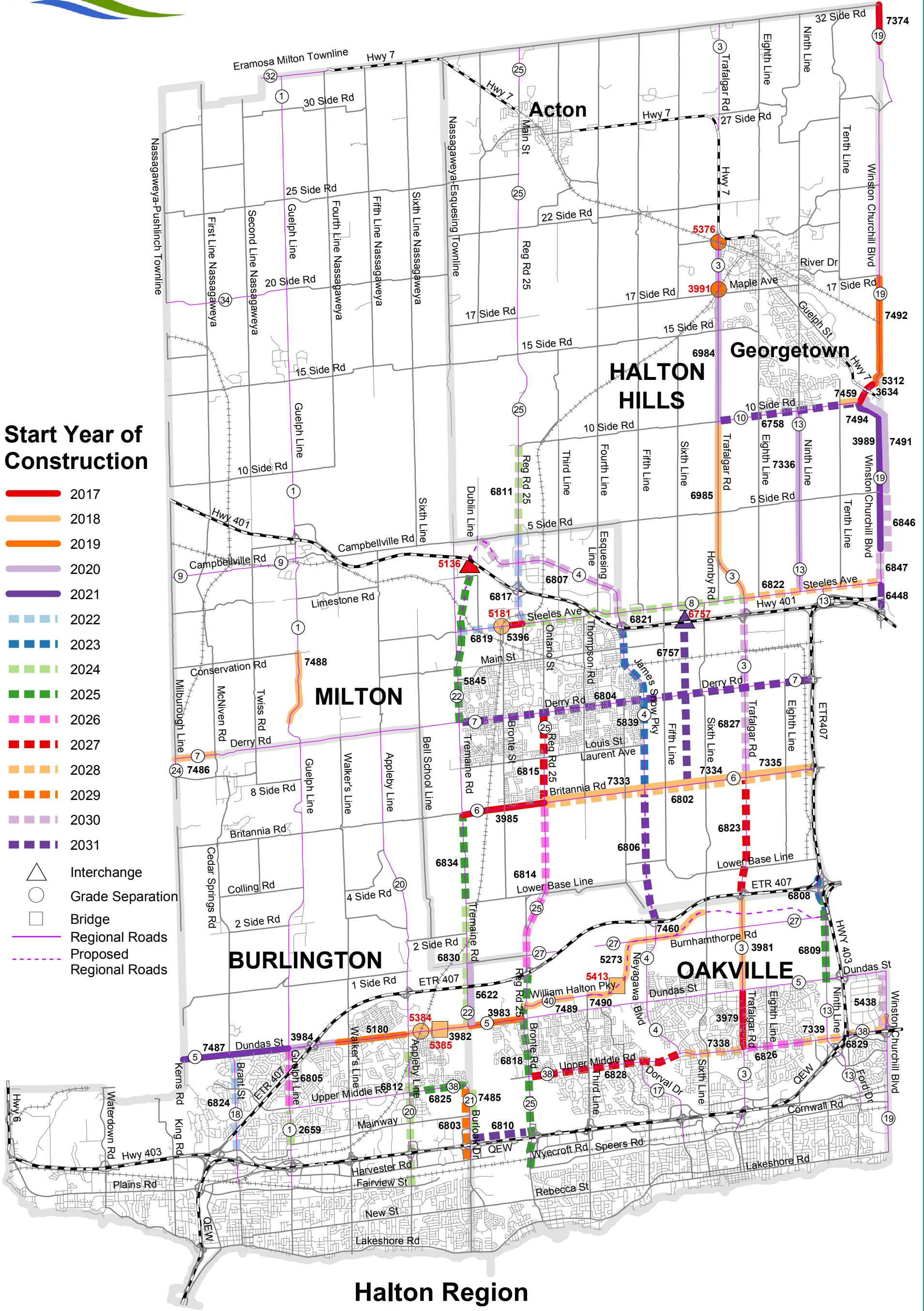


2017-2031 WASTEWATER DEVELOPMENT CAPITAL IMPLEMENTATION PLAN

PROJECT ID#	MUNICIPALITY	PROJECT DESCRIPTION	PROJECT COST (2017 \$)
4994	OAK	600 mm WWM on new North Oakville road from Burnhamthorpe Rd to Dundas St (OAK)	\$ 8,184,000
5906	MIL	750 mm WWM on new road alignment from Louis St. Laurent to Britannia Rd (MIL)	\$ 10,288,000
5907	BUR	300 mm WWM North Aldershot Servicing (BUR)	\$ 4,563,000
6481	OAK	450 mm WWM on internal road parallel to Dundas St from west of 16 Mile Creek Bridge to 190 m east of Proudfoot Trail (OAK)	\$ 480,000
6492	BUR	825-900 mm WWM on Maple Avenue East Between Lakeshore Rd and Plains Rd East (BUR)	\$ 9,239,000
6493	HHGEO	375 mm WWM on Atwood Ave/Murno Circle and existing sewer alignment from Berton Blvd to Maple Ave (HHGEO)	\$ 2,726,000
6496	HHGEO	Twinned 250mm WWFM from Norval WWPS to new WWPS #6570 at Mountainview Rd (HHGEO)	\$ 1,333,000
6497	MIL	300 mm WWM on Derry Rd from 8th Line to Trafalgar Rd (MIL)	\$ 885,000
6498	MIL	450 mm WWM on new road from 8th Line to Trafalgar Rd (MIL)	\$ 1,651,000
6499	MIL	300 mm WWM on Britannia Rd from 8th Line to Trafalgar/ Britannia WWPS (MIL)	\$ 1,148,000
6500	MIL	600 mm WWM on 4th Line from new road to Lower Base Line WWPS (MIL)	\$ 4,632,000
6501	MIL	450 mm WWM on 4th Line from south of Britannia Rd to new road (MIL)	\$ 3,722,000
6502	MIL	525 mm WWM on Thompson Rd and new internal road from south of Britannia to 4th Line (MIL)	\$ 2,520,000
6503	MIL	300 mm WWM on 8th Line from north of Derry Rd to Derry Rd (MIL)	\$ 537,000
6504	MIL	450 mm WWM on 8th Line from north of new road to new road (MIL)	\$ 864,000
6505	MIL	300 mm WWM on 8th Line from north of Britannia Rd to Britannia Rd (MIL)	\$ 424,000
6506	HHGEO	750 mm WWM on 9th Line from Argyll Rd to 10th Side Rd - Georgetown South Connection (HHGEO)	\$ 8,320,000
6508	HHS	Decommissioning of HH WWPS #3, connection to new 8th Line trunk sewer and conversion of site to septage receiving facility (HHS)	\$ 785,000
6511	HHACT	Twining of 525 - 600 mm WWM from Elgin St South along Black Creek alignment to Acton WWTP (HHACT)	\$ 3,028,000
6515	MIL	300 mm WWM on Childs Drive between the south entrance of Satok Crescent and Nipissing Road (MIL)	\$ 445,000
6517	MIL	450 mm WWM on Oak St between Ontario St South and Fulton St (MIL)	\$ 1,115,000
6527	OAK	Twin 600 mm WWM on service road to Marine Drive WWPS from Marine Drive (OAK)	\$ 153,000
6530	OAK	300 mm WWM on Kerr St between Forster Park and Rebecca St (OAK)	\$ 957,000
6531	OAK	250 mm WWM on Chisholm/Rebecca St between Forsyth St and Chisholm St on Rebecca St and on Chisholm St between Rebecca St and 45 m north of Lakeshore Rd West (OAK)	\$ 233,000
6535	OAK	450 mm WWM on Trafalgar Rd from 10 m north of Inglehart Street North to Cross Ave (OAK)	\$ 1,273,000
6537	OAK	675 mm WWM on Trafalgar Rd, through GO lot and on Argus St from Spruce St to 60 m north of Cross Ave (OAK)	\$ 3,503,000
6552	MIL	450mm WWM on new road alignment in Milton Education Village from Louis St Laurent extension to 1115 m south (MIL)	\$ 883,000
6553	MIL	450 mm WWM on Louis St Laurent extension from 340m west of Tremaine Rd to Tremaine Rd (MIL)	\$ 844,000
6554	MIL	600 mm WWM on Lower Base Line from WWFM discharge approx 650 m west of 1st Line to RR 25 (MIL)	\$ 9,034,000
6555	MIL	New 225 L/s WWPS on Tremaine Rd at Lower Base Line (MIL)	\$ 7,314,000
6556	MIL	Twin 400 mm WWFM from Tremaine WWPS to Lower Base Line, approx. 650 m west of 1st Line (MIL)	\$ 4,520,000
6557	MIL	600 mm WWM on Tremaine Rd from approximately 1500 m north of South Tremaine Rd WWPS to South Tremaine Rd WWPS (MIL)	\$ 6,583,000
6559	MIL	525 mm WWM on Tremaine Rd from Britannia Rd to 1050 m south of Britannia Rd (MIL)	\$ 4,629,000
6560	MIL	525 mm WWM on James Snow Pkwy and new road alignment from Steeles Ave to Esquesing Line (MIL)	\$ 2,065,000
6561	MIL	450 mm WWM on new road and Britannia Rd from Milton Education Village to Tremaine Rd (MIL)	\$ 562,000
6562	MIL	450 mm WWM on new road from 440 m north of Derry Rd to Derry Rd and 525 mm WWM on Derry Rd from 725 m east of 5th Line to 5th Line (MIL)	\$ 1,465,000
6564	MIL	525 mm WWM on new alignment from Esquesing Line to 3rd Line (MIL)	\$ 3,157,000
6567	HHGEO	Twinned 300mm WWFM on 10th Side Rd from 9th Ln to New WW #9 (HHGEO)	\$ 1,006,000
6570	HHGEO	360 L/s WWPS at 10 Side Rd/9th Line (HHGEO)	\$ 8,363,000
6578	MIL	525 WWM on Trafalgar Rd from south of Britannia Rd to Britannia Rd/ Trafalgar Rd WWPS (MIL)	\$ 4,389,000
6581	MIL	1350 mm WWM on 5th Line from Britannia Rd to Lower Base Line (MIL)	\$ 15,678,000
6582	MIL	1350 mm WWM on Lower Base Line from 5th Line to 4th Line (MIL)	\$ 10,003,000
6583	MIL	525 mm WWM on new road from 1400 m north of Britannia Rd to Britannia Rd (MIL)	\$ 5,727,000
6584	MIL	1,805 L/s WWPS at Lower Base Line and 4th Line (MIL)	\$ 30,369,000
6585	MIL	Twinned 900 mm WWFM from Lower Base Line to RR 25 (MIL)	\$ 63,500,000
6586	HHGEO	750 mm WWM on 8th Line from Argyll Rd to 10th Side Rd (HHGEO)	\$ 3,135,000
6587	HHGEO	600 mm WWM on 8th Line from Miller Rd to Argyll Rd (HHGEO)	\$ 2,671,000
6588	OAK	Mid-Halton WWTP expansion from 125 ML/d to 175 ML/d (OAK)	\$ 99,761,000
6589	HHGEO	35 L/s WWPS on 10th Side Rd in Norval (HHGEO)	\$ 731,000
7168	OAK	450 mm sewer on Burnhamthorpe Rd from Neyagawa Blvd. to King's Christian Collegiate (OAK)	\$ 130,000
7517	REG	Halton Wastewater Master Plan (REG)	\$ 2,050,000
7518	REG	Wastewater Collection System Analysis (REG)	\$ 1,650,000

2017-2031 WASTEWATER DEVELOPMENT CAPITAL IMPLEMENTATION PLAN

PROJECT ID#	MUNICIPALITY	PROJECT DESCRIPTION	PROJECT COST (2017 \$)
7519	REG	Wastewater Treatment Capacity Annual Monitoring Report (REG)	\$ 750,000
7520	OAK	600 mm WWM crossing Dundas St and 600 mm WWM on Dundas St from 900m west of Colonel Williams Parkway to Colonel Williams Parkway (Construction) (OAK)	\$ 3,849,000
7521	HHACT	Black Creek Monitoring Program (HHACT)	\$ 400,000
7522	OAK	525 mm WWM through developer subdivision from ID 5063 to Burnhamthorpe Rd E (OAK)	\$ 1,944,000
7523	OAK	600 mm WWM on Trafalgar Rd from ID 5062 to Burnhamthorpe Rd East (OAK)	\$ 3,567,000
7524	MIL	450 mm WWM through developer subdivision from ID 6114 on Thompson Rd westerly (MIL)	\$ 756,000
7526	HHACT	Agnes St WWPS Strategy. Scoping Study, EA, Design and Construction (HHACT)	\$ 7,239,000
7527	BUR	Upsize WWM on Lasalle Park Road from Fairwood Pl to Lasalle WWPS (BUR)	\$ 683,000
7528	OAK	North WWPS expansion of 1,200 L/s at Mid-Halton WWTP (OAK)	\$ 22,564,000
7531	MIL	525mm WWM on Fourth Line from Britannia Rd to approximately 900 m north (MIL)	\$ 4,337,000
7532	BUR	New 2400 mm WWM inlet to Skyway WWTP parallel to QEW (BUR)	\$ 24,462,000
7534	MIL	450 mm WWM on new road in Milton Education Village from 800m north of Louis St Laurent extension to Louis St Laurent extension (MIL)	\$ 634,000
7536	REG	Regional Sanitary Sewer System Invert Survey (REG)	\$ 350,000
7538	REG	Peer Review of InfoWorks Model Calibration (REG)	\$ 100,000
7540	OAK	Decommissioning of Riverside WWPS and Shorewood Place WWPS (OAK)	\$ 300,000
7541	OAK	Walker St WWPS - I/I reduction Program to gain capacity at the station. Scoping Study, Design and Construction (OAK)	\$ 2,347,000
7543	OAK	Gravity Sewers from Decommissioned Riverside WWPS and Shorewood Place SPS to New Rebecca Trunk (OAK)	\$ 3,900,000
7545	REG	Flow Monitoring for Wastewater Model Calibration (REG)	\$ 325,000
7547	M	1200 mm WWM on Britannia Rd to 5th Line to James Snow Pkwy - Construction (MIL)	\$ 5,812,000
7549	HHGEO	900 mm WWM on 8th Line from 10th Side Rd to 5th Side Rd - Construction (HHGEO)	\$ 24,072,000
7550	HHGEO	900 mm WWM on 8th Line from 5th Side Rd to Steeles Ave - Construction (HHGEO)	\$ 9,530,000
7551	MIL	1,200 L/s WWPS on Trafalgar Rd/ Britannia Rd - Construction (MIL)	\$ 22,107,000
7552	HHGEO	1050 mm WWM on Steeles Ave from 8th Line to Crossing Easement - Construction (HHGEO)	\$ 3,156,000
7553	MIL	1050 mm WWM 401 Crossing from Steeles Ave to Auburn Rd - Construction (MIL)	\$ 13,843,000
7554	MIL	1050 mm WWM on Auburn Rd from Hwy 401 crossing easement to Trafalgar Rd - Construction (MIL)	\$ 4,473,000
7555	MIL	1050 mm WWM on Trafalgar Rd from Auburn Rd to Derry Rd - Construction (MIL)	\$ 10,005,000
7556	OAK	West River WWPS - Capacity Upgrade to 120 L/s WWPS - Design and Construction, including 450 mm inlet WWM to the station on Service Rd from West River St to West River WWPS (OAK)	\$ 11,574,000
7529	MIL	1050 mm WWM on Trafalgar Rd from Derry Rd to Golf Course - Construction (MIL)	\$ 7,307,000
7530	MIL	1050 mm WWM on Trafalgar Rd from Golf Course to Britannia Rd / Trafalgar Rd WWPS - Construction (MIL)	\$ 11,134,000
7533	MIL	Twinned 750 mm WWFM on Britannia Rd from Trafalgar Rd to 6th Line - Construction (MIL)	\$ 11,774,000
7535	MIL	1200 mm WWM on Britannia Rd from 6th Line to 5th Line - Construction (MIL)	\$ 13,707,000
7537	BUR	Junction St WWPS Capacity Upgrade to 150 L/s WWPS - Design and Construction (BUR)	\$ 12,277,000
7539	HHGEO	Norval WWPS - Capacity upgrade (HHGEO)	\$ 347,000
7542	HHGEO	Main St WWPS Capacity Upgrade (HHGEO)	\$ 260,000
7544	MIL	Boyne WWPS - Decommissioning upon completion of gravity sewers #7159, #6382, #6381 (MIL)	\$ 100,000
7546	HHGEO	750 mm WWM on No 10 Side Road from WWPS #100 to Eighth Line (in order to decommission WWPS #100) (HHGEO)	\$ 4,477,000
7548	OAK	Mid-Halton WWTP expansion from 175 ML/d to 225 ML/d (Design) (OAK)	\$ 18,000,000
TOTAL			\$ 625,689,000



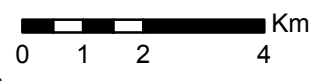
Start Year of Construction

- 2017
- 2018
- 2019
- 2020
- 2021
- 2022
- 2023
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- 2025
- 2026
- 2027
- 2028
- 2029
- 2030
- 2031

- △ Interchange
- Grade Separation
- Bridge
- Regional Roads
- - - Proposed Regional Roads

**Halton Region
Transportation Development and Non-Development
Capital Implementation Plan* (2017-2031)**

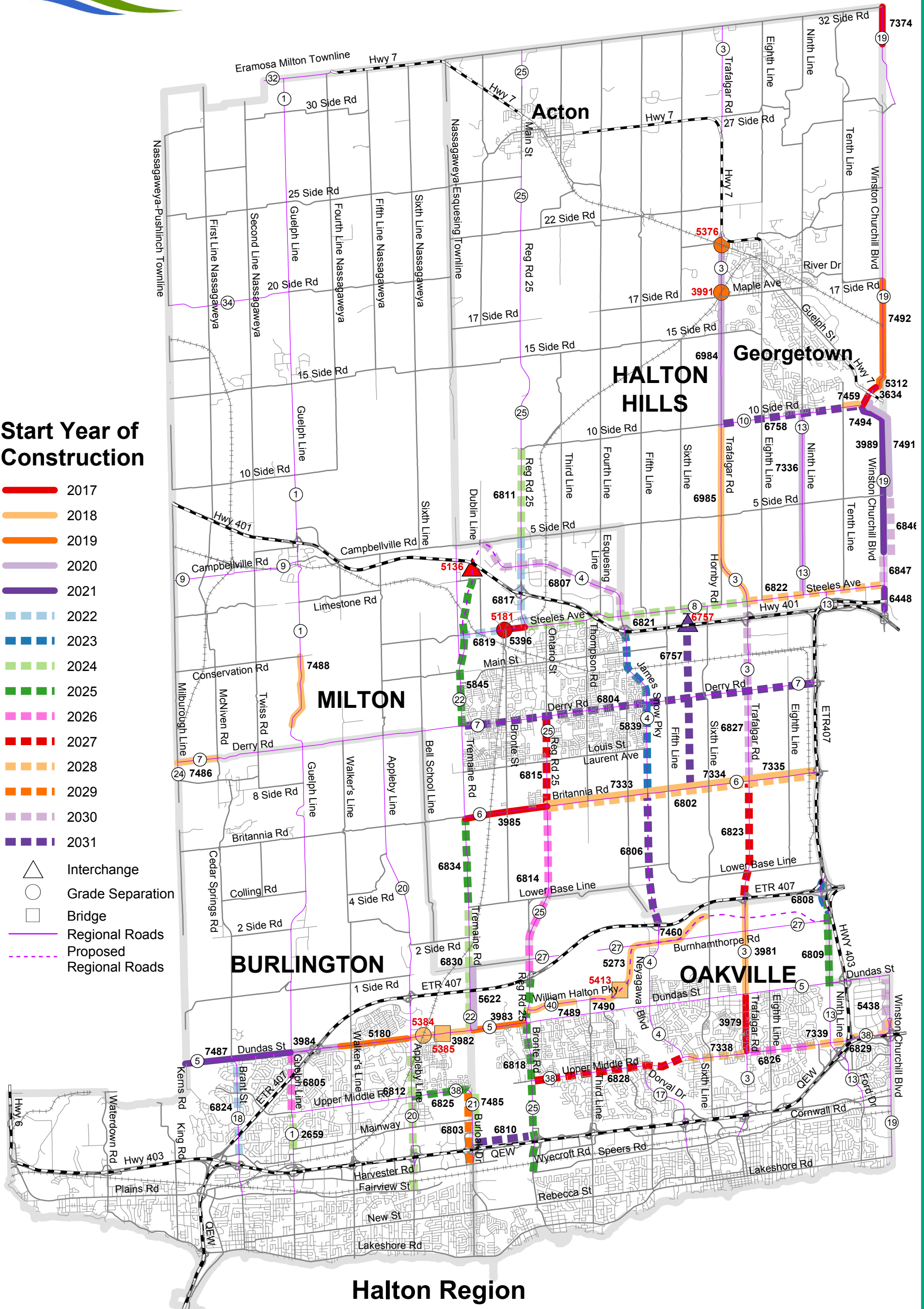
*Note this includes Road Widening, Road Reconstructions, New Roads, Interchanges, Bridges and Grade Separations
Locations shown on this map are approximate and does not attempt to delineate an exact location.



Start Year of Construction

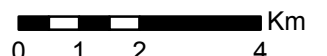
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- 2030
- 2031

- Interchange
- Grade Separation
- Bridge
- Regional Roads
- Proposed Regional Roads



Halton Region Transportation Development and Non-Development Capital Implementation Plan* (2017-2031)

*Note this includes Road Widening, Road Reconstructions, New Roads, Interchanges, Bridges and Grade Separations
Locations shown on this map are approximate and does not attempt to delineate an exact location.



2017-2031 Transportation Development & Non-Development Capital Implementation Plan

PROJECT ID#	MUNICIPALITY	PROJECT DESCRIPTION	PROJECT COST (\$2017 millions)
Development Projects			
6445	BUR	Guelph Line at Harvester Road - Intersection Improvements (BUR) (Regional Road 1)	5.212
2659	BUR	Guelph Line - Widening - 4 to 6 lanes from Mainway to Upper Middle Road (BUR) (Regional Road 1)	10.649
6805	BUR	Guelph Line - Widening from 4 to 6 lanes from Upper Middle Rd. to Dundas St. (BUR) (Regional Road 1)	17.337
7438	BUR	Guelph Line & 1 Side Road - Intersection Improvements (BUR) (Regional Road 1)	3.047
3979	OAK	Trafalgar Road - Widening - 4 to 6 Lanes from Upper Middle Road to Dundas Street (OAK) (Regional Road 3)	14.651
3981	OAK	Trafalgar Road - Widening - 4 to 6 Lanes from Dundas St to Hwy 407 (OAK) (Regional Road 3)	28.464
3991	HHS	Trafalgar Road - Grade Separation at CN Crossing North of Maple Ave (HHS) (Regional Road 3)	30.252
5376	HHS	Trafalgar Road - Grade Separation at Metrolinx Crossing South of Hwy 7 (HHS) (Regional Road 3)	17.391
6985	HHS	Trafalgar Road - Widening - 2 to 4 Lanes from Steeles Avenue to 10 Side Road (HHS) (Regional Road 3)	27.557
6984	HHS	Trafalgar Road - Widening - 2 to 4 Lanes from 10 Side Road to Hwy 7 (HHS) (Regional Road 3)	52.172
6823	MIL	Trafalgar Road - Widening from 4 to 6 lanes from Highway 407 to Britannia Rd. (MIL) (Regional Road 3)	33.116
6827	MIL/HHS	Trafalgar Road - Widening from 4 to 6 lanes from Britannia Rd. to Steeles Avenue (MIL/HHS) (Regional Road 3)	69.617
5839	MIL	James Snow Parkway - Widening from 2 to 6 Lanes from Britannia Road to Hwy 401 (MIL) (Regional Road 4)	38.523
6807	MIL	James Snow Parkway - Widening from 4 to 6 lanes from Highway 401 to Tremaine Road (MIL) (Regional Road 4)	59.450
6806	MIL	James Snow Parkway - New 6-lane road from Highway 407 to Britannia Road (MIL) (Regional Road 4)	46.145
3942	OAK	Dundas Street - Widening - 4 to 6 lanes from Bronte Road to Proudfoot Trail (OAK) (Regional Road 5)	1.322
5436	OAK	Dundas Street - Widening - 4 to 6 lanes from Neyagawa Blvd. to Oak Park Blvd. (OAK) (Regional Road 5)	2.770
5180	BUR	Dundas Street - Widening 4 to 6 lane from North Hampton to Appleby Line (BUR) (Regional Road 5)	15.458
5384	BUR	Dundas Street - Grade Separation at CNR Crossing between Appleby Line and Tremaine Rd (BUR) (Regional Road 5)	17.268
3983	OAK	Dundas Street Widening from 4 to 6-Lanes from Tremaine Rd to Bronte Rd (OAK) (Regional Road 5)	13.929
5385	BUR	Dundas Street - Bronte Creek Bridge between Appleby Line and Tremaine Rd (BUR) (Regional Road 5)	43.953
3982	BUR	Dundas Street - Widening from 4 to 6-Lanes (excluding CNR & Bronte Crk Bridges) from Appleby Line to Tremaine Rd (BUR) (Regional Road 5)	12.157
3984	BUR	Dundas Street - Widening 4 to 6-Lanes from Guelph Line to North Hampton (BUR) (Regional Road 5)	21.259
7487	BUR	Dundas Street - Widening 4 to 6-Lanes from Guelph Line to Halton/Hamilton Boundary including improvements at Brant Street (BUR) (Regional Road 5)	28.847
3985	MIL	Britannia Road - Widening - 2 to 6 Lanes from Tremaine Rd to Regional Road 25 (MIL) (Regional Road 6)	17.289
7333	MIL	Britannia Road (CONSTRUCTION ONLY) - Widening 2 to 4 lanes from Regional Road. 25 to James Snow Parkway (MIL) (Regional Road 6)	31.566

PROJECT ID#	MUNICIPALITY	PROJECT DESCRIPTION	PROJECT COST (\$2017 millions)
7334	MIL	Britannia Road (CONSTRUCTION ONLY) - Widening - 2 to 4 lanes from James Snow Parkway to Trafalgar Rd (MIL) (Regional Road 6)	28.493
7335	MIL	Britannia Road - Widening - 2 to 4 lanes from Trafalgar Road to Highway 407 (MIL) (Regional Road 6)	11.402
6802	MIL	Britannia Road - Widening from 4 to 6 lanes from Regional Road 25 to Highway 407 (MIL) (Regional Road 6)	57.480
6804	MIL	Derry Road - Widening from 4 to 6 lanes from Tremaine Rd. to Highway 407 (MIL) (Regional Road 7)	90.416
6819	MIL	Steeles Avenue - Widening from 2 to 4 lanes from Tremaine Road to Industrial Drive (MIL) (Regional Road 8)	16.390
5396	MIL	Steeles Avenue - Widening 2 to 4 lanes from Industrial Drive to Martin Street (MIL) (Regional Road 8)	2.543
5181	MIL	Steeles Avenue Grade Separation at CN crossing west of Bronte Street (MIL) (Regional Road 8)	11.273
6821	MIL/HHS	Steeles Avenue - Widening from 4 to 6 lanes from Regional Road 25 to Trafalgar (MIL/HHS) (Regional Road 8)	62.278
6822	HHS	Steeles Avenue - Widening from 4 to 6 lanes (with RBL) from Trafalgar to Winston Churchill Boulevard (HHS) (Regional Road 8)	46.051
6758	HHS	10 Side Road - Widening from 2 to 4 lanes from Trafalgar Rd to Winston Churchill Blvd. (HHS) (Regional Road 10)	36.185
7336	HHS	Ninth Line - Widening 2 to 4-lanes from Steeles Ave to 10 Side Rd (HHS) (Regional Road 13)	32.892
6808	OAK	Ninth Line - Widening from 2 to 4 lanes from Burnhamthorpe Rd. to Highway 407 (OAK) (Regional Road 13)	14.517
6809	OAK	Ninth Line - Widening from 2 to 4 lanes from Dundas St. to Burnhamthorpe Rd. (OAK) (Regional Road 13)	16.813
6824	BUR	Brant Street - Widening from 4 to 6 lanes from North Service Road to Dundas Street (BUR) (Regional Road 18)	27.681
3989	HHS	Winston Churchill Blvd. - Widening - 2 to 4 Lanes from 2km south of 5 Side Road to potential by-pass (Halton's Share) (HHS) (Regional Road 19)	9.332
6448	HHS	Winston Churchill Blvd. - Widening 4-6 Lanes from Hwy 401 to Steeles Avenue (Halton's Share) (HHS) (Regional Road 19)	2.806
6846	HHS	Winston Churchill Blvd - Widening from 4 to 6 lanes from 2km south of 5 Side Rd to 5 Side Rd (Halton's Share) (HHS) (Regional Road 19)	5.936
6847	HHS	Winston Churchill Boulevard Widening 5-7 Lanes from Steeles Ave to 2 km south of 5 Side Rd (Halton's Share) (HHS) (Regional Road 19)	3.612
5438	OAK	Winston Churchill Blvd. - Widening from 4 to 6 Lanes from Dundas St to Upper Middle Rd / QEW (Halton's Share) (OAK) (Regional Road 19)	9.656
6449	BUR	Appleby Line at Harvester Road - Intersection Improvements (BUR) (Regional Road 20)	3.775
6812	BUR	Appleby Line - Widening from 4 to 6 lanes from Fairview Street to Taywood Drive (BUR) (Regional Road 20)	48.361
6803	BUR/OAK	Burloak Drive - Widening from 4 to 6 lanes from Harvester Rd. to Upper Middle Rd. (BUR/OAK) (Regional Road 21)	30.166
7485	BUR/OAK	Burloak Drive (CONSTRUCTION ONLY) – 4 lane urbanization from north of QEW to Upper Middle Road (BUR/OAK) (Regional Road 21)	4.384
5408	MIL	Tremaine Road Grade Separation at CN (MIL) (Regional Road 22)	0.203
5409	MIL	Tremaine Road - New Bridge over 16 Mile Creek north of Steeles Avenue (MIL) (Regional Road 22)	0.254
5138	MIL	Tremaine Road - New 4-lane roadway from Tremaine Road to IC to JSP (MIL) (Regional Road 22)	1.017
5135	MIL	Tremaine Road - New 4-lane roadway from 16 Mile Creek to Tremaine Road (MIL) (Regional Road 22)	0.864
5134	MIL	Tremaine Road - New 4-lane roadway from Steeles Avenue to 16 Mile Creek (MIL) (Regional Road 22)	0.712

PROJECT ID#	MUNICIPALITY	PROJECT DESCRIPTION	PROJECT COST (\$2017 millions)
5136	MIL	Tremaine Road - New 4-lane roadway from Tremaine Road (IC)s to Tremaine Road (IC)n (MIL) (Regional Road 22)	6.847
5845	MIL	Tremaine Road - Widening 4 to 6 lanes from Derry Road to Hwy 401 (MIL) (Regional Road 22)	76.026
6830	BUR/OAK	Tremaine Road - Widening from 2 to 4 lanes from Dundas St. to Lower Base Line (BUR/OAK) (Regional Road 22)	41.268
6834	MIL	Tremaine Road - Widening from 2 to 4 lanes from Lower Base Line to Britannia Rd. (MIL) (Regional Road 22)	27.625
6817	MIL	Regional Road 25 - Widening from 4 to 6 lanes from Steeles Avenue to 5 Side Rd. (MIL) (Regional Road 25)	32.031
6811	HHS	Regional Road 25 - Widening from 2 to 4 lanes from 5 Side Rd. to 10 Side Rd. (HHS) (Regional Road 25)	13.313
6818	OAK	Regional Road 25 - Widening from 4 to 6 lanes from Speers Rd. to Highway 407 (OAK) (Regional Road 25)	66.143
6814	MIL	Regional Road 25 - Widening from 4 to 6 lanes from Highway 407 to Britannia Rd. (MIL) (Regional Road 25)	54.473
6815	MIL	Regional Road 25 - Widening from 4 to 6 lanes from Britannia Rd to Derry Rd. (MIL) (Regional Road 25)	24.011
7343	OAK/MIL	Regional Road 25 - Realignment at Lower Base Line Intersection (OAK/MIL)	2.776
7489	OAK	William Halton Parkway (CONSTRUCTION ONLY) - 2 to 4 Lanes from Old Bronte Road to Hospital Gate (OAK) (Regional Road 40)	9.698
7490	OAK	William Halton Parkway (CONSTRUCTION ONLY) - New 4-lane road from Third Line to Sixteen Mile Creek (OAK) (Regional Road 40)	2.245
7460	OAK	William Halton Parkway (CONSTRUCTION ONLY) - New 4-lane road from Sixth Line to Neyagawa Boulevard (OAK) (Regional Road 40)	12.204
5413	OAK	William Halton Parkway - New 4-lane Bridge over 16 Mile Creek (OAK) (Regional Road 40)	43.412
5273	OAK	William Halton Parkway - New 4-lane road from Sixteen Mile Creek to Neyagawa Blvd. (OAK) (Regional Road 40)	13.318
7337	OAK	Upper Middle Road - Intersection Operational Improvements (OAK) (Regional Road 38)	5.345
6825	BUR	Upper Middle Road - Widening from 4 to 6 lanes from Appleby Line to Burloak Drive (BUR) (Regional Road 38)	17.381
7338	OAK	Upper Middle Road - Widening from 4 to 6 lanes from Neyagawa Blvd. to Trafalgar Rd. (OAK) (Regional Road 38)	15.552
7339	OAK	Upper Middle Road - Widening from 4 to 6 lanes from Grand Blvd to Ninth Line (OAK) (Regional Road 38)	7.805
6826	OAK	Upper Middle Road - Widening from 4 to 6 lanes from Trafalgar Road to Grand Blvd. (OAK) (Regional Road 38)	19.941
6828	OAK	Upper Middle Road - Widening from 4 to 6 lanes from Bronte Rd. to Neyagawa Blvd. (OAK) (Regional Road 38)	43.416
6829	OAK	Upper Middle Road - Widening from 4 to 6 lanes from Ninth Line to Winston Churchill Blvd. (OAK) (Regional Road 38)	23.027
6757	MIL	"5 1/2 Line" - New 6-lane road from Britannia Road. to Steeles Avenue and Interchange at Highway 401 (MIL)	112.014
6810	BUR/OAK	North Service Road New 4-lane road from Burloak Drive to Bronte Road (BUR/OAK)	25.305
7494	HHS	Norval Bypass (HHS)	23.519
6854	REG	New Traffic Signals - Development (Region-wide)	24.062
6855	REG	New Signalized Intersections (Region-wide)	13.686
5641	REG	Traffic Signal Controller, timer and signing upgrades various intersections (Region-wide)	10.638
7568	REG	MTO Highway Studies (Region-wide)	1.837
5196	REG	Smart Commute Travel Demand Management Initiative (Region-wide)	5.339

PROJECT ID#	MUNICIPALITY	PROJECT DESCRIPTION	PROJECT COST (\$2017 millions)
7375	REG	Active Transportation Infill Projects (Region-wide)	6.146
7493	REG	Active Transportation New Off Road Capital Projects (Region-wide)	36.519
5426	REG	Active Transportation Initiatives (Region-wide)	1.302
5431	REG	Traffic and Screen Line Counts & Studies (Region-wide)	2.694
5444	REG	Transportation Master Plan Study (Region-wide)	3.139
6832	REG	Data Management Group (Region-wide)	2.355
6833	REG	Transportation Tomorrow Survey (Region-wide)	0.314
7569	REG	Urban Design Guidelines (Region-wide)	0.471
6831	REG	Active Transportation Master Plan (Region-wide)	0.948
6836	MIL	Regional Road 25/Third Line Alignment Options (MIL)	0.523
6837	REG	DC Background Study (Region-wide)	1.413
6858	REG	Cordon Count Data (Region-wide)	0.937
6838	REG	Growth Management Studies (Region-wide)	7.849
7376	BUR	Appleby Line Drainage Issues (BUR)	0.183
7377	REG	Intelligent Transportation System Implementation (Region-wide)	0.509
7378	REG	Landscape Guidelines (Region-wide)	0.203
Non-Development Projects			
7488	MIL	Guelph Line Reconstruction (CONSTRUCTION ONLY) - 1km North of Derry Road to Conservation Road (MIL) (Regional Road 1)	6.824
7486	MIL	Derry Road (CONSTRUCTION ONLY) - Reconstruction from Milborough Line to McNiven Road (MIL) (Regional Road 7)	3.051
5428	MIL	Campbellville Gateway Feature (MIL) (Regional Road 9)	0.025
7459	HHS	10 Side Road (CONSTRUCTION ONLY) - 2 Lane Reconstruction/Realignment to intersection at Winston Churchill Blvd. (Halton's Share) (HHS) (Regional Road 10)	4.068
7491	HHS	Winston Churchill Blvd. - 2 lane Reconstruction from 5 Side Road to 10 Side Road (Halton's Share) (HHS) (Regional Road 19)	15.871
7492	HHS	Winston Churchill Blvd. (CONSTRUCTION ONLY) - 2 lane Reconstruction from Old Pine Road to 17 Side Road (Halton's Share) (HHS) (Regional Road 19)	2.438
3634	HHS	Winston Churchill Blvd. - 2 lane Reconstruction from 10 Side Road to Credit River Bridge (Halton's Share) (HHS) (Regional Road 19)	2.732
5312	HHS	Winston Churchill Blvd. - 2 lane Reconstruction from Credit River Bridge to Old Pine Road (Halton's Share) (HHS) (Regional Road 19)	7.390
7374	HHS	Winston Churchill Boulevard - Reconstruction from Terra Cotta to Ballinafad Rd/32 Side Road (Halton's Share) (HHS) (Regional Road 19)	1.833
5622	BUR/OAK	Tremaine Road - Reconstruction from Dundas Street to No. 1 Side Road (BUR/OAK) (Regional Road 22)	5.382
6853	REG	Centre-median landscaping Improvements (Region-wide)	0.778
5425	REG	Speed Reduction Education & Enforcement Campaign (Region-wide)	0.726
6856	REG	Traffic Signal Interconnect (Region-wide)	2.193
6857	REG	Operational Improvements (Region-wide)	7.325
5746	REG	LED Street Light Replacement Program (Region-wide)	4.045
6106	REG	Retaining Wall Repairs (Region-wide)	0.877
5642	REG	Bridge Inspections & Evaluation Studies (Region-wide)	1.017
4743	REG	Retrofit & Replacement Noise Attenuation Barriers - Various Locations (Region- wide)	13.967
5173	REG	Misc. Bridges & Culverts Rehabilitation & Replacement Program (Region-wide)	13.441
4370	REG	Emergency Diversion Route Signing for Road Closure Action Plan (Region- wide)	0.731

PROJECT ID#	MUNICIPALITY	PROJECT DESCRIPTION	PROJECT COST (\$2017 millions)
7142	REG	Miscellaneous Works Related to Road Resurfacing (Region-wide)	10.781
7567	REG	Miscellaneous R.O.W. Purchases and Road Dedication Engineering & Surveys (Region-wide)	2.930
5017	REG	Transportation Infrastructure Management System (Region-wide)	1.571
5432	REG	Road Needs Study Update (Region-wide)	0.839
5643	REG	Traffic Operations & Safety Related Studies (Region-wide)	2.517
5644	REG	Region-wide Traffic Operations Study Update	1.370
6885	REG	Vehicle Replacements - Transportation (Region-wide)	0.403
7398	REG	New Vehicles - Road Operations (Region-wide)	0.160
Total:			2,189.9

Capital Costs - General Services

Descriptions	2012 DC Study (2012-2021)	2017 DC Study (2017-2026)	Difference
Growth Studies			
Pre-existing Commitments		\$ 3,723,695	
Growth Studies		4,678,000	
Regional OP Updates		9,200,000	
Sub-total	\$ 16,488,648	\$ 17,601,695	\$ 1,113,047
Police*			
Pre-existing Commitments		\$ 3,693,802	
Regional Headquarters		75,819,714	
District 1 Facility		27,505,000	
District 1 Substation		200,000	
Equipment		2,180,500	
Vehicles		3,476,500	
Transmission Tower		2,900,000	
Sub-total	\$ 26,994,178	\$ 115,775,515	\$ 88,781,337
Paramedics			
Regional Headquarters		\$ 1,800,000	
Vehicles		23,570,100	
Master Plan		150,000	
Sub-total	\$ 4,037,223	\$ 25,520,100	\$ 21,482,877
Facilities			
Woodlands Operation Center Expansion		\$ 7,250,000	
Office Space - Health Program Staff		2,480,000	
Office Space - Social Services Program Staff		2,024,600	
Sub-total	\$ 3,494,940	\$ 11,754,600	\$ 8,259,660
Social Housing			
Contribution to additional units		\$ 95,000,000	
Sub-total	\$ 44,043,000	\$ 95,000,000	\$ 50,957,000
Waste Diversion			
Transfer Station - Organics		\$ 7,200,000	
Yard Waste Composting Facility		350,000	
Vehicles		2,289,900	
Sub-total	\$ -	\$ 9,839,900	\$ 9,839,900
Waterfront Parks			
Burloak Waterfront Park		\$ 3,413,261	
Bronte Waterfront Park		610,000	
Burlington Beach		36,062,000	
Sub-total	\$ -	\$ 40,085,261	\$ 40,085,261
Total	\$ 95,057,989	\$ 315,577,072	\$ 220,519,082

*Police Forecast in the 2017 DC Study is over 15 years (2017-2031)

2. Population & Employment Growth

2-A. Actual population vs. Best Planning Estimates (BPE)

2-B. Actual employment vs. Best Planning Estimates (BPE)

2-C. BPE employment growth by location & employment type

Halton Region
2017 DC Study

Residential Growth - BPE vs. Actual

Population	2016	2021	2026	2031	Incremental Growth	
					2017-2026	2017-2031
Per BPE						
Population ¹	555,707	624,094	688,894	752,537	133,187	196,830
Population Net of Institutional	548,054	615,476	679,363	742,101	131,309	194,047
Per Estimated Actual						
Population ¹	536,708	624,094	688,895	752,537	152,187	215,829
Population Net of Institutional	529,055	615,476	679,363	742,101	150,308	213,046

1. excludes net Census undercount.

Dwelling Units	2016	2021	2026	2031	Incremental Growth	
					2017-2026	2017-2031
Per BPE						
Low	0	0	0	0	0	0
Medium	0	0	0	0	0	0
High	0	0	0	0	0	0
Total	205,293	234,455	262,450	288,556	57,157	83,263
Per Estimated Actual						
Low	(4,465)	0	0	0	4,465	4,465
Medium	(1,984)	0	0	0	1,984	1,984
High	(3,473)	0	0	0	3,473	3,473
Total	195,371	234,455	262,450	288,556	67,079	93,185

Halton Region
2017 DC Study

Non-Residential Growth - BPE vs. Actual

Per BPE	2016	2021	2026	2031	Incremental Growth	
					2017-2026	2017-2031
Commercial	103,667	119,285	126,611	137,976	22,944	34,310
Industrial	101,282	111,832	121,511	135,065	20,229	33,783
Institutional	29,566	34,735	39,853	42,241	10,288	12,675
Work at Home	25,475	29,206	31,945	35,429	6,471	9,954
No Fixed Place of Work	28,504	32,625	35,789	39,289	7,286	10,785
Total	288,492	327,684	355,710	390,000	67,218	101,508
Per Estimated Actual						
Commercial	104,969	120,587	127,913	137,976	22,944	33,008
Industrial	56,412	66,962	76,641	135,065	20,229	78,653
Institutional	47,793	52,962	58,080	42,241	10,288	(5,552)
Work at Home	22,340	26,071	28,810	35,429	6,471	13,089
No Fixed Place of Work	25,806	29,927	33,091	39,289	7,286	13,483
Total	257,318	296,510	324,536	390,000	67,218	132,682

Halton Region

2017 DC Study

BPE Employment Growth by location and Employment Type**Industrial**

Municipalities	2016	2021	2026	2031
Town of Oakville	46,537	53,853	54,650	56,980
City of Burlington	38,105	38,544	38,973	39,253
Town of Milton	27,510	31,313	36,436	45,475
Town of Halton Hills	8,340	9,898	15,622	20,533
Halton Region	120,492	133,608	145,681	162,240

Commercial

Municipalities	2016	2021	2026	2031
Town of Oakville	43,402	48,135	48,961	51,656
City of Burlington	55,433	58,768	59,562	60,467
Town of Milton	26,163	37,562	43,030	50,276
Town of Halton Hills	8,172	8,771	11,866	15,897
Halton Region	133,170	153,236	163,420	178,296

Institutional

Municipalities	2016	2021	2026	2031
Town of Oakville	16,546	18,808	18,967	19,724
City of Burlington	5,172	5,534	5,610	5,629
Town of Milton	8,881	12,231	17,165	18,579
Town of Halton Hills	4,232	4,267	4,868	5,532
Halton Region	34,831	40,839	46,610	49,463

Total

Municipalities	2016	2021	2026	2031
Town of Oakville	106,485	120,796	122,578	128,359
City of Burlington	98,710	102,846	104,145	105,349
Town of Milton	62,553	81,106	96,631	114,330
Town of Halton Hills	20,744	22,936	32,356	41,962
Halton Region	288,493	327,684	355,710	390,000

**3. Halton Region Floor Space per Worker (FSW)
assumptions, including results of
2015 Employment Survey**

Halton Region Floor Space per Worker Assumptions

Commercial

Municipality	Share of Commercial Employment Growth, 2017-2031	2015 Employment Survey FSW	Local Area FSW Assumption	Draft 2017 Halton Region DCBS
Burlington	7%	397	400	400
Oakville	18%	361	400	400
Milton	35%	521	400	400
Halton Hills	6%	303	500	400
Other Greenfield ¹	33%			400
Rural	0%			1,200
Halton Region	100%			402

Industrial

Municipality	Share of Commercial Employment Growth, 2017-2031	2015 Employment Survey FSW	Local Area FSW Assumption	Draft 2017 Halton Region DCBS
Burlington	1%	764	800	800
Oakville	27%	863	860	1,050
Milton	48%	1,833	1,750	1,750
Halton Hills	17%	1,098	1,100	1,400
Other Greenfield ¹	9%			1,430
Rural	0%			2,000
Halton Region	100%			1,468

Institutional

Municipality	Share of Commercial Employment Growth, 2017-2031	2015 Employment Survey FSW	Local Area FSW Assumption	Draft 2017 Halton Region DCBS
Burlington	2%	372	400	400
Oakville	22%	385	500	500
Milton	55%	519	800	800
Halton Hills	8%	408	750	500
Other Greenfield ¹	13%			750
Rural	0%			1,200
Halton Region	100%			697

1. Other Greenfield is comprised of a portion of greenfield areas in Milton, Halton Hills and Burlington

**4. Illustration of adjustments
No Fixed Place of Work (NFPOW) &
Work at Home (WAH)**

Adjustments for WAH & NFPOW

Illustration Purpose

Residential Water Flows	Total	Adjustments		Net Revised
		WAH	NFPOW	
Design Criteria:				
Average flow/day	104,918	-	n/a	104,918
Average population	489,944	-	n/a	489,944
Average flow/pop/day	214			214
NRW factor	1.23			1.23
Average flow/pop/day	265			265
Total Flow Demand:				
Incremental growth (2017-2031)	197,610			197,610
Max day peaking factor	1.9			1.9
Total demand (MLD)	99.5			99.5
Non-Residential Water Flows	Total	Adjustments		Net Revised
		WAH	NFPOW	
Design Criteria:				
Average flow/day	33,365	-	-	33,365
Average employees	224,914	(19,821)	(22,652)	182,441
Average flow/emp/day	148			183
NRW factor	1.23			1.23
Average flow after NRW	182			225
Total Flow Demand:				
Incremental growth (2017-2031)	100,022	(9,958)	(10,793)	79,271
Max day peaking factor	1.9			1.9
Total demand (MLD)	34.7			33.9
Total combined flow demand	134.2			133.4
Capital Cost Split				
Residential share	74%			75%
Non-residential share	26%			25%

- 5. The shortfall in DC collections (\$10.6M per year) due to the changes in DCA, 1997**

Presented as part of the 2015 Budget

Identify the amount of development charges that cannot be collected for programs affected by changes in the *Development Charges Act, 1997*.

How have changes to the *Development Charges Act* impacted Halton taxpayers?

Development Charges (DCs) are charges imposed by municipalities on developers to pay for increased capital costs related to growth. DCs provide municipalities with a tool to help fund the infrastructure needed to support new growth. They help finance the growth-related capital costs of providing important services like roads, water and wastewater services, police, fire and transit.

The *Development Charges Act (DCA), 1997*, introduced changes to the way DCs are calculated. As a result, since 1997, regional governments like Halton have not been able to use DCs to fund some programs and services. To make up the shortfall, these costs have been passed on to Halton taxpayers through their property taxes, water and wastewater fees.

Halton Region's DC revenues are estimated to be, at minimum, **\$10.6 million/year lower** than they would have been under the previous *DCA* introduced in 1989. This means there has been \$148.4 million of growth-related infrastructure in Halton that has not been funded by DCs since 2000. By 2031, without changes to the *DCA*, that number will grow to \$339.2 million.

Below is a summary of the differences between the *DCA, 1989* and the *DCA, 1997* and the impact these changes have had on regional finances:

Growth related costs

Before 1997, regional government could recover all growth related costs for regional services through DCs. Today, only the cost to provide water, wastewater and roads can be fully recovered. Services such as waste management, hospitals, acquisition of parkland, municipal administration buildings and computer equipment are not covered, even though demand for these services directly relates to the level of growth.

The estimated annual DC revenue loss from this change is about **\$4.6 million** every year, broken down as follows:

- Waste Management Services - \$2.0M/year
- Hospital Contributions - \$1.8M/year
- General Administrative Headquarters and Computers- \$0.8M/year

Vehicles

Regional vehicles (called rolling stock) used to be fully recoverable. Today, rolling stock is only covered if it has an estimated useful life of seven years or more. This adds up to an estimated annual loss of about **\$0.2 million**.

Reducing capital costs for soft services (e.g. parkland development, transit, libraries) by 10 per cent

The *DCA, 1989* allowed regional governments to recover the full cost of growth related services. The *DCA, 1997* allows for a full cost recovery of only seven services: storm

water, electrical services, fire, sewer, water, roads and police. Capital costs for all other services (“soft services”) must be reduced by 10 per cent. The estimated impact of this change is about **\$0.6 million** a year.

New calculation for service levels

The *DCA, 1997* limits the DC recoverable cost based on the **average service level** provided throughout the 10 years leading up to a DC background study. The previous Act (*DCA, 1989*) based this on the **highest service level** that a municipality reached in the 10 years leading up to the completion of the study. This has resulted in an estimated loss of about **\$0.9 million** a year.

New mandatory exemptions

The *DCA, 1997* contains the 50% industrial expansion exemption that was not in the previous Act (*DCA, 1989*). The estimated impact of this change is a loss of **\$4.3 million** a year.

**6. Development Charge Reserve Fund
& Regional Interim Financing**

Halton Region

Development Charges Reserve Fund & Regional Interim Financing (\$000s)

Total Residential & Non-Residential Development Charge Reserves*

	2012	2013	2014	2015
Opening Balance	\$ (13,164)	\$ 12,322	\$ (3,304)	\$ (7,855)
DC Revenues	116,571	57,794	117,509	204,691
Expenditures Draws	(92,555)	(74,416)	(123,240)	(209,153)
Interest Earnings	1,470	995	1,181	2,027
Closing Balance	12,322	(3,304)	(7,855)	(10,290)

* Excludes Go Transit, Recovery DC & Conservation Halton DC

Regional Interim Financing

	2012	2013	2014	2015
Opening Balance	\$ (105,917)	\$ (100,378)	\$ (106,588)	\$ (126,466)
Expenditures*	(15,858)	(19,266)	(32,189)	(229,462)
Payback	26,283	17,590	16,982	39,201
Interest	(4,886)	(4,534)	(4,670)	(5,452)
Closing Balance	(100,378)	(106,588)	(126,466)	(322,180)

* Represents commitments approved by Council to 2015.