



Hamilton  
**City of Hamilton**

**DEVELOPMENT CHARGES STAKEHOLDERS SUB-COMMITTEE  
ADDENDUM**

**Meeting #:** 19-001  
**Date:** January 28, 2019  
**Time:** 9:30 a.m.  
**Location:** Council Chambers, Hamilton City Hall  
71 Main Street West

Lisa Chamberlain, Legislative Coordinator (905) 546-2424 ext. 4605

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# 2019 Development Charges Background Study – Draft Capital Listings

City of Hamilton

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Development Charges Stakeholders Sub-Committee

January 28, 2019

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# 1. Services Related to a Highway

Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Services Related to a Highway

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2031	Timing (year)	Length	Capital Improvement	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%
<b>AEGD Projects</b>													
1	Airport Road - Upper James Street to East Cargo Road	2019-2022	1.07	2r-3i	4,437,000	-		4,437,000	1,775,000	-	2,662,000	1,331,000	1,331,000
2	Airport Road - East Cargo Road to Terminal Access Road	2019-2022	0.32	2r-4u	2,423,000	-		2,423,000	969,000	-	1,454,000	727,000	727,000
3	Airport Road - Terminal Access Road to Glancaster Road	2023-2031	1.68	2r-3i	7,325,000	-		7,325,000	2,930,000	-	4,395,000	2,197,500	2,197,500
4	Airport Road* - Butter Road to Glancaster Road	2032-2041	0.86	2r-4u	7,470,000	7,470,000		-	-	-	-	-	-
5	Book Road - Fiddler's Green Road to Highway 6	2032-2041	0.99	2r-4u	6,340,000	6,340,000		-	-	-	-	-	-
6	Book Road* - Highway 6 to Southcote Road	2032-2041	1.11	2r-4u	6,158,000	6,158,000		-	-	-	-	-	-
7	Book Road - Highway 6 to Southcote Road	2032-2041	1.11	4u-6u	6,421,000	6,421,000		-	-	-	-	-	-
8	Book Road - Collector 2W to Glancaster Road	2032-2041	0.59	2r-2u	1,984,000	1,984,000		-	-	-	-	-	-
9	Butter Road East - Airport Road to Glancaster Road	2023-2031	0.97	2r-2u	3,961,000	-		3,961,000	594,000	-	3,367,000	1,683,500	1,683,500
10	Butter Road East* - Highway 6 to Airport Road	2023-2031	0.37	2r-4u	3,428,000	3,428,000		-	-	-	-	-	-
11	Butter Road East - Fiddler's Green Road to Highway 6	2032-2041	0.94	2r-4u	8,708,000	8,708,000		-	-	-	-	-	-
12	Carluk Road East - Fiddler's Green Road to Glancaster Road	2032-2041	1.05	2r-4u	6,291,000	6,291,000		-	-	-	-	-	-
13	Collector Road 6N (oversizing) - Glancaster Road to Collector Road 6E	2032-2041	1.93	4u	2,896,000	2,896,000		-	-	-	-	-	-
14	Collector Road 6N (oversizing) - Collector Road 6E to Collector Road 7E	2032-2041	2.56	4u	3,635,000	3,635,000		-	-	-	-	-	-
15	Collector Road 7E (oversizing) - Collector 6N to Upper James Street	2032-2041	0.58	4u	1,312,000	1,312,000		-	-	-	-	-	-
16	Dickenson Road - Glancaster Road to Upper James Street	2025	2.90	2r-4u	14,282,000	-		14,282,000	2,142,000	-	12,140,000	6,070,000	6,070,000
17	Dickenson Road Extension - Southcote Road to Smith Road	2019-2022	0.42	4u	3,195,000	-		3,195,000	-	-	3,195,000	1,597,500	1,597,500
18	Dickenson Road Extension - Southcote Road to Smith Road	2032-2041	0.42	4u-6u	2,435,000	2,435,000		-	-	-	-	-	-
19	Dickenson Road Extension - Smith Road to Glancaster Road	2023-2031	0.80	4u	6,149,000	-		6,149,000	-	-	6,149,000	3,074,500	3,074,500
20	Garner Road* - Fiddler's Green Road to Glancaster Road	2023-2031	4.44	2r-4u	19,920,000	-		19,920,000	2,988,000	-	16,932,000	8,466,000	8,466,000
21	Garth Street extension (oversizing) - Twenty Road to Dickenson Road	2023-2031	1.50	5u	2,391,000	-		2,391,000	-	-	2,391,000	1,195,500	1,195,500
22	Garth Street extension (oversizing) - Dickenson Road to Collector 2E	2023-2031	0.62	5u	1,359,000	-		1,359,000	-	-	1,359,000	679,500	679,500
23	Glancaster Road - Collector 1N to Airport Boundary	2032-2041	0.49	2r-2u	2,019,000	2,019,000		-	-	-	-	-	-
24	Glancaster Road - Dickenson Road Extension to Collector 1N	2032-2041	0.37	2r-4u	2,426,000	2,426,000		-	-	-	-	-	-
25	Glancaster Road - Garner Road to Dickenson Road	2023-2031	2.46	2r-4u	16,844,000	-		16,844,000	2,527,000	-	14,317,000	7,158,500	7,158,500
26	Smith Road* - Dickenson Road extension to Collector 1N	2032-2041	0.65	2r-4u	4,055,000	4,055,000		-	-	-	-	-	-
27	Smith Road (except Hydro Corridor) - Garner Road to Dickenson Road extension	2032-2041	1.57	2u	9,919,000	9,919,000		-	-	-	-	-	-
28	Smith Road - Collector 1N to Airport Boundary	2032-2041	0.35	2r-2u	1,919,000	1,919,000		-	-	-	-	-	-
29	Smith Road extension - Hydro corridor north crossing	2032-2041	0.26	2u	1,037,000	1,037,000		-	-	-	-	-	-
30	Southcote Road* - Garner to Twenty Road extension	2019-2022	0.97	2r-4u	9,306,000	-		9,306,000	1,396,000	-	7,910,000	3,955,000	3,955,000
31	Southcote Road - Twenty Road extension to Book Road	2023-2031	0.97	2r-4u	8,541,000	-		8,541,000	1,281,000	-	7,260,000	3,630,000	3,630,000
32	Twenty Road - Glancaster Road to Aldercrest Avenue	2023-2031	3.08	2r-4u	17,826,000	-		17,826,000	2,674,000	-	15,152,000	7,576,000	7,576,000
33	Twenty Road extension - Southcote Road to Glancaster Road	2023-2031	1.86	4u	14,296,000	-		14,296,000	-	-	14,296,000	7,148,000	7,148,000
34	Fiddler's Green Road - Garner Road to Carluk Road	2032-2041	6.07	2r-4u	38,881,000	38,881,000		-	-	-	-	-	-
35	Glancaster Road* - Butter Road to Highway 6	2032-2041	1.40	2r-4u	13,210,000	13,210,000		-	-	-	-	-	-
36	Glancaster Road - Highway 6 to White Church Road	2032-2041	0.89	2r-4u	7,911,000	7,911,000		-	-	-	-	-	-
37	Southcote Road - Book Road to Collector 1N	2023-2031	0.65	2r-4u	4,210,000	4,210,000		-	-	-	-	-	-
38	Southcote Road - Airport Boundary to Butter Road	2032-2041	0.81	2r-2u	3,855,000	3,855,000		-	-	-	-	-	-
39	Upper James Street - Alderlea Avenue to Homestead Drive	2023-2031	3.67	4u-6u	30,929,000	-		30,929,000	4,639,000	-	26,290,000	13,145,000	13,145,000
40	White Church Road - Glancaster Road to Highway 6	2032-2041	2.31	2r-4u	19,651,000	19,651,000		-	-	-	-	-	-
41	Upper James Street* - Homestead to Highway 6	2023-2031	2.78	4r-5u_NBR	12,395,000	-		12,395,000	1,859,000	-	10,536,000	5,268,000	5,268,000
<b>South Mountain Area Transportation Study Projects</b>													

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Length	Capital Improvement	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%
<b>2019-2031</b>													
42	West 5th Street - Rymal Road to Stone Church Road	2025	1.00	2r-3u	3,096,000	-		3,096,000	1,238,000	-	1,858,000	929,000	929,000
43	Rymal Road - Glancaster Road to Garth Street	2019-2022	1.30	2r-5u	7,993,000	-		7,993,000	1,199,000	-	6,794,000	3,397,000	3,397,000
44	Rymal Road - Fletcher Road to Upper Centennial	2020	2.49	2r-5u	15,717,000	-		15,717,000	2,358,000	-	13,359,000	6,679,500	6,679,500
45	Rymal Road* - Upper Wentworth to West of Dartnall	2019-2022	3.29	2r-5u	22,520,000	-		22,520,000	3,378,000	-	19,142,000	9,571,000	9,571,000
46	Rymal Road - Upper James Street to Upper Wellington Street	2026	0.87	2r-5u	4,624,000	-		4,624,000	694,000	-	3,930,000	1,965,000	1,965,000
47	Rymal Road - Upper Wellington Street to Upper Wentworth Street	2030	0.86	2r-5u	4,664,000	-		4,664,000	700,000	-	3,964,000	1,982,000	1,982,000
<b>Stoney Creek Urban Boundary Expansion Projects</b>													
48	Arvin Avenue - McNeilly to Lewis Road	2023-2031	0.80	2i	3,652,000	-		3,652,000	-	-	3,652,000	1,826,000	1,826,000
49	Arvin Avenue - Jones Road to Existing east end	2023-2031	0.50	2i	2,564,000	-		2,564,000	-	-	2,564,000	1,282,000	1,282,000
50	Arvin Avenue - McNeilly to Existing west end	2019-2022	0.40	2i	2,201,000	-		2,201,000	-	-	2,201,000	1,100,500	1,100,500
51	Fruitland Road - Highway 8 to Barton Street	2023-2031	1.05	2r-4u	8,207,000	-		8,207,000	1,231,000	-	6,976,000	3,488,000	3,488,000
52	McNeilly Road* - Highway 8 to Barton Street	2023-2031	0.89	2r-4u	6,797,000	-		6,797,000	1,020,000	-	5,777,000	2,888,500	2,888,500
53	Lewis Road* - Highway 8 to Barton Street	2023-2031	0.52	2r-4u	4,290,000	-		4,290,000	644,000	-	3,646,000	1,823,000	1,823,000
54	Glover Road* - Highway 8 to Barton Street	2023-2031	0.82	2r-4u	6,323,000	-		6,323,000	948,000	-	5,375,000	2,687,500	2,687,500
55	Jones Road* - Highway 8 to Barton Street	2023-2031	0.93	2r-4u	7,068,000	-		7,068,000	1,060,000	-	6,008,000	3,004,000	3,004,000
<b>Ancaster Industrial Park and Transportation Master Plan Projects</b>													
56	Garner Road - Fiddler's Green Road to Highway 2/Wilson Street	2019-2022	3.50	2r-4u	20,208,000	-		20,208,000	3,031,000	-	17,177,000	8,588,500	8,588,500
57	Golf Links Road - McNiven Road to Kitty Murray Lane	2023-2031	0.80	2r-3u	4,646,000	-		4,646,000	697,000	-	3,949,000	1,974,500	1,974,500
58	Jerseyville Road - Shaver Road to Wilson Street	2023-2031	3.10	2r-3u	16,438,000	-		16,438,000	6,575,000	-	9,863,000	4,931,500	4,931,500
59	Springbrook Avenue - Regan Drive to Garner Road	2020	0.69	2r-2u	3,096,000	-		3,096,000	464,000	-	2,632,000	1,316,000	1,316,000
60	Trinity Road - 1km south of Wilson to Highway 403	2019-2022	2.20	2r-4u	12,985,000	-		12,985,000	1,948,000	-	11,037,000	5,518,500	5,518,500
61	Shaver Road - Trustwood to Garner Road	2023-2031	1.00	2r-2i	4,840,000	-		4,840,000	726,000	-	4,114,000	2,057,000	2,057,000
62	Shaver Road - Highway 403 to Wilson Street	2019-2022	1.50	2r-2u	6,189,000	-		6,189,000	928,000	-	5,261,000	2,630,500	2,630,500
63	Southcote Road - Calder Street to Garner Road	2022	1.26	2r-3u	5,871,000	-		5,871,000	2,348,000	-	3,523,000	1,761,500	1,761,500
64	McNiven Road - Rousseaux Street to Golf Links Road	2028	0.63	2r-3u	3,218,000	-		3,218,000	2,574,000	-	644,000	322,000	322,000
65	Mohawk Road - McNiven Road to Highway 403	2019-2022	1.30	2r-3u	7,656,000	-		7,656,000	3,062,000	-	4,594,000	2,297,000	2,297,000
66	Stone Church Road - Harrogate Drive to Stonehenge Drive	2023-2031	0.34	2r-4u	3,114,000	-		3,114,000	467,000	-	2,647,000	1,323,500	1,323,500
<b>Red Hill Business Park Projects</b>													
67	Dartnall Road Extension - Twenty Road to Dickenson Road	2022	1.65	2i	4,988,000	-		4,988,000	-	-	4,988,000	2,494,000	2,494,000
68	Dickenson Road - west of Nebo to west of Glover	2023-2031	1.10	2r-2i	5,585,000	-		5,585,000	2,234,000	-	3,351,000	1,675,500	1,675,500
69	Dickenson Road East* - Upper James Street to west of Nebo Road	2023-2031	4.60	2r-2u	18,170,000	-		18,170,000	7,268,000	-	10,902,000	5,451,000	5,451,000
70	Nebo Road - Rymal Road to Twenty Road	2020	1.30	2r-2i	5,870,000	-		5,870,000	881,000	-	4,989,000	2,494,500	2,494,500
71	Nebo Road* - 800m South of Twenty Road to Dickenson Road	2019-2022	0.60	2r-2i	3,649,000	-		3,649,000	547,000	-	3,102,000	1,551,000	1,551,000
72	Regional Road 56 - Rymal Road to ROPA 9 Boundary	2019	1.20	2r-5u	8,587,000	-		8,587,000	1,288,000	-	7,299,000	3,649,500	3,649,500
73	Regional Road 56* - Cemetery Road to South Limits of ROPA 9	2023-2031	4.56	2r-5u	11,867,000	-		11,867,000	1,780,000	-	10,087,000	5,043,500	5,043,500
74	Twenty Road extension - Glover Road to Upper Red Hill Valley Parkway	2023-2031	0.60	3i	3,077,000	-		3,077,000	-	-	3,077,000	1,538,500	1,538,500
75	Glover Road - Twenty Road to Rymal Road	2023-2031	2.60	2r-2i	9,400,000	-		9,400,000	1,410,000	-	7,990,000	3,995,000	3,995,000
76	Upper Red Hill Valley Parkway - Rymal Road to Twenty Road	2023-2031	1.23	5u	10,375,000	-		10,375,000	-	-	10,375,000	5,187,500	5,187,500
<b>Waterdown Projects</b>													
77	Burke Street - Skinner Road to Mountain Brow	2023-2031	0.47	4u	3,948,000	-		3,948,000	197,000	-	3,751,000	1,875,500	1,875,500
78	Parkside Drive - Highway 6 to Hollybush Drive	2023-2031	1.10	2r-4u	6,297,000	-		6,297,000	2,519,000	-	3,778,000	1,889,000	1,889,000
79	Parkside Drive - Main Street to Churchill (500 m east)	2023-2031	0.61	2r-4u	4,749,000	-		4,749,000	1,900,000	-	2,849,000	1,424,500	1,424,500

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Length	Capital Improvement	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%
<b>2019-2031</b>													
80	E-W Road Corridor (Waterdown By-Pass) - Dundas Street to Highway 6	2019-2022	6.29	4u	52,207,000	-		52,207,000	2,610,000	-	49,597,000	24,798,500	24,798,500
81	Waterdown Road (Burlington portion) - Mountain Brow Road to Craven Avenue <sup>3</sup>	2019	1.90	2r-4u	24,720,000	-		24,720,000	-	-	24,720,000	22,248,000	2,472,000
82	Mountain Brow Road - Waterdown Road to New N-S Link (Burke Street)	2019-2022	0.91	2r-4u	7,654,000	-		7,654,000	1,148,000	-	6,506,000	3,253,000	3,253,000
83	Dundas Street - New north-south link to Hamilton Boundary	2023-2031	0.87	4u-6u	8,039,000	-		8,039,000	1,206,000	-	6,833,000	3,416,500	3,416,500
84	Centre Road - Northlawn to Parkside Drive	2019-2022	0.40	2r-3u	2,434,000	-		2,434,000	974,000	-	1,460,000	730,000	730,000
<b>Fruitland Winona Projects</b>													
85	Barton Street - Fruitland Road to Fifty Road	2026	5.00	2r-3u	24,938,000	-		24,938,000	9,975,000	-	14,963,000	7,481,500	7,481,500
86	Fifty Road - Q.E.W (South Service Road) to Highway 8	2023-2031	0.80	2r-4u	5,277,000	-		5,277,000	792,000	-	4,485,000	2,242,500	2,242,500
87	Fruitland Road By-pass - Barton Street to Highway 8	2019	1.10	4u	8,761,000	-		8,761,000	1,314,000	-	7,447,000	3,723,500	3,723,500
88	Fruitland Road - Arvin Avenue to Barton Street	2023-2031	0.30	2u-4u	3,010,000	-		3,010,000	452,000	-	2,558,000	1,279,000	1,279,000
89	Highway 8 (Stoney Creek)* - Dewitt Road to Fruitland Road	2023-2031	0.80	2r-5u	6,534,000	-		6,534,000	2,614,000	-	3,920,000	1,960,000	1,960,000
90	Highway 8 (Stoney Creek) - Fruitland Road to East City Limit	2023-2031	6.18	2r-4r_NBR	20,674,000	-		20,674,000	8,270,000	-	12,404,000	6,202,000	6,202,000
<b>Elfrida Boundary Expansion Projects</b>													
91	First Road East - Highway 20 to Mud Street	2023-2031	2.10	2r-3u	12,229,000	8,071,000		4,158,000	624,000	-	3,534,000	1,767,000	1,767,000
92	First Road East (oversizing) - Highway 20 to Golf Club Road	2023-2031	2.21	3u	3,225,000	2,129,000		1,096,000	-	-	1,096,000	548,000	548,000
93	Fletcher Road* - 500m South of Rymal to Golf Club Road	2023-2031	1.60	2r-3u	10,124,000	6,682,000		3,442,000	516,000	-	2,926,000	1,463,000	1,463,000
94	Golf Club Road - Trinity Church Road to Hendershot Road	2023-2031	7.00	2r-2u	29,795,000	19,665,000		10,130,000	1,520,000	-	8,610,000	4,305,000	4,305,000
95	Hendershot Road - Highway 20 to Golf Club Road	2023-2031	2.10	2r-3u	10,729,000	7,081,000		3,648,000	547,000	-	3,101,000	1,550,500	1,550,500
96	Highland Road - Upper Centennial Parkway to Second Road East	2023-2031	2.00	2r-3u	10,308,000	6,803,000		3,505,000	526,000	-	2,979,000	1,489,500	1,489,500
97	Mud Street - Upper Centennial Parkway to Second Road East	2023-2031	2.00	2r-2u	9,166,000	6,049,000		3,117,000	468,000	-	2,649,000	1,324,500	1,324,500
98	Second Road East - Highway 20 to Mud Street	2023-2031	3.00	2r-3u	15,267,000	10,076,000		5,191,000	779,000	-	4,412,000	2,206,000	2,206,000
99	Trinity Church Road* - Hydro corridor to Golf Club Road	2023-2031	2.00	2r-2u	9,541,000	6,297,000		3,244,000	487,000	-	2,757,000	1,378,500	1,378,500
100	Upper Centennial Parkway - Green Mountain Road to Highway 20	2023-2031	2.90	4r-5u	20,111,000	13,273,000		6,838,000	1,026,000	-	5,812,000	2,906,000	2,906,000
<b>Other Road Projects</b>													
101	Binbrook Road - Royal Winter Dr/Binhaven Rd to Fletcher Road	2019	0.70	2r-3u	6,840,000	-		6,840,000	1,026,000	-	5,814,000	2,907,000	2,907,000
102	Highway 8 (Dundas) - Bond Street to Dundas Limits	2023-2031	0.40	2r-3u	3,199,000	-		3,199,000	1,280,000	-	1,919,000	959,500	959,500
103	Highway 8 (Dundas) - Hillcrest to Park Ave	2020	0.60	2r-3u	2,566,000	-		2,566,000	1,026,000	-	1,540,000	770,000	770,000
104	Jones Road - Barton Street to South Service Road	2023-2031	0.90	2r-2i	3,739,000	-		3,739,000	1,870,000	-	1,869,000	934,500	934,500
105	Lewis Road - Barton Street to South Service Road	2023-2031	0.80	2r-2i	3,402,000	-		3,402,000	1,701,000	-	1,701,000	850,500	850,500
106	Longwood Road - Aberdeen Avenue to Main Street	2023-2031	0.65	various/ESR	5,561,000	-		5,561,000	2,781,000	-	2,780,000	1,390,000	1,390,000
107	Miles Road - Rymal Road to Hydro Corridor	2023-2031	2.00	2r-3i	10,769,000	-		10,769,000	1,615,000	-	9,154,000	4,577,000	4,577,000
108	Millen Road - Barton Street to South Service Road	2023-2031	1.00	2r-3i	6,118,000	-		6,118,000	2,447,000	-	3,671,000	1,835,500	1,835,500
109	Fletcher Road - Binbrook Road to Golf Club Road	2023-2031	4.20	2r-2u	17,568,000	-		17,568,000	7,027,000	-	10,541,000	5,270,500	5,270,500
110	South Service Road - Millen Road to Gray	2023-2031	1.70	2r-2u	8,019,000	-		8,019,000	1,203,000	-	6,816,000	3,408,000	3,408,000
111	Trinity Church Road - Binbrook Road to Golf Club Road	2023-2031	5.20	2r-2u	9,032,000	-		9,032,000	3,613,000	-	5,419,000	2,709,500	2,709,500
112	Twenty Road - Aldercrest Avenue to 600m west of Nebo Road	2023-2031	4.10	2r-2u	16,290,000	-		16,290,000	6,516,000	-	9,774,000	4,887,000	4,887,000
113	Upper Gage Street - Mohawk Road to Thorley	2023-2031	0.60	4u-5u	5,281,000	-		5,281,000	2,641,000	-	2,640,000	1,320,000	1,320,000
114	Upper Wellington Street - Limeridge Street to Stone Church Road	2019-2022	1.20	2r-5u	9,350,000	-		9,350,000	3,740,000	-	5,610,000	2,805,000	2,805,000
115	Shaver Road - Highway 403 to Wilson Street	2019-2022	1.50	2r-2u	6,189,000	-		6,189,000	928,000	-	5,261,000	2,630,500	2,630,500
116	Scenic Drive - Lavender Drive (south leg) to Old City Limits	2019-2022	1.40	2r-2u	6,571,000	-		6,571,000	2,628,000	-	3,943,000	1,971,500	1,971,500
117	North Service Road - Green Road to East City Limits	2019-2022	-	Intersection	3,013,000	-		3,013,000	-	-	3,013,000	1,506,500	1,506,500
118	Victoria Avenue - Ferrie Street to Burlington Street	2019	0.46	2-way conversion	1,224,000	-		1,224,000	184,000	-	1,040,000	520,000	520,000
119	Hwy 5/6 municipal roads (City portion)	2019-2022	-	Service Roads	22,981,000	-		22,981,000	-	-	22,981,000	11,490,500	11,490,500
120	Post Period Benefit Deduction	2019-2031	-		-	175,000,000		(175,000,000)	-	-	(175,000,000)	(87,500,000)	(87,500,000)
<b>Major Structures</b>													
121	Highway 5/6 interchange	2019-2022	-	Structure	18,299,000	-		18,299,000	-	-	18,299,000	9,149,500	9,149,500



## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

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Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Length	Capital Improvement	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%
122	Strathcona Pedestrian Bridge	2027	-	Structure	7,601,000	-		7,601,000	1,140,000	-	6,461,000	3,230,500	3,230,500
123	Fifty Road - Grade Separation	2029	-	Structure	25,765,000	12,882,000		12,883,000	3,221,000	-	9,662,000	4,831,000	4,831,000
124	Other Grade Separation - Grade Separation	2024	-	Structure	25,765,000	12,882,000		12,883,000	3,221,000	-	9,662,000	4,831,000	4,831,000
125	Mohawk Road	2019-2022	-	Hwy 403 WB on-ramp	3,934,000	-		3,934,000	1,967,000	-	1,967,000	983,500	983,500
	<b>Programs</b>												
126	Intersection Pedestrian Signal	2019-2031	-	City-Wide Program	11,700,000	-		11,700,000	585,000	-	11,115,000	5,557,500	5,557,500
127	Traffic Count Program	2019-2031	-	City-Wide Program	2,000,000	-		2,000,000	100,000	-	1,900,000	950,000	950,000
128	Geotechnical Investigation Program	2019-2031	-	City-Wide Program	9,100,000	-		9,100,000	7,735,000	-	1,365,000	682,500	682,500
129	Mapping Update Program	2019-2031	-	City-Wide Program	305,000	-		305,000	15,000	-	290,000	145,000	145,000
130	Active Transportation Benchmarking	2019-2031	-	City-Wide Program	390,000	-		390,000	20,000	-	370,000	185,000	185,000
131	Development Road Urbanization	2019-2031	-	City-Wide Program	6,500,000	-		6,500,000	325,000	-	6,175,000	3,087,500	3,087,500
132	Street Lighting Enhancement Program	2019-2031	-	City-Wide Program	3,250,000	-		3,250,000	163,000	-	3,087,000	1,543,500	1,543,500
133	Pedestrian Crossovers	2019-2031	-	City-Wide Program	900,000	-		900,000	45,000	-	855,000	427,500	427,500
134	Advanced Traffic Management Systems	2019-2031	-	City-Wide Program	14,390,000	-		14,390,000	10,793,000	-	3,597,000	1,798,500	1,798,500
135	Express Bus (L.A.S.T. Line) Enhanced Passenger Amenities	2019-2031	-	City-Wide Program	8,010,000	-		8,010,000	4,005,000	-	4,005,000	2,002,500	2,002,500
136	Miscellaneous Land Acquisitions	2019-2031	-	City-Wide Program	5,000,000	-		5,000,000	250,000	-	4,750,000	2,375,000	2,375,000
137	Transit Shelter Expansion Program	2019-2031	-	City-Wide Program	1,950,000	-		1,950,000	975,000	-	975,000	487,500	487,500
138	Bus Stop Shelter Rehabilitation Program	2019-2031	-	City-Wide Program	1,625,000	-		1,625,000	1,381,000	-	244,000	122,000	122,000
139	Cordon Count Program	2019-2031	-	City-Wide Program	330,000	-		330,000	17,000	-	313,000	156,500	156,500
140	New Sidewalk Program	2019-2031	-	City-Wide Program	6,500,000	-		6,500,000	325,000	-	6,175,000	3,087,500	3,087,500
141	New Traffic Signals	2020-2031	-	City-Wide Program	12,000,000	-		12,000,000	600,000	-	11,400,000	5,700,000	5,700,000
142	New Traffic Signal - Waterdown Road/Mill St at Mountain Brow	2019	-	Traffic Signal	250,000	-		250,000	13,000	-	237,000	118,500	118,500
143	New Traffic Signal - Rymal Road west of Walmart Access	2019	-	Traffic Signal	100,000	-		100,000	5,000	-	95,000	47,500	47,500
144	New Traffic Signal - Regional Road 56 at Dalgliesh Road	2019	-	Traffic Signal	250,000	-		250,000	13,000	-	237,000	118,500	118,500
145	New Traffic Signal - Rymal at Canadian Tire Access	2019	-	Traffic Signal	200,000	-		200,000	10,000	-	190,000	95,000	95,000
146	New Traffic Signal - Rymal (opposite Celestial Crescent)	2019	-	Traffic Signal	100,000	-		100,000	5,000	-	95,000	47,500	47,500
147	New Traffic Signal - Drakes at North Service Road	2019	-	Traffic Signal	350,000	-		350,000	18,000	-	332,000	166,000	166,000
148	New Traffic Signal - Fifty at North Service Road	2019	-	Traffic Signal	350,000	-		350,000	18,000	-	332,000	166,000	166,000
149	Unidentified intersection improvements (excluding Traffic Signals)	2019-2031	-	City-Wide Program	3,250,000	-		3,250,000	163,000	-	3,087,000	1,543,500	1,543,500
150	Annual A and B Line Enhanced Bus Stops & Shelters	2019-2031	-	City-Wide Program	919,000	-		919,000	460,000	-	459,000	229,500	229,500
151	Annual Express Bus/Rapid Transit Enhanced Bus Stops & Shelters	2019-2031	-	City-Wide Program	5,054,000	-		5,054,000	2,527,000	-	2,527,000	1,263,500	1,263,500
152	Annual Transit Priority Measures	2019-2031	-	City-Wide Program	17,472,000	-		17,472,000	8,736,000	-	8,736,000	4,368,000	4,368,000
153	Annual Bike Parking at B/A Line Stops	2019-2031	-	City-Wide Program	46,000	-		46,000	23,000	-	23,000	11,500	11,500
154	Annual Enhanced Bike Parking at Express Bus/Rapid Transit Stops	2019-2031	-	City-Wide Program	275,000	-		275,000	138,000	-	137,000	68,500	68,500
155	Transportation Demand Management	2019-2031	-	City-Wide Program	2,000,000	-		2,000,000	1,000,000	-	1,000,000	500,000	500,000
	<b>Studies/Environmental Assessments</b>												
156	Complete and Liveable Streets Guidelines	2019-2022	-	Study	250,000	-		250,000	-	-	250,000	125,000	125,000
157	Cycling Master Plan Review	2023-2031	-	Study	200,000	-		200,000	-	-	200,000	100,000	100,000
158	E.M.M.E Model Management	2019-2031	-	Monitoring	1,040,000	-		1,040,000	-	-	1,040,000	520,000	520,000
159	Goods Movement Study Review and Update	2019-2022	-	Study	150,000	-		150,000	-	-	150,000	75,000	75,000
160	Intelligent Transportation System Strategy	2019-2022	-	Study	250,000	-		250,000	-	-	250,000	125,000	125,000
161	Lincoln Alexander and Red Hill Valley Parkway Widening Feasibility Study	2019-2022	-	Study	500,000	-		500,000	-	-	500,000	250,000	250,000
162	Multi-modal Level of Service Guidelines	2019-2022	-	Study	250,000	-		250,000	-	-	250,000	125,000	125,000
163	Pedestrian Mobility Plan Review	2023-2031	-	Study	200,000	-		200,000	-	-	200,000	100,000	100,000
164	Revenue Tools Study	2019-2022	-	Study	250,000	-		250,000	-	-	250,000	125,000	125,000
165	Transportation Master Plan Review	2023-2031	-	Study	250,000	-		250,000	-	-	250,000	125,000	125,000



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									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%
	2019-2031												
166	Truck Route Master Plan Review	2019-2022	-	Study	250,000	-		250,000	-	-	250,000	125,000	125,000
167	Escarpment Crossing People Mover Study	2023-2031	-	Study	200,000	-		200,000	-	-	200,000	100,000	100,000
	<b>Active Transportation Projects</b>												
168	Red Hill Pedestrian Crossing - Eugene Street to Glengrove Avenue	2019-2031	-	Pedestrian Crossing	1,750,000	525,000		1,225,000	184,000	-	1,041,000	520,500	520,500
169	Heritage Green Trail Link	2019-2031	-	Commuter Trail	525,000	157,000		368,000	55,000	-	313,000	156,500	156,500
170	Flamborough Y.M.C.A Trail Link	2019-2031	-	Commuter Trail	565,000	169,000		396,000	59,000	-	337,000	168,500	168,500
171	Centre Road Link	2019-2031	-	Commuter Trail	640,000	192,000		448,000	67,000	-	381,000	190,500	190,500
172	Kerns Road, Waterdown South Link	2019-2031	-	Multi-Use Trail	957,000	287,000		670,000	101,000	-	569,000	284,500	284,500
173	Hunter - MacNab to Catharine	2019-2031	0.47	Bike Lane	78,000	23,000		55,000	8,000	-	47,000	23,500	23,500
174	Hunter - Liberty to Claremont Access	2019-2031	0.23	Bike Lane	31,000	9,000		22,000	3,000	-	19,000	9,500	9,500
175	Wilson - James to Sherman	2019-2031	2.55	Bike Lane	81,000	24,000		57,000	9,000	-	48,000	24,000	24,000
176	Ferguson - Hunter to Charlton	2019-2031	0.20	Bike Lane	2,000	-		2,000	-	-	2,000	1,000	1,000
177	King over Red Hill Valley Parkway - Lawrence to Pottruff	2019-2031	0.50	Bike Lane	27,000	8,000		19,000	3,000	-	16,000	8,000	8,000
178	Locke - King to Hunter	2019-2031	1.28	Bike Lane	8,000	2,000		6,000	1,000	-	5,000	2,500	2,500
179	Barton - Red Hill Valley to Lake	2019-2031	1.61	Bike Lane	234,000	70,000		164,000	25,000	-	139,000	69,500	69,500
180	Wilson in Ancaster - Rousseaux to Halson	2019-2031	0.85	Bike Lane	20,000	6,000		14,000	2,000	-	12,000	6,000	6,000
181	Barton - Brockley to Fruitland	2019-2031	3.95	Bike Lane	123,000	37,000		86,000	13,000	-	73,000	36,500	36,500
182	Gage - Industrial to Lawrence	2019-2031	2.96	Bike Lane	115,000	34,000		81,000	12,000	-	69,000	34,500	34,500
183	Hunter Street - Escarpment Rail Trail Link - Hunter to West 5th at Fennell	2019-2031	3.50	Multi-Use Trail	3,275,000	982,000		2,293,000	344,000	-	1,949,000	974,500	974,500
184	Cannon - Sherman to Lottridge	2019-2031	0.42	Bike Lane	16,000	4,000		12,000	2,000	-	10,000	5,000	5,000
185	First Rd W/Whitedeer/Terryberry & Picardy/ Highbury - Glover Mtn Road/ Ridgeview Dr to Rymal/ Bellagio	2019-2031	4.08	Bike Lane	48,000	15,000		33,000	5,000	-	28,000	14,000	14,000
186	Olympic Park Twin Pad Arena Link - Chedoke Rail Trail to Old Mohawk Road	2019-2031	1.50	Multi-Use Trail	831,000	249,000		582,000	87,000	-	495,000	247,500	247,500
187	Dundas St - Main to Cootes	2019-2031	0.68	Bike Lane	16,000	5,000		11,000	2,000	-	9,000	4,500	4,500
188	Mohawk - Old Mohawk to Upper Paradise	2019-2031	1.83	Bike Lane	47,000	14,000		33,000	5,000	-	28,000	14,000	14,000
189	Hatt - Peel to Main	2019-2031	0.93	Bike Lane	29,000	9,000		20,000	3,000	-	17,000	8,500	8,500
190	Eastport Drive Lift Bridge Link	2019-2031	-	Multi-Use Trail	1,750,000	525,000		1,225,000	184,000	-	1,041,000	520,500	520,500
191	Beach Bike Lane - under QEW	2019-2031	0.24	Bike Lane	7,000	2,000		5,000	1,000	-	4,000	2,000	2,000
192	Beach Boulevard - lift bridge to Van Wagner's	2019-2031	4.25	Bike Lane	94,000	28,000		66,000	10,000	-	56,000	28,000	28,000
193	Van Wagner's - Beach Bike Lane to Centennial Parkway	2019-2031	2.50	Bike Lane	78,000	23,000		55,000	8,000	-	47,000	23,500	23,500
194	Montclair/ Central/ Graham/ Frederick	2019-2031	3.80	Bike Lane	19,000	6,000		13,000	2,000	-	11,000	5,500	5,500
195	Melvin - Strathhearn/ Shelby to Red Hill Valley Trail	2019-2031	1.90	Bike Lane	59,000	18,000		41,000	6,000	-	35,000	17,500	17,500
196	Britania - Cannon to Walter	2019-2031	0.84	Bike Lane	22,000	6,000		16,000	2,000	-	14,000	7,000	7,000
197	Creighton/ Market - Hatt/ King to Governor's	2019-2031	0.95	Bike Lane	25,000	8,000		17,000	3,000	-	14,000	7,000	7,000
198	Ogilvie/ Old Ancaster - Hatt/ King to Hamilton-Brantford Rail Trail	2019-2031	0.80	Bike Lane	14,000	5,000		9,000	1,000	-	8,000	4,000	4,000
199	Longwood - Franklin to King	2019-2031	0.73	Bike Lane	17,000	5,000		12,000	2,000	-	10,000	5,000	5,000
200	Mountain Brow in Waterdown - Mill to Burke to King Road	2019-2031	1.20	Multi-Use Trail	660,000	198,000		462,000	69,000	-	393,000	196,500	196,500
201	Golf Links/ Halson - Wilson to Southcote	2019-2031	1.19	Bike Lane	28,000	9,000		19,000	3,000	-	16,000	8,000	8,000
202	Meadowbrook	2019-2031	1.00	Bike Lane	16,000	5,000		11,000	2,000	-	9,000	4,500	4,500
203	West 5th - Mohawk College Access to Marlowe	2019-2031	1.13	Bike Lane	70,000	21,000		49,000	7,000	-	42,000	21,000	21,000
204	Limeridge - Garth/ Bonaventure to West 5th/ Hawkridge	2019-2031	1.37	Bike Lane	53,000	16,000		37,000	6,000	-	31,000	15,500	15,500
205	Scenic - Chedoke Rail Trail to Upper Paradise	2019-2031	2.27	Bike Lane	27,000	8,000		19,000	3,000	-	16,000	8,000	8,000
206	Green Mountain - First Road W to First Road E	2019-2031	1.50	Bike Lane	292,000	87,000		205,000	31,000	-	174,000	87,000	87,000
207	Walnut Grove & Sanctuary Park - Walnut Grove/ Ogilvie to Highland Park Dr	2019-2031	0.40	Multi-Use Trail	366,000	110,000		256,000	38,000	-	218,000	109,000	109,000
208	Scenic/ Denlow - Upper Paradise to Garth	2019-2031	0.95	Bike Lane	11,000	3,000		8,000	1,000	-	7,000	3,500	3,500
209	Waterdown local streets	2019-2031	-	Bike Lane	78,000	23,000		55,000	8,000	-	47,000	23,500	23,500
210	Frid/Chatham - Longwood to Dundurn	2019-2031	1.00	Bike Lane	6,000	2,000		4,000	1,000	-	3,000	1,500	1,500

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									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%
	2019-2031												
211	Fiddler's Green - Jerseyville to Wilson	2019-2031	0.25	Bike Lane	6,000	2,000		4,000	1,000	-	3,000	1,500	1,500
212	Upper Wentworth - Fennell to East 24th	2019-2031	1.03	Bike Lane	40,000	12,000		28,000	4,000	-	24,000	12,000	12,000
213	Barton - Fruitland to Fifty	2019-2031	5.00	Multi-Use Trail	2,647,000	794,000		1,853,000	278,000	-	1,575,000	787,500	787,500
214	Queensdale - Upper Sherman to Upper Ottawa	2019-2031	1.56	Bike Lane	36,000	10,000		26,000	4,000	-	22,000	11,000	11,000
215	Old Mud - Mt Albion to Winterberry	2019-2031	0.40	Bike Lane	9,000	2,000		7,000	1,000	-	6,000	3,000	3,000
216	Charlton/ John - James to Ferguson & St Joseph's Dr	2019-2031	0.80	Bike Lane	84,000	25,000		59,000	9,000	-	50,000	25,000	25,000
217	Upper Wentworth - Concession to Fennell	2019-2031	1.03	Bike Lane	40,000	12,000		28,000	4,000	-	24,000	12,000	12,000
218	West Ave - Hunter/ Claremont to Young	2019-2031	0.36	Bike Lane	3,000	1,000		2,000	-	-	2,000	1,000	1,000
219	Frances - Grays to east of Green Road	2019-2031	1.15	Bike Lane	156,000	47,000		109,000	16,000	-	93,000	46,500	46,500
220	Nash - Bancroft to King	2019-2031	2.58	Bike Lane	101,000	31,000		70,000	11,000	-	59,000	29,500	29,500
221	Kitty Murray	2019-2031	2.26	Bike Lane	53,000	16,000		37,000	6,000	-	31,000	15,500	15,500
222	Stonehenge	2019-2031	2.46	Bike Lane	58,000	18,000		40,000	6,000	-	34,000	17,000	17,000
223	Highway 8 - Bond to Hillcrest	2019-2031	1.10	Paved Shoulder	1,014,000	304,000		710,000	107,000	-	603,000	301,500	301,500
224	Queensdale - Upper Wellington to Upper Sherman	2019-2031	1.68	Bike Lane	39,000	11,000		28,000	4,000	-	24,000	12,000	12,000
225	Meadowlands/ Raymond - Golf Links to Garner	2019-2031	2.10	Bike Lane	49,000	15,000		34,000	5,000	-	29,000	14,500	14,500
226	Delawana - Kenora to Lake	2019-2031	1.02	Bike Lane	9,000	3,000		6,000	1,000	-	5,000	2,500	2,500
227	Highway 8 - Brock to Hillcrest	2019-2031	0.60	Paved Shoulder	108,000	32,000		76,000	11,000	-	65,000	32,500	32,500
228	Upper Paradise - Stone Church to Rymal	2019-2031	1.07	Bike Lane	42,000	13,000		29,000	4,000	-	25,000	12,500	12,500
229	Binbrook Road - Regional Road 56 to Southbrook	2019-2031	0.28	Bike Lane	7,000	2,000		5,000	1,000	-	4,000	2,000	2,000
230	Lovers Lane - Sulphur Springs to Jerseyville	2019-2031	0.90	Bike Lane	21,000	6,000		15,000	2,000	-	13,000	6,500	6,500
231	Governor's - Binkley to Creighton	2019-2031	4.92	Bike Lane	652,000	195,000		457,000	69,000	-	388,000	194,000	194,000
232	Stuart Street Rail Link	2019-2031	-	Multi-Use Trail	254,000	76,000		178,000	27,000	-	151,000	75,500	75,500
233	Mud Street - Mountain Brow Boulevard	2019-2031	0.50	Multi-Use Trail	136,000	41,000		95,000	14,000	-	81,000	40,500	40,500
234	William Connell Park Link - Stone Church Road to Rymal	2019-2031	0.70	Multi-Use Trail	689,000	206,000		483,000	72,000	-	411,000	205,500	205,500
235	Upper James - William Connell Park	2019-2031	0.38	Multi-Use Trail	225,000	67,000		158,000	24,000	-	134,000	67,000	67,000
236	Grays/ Gray - Confederation Park gate to King	2019-2031	3.00	Bike Lane	117,000	35,000		82,000	12,000	-	70,000	35,000	35,000
237	King in Dundas - Bond to Peel	2019-2031	0.80	Bike Lane	31,000	9,000		22,000	3,000	-	19,000	9,500	9,500
238	Warrington/ South Service/ Lake - Centennial Parkway to Delawana	2019-2031	2.05	Bike Lane	78,000	23,000		55,000	8,000	-	47,000	23,500	23,500
239	Marston - Paramount to Gordon Drummond	2019-2031	0.40	Bike Lane	14,000	5,000		9,000	1,000	-	8,000	4,000	4,000
240	Kenora/ Greenford/ Owen - Bancroft to King	2019-2031	2.60	Bike Lane	172,000	52,000		120,000	18,000	-	102,000	51,000	51,000
241	Centennial Parkway - North Service to GO station/ Kenora	2019-2031	1.20	Multi-Use Trail	156,000	47,000		109,000	16,000	-	93,000	46,500	46,500
242	Victoria - Barton to Main	2019-2031	1.04	Bike Lane	40,000	12,000		28,000	4,000	-	24,000	12,000	12,000
243	Kentley - Eugene to Kenora	2019-2031	0.40	Bike Lane	4,000	1,000		3,000	-	-	3,000	1,500	1,500
244	Whitney - Main to Emerson	2019-2031	1.50	Bike Lane	47,000	14,000		33,000	5,000	-	28,000	14,000	14,000
245	West 5th - Fennell to Mohawk Coll. Access	2019-2031	0.33	Multi-Use Trail	28,000	8,000		20,000	3,000	-	17,000	8,500	8,500
246	Millen - Shoreview to Millen/ Seaman	2019-2031	0.50	Bike Lane	31,000	9,000		22,000	3,000	-	19,000	9,500	9,500
247	King in Stoney Creek - Battlefield/ Elm to Gray	2019-2031	0.74	Bike Lane	16,000	5,000		11,000	2,000	-	9,000	4,500	4,500
248	Limeridge - Birchview to Mtn Brow	2019-2031	1.98	Bike Lane	70,000	21,000		49,000	7,000	-	42,000	21,000	21,000
249	Dewitt - Dundee to Ridge	2019-2031	0.50	Bike Lane	750,000	225,000		525,000	79,000	-	446,000	223,000	223,000
250	Claremont Access - Inverness to Main	2019-2031	1.60	Bike Lane	50,000	15,000		35,000	5,000	-	30,000	15,000	15,000
251	Inverness - Upper James to Belvidere	2019-2031	0.44	Bike Lane	11,000	3,000		8,000	1,000	-	7,000	3,500	3,500
252	Burlington Street Link - Ferguson/ Dock Service Road to Sherman	2019-2031	1.88	Bike Lane	104,000	31,000		73,000	11,000	-	62,000	31,000	31,000
253	Dundas St in Waterdown - Highway 6 to Hamilton St	2019-2031	2.75	Bike Lane	129,000	39,000		90,000	14,000	-	76,000	38,000	38,000
254	Hollybush - Parkside to Dundas St	2019-2031	1.10	Bike Lane	16,000	5,000		11,000	2,000	-	9,000	4,500	4,500
255	Greenhill - Summercrest to King	2019-2031	1.20	Bike Lane	47,000	14,000		33,000	5,000	-	28,000	14,000	14,000
256	Governor's - Ogilvie to Main	2019-2031	0.24	Bike Lane	43,000	13,000		30,000	5,000	-	25,000	12,500	12,500
257	Queenston/ Highway 8 - Glover to Winona/ Niagara border	2019-2031	3.80	Bike Lane	682,000	205,000		477,000	72,000	-	405,000	202,500	202,500
258	Burlington Street East Boulevard Trail - Ottawa to Parkdale to Glow	2019-2031	2.30	Multi-Use Trail	1,050,000	315,000		735,000	110,000	-	625,000	312,500	312,500

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Length	Capital Improvement	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%
259	Queenston/ Highway 8 - King to Dewitt	2019-2031	1.37	Bike Lane	246,000	74,000		172,000	26,000	-	146,000	73,000	73,000
260	Greenhill - Harrisford to Summercrest	2019-2031	1.94	Bike Lane	76,000	23,000		53,000	8,000	-	45,000	22,500	22,500
261	Mill in Waterdown - Parkside to Dundas St	2019-2031	0.95	Bike Lane	22,000	6,000		16,000	2,000	-	14,000	7,000	7,000
262	King in Stoney Creek - Gray to Queenston/ Highway 8	2019-2031	1.51	Bike Lane	78,000	23,000		55,000	8,000	-	47,000	23,500	23,500
263	Rousseaux/ Mohawk - Wilson to Filman	2019-2031	1.60	Bike Lane	225,000	68,000		157,000	24,000	-	133,000	66,500	66,500
264	Baseline/ Lockport - Winona Road to Niagara border	2019-2031	1.15	Bike Lane	23,000	7,000		16,000	2,000	-	14,000	7,000	7,000
265	Winona - Lido/ shore to Peachtree	2019-2031	1.97	Bike Lane	46,000	14,000		32,000	5,000	-	27,000	13,500	13,500
266	Cherry Beach Road Link - Millen to Dewitt	2019-2031	0.91	Multi-Use Trail	234,000	70,000		164,000	25,000	-	139,000	69,500	69,500
267	North Service Road - Dewitt to Lakeview	2019-2031	0.73	Bike Lane	16,000	5,000		11,000	2,000	-	9,000	4,500	4,500
268	North Service Road - Bellavista to Baseline	2019-2031	0.98	Bike Lane	23,000	7,000		16,000	2,000	-	14,000	7,000	7,000
269	Upper Sherman - Stone Church to Rymal to Miles	2019-2031	1.00	Bike Lane	179,000	53,000		126,000	19,000	-	107,000	53,500	53,500
270	Emperor - Brigade to Acadia	2019-2031	0.44	Bike Lane	16,000	5,000		11,000	2,000	-	9,000	4,500	4,500
271	Burlington/ Industrial - Sherman to Gage	2019-2031	0.86	Bike Lane	99,000	30,000		69,000	10,000	-	59,000	29,500	29,500
272	Birch/ Holton - Burlington St to Cannon/ King/ Delaware	2019-2031	1.40	Bike Lane	31,000	9,000		22,000	3,000	-	19,000	9,500	9,500
273	Dewitt - Barton to Dundee	2019-2031	0.90	Bike Lane	21,000	6,000		15,000	2,000	-	13,000	6,500	6,500
274	Chedmac - Southridge to Rice	2019-2031	0.53	Bike Lane	23,000	7,000		16,000	2,000	-	14,000	7,000	7,000
275	Kilbride - Upper Ottawa to Nebo	2019-2031	0.38	Bike Lane	9,000	3,000		6,000	1,000	-	5,000	2,500	2,500
276	Hamilton in Waterdown - Centre/Main to Highway 5/Dundas	2019-2031	1.00	Bike Lane	62,000	18,000		44,000	7,000	-	37,000	18,500	18,500
277	Osler/ Main - Hatt/ King to Main + 125m of Main	2019-2031	2.00	Bike Lane	88,000	26,000		62,000	9,000	-	53,000	26,500	26,500
278	Fiddler's Green - Amberly to Garner	2019-2031	0.68	Bike Lane	21,000	6,000		15,000	2,000	-	13,000	6,500	6,500
279	Shaver - Wilson to Garner	2019-2031	0.52	Bike Lane	12,000	3,000		9,000	1,000	-	8,000	4,000	4,000
280	Upper James - Twenty to Airport/ Mt Hope	2019-2031	4.05	Multi-Use Trail	1,153,000	346,000		807,000	121,000	-	686,000	343,000	343,000
281	Christie-Tews - Christie C.A. to Harvest	2019-2031	2.75	Multi-Use Trail	1,124,000	337,000		787,000	118,000	-	669,000	334,500	334,500
282	Fennell Avenue Boulevard Trail - Garth/ West 18th to West 5th	2019-2031	1.20	Multi-Use Trail	412,000	124,000		288,000	43,000	-	245,000	122,500	122,500
283	Jones Road Link	2019-2031	-	Multi-Use Trail	222,000	222,000		-	-	-	-	-	-
284	Mountain Brow Boulevard Trail - Mohawk to Arbour	2019-2031	1.81	Multi-Use Trail	374,000	112,000		262,000	39,000	-	223,000	111,500	111,500
285	Mountain Brow East Path - Rendell to Oakcrest	2019-2031	0.81	Multi-Use Trail	1,560,000	468,000		1,092,000	164,000	-	928,000	464,000	464,000
286	Upper James/ Christie - Rymal to Twenty	2019-2031	0.80	Multi-Use Trail	197,000	59,000		138,000	21,000	-	117,000	58,500	58,500
287	Proposed Pipeline Trail - Museum of Steam and Technology to Mahoney	2019-2031	2.40	Multi-Use Trail	517,000	155,000		362,000	54,000	-	308,000	154,000	154,000
288	Existing Pipeline Trail - Main to Strathearne	2019-2031	2.20	Multi-Use Trail	4,679,000	1,404,000		3,275,000	491,000	-	2,784,000	1,392,000	1,392,000
289	Hydro Corridor - Barton to Lawrence	2019-2031	1.90	Multi-Use Trail	1,251,000	375,000		876,000	131,000	-	745,000	372,500	372,500
290	Hydro Corridor - Lawrence Avenue to Greenhill Avenue	2019-2031	1.15	Multi-Use Trail	430,000	129,000		301,000	45,000	-	256,000	128,000	128,000
291	Strachan Street Trail - James to Ferguson	2019-2031	0.66	Multi-Use Trail	337,000	101,000		236,000	35,000	-	201,000	100,500	100,500
292	Karst Escarpment Loop - Pritchard to Mount Albion/Winterberry	2019-2031	0.70	Multi-Use Trail	390,000	117,000		273,000	41,000	-	232,000	116,000	116,000
293	Chedoke Rail Trail - Highway 403 to Dundurn	2019-2031	4.68	Multi-Use Trail	1,487,000	446,000		1,041,000	156,000	-	885,000	442,500	442,500
294	Hamilton-Brantford Rail Trail - Bridlewood Dr to Ewen	2019-2031	4.00	Multi-Use Trail	406,000	122,000		284,000	43,000	-	241,000	120,500	120,500
295	Battlefield Park - Bruce Trail Link - Greenhill to Bruce Trail to Glover Mtn	2019-2031	0.75	Multi-Use Trail	533,000	160,000		373,000	56,000	-	317,000	158,500	158,500
296	Devil's Punchbowl Link - Mountain Ave/ Lake Ave to Ridge Road/ Devil's	2019-2031	0.42	Multi-Use Trail	150,000	150,000		-	-	-	-	-	-
297	Gage Park - Cumberland to Montclair/ Maple	2019-2031	0.59	Multi-Use Trail	331,000	99,000		232,000	35,000	-	197,000	98,500	98,500
298	Iroquois Heights to Old Mohawk - Chedoke Rail Trail to Old Mohawk Road	2019-2031	0.85	Multi-Use Trail	318,000	95,000		223,000	33,000	-	190,000	95,000	95,000
299	Museum of Steam and Tech Link - Woodward to Red Hill Valley Trail	2019-2031	0.75	Multi-Use Trail	607,000	182,000		425,000	64,000	-	361,000	180,500	180,500
300	Ottawa Street South - Bruce Trail Link	2019-2031	0.39	Multi-Use Trail	686,000	206,000		480,000	72,000	-	408,000	204,000	204,000
301	Limeridge Mall Hydro Corridor Trail - Mohawk Road to South of Rymal	2019-2031	3.80	Multi-Use Trail	1,404,000	421,000		983,000	147,000	-	836,000	418,000	418,000
302	Fallsview - Sydenham to Rock Chapel Road	2019-2031	1.40	Multi-Use Trail	350,000	105,000		245,000	37,000	-	208,000	104,000	104,000
303	Hydro Corridor - Wilson/Highway 52 to Regional Road 56	2019-2031	12.70	Multi-Use Trail	7,617,000	2,285,000		5,332,000	800,000	-	4,532,000	2,266,000	2,266,000
304	Beddoe Drive Link	2019-2031	0.91	Multi-Use Trail	519,000	156,000		363,000	54,000	-	309,000	154,500	154,500
305	Hydro Corridor - Glanaster Road to Chippewa Rail Trail	2019-2031	7.70	Multi-Use Trail	5,763,000	1,729,000		4,034,000	605,000	-	3,429,000	1,714,500	1,714,500
306	Hydro Corridor - Chippewa Rail Trail to Fletcher Road	2019-2031	2.35	Multi-Use Trail	3,685,000	1,105,000		2,580,000	387,000	-	2,193,000	1,096,500	1,096,500

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2031	Timing (year)	Length	Capital Improvement	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%
307	Hydro Corridor - Trinity Road to Glanaster Road	2019-2031	10.00	Multi-Use Trail	7,617,000	2,285,000		5,332,000	800,000	-	4,532,000	2,266,000	2,266,000
308	Hydro Corridor - White Church Road	2019-2031	6.60	Multi-Use Trail	3,731,000	1,866,000		1,865,000	280,000	-	1,585,000	792,500	792,500
309	White Church Road West Airport Link	2019-2031	-	Multi-Use Trail	673,000	336,000		337,000	51,000	-	286,000	143,000	143,000
310	White Church Road West Link	2019-2031	-	Multi-Use Trail	1,315,000	657,000		658,000	99,000	-	559,000	279,500	279,500
311	Chippewa Road at Highway 6	2019-2031	0.02	Multi-Use Trail	125,000	38,000		87,000	13,000	-	74,000	37,000	37,000
312	Glanaster Road Link	2019-2031	-	Multi-Use Trail	495,000	248,000		247,000	37,000	-	210,000	105,000	105,000
313	Centre - Concession 8 E to Concession 7 E	2019-2031	1.80	Paved Shoulder	351,000	105,000		246,000	37,000	-	209,000	104,500	104,500
314	East Townline - Mud to Highland	2019-2031	1.10	Bike Lane	13,000	4,000		9,000	1,000	-	8,000	4,000	4,000
315	Centre - Warren/ Carlisle Road to Progreston	2019-2031	0.78	Paved Shoulder	151,000	45,000		106,000	16,000	-	90,000	45,000	45,000
316	Centre - Grinstone Creek to Concession 5 E	2019-2031	0.45	Paved Shoulder	88,000	27,000		61,000	9,000	-	52,000	26,000	26,000
317	Edgewood - Safari to Highway 6	2019-2031	0.90	Bike Lane	11,000	4,000		7,000	1,000	-	6,000	3,000	3,000
318	Binbrook Road - Trinity Church to Fletcher	2019-2031	1.26	Paved Shoulder	246,000	74,000		172,000	26,000	-	146,000	73,000	73,000
319	Ridge Road - Devil Punch Bowl to Dewitt	2019-2031	2.91	Multi-Use Trail	780,000	234,000		546,000	82,000	-	464,000	232,000	232,000
320	York Road - Olympic to Valley Road	2019-2031	1.70	Paved Shoulder	437,000	131,000		306,000	46,000	-	260,000	130,000	130,000
321	York Road & York Road at Old Guelph - Valley Road to Highway 6	2019-2031	2.50	Multi-Use Trail	1,433,000	430,000		1,003,000	150,000	-	853,000	426,500	426,500
322	Northlawn Avenue Link	2019-2031	1.10	Multi-Use Trail	400,000	120,000		280,000	42,000	-	238,000	119,000	119,000
323	Mosaic Drive - Parkside Drive to Highway 6	2019-2031	1.90	Multi-Use Trail	886,000	266,000		620,000	93,000	-	527,000	263,500	263,500
324	Valley Road - Rock Chapel to York Road	2019-2031	1.40	Paved Shoulder	312,000	94,000		218,000	33,000	-	185,000	92,500	92,500
325	Regional Road 56 south of Kirk - Southbrook to Binbrook Cons Area	2019-2031	3.00	Multi-Use Trail	780,000	234,000		546,000	82,000	-	464,000	232,000	232,000
326	Regional Road 56 - Swayze Road to Cemetery	2019-2031	4.60	Multi-Use Trail	3,119,000	936,000		2,183,000	327,000	-	1,856,000	928,000	928,000
327	Old Guelph Road - Paterson to York Bike Lane	2019-2031	3.53	Paved Shoulder	907,000	272,000		635,000	95,000	-	540,000	270,000	270,000
328	Hamilton Drive Link	2019-2031	-	Multi-Use Trail	1,980,000	1,980,000		-	-	-	-	-	-
	<b>Existing Debt:</b>												
329	Debt on Expressway - Principal (discounted) <sup>1</sup>	2019-2025			17,811,239	-		17,811,239	-	-	17,811,239	13,002,194	4,809,045
330	Debt on Expressway - Interest (discounted) <sup>1</sup>	2019-2025			2,778,869	-		2,778,869	-	-	2,778,869	2,028,573	750,296
331	Debt on Various Growth Related Road Projects - Principal (discounted) <sup>2</sup>	2019-2023			2,033,756	-		2,033,756	-	-	2,033,756	278,625	1,755,131
332	Debt on Various Growth Related Road Projects - Interest (discounted) <sup>2</sup>	2019-2023			175,985	-		175,985	-	-	175,985	24,110	151,875
	<b>Future Financing:</b>												
333	Waterdown Road (Burlington portion) - Mountain Brow Road to Craven Avenue - Growth Related Debt Interest (Discounted)	2020-2035			4,782,128	-		4,782,128	-	-	4,782,128	4,303,916	478,213
334	Reserve Fund Adjustment					-		-	13,535,975	-	(13,535,975)	(6,767,988)	(6,767,988)
	<b>Total</b>				<b>1,383,221,977</b>	<b>482,096,000</b>	<b>-</b>	<b>901,125,977</b>	<b>233,428,975</b>	<b>-</b>	<b>667,697,002</b>	<b>349,582,930</b>	<b>318,114,072</b>

<sup>1</sup> Debt on Expressway Issued for 73% Residential portion and 27% Non-Residential portion<sup>2</sup> Debt on Various Growth Related Road Projects Issued for 13.7% Residential portion and 86.3% Non-Residential portion<sup>3</sup> Residential/Non-Residential Split based on 90%/10%



Table 9: Highway Projects 2019-2031

Item #	Project Name	From	To	Estimated Timing	Improvement Type	Length	Gross Capital Cost Estimate 2019\$	Gross Capital Cost including E.A. 2019\$	Gross Capital Cost 2019\$	Post Period Benefit	Developer Responsibility	Net Capital Estimate After Deduction 2019\$	Benefit to Existing (%)	Benefit to Existing (\$)	Benefit to Growth (%)	Benefit to Growth (\$)	Benefit to Growth (\$)
<b>Airport Employment Growth District Projects</b>																	
1	Airport Road	Upper James Street	East Cargo Road	2019-2022	2r-3i	1.07	\$4,436,753	\$4,436,753	\$4,437,000	0%	0%	\$4,437,000	40	\$1,775,000	60	\$2,662,200	\$2,662,000
2	Airport Road	East Cargo Road	Terminal Access Road	2019-2022	2r-4u	0.32	\$2,423,364	\$2,423,364	\$2,423,000	0%	0%	\$2,423,000	40	\$969,000	60	\$1,453,800	\$1,454,000
3	Airport Road	Terminal Access Road	Glancaster Road	2023-2031	2r-3i	1.68	\$7,325,238	\$7,325,238	\$7,325,000	0%	0%	\$7,325,000	40	\$2,930,000	60	\$4,395,000	\$4,395,000
4	Airport Road*	Butter Road	Glancaster Road	2032-2041	2r-4u	0.86	\$6,705,207	\$7,470,207	\$7,470,000	100%	0%	\$0	15	\$0	85	\$0	\$0
5	Book Road	Fiddler's Green Road	Highway 6	2032-2041	2r-4u	0.99	\$6,339,812	\$6,339,812	\$6,340,000	100%	0%	\$0	15	\$0	85	\$0	\$0
6	Book Road*	Highway 6	Southcote Road	2032-2041	2r-4u	1.11	\$5,841,812	\$6,158,012	\$6,158,000	100%	0%	\$0	15	\$0	85	\$0	\$0
7	Book Road	Highway 6	Southcote Road	2032-2041	4u-6u	1.11	\$6,421,333	\$6,421,333	\$6,421,000	100%	0%	\$0	15	\$0	85	\$0	\$0
8	Book Road	Collector 2W	Glancaster Road	2032-2041	2r-2u	0.59	\$1,983,541	\$1,983,541	\$1,984,000	100%	0%	\$0	15	\$0	85	\$0	\$0
9	Butter Road East*	Airport Road	Glancaster Road	2023-2031	2r-2u	0.97	\$3,195,974	\$3,960,974	\$3,961,000	0%	0%	\$3,961,000	15	\$594,000	85	\$3,366,850	\$3,367,000
10	Butter Road East	Highway 6	Airport Road	2023-2031	2r-4u	0.37	\$3,427,759	\$3,427,759	\$3,428,000	100%	0%	\$0	15	\$0	85	\$0	\$0
11	Butter Road East	Fiddler's Green Road	Highway 6	2032-2041	2r-4u	0.94	\$8,708,361	\$8,708,361	\$8,708,000	100%	0%	\$0	15	\$0	85	\$0	\$0
12	Carluke Road East	Fiddler's Green Road	Glancaster Road	2032-2041	2r-4u	1.05	\$5,526,038	\$6,291,038	\$6,291,000	100%	0%	\$0	15	\$0	85	\$0	\$0
13	Collector Road 6N (oversizing)	Collector Road 6E	Collector Road 6E	2032-2041	4u	1.93	\$2,895,969	\$2,895,969	\$2,896,000	100%	0%	\$0	0	\$0	100	\$0	\$0
14	Collector Road 6N (oversizing)	Collector Road 6E	Collector Road 7E	2032-2041	4u	2.56	\$3,635,196	\$3,635,196	\$3,635,000	100%	0%	\$0	0	\$0	100	\$0	\$0
15	Collector Road 7E (oversizing)	Collector 6N	Upper James Street	2032-2041	4u	0.58	\$1,311,912	\$1,311,912	\$1,312,000	100%	0%	\$0	0	\$0	100	\$0	\$0
16	Dickenson Road	Glancaster Road	Upper James Street	2025	2r-4u	2.90	\$14,282,093	\$14,282,093	\$14,282,000	0%	0%	\$14,282,000	15	\$2,142,000	85	\$12,139,700	\$12,140,000
17	Dickenson Road Extension	Southcote Road	Smith Road	2019-2022	4u	0.42	\$3,195,328	\$3,195,328	\$3,195,000	0%	0%	\$3,195,000	0	\$0	100	\$3,195,000	\$3,195,000
18	Dickenson Road Extension	Southcote Road	Smith Road	2032-2041	4u-6u	0.42	\$2,435,151	\$2,435,151	\$2,435,000	100%	0%	\$0	15	\$0	85	\$0	\$0
19	Dickenson Road Extension	Smith Road	Glancaster Road	2023-2031	4u	0.80	\$6,148,659	\$6,148,659	\$6,149,000	0%	0%	\$6,149,000	0	\$0	100	\$6,149,000	\$6,149,000
20	Garner Road*	Fiddler's Green Road	Glancaster Road	2023-2031	2r-4u	4.44	\$19,155,091	\$19,920,091	\$19,920,000	0%	0%	\$19,920,000	15	\$2,988,000	85	\$16,932,000	\$16,932,000
21	Garth Street extension (oversizing)	Twenty Road	Dickenson Road	2023-2031	5u	1.50	\$2,391,418	\$2,391,418	\$2,391,000	0%	0%	\$2,391,000	0	\$0	100	\$2,391,000	\$2,391,000
22	Garth Street extension (oversizing)	Dickenson Road	Collector 2E	2023-2031	5u	0.62	\$1,358,847	\$1,358,847	\$1,359,000	0%	0%	\$1,359,000	0	\$0	100	\$1,359,000	\$1,359,000
23	Glancaster Road	Collector 1N	Airport Boundary	2032-2041	2r-2u	0.49	\$2,019,486	\$2,019,486	\$2,019,000	100%	0%	\$0	15	\$0	85	\$0	\$0
24	Glancaster Road	Dickenson Road Extension	Collector 1N	2032-2041	2r-4u	0.37	\$2,425,891	\$2,425,891	\$2,426,000	100%	0%	\$0	15	\$0	85	\$0	\$0
25	Glancaster Road	Garner Road	Dickenson Road	2023-2031	2r-4u	2.46	\$16,497,032	\$16,843,832	\$16,844,000	0%	0%	\$16,844,000	15	\$2,527,000	85	\$14,317,000	\$14,317,000
26	Smith Road*	Dickenson Road extension	Collector 1N	2032-2041	2r-4u	0.65	\$3,289,803	\$4,054,803	\$4,055,000	100%	0%	\$0	15	\$0	85	\$0	\$0
27	Smith Road (except Hydro Corridor)	Garner Road	Dickenson Road extension	2032-2041	2u	1.57	\$9,919,476	\$9,919,476	\$9,919,000	100%	0%	\$0	0	\$0	100	\$0	\$0
28	Smith Road	Collector 1N	Airport Boundary	2032-2041	2r-2u	0.35	\$1,919,134	\$1,919,134	\$1,919,000	100%	0%	\$0	15	\$0	85	\$0	\$0
29	Smith Road extension	Hydro corridor north crossing		2032-2041	2u	0.26	\$1,037,292	\$1,037,292	\$1,037,000	100%	0%	\$0	0	\$0	100	\$0	\$0
30	Southcote Road*	Garner	Twenty Road extension	2019-2022	2r-4u	0.97	\$8,541,030	\$9,306,030	\$9,306,000	0%	0%	\$9,306,000	15	\$1,396,000	85	\$7,910,100	\$7,910,000
31	Southcote Road	Twenty Road extension	Book Road	2023-2031	2r-4u	0.97	\$8,541,030	\$8,541,030	\$8,541,000	0%	0%	\$8,541,000	15	\$1,281,000	85	\$7,259,850	\$7,260,000
32	Twenty Road	Glancaster Road	Aldercree Avenue	2023-2031	2r-4u	3.08	\$17,406,254	\$17,825,879	\$17,826,000	0%	0%	\$17,826,000	15	\$2,674,000	85	\$15,152,100	\$15,152,000
33	Twenty Road extension	Southcote Road	Glancaster Road	2023-2031	4u	1.86	\$14,295,632	\$14,295,632	\$14,296,000	0%	0%	\$14,296,000	0	\$0	100	\$14,296,000	\$14,296,000
34	Fiddler's Green Road	Garner Road	Carluke Road	2032-2041	2r-4u	6.07	\$38,116,078	\$38,881,078	\$38,881,000	100%	0%	\$0	15	\$0	85	\$0	\$0
35	Glancaster Road*	Butter Road	Highway 6	2032-2041	2r-4u	1.40	\$12,444,810	\$13,209,810	\$13,210,000	100%	0%	\$0	15	\$0	85	\$0	\$0
36	Glancaster Road	Highway 6	White Church Road	2032-2041	2r-4u	0.89	\$7,911,343	\$7,911,343	\$7,911,000	100%	0%	\$0	15	\$0	85	\$0	\$0
37	Southcote Road	Book Road	Collector 1N	2023-2031	2r-4u	0.65	\$4,209,554	\$4,209,554	\$4,210,000	100%	0%	\$0	15	\$0	85	\$0	\$0
38	Southcote Road	Airport Boundary	Butter Road	2032-2041	2r-2u	0.81	\$3,089,518	\$3,854,518	\$3,855,000	100%	0%	\$0	15	\$0	85	\$0	\$0
39	Upper James Street	Alderlea Avenue	Homestead Drive	2023-2031	4u-6u	3.67	\$30,928,776	\$30,928,776	\$30,929,000	0%	0%	\$30,929,000	15	\$4,639,000	85	\$26,289,650	\$26,290,000
40	White Church Road	Glancaster Road	Highway 6	2032-2041	2r-4u	2.31	\$18,885,573	\$19,650,573	\$19,651,000	100%	0%	\$0	15	\$0	85	\$0	\$0
41	Upper James Street*	Homestead	Highway 6	2023-2031	4r-5u NBR	2.78	\$12,394,849	\$12,394,849	\$12,395,000	0%	0%	\$12,395,000	15	\$1,859,000	85	\$10,535,750	\$10,536,000
<b>South Mountain Area Transportation Study Projects</b>																	
42	West 5th Street	Rymal Road	Stone Church Road	2025	2r-3u	1.00	\$3,096,000	\$3,096,000	\$3,096,000	0%	0%	\$3,096,000	40	\$1,238,000	60	\$1,857,600	\$1,858,000
43	Rymal Road	Glancaster Road	Garth Street	2019-2022	2r-5u	1.30	\$7,992,628	\$7,992,628	\$7,993,000	0%	0%	\$7,993,000	15	\$1,199,000	85	\$6,794,050	\$6,794,000
44	Rymal Road	Fletcher Road	Upper Centennial	2020	2r-5u	2.49	\$15,717,000	\$15,717,000	\$15,717,000	0%	0%	\$15,717,000	15	\$2,358,000	85	\$13,359,450	\$13,359,000
45	Rymal Road*	Upper Wentworth	West of Dartnall	2019-2022	2r-5u	3.29	\$22,520,288	\$22,520,288	\$22,520,000	0%	0%	\$22,520,000	15	\$3,378,000	85	\$19,142,000	\$19,142,000
46	Rymal Road	Upper James Street	Upper Wellington Street	2026	2r-5u	0.87	\$4,623,600	\$4,623,600	\$4,624,000	0%	0%	\$4,624,000	15	\$694,000	85	\$3,930,400	\$3,930,000
47	Rymal Road	Upper Wellington Street	Upper Wentworth Street	2030	2r-5u	0.86	\$4,664,400	\$4,664,400	\$4,664,000	0%	0%	\$4,664,000	15	\$700,000	85	\$3,964,400	\$3,964,000
<b>Stoney Creek Urban Boundary Expansion Projects</b>																	
48	Arvin Avenue	McNeilly	Lewis Road	2023-2031	2i	0.80	\$3,651,705	\$3,651,705	\$3,652,000	0%	0%	\$3,652,000	0	\$0	100	\$3,652,000	\$3,652,000
49	Arvin Avenue	Jones Road	Existing east end	2023-2031	2i	0.50	\$2,563,566	\$2,563,566	\$2,564,000	0%	0%	\$2,564,000	0	\$0	100	\$2,564,000	\$2,564,000
50	Arvin Avenue	McNeilly	Existing west end	2019-2022	2i	0.40	\$2,200,853	\$2,200,853	\$2,201,000	0%	0%	\$2,201,000	0	\$0	100	\$2,201,000	\$2,201,000
51	Fruitland Road	Highway 8	Barton Street	2023-2031	2r-4u	1.05	\$8,206,540	\$8,206,540	\$8,207,000	0%	0%	\$8,207,000	15	\$1,231,000	85	\$6,975,950	\$6,976,000
52	McNeilly Road*	Highway 8	Barton Street	2023-2031	2r-4u	0.89	\$6,032,339	\$6,797,339	\$6,797,000	0%	0%	\$6,797,000	15	\$1,020,000	85	\$5,777,450	\$5,777,000
53	Lewis Road*	Highway 8	Barton Street	2023-2031	2r-4u	0.52	\$3,524,513	\$4,289,513	\$4,290,000	0%	0%	\$4,290,000	15	\$644,000	85	\$3,646,500	\$3,646,000
54	Glover Road*	Highway 8	Barton Street	2023-2031	2r-4u	0.82	\$5,557,886	\$6,322,886	\$6,323,000	0%	0%	\$6,323,000	15	\$948,000	85	\$5,374,550	\$5,375,000
55	Jones Road*	Highway 8	Barton Street	2023-2031	2r-4u	0.93	\$6,303,456	\$7,068,456	\$7,068,000	0%	0%	\$7,068,000	15	\$1,060,000	85	\$6,007,800	\$6,008,000
<b>Ancaster Industrial Park and Transportation Master Plan Projects</b>																	
56	Garner Road	Fiddler's Green Road	Highway 2/Wilson Street	2019-2022	2r-4u	3.50	\$20,207,784	\$20,207,784	\$20,208,000	0%	0%	\$20,208,000	15	\$3,031,000	85	\$17,176,800	\$17,177,000
57	Golf Links Road	McNiven Road	Kitty Murray Lane	2023-2031	2r-3u	0.80	\$3,881,400	\$4,646,400	\$4,646,000	0%	0%	\$4,646,000	15	\$697,000	85	\$3,949,100	\$3,949,000
58	Jerseyville Road	Shaver Road	Wilson Street	2023-2031	2r-3u	3.10	\$15,672,599	\$16,437,599	\$16,438,000	0%	0%	\$16,438,000	40	\$6,575,000	60	\$9,862,800	\$9,863,000
59	Springbrook Avenue	Regan Drive	Garner Road	2020	2r-2u	0.69	\$3,096,000	\$3,096,000	\$3,096,000	0%	0%	\$3,096,000	15	\$464,000	85	\$2,631,600	\$2,632,000
60	Trinity Road	1km south of Wilson	Highway 403	2019-2022	2r-4u	2.20	\$12,219,89										



Item #	Project Name	From	To	Estimated Timing	Improvement Type	Length	Gross Capital Cost Estimate 2019\$	Gross Capital Cost including E.A. 2019\$	Gross Capital Cost 2019\$	Post Period Benefit	Developer Responsibility	Net Capital Estimate After Deduction 2019\$	Benefit to Existing (%)	Benefit to Existing (\$)	Benefit to Growth (%)	Benefit to Growth (\$)	Benefit to Growth (\$)
<b>Waterdown Projects</b>																	
77	Burke Street	Skinner Road	Mountain Brow	2023-2031	4u	0.47	\$3,183,280	\$3,948,280	\$3,948,000	0%	0%	\$3,948,000	5	\$197,000	95	\$3,750,600	\$3,751,000
78	Parkside Drive	Highway 6	Hollybush Drive	2023-2031	2r-4u	1.10	\$6,297,446	\$6,297,446	\$6,297,000	0%	0%	\$6,297,000	40	\$2,519,000	60	\$3,778,200	\$3,778,000
79	Parkside Drive	Main Street	Churchill (500 m east)	2023-2031	2r-4u	0.61	\$4,748,800	\$4,748,800	\$4,749,000	0%	0%	\$4,749,000	40	\$1,900,000	60	\$2,849,400	\$2,849,000
80	E-W Road Corridor (Waterdown By-Pass)	Dundas Street	Highway 6	2019-2022	4u	6.29	\$52,207,200	\$52,207,200	\$52,207,000	0%	0%	\$52,207,000	5	\$2,610,000	95	\$49,596,650	\$49,597,000
81	Waterdown Road (Burlington)	Mountain Brow Road	Craven Avenue	2019	2r-4u	1.90	\$24,720,000	\$24,720,000	\$24,720,000	0%	0%	\$24,720,000	0	\$0	100	\$24,720,000	\$24,720,000
82	Mountain Brow Road	Waterdown Road	New N-S Link (Burke Street)	2019-2022	2r-4u	0.91	\$7,654,024	\$7,654,024	\$7,654,000	0%	0%	\$7,654,000	15	\$1,148,000	85	\$6,505,900	\$6,506,000
83	Dundas Street	New north-south link	Hamilton Boundary	2023-2031	4u-6u	0.87	\$8,038,597	\$8,038,597	\$8,039,000	0%	0%	\$8,039,000	15	\$1,206,000	85	\$6,833,150	\$6,833,000
84	Centre Road	Parkside Drive	Parkside Drive	2019-2022	2r-3u	0.40	\$2,433,561	\$2,433,561	\$2,434,000	0%	0%	\$2,434,000	40	\$974,000	60	\$1,460,400	\$1,460,000
<b>Fruitland Winona Projects</b>																	
85	Barton Street	Fruitland Road	Fifty Road	2026	2r-3u	5.00	\$24,938,400	\$24,938,400	\$24,938,000	0%	0%	\$24,938,000	40	\$9,975,000	60	\$14,962,800	\$14,963,000
86	Fifty Road	Q.E.W (South Service Road)	Highway 8	2023-2031	2r-4u	0.80	\$4,511,779	\$5,276,779	\$5,277,000	0%	0%	\$5,277,000	15	\$792,000	85	\$4,485,450	\$4,485,000
87	Fruitland Road By-pass	Barton Street	Highway 8	2019	4u	1.10	\$8,760,600	\$8,760,600	\$8,761,000	0%	0%	\$8,761,000	15	\$1,314,000	85	\$7,446,850	\$7,447,000
88	Fruitland Road	Arvin Avenue	Barton Street	2023-2031	2u-4u	0.30	\$2,245,285	\$3,010,285	\$3,010,000	0%	0%	\$3,010,000	15	\$452,000	85	\$2,558,500	\$2,558,000
89	Highway 8 (Stoney Creek)*	Dewitt Road	Fruitland Road	2023-2031	2r-5u	0.80	\$6,534,000	\$6,534,000	\$6,534,000	0%	0%	\$6,534,000	40	\$2,614,000	60	\$3,920,400	\$3,920,000
90	Highway 8 (Stoney Creek)	Fruitland Road	East City Limit	2023-2031	2r-4r_NBR	6.18	\$20,673,968	\$20,673,968	\$20,674,000	0%	0%	\$20,674,000	40	\$8,270,000	60	\$12,404,400	\$12,404,000
<b>Elfrida Boundary Expansion Projects</b>																	
91	First Road East	Highway 20	Mud Street	2023-2031	2r-3u	2.10	\$11,463,696	\$12,228,696	\$12,229,000	66%	0%	\$4,158,000	15	\$624,000	85	\$3,534,300	\$3,534,000
92	First Road East (oversizing)	Highway 20	Golf Club Road	2023-2031	3u	2.21	\$3,224,515	\$3,224,515	\$3,225,000	66%	0%	\$1,096,000	0	\$0	100	\$1,096,000	\$1,096,000
93	Fletcher Road*	500m South of Rymal	Golf Club Road	2023-2031	2r-3u	1.60	\$9,359,245	\$10,124,245	\$10,124,000	66%	0%	\$3,442,000	15	\$516,000	85	\$2,925,700	\$2,926,000
94	Golf Club Road	Trinity Church Road	Hendershot Road	2023-2031	2r-2u	7.00	\$29,030,030	\$29,795,030	\$29,795,000	66%	0%	\$10,130,000	15	\$1,520,000	85	\$8,610,500	\$8,610,000
95	Hendershot Road	Highway 20	Golf Club Road	2023-2031	2r-3u	2.10	\$9,963,696	\$10,728,696	\$10,729,000	66%	0%	\$3,648,000	15	\$547,000	85	\$3,100,800	\$3,101,000
96	Highland Road	Upper Centennial Parkway	Second Road East	2023-2031	2r-3u	2.00	\$9,542,806	\$10,307,806	\$10,308,000	66%	0%	\$3,505,000	15	\$526,000	85	\$2,979,250	\$2,979,000
97	Mud Street	Upper Centennial Parkway	Second Road East	2023-2031	2r-2u	2.00	\$8,401,437	\$9,166,437	\$9,166,000	66%	0%	\$3,117,000	15	\$468,000	85	\$2,649,450	\$2,649,000
98	Second Road East	Highway 20	Mud Street	2023-2031	2r-3u	3.00	\$14,501,709	\$15,266,709	\$15,267,000	66%	0%	\$5,191,000	15	\$779,000	85	\$4,412,350	\$4,412,000
99	Trinity Church Road*	Hydro corridor	Golf Club Road	2023-2031	2r-2u	2.00	\$8,776,437	\$9,541,437	\$9,541,000	66%	0%	\$3,244,000	15	\$487,000	85	\$2,757,400	\$2,757,000
100	Upper Centennial Parkway	Green Mountain Road	Highway 20	2023-2031	4r-5u	2.90	\$19,346,099	\$20,111,099	\$20,111,000	66%	0%	\$6,838,000	15	\$1,026,000	85	\$5,812,300	\$5,812,000
<b>Other Road Projects</b>																	
101	Binbrook Road	Royal Winter Dr/Binhaven Rd	Fletcher Road	2019	2r-3u	0.70	\$6,840,000	\$6,840,000	\$6,840,000	0%	0%	\$6,840,000	15	\$1,026,000	85	\$5,814,000	\$5,814,000
102	Highway 8 (Dundas)	Bond Street	Dundas Limits	2023-2031	2r-3u	0.40	\$2,433,561	\$3,198,561	\$3,199,000	0%	0%	\$3,199,000	40	\$1,280,000	60	\$1,919,400	\$1,919,000
103	Highway 8 (Dundas)	Hillcrest	Park Ave	2020	2r-3u	0.60	\$2,565,600	\$2,565,600	\$2,566,000	0%	0%	\$2,566,000	40	\$1,026,000	60	\$1,539,600	\$1,540,000
104	Jones Road	Barton Street	South Service Road	2023-2031	2r-2i	0.90	\$3,738,600	\$3,738,600	\$3,739,000	0%	0%	\$3,739,000	50	\$1,870,000	50	\$1,869,500	\$1,869,000
105	Lewis Road	Barton Street	South Service Road	2023-2031	2r-2i	0.80	\$3,402,000	\$3,402,000	\$3,402,000	0%	0%	\$3,402,000	50	\$1,701,000	50	\$1,701,000	\$1,701,000
106	Longwood Road	Aberdeen Avenue	various/ESR	2023-2031	various/ESR	0.65	\$4,796,400	\$5,561,400	\$5,561,000	0%	0%	\$5,561,000	50	\$2,781,000	50	\$2,780,500	\$2,780,000
107	Miles Road	Rymal Road	Hydro Corridor	2023-2031	2r-3i	2.00	\$10,004,400	\$10,769,400	\$10,769,000	0%	0%	\$10,769,000	15	\$1,615,000	85	\$9,153,650	\$9,154,000
108	Millen Road	Barton Street	South Service Road	2023-2031	2r-3i	1.00	\$5,353,200	\$6,118,200	\$6,118,000	0%	0%	\$6,118,000	40	\$2,447,000	60	\$3,670,800	\$3,671,000
109	Fletcher Road	Binbrook Road	Golf Club Road	2023-2031	2r-2u	4.20	\$17,568,018	\$17,568,018	\$17,568,000	0%	0%	\$17,568,000	40	\$7,027,000	60	\$10,540,800	\$10,541,000
110	South Service Road	Millen Road	Gray	2023-2031	2r-2u	1.70	\$7,253,722	\$8,018,722	\$8,019,000	0%	0%	\$8,019,000	15	\$1,203,000	85	\$6,816,150	\$6,816,000
111	Trinity Church Road	Binbrook Road	Golf Club Road	2023-2031	2r-2u	5.20	\$9,032,400	\$9,032,400	\$9,032,000	0%	0%	\$9,032,000	40	\$3,613,000	60	\$5,419,200	\$5,419,000
112	Twenty Road	Aldercrest Avenue	600m west of Nebo Road	2023-2031	2r-2u	4.10	\$16,290,000	\$16,290,000	\$16,290,000	0%	0%	\$16,290,000	40	\$6,516,000	60	\$9,774,000	\$9,774,000
113	Upper Gage Street	Mohawk Road	Thorley	2023-2031	4u-5u	0.60	\$4,516,176	\$5,281,176	\$5,281,000	0%	0%	\$5,281,000	50	\$2,641,000	50	\$2,640,500	\$2,640,000
114	Upper Wellington Street	Limeridge Street	Stone Church Road	2019-2022	2r-5u	1.20	\$8,584,527	\$9,349,527	\$9,350,000	0%	0%	\$9,350,000	40	\$3,740,000	60	\$5,610,000	\$5,610,000
115	Shaver Road	Highway 403	Wilson Street	2019-2022	2r-2u	1.50	\$6,188,578	\$6,188,578	\$6,189,000	0%	0%	\$6,189,000	15	\$928,000	85	\$5,260,650	\$5,261,000
116	Scenic Drive	Lavender Drive (south leg)	Old City Limits	2019-2022	2r-2u	1.40	\$5,806,006	\$6,571,006	\$6,571,000	0%	0%	\$6,571,000	40	\$2,628,000	60	\$3,943,600	\$3,943,000
117	North Service Road	Green Road	East City Limits	2019-2022	Intersection		\$2,248,000	\$3,013,000	\$3,013,000	0%	0%	\$3,013,000	0	\$0	100	\$3,013,000	\$3,013,000
118	Victoria Avenue	Ferrie Street	Burlington Street	2019	2-way conversion	0.46	\$459,000	\$1,224,000	\$1,224,000	0%	0%	\$1,224,000	15	\$184,000	85	\$1,040,400	\$1,040,000
119	Hwy 5/6 municipal roads (City portion)			2019-2022	Service Roads		\$22,980,640	\$22,980,640	\$22,981,000	0%	0%	\$22,981,000	0	\$0	100	\$22,981,000	\$22,981,000
120	Post Period Benefit Deduction			2019-2031						100%		-\$175,000,000	0	\$0	100		-\$175,000,000
<b>Major Structures</b>																	
121	Hwy 5/6 interchange			2019-2022	Structure		\$17,534,400	\$18,299,400	\$18,299,000	0%	0%	\$18,299,000	0	\$0	100	\$18,299,000	\$18,299,000
122	Strathcona Pedestrian Bridge			2027	Structure		\$6,836,000	\$7,601,000	\$7,601,000	0%	0%	\$7,601,000	15	\$1,140,000	85	\$6,460,850	\$6,461,000
123	Fifty Road	Grade Separation		2029	Structure		\$25,000,000	\$25,765,000	\$25,765,000	50%	0%	\$12,883,000	25	\$3,221,000	75	\$9,662,250	\$9,662,000
124	Other Rail Grade Separations	Grade Separation		2024-2031	Structure		\$25,000,000	\$25,765,000	\$25,765,000	50%	0%	\$12,883,000	25	\$3,221,000	75	\$9,662,250	\$9,662,000
125	Mohawk Road		Hwy 403 WB on-ramp	2019-2022			\$3,934,000	\$3,934,000	\$3,934,000	0%	0%	\$3,934,000	50	\$1,967,000	50	\$1,967,000	\$1,967,000
<b>Programs</b>																	
126	Intersection Pedestrian Signal			2019-2031	City-Wide Program		\$11,700,000	\$11,700,000	\$11,700,000	0%	0%	\$11,700,000	5	\$585,000	95	\$11,115,000	\$11,115,000
127	Traffic Count Program			2019-2031	City-Wide Program		\$2,000,000	\$2,000,000	\$2,000,000	0%	0%	\$2,000,000	5	\$100,000	95	\$1,900,000	\$1,900,000
128	Geotechnical Investigation Program			2019-2031	City-Wide Program		\$9,100,000	\$9,100,000	\$9,100,000	0%	0%	\$9,100,000	85	\$7,735,000	15	\$1,365,000	\$1,365,000
129	Mapping Update Program			2019-2031	City-Wide Program		\$305,000	\$305,000	\$305,000	0%	0%	\$305,000	5	\$15,000	95	\$289,750	\$290,000
130	Active Transportation Benchmarking			2019-2031	City-Wide Program		\$390,000	\$390,000	\$390,000	0%	0%	\$390,000	5	\$20,000	95	\$370,500	\$370,000
131	Development Road Urbanization			2019-2031	City-Wide Program		\$6,500,000	\$6,500,000	\$6,500,000	0%	0%	\$6,500,000	5	\$325,000	95	\$6,175,000	\$6,175,000
132	Street Lighting Enhancement Program			2019-2031	City-Wide Program		\$3,250,000	\$3,250,000	\$3,250,000	0%	0%	\$3,250,000	5	\$163,000	95	\$3,087,500	\$3,087,000
133	Pedestrian Crossovers			2019-2031	City-Wide Program		\$900,000	\$900,000	\$900,000	0%	0%	\$900,000	5	\$45,000	95	\$855,000	\$855,000
134	Advanced Traffic Management Systems			2019-2031													

Item #	Project Name	From	To	Estimated Timing	Improvement Type	Length	Gross Capital Cost Estimate 2019\$	Gross Capital Cost including E.A. 2019\$	Gross Capital Cost 2019\$	Post Period Benefit	Developer Responsibility	Net Capital Estimate After Deduction 2019\$	Benefit to Existing (%)	Benefit to Existing (\$)	Benefit to Growth (%)	Benefit to Growth (\$)	Benefit to Growth (\$)	
152	Annual Transit Priority Measures			2019-2031	City-Wide Program		\$17,472,130	\$17,472,130	\$17,472,000	0%	0%	\$17,472,000	50	\$8,736,000	50	\$8,736,000	\$8,736,000	
153	Annual Bike Parking at B/A Line Stops			2019-2031	City-Wide Program		\$45,972	\$45,972	\$46,000	0%	0%	\$46,000	50	\$23,000	50	\$23,000	\$23,000	
154	Annual Enhanced Bike Parking at Express Bus/Rapid Transit Stops			2019-2031	City-Wide Program		\$275,155	\$275,155	\$275,000	0%	0%	\$275,000	50	\$138,000	50	\$137,500	\$137,000	
155	Transportation Demand Management			2019-2031	City-Wide Program		\$2,000,000	\$2,000,000	\$2,000,000	0%	0%	\$2,000,000	50	\$1,000,000	50	\$1,000,000	\$1,000,000	
<b>Studies</b>																		
156	Complete and Liveable Streets Guidelines			2019-2022	Study		\$250,000	\$250,000	\$250,000	0%	0%	\$250,000	0	\$0	100	\$250,000	\$250,000	
157	Cycling Master Plan Review			2023-2031	Study		\$200,000	\$200,000	\$200,000	0%	0%	\$200,000	0	\$0	100	\$200,000	\$200,000	
158	E.M.M.E Model Management			2019-2031	Monitoring		\$1,040,000	\$1,040,000	\$1,040,000	0%	0%	\$1,040,000	0	\$0	100	\$1,040,000	\$1,040,000	
159	Goods Movement Study Review and Update			2019-2022	Study		\$150,000	\$150,000	\$150,000	0%	0%	\$150,000	0	\$0	100	\$150,000	\$150,000	
160	Intelligent Transportation System Strategy			2019-2022	Study		\$250,000	\$250,000	\$250,000	0%	0%	\$250,000	0	\$0	100	\$250,000	\$250,000	
161	Lincoln Alexander and Red Hill Valley Parkway Widening Feasibility Study			2019-2022	Study		\$500,000	\$500,000	\$500,000	0%	0%	\$500,000	0	\$0	100	\$500,000	\$500,000	
162	Multi-modal Level of Service Guidelines			2019-2022	Study		\$250,000	\$250,000	\$250,000	0%	0%	\$250,000	0	\$0	100	\$250,000	\$250,000	
163	Pedestrian Mobility Plan Review			2023-2031	Study		\$200,000	\$200,000	\$200,000	0%	0%	\$200,000	0	\$0	100	\$200,000	\$200,000	
164	Revenue Tools Study			2019-2022	Study		\$250,000	\$250,000	\$250,000	0%	0%	\$250,000	0	\$0	100	\$250,000	\$250,000	
165	Transportation Master Plan Review			2023-2031	Study		\$250,000	\$250,000	\$250,000	0%	0%	\$250,000	0	\$0	100	\$250,000	\$250,000	
166	Truck Route Master Plan Review			2019-2022	Study		\$250,000	\$250,000	\$250,000	0%	0%	\$250,000	0	\$0	100	\$250,000	\$250,000	
167	Escarpment Crossing People Mover Study			2023-2031	Study		\$200,000	\$200,000	\$200,000	0%	0%	\$200,000	0	\$0	100	\$200,000	\$200,000	
<b>Active Transportation Projects</b>																		
168	Red Hill Pedestrian Crossing	Eugene Street	Glengrove Avenue	2019-2031	Pedestrian Crossing		\$1,750,000	\$1,750,000	\$1,750,000	30%	0%	\$1,225,000	15	\$184,000	85	\$1,041,250	\$1,041,000	
169	Heritage Green Trail Link			2019-2031	Commuter Trail		\$525,000	\$525,000	\$525,000	30%	0%	\$368,000	15	\$55,000	85	\$312,800	\$313,000	
170	Flamborough Y.M.C.A Trail Link			2019-2031	Commuter Trail		\$565,000	\$565,000	\$565,000	30%	0%	\$396,000	15	\$59,000	85	\$336,600	\$337,000	
171	Centre Road Link			2019-2031	Commuter Trail		\$640,000	\$640,000	\$640,000	30%	0%	\$448,000	15	\$67,000	85	\$380,800	\$381,000	
172	Kerns Road/Waterdown South Link			2019-2031	Multi-Use Trail		\$957,000	\$957,000	\$957,000	30%	0%	\$669,900	15	\$101,000	85	\$569,500	\$569,000	
173	Hunter	MacNab	Catharine	2019-2031	Bike Lane	0.47	\$77,981	\$77,981	\$78,000	30%	0%	\$55,000	15	\$8,000	85	\$46,750	\$47,000	
174	Hunter	Liberty	Claremont Access	2019-2031	Bike Lane	0.23	\$31,192	\$31,192	\$31,000	30%	0%	\$22,000	15	\$3,000	85	\$18,700	\$19,000	
175	Wilson	James	Sherman	2019-2031	Bike Lane	2.55	\$81,120	\$81,120	\$81,000	30%	0%	\$57,000	15	\$9,000	85	\$48,450	\$48,000	
176	Ferguson	Hunter	Charlton	2019-2031	Bike Lane	0.20	\$2,339	\$2,339	\$2,000	30%	0%	\$2,000	15	\$0	85	\$1,700	\$2,000	
177	King over Red Hill Valley Parkway	Lawrence	Potruff	2019-2031	Bike Lane	0.50	\$27,293	\$27,293	\$27,000	30%	0%	\$19,000	15	\$3,000	85	\$16,150	\$16,000	
178	Locke	King	Hunter	2019-2031	Bike Lane	1.28	\$7,993	\$7,993	\$8,000	30%	0%	\$6,000	15	\$1,000	85	\$5,100	\$5,000	
179	Barton	Red Hill Valley	Lake	2019-2031	Bike Lane	1.61	\$233,943	\$233,943	\$234,000	30%	0%	\$164,000	15	\$25,000	85	\$139,400	\$139,000	
180	Wilson in Ancaster	Rousseaux	Halsion	2019-2031	Bike Lane	0.85	\$19,885	\$19,885	\$20,000	30%	0%	\$14,000	15	\$2,000	85	\$11,900	\$12,000	
181	Barton	Brockley	Fruitland	2019-2031	Bike Lane	3.95	\$123,210	\$123,210	\$123,000	30%	0%	\$86,000	15	\$13,000	85	\$73,100	\$73,000	
182	Gage	Industrial	Lawrence	2019-2031	Bike Lane	2.96	\$115,412	\$115,412	\$115,000	30%	0%	\$81,000	15	\$12,000	85	\$68,850	\$69,000	
183	Hunter Street - Escarpment Rail Trail Link	Hunter	West 5th at Fennell	2019-2031	Multi-Use Trail	3.50	\$3,275,212	\$3,275,212	\$3,275,000	30%	0%	\$2,293,000	15	\$344,000	85	\$1,949,050	\$1,949,000	
184	Cannon	Sherman	Lottridge	2019-2031	Bike Lane	0.42	\$16,493	\$16,493	\$16,000	30%	0%	\$12,000	15	\$2,000	85	\$10,200	\$10,000	
185	First Rd W/Whitedeer/Terryberry & Picardy/ Highbury	Glover Mtn Road/ Ridgeview Dr	Rymal/ Bellagio	2019-2031	Bike Lane	4.08	\$47,666	\$47,666	\$48,000	30%	0%	\$33,000	15	\$5,000	85	\$28,050	\$28,000	
186	Olympic Park Twin Pad Arena Link		Old Mohawk Road	2019-2031	Multi-Use Trail	1.50	\$831,000	\$831,000	\$831,000	30%	0%	\$582,000	15	\$87,000	85	\$494,700	\$495,000	
187	Dundas St	Main	Cootes	2019-2031	Bike Lane	0.68	\$15,908	\$15,908	\$16,000	30%	0%	\$11,000	15	\$2,000	85	\$9,350	\$9,000	
188	Mohawk	Old Mohawk	Upper Paradise	2019-2031	Bike Lane	1.83	\$46,789	\$46,789	\$47,000	30%	0%	\$33,000	15	\$5,000	85	\$28,050	\$28,000	
189	Hatt	Peel	Main	2019-2031	Bike Lane	0.93	\$29,009	\$29,009	\$29,000	30%	0%	\$20,000	15	\$3,000	85	\$17,000	\$17,000	
190	Eastport Drive Lift Bridge Link			2019-2031	Multi-Use Trail		\$1,750,000	\$1,750,000	\$1,750,000	30%	0%	\$1,225,000	15	\$184,000	85	\$1,041,250	\$1,041,000	
191	Beach Bike Lane	under QEW		2019-2031	Bike Lane	0.24	\$7,486	\$7,486	\$7,000	30%	0%	\$5,000	15	\$1,000	85	\$4,250	\$4,000	
192	Beach Boulevard	lift bridge	Van Wagner's	2019-2031	Bike Lane	4.25	\$93,577	\$93,577	\$94,000	30%	0%	\$66,000	15	\$10,000	85	\$56,100	\$56,000	
193	Van Wagner's	Beach Bike Lane	Centennial Parkway	2019-2031	Bike Lane	2.50	\$77,981	\$77,981	\$78,000	30%	0%	\$55,000	15	\$8,000	85	\$46,750	\$47,000	
194	Montclair/ Central/ Graham/ Frederick			2019-2031	Bike Lane	3.80	\$18,716	\$18,716	\$19,000	30%	0%	\$13,000	15	\$2,000	85	\$11,050	\$11,000	
195	Melvin	Strathhearne/ Shelby	Red Hill Valley Trail	2019-2031	Bike Lane	1.90	\$59,266	\$59,266	\$59,000	30%	0%	\$41,000	15	\$6,000	85	\$34,850	\$35,000	
196	Britania	Cannon	Walter	2019-2031	Bike Lane	0.84	\$22,271	\$22,271	\$22,000	30%	0%	\$16,000	15	\$2,000	85	\$13,600	\$14,000	
197	Creighton/ Market	Hatt/ King	Governor's	2019-2031	Bike Lane	0.95	\$24,954	\$24,954	\$25,000	30%	0%	\$17,000	15	\$3,000	85	\$14,450	\$14,000	
198	Ogilvie/ Old Ancaster	Hatt/ King	Hamilton-Brantford Rail Trail	2019-2031	Bike Lane	0.80	\$13,569	\$13,569	\$14,000	30%	0%	\$9,000	15	\$1,000	85	\$7,650	\$8,000	
199	Longwood	Franklin	King	2019-2031	Bike Lane	0.73	\$16,961	\$16,961	\$17,000	30%	0%	\$12,000	15	\$2,000	85	\$10,200	\$10,000	
200	Mountain Brow in Waterdown	Mill	Burke to King Road	2019-2031	Multi-Use Trail	1.20	\$660,000	\$660,000	\$660,000	30%	0%	\$462,000	15	\$69,000	85	\$392,700	\$393,000	
201	Golf Links/ Halsion	Wilson	Southcote	2019-2031	Bike Lane	1.19	\$27,839	\$27,839	\$28,000	30%	0%	\$19,000	15	\$3,000	85	\$16,150	\$16,000	
202	Meadowbrook			2019-2031	Bike Lane	1.00	\$16,224	\$16,224	\$16,000	30%	0%	\$11,000	15	\$2,000	85	\$9,350	\$9,000	
203	West 5th	Mohawk College Access	Marlowe	2019-2031	Bike Lane	1.13	\$70,495	\$70,495	\$70,000	30%	0%	\$49,000	15	\$7,000	85	\$41,650	\$42,000	
204	Limeridge	Garth/ Bonaventure	West 5th/ Hawkridge	2019-2031	Bike Lane	1.37	\$53,418	\$53,418	\$53,000	30%	0%	\$37,000	15	\$6,000	85	\$31,450	\$31,000	
205	Scenic	Chedoke Rail Trail	Upper Paradise	2019-2031	Bike Lane	2.27	\$26,553	\$26,553	\$27,000	30%	0%	\$19,000	15	\$3,000	85	\$16,150	\$16,000	
206	Green Mountain	First Road W	First Road E	2019-2031	Bike Lane	1.50	\$292,429	\$292,429	\$292,000	30%	0%	\$205,000	15	\$31,000	85	\$174,250	\$174,000	
207	Walnut Grove & Sanctuary Park	Walnut Grove/ Ogilvie	Highland Park Dr	2019-2031	Multi-Use Trail	0.40	\$365,683	\$365,683	\$366,000	30%	0%	\$256,000	15	\$38,000	85	\$217,600	\$218,000	
208	Scenic/ Denlow	Upper Paradise	Garth	2019-2031	Bike Lane	0.95	\$11,112	\$11,112	\$11,000	30%	0%	\$8,000	15	\$1,000	85	\$6,800	\$7,000	
209	Waterdown local streets			2019-2031	Bike Lane	0.00	\$77,981	\$77,981	\$78,000	30%	0%	\$55,000	15	\$8,000	85	\$46,750	\$47,000	
210	Frid/Chatham	Longwood	Dundurn	2019-2031	Bike Lane	1.00	\$5,849	\$5,849	\$6,000	30%	0%	\$4,000	15	\$1,000	85	\$3,400	\$3,000	
211	Fiddler's Green	Jerseyville	Wilson	2019-2031	Bike Lane	0.25	\$5,849	\$5,849	\$6,000	30%	0%	\$4,000	15	\$1,000	85	\$3,400	\$3,000	
212	Upper Wentworth	Fennell	East 24th	2019-2031	Bike Lane	1.03	\$40,160	\$40,160	\$40,000	30%	0%	\$28,000	15	\$4,000	85	\$23,800	\$24,000	
213	Barton	Fruitland	Fifty	2019-2031	Multi-Use Trail	5.00	\$2,646,652	\$2,646,652	\$2,647,000	30%	0%	\$1,853,000	15	\$278,000	85	\$1,575,050	\$1,575,000	
214	Queensdale	Upper Sherman	Upper Ottawa	2019-2031	Bike Lane	1.56	\$36,496	\$36,496	\$36,000	30%	0%	\$26,000	15	\$4,000	85	\$22,100	\$22,000	
215	Old Mud	Mt Albion	Winterberry	2019-2031	Bike Lane	0.40	\$9,357	\$9,357	\$9,000									

Item #	Project Name	From	To	Estimated Timing	Improvement Type	Length	Gross Capital Cost Estimate 2019\$	Gross Capital Cost including E.A. 2019\$	Gross Capital Cost 2019\$	Post Period Benefit	Developer Responsibility	Net Capital Estimate After Deduction 2019\$	Benefit to Existing (%)	Benefit to Existing (\$)	Benefit to Growth (%)	Benefit to Growth (\$)	Benefit to Growth (\$)
232	Stuart Street Rail Link			2019-2031	Multi-Use Trail		\$254,424	\$254,424	\$254,000	30%	0%	\$178,000	15	\$27,000	85	\$151,300	\$151,000
233	Mud Street	Mountain Brow Boulevard		2019-2031	Multi-Use Trail	0.50	\$136,000	\$136,000	\$136,000	30%	0%	\$95,000	15	\$14,000	85	\$80,750	\$81,000
234	William Connell Park Link	Stone Church Road	Rymal	2019-2031	Multi-Use Trail	0.70	\$689,459	\$689,459	\$689,000	30%	0%	\$483,000	15	\$72,000	85	\$410,550	\$411,000
235	Upper James	William Connell Park		2019-2031	Multi-Use Trail	0.38	\$225,238	\$225,238	\$225,000	30%	0%	\$158,000	15	\$24,000	85	\$134,300	\$134,000
236	Grays/ Gray	Confederation Park gate	King	2019-2031	Bike Lane	3.00	\$116,972	\$116,972	\$117,000	30%	0%	\$82,000	15	\$12,000	85	\$69,700	\$70,000
237	King in Dundas	Bond	Peel	2019-2031	Bike Lane	0.80	\$31,192	\$31,192	\$31,000	30%	0%	\$22,000	15	\$3,000	85	\$18,700	\$19,000
238	Warrington/ South Service/ Lake	Centennial Parkway	Delawana	2019-2031	Bike Lane	2.05	\$77,981	\$77,981	\$78,000	30%	0%	\$55,000	15	\$8,000	85	\$46,750	\$47,000
239	Marston	Paramount	Gordon Drummond	2019-2031	Bike Lane	0.40	\$13,520	\$13,520	\$14,000	30%	0%	\$9,000	15	\$1,000	85	\$7,650	\$8,000
240	Kenora/ Greenford/ Owen	Bancroft	King	2019-2031	Bike Lane	2.60	\$171,559	\$171,559	\$172,000	30%	0%	\$120,000	15	\$18,000	85	\$102,000	\$102,000
241	Centennial Parkway	North Service	GO station/ Kenora	2019-2031	Multi-Use Trail	1.20	\$155,963	\$155,963	\$156,000	30%	0%	\$109,000	15	\$16,000	85	\$92,650	\$93,000
242	Victoria	Barton	Main	2019-2031	Bike Lane	1.04	\$40,356	\$40,356	\$40,000	30%	0%	\$28,000	15	\$4,000	85	\$23,800	\$24,000
243	Kentley	Eugene	Kenora	2019-2031	Bike Lane	0.40	\$3,744	\$3,744	\$4,000	30%	0%	\$3,000	15	\$0	85	\$2,550	\$3,000
244	Whitney	Main	Emerson	2019-2031	Bike Lane	1.50	\$46,789	\$46,789	\$47,000	30%	0%	\$33,000	15	\$5,000	85	\$28,050	\$28,000
245	West 5th	Fennell	Mohawk Coll. Access	2019-2031	Multi-Use Trail	0.33	\$28,268	\$28,268	\$28,000	30%	0%	\$20,000	15	\$3,000	85	\$17,000	\$17,000
246	Millen	Shoreview	Millen/ Seaman	2019-2031	Bike Lane	0.50	\$31,192	\$31,192	\$31,000	30%	0%	\$22,000	15	\$3,000	85	\$18,700	\$19,000
247	King in Stoney Creek	Battlefield/ Elm	Gray	2019-2031	Bike Lane	0.74	\$15,597	\$15,597	\$16,000	30%	0%	\$11,000	15	\$2,000	85	\$9,350	\$9,000
248	Limeridge	Birchview	Mtn Brow	2019-2031	Bike Lane	1.98	\$70,184	\$70,184	\$70,000	30%	0%	\$49,000	15	\$7,000	85	\$41,650	\$42,000
249	Dewitt	Dundee	Ridge	2019-2031	Bike Lane	0.50	\$750,000	\$750,000	\$750,000	30%	0%	\$525,000	15	\$79,000	85	\$446,250	\$446,000
250	Claremont Access	Inverness	Main	2019-2031	Bike Lane	1.60	\$49,908	\$49,908	\$50,000	30%	0%	\$35,000	15	\$5,000	85	\$29,750	\$30,000
251	Inverness	Upper James	Belvidere	2019-2031	Bike Lane	0.44	\$10,816	\$10,816	\$11,000	30%	0%	\$8,000	15	\$1,000	85	\$6,800	\$7,000
252	Burlington Street Link	Ferguson/ Dock Service Road	Sherman	2019-2031	Bike Lane	1.88	\$104,495	\$104,495	\$104,000	30%	0%	\$73,000	15	\$11,000	85	\$62,050	\$62,000
253	Dundas St in Waterdown	Highway 6	Hamilton St	2019-2031	Bike Lane	2.75	\$128,668	\$128,668	\$129,000	30%	0%	\$90,000	15	\$14,000	85	\$76,500	\$76,000
254	Hollybush	Parkside	Dundas St	2019-2031	Bike Lane	1.10	\$15,597	\$15,597	\$16,000	30%	0%	\$11,000	15	\$2,000	85	\$9,350	\$9,000
255	Greenhill	Summcrest	King	2019-2031	Bike Lane	1.20	\$46,789	\$46,789	\$47,000	30%	0%	\$33,000	15	\$5,000	85	\$28,050	\$28,000
256	Governor's	Ogilvie	Main	2019-2031	Bike Lane	0.24	\$43,045	\$43,045	\$43,000	30%	0%	\$30,000	15	\$5,000	85	\$25,500	\$25,000
257	Queenston/ Highway 8	Glover	Winona/ Niagara border	2019-2031	Bike Lane	3.80	\$681,555	\$681,555	\$682,000	30%	0%	\$477,000	15	\$72,000	85	\$405,450	\$405,000
258	Burlington Street East Boulevard Trail	Ottawa	Parkdale to Glow	2019-2031	Multi-Use Trail	2.30	\$1,050,000	\$1,050,000	\$1,050,000	30%	0%	\$735,000	15	\$110,000	85	\$624,750	\$625,000
259	Queenston/ Highway 8	King	Dewitt	2019-2031	Bike Lane	1.37	\$245,719	\$245,719	\$246,000	30%	0%	\$172,000	15	\$26,000	85	\$146,200	\$146,000
260	Greenhill	Harrisford	Summcrest	2019-2031	Bike Lane	1.94	\$75,642	\$75,642	\$76,000	30%	0%	\$53,000	15	\$8,000	85	\$45,050	\$45,000
261	Mill in Waterdown	Parkside	Dundas St	2019-2031	Bike Lane	0.95	\$22,224	\$22,224	\$22,000	30%	0%	\$16,000	15	\$2,000	85	\$13,600	\$14,000
262	King in Stoney Creek	Gray	Queenston/ Highway 8	2019-2031	Bike Lane	1.51	\$77,981	\$77,981	\$78,000	30%	0%	\$55,000	15	\$8,000	85	\$46,750	\$47,000
263	Rousseaux/ Mohawk	Wilson	Filman	2019-2031	Bike Lane	1.60	\$224,586	\$224,586	\$225,000	30%	0%	\$157,000	15	\$24,000	85	\$133,450	\$133,000
264	Baseline/ Lockport	Winona Road	Niagara border	2019-2031	Bike Lane	1.15	\$23,395	\$23,395	\$23,000	30%	0%	\$16,000	15	\$2,000	85	\$13,600	\$14,000
265	Winona	Lido/ shore	Peachtree	2019-2031	Bike Lane	1.97	\$45,969	\$45,969	\$46,000	30%	0%	\$32,000	15	\$5,000	85	\$27,200	\$27,000
266	Cherry Beach Road Link	Millen	Dewitt	2019-2031	Multi-Use Trail	0.91	\$233,943	\$233,943	\$234,000	30%	0%	\$164,000	15	\$25,000	85	\$139,400	\$139,000
267	North Service Road	Dewitt	Lakeview	2019-2031	Bike Lane	0.73	\$15,597	\$15,597	\$16,000	30%	0%	\$11,000	15	\$2,000	85	\$9,350	\$9,000
268	North Service Road	Bellavista	Baseline	2019-2031	Bike Lane	0.98	\$23,395	\$23,395	\$23,000	30%	0%	\$16,000	15	\$2,000	85	\$13,600	\$14,000
269	Upper Sherman	Stone Church	Rymal to Miles	2019-2031	Bike Lane	1.00	\$179,356	\$179,356	\$179,000	30%	0%	\$126,000	15	\$19,000	85	\$107,100	\$107,000
270	Emperor	Brigade	Acadia	2019-2031	Bike Lane	0.44	\$15,597	\$15,597	\$16,000	30%	0%	\$11,000	15	\$2,000	85	\$9,350	\$9,000
271	Burlington/ Industrial	Sherman	Gage	2019-2031	Bike Lane	0.86	\$99,018	\$99,018	\$99,000	30%	0%	\$69,000	15	\$10,000	85	\$58,650	\$59,000
272	Birch/ Holton	Burlington St	Cannon/ King/ Delaware	2019-2031	Bike Lane	1.40	\$31,192	\$31,192	\$31,000	30%	0%	\$22,000	15	\$3,000	85	\$18,700	\$19,000
273	Dewitt	Barton	Dundee	2019-2031	Bike Lane	0.90	\$21,055	\$21,055	\$21,000	30%	0%	\$15,000	15	\$2,000	85	\$12,750	\$13,000
274	Chedmac	Southridge	Rice	2019-2031	Bike Lane	0.53	\$23,395	\$23,395	\$23,000	30%	0%	\$16,000	15	\$2,000	85	\$13,600	\$14,000
275	Kilbride	Upper Ottawa	Nebo	2019-2031	Bike Lane	0.38	\$8,889	\$8,889	\$9,000	30%	0%	\$6,000	15	\$1,000	85	\$5,100	\$5,000
276	Hamilton in Waterdown	Centre/Main	Highway 5/Dundas	2019-2031	Bike Lane	1.00	\$62,385	\$62,385	\$62,000	30%	0%	\$44,000	15	\$7,000	85	\$37,400	\$37,000
277	Osler/ Main	Hatt/ King	Main + 125m of Main	2019-2031	Bike Lane	2.00	\$87,880	\$87,880	\$88,000	30%	0%	\$62,000	15	\$9,000	85	\$52,700	\$53,000
278	Fiddler's Green	Amberly	Garner	2019-2031	Bike Lane	0.68	\$21,212	\$21,212	\$21,000	30%	0%	\$15,000	15	\$2,000	85	\$12,750	\$13,000
279	Shaver	Wilson	Garner	2019-2031	Bike Lane	0.52	\$12,165	\$12,165	\$12,000	30%	0%	\$9,000	15	\$1,000	85	\$7,650	\$8,000
280	Upper James	Twenty	Airport/ Mt Hope	2019-2031	Multi-Use Trail	4.05	\$1,152,757	\$1,152,757	\$1,153,000	30%	0%	\$807,000	15	\$121,000	85	\$685,950	\$686,000
281	Christie-Tews	Christie C.A.	Harvest	2019-2031	Multi-Use Trail	2.75	\$1,123,693	\$1,123,693	\$1,124,000	30%	0%	\$787,000	15	\$118,000	85	\$668,950	\$669,000
282	Fennell Avenue Boulevard Trail	Garth/ West 18th	West 5th	2019-2031	Multi-Use Trail	1.20	\$412,100	\$412,100	\$412,000	30%	0%	\$288,000	15	\$43,000	85	\$244,800	\$245,000
283	Jones Road Link			2032-2041	Multi-Use Trail		\$221,799	\$221,799	\$222,000	100%	0%	\$0	15	\$0	85	\$0	\$0
284	Mountain Brow Boulevard Trail	Mohawk	Arbour	2019-2031	Multi-Use Trail	1.81	\$374,038	\$374,038	\$374,000	30%	0%	\$262,000	15	\$39,000	85	\$222,700	\$223,000
285	Mountain Brow East Path	Rendell	Oakcrest	2019-2031	Multi-Use Trail	0.81	\$1,559,624	\$1,559,624	\$1,560,000	30%	0%	\$1,092,000	15	\$164,000	85	\$928,200	\$928,000
286	Upper James/ Christie	Rymal	Twenty	2019-2031	Multi-Use Trail	0.80	\$196,513	\$196,513	\$197,000	30%	0%	\$138,000	15	\$21,000	85	\$117,300	\$117,000
287	Proposed Pipeline Trail	Museum of Steam and Technology	Mahoney Park	2019-2031	Multi-Use Trail	2.40	\$517,000	\$517,000	\$517,000	30%	0%	\$362,000	15	\$54,000	85	\$307,700	\$308,000
288	Existing Pipeline Trail	Main	Strathearne	2019-2031	Multi-Use Trail	2.20	\$4,678,873	\$4,678,873	\$4,679,000	30%	0%	\$3,275,000	15	\$491,000	85	\$2,783,750	\$2,784,000
289	Hydro Corridor	Barton	Lawrence	2019-2031	Multi-Use Trail	1.90	\$1,251,439	\$1,251,439	\$1,251,000	30%	0%	\$876,000	15	\$131,000	85	\$744,600	\$745,000
290	Hydro Corridor	Lawrence Avenue	Greenhill Avenue	2019-2031	Multi-Use Trail	1.15	\$430,457	\$430,457	\$430,000	30%	0%	\$301,000	15	\$45,000	85	\$255,850	\$256,000
291	Strachan Street Trail	James	Ferguson	2019-2031	Multi-Use Trail	0.66	\$336,879	\$336,879	\$337,000	30%	0%	\$236,000	15	\$35,000	85	\$200,600	\$201,000
292	Karst Escarpment Loop	Pritchard	Mount Albion/Winterberry	2019-2031	Multi-Use Trail	0.70	\$390,000	\$390,000	\$390,000	30%	0%	\$273,000	15	\$41,000	85	\$232,050	\$232,000
293	Chedoke Rail Trail	Highway 403	Dundurn	2019-2031	Multi-Use Trail	4.68	\$1,487,200	\$1,487,200	\$1,487,000	30%	0%	\$1,041,000	15	\$156,000	85	\$884,850	\$885,000
294	Hamilton-Brantford Rail Trail	Bridlewood Dr	Ewen	2019-2031	Multi-Use Trail	4.00	\$405,600	\$405,600	\$406,000	30%	0%	\$284,000	15	\$43,000	85	\$241,400	\$241,000
295	Battlefield Park - Bruce Trail Link	Greenhill to Bruce Trail to Glover Mtn	First Road W	2019-2031	Multi-Use Trail	0.75	\$533,354	\$533,354	\$533,000	30%	0%	\$373,000	15	\$56,000	85	\$317,050	\$317,000
296	Devil's Punchbowl Link	Mountain Ave/ Lake Ave	Ridge Road/ Devil's Punch Bowl	2032-2041	Multi-Use Trail	0.42	\$150,000	\$150,000	\$150,000	100%	0%	\$0	15	\$0	85	\$0	\$0
297	Gage Park	Cumberland	Montclair/ Maple	2019-2031	Multi-Use Trail	0.59	\$331,264	\$331,264	\$331,000	30%	0%	\$232,000	15	\$35,000	85	\$197,200	\$197,000
298	Iroquois Heights to Old Mohawk	Chedoke Rail Trail	Old Mohawk Road	2019-2031	Multi-Use Trail	0.85	\$318,163	\$318,163	\$318,000	30%	0%	\$223,000	15	\$33,000	85	\$189,550	\$190,000
299	Museum of Steam and Tech Link	Woodward	Red Hill Valley Trail	2019-2031	Multi-Use Trail	0.75	\$607,392	\$607,392	\$607,000	30%	0%	\$425,000	15	\$64,000	85	\$361,250	\$361,000
300	Ottawa Street South - Bruce Trail Link			2019-2031	Multi-Use Trail	0.39	\$686,235	\$686,235	\$686,000	30%	0%	\$480,000	15	\$72,000	85	\$408,000	\$408,000
301	Limeridge Mall Hydro Corridor Trail	Mohawk Road	South of Rymal	2019-2031	Multi-Use Trail	3.80	\$1,404,390	\$1,404,390	\$1								

Item #	Project Name	From	To	Estimated Timing	Improvement Type	Length	Gross Capital Cost Estimate 2019\$	Gross Capital Cost including E.A. 2019\$	Gross Capital Cost 2019\$	Post Period Benefit	Developer Responsibility	Net Capital Estimate After Deduction 2019\$	Benefit to Existing (%)	Benefit to Existing (\$)	Benefit to Growth (%)	Benefit to Growth (\$)	Benefit to Growth (\$)
315	Centre	Warren/ Carlisle Road	Progreston	2019-2031	Paved Shoulder	0.78	\$151,089	\$151,089	\$151,000	30%	0%	\$106,000	15	\$16,000	85	\$90,100	\$90,000
316	Centre	Grinstone Creek	Concession 5 E	2019-2031	Paved Shoulder	0.45	\$87,729	\$87,729	\$88,000	30%	0%	\$61,000	15	\$9,000	85	\$51,850	\$52,000
317	Edgewood	Safari	Highway 6	2019-2031	Bike Lane	0.90	\$10,528	\$10,528	\$11,000	30%	0%	\$7,000	15	\$1,000	85	\$5,950	\$6,000
318	Binbrook Road	Trinity Church	Fletcher	2019-2031	Paved Shoulder	1.26	\$245,641	\$245,641	\$246,000	30%	0%	\$172,000	15	\$26,000	85	\$146,200	\$146,000
319	Ridge Road	Devil Punch Bowl	Dewitt	2019-2031	Multi-Use Trail	2.91	\$779,812	\$779,812	\$780,000	30%	0%	\$546,000	15	\$82,000	85	\$464,100	\$464,000
320	York Road	Olympic	Valley Road	2019-2031	Paved Shoulder	1.70	\$437,475	\$437,475	\$437,000	30%	0%	\$306,000	15	\$46,000	85	\$260,100	\$260,000
321	York Road & York Road at Old Guelph	Valley Road	Highway 6 interchange	2019-2031	Multi-Use Trail	2.50	\$1,433,464	\$1,433,464	\$1,433,000	30%	0%	\$1,003,000	15	\$150,000	85	\$852,550	\$853,000
322	Northlawn Avenue Link			2019-2031	Multi-Use Trail	1.10	\$400,000	\$400,000	\$400,000	30%	0%	\$280,000	15	\$42,000	85	\$238,000	\$238,000
323	Mosaic Drive	Parkside Drive	Highway 6	2019-2031	Multi-Use Trail	1.90	\$886,000	\$886,000	\$886,000	30%	0%	\$620,000	15	\$93,000	85	\$527,000	\$527,000
324	Valley Road	Rock Chapel	York Road	2019-2031	Paved Shoulder	1.40	\$311,925	\$311,925	\$312,000	30%	0%	\$218,000	15	\$33,000	85	\$185,300	\$185,000
325	Regional Road 56 south of Kirk	Southbrook	Binbrook Cons Area	2019-2031	Multi-Use Trail	3.00	\$779,812	\$779,812	\$780,000	30%	0%	\$546,000	15	\$82,000	85	\$464,100	\$464,000
326	Regional Road 56	Swayze Road	Cemetery	2019-2031	Multi-Use Trail	4.60	\$3,119,249	\$3,119,249	\$3,119,000	30%	0%	\$2,183,000	15	\$327,000	85	\$1,855,550	\$1,856,000
327	Old Guelph Road	Paterson	York Bike Lane	2019-2031	Paved Shoulder	3.53	\$907,116	\$907,116	\$907,000	30%	0%	\$635,000	15	\$95,000	85	\$539,750	\$540,000
328	Hamilton Drive Link			2032-2041	Multi-Use Trail		\$1,980,190	\$1,980,190	\$1,980,000	100%	0%	\$0	15	\$0	85	\$0	\$0
	<b>Totals</b>						\$1,318,476,566	\$1,355,641,191	\$1,355,640,000			\$1,048,544,000		\$219,893,000		\$828,657,200	\$828,651,000

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway - Facilities

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less: Other (e.g. 10% Statutory Deduction)	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development			Total	Residential Share 62%	Non-Residential Share 38%
1	Dundas Expansion	2019-2031	1,650,000	-		1,650,000	-		1,650,000		1,650,000	1,023,000	627,000
2	Lower Stoney Creek Expansion	2019-2031	1,960,000	-		1,960,000	-		1,960,000		1,960,000	1,215,200	744,800
3	North District Expansion	2019-2031	1,020,000	-		1,020,000	-		1,020,000		1,020,000	632,400	387,600
4	South Mountain Expansion	2019-2031	2,860,000	-		2,860,000	-		2,860,000		2,860,000	1,773,200	1,086,800
5	Upper Stoney Creek/Binbrook Expansion	2019-2031	1,640,000	-		1,640,000	-		1,640,000		1,640,000	1,016,800	623,200
6	Waterdown/Carlisle Expansion	2019-2031	1,780,000	-		1,780,000	-		1,780,000		1,780,000	1,103,600	676,400
7	Provision for Expansion of Parks Works Yards - Binbrook*	2019-2031	573,500	-		573,500	-		573,500	57,350	516,150	320,013	196,137
8	Streetlighting Facility Expansion (Storage)	2019-2023	1,200,000	-		1,200,000	318,200		881,800		881,800	546,716	335,084
9	Additional Snow Dump (Land)	2025-2028	5,750,000	-		5,750,000	-		5,750,000		5,750,000	3,565,000	2,185,000
10	Water & Wastewater Office/Storage Expansion	2019-2024	17,250,000	-		17,250,000	10,225,500		7,024,500		7,024,500	4,355,190	2,669,310
11	Confederation Park - Sports Park Development - Phase 2 (Maintenance Yard & Field House)*	2020	4,182,000	-		4,182,000	418,200		3,763,800	376,380	3,387,420	2,100,200	1,287,220
12	Public Works Depot - Bayfront Park (Design & Construction)*	2019	3,900,000	-		3,900,000	1,950,000		1,950,000	195,000	1,755,000	1,088,100	666,900
13	Reserve Fund Adjustment					-	3,439,540		(3,439,540)		(3,439,540)	(2,132,515)	(1,307,025)
	<b>Total</b>		<b>43,765,500</b>	<b>-</b>	<b>-</b>	<b>43,765,500</b>	<b>16,351,440</b>	<b>-</b>	<b>27,414,060</b>	<b>628,730</b>	<b>26,785,330</b>	<b>16,606,905</b>	<b>10,178,426</b>

\*Related to Parks Department therefore a 10% mandatory deduction has been attributed



## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway - Vehicles and Equipment

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 62%	Non-Residential Share 38%
2019-2031													
<b>Operations:</b>													
1	Aluminum Sander Prewelded (1)	2019-2031	225,000	-		225,000	-		225,000		225,000	139,500	85,500
2	1 1/2 Ton Pickup (9)	2019-2031	233,000	-		233,000	-		233,000		233,000	144,460	88,540
3	Large Front End Loader (2)	2019-2031	404,667	-		404,667	-		404,667		404,667	250,893	153,773
4	Grader (1)	2019-2031	281,000	-		281,000	-		281,000		281,000	174,220	106,780
5	Large Mobile Sweeper (4)	2019-2031	1,304,000	-		1,304,000	-		1,304,000		1,304,000	808,480	495,520
6	Snow Blower Attachment (1)	2019-2031	202,000	-		202,000	-		202,000		202,000	125,240	76,760
7	Street Flusher (1)	2019-2031	225,000	-		225,000	-		225,000		225,000	139,500	85,500
8	Hotspot Transporter (2)	2019-2031	63,000	-		63,000	-		63,000		63,000	39,060	23,940
9	Tandem Trailer - 12 Ton(1)	2019-2031	22,500	-		22,500	-		22,500		22,500	13,950	8,550
10	Large Hopper/Spreader Attachment (1)	2019-2031	18,000	-		18,000	-		18,000		18,000	11,160	6,840
11	Aluminum Dump/Crew/Crane/Plow (1)	2019-2031	84,500	-		84,500	-		84,500		84,500	52,390	32,110
12	Aluminum Dump/Crew/Plow (1)	2019-2031	78,500	-		78,500	-		78,500		78,500	48,670	29,830
13	Arrow Boards (3)	2019-2031	30,900	-		30,900	-		30,900		30,900	19,158	11,742
14	Steel Dump/Crew/Crane/Plow (1)	2019-2031	59,600	-		59,600	-		59,600		59,600	36,952	22,648
15	Steel Dump/Crew (1)	2019-2031	56,200	-		56,200	-		56,200		56,200	34,844	21,356
16	Sander Radius Dump with 2 Way Front (1)	2019-2031	259,000	-		259,000	-		259,000		259,000	160,580	98,420
17	Sander Pre-Wel 2 Way with Wing (2)	2019-2031	562,000	-		562,000	-		562,000		562,000	348,440	213,560
18	Trackless (1)	2019-2031	235,000	-		235,000	-		235,000		235,000	145,700	89,300
19	Gradal (1)	2019-2031	362,000	-		362,000	-		362,000		362,000	224,440	137,560
20	Alum Sander Prew Front & Wing Plow (4)	2019-2031	876,800	-		876,800	-		876,800		876,800	543,616	333,184
21	Sander Tandem Prew Plow (1)	2019-2031	253,000	-		253,000	-		253,000		253,000	156,860	96,140
<b>Parks:</b>													
22	1 1/2 Ton Pick-up Truck (3)	2019-2023	77,600	-		77,600	-		77,600	7,760	69,840	43,301	26,539
23	Small Tractor (2)	2019-2023	78,700	-		78,700	-		78,700	7,870	70,830	43,915	26,915
24	Medium Tractor (1)	2019-2023	50,600	-		50,600	-		50,600	5,060	45,540	28,235	17,305
25	Large Tractor (3)	2019-2023	186,000	-		186,000	-		186,000	18,600	167,400	103,788	63,612
26	Service Body - Utility (2)	2019-2023	101,000	-		101,000	-		101,000	10,100	90,900	56,358	34,542
27	1 Ton Pick-up with Plow (1)	2019-2023	56,200	-		56,200	-		56,200	5,620	50,580	31,360	19,220
28	Tow behind rotary mower (1)	2019-2023	2,900	-		2,900	-		2,900	290	2,610	1,618	992
29	Utility Turf Vehicle (3)	2019-2023	57,300	-		57,300	-		57,300	5,730	51,570	31,973	19,597
30	Mower Front Mount Riding (10)	2019-2023	211,500	-		211,500	-		211,500	21,150	190,350	118,017	72,333
31	Tandem Axle Trailer (5)	2019-2023	42,700	-		42,700	-		42,700	4,270	38,430	23,827	14,603
32	Overseeder (1)	2019-2023	21,400	-		21,400	-		21,400	2,140	19,260	11,941	7,319
33	Top Dresser (1)	2019-2023	18,000	-		18,000	-		18,000	1,800	16,200	10,044	6,156
34	Small Aerifier (1)	2019-2023	10,400	-		10,400	-		10,400	1,040	9,360	5,803	3,557
35	Aerifier (1)	2019-2023	16,900	-		16,900	-		16,900	1,690	15,210	9,430	5,780
36	Drop in Sander (3)	2019-2023	30,400	-		30,400	-		30,400	3,040	27,360	16,963	10,397
37	Aluminum Dump/Crew (1)	2019-2023	73,100	-		73,100	-		73,100	7,310	65,790	40,790	25,000
38	Aluminum Dump/Crew & Plow (1)	2019-2023	78,500	-		78,500	-		78,500	7,850	70,650	43,803	26,847

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway - Vehicles and Equipment

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 62%	Non-Residential Share 38%
39	Packer Truck (1)	2019-2023	187,000	-		187,000	-		187,000	18,700	168,300	104,346	63,954
40	Riding Mower (1)	2019-2023	73,100	-		73,100	-		73,100	7,310	65,790	40,790	25,000
41	Rotary Riding Mower (1)	2019-2023	337,000	-		337,000	-		337,000	33,700	303,300	188,046	115,254
42	Steel Dump Crew - 1 Ton	2019-2023	56,200	-		56,200	-		56,200	5,620	50,580	31,360	19,220
43	Aerifier (2)	2019-2028	20,400	-		20,400	-		20,400	2,040	18,360	11,383	6,977
44	Ball Diamond Groomer (1)	2019-2028	10,200	-		10,200	-		10,200	1,020	9,180	5,692	3,488
45	Blower (1)	2019-2028	10,200	-		10,200	-		10,200	1,020	9,180	5,692	3,488
46	Miscellaneous (1)	2019-2028	10,200	-		10,200	-		10,200	1,020	9,180	5,692	3,488
47	Mower (1)	2019-2028	20,400	-		20,400	-		20,400	2,040	18,360	11,383	6,977
48	Over Seeder (1)	2019-2028	20,400	-		20,400	-		20,400	2,040	18,360	11,383	6,977
49	Top Dresser (1)	2019-2028	20,400	-		20,400	-		20,400	2,040	18,360	11,383	6,977
50	Beach Rake (1)	2019-2028	93,600	-		93,600	-		93,600	9,360	84,240	52,229	32,011
51	Golf Cart (4)	2019-2028	10,200	-		10,200	-		10,200	1,020	9,180	5,692	3,488
52	Leaf Blower (1)	2019-2028	520	-		520	-		520	52	468	290	178
53	Pressure Washer (1)	2019-2028	10,400	-		10,400	-		10,400	1,040	9,360	5,803	3,557
54	Wood Chipper (1)	2019-2028	33,700	-		33,700	-		33,700	3,370	30,330	18,805	11,525
55	Mower Outfront (3)	2019-2028	25,500	-		25,500	-		25,500	2,550	22,950	14,229	8,721
56	Mower Riding (3)	2019-2028	140,000	-		140,000	-		140,000	14,000	126,000	78,120	47,880
57	Mower Walk Behind (1)	2019-2028	7,300	-		7,300	-		7,300	730	6,570	4,073	2,497
58	Pickup 1 ton Crew Cab (3)	2019-2028	134,000	-		134,000	-		134,000	13,400	120,600	74,772	45,828
59	Pickup 1 ton Snow Plow (1)	2019-2028	52,000	-		52,000	-		52,000	5,200	46,800	29,016	17,784
60	Refuse Rear Load Mini Packer (1)	2019-2028	169,300	-		169,300	-		169,300	16,930	152,370	94,469	57,901
61	Refuse Side Loader (1)	2019-2028	169,300	-		169,300	-		169,300	16,930	152,370	94,469	57,901
62	Service Body Truck (3/4 ton) (3)	2019-2028	66,300	-		66,300	-		66,300	6,630	59,670	36,995	22,675
63	Sidewalk Sweeper (1)	2019-2028	59,200	-		59,200	-		59,200	5,920	53,280	33,034	20,246
64	Tractor Loader/Backhoe Small (97-182 HP 6.5 cu yards) (1)	2019-2028	114,200	-		114,200	-		114,200	11,420	102,780	63,724	39,056
65	Trailer Float (1)	2019-2028	20,400	-		20,400	-		20,400	2,040	18,360	11,383	6,977
66	Utility Vehicle (5)	2019-2028	20,400	-		20,400	-		20,400	2,040	18,360	11,383	6,977
67	Utility Vehicle - Toolcat (2)	2019-2028	102,000	-		102,000	-		102,000	10,200	91,800	56,916	34,884
	<b>Forestry (Roads &amp; Parks):</b>												
68	Pickup 3/4 Ton	2019-2031	42,700	-		42,700	21,350		21,350	2,135	19,215	11,913	7,302
69	Wood Chipper (2)	2019-2031	188,000	-		188,000	-		188,000	18,800	169,200	104,904	64,296
70	Aerial Truck (1)	2019-2031	291,000	-		291,000	-		291,000	29,100	261,900	162,378	99,522
71	Dump Truck Tandem Axle Chipper Body (1)	2019-2023	202,000	-		202,000	-		202,000	20,200	181,800	112,716	69,084
	<b>Horticulture:</b>												
72	Tandem Axle Trailer (1)	2019-2031	12,500	-		12,500	-		12,500	1,250	11,250	6,975	4,275
73	Aluminum Dump/Crew (2)	2019-2023	145,600	-		145,600	-		145,600	14,560	131,040	81,245	49,795
	<b>Traffic</b>												
74	Signal Bucket Trucks (2)	2019-2023	573,000	-		573,000	-		573,000		573,000	355,260	217,740

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway - Vehicles and Equipment

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 62%	Non-Residential Share 38%
75	Signal Tech Van	2019-2024	80,700	-		80,700	-		80,700		80,700	50,034	30,666
76	Foreman's Pickup Truck	2019-2026	54,600	-		54,600	-		54,600		54,600	33,852	20,748
77	Investigator Pickup Truck	2019-2027	57,300	-		57,300	-		57,300		57,300	35,526	21,774
78	Aerial Truck (2)	2019-2031	630,000	-		630,000	-		630,000		630,000	390,600	239,400
79	Line Painter - Walk Behind (2)	2019-2031	10,200	-		10,200	-		10,200		10,200	6,324	3,876
80	Sign Trucks (2)	2019-2031	1,275,000	-		1,275,000	-		1,275,000		1,275,000	790,500	484,500
	<b>Recreation</b>												
81	Ice Resurfacers (2)	2024-2028	191,000	-		191,000	-		191,000	19,100	171,900	106,578	65,322
82	Compact Car (3)	2024-2028	84,300	-		84,300	-		84,300	8,430	75,870	47,039	28,831
	<b>Building &amp; By-law Enforcement</b>												
83	Hybrid Vehicles (6)	2019-2023	239,000	-		239,000	-		239,000	23,900	215,100	133,362	81,738
84	Compact Pick-up (1)	2019-2023	25,850	-		25,850	-		25,850	2,585	23,265	14,424	8,841
	<b>Parks &amp; Roads:</b>												
85	Refuse Rear Load (11)	2019-2028	246,800	-		246,800	-		246,800	12,340	234,460	145,365	89,095
	<b>Roads:</b>												
86	SUV 2 Wheel Drive (15)	2019-2031	468,000	-		468,000	-		468,000		468,000	290,160	177,840
87	SUV 4 Wheel Drive (5)	2019-2031	208,000	-		208,000	-		208,000		208,000	128,960	79,040
88	Pickup 1/2 ton (5)	2019-2031	146,000	-		146,000	-		146,000		146,000	90,520	55,480
89	SUV 4 Wheel Drive (11)	2019-2031	458,000	-		458,000	-		458,000		458,000	283,960	174,040
90	SUV 2 Wheel Drive (3)	2019-2031	94,000	-		94,000	-		94,000		94,000	58,280	35,720
91	Pickup 1/2 ton (1)	2019-2031	29,100	-		29,100	-		29,100		29,100	18,042	11,058
	<b>Total</b>		<b>14,695,337</b>	<b>-</b>	<b>-</b>	<b>14,695,337</b>	<b>21,350</b>	<b>-</b>	<b>14,673,987</b>	<b>463,102</b>	<b>14,210,885</b>	<b>8,810,748</b>	<b>5,400,136</b>

# 2. Fire Protection Services

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Fire Services

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less: Potential D.C. Recoverable Cost				
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 62%	Non-Residential Share 38%
	<b>Fire Facilities</b>										
1	New Station Waterdown Growth Area	2019-2021	7,500,000	-		7,500,000	-		7,500,000	4,650,000	2,850,000
2	Growth Related Debt Interest (Discounted) - New Station Waterdown Growth Area	2022-2037	838,420	-		838,420	-		838,420	519,820	318,600
3	New Station Elfrida/Upper Stoney Creek Growth Area	2025-2027	8,432,000	5,565,100		2,866,900	-		2,866,900	1,777,478	1,089,422
4	Provision for Station Expansion/Renovation - Upper Stoney Creek	2027-2028	2,473,000	346,100		2,126,900	1,237,000		889,900	551,738	338,162
5	Mechanical/Stores Relocation/Expansion	2021-2024	12,142,000	-		12,142,000	4,396,900		7,745,100	4,801,962	2,943,138
6	Outstanding Debt - Principal	2019-2023	859,624	-		859,624	-		859,624	532,967	326,657
7	Outstanding Debt - Interest (Discounted)	2019-2023	71,725	-		71,725	-		71,725	44,470	27,256
8	Outstanding Debt- Shared Training Facility - Principal	2019-2027	3,620,557	-		3,620,557	-		3,620,557	2,244,745	1,375,812
9	Outstanding Debt- Shared Training Facility - Interest (Discounted)	2019-2027	68,410	-		68,410	-		68,410	42,414	25,996
	<b>Fire Vehicles</b>										
10	Rural Pumper for Elfrida Growth Area (New Station)	2026-2027	755,000	-		755,000	-		755,000	468,100	286,900
11	Engine for Elfrida Growth Area (New Station)	2026-2027	814,000	537,200		276,800	-		276,800	171,616	105,184
12	Rural Tanker for Waterdown Growth Area - New Station	2021-2022	705,000	-		705,000	-		705,000	437,100	267,900
13	Urban Pumper for Waterdown Growth Area - New Station	2021-2022	814,000	-		814,000	-		814,000	504,680	309,320
14	Outstanding Debt on Stn 20 Vehicle - Principal	2019-2023	81,295	-		81,295	-		81,295	50,403	30,892
15	Outstanding Debt on Stn 20 Vehicle - Interest (Discounted)	2019-2023	6,783	-		6,783	-		6,783	4,206	2,578
	<b>Fire Equipment</b>										
	<b>Station #31 Waterdown</b>										
16	Air compressor	2020-2021	3,000	-		3,000	-		3,000	1,860	1,140
17	Washer Extractor	2020-2021	17,000	-		17,000	-		17,000	10,540	6,460



## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Fire Services

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less: Potential D.C. Recoverable Cost				
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 62%	Non-Residential Share 38%
18	Portable Radios, Chargers & Batteries	2020-2021	25,000	-		25,000	-		25,000	15,500	9,500
19	S.C.B.A.'s	2020-2021	31,000	-		31,000	-		31,000	19,220	11,780
20	Portable Pumps	2020-2021	18,000	-		18,000	-		18,000	11,160	6,840
21	Multi Gas Detectors	2020-2021	6,000	-		6,000	-		6,000	3,720	2,280
22	Defibrillators	2020-2021	6,000	-		6,000	-		6,000	3,720	2,280
23	Thermal Imaging Camera	2020-2021	13,000	-		13,000	-		13,000	8,060	4,940
24	Auto Extrication Equipment	2020-2021	57,000	-		57,000	-		57,000	35,340	21,660
25	Air Bags	2020-2021	11,000	-		11,000	-		11,000	6,820	4,180
26	Fire Hose	2020-2021	43,000	-		43,000	-		43,000	26,660	16,340
27	Bunker Gear	2020-2021	41,000	-		41,000	-		41,000	25,420	15,580
28	Station Exhaust System	2020-2021	56,000	-		56,000	-		56,000	34,720	21,280
29	Protective Gear & Uniform Clothing	2020-2021	48,000	-		48,000	-		48,000	29,760	18,240
	<b>New Station Elfrida Growth Area</b>		-	-		-	-				
30	Air Compressor	2026-2027	3,000	2,000		1,000	-		1,000	620	380
31	Washer Extractor	2026-2027	17,000	11,200		5,800	-		5,800	3,596	2,204
32	Portable Radios, Chargers & Batteries	2026-2027	25,000	16,500		8,500	-		8,500	5,270	3,230
33	S.C.B.A.'s	2026-2027	31,000	20,500		10,500	-		10,500	6,510	3,990
34	Portable Pumps	2026-2027	18,000	11,900		6,100	-		6,100	3,782	2,318
35	Multi Gas Detectors	2026-2027	6,000	4,000		2,000	-		2,000	1,240	760
36	Defibrillators	2026-2027	6,000	4,000		2,000	-		2,000	1,240	760
37	Thermal Imaging Camera	2026-2027	13,000	8,600		4,400	-		4,400	2,728	1,672
38	Auto Extrication Equipment	2026-2027	57,000	37,600		19,400	-		19,400	12,028	7,372
39	Air Bags	2026-2027	11,000	7,300		3,700	-		3,700	2,294	1,406
40	Fire Hose	2026-2027	43,000	28,400		14,600	-		14,600	9,052	5,548
41	Bunker Gear	2026-2027	41,000	27,100		13,900	-		13,900	8,618	5,282
42	Station Exhaust System	2026-2027	56,000	37,000		19,000	-		19,000	11,780	7,220
43	Protective Gear & Uniform Clothing	2026-2027	48,000	31,700		16,300	-		16,300	10,106	6,194
	<b>Glanbrook Growth Area Station Expansion/Renovation</b>										
44	Additional Firefighting Equipment at Glanbrook Growth Area	2021-2022	89,000	-		89,000	22,300		66,700	41,354	25,346
	<b>Winona Growth Area</b>										

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Fire Services

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less: Potential D.C. Recoverable Cost				
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 62%	Non-Residential Share 38%
45	Additional Firefighting Equipment at Winona Growth Area	2021-2022	89,000	-		89,000	22,300		66,700	41,354	25,346
	<b>Upper Stoney Creek Growth Area</b>										
46	Additional Firefighting Equipment at Upper Stoney Creek Station	2026-2027	89,000	18,700		70,300	22,300		48,000	29,760	18,240
47	Reserve Fund Adjustment			-		-	4,043,435		(4,043,435)	(2,506,930)	(1,536,505)
	<b>Total</b>		<b>40,198,816</b>	<b>6,714,900</b>	<b>-</b>	<b>33,483,916</b>	<b>9,744,235</b>	<b>-</b>	<b>23,739,681</b>	<b>14,718,602</b>	<b>9,021,079</b>

# 3. Police Services

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Police Services

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 62%	Non-Residential Share 38%
	<b>Facilities</b>										
1	Marine Facility Expansion & Replacement	2019	5,148,000	-		5,148,000	2,059,200		3,088,800	1,915,056	1,173,744
2	Additional Police Facility Requirements - Station 40	2025	25,500,000	23,103,000		2,397,000	-		2,397,000	1,486,140	910,860
3	Investigative Services Division (ISD) Forensics Headquarters	2019	25,824,000	-		25,824,000	13,471,600		12,352,400	7,658,488	4,693,912
4	Growth Related Component of ISD Forensics Headquarters Debt Interest (Discounted)	2019-2033	469,698	-		469,698	-		469,698	291,213	178,485
5	Backup Data Centre/Disaster Recovery Facility Space Expansion	2020	281,000	254,600		26,400	-		26,400	16,368	10,032
6	Debt Principal on Divisional 30 Headquarters	2019	302,808	-		302,808	-		302,808	187,741	115,067
7	Debt Interest (Discounted) on Divisional 30 Headquarters	2019	7,570	-		7,570	-		7,570	4,694	2,877
8	Debt Principal (Discounted) - Shared Training Facility	2019-2027	2,062,182	-		2,062,182	-		2,062,182	1,278,553	783,629
9	Debt Interest (Discounted) - Shared Training Facility	2019-2027	888,379	-		888,379	-		888,379	550,795	337,584
10	Communication/9-1-1 Centre Expansion	2020	500,000	-		500,000	250,000		250,000	155,000	95,000
11	Communications Centre Facility Expansion	2019	401,900	-		401,900	201,000		200,900	124,558	76,342
	<b>Vehicles &amp; Equipment</b>										
12	Station 40 Equipment	2025	213,000	193,000		20,000	-		20,000	12,400	7,600
13	Command Van	2020	750,000	-		750,000	275,600		474,400	294,128	180,272
14	Marine Vessel (Hike)	2019	800,000	-		800,000	-		800,000	496,000	304,000
15	Ice Rescue	2020	82,000	-		82,000	-		82,000	50,840	31,160
16	Additional Cruisers (46)	2019-2031	1,490,400	-		1,490,400	-		1,490,400	924,048	566,352
17	Equipment for Officers (200)	2019-2031	680,000	68,000		612,000	-		612,000	379,440	232,560
18	Equipment for Senior Officers (2)	2019-2031	7,200	700		6,500	-		6,500	4,030	2,470
19	Equipment for Special Constables (21)	2019-2031	46,200	4,600		41,600	-		41,600	25,792	15,808
20	Equipment for Cadets (2)	2019-2031	5,400	500		4,900	-		4,900	3,038	1,862
21	Equipment for Auxiliary Officers (12)	2019-2031	30,600	3,100		27,500	-		27,500	17,050	10,450
22	Portable Radios (200)	2019-2031	1,177,100	117,700		1,059,400	-		1,059,400	656,828	402,572

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Police Services

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 62%	Non-Residential Share 38%
23	Vehicle Equipment (46)	2019-2031	142,600	14,300		128,300	-		128,300	79,546	48,754
24	In-Car Mobile Radios / Electronics (46)	2019-2031	427,800	42,800		385,000	-		385,000	238,700	146,300
25	Reserve Fund Adjustment						1,146,812		(1,146,812)	(711,023)	(435,789)
	<b>Total</b>		<b>67,237,836</b>	<b>23,802,300</b>	<b>-</b>	<b>43,435,536</b>	<b>17,404,212</b>	<b>-</b>	<b>26,031,324</b>	<b>16,139,421</b>	<b>9,891,903</b>



# 4. Parking Services



# 5. Airport



# Outdoor Recreation



## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Parkland Development

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost	
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 95%	Non-Residential Share 5%
	2019-2028												
1	John St. N. & Rebecca St. Park - Master Plan Implementation	2019-2022	3,860,000	-		3,860,000	3,319,600		540,400	54,040	486,360	462,042	24,318
2	Nash Orchard Park	2021-2022	832,000	-		832,000	-		832,000	83,200	748,800	711,360	37,440
3	Highland Road Park	2020	776,000	-		776,000	-		776,000	77,600	698,400	663,480	34,920
4	Highbury Meadows North Park	2020	703,000	-		703,000	-		703,000	70,300	632,700	601,065	31,635
5	Cherry Beach Lakefront Park	2021	969,000	-		969,000	-		969,000	96,900	872,100	828,495	43,605
6	The Crossings Park	2022	838,000	-		838,000	-		838,000	83,800	754,200	716,490	37,710
7	Brooks at Rymal Park	2020	883,000	-		883,000	-		883,000	88,300	794,700	754,965	39,735
8	Lancaster Heights Park	2020	675,000	-		675,000	-		675,000	67,500	607,500	577,125	30,375
9	Fletcher Road Parkette	2022	191,000	-		191,000	-		191,000	19,100	171,900	163,305	8,595
10	Ancaster Meadows Park	2019	641,000	-		641,000	-		641,000	64,100	576,900	548,055	28,845
11	Parkside Hills Park	2022	607,000	-		607,000	-		607,000	60,700	546,300	518,985	27,315
12	Clear Skies proposed park	2023-2024	978,000	-		978,000	-		978,000	97,800	880,200	836,190	44,010
13	Gatesbury Park Upgrades - New fitness area, skateboard feature and basketball	2019-2021	498,000	-		498,000	498,000		-	-	-	-	-
14	Meadowlands Community Park Spraypad	2019-2020	475,000	-		475,000	237,500		237,500	23,750	213,750	203,063	10,688
15	Broughton West Park Upgrade for New Spray Pad	2021-2022	475,000	-		475,000	237,500		237,500	23,750	213,750	203,063	10,688
16	Alexander Park - Upgrade for new skate park	2019	532,000	-		532,000	266,000		266,000	26,600	239,400	227,430	11,970
17	Mcquesten Park - Additional Fitness Equipment	2020	270,000	-		270,000	135,000		135,000	13,500	121,500	115,425	6,075
18	Waterfalls Viewing - Albion Falls New Access on South Side	2019	1,320,000	-		1,320,000	660,000		660,000	66,000	594,000	564,300	29,700
19	Chedoke Falls - New Access to Upper and Lower Falls	2019-2022	4,528,000	-		4,528,000	2,264,000		2,264,000	226,400	2,037,600	1,935,720	101,880
20	Skateboard Study Implementation at Various Locations Throughout the City	2019-2028	11,190,000	6,714,000		4,476,000	-		4,476,000	447,600	4,028,400	3,826,980	201,420
21	Johnson Tew New Arboretum	2019-2021	150,000	-		150,000	75,000		75,000	7,500	67,500	64,125	3,375
22	Billy Sherring - Class C Field Replace & Upgrade to Class A Artificial	2027	1,200,000	1,115,700		84,300	84,300		-	-	-	-	-
23	Waterford Park	2019-2022	1,122,000	-		1,122,000	561,000		561,000	56,100	504,900	479,655	25,245
24	Summit Park Phase 10 Binbrook	2019	500,000	-		500,000	-		500,000	50,000	450,000	427,500	22,500
25	William Connell Expansion Lands	2022	1,224,000	-		1,224,000	-		1,224,000	122,400	1,101,600	1,046,520	55,080
26	Roxborough Park	2019	765,000	-		765,000	765,000		-	-	-	-	-
27	Provision for Elfrida Park Developments (8 neighbourhood parks & 1 community park)	2023-2028	7,710,200	1,542,000		6,168,200	-		6,168,200	616,820	5,551,380	5,273,811	277,569

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Parkland Development

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share	
2019-2028												95%	5%	
28	Waterdown South Skinner Park (Asset ID 1013)	2019	624,000	-		624,000	-		624,000	62,400	561,600	533,520	28,080	
29	Waterdown South Parkette 2 Water Tower (Asset ID 30)	2023	174,000	-		174,000	-		174,000	17,400	156,600	148,770	7,830	
30	Waterdown South Parkette 1 (Asset ID 54) Skinner Road and Burke Avenue	2021	157,000	-		157,000	-		157,000	15,700	141,300	134,235	7,065	
31	Waterdown South Smoky Hollow Park (Asset ID 72)	2021	676,000	-		676,000	-		676,000	67,600	608,400	577,980	30,420	
32	Waterdown South Parkette 3 (Asset ID 71)	2023	82,000	-		82,000	-		82,000	8,200	73,800	70,110	3,690	
33	Bookjans West Park	2019	570,000	-		570,000	-		570,000	57,000	513,000	487,350	25,650	
34	Heritage Green Community Sports Park - Future Phases	2021-2023	2,405,000	-		2,405,000	-		2,405,000	240,500	2,164,500	2,056,275	108,225	
35	Brian Timmis Field Development - Stadium Precinct Park	2020-2021	8,657,000	-		8,657,000	4,946,900		3,710,100	371,010	3,339,090	3,172,136	166,955	
36	Fruitland/Winona Parkland Development	2023	1,237,000	-		1,237,000	-		1,237,000	123,700	1,113,300	1,057,635	55,665	
37	Red Hill Phase 3 & 4 Park	2019	650,000	-		650,000	-		650,000	65,000	585,000	555,750	29,250	
38	Spencer Creek Estates	2020	340,000	-		340,000	-		340,000	34,000	306,000	290,700	15,300	
39	Lewis Road Park (Winona)	2019-2021	700,000	-		700,000	-		700,000	70,000	630,000	598,500	31,500	
40	Confederation Park - Little Squirt Works & Area Redevelopment	2019-2020	1,530,000	-		1,530,000	765,000		765,000	76,500	688,500	654,075	34,425	
41	Confederation Park - Sports Park Development - Phase 2 (Natural play area, tree planting)	2020	4,243,000	2,291,200		1,951,800	424,300		1,527,500	152,750	1,374,750	1,306,013	68,738	
42	Confederation Park - Central Village - Pkg. Lot & Roadways, Phase 1	2029-2036	3,366,000	3,366,000		-	-		-	-	-	-	-	
43	Confederation Park - Sports Park Development - Phase 3 (Picnic areas and shelter, parking lot lighting, tree planting, site furniture)	2020	803,000	433,600		369,400	80,300		289,100	28,910	260,190	247,181	13,010	
44	Confederation Park - Central Village - Public Realm & Square	2029-2036	2,805,000	2,805,000		-	-		-	-	-	-	-	
45	Confederation Park - West Entrance and Naturalizing the Go Karts Site	2021-2026	612,000	-		612,000	-		612,000	61,200	550,800	523,260	27,540	
46	Confederation Park - Internal Trail Between Central Village and Beaches Grill	2029-2036	204,000	204,000		-	-		-	-	-	-	-	
47	Confederation Park - Boardwalk to Beach	2021-2026	459,000	275,400		183,600	-		183,600	18,360	165,240	156,978	8,262	

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Parkland Development

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 95%	Non-Residential Share 5%
	2019-2028												
48	Confederation Park - General Trail Upgrades	2021-2026	204,000	61,200		142,800	102,000		40,800	4,080	36,720	34,884	1,836
49	Confederation Park - Group Picnic Area	2029-2036	561,000	280,500		280,500	280,500		-	-	-	-	-
50	Confederation Park - Central Parking Lot & Volleyball Centre Area	2029-2036	357,000	357,000		-	-		-	-	-	-	-
51	Confederation Park Soccer Field Area	2021-2026	51,000	36,700		14,300	5,100		9,200	920	8,280	7,866	414
52	Confederation Park - Wild Waterworks Property Upgrades	2021-2026	408,000	122,400		285,600	204,000		81,600	8,160	73,440	69,768	3,672
53	Confederation Park - Woodland Restoration - Phase 1	2021-2026	408,000	122,400		285,600	204,000		81,600	8,160	73,440	69,768	3,672
54	Confederation Park - Woodland Restoration - Phase 2	2029-2036	408,000	204,000		204,000	204,000		-	-	-	-	-
55	Confederation Park - Van Wagners Marsh Upgrades Phase 1	2021-2026	408,000	122,400		285,600	204,000		81,600	8,160	73,440	69,768	3,672
56	Confederation Park - Van Wagners Marsh Upgrades Phase 2	2029-2036	408,000	204,000		204,000	204,000		-	-	-	-	-
57	Confederation Park - Signage - Phase 2	2021-2026	255,000	-		255,000	-		255,000	25,500	229,500	218,025	11,475
58	Confederation Park - Park Corridor Upgrades along Van Wagners Beach Road	2021-2026	612,000	-		612,000	-		612,000	61,200	550,800	523,260	27,540
59	Confederation Park - Lighting along Strip	2021-2026	561,000	-		561,000	-		561,000	56,100	504,900	479,655	25,245
60	Confederation Park - Pumping station, sanitary forcemain, and electrical servicing for Lakeland area	2021-2026	918,000	-		918,000	-		918,000	91,800	826,200	784,890	41,310
61	Confederation Park - Public Art & Site Work - Centennial Pkwy Entrance	2029-2036	612,000	612,000		-	-		-	-	-	-	-
62	Confederation Park - Centennial Intersection & Entrance	2029-2036	4,998,000	4,998,000		-	-		-	-	-	-	-
63	Confederation Park - Primary infrastructure for servicing the central village and ice skating facility	2029-2036	2,193,000	2,193,000		-	-		-	-	-	-	-
64	Confederation Park - Services for Adventure Village Expansion	2029-2036	153,000	153,000		-	-		-	-	-	-	-
65	West Harbour Parkland Development - Gas Dock and Marina Services	2019	1,200,000	-		1,200,000	600,000		600,000	60,000	540,000	513,000	27,000

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Parkland Development

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost	
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 95%	Non-Residential Share 5%
	2019-2028												
66	West Harbour Pier 5-7 Marina Shoreline Rehab (HWT) (Additional funds)	2019	810,000	-		810,000	202,500		607,500	60,750	546,750	519,413	27,338
67	West Harbour Pier 5-7 Boardwalk (HWT)	2019-2021	7,325,000	-		7,325,000	1,831,300		5,493,700	549,370	4,944,330	4,697,114	247,217
68	West Harbour Pier 6 Artisan Village (HWT)	2021-2021	4,170,000	-		4,170,000	2,085,000		2,085,000	208,500	1,876,500	1,782,675	93,825
69	West Harbour Pier 7 Commercial Village (HWT)	2019	3,050,000	-		3,050,000	1,525,000		1,525,000	152,500	1,372,500	1,303,875	68,625
70	West Harbour Pier 8 Shorewall Rehab	2019-2028	16,575,000	5,920,600		10,654,400	9,945,000		709,400	70,940	638,460	606,537	31,923
71	West Harbour Macassa Bay - Shoreline Improvements	2019-2028	5,305,000	3,553,000		1,752,000	1,326,300		425,700	42,570	383,130	363,974	19,157
72	West Harbour Macassa Bay Boardwalk and Trail	2019-2028	7,000,000	4,688,300		2,311,700	1,750,000		561,700	56,170	505,530	480,254	25,277
73	West Harbour Pier 8 Greenway	2021-2028	1,235,000	661,700		573,300	494,000		79,300	7,930	71,370	67,802	3,569
74	West Harbour Bayfront Park Upgrades Phase 3 (Entrance Fountain)	2021-2028	780,000	174,100		605,900	585,000		20,900	2,090	18,810	17,870	941
75	West Harbour - Bayview Park Remediation and Redevelopment	2021-2028	2,275,000	1,015,800		1,259,200	1,137,500		121,700	12,170	109,530	104,054	5,477
	<b>Trails</b>												
76	Ancaster Creek Trail	2023	920,500	-		920,500	-		920,500	92,050	828,450	787,028	41,423
77	Churchill Park Trail	2020-2022	381,000	-		381,000	-		381,000	38,100	342,900	325,755	17,145
78	Chedoke Rail Trail Extension	2029-2030	240,300	240,300		-	-		-	-	-	-	-
79	Chedoke Rail Trail, Claremont Link	2029-2030	245,200	245,200		-	-		-	-	-	-	-
80	Glenburn Court - Battlefield Creek Trail	2024	235,100	-		235,100	-		235,100	23,510	211,590	201,011	10,580
81	Sam Manson Park Trail	2020	104,200	-		104,200	-		104,200	10,420	93,780	89,091	4,689
82	Park Trail Connections - Upper James St. to Limeridge Mall Hydro Corridor Trail	2027-2031	969,600	436,300		533,300	484,800		48,500	4,850	43,650	41,468	2,183
83	First Road West Link	2021-2022	376,200	-		376,200	-		376,200	37,620	338,580	321,651	16,929
84	Heritage Green Sports Park Link	2022	200,000	-		200,000	-		200,000	20,000	180,000	171,000	9,000
85	Summerlea West Park - Fletcher Road Parkette Link	2027	687,000	618,300		68,700	-		68,700	6,870	61,830	58,739	3,092
86	Filman Road Link - North Segment	2022	275,900	-		275,900	-		275,900	27,590	248,310	235,895	12,416
87	Filman Road Link - South Segment	2022	539,700	-		539,700	-		539,700	53,970	485,730	461,444	24,287
88	Meadowlands Trail System Links	2020-2024	1,700,000	-		1,700,000	-		1,700,000	170,000	1,530,000	1,453,500	76,500
89	Tollgate Drive Link	2030	259,400	259,400		-	-		-	-	-	-	-
90	Spencer Creek, Main Street and Thorpe Street Link	2029-2031	3,731,000	3,731,000		-	-		-	-	-	-	-
91	Spencer Creek, Mercer Street and Governor's Road Lin	2029-2031	710,300	710,300		-	-		-	-	-	-	-

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Parkland Development

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 95%	Non-Residential Share 5%	
	2019-2028													
92	Cascade Trail Link	2029-2031	313,500	313,500		-	-		-	-	-	-	-	-
93	Dundas Valley Link	2029-2031	1,138,000	1,138,000		-	-		-	-	-	-	-	-
94	Borer's Creek Trail Link	2027	786,200	629,000		157,200	-		157,200	15,720	141,480	134,406	7,074	
95	Waterdown Pipeline Trail Link	2019-2020	422,000	-		422,000	211,000		211,000	21,100	189,900	180,405	9,495	
96	Parkside Drive - Robson Link	2019	181,500	-		181,500	-		181,500	18,150	163,350	155,183	8,168	
97	Highway 5 - Mountain Brow Road Link	2019	600,000	-		600,000	-		600,000	60,000	540,000	513,000	27,000	
98	East Mountain Trail Loop	2019-2020	854,000	-		854,000	811,300		42,700	4,270	38,430	36,509	1,922	
99	Joe Sam's New Trail Connection Through the Park	2019-2020	100,000	-		100,000	-		100,000	10,000	90,000	85,500	4,500	
100	Confederation Park - Growth Related Debt Interest (Discounted)	2019-2034	1,573,689	722,300		851,389	-		851,389		851,389	808,820	42,569	
101	Reserve Fund Adjustment		4,812,660	-		4,812,660	-		4,812,660		4,812,660	4,572,027	240,633	
									-		-	-	-	-
	<b>Total</b>		<b>159,803,149</b>	<b>53,270,600</b>	<b>-</b>	<b>106,532,549</b>	<b>39,715,700</b>	<b>-</b>	<b>66,816,849</b>	<b>6,115,280</b>	<b>60,701,569</b>	<b>57,666,491</b>	<b>3,035,078</b>	

# 7. Indoor Recreation

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Indoor Recreation Facilities

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
2019-2028											95%	5%	
1	Valley Park Community Centre Expansion	2019-2021	1,800,000	-		1,800,000	180,000		1,620,000	162,000	1,458,000	1,385,100	72,900
2	Norman Pinky Lewis Recreation Centre Expansion	2023-2025	6,600,000	-		6,600,000	3,300,000		3,300,000	330,000	2,970,000	2,821,500	148,500
3	Winona Community Centre	2022-2024	26,500,000	-		26,500,000	-		26,500,000	2,650,000	23,850,000	22,657,500	1,192,500
4	Elfrida Community Centre	2027-2036	27,500,000	22,000,000		5,500,000	-		5,500,000	550,000	4,950,000	4,702,500	247,500
5	Binbrook Community Centre	2028	27,500,000	14,575,000		12,925,000	-		12,925,000	1,292,500	11,632,500	11,050,875	581,625
6	Sackville Expansion	2026	6,700,000	-		6,700,000	-		6,700,000	670,000	6,030,000	5,728,500	301,500
7	Waterdown Community Centre	2025-2027	27,000,000	-		27,000,000	-		27,000,000	2,700,000	24,300,000	23,085,000	1,215,000
8	Riverdale Community Hub & Domenic Agostino Riverdale Community Centre Expansion	2020-2022	11,000,000	-		11,000,000	-		11,000,000	1,100,000	9,900,000	9,405,000	495,000
9	Riverdale Community Hub & Domenic Agostino Riverdale Community Centre Expansion - Growth Related Debt Interest (Discounted)	2023-2038	1,436,413	-		1,436,413	-		1,436,413		1,436,413	1,364,592	71,821
10	William Connell Park Washroom and changeroom Facilities (under construction)	2019	3,700,000	-		3,700,000	-		3,700,000	370,000	3,330,000	3,163,500	166,500
11	Sir Wilfrid Laurier Gymnasium	2020-2021	8,650,000	-		8,650,000	-		8,650,000	865,000	7,785,000	7,395,750	389,250
12	Sir Wilfrid Laurier Gymnasium - Growth Related Debt Interest (Discounted)	2022-2037	1,488,247	-		1,488,247	-		1,488,247		1,488,247	1,413,835	74,412
13	Mt. Hope new Rec Centre	2025-2028	4,850,000	-		4,850,000	-		4,850,000	485,000	4,365,000	4,146,750	218,250
14	Ancaster Tennis Bubble	2019-2020	1,000,000	-		1,000,000	-		1,000,000	100,000	900,000	855,000	45,000
15	Parkdale Outdoor Pool Washroom & Changeroom	2019-2021	3,000,000	-		3,000,000	2,640,000		360,000	36,000	324,000	307,800	16,200
16	Dundas Valley Washroom	2019	565,000	-		565,000	-		565,000	56,500	508,500	483,075	25,425
17	Durand Park Washroom Building	2019	325,000	-		325,000	-		325,000	32,500	292,500	277,875	14,625
18	Stadium Precinct Park Fieldhouses & Washrooms	2020	5,200,000	-		5,200,000	-		5,200,000	520,000	4,680,000	4,446,000	234,000
19	Confederation Park - Sports Park Buildings Phase 1: Gatehouse	2019	700,000	-		700,000	-		700,000	70,000	630,000	598,500	31,500
20	Confederation Park - Sports Park Buildings Phase 2: Fieldhouse and Staff Works Yard	2020-2024	5,500,000	-		5,500,000	-		5,500,000	550,000	4,950,000	4,702,500	247,500
21	Confederation Park - Ice skating rink/loop, field house & zamboni	2027-2036	3,570,000	-		3,570,000	-		3,570,000	357,000	3,213,000	3,052,350	160,650



## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Indoor Recreation Facilities

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
	2019-2028											95%	5%
22	West Harbour Washroom/Concession	2021-2022	1,000,000	-		1,000,000	500,000		500,000	50,000	450,000	427,500	22,500
23	Reserve Fund Adjustment						5,942,749		(5,942,749)		(5,942,749)	(5,645,612)	(297,137)
	<b>Total</b>		<b>175,584,660</b>	<b>36,575,000</b>	<b>-</b>	<b>139,009,660</b>	<b>12,562,749</b>	<b>-</b>	<b>126,446,911</b>	<b>12,946,500</b>	<b>113,500,411</b>	<b>107,825,390</b>	<b>5,675,021</b>

# 8. Library Services

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Library Facilities & Vehicles

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost			
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share	
2019-2028													95%	5%
1	South Mountain Complex - Turner Park - Debt Principal (Discounted)	2019-2023	1,129,104	-		1,129,104	-		1,129,104		1,129,104	1,072,648	56,455	
2	South Mountain Complex - Turner Park - Debt Interest (Discounted)	2019-2023	94,210	-		94,210	-		94,210		94,210	89,500	4,711	
3	Binbrook Expansion Growth Related Debt Principal	2020-2035	2,016,500	-		2,016,500	998,000		1,018,500		1,018,500	967,575	50,925	
4	Binbrook Expansion Growth Related Debt Interest (Discounted)	2020-2035	243,530	-		243,530	-		243,530		243,530	231,353	12,176	
5	Valley Park - Expansion & Renovation - Construction*	2020	6,452,000	-		6,452,000	262,000	1,250,000	4,940,000	494,000	4,446,000	4,223,700	222,300	
6	Valley Park - Furnishings for Expansion	2020	1,347,000	-		1,347,000	-		1,347,000	134,700	1,212,300	1,151,685	60,615	
7	Valley Park - Expansion - Growth Related Debt Interest (Discounted)	2020-2035	1,215,970	-		1,215,970	-		1,215,970		1,215,970	1,155,171	60,798	
8	Winona/Stoney Creek - New - Furnishings for New Facility	2024-2025	1,000,000	-		1,000,000	-		1,000,000	100,000	900,000	855,000	45,000	
9	Winona/Stoney Creek - New - Construction (Estimated 9,000 sq. ft.)	2024-2025	5,000,000	-		5,000,000	-		5,000,000	500,000	4,500,000	4,275,000	225,000	
10	Mount Hope - Replacement & Expansion - Construction (Estimated 5,000 sq. ft.)	2022-2023	3,500,000	-		3,500,000	1,841,400		1,658,600	165,860	1,492,740	1,418,103	74,637	
11	Mount Hope - New - Furnishings for Expansion	2022-2023	500,000	-		500,000	-		500,000	50,000	450,000	427,500	22,500	
12	Ancaster - Expansion - Construction (estimated 20,000 sq. ft.)	2024	8,500,000	-		8,500,000	5,590,000		2,910,000	291,000	2,619,000	2,488,050	130,950	
13	Ancaster Furnishings for Expansion	2024	1,500,000	-		1,500,000	-		1,500,000	150,000	1,350,000	1,282,500	67,500	
14	Bookmobile - Electronic	2020	550,000	-		550,000	-		550,000	55,000	495,000	470,250	24,750	
15	Greenville - New Library	2019	2,434,000	-		2,434,000	1,789,700		644,300	64,430	579,870	550,877	28,994	

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Library Facilities & Vehicles

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
2019-2028											95%	5%	
16	Greenville - Furnishings	2019	441,000	-		441,000	-		441,000	44,100	396,900	377,055	19,845
17	Carlisle - Replacement/Renovation	2020	2,500,000	-		2,500,000	2,500,000		-	-	-	-	-
18	Lower City New/Expanded Library (Estimated 8,000 sq. ft.)	2025	5,241,000	4,533,500		707,500	-		707,500	70,750	636,750	604,913	31,838
19	Elfrida - New Branch (Estimated 12,000 sq. ft.)	2030	7,000,000	7,000,000		-	-		-	-	-	-	-
20	Central Library - Phase IV - Local History & Archives - Renovations	2022	1,500,000	-		1,500,000	1,500,000		-	-	-	-	-
21	New Permanent Location For Red Hill (Estimated 15,000 sq. ft.)	2025	8,000,000	1,494,700		6,505,300	6,272,000		233,300	23,330	209,970	199,472	10,499
22	Saltfleet Move to Stoney Creek (Estimated 15,000 sq. ft.)	2025	8,000,000	1,581,000		6,419,000	6,172,300		246,700	24,670	222,030	210,929	11,102
23	New North End Branch (Estimated 8,000 sq. ft.)	2025	5,500,000	4,757,500		742,500	-		742,500	74,250	668,250	634,838	33,413
24	Reserve Fund Adjustment		140,657	-		140,657	-		140,657		140,657	133,624	7,033
	<b>Total</b>		<b>73,804,970</b>	<b>19,366,700</b>	<b>-</b>	<b>54,438,270</b>	<b>26,925,400</b>	<b>1,250,000</b>	<b>26,262,870</b>	<b>2,242,090</b>	<b>24,020,780</b>	<b>22,819,741</b>	<b>1,201,039</b>

\*Valley Park Community Donations is part of BTE



# 9. Paramedics

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Paramedics Facilities

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
2019-2028											90%	10%	
1	Additional Facility Space	2019-2028	4,400,000	3,040,000		1,360,000	-		1,360,000	136,000	1,224,000	1,101,600	122,400
3	Outstanding Debt on Shared Training Facility - Principal	2019-2027	557,809	-		557,809	-		557,809		557,809	502,028	55,781
4	Outstanding Debt on Shared Training Facility - Interest (discounted)	2019-2027	10,540	-		10,540	-		10,540		10,540	9,486	1,054
5	Reserve Fund Adjustment		401,196	-		401,196	-		401,196		401,196	361,076	40,120
	<b>Total</b>		<b>5,369,545</b>	<b>3,040,000</b>	<b>-</b>	<b>2,329,545</b>	<b>-</b>	<b>-</b>	<b>2,329,545</b>	<b>136,000</b>	<b>2,193,545</b>	<b>1,974,190</b>	<b>219,354</b>





# 10. Long Term Care



# 11. Social Housing

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Social Housing

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 100%	Non-Residential Share 0%
1	Provision for Additional Social Housing	2019-2023	193,750,000	13,562,500		180,187,500	160,270,000		19,917,500	1,991,750	17,925,750	17,925,750	-
2	Provision for Additional Social Housing	2024-2028	227,660,000	39,157,500		188,502,500	188,320,400		182,100	18,210	163,890	163,890	-
3	Bay-Cannon (Replace 45 units and expand by 10 units)	2019-2023	16,600,000	-		16,600,000	16,078,400		521,600	52,160	469,440	469,440	-
4	55 Queenston Phase 1 (41 Units Replacement of Units from other locations)	2019-2023	10,529,000	-		10,529,000	10,529,000		-	-	-	-	-
5	Wellington-King William (Replace 14 units and expand by 6 units)	2019-2023	5,743,000	-		5,743,000	5,445,300		297,700	29,770	267,930	267,930	-
6	Macassa (Replace 45 units and expand by 20 units)	2019-2023	15,554,000	-		15,554,000	14,727,100		826,900	82,690	744,210	744,210	-
7	MacNab (Rehab 146 units)	2019-2023	16,282,000	-		16,282,000	10,382,000	5,900,000	-	-	-	-	-
8	55 Queenston Phase 2 (52 Additional Units)	2019-2023	13,350,000	-		13,350,000	11,043,100		2,306,900	230,690	2,076,210	2,076,210	-
9	Riverdale Community Hub (44 units)	2019-2023	11,040,000	-		11,040,000	9,132,300		1,907,700	190,770	1,716,930	1,716,930	-
	Reserve Fund Adjustment						7,225,830		(7,225,830)	(722,583)	(6,503,247)	(6,503,247)	-
	<b>Total</b>		<b>510,508,000</b>	<b>52,720,000</b>	<b>-</b>	<b>457,788,000</b>	<b>433,153,430</b>	<b>5,900,000</b>	<b>18,734,570</b>	<b>1,873,457</b>	<b>16,861,113</b>	<b>16,861,113</b>	<b>-</b>

# 12. Provincial Offences Act





# 13. Health Services



# 14. Social & Child Services



# 15. Waste Diversion

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Waste Diversion Services

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Other Deductions*	Gross Capital Cost (2019\$) Waste Diversion Related	Post Period Benefit	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost		
								Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share	
2019-2028													83%	17%	
1	CCF Air Handling Upgrades (to provide for capital improvements to the CCF to mitigate the impacts of the Ontario Compost Quality Standards)	2019	1,734,000	-	1,734,000	89,000	1,645,000	1,556,400		88,600	8,860	79,740	66,184	13,556	
2	Diversion Container Replacement and Expansion Program	2019-2023	4,908,750	-	4,908,750	-	4,908,750	4,405,900		502,850	50,285	452,565	375,629	76,936	
3	Diversion Container Replacement and Expansion Program	2024-2028	4,908,750	-	4,908,750	-	4,908,750	4,405,900		502,850	50,285	452,565	375,629	76,936	
4	Public Space & Special Event Containers Replacement & Expansion	2019-2023	1,275,000	1,020,000	255,000	-	255,000	127,500		127,500	12,750	114,750	95,243	19,508	
5	Public Space & Special Event Containers Replacement & Expansion	2024-2028	1,275,000	1,020,000	255,000	-	255,000	127,500		127,500	12,750	114,750	95,243	19,508	
6	Glanbrook Landfill Capital Improvement Program	2019-2023	1,863,550	1,677,195	186,355	-	186,355	18,600		167,755	16,776	150,980	125,313	25,667	
7	Glanbrook Landfill Capital Improvement Program	2024-2028	1,863,550	1,677,195	186,355	-	186,355	18,600		167,755	16,776	150,980	125,313	25,667	
8	Maintenance & Capital Improvements to the Resource Recovery Centre (RRC) Program	2019-2023	1,537,150	-	1,537,150	-	1,537,150	999,100		538,050	53,805	484,245	401,923	82,322	
9	Maintenance & Capital Improvements to the Resource Recovery Centre (RRC) Program	2024-2028	1,537,150	-	1,537,150	-	1,537,150	999,100		538,050	53,805	484,245	401,923	82,322	
8	Leaf & Yard Waste Composting Facility Relocation	2019-2020	3,978,000	-	3,978,000	-	3,978,000	1,989,000		1,989,000	198,900	1,790,100	1,485,783	304,317	
9	Transfer Station/Community Recycling Centre Expansion & Capital Replacement	2019-2023	10,375,000	6,225,000	4,150,000	-	4,150,000	-		4,150,000	415,000	3,735,000	3,100,050	634,950	
10	Transfer Station/Community Recycling Centre Expansion & Capital Replacement	2024-2028	10,375,000	6,225,000	4,150,000	3,320,000	830,000	-		830,000	83,000	747,000	620,010	126,990	
11	Material Recycling Facility Lifecycle Replacement & Upgrades	2020-2022	24,150,000	-	24,150,000	2,963,000	21,187,000	12,075,000		9,112,000	911,200	8,200,800	6,806,664	1,394,136	
12	Provision for additional trucks (2.1 per 4,000 additional low and medium density units)	2019-2023	1,606,500	-	1,606,500	-	1,606,500	-		1,606,500	160,650	1,445,850	1,200,056	245,795	
13	Provision for additional trucks (2.1 per 4,000 additional low and medium density units)	2024-2028	1,606,500	-	1,606,500	-	1,606,500	-		1,606,500	160,650	1,445,850	1,200,056	245,795	
	<b>Total</b>		<b>72,993,900</b>	<b>17,844,390</b>	<b>55,149,510</b>	<b>6,372,000</b>	<b>48,777,510</b>	<b>26,722,600</b>	<b>-</b>	<b>22,054,910</b>	<b>2,205,491</b>	<b>19,849,419</b>	<b>16,475,018</b>	<b>3,374,401</b>	

\*Other deductions are portions attributable to landfill

# 16. Transit



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Transit Services

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share	Non-Residential Share
	2019-2028									63%	37%
1	New Conventional Bus - (40 ft.) (117)	2019-2028	94,957,200	2,943,700		92,013,500	66,185,200		25,828,300	16,271,829	9,556,471
2	New Conventional Bus - (40 ft.) (Spares) (32)	2019-2028	25,971,200	805,100		25,166,100	18,101,900		7,064,200	4,450,446	2,613,754
3	Replacement of Retired 40 ft. buses on L.R.T. corridor (18)	2019-2028	14,608,800	452,900		14,155,900	10,182,300		3,973,600	2,503,368	1,470,232
4	New Conventional Bus - (40 ft.) (12)	2029-2031	9,739,200	2,951,000		6,788,200	6,788,200		-	-	-
5	New Conventional Bus - (40 ft.) (Spares) (8)	2029-2031	6,492,800	1,967,300		4,525,500	4,525,500		-	-	-
6	Replace 40 ft. buses with 60 ft. buses (11)	2019	11,055,000	65,900	8,927,600	2,061,500	1,482,800		578,700	364,581	214,119
7	Replace 40 ft. buses with 60 ft. buses (10)	2023	10,050,000	60,000	8,116,000	1,874,000	1,348,000		526,000	331,380	194,620
8	Replace 40 ft. buses with 30 ft. buses (6)	2019	3,833,400	-	3,833,400	-	-		-	-	-
9	Replace 26 ft. buses with 30 ft. buses (5)	2019	3,236,000	57,100	1,393,000	1,785,900	1,284,600		501,300	315,819	185,481
10	New Specialized Transit (Chevy 34' Braun) (3)	2019-2028	663,900	-		663,900	393,700		270,200	170,226	99,974
11	New Specialized Transit (Chevy 34' Braun) (1)	2029-2031	221,300	90,100		131,200	131,200		-	-	-
12	New Specialized Transit (Dodge Promaster) (16)	2019-2028	1,740,800	-		1,740,800	1,032,300		708,500	446,355	262,145
13	New Specialized Transit (Dodge Promaster) (5)	2029-2031	544,000	221,400		322,600	322,600		-	-	-
14	New Specialized Transit (Dodge Caravan) (38)	2019-2028	1,447,800	-		1,447,800	858,500		589,300	371,259	218,041
15	New Specialized Transit (Dodge Caravan) (10)	2029-2031	381,000	155,100		225,900	225,900		-	-	-
16	Support Vehicles - Facility Vehicles - Service Truck	2019-2028	114,400	-		114,400	86,200		28,200	17,766	10,434
17	Support Vehicles - Facility Vehicles - Stock Room Vehicle	2019-2028	34,300	-		34,300	25,800		8,500	5,355	3,145
18	Support Vehicles - Facility Vehicles - Garage Equipment Repair Walk Behind Forklift	2019-2028	166,400	38,400		128,000	125,300		2,700	1,701	999

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Transit Services

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share	Non-Residential Share
	2019-2028									63%	37%
19	Support Vehicles - Facility Vehicles - Garage Fork Lift	2019-2028	104,000	24,000		80,000	78,300		1,700	1,071	629
20	Support Vehicles - Facility Vehicles - Garage Tow Mobile	2019-2028	52,000	12,000		40,000	39,200		800	504	296
21	Support Vehicles - Facility Vehicles - Garage Equipment Repair Express Van Vehicles	2019-2028	72,800	-		72,800	54,800		18,000	11,340	6,660
22	Support Vehicles - Operations Vehicles	2019-2028	192,500	-		192,500	-		192,500	121,275	71,225
23	Transit & Maintenance Storage Facility	2020-2022	272,000,000	9,305,000		262,695,000	122,920,000	108,800,000	30,975,000	19,514,250	11,460,750
24	Transit & Maintenance Storage Facility - Land	2020-2022	10,500,000	599,000		9,901,000	7,908,000		1,993,000	1,255,590	737,410
25	Transit & Maintenance Storage Facility Growth Related Debt Interest (Discounted)	2023-2038	7,198,306	1,662,866		5,535,440	-		5,535,440	3,487,327	2,048,113
26	Reserve Fund Adjustment			-			2,006,481		(2,006,481)	(1,264,083)	(742,398)
	<b>Total</b>		<b>475,377,106</b>	<b>21,410,866</b>	<b>22,270,000</b>	<b>431,696,240</b>	<b>246,106,781</b>	<b>108,800,000</b>	<b>76,789,459</b>	<b>48,377,359</b>	<b>28,412,100</b>

# 17. Administration Studies

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Administration Studies

Prj.No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less: Other (e.g. 10% Statutory Deduction)	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development			Total	Residential Share	Non-Residential Share
2019-2028											63%	37%	
	<b>Water &amp; Wastewater Studies:</b>			-			-						
29	Integrated Water and Wastewater Master Plan	2019-2028	1,500,000	-		1,500,000	-		1,500,000		1,500,000	945,000	555,000
30	Water and Sanitary Sewer Models	2019-2028	130,000	-		130,000	65,000		65,000		65,000	40,950	24,050
31	Centennial Secondary Plan - Servicing Study	2019	200,000	-		200,000	-		200,000		200,000	126,000	74,000
	<b>Community Services:</b>			-			-						
32	Long Term Care Services Needs Study	2027	242,800	-		242,800	121,400		121,400	12,140	109,260	68,834	40,426
33	Child Care Service Plan	2020-2025	84,300	-		84,300	42,200		42,100	4,210	37,890	23,871	14,019
34	Human Services Study	2020-2025	224,900	-		224,900	112,500		112,400	11,240	101,160	63,731	37,429
35	Human Services Plan - Housing Affordability Study	2020-2025	45,000	-		45,000	11,300		33,700	3,370	30,330	19,108	11,222
36	Affordable Housing - Residential Pre-zoning & Underutilized Site Mapping	2020-2025	89,900	-		89,900	22,500		67,400	6,740	60,660	38,216	22,444
37	City Housing Hamilton Energy Investment Study	2020-2025	393,500	-		393,500	295,100		98,400	9,840	88,560	55,793	32,767
38	Ontario Works Review	2020-2025	112,400	-		112,400	84,300		28,100	2,810	25,290	15,933	9,357
39	Human Services Market Planning Study	2020-2025	224,900	-		224,900	56,200		168,700	16,870	151,830	95,653	56,177
40	Neighbourhood Community Needs Study	2020-2025	67,500	-		67,500	33,800		33,700	3,370	30,330	19,108	11,222
	<b>Transit Studies:</b>			-			-						
41	Hamilton West Interregional Transit Terminal Location Study	2019-2022	84,300	-		84,300	75,900		8,400		8,400	5,292	3,108
42	Rapid Ready & 10 Year Strategy Review	2019-2028	150,000	-		150,000	75,000		75,000		75,000	47,250	27,750
43	James Mountain Road - Transit only Roadway Feasibility Study	2020-2023	112,400	-		112,400	56,200		56,200		56,200	35,406	20,794
	<b>Future Transit Hubs and Stations:</b>			-			-						
44	SCUBE Transit Terminal Study	2019	242,400	-		242,400	-		242,400		242,400	152,712	89,688
	<b>Operations Facilities:</b>			-			-						
45	Yards Need Study	2025-2028	168,600	-		168,600	-		168,600		168,600	106,218	62,382
	<b>Police:</b>			-			-						
46	Police - Space Needs Study (GRIDS II)	2019	56,200	-		56,200	-		56,200		56,200	35,406	20,794
47	Police Business Plan	2019	32,000	-		32,000	24,000		8,000		8,000	5,040	2,960
48	Police Business Plan	2022	32,000	-		32,000	24,000		8,000		8,000	5,040	2,960
49	Police Business Plan	2025	32,000	-		32,000	24,000		8,000		8,000	5,040	2,960
50	Police Business Plan	2028	32,000	-		32,000	24,000		8,000		8,000	5,040	2,960
	<b>Paramedics:</b>			-			-						
51	Paramedics - Space Needs Study	2023	112,400	-		112,400	28,100		84,300	8,430	75,870	47,798	28,072
52	Paramedics - Space Needs Study	2028	112,400	-		112,400	-		112,400	11,240	101,160	63,731	37,429

## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Administration Studies

Prj.No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less: Other (e.g. 10% Statutory Deduction)	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development			Total	Residential Share	Non-Residential Share
2019-2028											63%	37%	
	<b>Parking:</b>			-									
53	Parking Master Plan	2019	200,000	-		200,000	50,000		150,000	15,000	135,000	85,050	49,950
	<b>Library Studies:</b>			-									
54	Library Master Plan	2022	25,000	-		25,000	6,300		18,700	1,870	16,830	10,603	6,227
55	Service Model Master Plan	2020	25,000	-		25,000	6,300		18,700	1,870	16,830	10,603	6,227
	<b>Parks:</b>			-									
56	Trails Masterplan Update	2021	204,000	-		204,000	51,000		153,000	15,300	137,700	86,751	50,949
57	Parks Master Plans	2019-2023	1,214,200	-		1,214,200	303,600		910,600	91,060	819,540	516,310	303,230
58	Recreation Studies	2019-2023	607,100	-		607,100	151,800		455,300	45,530	409,770	258,155	151,615
59	Recreation Studies	2024-2028	607,100	-		607,100	151,800		455,300	45,530	409,770	258,155	151,615
	<b>Waste Diversion:</b>			-									
60	Waste Management Research & Development Program	2019-2023	1,229,100	-	245,820	983,280	882,500		100,780	10,078	90,702	57,142	33,560
61	Waste Management Research & Development Program	2024-2028	1,229,100	-	245,820	983,280	882,500		100,780	10,078	90,702	57,142	33,560
62	Solid Waste Management Master Plan Approvals	2019-2021	561,000	-	140,250	420,750	63,100		357,650	35,765	321,885	202,788	119,097
	<b>Other:</b>			-									
63	Provision for Growth Component of Unidentified Studies	2019-2023	2,248,500	-		2,248,500	-		2,248,500	224,850	2,023,650	1,274,900	748,751
64	Outstanding Debt Principal	2019-2023	198,550	-		198,550	-		198,550		198,550	125,086	73,463
65	Outstanding Debt Interest (Discounted)	2019-2023	36,884	-		36,884	-		36,884		36,884	23,237	13,647
66	Reserve Fund Adjustment		1,336,059	-		1,336,059	-		1,336,059		1,336,059	841,717	494,342
	<b>Total</b>		<b>28,579,992</b>	<b>-</b>	<b>631,890</b>	<b>27,948,102</b>	<b>6,423,600</b>	<b>-</b>	<b>21,524,502</b>	<b>1,754,921</b>	<b>19,769,581</b>	<b>12,454,836</b>	<b>7,314,745</b>

\*Other deductions are portions attributable to landfill



# 18. Wastewater Services

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Wastewater - Sewers

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 63%	Non-Residential Share 37%
	<b>2019-2031</b>										
1	Ancaster Sanitary Sewage System	2019-2023	3,090,000	741,000		2,349,000	-	838,000	1,511,000	951,930	559,070
2	Waterdown Sanitary Sewage System	2019-2023	11,719,000	300,800		11,418,200	7,322,000	714,000	3,382,200	2,130,786	1,251,414
3	Binbrook Sanitary Sewage System	2019-2023	2,406,000	-		2,406,000	-	619,000	1,787,000	1,125,810	661,190
4	AEGD/Mount Hope Sanitary Sewage System	2019-2023	18,910,000	-		18,910,000	-		18,910,000	11,913,300	6,996,700
5	AEGD/Mount Hope Sanitary Sewage System	2024-2031	12,749,000	-		12,749,000	-	3,294,000	9,455,000	5,956,650	3,498,350
6	Hamilton Mountain Sanitary Sewage System	2019-2023	90,297,000	8,840,000		81,457,000	-	532,000	80,925,000	50,982,750	29,942,250
7	Hamilton Mountain Sanitary Sewage System	2024-2031	68,000	-		68,000	-		68,000	42,840	25,160
8	Stoney Creek Upper Sanitary Sewage System	2019-2023	2,389,000	-		2,389,000	-		2,389,000	1,505,070	883,930
9	Stoney Creek Upper Sanitary Sewage System	2024-2031	27,695,000	18,279,000		9,416,000	-	3,107,000	6,309,000	3,974,670	2,334,330
10	Stoney Creek Lower Sanitary Sewage System	2019-2023	27,298,000	2,009,400		25,288,600	184,000	362,000	24,742,600	15,587,838	9,154,762
11	City Wide Sanitary System	2019-2023	47,106,000	-		47,106,000	11,163,750	-	35,942,250	22,643,618	13,298,633
12	City Wide Sanitary System	2024-2031	22,656,000	-		22,656,000	7,500,000	-	15,156,000	9,548,280	5,607,720
13	Existing Debt Principal	2019-2023	369,593	-		369,593	-		369,593	232,844	136,749
14	Existing Debt Interest (Discounted)	2019-2023	30,838	-		30,838	-		30,838	19,428	11,410
15	Financing (Linear) (Interest Discounted)	2019-2034	36,844,849	-		36,844,849	-		36,844,849	23,212,255	13,632,594
16	Provisional Post Period Benefit Deduction	2019-2031		10,000,000		(10,000,000)	-		(10,000,000)	(6,300,000)	(3,700,000)
17	Reserve Fund Adjustment		40,435,413			40,435,413	-		40,435,413	25,474,310	14,961,103
	<b>Total</b>		<b>344,063,693</b>	<b>40,170,200</b>	<b>-</b>	<b>303,893,493</b>	<b>26,169,750</b>	<b>9,466,000</b>	<b>268,257,743</b>	<b>169,002,378</b>	<b>99,255,365</b>

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Wastewater Facilities

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less: Potential D.C. Recoverable Cost				
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 63%	Non-Residential Share 37%
	<b>Water Quality:</b>										
1	Wastewater Pumping Station	2019-2021	95,974,275	1,836,314		94,137,961	31,641,096	56,987,925	5,508,941	3,470,633	2,038,308
2a	Primary Clarifier - Primary Treatment (Phase 1 - CEPT) - Engineering Included	2019-2021	16,255,669	520,971		15,734,698	8,976,738	5,195,046	1,562,914	984,636	578,278
2b	Primary Clarifier - Primary Treatment (Phase 2 - Tanks) - Engineering Included	2019-2021	52,246,549	820,296		51,426,253	14,134,332	34,831,033	2,460,888	1,550,360	910,529
2c	Primary Clarifier - Other Costs (includes New/Expanded Laboratory/Admin Building)	2019-2021	11,857,782	1,568,785		10,288,997	5,582,644		4,706,354	2,965,003	1,741,351
4a	Tertiary Upgrades - New Secondary/Tertiary Treatment Plant (Phase 1)	2019-2021	134,908,478	1,375,990		133,532,488	52,072,583	77,331,936	4,127,969	2,600,621	1,527,349
5b	Chlorine Contact Tank and Outfall - Secondary/Tertiary Chlorine contact Tank, Outfall and Red Hill Creek Upgrades	2019-2021	43,246,869	997,717		42,249,152	16,081,115	23,174,887	2,993,150	1,885,684	1,107,465
8a	Plant Expansion - Engineering (Projects 1, 4a, 4b, 5, 13) Phase 1	2019-2021	24,810,804	913,658		23,897,146	21,156,173		2,740,974	1,726,813	1,014,160
8b	Plant Expansion - Engineering (Projects 1, 4a, 4b, 5, 13) Phase 2	2019-2021	25,573,521	941,745		24,631,776	21,806,541		2,825,235	1,779,898	1,045,337
8d	Plant Expansion - Engineering - Other Costs (includes WWE Modular Office Building)	2019-2021	8,428,089	310,364		8,117,725	7,186,631		931,093	586,589	344,504
11a	Biogas Digester - Biogas Upgrades	2019-2021	45,005,784	805,742		44,200,042	21,782,816	20,000,000	2,417,226	1,522,852	894,374
13a	Electrical System Upgrades - New Electrical and power systems - Phase 1	2019-2021	63,202,719	1,319,620		61,883,099	22,202,990	35,721,251	3,958,859	2,494,081	1,464,778
14	Collection System Upgrades	2019-2021	10,328,835	-		10,328,835	3,544,835	6,784,000	-	-	-
	<b>Plant Expansion:</b>										
4b	Tertiary Upgrades - New Secondary/Tertiary Treatment Plant (Phase 2)	2025-2031	224,800,000	56,200,000		168,600,000	-		168,600,000	106,218,000	62,382,000
8c	Plant Expansion - Engineering (Projects 1, 4a, 4b, 5, 13) Phase 3	2025-2031	28,300,000	7,075,000		21,225,000	-		21,225,000	13,371,750	7,853,250
11b	Biogas Digester - Digesters Upgrades	2025-2031	8,430,000	2,107,500		6,322,500	-		6,322,500	3,983,175	2,339,325
13b	Electrical System Upgrades - New Electrical and power systems - Phase 2	2025-2031	34,844,000	8,711,000		26,133,000	-		26,133,000	16,463,790	9,669,210
	<b>Biosolids Management Facility:</b>										
12	Biosolids Management Facility - Biosolids Thermal Reduction Disposal Facility	2019-2021	99,440,000	4,010,217		95,429,783	69,099,130	14,300,000	12,030,652	7,579,311	4,451,341
	Reserve Fund Adjustment		-	-		-	72,461,548		(72,461,548)	(45,650,775)	(26,810,773)
	<b>Total</b>		<b>927,653,374</b>	<b>89,514,918</b>	<b>-</b>	<b>838,138,456</b>	<b>367,729,172</b>	<b>274,326,078</b>	<b>196,083,206</b>	<b>123,532,420</b>	<b>72,550,786</b>



TABLE F-3 - WASTEWATER CAPITAL PROGRAM

Area	Planning Period	Project ID	Project/Street	From	To	Length (m)	Size (mm)	Estimated Total Cost (\$2019)	Direct Developer Contribution (\$2019)	Benefit to Existing (%)	Benefit to Existing (\$2019)	Post Period Benefit (%)	Post Period Benefit (\$2019)	Development Charges (\$2019)	Updated Timing	Updated Cost	Scope Change: Location	Scope Change: Length and/or Size	Project Added	2014-2019 Change Details	
<b>WATERDOWN</b>																					
Waterdown	0 to 5 years	W3-S-19	Waterdown North Area	McCurdy Ave	Northerly	340	600	\$ 291,000	\$ 248,000	0%	\$ -	0%	\$ -	\$ 43,000		X		X		Updated length, updated unit cost (inflation)	
Waterdown	0 to 5 years	W4-S-19	Waterdown South Sewer	Dundas St and Evans Ave	300 m south and 300 m west of Dundas St and Evans Ave	640	525	\$ 498,000	\$ 466,000	0%	\$ -	0%	\$ -	\$ 32,000		X	X	X		Updated length and alignment. Updated unit cost (inflation)	
Waterdown	0 to 5 years	W6-S-19	DC014- Existing Pump Capacity & Wet Well upgrade at 1st St./ Hwy 5	Increase capacity from 283 L/s (measured) to 456 L/s with 3 replacement pumps				456 L/s	\$ 4,930,000	\$ -	39%	\$ 1,922,000	10%	\$ 300,800	\$ 2,707,200	X	X		X	Updated cost based on City Capital Budget	
Waterdown	0 to 5 years	W7-S-19	Waterdown WWTP Decommissioning					\$ 6,000,000	\$ -	90%	\$ 5,400,000	0%	\$ -	\$ 600,000		X				Updated cost based on City Capital Budget	
<b>ANCASTER</b>																					
Ancaster	0 to 5 years	A13-S-19	Ancaster Industrial Park Area- Hydro Corridor	Shaver Rd	New road	820	450	\$ 863,000	\$ -	0%	\$ -	0%	\$ -	\$ 863,000		X	X	X		Updated length and alignment. Updated unit cost (inflation)	
Ancaster	0 to 5 years	A17-S-19	Area north of Garner Rd E / between Silver Maple Dr and Hwy 6	Garner Rd	30 m east of Silver Maple Dr	410	600	\$ 351,000	\$ 299,000	0%	\$ -	0%	\$ -	\$ 52,000	X	X	X	X		Updated length, updated unit cost (inflation)	
Ancaster	0 to 5 years	A20-S-19	Cormorant Rd extension	Tradewind Dr	Trinity Rd	740	1050	\$ 1,280,000	\$ 539,000	0%	\$ -	58%	\$ 741,000	\$ -		X	X	X		Updated length, updated unit cost (inflation)	
Ancaster	0 to 5 years	A21-S-19	Shaver Rd	Osprey Dr	Hydro Corridor	840	375	\$ 596,000	\$ -	0%	\$ -	0%	\$ -	\$ 596,000					X	New	
<b>AEGD/MT. HOPE</b>																					
AEGD/Mt. Hope	0 to 5 years	MH1-S-19	Twenty Rd	Silverbirch Blvd	Upper James St	2000	450	\$ 2,896,000	\$ -	0%	\$ -	0%	\$ -	\$ 2,896,000		X				Updated length, updated unit cost (inflation)	
AEGD/Mt. Hope	0 to 5 years	MH2-S-19	Southcote Rd	Hydro Corridor	Garner Rd	875	375	\$ 621,000	\$ -	0%	\$ -	0%	\$ -	\$ 621,000		X				Updated unit cost - inflation only	
AEGD/Mt. Hope	0 to 5 years	MH3-S-19	Garner Rd	Hwy 6	Kitty Murray Ln	1150	375	\$ 1,553,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,553,000		X				Updated unit cost - inflation only	
AEGD/Mt. Hope	0 to 5 years	MH4-S-19	Garner Rd	Kitty Murray Ln	Springbrook Ave	630	450	\$ 912,000	\$ -	0%	\$ -	0%	\$ -	\$ 912,000		X				Updated unit cost - inflation only	
AEGD/Mt. Hope	0 to 5 years	MH5-S-19	Smith Rd	Hydro Corridor	Garner Rd	700	375	\$ 497,000	\$ -	0%	\$ -	0%	\$ -	\$ 497,000		X				Updated unit cost - inflation only	
AEGD/Mt. Hope	0 to 5 years	MH6-S-19	Garner Rd	Springbrook Rd	Raymond Rd	880	600	\$ 1,531,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,531,000		X				Updated unit cost - inflation only	
AEGD/Mt. Hope	0 to 5 years	MH22-S-19	HC019 and HC018 Upgrade Strategy					\$ 10,900,000	\$ -	0%	\$ -	0%	\$ -	\$ 10,900,000					X	New	
AEGD/Mt. Hope	6 years to UBBO	MH10-S-19	Dickenson Rd Trunk Sewer	Garth St Extension	Upper James St	1200	750	\$ 2,670,000	\$ -	0%	\$ -	0%	\$ -	\$ 2,670,000		X	X	X		Updated length, updated unit cost (inflation)	
AEGD/Mt. Hope	6 years to UBBO	MH11-S-19	Book Rd Trunk Sewer	400 m west of Southcote	Smith Rd	830	600	\$ 710,000	\$ -	0%	\$ -	0%	\$ -	\$ 710,000		X	X	X		Updated length, updated unit cost (inflation)	
AEGD/Mt. Hope	6 years to UBBO	MH12-S-19	Smith Rd	Hydro Corridor	Book Rd	950	375	\$ 674,000	\$ -	0%	\$ -	0%	\$ -	\$ 674,000		X				Updated unit cost - inflation only	
AEGD/Mt. Hope	6 years to UBBO	MH13-S-19	Garth St Extension	Smith Rd	Dickenson Rd	2275	525	\$ 3,625,000	\$ 3,294,000	0%	\$ -	0%	\$ -	\$ 331,000		X				Updated unit cost - inflation only	
AEGD/Mt. Hope	6 years to UBBO	MH14-S-19	Glancaaster Rd	Airport	Garth St extension	450	375	\$ 319,000	\$ -	0%	\$ -	0%	\$ -	\$ 319,000		X				Updated unit cost - inflation only	
AEGD/Mt. Hope	6 years to UBBO	MH15-S-19	Glancaaster Rd	Dickenson Rd	Garth St extension	375	375	\$ 266,000	\$ -	0%	\$ -	0%	\$ -	\$ 266,000		X				Updated unit cost - inflation only	
AEGD/Mt. Hope	6 years to UBBO	MH16-S-19	Glancaaster Rd	Book Rd	Dickenson Rd	380	375	\$ 270,000	\$ -	0%	\$ -	0%	\$ -	\$ 270,000		X		X		Updated length, updated unit cost (inflation)	
AEGD/Mt. Hope	6 years to UBBO	MH17-S-19	Dickenson Rd	Garth St Extension	Smith Rd	2420	600	\$ 2,069,000	\$ -	0%	\$ -	0%	\$ -	\$ 2,069,000		X	X	X		Updated length, diameter and unit cost (inflation)	
AEGD/Mt. Hope	6 years to UBBO	MH18-S-19	Book Rd	Glancaaster Rd	Smith Rd	950	375	\$ 674,000	\$ -	0%	\$ -	0%	\$ -	\$ 674,000		X		X		Updated length, updated unit cost (inflation)	
AEGD/Mt. Hope	6 years to UBBO	MH19-S-19	Southcote Rd	Hydro Corridor	Book Rd	875	375	\$ 621,000	\$ -	0%	\$ -	0%	\$ -	\$ 621,000		X				Updated unit cost - inflation only	
AEGD/Mt. Hope	6 years to UBBO	MH20-S-19	Smith Rd	Book Rd	Garth St extension	675	375	\$ 479,000	\$ -	0%	\$ -	0%	\$ -	\$ 479,000		X		X		Updated length, updated unit cost (inflation)	
AEGD/Mt. Hope	6 years to UBBO	MH21-S-19	Southcote Rd	Book Rd	Garth St extension	525	375	\$ 372,000	\$ -	0%	\$ -	0%	\$ -	\$ 372,000		X		X	X	New - MH21 now gravity sewe - SPS project removed	
<b>BINBROOK</b>																					
Binbrook	0 to 5 years	B2-S-19	PS HCO58 Upgrade - Regional Rd. 56 at Southbrook Dr.	Electrical, mechanical upgrades to SPS and replacement of 3 pumps				340 L/s	\$ 1,076,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,076,000		X				Updated cost - inflation only
Binbrook	0 to 5 years	B10-S-19	Windwood Dr Extension	Fletcher Rd	Brigham Ave	850	600	\$ 727,000	\$ 619,000	0%	\$ -	0%	\$ -	\$ 108,000		X	X	X		Updated length, updated unit cost (inflation)	
Binbrook	0 to 5 years	B11-S-19	Binbrook Rd	Fletcher Rd	Brigham Ave	850	375	\$ 603,000	\$ -	0%	\$ -	0%	\$ -	\$ 603,000					X	Updated alignment, updated unit cost (inflation)	

TABLE F-3 - WASTEWATER CAPITAL PROGRAM

Area	Planning Period	Project ID	Project/Street	From	To	Length (m)	Size (mm)	Estimated Total Cost (\$2019)	Direct Developer Contribution (\$2019)	Benefit to Existing (%)	Benefit to Existing (\$2019)	Post Period Benefit (%)	Post Period Benefit (\$2019)	Development Charges (\$2019)	Updated Timing	Updated Cost	Scope Change: Location	Scope Change: Length and/or Size	Project Added	2014-2019 Change Details
<b>HAMILTON MOUNTAIN</b>																				
Hamilton Mountain	0 to 5 years	HM6-S-19	Dartnall Rd extension	Twenty Rd	730 m south	730	525	\$ 567,000	\$ 532,000	0%	\$ -	0%	\$ -	\$ 35,000		X	X	X		Updated length, updated unit cost (inflation)
Hamilton Mountain	0 to 5 years	HM9-S-19	Nebo Rd	250 m north of Twenty Rd East	480 m south of Rymal Rd	630	375	\$ 851,000	\$ -	0%	\$ -	0%	\$ -	\$ 851,000		X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM10-S-19	Upper Ottawa St	275 m north of Twenty Rd East	350 m south of Rymal Rd	675	375	\$ 479,000	\$ -	0%	\$ -	0%	\$ -	\$ 479,000		X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM20-S-19	Dickenson Rd Trunk Sewer	Upper James St	Miles Rd	2900	1200	\$ 44,200,000	\$ -	0%	\$ -	10%	\$ 4,420,000	\$ 39,780,000	X	X	X	X		Updated scope, length, alignment, cost from City Project Detail Sheet
Hamilton Mountain	0 to 5 years	HM26-S-19	Dickenson Rd Trunk Sewer	Miles Rd	RR 56	6800	1350	\$ 44,200,000	\$ -	0%	\$ -	10%	\$ 4,420,000	\$ 39,780,000	X	X	X	X		Updated scope, length, alignment, cost from City Project Detail Sheet
Hamilton Mountain	6 years to UBBO	HM3-S-19	Miles Rd	Connection of sewers east and west of Miles Rd		50	375	\$ 68,000	\$ -	0%	\$ -	0%	\$ -	\$ 68,000		X	X	X		Updated length, updated unit cost (inflation)
<b>STONEY CREEK UPPER</b>																				
Stoney Creek Upper	0 to 5 years	SCU5-S-19	Rymal Rd	Upper Centennial	2nd Rd West	1650	450	\$ 2,389,000	\$ -	0%	\$ -	0%	\$ -	\$ 2,389,000		X		X		Updated diameter, updated unit cost (inflation)
Stoney Creek Upper	6 years to UBBO	SCU11-S-14	Elfrida Collection Network					\$ 27,695,000	\$ 3,107,000	0%	\$ -	66%	\$ 18,279,000	\$ 6,309,000		X				Updated cost - inflation only
<b>STONEY CREEK LOWER</b>																				
Stoney Creek Lower	0 to 5 years	SCL1-S-19	South Service Rd	50 m east of Fifty Road	200 m east of Winona Rd	590	600	\$ 1,910,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,910,000		X	X	X		Updated length, updated unit cost (inflation)
Stoney Creek Lower	0 to 5 years	SCL2-S-19	Forcemain- South Service Rd	New SPS	30 m west	30	150	\$ 17,000	\$ -	0%	\$ -	0%	\$ -	\$ 17,000		X	X	X		Updated length, updated unit cost (inflation)
Stoney Creek Lower	0 to 5 years	SCL3-S-19	New Sewage Pumping Station at South Service Rd, east of Fifty Rd					\$ 352,000	\$ -	0%	\$ -	0%	\$ -	\$ 352,000		X				Updated cost - inflation only
Stoney Creek Lower	0 to 5 years	SCL11-S-19	Centennial Trunk Sewer	King St	ESI at Kenora Ave	3510	1500	\$ 17,324,000	\$ -	0%	\$ -	10%	\$ 1,732,400	\$ 15,591,600		X				Updated cost - inflation only
Stoney Creek Lower	0 to 5 years	SCL14-S-19	South Service Rd	50 m east of Fifty Road	500 m east	500	450	\$ 724,000	\$ 362,000	0%	\$ -	0%	\$ -	\$ 362,000		X	X	X		Updated length, updated unit cost (inflation)
Stoney Creek Lower	0 to 5 years	SCL17-S-19	Fifty Rd	South Service Rd	475 m south	475	675	\$ 1,387,000	\$ -	0%	\$ -	20%	\$ 277,000	\$ 1,110,000		X	X	X		Updated length, updated unit cost (inflation)
Stoney Creek Lower	0 to 5 years	SCL18-S-19	Barton St	Jones Rd	470 m east toward Glover	470	450	\$ 680,000	\$ -	0%	\$ -	0%	\$ -	\$ 680,000					X	New
Stoney Creek Lower	0 to 5 years	SCL19-S-19	Glover Rd	Hwy 8	500 m north, past Watercourse 7	500	450	\$ 724,000	\$ -	10%	\$ 72,000	0%	\$ -	\$ 652,000					X	New
Stoney Creek Lower	0 to 5 years	SCL20-S-19	Barton St	McNeilly Rd	200 m east of McNeilly Rd	200	375	\$ 270,000	\$ -	0%	\$ -	0%	\$ -	\$ 270,000					X	New
Stoney Creek Lower	0 to 5 years	SCL21-S-19	Barton St	200 m east of McNeilly Rd	Lewis Rd	600	450	\$ 869,000	\$ -	0%	\$ -	0%	\$ -	\$ 869,000					X	New
Stoney Creek Lower	0 to 5 years	SCL22-S-19	Barton St	Lewis Rd	350 m east of Lewis Rd	350	450	\$ 507,000	\$ -	10%	\$ 51,000	0%	\$ -	\$ 456,000					X	New
Stoney Creek Lower	0 to 5 years	SCL24-S-19	Barton St	350 m east of Fruitland Rd	200 m east	200	525	\$ 319,000	\$ -	10%	\$ 32,000	0%	\$ -	\$ 287,000					X	New
Stoney Creek Lower	0 to 5 years	SCL25-S-19	Jones St	350 south of Barton St	200 m south	200	450	\$ 290,000	\$ -	10%	\$ 29,000	0%	\$ -	\$ 261,000					X	New
Stoney Creek Lower	0 to 5 years	SCL26-S-19	Vortex Flow Insert Units for Centennial Trunk Sewer					\$ 800,000	\$ -	0%	\$ -	0%	\$ -	\$ 800,000					X	New
Stoney Creek Lower	0 to 5 years	SCL16-S-19	Millen Rd and easement (QEW Crossing)	South Service Rd	North Service Rd	120	450	\$ 1,125,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,125,000					X	New

TABLE F-4 - WASTEWATER CAPITAL WASTEWATER CAPITAL PROGRAM-CITYWIDE

Area	Planning Period	Project ID	Project	Description	Estimated Total Cost	Direct Developer Contribution	City Cost Share	Post Period Benefit	Development Charges (\$2019)	Updated Timing	Updated Cost	Scope Change: Location	Scope Change: Length and/or Size	Project Added	2014-2019 Change Details
City Wide Projects	0 to 5 years	CW1-S-19	Flow Monitoring	Total cost over a period of 2 - 2.5 years. Study being undertaken to know various flow characteristics to calibrate the Sanitary Sewer Model to assist the Master Planning Study	\$ 2,448,000	\$ -	\$ 1,224,000	\$ -	\$ 1,224,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW2-S-19	I/I Reduction Program	Program to free up extra capacity within the existing sewers - costs over five years	\$ 1,574,000	\$ -	\$ 787,000	\$ -	\$ 787,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW3-S-19	Annual Operational Improvements Outstations, 5160067052	Operational improvements to wastewater outstations to increase capacities.	\$ 611,000	\$ -	\$ 152,750	\$ -	\$ 458,250		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW4-S-19	Oversizing of Infrastructure-Sanitary	Oversizing of servicing infrastructure within subdivisions	\$ 611,000	\$ -	\$ -	\$ -	\$ 611,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW5-S-19	Land requirement for new sewage pumping stations and easements	Areas for SPS footprints and easements- 5 Ha	\$ 611,000	\$ -	\$ -	\$ -	\$ 611,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW6-S-19	Intensification Infrastructure Upgrades - Wastewater (0-5 years)	Upgrades to existing infrastructure to accommodate intensification	\$ 15,000,000	\$ -	\$ 7,500,000	\$ -	\$ 7,500,000		X		X		Updated cost; increased to account for additional anticipated intensification costs
City Wide Projects	0 to 5 years	CW15-S-19	Hwy 403 Trunk sewer twinning - Phase 1	MIP to Main-King	\$ 8,823,000	\$ -	\$ -	\$ -	\$ 8,823,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW18-S-19	Oversizing of Infrastructure-Sanitary	Oversizing of servicing infrastructure for subdivisions not identified on draft plans	\$ 1,171,000	\$ -	\$ -	\$ -	\$ 1,171,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW19-S-19	Regional Subdivider's Share for Local Improvements		\$ 257,000	\$ -	\$ -	\$ -	\$ 257,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW20-S-19	West Harbour Sanitary Pumping Station and Forcemain	New SPS at north end of Pier 7/8, storage tank and twin forcemain discharging to Ferguson/Burlington	\$ 15,000,000	\$ -	\$ 1,500,000	\$ -	\$ 13,500,000		X				Updated cost - City Estimate
City Wide Projects	0 to 5 years	CW22-S-19	Master Plan and additional studies		\$ 1,000,000	\$ -	\$ -	\$ -	\$ 1,000,000					X	New
City Wide Projects	6 years to UBBO	CW7-S-19	Intensification Infrastructure Upgrades - Wastewater	Upgrades to existing infrastructure to accommodate intensification	\$ 15,000,000	\$ -	\$ 7,500,000	\$ -	\$ 7,500,000		X		X		Updated cost; increased to account for additional anticipated intensification costs
City Wide Projects	6 years to UBBO	CW16-S-19	Hwy 403 Trunk sewer twinning - Phase 2	Royal CSO to MIP	\$ 7,656,000	\$ -	\$ -	\$ -	\$ 7,656,000		X				Updated cost - inflation only

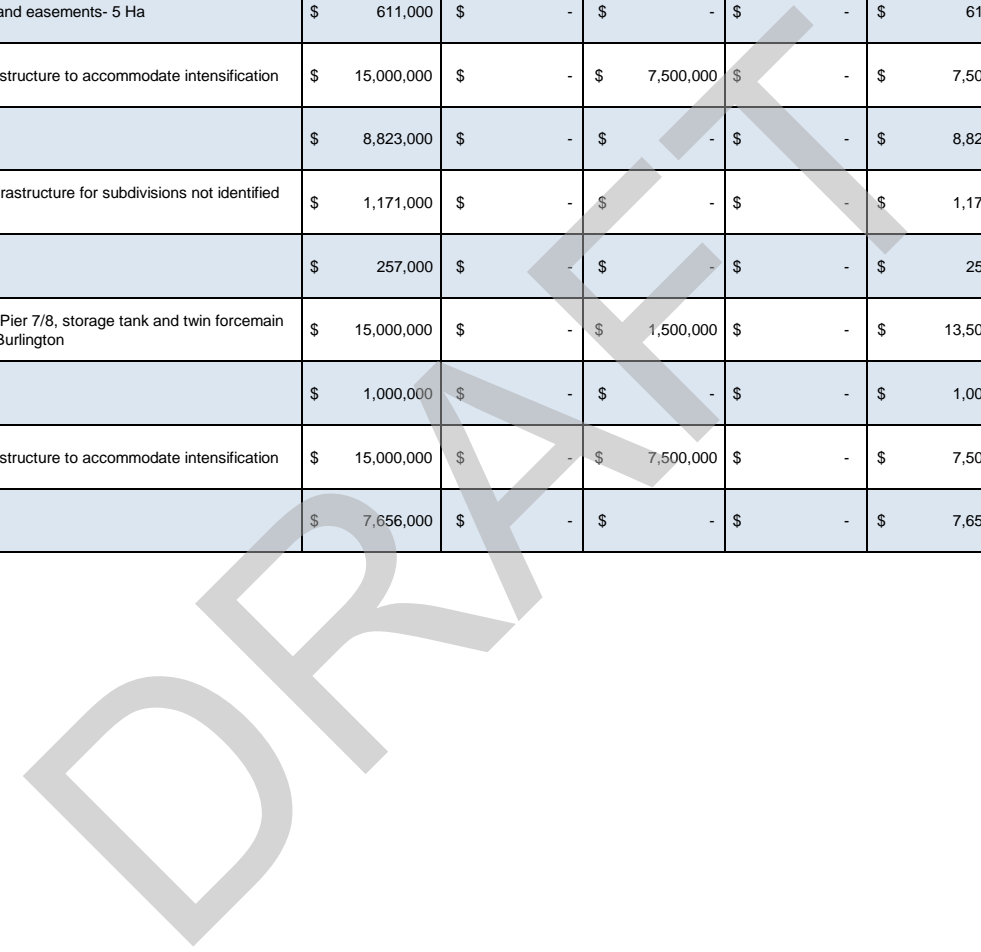


TABLE F-5 - WOODWARD WWTP CAPITAL PROGRAM

Project ID	Description	CAPITAL COST			DEVELOPMENT CHARGES								
		Capital Cost Estimate (\$2019)	Internal Staffing Cost Allocation (Not Eligible for Funding)	Capital Cost w Internal Staffing (\$)	Grants, Subsidies and Other Contributions Attributable to New Development	Project Cost Less Grants, Subsidies, etc (\$)	Growth (%)	Non-Growth (%)	Benefit to Existing (\$)	Growth Related Cost (\$)	Post Period (%)	Growth - Post Period (\$)	Growth - In Period DC APPLICABLE COST (\$)
1	Wastewater Pumping Station	\$ 94,537,613	\$ 1,436,662	\$ 95,974,275	\$ 56,987,925	\$ 38,986,350	18.84%	81.16%	\$ 31,641,095	\$ 7,345,254	25.00%	\$ 1,836,314	\$ 5,508,941
2a	Primary Clarifier - Primary Treatment (Phase 1 - CEPT) - Engineering Included	\$ 16,255,669	\$ -	\$ 16,255,669	\$ 5,195,046	\$ 11,060,623	18.84%	81.16%	\$ 8,976,738	\$ 2,083,885	25.00%	\$ 520,971	\$ 1,562,914
2b	Primary Clarifier - Primary Treatment (Phase 2 - Tanks) - Engineering Included	\$ 52,246,549	\$ -	\$ 52,246,549	\$ 34,831,033	\$ 17,415,516	18.84%	81.16%	\$ 14,134,332	\$ 3,281,184	25.00%	\$ 820,296	\$ 2,460,888
2c	Primary Clarifier - Other Costs (includes New/Expanded Laboratory/Admin Building)	\$ 11,857,782	\$ -	\$ 11,857,782	\$ -	\$ 11,857,782	52.92%	47.08%	\$ 5,582,644	\$ 6,275,138	25.00%	\$ 1,568,785	\$ 4,706,354
3	Tertiary Upgrades - North and South Secondary Treatment Plant Upgrades	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%	100.00%	\$ -	\$ -	0.00%	\$ -	\$ -
4a	Tertiary Upgrades - New Secondary/Tertiary Treatment Plant (Phase 1)	\$ 132,889,001	\$ 2,019,477	\$ 134,908,478	\$ 77,331,936	\$ 57,576,542	9.56%	90.44%	\$ 52,072,582	\$ 5,503,959	25.00%	\$ 1,375,990	\$ 4,127,969
4b	Tertiary Upgrades - New Secondary/Tertiary Treatment Plant (Phase 2)	\$ 224,800,000	\$ -	\$ 224,800,000	\$ -	\$ 224,800,000	100.00%	0.00%	\$ -	\$ 224,800,000	25.00%	\$ 56,200,000	\$ 168,600,000
5a	Chlorine Contact Tank and Outfall - Railway Re-Alignment	\$ -	\$ -	\$ -	\$ -	\$ -	19.88%	80.12%	\$ -	\$ -	25.00%	\$ -	\$ -
5b	Chlorine Contact Tank and Outfall - Secondary/Tertiary Chlorine contact Tank, Outfall and Red Hill Creek Upgrades	\$ 42,599,496	\$ 647,373	\$ 43,246,869	\$ 23,174,887	\$ 20,071,982	19.88%	80.12%	\$ 16,081,115	\$ 3,990,867	25.00%	\$ 997,717	\$ 2,993,150
7	Chlorine Contact Tank and Outfall - New Outfall (included in 5b project)	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%	100.00%	\$ -	\$ -	25.00%	\$ -	\$ -
8	Plant Expansion - Engineering (Projects 1, 4a, 4b, 5, 13) Phase 1	\$ 24,810,804	\$ -	\$ 24,810,804	\$ -	\$ 24,810,804	14.73%	85.27%	\$ 21,156,173	\$ 3,654,631	25.00%	\$ 913,658	\$ 2,740,974
8	Plant Expansion - Engineering (Projects 1, 4a, 4b, 5, 13) Phase 2	\$ 25,573,521	\$ -	\$ 25,573,521	\$ -	\$ 25,573,521	14.73%	85.27%	\$ 21,806,541	\$ 3,766,980	25.00%	\$ 941,745	\$ 2,825,235
8	Plant Expansion - Engineering (Projects 1, 4a, 4b, 5, 13) Phase 3	\$ 28,300,000	\$ -	\$ 28,300,000	\$ -	\$ 28,300,000	100.00%	0.00%	\$ -	\$ 28,300,000	25.00%	\$ 7,075,000	\$ 21,225,000
8	Plant Expansion - Engineering - Other Costs (includes WWE Modular Office Building)	\$ 5,623,839	\$ 2,804,250	\$ 8,428,089	\$ -	\$ 8,428,089	14.73%	85.27%	\$ 7,186,631	\$ 1,241,457	25.00%	\$ 310,364	\$ 931,093
6	Biogas Digester - New WAS Thickening Facility (forms part of the Digester Upgrades)	\$ -	\$ -	\$ -	\$ -	\$ -		100.00%	\$ -	\$ -	0.00%	\$ -	\$ -
9	Biogas Digester - Additional Dewatering Capacity	\$ -	\$ -	\$ -	\$ -	\$ -		100.00%	\$ -	\$ -	0.00%	\$ -	\$ -
10	Biogas Digester - Refurbishment of Digesters to Increase Capacity	\$ -	\$ -	\$ -	\$ -	\$ -		100.00%	\$ -	\$ -	0.00%	\$ -	\$ -
11a	Biogas Digester - Biogas Upgrades	\$ 45,005,784	\$ -	\$ 45,005,784	\$ 20,000,000	\$ 25,005,784	12.89%	87.11%	\$ 21,782,816	\$ 3,222,968	25.00%	\$ 805,742	\$ 2,417,226
11b	Biogas Digester - Digesters Upgrades	\$ 8,430,000	\$ -	\$ 8,430,000	\$ -	\$ 8,430,000	100.00%	0.00%	\$ -	\$ 8,430,000	25.00%	\$ 2,107,500	\$ 6,322,500
12	Biosolids Management Facility - Biosolids Thermal Reduction Disposal Facility	\$ 99,440,000	\$ -	\$ 99,440,000	\$ 14,300,000	\$ 85,140,000	18.84%	81.16%	\$ 69,099,130	\$ 16,040,870	25.00%	\$ 4,010,217	\$ 12,030,652
13a	Electrical System Upgrades - New Electrical and power systems - Phase 1	\$ 62,256,622	\$ 946,097	\$ 63,202,719	\$ 35,721,251	\$ 27,481,468	19.21%	80.79%	\$ 22,202,989	\$ 5,278,478	25.00%	\$ 1,319,620	\$ 3,958,859
13b	Electrical System Upgrades - New Electrical and power systems - Phase 2	\$ 34,844,000	\$ -	\$ 34,844,000	\$ -	\$ 34,844,000	100.00%	0.00%	\$ -	\$ 34,844,000	25.00%	\$ 8,711,000	\$ 26,133,000
14	Collection System Upgrades	\$ 10,176,000	\$ 154,642	\$ 10,330,642	\$ 6,784,000	\$ 3,546,642	0.00%	100.00%	\$ 3,546,642	\$ -	0.00%	\$ -	\$ -
	<b>Total</b>	\$ 919,646,680	\$ 8,008,501	\$ 927,655,181	\$ 274,326,079	\$ 653,329,102			\$ 295,269,430	\$ 358,059,672		\$ 89,514,918	\$ 268,544,754



# 19. Water Services

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Water Services

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 63%	Non-Residential Share 37%
1	Ancaster Water Distribution System	2019-2023	31,804,000	672,500		31,131,500	7,402,000		23,729,500	14,949,585	8,779,915
2	Waterdown Water Distribution System	2019-2023	20,414,000	811,000		19,603,000	3,554,000	408,000	15,641,000	9,853,830	5,787,170
3	Binbrook Water Distribution System	2019-2023	11,465,000	-		11,465,000	-	729,000	10,736,000	6,763,680	3,972,320
4	AEGD/Mount Hope Water Distribution System	2019-2023	761,000	-		761,000	-		761,000	479,430	281,570
5	AEGD/Mount Hope Water Distribution System	2024-2031	15,180,000	-		15,180,000	-	3,636,000	11,544,000	7,272,720	4,271,280
6	Hamilton Mountain Water Distribution System	2019-2023	48,495,700	6,636,970		41,858,730	-	1,277,000	40,581,730	25,566,490	15,015,240
7	Hamilton Mountain Water Distribution System	2024-2031	2,283,000	-		2,283,000	-	215,000	2,068,000	1,302,840	765,160
8	Stoney Creek Upper Water Distribution System	2019-2023	39,036,000	2,705,250		36,330,750	5,217,500	498,000	30,615,250	19,287,608	11,327,643
9	Stoney Creek Upper Water Distribution System	2024-2031	63,819,000	27,310,000		36,509,000	-	3,107,000	33,402,000	21,043,260	12,358,740
10	Stoney Creek Lower Water Distribution System	2019-2023	1,353,000	-		1,353,000	-		1,353,000	852,390	500,610
11	Stoney Creek Lower Water Distribution System	2024-2031	7,317,000	-		7,317,000	-		7,317,000	4,609,710	2,707,290
12	City Wide Water Distribution System	2019-2023	92,448,000	5,636,700		86,811,300	7,917,000		78,894,300	49,703,409	29,190,891
13	City Wide Water Distribution System	2024-2031	19,294,000	-		19,294,000	7,500,000		11,794,000	7,430,220	4,363,780
14	Existing Debt Principal (Discounted)	2019-2023	98,608	-		98,608	-		98,608	62,123	36,485
15	Existing Debt Interest (Discounted)	2019-2023	8,228	-		8,228	-		8,228	5,183	3,044
16	Growth Related Financing Costs (Discounted)	2019-2034	32,135,051	-		32,135,051	-		32,135,051	20,245,082	11,889,969
17	Provisional Post Period Benefit Deduction	2019-2031		35,000,000		(35,000,000)	-		(35,000,000)	(22,050,000)	(12,950,000)
18	Reserve Fund Adjustment		-	-		-	26,169,980		(26,169,980)	(16,487,087)	(9,682,893)
	<b>Total</b>		<b>385,911,587</b>	<b>78,772,420</b>	<b>-</b>	<b>307,139,167</b>	<b>57,760,480</b>	<b>9,870,000</b>	<b>239,508,687</b>	<b>150,890,473</b>	<b>88,618,214</b>

TABLE F-1 - WATER CAPITAL PROGRAM

Area	Planning Period	Project ID	Project/Street	From	To	Length (m)	Size (mm)	Estimated Total Cost (\$2019)	Direct Developer Contribution (\$2019)	Benefit to Existing	Benefit to Existing (\$2019)	Post Period Benefit (%)	Post Period Benefit (\$2019)	Development Charges (\$2019)	Updated Timing	Updated Cost	Scope Change: Location	Scope Change: Length and/or Size	Project Added	2014-2019 Change Details
<b>WATERDOWN</b>																				
Waterdown	0 to 5 years	W2-W-19	New Road	Sadielou Blvd	Mosaic Dr	700	400	\$ 680,000	\$ 408,000	0%	\$ -	0%	\$ -	\$ 272,000		X	X	X		Updated length and alignment, updated unit cost (inflation)
Waterdown	0 to 5 years	W6-W-19	HD016 Booster Station Upgrade, Back Up Power and Building Expansion	208 L/s	309 L/s		4 x 103 L/s	\$ 8,510,000	\$ -	10%	\$ 851,000	0%	\$ -	\$ 7,659,000		X				Updated cost based on City Capital Budget
Waterdown	0 to 5 years	W10-W-19	PD16 Feedermain - Valley Rd and Rock Chapel Rd	PS HD016	Dundas St/Algonquin Ave	2900	600	\$ 10,813,000	\$ -	25%	\$ 2,703,000	10%	\$ 811,000	\$ 7,299,000		X		X		Updated cost - inflation only; slight alignment update
Waterdown	0 to 5 years	W11-W-19	Up Country Estates - Dundas St	575 m west of Evans Ave	210 m west of Evans Ave	365	300	\$ 411,000	\$ -	0%	\$ -	0%	\$ -	\$ 411,000		X	X	X		Updated length, updated unit cost (inflation)
<b>ANCASTER</b>																				
Ancaster	0 to 5 years	A1-W-19	Garner Rd.	Southcote Rd	Fiddlers Green Rd	2060	600	\$ 9,936,000	\$ -	0%	\$ -	0%	\$ -	\$ 9,936,000		X				Updated cost - inflation only
Ancaster	0 to 5 years	A2-W-19	Shaver Rd	Westview Ave	Katsura Pl	800	300	\$ 902,000	\$ -	75%	\$ 677,000	0%	\$ -	\$ 225,000	X	X	X			Updated extents, updated unit cost (inflation)
Ancaster	0 to 5 years	A4-W-19	Ancaster Industrial Park - South Connection	McClure Rd Extension WM	Cormorant Dr (via Hydro Easement)	900	300	\$ 525,000	\$ -	0%	\$ -	0%	\$ -	\$ 525,000		X		X		Updated length, updated unit cost (inflation)
Ancaster	0 to 5 years	A16-W-19	Garner Rd	Fiddlers Green Rd	Hamilton Dr	1680	600	\$ 3,755,000	\$ -	0%	\$ -	0%	\$ -	\$ 3,755,000		X		X		Diameter updated from 500mm to 600mm; unit cost updated (inflation)
Ancaster	0 to 5 years	A17-W-19	Garner Rd	Hamilton Dr	Wilson St W	1800	500	\$ 3,236,000	\$ -	0%	\$ -	0%	\$ -	\$ 3,236,000		X				Updated unit cost - inflation only
Ancaster	0 to 5 years	A18-W-19	Reservoir W-H 18 (additional elevated storage) AEGD Proj B-20	North of Jerseyville Road - Final location to be determined			9.9 ML	\$ 13,450,000	\$ -	50%	\$ 6,725,000	10%	\$ 672,500	\$ 6,052,500	X	X	X			Updated capacity, location. Cost updated based on City Design Sheet
<b>AEGD/MT. HOPE</b>																				
AEGD/Mt. Hope	0 to 5 years	MH5-W-19	PD 18 Watermain on Southcote Rd	Garner Rd	383 m South	383	400	\$ 372,000	\$ -	0%	\$ -	0%	\$ -	\$ 372,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	0 to 5 years	MH12-W-19	PD 18 Watermain on Garner Rd and Glanaster Rd	HD018	New Road	400	400	\$ 389,000	\$ -	0%	\$ -	0%	\$ -	\$ 389,000		X	X	X		Updated length, updated unit cost (inflation)
AEGD/Mt. Hope	6 years to UBBO	MH1-W-19	PD 18 Watermain on Smith Rd	Garner Rd	389 m south	389	300	\$ 227,000	\$ -	0%	\$ -	0%	\$ -	\$ 227,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH2-W-19	PD 18 Watermain on new road	Southcote Rd	Smith Rd	417	400	\$ 405,000	\$ 243,000	0%	\$ -	0%	\$ -	\$ 162,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH3-W-19	PD 18 Watermain on Southcote Rd	New road	Hydro Corridor	700	400	\$ 660,000	\$ -	0%	\$ -	0%	\$ -	\$ 660,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH7-W-19	PD 6 Watermain on Book Rd	372 m east of Smith Rd	Smith Rd	372	400	\$ 361,000	\$ -	0%	\$ -	0%	\$ -	\$ 361,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH8-W-19	PD 18 Watermain on Southcote Rd	Book Rd	590 m north	590	300	\$ 344,000	\$ -	0%	\$ -	0%	\$ -	\$ 344,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH9-W-19	PD 18 Watermain on Smith Rd	Book Rd	603 m north	603	300	\$ 352,000	\$ -	0%	\$ -	0%	\$ -	\$ 352,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH10-W-19	PD 18 Watermain on new road	Smith Rd	421 m east	421	400	\$ 409,000	\$ 245,000	0%	\$ -	0%	\$ -	\$ 164,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH11-W-14	PD 6 Watermain on Glanaster Rd	Rymal Rd	Twenty Rd	1325	400	\$ 2,124,000	\$ -	0%	\$ -	0%	\$ -	\$ 2,124,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH13-W-19	PD 18 Watermain on new road	Raymond Rd Extension	863 m west	863	400	\$ 839,000	\$ 503,000	0%	\$ -	0%	\$ -	\$ 336,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH14-W-19	PD 18 Watermain on new road	Raymond Rd Extension	552 m east	552	400	\$ 536,000	\$ 322,000	0%	\$ -	0%	\$ -	\$ 214,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH15-W-19	PD 6 Watermain on Dickenson Rd	Garth St Extension	953 m west	953	300	\$ 556,000	\$ -	0%	\$ -	0%	\$ -	\$ 556,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH16-W-19	PD 18 Watermain on Southcote Rd	Hydro Corridor	293 m south	293	400	\$ 285,000	\$ -	0%	\$ -	0%	\$ -	\$ 285,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH17-W-19	PD 6 Watermain on Smith Rd	Book Rd	259 m south	259	400	\$ 252,000	\$ -	0%	\$ -	0%	\$ -	\$ 252,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH18-W-19	PD 18 Watermain on Smith Rd	Hydro Corridor	627 m north	627	300	\$ 366,000	\$ -	0%	\$ -	0%	\$ -	\$ 366,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH19-W-19	PD 18 Watermain on Smith Rd	Hydro Corridor	350 m south	350	300	\$ 204,000	\$ -	0%	\$ -	0%	\$ -	\$ 204,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH22-W-19	PD 6 Watermain on Book Rd	Glanaster Rd	595 m west	595	400	\$ 578,000	\$ -	0%	\$ -	0%	\$ -	\$ 578,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH23-W-19	PD 6 Watermain on Dickenson Rd	Glanaster Rd	598 m east	598	300	\$ 349,000	\$ -	0%	\$ -	0%	\$ -	\$ 349,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH24-W-19	PD 6 Watermain on new Garth St Extension	Dickenson Rd	837 m north	837	400	\$ 813,000	\$ 488,000	0%	\$ -	0%	\$ -	\$ 325,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH25-W-19	PD 6 Watermain on Dickenson Rd	Garth St	870 m east	870	300	\$ 507,000	\$ -	0%	\$ -	0%	\$ -	\$ 507,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH26-W-19	PD 6 Watermain on new Garth St Extension	Glanaster Rd	1365 m east	1365	400	\$ 1,326,000	\$ 796,000	0%	\$ -	0%	\$ -	\$ 530,000		X	X			Updated length, updated unit cost (inflation)
AEGD/Mt. Hope	6 years to UBBO	MH27-W-19	PD 6 Watermain on new Garth St Extension	Dickenson Rd	MH26-W-19	600	400	\$ 583,000	\$ 350,000	0%	\$ -	0%	\$ -	\$ 233,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH28-W-19	PD 6 Watermain on Smith Rd	265 m south of Book Rd	625 m south of Book Rd	322	400	\$ 313,000	\$ -	0%	\$ -	0%	\$ -	\$ 313,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH29-W-19	PD 6 Watermain on new Garth St Extension	Twenty Rd	662 m south	662	400	\$ 643,000	\$ 386,000	0%	\$ -	0%	\$ -	\$ 257,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH30-W-19	PD 6 Watermain on Book Rd	Smith Rd	Southcote Rd	397	400	\$ 386,000	\$ -	0%	\$ -	0%	\$ -	\$ 386,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH44-W-19	PD 6 Watermain on new Garth St extension	Glanaster Rd	Smith Rd	520	400	\$ 505,000	\$ 303,000	0%	\$ -	0%	\$ -	\$ 202,000		X		X		Updated length, updated unit cost (inflation)
AEGD/Mt. Hope	6 years to UBBO	MH45-W-19	PD 6 Watermain on Southcote Rd	Book Rd	590 m south	500	300	\$ 292,000	\$ -	0%	\$ -	0%	\$ -	\$ 292,000					X	New
AEGD/Mt. Hope	6 years to UBBO	MH46-W-19	PD 6 Watermain on Book Rd	Southcote Rd	420 m west	420	300	\$ 245,000	\$ -	0%	\$ -	0%	\$ -	\$ 245,000					X	New
AEGD/Mt. Hope	6 years to UBBO	MH47-W-19	PD 18 Watermain on Book Rd	West of Southcote Rd	East of Smith Rd	1200	300	\$ 700,000	\$ -	0%	\$ -	0%	\$ -	\$ 700,000					X	New



TABLE F-1 - WATER CAPITAL PROGRAM

Area	Planning Period	Project ID	Project/Street	From	To	Length (m)	Size (mm)	Estimated Total Cost (\$2019)	Direct Developer Contribution (\$2019)	Benefit to Existing	Benefit to Existing (\$2019)	Post Period Benefit (%)	Post Period Benefit (\$2019)	Development Charges (\$2019)	Updated Timing	Updated Cost	Scope Change: Location	Scope Change: Length and/or Size	Project Added	2014-2019 Change Details
<b>BINBROOK</b>																				
Binbrook	0 to 5 years	B2-W-19	HD 019 Pumping Station Expansion	Regional Rd. 56				\$ 1,650,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,650,000	X	X				Updated cost based on City Capital Budget
Binbrook	0 to 5 years	B4-W-19	Pumpkin Pass	West end of Cutts Cres and Pumpkin Pass	Fletcher Rd	400	400	\$ 389,000	\$ 233,000	0%	\$ -	0%	\$ -	\$ 156,000		X	X	X		Updated length, updated unit cost (inflation)
Binbrook	0 to 5 years	B5-W-19	Fletcher Rd	Binbrook Rd	Pumpkin Pass	400	400	\$ 389,000	\$ -	0%	\$ -	0%	\$ -	\$ 389,000		X				Updated unit cost - inflation only
Binbrook	0 to 5 years	B6-W-19	Binbrook Rd	West of Royal Winter Blvd	Fletcher Rd	850	400	\$ 826,000	\$ -	0%	\$ -	0%	\$ -	\$ 826,000		X	X	X		Updated length, updated unit cost (inflation)
Binbrook	0 to 5 years	B7-W-19	Binbrook Trunk Feedermain - Fletcher's Rd and Cemetery Rd	Hydro Corridor	HD019	6950	400	\$ 6,753,000	\$ -	0%	\$ -	0%	\$ -	\$ 6,753,000		X	X			Updated unit cost - inflation only
Binbrook	0 to 5 years	B8-W-19	Fletcher Rd	Binbrook Rd	Binhaven Boulevard Extension	650	400	\$ 632,000	\$ -	0%	\$ -	0%	\$ -	\$ 632,000		X	X			Updated unit cost - inflation only
Binbrook	0 to 5 years	B9-W-19	Binhaven Boulevard Extension	Brigham Ave	Fletcher Rd	850	400	\$ 826,000	\$ 496,000	0%	\$ -	0%	\$ -	\$ 330,000		X	X	X		Updated length, updated unit cost (inflation)
<b>HAMILTON MOUNTAIN</b>																				
Hamilton Mountain	0 to 5 years	HM2-W-19	Terni Blvd extension	140m West of Upper Gage Ave	Miles Rd	430	400	\$ 418,000	\$ 251,000	0%	\$ -	0%	\$ -	\$ 167,000		X	X	X		Updated length, updated unit cost (inflation)
Hamilton Mountain	0 to 5 years	HM3-W-19	Terni Blvd extension	Miles Rd	300m west	300	400	\$ 292,000	\$ 175,000	0%	\$ -	0%	\$ -	\$ 117,000	X	X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM4-W-19	Miles Rd	West extension of Terni Blvd	East extension of Terni Blvd	50	400	\$ 80,000	\$ -	0%	\$ -	0%	\$ -	\$ 80,000	X	X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM5-W-19	Vineberg Dr	140m east of Upper Wentworth St	570m east of Upper Wentworth St	430	400	\$ 418,000	\$ 251,000	0%	\$ -	0%	\$ -	\$ 167,000		X		X		Updated length, updated unit cost (inflation)
Hamilton Mountain	0 to 5 years	HM8-W-19	Twenty Rd Extension	Glover Rd	Trinity Church Rd	580	400	\$ 564,000	\$ 338,000	0%	\$ -	0%	\$ -	\$ 226,000		X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM12-W-19	Nebo Rd	Dickenson Rd	Hydro Corridor	350	300	\$ 395,000	\$ -	0%	\$ -	0%	\$ -	\$ 395,000		X	X	X		Updated length, updated unit cost (inflation)
Hamilton Mountain	0 to 5 years	HM13-W-19	Dickenson Rd	Nebo Rd	800m east of Nebo Rd.	800	300	\$ 902,000	\$ -	0%	\$ -	0%	\$ -	\$ 902,000	X	X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM15-W-19	Dartnall Rd and new road alignment	Twenty Rd	Dickenson Rd	1475	300	\$ 860,000	\$ -	0%	\$ -	0%	\$ -	\$ 860,000		X	X	X		Updated length, updated unit cost (inflation)
Hamilton Mountain	0 to 5 years	HM18-W-19	Extension of Terni Blvd	590m east of Upper Wentworth St	300m west of Miles Rd	450	400	\$ 437,000	\$ 262,000	0%	\$ -	0%	\$ -	\$ 175,000	X	X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM20-W-19	Stone Church Trunk Feedermain	First Rd W	HD06B	5420	1050	\$ 28,269,700	\$ -	0%	\$ -	10%	\$ 2,826,970	\$ 25,442,730	X	X	X	X		Updated alignment; cost update from City
Hamilton Mountain	0 to 5 years	HM26-W-19	Rymal Rd E	Nebo Rd	Dartnall Rd	550	300	\$ 620,000	\$ -	0%	\$ -	0%	\$ -	\$ 620,000		X		X		Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM28-W-19	PD7 Elevated Tank	Trinity Church Rd/ Twenty Rd (Exact location to be determined)			9.9 ML	\$ 15,240,000	\$ -	0%	\$ -	25%	\$ 3,810,000	\$ 11,430,000		X	X	X		Updated capacity, location. Cost updated based on City Project Sheet
Hamilton Mountain	6 years to UBBO	HM1-W-19	Crerar Dr	160m North of Stone Church Rd	Stone Church Rd.	160	400	\$ 155,000	\$ 93,000	0%	\$ -	0%	\$ -	\$ 62,000		X				Updated unit cost - inflation only
Hamilton Mountain	6 years to UBBO	HM21-W-19	New East-West alignment	Upper Sherman Ave	Acadia Dr	210	400	\$ 204,000	\$ 122,000	0%	\$ -	0%	\$ -	\$ 82,000		X	X	X		Updated length, updated unit cost (inflation)
Hamilton Mountain	6 years to UBBO	HM27-W-19	Upper Wentworth / Turner Park / Twenty Rd	South Limit at Hydro Corridor	Springside Dr	1980	400	\$ 1,924,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,924,000	X	X				Updated unit cost - inflation only
<b>STONE CREEK UPPER</b>																				
Stoney Creek Upper	0 to 5 years	SCU6-W-19	First Rd W	Green Mountain Rd	Glover Mountain Rd	855	400	\$ 831,000	\$ 498,000	0%	\$ -	0%	\$ -	\$ 333,000		X	X	X		Updated length, updated unit cost (inflation)
Stoney Creek Upper	0 to 5 years	SCU12-W-19	PD5 Trunk Feedermain - Valve Chamber to Mud St	Valve Chamber 3B	Mud St W	2500	1200	\$ 11,400,000	\$ -	0%	\$ -	10%	\$ 1,140,000	\$ 10,260,000		X	X	X		Updated length and alignment, updated cost from City
Stoney Creek Upper	0 to 5 years	SCU16-W-19	Upper Mount Albion Rd	235 m south of Highland Rd W	Highland Rd W	235	300	\$ 265,000	\$ -	0%	\$ -	0%	\$ -	\$ 265,000		X	X			Updated unit cost - inflation only
Stoney Creek Upper	0 to 5 years	SCU18-W-19	PS W-H5A Upgrades					\$ 20,870,000	\$ -	25%	\$ 5,217,500	10%	\$ 1,565,250	\$ 14,087,250		X				Updated cost from City Detail Sheet
Stoney Creek Upper	0 to 5 years	SCU23-W-19	PD5 Trunk Feedermain - HD05A to Valve Chamber	HD05A	Valve Chamber 3B	240	1200	\$ 5,670,000	\$ -	0%	\$ -	0%	\$ -	\$ 5,670,000					X	New
Stoney Creek Upper	6 years to UBBO	SCU7-W-19	Highland Reservoir HDR07 (additional storage)				5.5 ML	\$ 12,420,000	\$ -	0%	\$ -	25%	\$ 3,105,000	\$ 9,315,000		X				Cost based on City Project Sheet
Stoney Creek Upper	6 years to UBBO	SCU17-W-19	Elfrida Distribution Network					\$ 27,695,000	\$ 3,107,000	0%	\$ -	66%	\$ 18,279,000	\$ 6,309,000		X				Updated cost - inflation only
Stoney Creek Upper	6 years to UBBO	SCU21-W-19	New Zone 7 Booster Pumping Station	Upper Centennial Pkwy and Rymal Rd E			55 MLD	\$ 19,480,000	\$ -	0%	\$ -	25%	\$ 4,870,000	\$ 14,610,000		X				Updated capacity. Cost updated based on City Project Sheet
Stoney Creek Upper	6 years to UBBO	SCU22-W-19	Upper Centennial Pkwy	Mud St	New PD 7 Booster Station	1890	600	\$ 4,224,000	\$ -	0%	\$ -	25%	\$ 1,056,000	\$ 3,168,000		X	X	X		Updated length, updated unit cost (inflation)
<b>STONE CREEK LOWER</b>																				
Stoney Creek Lower	0 to 5 years	SCL4-W-19	Replacement on Lewis Rd	Hwy 8	Barton St	500	300	\$ 564,000	\$ -	0%	\$ -	0%	\$ -	\$ 564,000	X	X				Updated cost - inflation only
Stoney Creek Lower	0 to 5 years	SCL6-W-19	Glover Rd	Barton St	Service Rd Extension	700	300	\$ 789,000	\$ -	0%	\$ -	0%	\$ -	\$ 789,000		X				Updated cost - inflation only
Stoney Creek Lower	6 years to UBBO	SCL7-W-19	Millen Rd	South Service Rd	Arvin Ave	670	400	\$ 1,074,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,074,000		X		X		Updated length, updated unit cost (inflation)
Stoney Creek Lower	6 years to UBBO	SCL8-W-19	South Service Rd	Fruitland Rd	Jones Rd	950	400	\$ 1,523,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,523,000		X		X		Updated length, updated unit cost (inflation)
Stoney Creek Lower	6 years to UBBO	SCL9-W-19	South Service Rd	Millen Rd	Seaman St	1600	400	\$ 2,565,000	\$ -	0%	\$ -	0%	\$ -	\$ 2,565,000		X				Updated cost - inflation only
Stoney Creek Lower	6 years to UBBO	SCL10-W-19	Dewitt Rd	CNR Tracks	Barton St	610	300	\$ 688,000	\$ -	0%	\$ -	0%	\$ -	\$ 688,000		X				Updated cost - inflation only
Stoney Creek Lower	6 years to UBBO	SCL11-W-19	Jones Rd	South Service Rd	Barton St	915	400	\$ 1,467,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,467,000		X				Updated cost - inflation only



TABLE F-2 - WATER CAPITAL PROGRAM - CITYWIDE

Area	Planning Period	Project ID	Project	Description	Estimated Total Cost	Direct Developer Contribution	City Cost Share	Post Period Benefit	Development Charges (\$2019)	Updated Timing	Updated Cost	Scope Change: Location	Scope Change: Length and/or Size	Project Added	2014-2019 Change Details
City Wide Projects	0 to 5 years	CW1-W-19	Oversizing of Infrastructure-Watermains	Oversizing of servicing infrastructure within subdivisions	\$ 306,000	\$ -	\$ -	\$ -	\$ 306,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW2-W-19	Regional Subdivider's Share for Local Improvements		\$ 1,161,000	\$ -	\$ -	\$ -	\$ 1,161,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW3-W-19	Intensification Infrastructure Upgrades - Water (0-5 years)	Upgrades to existing infrastructure to accommodate intensification	\$ 15,000,000	\$ -	\$ 7,500,000	\$ -	\$ 7,500,000		X		X		Updated cost; increased to account for additional anticipated intensification costs
City Wide Projects	0 to 5 years	CW5-W-19	HD12A Governor's Rd Pumping Station Upgrades	Additional pumping capacity new pump and new standby power (3ML/d)	\$ 3,518,000	\$ -	\$ -	\$ -	\$ 3,518,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW6-W-19	Governor's Rd PD 11 Watermain Extension	Twin Watermain feeding HD12A (220 m 400mm)	\$ 1,560,000	\$ -	\$ -	\$ -	\$ 1,560,000		X				Updated Cost - City Estimate
City Wide Projects	0 to 5 years	CW7-W-19	Governor's Rd PD 22 Watermain Extension	New watermain from HD12A to PD22 on Governor's Rd and Moss Blvd (1000m 300 mm)	\$ 1,340,000	\$ -	\$ -	\$ -	\$ 1,340,000		X				Updated Cost - City Estimate
City Wide Projects	0 to 5 years	CW12-W-19	Woodward WTP	Sedimentation Tank and Pre-Chlorination Upgrades (MP W-17 & W-18)	\$ 56,367,000	\$ -	\$ -	\$ 5,636,700	\$ 50,730,300		X				Updated Cost - City Estimate
City Wide Projects	0 to 5 years	CW14-W-19	Oversizing of Infrastructure-Watermains	Oversizing of servicing infrastructure for subdivisions not identified on draft plans	\$ 7,261,000	\$ -	\$ -	\$ -	\$ 7,261,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW15-W-19	Large diameter and cut-in valves on existing watermains		\$ 1,405,000	\$ -	\$ -	\$ -	\$ 1,405,000		X		X		Updated cost and combined with previous project CW13
City Wide Projects	0 to 5 years	CW23-W-19	Master Plan and additional studies		\$ 1,000,000				\$ 1,000,000					X	New
City Wide Projects	0 to 5 years	CW24-W-19	Freelton Well (FDF01) Capacity Increase	Increase the capacity of the Freelton municipal well in order to meet the ultimate water demand of the Freelton Rural Settlement Area	\$ 3,530,000	\$ -	\$ 417,000	\$ -	\$ 3,113,000					X	New
City Wide Projects	6 years to UBBO	CW4-W-19	Intensification Infrastructure Upgrades - Water	Upgrades to existing infrastructure to accommodate intensification	\$ 15,000,000	\$ -	\$ 7,500,000	\$ -	\$ 7,500,000		X		X		Updated cost; increased to account for additional anticipated intensification costs
City Wide Projects	6 years to UBBO	CW11-W-19	Locke St Watermain	Locke St from Barton St to Main St (1500 m; 500 mm)	\$ 4,294,000	\$ -	\$ -	\$ -	\$ 4,294,000		X		X		

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# 20. Stormwater Services

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Stormwater Works &amp; Studies (excluding Facilities) - Within Separated Sewer System

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 44%	Non-Residential Share 56%
	<b>2019-2031</b>										
1	Open Watercourses - Channel System Improvements - Residential (Category A)	2019-2023	2,913,000	-		2,913,000	-		2,913,000	1,281,720	1,631,280
2	Open Watercourses - Channel System Improvements - Residential (Category A)	2024-2028	1,410,000	-		1,410,000	-		1,410,000	620,400	789,600
3	Open Watercourses - Channel System Improvements - Residential (Category A)	2029-2031	15,650,000	-		15,650,000	-		15,650,000	6,886,000	8,764,000
4	Open Watercourses - Channel System Improvements - Non-Residential (Category A)	2019-2023	1,590,000	-		1,590,000	795,000		795,000	349,800	445,200
5	Open Watercourses - Channel System Improvements - Non-Residential (Category A)	2029-2031	21,497,000	-		21,497,000	2,667,500		18,829,500	8,284,980	10,544,520
6	Off Site Erosion Works (Category B)	2019-2031	25,804,837	-		25,804,837	12,339,935		13,464,902	5,924,557	7,540,345
7	Oversizing of trunk sewers and culverts (Category D)	2019-2023	12,498,070	-		12,498,070	-		12,498,070	5,499,151	6,998,919
8	Oversizing of trunk sewers and culverts (Category D)	2024-2028	2,784,639	-		2,784,639	-		2,784,639	1,225,241	1,559,398
9	Culverts and Bridges not previously identified (Category E)	2019-2022	2,191,800	-		2,191,800	337,200		1,854,600	816,024	1,038,576
10	Culverts and Bridges not previously identified (Category E)	2023-2031	7,249,800	-		7,249,800	1,331,940		5,917,860	2,603,858	3,314,002
11	GRIDS Related Open Watercourses	2019-2031	19,497,638	-		19,497,638	-		19,497,638	8,578,961	10,918,677
12	Existing Debt on Growth Related Projects - Principal (Discounted)	2019-2031	212,923	-		212,923	-		212,923	93,686	119,237
13	Existing Debt on Growth Related Projects - Interest (Discounted)	2019-2031	61,539	-		61,539	-		61,539	27,077	34,462
14	Reserve Fund Adjustment		1,243,801			1,243,801	-		1,243,801	547,273	696,529
	<b>Stormwater Studies:</b>										
15	Stormwater Management Monitoring (Separated System)	2019-2031	8,000,000	-		8,000,000	-		8,000,000	3,520,000	4,480,000
16	Specific Area Water Shed Master Plans for Separated System Area	2019-2031	3,750,000	-		3,750,000	-		3,750,000	1,650,000	2,100,000
17	Airport Block Servicing Studies (Separated System)	2019-2028	6,000,000	-		6,000,000	-		6,000,000	2,640,000	3,360,000
18	Cherry Beach EA & Preliminary Design Study (Lower Stoney Creek) (Separated System)	2022	500,000	-		500,000	-		500,000	220,000	280,000

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Stormwater Works &amp; Studies (excluding Facilities) - Within Separated Sewer System

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 44%	Non-Residential Share 56%
19	Falkirk East Storm Drainage Study (Separated System)	2025	500,000	-		500,000	-		500,000	220,000	280,000
20	Stoney Creek Watercourse 6 Drainage Improvements Hwy. 8 to Lake Ontario (Separated System)	2019	1,500,000	-		1,500,000	-		1,500,000	660,000	840,000
21	Stoney Creek Watercourse 7 Drainage Improvements Upstream of Barton to Hwy. 8 (Separated System)	2020	750,000	-		750,000	-		750,000	330,000	420,000
22	Watercourse 10 - S.C.U.B.E. Drainage Improvement Study (Separated System)	2020	500,000	-		500,000	-		500,000	220,000	280,000
23	Stormwater Master Plan Update - City Wide (Proportion for Separated Sewer System)	2019	208,717	-		208,717	41,743		166,973	73,468	93,505
24	Stormwater Master Plan Update - City Wide (Proportion for Separated Sewer System)	2024	1,252,301	-		1,252,301	250,460		1,001,840	440,810	561,031
25	Stormwater Master Plan Update - City Wide (Proportion for Separated Sewer System)	2029	1,252,301	400,736		851,564	250,460		601,104	264,486	336,618
26	Unidentified Studies (Separated System)	2019-2031	2,500,000	-		2,500,000	-		2,500,000	1,100,000	1,400,000
	<b>Total</b>		<b>141,318,366</b>	<b>400,736</b>	<b>-</b>	<b>140,917,630</b>	<b>18,014,239</b>	<b>-</b>	<b>122,903,392</b>	<b>54,077,492</b>	<b>68,825,899</b>

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Stormwater Facilities - Within Separated Sewer System

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 100%	Non-Residential Share 0%
1	Stormwater Management Quality/Quantity Facilities - Residential	2019-2023	87,987,899	-		87,987,899	-		87,988,000	87,988,000	-
2	Stormwater Management Quality/Quantity Facilities - Residential	2024-2031	86,014,925	-		86,014,925	5,922,300		80,093,000	80,093,000	-
3	Provision for Non-Residential Portion of Residential Ponds	2019-2031	(1,022,108)	-		(1,022,108)	-		(1,022,000)	(1,022,000)	-
4	Stormwater Management Quality/Quantity Facilities - Non-Residential	2019-2023	4,122,067	-		4,122,067	675,200	3,446,867	-	-	-
5	Stormwater Management Quality/Quantity Facilities - Non-Residential	2024-2031	103,879,110	-		103,879,110	2,018,178	101,860,932	-	-	-
6	Provision for Residential Portion of Non-Residential Ponds	2024-2031	651,896	-		651,896	-		652,000	652,000	-
7	GRIDS Related SWM Projects - Residential Portion	2019-2031	98,626,698	-		98,626,698	-		98,627,000	98,627,000	-
8	GRIDS Related SWM Projects - Non-Residential Portion	2019-2031	179,980,176	59,113,323		120,866,853	-	120,866,853	-	-	-
9	Provision for Stormwater Credits	2019-2031	28,922,863	-		28,922,863	-		28,922,863	28,922,863	-
10	Provision for Best Efforts Agreements	2019-2031	952,693	-		952,693	-		952,693	952,693	-
11	Reserve Fund Adjustment		2,942,503	-		2,942,503	-		2,942,503	2,942,503	-
	<b>Total</b>		<b>593,058,722</b>	<b>59,113,323</b>	<b>-</b>	<b>533,945,399</b>	<b>8,615,678</b>	<b>226,174,652</b>	<b>299,156,059</b>	<b>299,156,059</b>	<b>-</b>

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Stormwater Facilities - Within Combined Sewer System

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 100%	Non-Residential Share 0%
1	Stormwater Management Quality/Quantity Facilities (Combined)	2024-2031	6,000,000	-		6,000,000	-		6,000,000	6,000,000	-
2	Oversizing of trunk sewers and culverts (Category D)	2019-2023	2,000,000	-		2,000,000	-		2,000,000	2,000,000	-
3	Oversizing of trunk sewers and culverts (Category D)	2025-2031	1,000,000	-		1,000,000	-		1,000,000	1,000,000	-
	<b>Stormwater Studies:</b>										
4	Specific Area Water Shed Master Plans for Combined Sewer Area	2019-2031	3,750,000	-		3,750,000	-		3,750,000	3,750,000	-
5	Ainslie Wood Westdale Stormwater Drainage Master Plan (Combined System)	2019	750,000	-		750,000	-		750,000	750,000	-
6	Ainsliewood/Westdale Neighbourhoods Class EA (Combined System)	2023	340,000	-		340,000	-		340,000	340,000	-
7	Unidentified Studies (Combined System)	2019-2031	2,500,000	-		2,500,000	-		2,500,000	2,500,000	-
8	Stormwater Master Plan Update - City Wide (Proportion for Combined Sewer System)	2019	41,283	-		41,283	8,257		33,027	33,027	-
9	Stormwater Master Plan Update - City Wide (Proportion for Combined Sewer System)	2024	247,699	-		247,699	49,540		198,160	198,160	-
10	Stormwater Master Plan Update - City Wide (Proportion for Combined Sewer System)	2029	247,699	79,264		168,436	49,540		118,896	118,896	-
11	Reserve Fund Adjustment		76,961	-		76,961	-		76,961	76,961	-
	<b>Total</b>		<b>16,953,643</b>	<b>79,264</b>	<b>-</b>	<b>16,874,379</b>	<b>107,336</b>	<b>-</b>	<b>16,767,043</b>	<b>16,767,043</b>	<b>-</b>

**APPENDIX G-1: CATEGORY A - OPEN WATERCOURSES: CHANNEL SYSTEM IMPROVEMENTS (IDENTIFIED PROJECTS) RESIDENTIAL**

Category			Project Title	Study Year	Drainage Area (ha)	Purpose	SWMF/ Drainage Work						Estimated Total Cost (Rounded)(\$)	Growth Related %	Net Total Cost (\$)	
Primary Dev. Areas	Build Out (yr)	Secondary					Type of Work	Location of Work	Type	Description	Length (m)	2014 Estimated Capital Cost (\$)				2019 Estimated Capital Cost (\$)
ANC	6+	A	Garner Road EA	2013			5 structures	Garner Rd Hwy 6 to Glancaster				1,250,000	1,405,000	1,410,000	100	1,410,000
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1989		Erosion Control and Channel System Improvements	Lower culvert by 0.4 m - South Service Rd. under w/c #6					163,182	183,417	180,000	100	180,000
SCL	11+	A	SCUBE - Barton Street	2013		road crossings at existing watercourses	7 structures (3@\$400k, 4@\$750k)	Fruitland to Fifty				4,200,000	4,720,800	4,720,000	100	4,720,000
SCL	0-5	A	SCUBE Block 1	2017		road crossings at existing watercourses	1 structure	Fruitland to N/S Collector				750,000	843,000	843,000	100	843,000
SCL	0-5		SCUBE Block 2	2017		road crossings at existing watercourses	2 structures	Jones to Glover				1,500,000	1,686,000	1,690,000	100	1,690,000
SCM	11+	A	ELFRIDA Secondary Plan major roads xngs	2017		road crossings at existing watercourses	20 culverts (6 small, 6 med, 8 large)	ELFRIDA SP				4,215,000	4,737,660	4,740,000	100	4,740,000
WAT	11+	A	East West Corridor - North Waterdown Drive	2012		road crossings at existing watercourses	6 culverts (med)	EW2,3,4,7,8,EW9					1,011,600	1,010,000	100	1,010,000
WAT	11+	A	East West Corridor - North Waterdown Drive	2012		road crossings at existing watercourses	1 structure	EW5					5,000,000	5,000,000	100	5,000,000
WAT	0-5	A	Parkside Drive EA	2013			2 culverts (med)	Parkside Dr Hwy 6 to Hollybush				337,200	379,013	380,000	100	380,000
<b>Total Residential</b>												<b>12,415,382</b>	<b>19,966,490</b>	<b>19,973,000</b>	<b>100</b>	<b>19,973,000</b>

ANC: Ancaster  
 BMH: Binbrook / Mount Hope  
 HAM: Hamilton Mountain  
 SCL: Stoney Creek - Lower  
 SCM: Stoney Creek - Mountain  
 WAT: Waterdown

**APPENDIX G-1: CATEGORY A - OPEN WATERCOURSES: CHANNEL SYSTEM IMPROVEMENTS (IDENTIFIED PROJECTS) NON-RESIDENTIAL**

Primary Dev. Areas	Category		Project Title	Study Year	Drainage Area (ha)	Purpose	SWMF/ Drainage Work					2014 Estimated Capital Cost (\$)	2019 Estimated Capital Cost (\$)	Estimated Total Cost (Rounded)(\$)	Growth Related %	Net Total Cost (\$)
	Build Out (yr)	Secondary					Type of Work	Location of Work	Type	Description	Length (m)					
ANC	0-5	A	Ancaster Industrial Park - Cormorant Midblock	2013			culvert	Trinity to Tradewind				400,000	400,000	50	200,000	
ANC	0-5	A	Ancaster Industrial Park - Cormorant Midblock	2013			channel improvements	Trinity to Tradewind				400,000	400,000	50	200,000	
BMH	11+	A	AEGD major roads crossings	2017		road crossings at existing watercourses	40 culverts (12 small, 12 med, 16 large)	AEGD				8,430,000	9,475,320	100	9,480,000	
HAM	11+	A	Red Hill Business Park - Dartnall Road	2017			2 culverts (small)	Twenty to Dickenson				400,000	400,000	100	400,000	
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990			Triple-Culvert replacement - QEW Corridor at w/c #5					1,405,493	1,579,774	100	1,580,000	
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990			New culvert - North Service Rd. at w/c #5					233,434	262,380	100	260,000	
SCL	11+	A	Creek System Improvement W/C 7	2003			Lower culvert by 0.4 m - South Service Rd. under w/c #6					117,145	131,670	50	65,000	
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990			Culvert replacement - QEW Corridor on w/c #6.2					518,783	583,112	100	580,000	
SCL	11+	A	Water Course 5- Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990	582		channel improvements		Length of channel improvement work	1015		2,305,703	2,591,610	2,590,000	100	2,590,000
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990			Lower culvert by 1.6 m - Arvin Ave. on w/c #5					62,477	70,224	70,000	20	14,000
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990			Culvert replacement - CNR line on w/c #5					163,556	183,837	180,000	20	36,000
SCL	11+	A	Water Course 6 - Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990	67		channel improvements		Length of channel improvement work	1077		2,469,333	2,775,530	2,780,000	50	1,390,000
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990			Lower culvert by 1.84 m - South Service Rd. under w/c #5					117,145	131,670	130,000	100	130,000
SCL	0-5	A	SCUBE - Barton Street	2017			WC9 channel/enclosure	west property limit of school to 140 m east				700,000	786,800	790,000	50	395,000
SCL	11+	A	SCUBE - NSR	2013			culvert	Green easterly to City limits				750,000	843,000	843,000	100	843,000
WAT	11+	A	Hwy 5/6 Interchange				2 or 3 culverts	Hwy 5/6 and ramp				1,200,000	1,348,800	1,350,000	25	337,500
WAT	11+	A	Highway 6				culvert	Borer's Ck				1,000,000	1,124,000	1,124,000	100	1,124,000
<b>Total Non-Residential</b>												<b>19,473,068</b>	<b>23,087,728</b>	<b>23,087,000</b>	<b>85</b>	<b>19,624,500</b>
<b>Grand Total</b>												<b>31,888,450</b>	<b>43,054,218</b>	<b>43,060,000</b>	<b>92</b>	<b>39,597,500</b>

ANC: Ancaster  
 BMH: Binbrook / Mount Hope  
 HAM: Hamilton Mountain  
 SCL: Stoney Creek - Lower  
 SCM: Stoney Creek - Mountain  
 WAT: Waterdown



APPENDIX G-1 CATEGORY B: OFF SITE EROSION WORKS NOT IDENTIFIED IN PREVIOUS STUDIES (RESIDENTIAL & NON RESIDENTIAL)

ID #	Primary Development Area	Res/Non-Res	Subwatershed	Watershed	Remarks	Watershed Area <sup>1</sup>		Existing Development Area (ha)		Future Development Area (ha)		Development Fraction  F = 100 X (B+C+D+E) / A	Fraction of Watercourse Assumed to Require Erosion Control <sup>2</sup>	Total Length of Downstream Watercourse to Assumed End-Point <sup>3</sup>	Length of Erosion Control Works	Cost <sup>4</sup>	Land Cost	Total Cost	New Development Fraction M = (D+E) / (B+C+D+E)	Development Related Cost
						A	B	C	D	E										
						Res.	Non-Res.	Res.	Non-Res.											
						(ha)	(ha)	(ha)	(ha)	(ha)										
						(%)	G	H	I = G X H	J	K	L=J+K	M	L X M						
						(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)		
						(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
						(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
2	ANC	Non-Res	Big Creek (Outlet #1 & #2 Industrial Park)	Big Creek		271		11.6	5.32	136.83	56.73	0.15	4,988	748	\$1,122,300	\$697,738	\$1,820,038	0.925	\$1,682,721	
3	ANC	Res	Big Creek (Spring Valley West and Shaver Neighbourhood)	Big Creek	South of Shaver Neighbourhood	43	35		5.5		94.19	0.20	600	120	\$180,000	\$111,907	\$291,907	0.136	\$39,642	
4	ANC	Res	Big Creek (Spring Valley West and Shaver Neighbourhood)	Big Creek		100	70.92		21.48	0.29	92.69	0.20	1,500	300	\$450,000	\$279,767	\$729,767	0.235	\$171,399	
5	BMH	Non-Res	Three Mile Creek	Twenty Mile Creek	Part of Airport Business Park and Airport	165		20		24.48	26.96	0.10	1,500	150	\$225,000	\$139,883	\$364,883	0.550	\$200,817	
6	ANC	Res	Tiffany Creek	Coote's Paradise	Meadowlands, Garner, Ancaster. A portion of the w/c is lined in a SWMF	165	25		129.84	0.37	94.07	0.20	2,500	500	\$750,000	\$466,278	\$1,216,278	0.839	\$1,020,369	
7	ANC	Res	Tiffany Creek	Coote's Paradise	Falkirk West and Bayview Glen Estates	110			11.5	1.76	12.05	0.05	450	23	\$33,750	\$20,982	\$54,732	1.000	\$54,732	
8	ANC	Res	Sulphur Creek	Coote's Paradise		1794			15.98		0.89	0.05	500	25	\$62,500	\$46,628	\$109,128	1.000	\$109,128	
9	BMH	Res	Binbrook Node B	Welland River	Binbrook Urban area of 200 ha Draining at Node 'B'	300	191.27		100.12	0.5	97.30	0.20	4,500	900	\$1,350,000	\$725,881	\$2,075,881	0.345	\$715,595	
11	BMH	Res	Binbrook Node D	Welland River	Three tributaries B7-a,b,c	133			100.26		75.38	0.20	4,100	820	\$1,230,000	\$661,358	\$1,891,358	1.000	\$1,891,358	
12	BMH	Res	Binbrook Node G	Twenty Mile Creek (Three Mile, Sinkhole Creek)	Jackson Heights etc	25	15		9.14		96.56	0.20	750	150	\$225,000	\$120,980	\$345,980	0.379	\$130,997	
13	BMH	Res	Node of Welland River south of Mount Hope Urban Boundary SWMF # B-10	Welland River	Mount Hope & adjacent areas (including Airport Business Area)-two outlet	220	128.52	20	47.39	4.76	91.21	0.20	1,500	300	\$450,000	\$241,960	\$691,960	0.260	\$179,826	
14	BMH	Non-Res	Node of Welland River north of Mount Hope Urban Boundary	Welland River		30				20	66.67	0.15	1,200	180	\$270,000	\$145,176	\$415,176	1.000	\$415,176	
15	HAM	Res	Node Downstream of Glanbrook Hills	Twenty Mile Creek (Three Mile, Sinkhole Creek)	Garth Trail, North Glanbrook Industrial Park, Airport Industrial Business Park, part of Binbrook and others	40	20		16.47		91.18	0.20	900	180	\$270,000	\$145,176	\$415,176	0.452	\$187,495	

<sup>1</sup>To point immediately d/s of future development (start of off-site erosion assessment)

<sup>2</sup>-0.05 - Where Development Fraction is 0 - 25%

0.10 - Where Development Fraction is 26 - 49%

0.15 - Where Development Fraction is 50 - 74%

0.20 - Where Development Fraction is 75 - 100%

<sup>3</sup>Location where d/s of this point no erosion is deemed to occur from subject development; total drainage area to this point estimated as a maximum of 2X the study watershed area (Column A). Note that the end point may also be set by Hamilton Harbour or La

<sup>4</sup>\$2500/m for Watershed Area > 500 ha

\$1500/m for Watershed Area < 500 ha

Coote's Paradise (Borer's Creek, Spencer Creek, Sulphur Creek, Ancaster Creek, Chedoke Creek, Others)

Hamilton Harbour (Red Hill Creek, Central Business Park)

APPENDIX G-1 CATEGORY B: OFF SITE EROSION WORKS NOT IDENTIFIED IN PREVIOUS STUDIES (RESIDENTIAL & NON RESIDENTIAL)

ID #	Primary Development Area	Res/Non-Res	Subwatershed	Watershed	Remarks	Watershed Area <sup>1</sup>		Existing Development Area (ha)		Future Development Area (ha)		Development Fraction	Fraction of Watercourse Assumed to Require Erosion Control <sup>2</sup>	Total Length of Downstream Watercourse to Assumed End-Point <sup>3</sup>	Length of Erosion Control Works	Cost <sup>4</sup>	Land Cost	Total Cost	New Development Fraction	Development Related Cost												
						A	B	C	D	E	F = 100 X (B+C+D+E) / A										G	H	I = G X H	J	K	L=J+K	M = (D+E) / (B+C+D+E)	L X M				
						(ha)	Res. (ha)	Non-Res. (ha)	Res. (ha)	Non-Res. (ha)	(%)										(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
						(ha)	(ha)	(ha)	(ha)	(ha)	(%)										(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
16	BMH	Non-Res	Node Downstream of SWMF # R53	Twenty Mile Creek (Three Mile, Sinkhole Creek)		40				36.81		92.03	0.20	850	170	\$255,000	\$137,111	\$392,111	1.000	\$392,111												
17	HAM	Non-Res	Node Downstream of SWMF #B 13	Twenty Mile Creek (Three Mile, Sinkhole Creek)		32				19.67		61.47	0.15	600	90	\$135,000	\$72,588	\$207,588	1.000	\$207,588												
18	HAM	Non-Res	Node Downstream of SWMF # H 13	Twenty Mile Creek (Three Mile, Sinkhole Creek)		181				63.3		34.97	0.10	2,000	200	\$300,000	\$161,307	\$461,307	1.000	\$461,307												
19	HAM	Non-Res	Node Downstream of SWMF # B 14	Twenty Mile Creek (Three Mile, Sinkhole Creek)		58				5.71		9.84	0.05	1,100	55	\$82,500	\$44,359	\$126,859	1.000	\$126,859												
20	HAM	Non-Res	Node Downstream of SWMF # B 11 & B 12	Twenty Mile Creek (Three Mile, Sinkhole Creek)		700	282.29		26.2	48.63		51.02	0.15	3,000	450	\$1,125,000	\$725,881	\$1,850,881	0.210	\$387,829												
21	BMH	Non-Res	Node Downstream of SWMF # B 15 & 16	Twenty Mile Creek (Three Mile, Sinkhole Creek)		179	100			54.41		86.26	0.20	1,400	280	\$420,000	\$225,830	\$645,830	0.352	\$227,573												
22	HAM	Res	Upper Ottawa subwatershed	Hamilton Harbour	Erosion works downstream identified in previous studies	1356	766	308.9	136.28	0.86		89.38	0.20	1,100	220	\$550,000	\$354,875	\$904,875	0.113	\$102,385												
23	HAM	Res	Hannon Creek subwatershed	Hamilton Harbour		1070	115.2	357.7	75.95	292.53		78.63	0.20	2,000	400	\$1,000,000	\$645,228	\$1,645,228	0.438	\$720,523												
25	SCL	Res	Battlefield Creek	Lake Ontario (Battlefield Creek, SC, WC 0-12)	Nash	300			62.09	1.92		21.34	0.05	1,250	63	\$93,750	\$50,408	\$144,158	1.000	\$144,158												
26	SCL	Res	Water Course 0	Lake Ontario (Battlefield Creek, SC, WC 0-12)	WC 0	321	112.9	149.7	1.12	2.98		83.08	0.20	50	10	\$15,000	\$8,065	\$23,065	0.015	\$355												
27	SCL	Res	Water Course 1	Lake Ontario (Battlefield Creek, SC, WC 0-12)	WC 1	330	157.5	61	13.09	2.87		71.05	0.15	1,900	285	\$427,500	\$229,862	\$657,362	0.068	\$44,748												
28	Water Course 10/12	Non-Res	Fifty Point Industrial Park	Lake Ontario (Battlefield Creek, SC, WC 0-12)	assumed Fruitland-Winona SP land use	20				16.56		82.80	0.20	600	120	\$180,000	\$96,784	\$276,784	1.000	\$276,784												

<sup>1</sup>To point immediately d/s of future development (start of off-site erosion assessment)

<sup>2</sup>-0.05 - Where Development Fraction is 0 - 25%

0.10 - Where Development Fraction is 26 - 49%

0.15 - Where Development Fraction is 50 - 74%

0.20 - Where Development Fraction is 75 - 100%

<sup>3</sup>Location where d/s of this point no erosion is deemed to occur from subject development; total drainage area to this point estimated as a maximum of 2X the study watershed area (Column A). Note that the end point may also be set by Hamilton Harbour or La

<sup>4</sup>\$2500/m for Watershed Area > 500 ha

\$1500/m for Watershed Area < 500 ha

Coote's Paradise (Borer's Creek, Spencer Creek, Sulphur Creek, Ancaster Creek, Chedoke Creek, Others)

Hamilton Harbour (Red Hill Creek, Central Business Park)

APPENDIX G-1 CATEGORY B: OFF SITE EROSION WORKS NOT IDENTIFIED IN PREVIOUS STUDIES (RESIDENTIAL & NON RESIDENTIAL)

ID #	Primary Development Area	Res/Non-Res	Subwatershed	Watershed	Remarks	Watershed Area <sup>1</sup>		Existing Development Area (ha)		Future Development Area (ha)		Development Fraction	Fraction of Watercourse Assumed to Require Erosion Control <sup>2</sup>	Total Length of Downstream Watercourse to Assumed End-Point <sup>3</sup>	Length of Erosion Control Works	Cost <sup>4</sup>	Land Cost	Total Cost	New Development Fraction	Development Related Cost								
						A	B	C	D	E	F = 100 X (B+C+D+E) / A										G	H	I = G X H	J	K	L=J+K	M = (D+E) / (B+C+D+E)	L X M
						(ha)	Res. (ha)	Non-Res. (ha)	Res. (ha)	Non-Res. (ha)	(%)										(m)	(m)	(m)	(\$)	(\$)	(\$)		(\$)
29	SCL	Res	Fifty Point Joint Venture	Lake Ontario (Battlefield Creek, SC, WC 0-12)		45	32		1.17	0.19	74.13	0.20	300	60	\$90,000	\$48,392	\$138,392	0.041	\$5,642									
30	SCL	Non-Res	Water Course 12	Lake Ontario (Battlefield Creek, SC, WC 0-12)	assumed Fruitland-Winona SP land use	642	75.8	14.1	0.89	24	17.88	0.05	1,350	68	\$168,750	\$108,882	\$277,632	0.217	\$60,199									
31	SCL	Res	Water Course 2	Lake Ontario (Battlefield Creek, SC, WC 0-12)	WC 2	283	148	76.8	1.69	0.56	80.23	0.20	1,100	220	\$330,000	\$177,438	\$507,438	0.010	\$5,029									
32	SCL	Res	Water Course 3	Lake Ontario (Battlefield Creek, SC, WC 0-12)	WC 3	190	74.4	73.3	4.44	2.44	81.36	0.20	900	180	\$270,000	\$145,176	\$415,176	0.045	\$18,479									
33	SCL	Non-Res	Water Course 4	Lake Ontario (Battlefield Creek, SC, WC 0-12)	WC 4	376	133.9	60.9		14	55.53	0.15	800	120	\$180,000	\$96,784	\$276,784	0.067	\$18,558									
34	SCL	Res	Water Course 5	Lake Ontario (Battlefield Creek, SC, WC 0-12)	w/c 5.1-1100m, w/c 5.0 2500; assumed FWSP land use	636	121.4	112.9	118.35	7.64	56.65	0.15	3,600	540	\$1,350,000	\$871,057	\$2,221,057	0.350	\$776,683									
35	SCL	Res	Water Course 6	Lake Ontario (Battlefield Creek, SC, WC 0-12)	assumed Fruitland-Winona SP land use	100	19	18.1	50.39	11.65	99.14	0.20	1,300	260	\$390,000	\$209,699	\$599,699	0.626	\$375,281									
36	SCL	Non-Res	Water Course 7	Lake Ontario (Battlefield Creek, SC, WC 0-12)	assumed Fruitland-Winona SP land use	421	77.2	28.2	25.28	36.2	39.64	0.10	1,000	100	\$150,000	\$80,653	\$230,653	0.368	\$84,975									
37	SCL	Non-Res	Water Course 9	Lake Ontario (Battlefield Creek, SC, WC 0-12)	assumed Fruitland-Winona SP land use	579	148.76	51.2	86.41	16.98	52.39	0.15	800	120	\$300,000	\$193,568	\$493,568	0.341	\$168,222									
40	SCM	Res	Sinkhole Creek	Twenty Mile Creek (Three Mile, Sinkhole Creek)	Falkirk South and ROPA #9 (Rymal Rd.)	140	63.1		100.13		116.59	0.20	1,200	240	\$360,000	\$193,568	\$553,568	0.613	\$339,575									

<sup>1</sup>To point immediately d/s of future development (start of off-site erosion assessment)

<sup>2</sup>0.05 - Where Development Fraction is 0 - 25%

0.10 - Where Development Fraction is 26 - 49%

0.15 - Where Development Fraction is 50 - 74%

0.20 - Where Development Fraction is 75 - 100%

<sup>3</sup>Location where d/s of this point no erosion is deemed to occur from subject development; total drainage area to this point estimated as a maximum of 2X the study watershed area (Column A). Note that the end point may also be set by Hamilton Harbour or La

<sup>4</sup>\$2500/m for Watershed Area > 500 ha

\$1500/m for Watershed Area < 500 ha

Coote's Paradise (Borer's Creek, Spencer Creek, Sulphur Creek, Ancaster Creek, Chedoke Creek, Others)  
Hamilton Harbour (Red Hill Creek, Central Business Park)

APPENDIX G-1 CATEGORY B: OFF SITE EROSION WORKS NOT IDENTIFIED IN PREVIOUS STUDIES (RESIDENTIAL & NON RESIDENTIAL)

ID #	Primary Development Area	Res/Non-Res	Subwatershed	Watershed	Remarks	Watershed Area <sup>1</sup>		Existing Development Area (ha)		Future Development Area (ha)		Development Fraction	Fraction of Watercourse Assumed to Require Erosion Control <sup>2</sup>	Total Length of Downstream Watercourse to Assumed End-Point <sup>3</sup>	Length of Erosion Control Works	Cost <sup>4</sup>	Land Cost	Total Cost	New Development Fraction	Development Related Cost
						A	B	C	D	E	F = 100 X (B+C+D+E) / A									
						(ha)	Res. (ha)	Non-Res. (ha)	Res. (ha)	Non-Res. (ha)	(%)	(m)	(m)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	
42	WAT	Res	Falcon Creek	Grindstone Creek/ North Shore Watershed	OPA 28 South	48			48		100.00	0.20	1,200	240	\$360,000	\$223,813	\$583,813	1.000	\$583,813	
43	WAT	Res	Grindstone Creek SWMF # W7	Grindstone Creek/ North Shore Watershed		45			45		100.00	0.20	900	180	\$270,000	\$167,860	\$437,860	1.000	\$437,860	
44	WAT	Res	Grindstone Creek SWMF # W1 to SWMF # W8	Grindstone Creek/ North Shore Watershed	OPA 28 South and Upcountry Estates, Gatesbury, etc.	1011	254.8		108.81		35.97	0.10	2,000	200	\$500,000	\$373,022	\$873,022	0.299	\$261,251	
45	WAT	Non-Res	Flamborough Industrial Park SWMF # W14	Grindstone Creek/ North Shore Watershed		45				15	33.33	0.10	900	90	\$135,000	\$83,930	\$218,930	1.000	\$218,930	
46	WAT	Res	Indian Creek	Grindstone Creek/ North Shore Watershed	OPA 28 South	14			10.91		77.93	0.20	450	90	\$135,000	\$83,930	\$218,930	1.000	\$218,930	
48	OTH	Res	Central Business Subwatershed	Hamilton Harbour	Not in growth area	2400					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
49	OTH	Res	Chedoke Creek	Hamilton Harbour	Not in growth area	2706					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
50	OTH	Res	Green Hill subwatershed	Hamilton Harbour	Not in growth area	1225	1102.5				90.00	0.20	0	0	\$0	\$0	\$0	0.000	\$0	
51	OTH	Res	Logies Creek	Coote's Paradise	Not in growth area	1217					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
52	OTH	Res	Lower Spencer Creek	Coote's Paradise	Not in growth area	277					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
53	OTH	Res	Mid Spencer Creek	Coote's Paradise	Not in growth area	5513					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
54	OTH	Res	Spring Creek	Coote's Paradise	Not in growth area	1305					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
55	OTH	Res	Sydenham Creek	Coote's Paradise	Not in growth area	442					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
<b>Grand Total</b>						<b>27,643.0</b>	<b>4,270.5</b>	<b>1,364.4</b>	<b>1,379.2</b>	<b>863.9</b>	<b>28.50</b>		<b>58,638</b>	<b>9446</b>	<b>\$16,191,050</b>	<b>\$9,613,787</b>	<b>\$25,804,837</b>	<b>52.18</b>	<b>\$13,464,902</b>	

<sup>1</sup>To point immediately d/s of future development (start of off-site erosion assessment)

<sup>2</sup>-0.05 - Where Development Fraction is 0 - 25%

0.10 - Where Development Fraction is 26 - 49%

0.15 - Where Development Fraction is 50 - 74%

0.20 - Where Development Fraction is 75 - 100%

<sup>3</sup>Location where d/s of this point no erosion is deemed to occur from subject development; total drainage area to this point estimated as a maximum of 2X the study watershed area (Column A). Note that the end point may also be set by Hamilton Harbour or La

<sup>4</sup>\$2500/m for Watershed Area > 500 ha

\$1500/m for Watershed Area < 500 ha

Coote's Paradise (Borer's Creek, Spencer Creek, Sulphur Creek, Ancaster Creek, Chedoke Creek, Others)

Hamilton Harbour (Red Hill Creek, Central Business Park)

APPENDIX G-1: CATEGORY C - STORMWATER MANAGEMENT (QUALITY AND OR QUANTITY) FACILITIES RESIDENTIA

Primary Dev. Areas	Category		SWMF #	Project Title	Year	Drainage Area (ha)	Purpose	SWMF/ Drainage Work										Growth Related %	Net Growth/Total Associated Cost (\$)	Existing Benefit	Direct Developer Contribution (\$)	Non-Res Area Fraction Cost (\$)	Net Total Associated Cost (\$)	
	Build Out (yr)	Secondary						Type of Work	Location of Work	Type	Description	Total Volume (m3)	Estimated Footprint 4% (ha)	Estimated Footprint 6% (ha)	Study/Draft Plan Footprint (ha)	Footprint (ha)	Land Cost							Estimated Capital Cost (\$)
ANC	11+	C	7	Garner Neighbourhood Master Drainage Plan, Ancaster	July, 1995 Rev. Nov. 2003	10.4	MDP addressing drainage related issues for existing and future development	Proposed Quality Facility #1, Extended detention wetland	Between proposed Highway 6 (new) interchange corridor and the existing development	Quality	Storage Capacity =	910	0.42		0.42	775,886	72,800	848,686	100	848,686	-	-	-	848,686
ANC	0-5	C	14	Meadowlands Phase IV		6		Quality / Quantity	Springbrook at Garner	Quality / Quantity	Storage Capacity =	2,110	0.36	0.60	0.60	1,119,066	168,797	1,287,863	100	1,287,863	-	-	-	1,287,863
ANC	11+	C	22	Woodland Manor Preliminary SWM Report	Jul-08	15.3	SWM Plan for proposed urban development	SWMF	Sulpher Springs Road and Mansfield Drive	Quality / Quantity	Storage Volume =	13,289	0.92	0.92	0.92	1,712,172	791,576	2,503,748	100	2,503,748	-	-	-	2,503,748
ANC	11+	C	24	Miller's pond expansion		5		SWMF	Shaver Road and Garner Road	Quality / Quantity	Storage Capacity =	3,600	0.20	0.20	0.20	373,022	288,000	661,022	100	661,022	-	-	-	661,022
ANC	11+	C	25	Golf Stream Manor		36		Quality / Quantity		Quality / Quantity	Storage Capacity =	25,920	1.44		1.44	2,685,760	1,296,800	3,982,560	100	3,982,560	-	-	-	3,982,560
ANC	11+	R	3	N/A	N/A	31.34	Flood Control	Future Retrofit	Galley Crt & Speers Rd	Quality				0.00	-	443,100	443,100	30	132,930	310,170	-	-	-	132,930
ANC	11+	R	22	N/A	N/A	2.19	Flood Control	Future Retrofit	Harrington Place and Lovel's Lake	Quality				0.00	-	422,000	422,000	50	211,000	211,000	-	-	-	211,000
ANC	11+	R	70	Drainage Report - The Meadowlands	N/A	296.9		Future Retrofit	Hay 403 and Golf Links Rd	Quality				0.00	-	4,135,600	4,135,600	40	1,654,240	2,481,360	-	-	-	1,654,240
ANC	11+	R	71	Drainage Report - The Meadowlands	N/A	42.51		Future Retrofit	Golf Links Rd and Meadowlands Blvd	Quality				0.00	-	601,350	601,350	40	240,540	360,810	-	-	-	240,540
ANC	11+	R	72	Drainage Report - The Meadowlands	N/A	18.03		Future Retrofit	Golf Links Rd. and Meadowlands Blvd	Quality				0.00	-	422,000	422,000	40	168,800	253,200	-	-	-	168,800
BMH	11+	C	24	Ceterini	2013	15		SWMF	Binbrook Rd west of Woodland	Quality / Quantity	Storage Capacity =	9,400	0.90	0.90	0.90	1,451,762	635,996	2,087,758	100	2,087,758	-	-	-	2,087,758
BMH	0-5	C	10	Mountaineer Functional Servicing Report	Oct. 2007	100.66	SWM Plan for proposed urban development	SWMF	South west of new Hwy - 6	Quality / Quantity	Storage Volume =	34,698	6.04	5.15	5.15	8,307,304	1,647,904	9,955,208	100	9,955,208	-	-	-	9,955,208
BMH	11+	C	21	Master Drainage Plan Update Report - Binbrook Settlement Area	Oct. 2006	31	additional facility adjacent to the watercourse	SWMF		Quality / Quantity	Storage Capacity =	19,376	1.86	1.86	1.86	3,000,308	1,035,058	4,035,366	100	4,035,366	-	-	-	4,035,366
BMH	11+	C	20	Binbrook Settlement Area	2013	22.72	MacNeilly facility	SWMF	Area draining to the south west near Fletcher Road	Quality / Quantity	Storage Capacity =	19,201	1.36	1.80	1.80	2,903,524	1,028,029	3,931,552	100	3,931,552	-	-	-	3,931,552
HAM	11+	C	12	Hannon Creek SWS - North Glenbrook Industrial Business Park MDP	Nov. 2008	10		SWMF	Upper Gage/Terrace in tandem with HAM29	Quality / Quantity	Storage volume =	8,817	0.40	0.40	0.40	645,228	612,664	1,257,892	100	1,257,892	-	-	-	1,257,892
HAM	0-5	C	24	Menburn and Sheldon Neighbourhood Master Servicing Plan	2011	15.9	SWM Plan for proposed urban development	SWMF	West 5th and Stonechurch Road	Quality / Quantity	Storage Capacity =	12,650	0.95	1.25	1.25	2,016,336	1,006,000	3,022,336	100	3,022,336	-	-	-	3,022,336
HAM	11+	C	28	305 Stone Church Road West	2011	33.29	SWM Plan for proposed urban development	SWMF	NE limit of development	Quality / Quantity	Storage volume =	20,382	2.00	2.00	2.00	3,221,944	1,475,266	4,697,210	100	4,697,210	-	-	-	4,697,210
HAM	11+	C	29	Miles	2011	42	SWM Plan for proposed urban development	SWMF	NE limit of development	Quality / Quantity	Storage volume =	30,240	2.52	2.52	2.52	4,064,933	1,969,600	6,034,533	100	6,034,533	-	-	-	6,034,533
HAM	11+	C	30	St Elizabeth expansion	2013	50	SWM facility expansion	SWMF	expand for new development	Quality / Quantity	Storage volume =	38,000			0.00	-	1,780,000	1,780,000	100	1,780,000	-	-	-	1,780,000
HAM	0-5	C	31	Upper Wellington and Stonechurch		14		SWMF	SW corner of Upper Wellington and Stonechurch Rd	Quantity / Quality	Extended Detention Pond	11,263	0.84	1.40	1.40	2,258,296	901,059	3,159,356	100	3,159,356	-	-	-	3,159,356
HAM	11+	R	55	Village of Gloucester	Jul. 1990	77.63	Flood Control	Future Retrofit	Twenty Rd and Garth St	Quality			3.11	3.11	5,008,901	1,086,650	6,095,551	80	4,876,441	1,219,110	-	-	-	4,876,441
SCL	0-5	C	2	SCUBE Subwatershed Study (Phase 3)	May-13	26.4	Stormwater management strategy	SWMF	WC6 south of Barton West	Quantity / Quality	wet pond #3	13,216	1.58	2.64	2.64	4,258,502	788,640	5,047,142	100	5,047,142	-	-	-	5,047,142
SCL	0-5	C	3	SCUBE Subwatershed Study (Phase 3) - Block 2	Sep-18	16.4	Stormwater management strategy	SWMF	WC6.1 south of Barton West	Quantity / Quality	wet pond for 6.0	10,331	0.98	1.64	1.64	2,645,433	673,240	3,318,673	100	3,318,673	-	-	-	3,318,673
SCL	0-5	C	31	SCUBE Subwatershed Study (Phase 3) - Block 2	Sep-18	27.6	Stormwater management strategy	SWMF	WC6.1 south of Barton West	Quantity / Quality	wet pond for 6.1	18,115	1.66	2.76	2.76	4,452,070	984,600	5,436,670	100	5,436,670	-	-	-	5,436,670
SCL	0-5	C	12	SCUBE Subwatershed Study (Phase 3)	May-13	54	Stormwater management strategy	SWMF	SCUBE Central	Quantity / Quality	wet pond #9-2	34,069	3.24	5.40	5.40	8,710,572	1,622,400	10,332,972	100	10,332,972	-	-	-	10,332,972
SCL	0-5	C	13	SCUBE Subwatershed Study (Phase 3)	May-13	23.1	Stormwater management strategy	SWMF	SCUBE Central	Quantity / Quality	wet pond #9-3	14,592	1.39	2.31	2.31	3,726,189	843,680	4,569,869	100	4,569,869	-	-	-	4,569,869

ANC: Ancaster  
 BMH: Binbrook / Mount Hope  
 HAM: Hamilton Mountain  
 SCL: Stoney Creek - Lower  
 SCM: Stoney Creek - Mountain  
 WAT: Watford

APPENDIX G-1: CATEGORY C - STORMWATER MANAGEMENT (QUALITY AND OR QUANTITY) FACILITIES RESIDENTIA

Category			SWMF #	Project Title	Year	Drainage Area (ha)	Purpose	SWMF/ Drainage Work										Growth Related %	Net Growth Total Associated Cost (\$)	Existing Benefit	Direct Developer Contribution (\$)	Non-Res Area Fraction Cost (\$)	Net Total Associated Cost (\$)		
Primary Dev. Areas	Build Out (yr)	Secondary						Type of Work	Location of Work	Type	Description	Total Volume (m3)	Estimated Footprint 4% (ha)	Estimated Footprint 6% (ha)	Study/Draft Plan Footprint (ha)	Footprint (ha)	Land Cost							Estimated Capital Cost (\$)	Estimated Total Cost Including Land
SCL	0-5	C	29	SCUBE Subwatershed Study (Phase 3)	May-13	39.8	Stormwater management strategy	SWMF	WC5 south of Barton West	Quantity / Quality	wet pond #1	19,417		2.39	3.98	3.98	6,420,014	1,036,680	7,456,694	100	7,456,694	-	-	-	7,456,694
SCL	0-5	C	30	SCUBE Subwatershed Study (Phase 3)	May-13	24.5	Stormwater management strategy	SWMF	WC5 south of Barton West	Quantity / Quality	wet pond #2	12,773		1.47	2.45	2.45	3,952,019	770,920	4,722,939	100	4,722,939	-	-	-	4,722,939
SCL	11+	R	16	Lake Vista			Stormwater quality and associated resource management	Storm outfall retrofit	Lake Vista	Quality	OGS					0.00	-	50,000	50,000	100	50,000	-	-	-	50,000
SCL	11+	R	18	Stormwater Quality Management Strategy Stony Creek Master Plan	2004	27.2	Stormwater quality and associated resource management	Storm outfall retrofit	BFC, Little League Park, Queenston Rd.	Quality	Wetland	2,413				0.00	-	193,040	193,040	100	193,040	-	-	-	193,040
SCL	11+	R	19	Stormwater Quality Management Strategy Stony Creek Master Plan	2004	33	Stormwater quality and associated resource management	Storm outfall retrofit	BFC, Lake Ave. Park, Huckleberry Dr.	Quality	Wetland	2,582				0.00	-	206,560	206,560	100	206,560	-	-	-	206,560
SCL	11+	R	20	Stormwater Quality Management Strategy Stony Creek Master Plan	2004	77	Stormwater quality and associated resource management	Storm outfall retrofit	North of Barton St.	Quality	Wetland	6,724				0.00	-	528,960	528,960	100	528,960	-	-	-	528,960
SCL	11+	R	21	Stormwater Quality Management Strategy Stony Creek Master Plan	2004	20.5	Stormwater quality and associated resource management	Storm outfall retrofit	Lake Avenue, Warrington St.	Quality	Wetland	1,923				0.00	-	153,840	153,840	100	153,840	-	-	-	153,840
SCM	0-5	C	10	Summit Park - ROPA 9		83.9	MDP addressing drainage related issues for future development	Proposed wetland/wetpond #3	West side of Suezey Road	Quantity / Quality		52,577				0.00	-	3,320,000	3,320,000	100	3,320,000	-	-	-	3,320,000
SCM	0-5	C	18	Future Planned Residential Development		42	eastern portion			Quantity / Quality		29,890				0.00	-	3,630,000	3,630,000	100	3,630,000	-	-	-	3,630,000
SCM	11+	C	21	Davis Ck SWS - Nash Nhd		21		SWMF	North limit of First Road W. at west side CH lands	Quantity / Quality	Extended Detention Pond	15,395		1.26	1.26	2,032,467	875,794	2,908,261	100	2,908,261	-	-	-	2,908,261	
SCM	0-5	C	22	Davis Ck SWS - Nash Nhd		15		SWMF	North limit of First Road W. at east side	Quantity / Quality	Extended Detention Pond	11,425		0.90	0.90	1,451,762	716,996	2,168,758	100	2,168,758	-	-	-	2,168,758	
SCM	11+	C	2	Davis Ck SWS - Nash Nhd		22.85			Northwest portion, east of historical lands	Quantity / Quality	Extended Detention Pond	22,394		1.66	1.66	2,677,694	1,435,757	4,113,451	100	4,113,451	-	-	-	4,113,451	
SCM	11+	C	6	Montgomery Creek Nash Orchards		22.49				Quantity / Quality		17,436	0.90	1.35	1.35	2,177,643	957,429	3,135,072	100	3,135,072	-	-	-	3,135,072	
SCM	0-5	C	17	Fieldside Estates - Felker Community Functional SWM	Nov. 2008	30	Functional Service Plan for proposed urban development	SWMF	SW corner Mud St. and Upper Centennial PKWY.	Quantity / Quality	Storage volume =	20,300		1.80	1.87	1.87	3,016,439	1,071,992	4,088,431	100	4,088,431	-	-	1,022,108	3,066,323
SCM	11+	R	65	N/A	N/A	15.2		Future Retrofit	Hwy 20 and Highland Rd	Quality					0.00	-	422,000	422,000	50	285,400	-	-	-	126,600	
SCM	11+	R	67	Deerfield Estate Phase 1	Apr. 1991	19.8		Future Retrofit	Rymal Rd E and Wheeler Rd	Quality					0.00	-	422,000	422,000	50	211,000	-	-	-	211,000	
SCM	11+	R	69	Heritage Green Valley Park Stage II	Sept. 1990	83.9		Future Retrofit	Winter Drive and Paramount Drive	Quality					0.00	-	1,160,500	1,160,500	50	580,250	-	-	-	580,250	
WAT	0-5	C	1	Mtview Heights/Waterdown Bay Phase 2	Jul-13	12.43	To guide future development and management of the South Waterdown lands	SWMF	Grindstone Creek - East Tributary 58 (Northwest)	Quantity / Quality	Storage Capacity =	13,509				0.00	-	3,400,000	3,400,000	100	3,400,000	-	-	-	3,400,000
WAT	0-5	C	3	Mtview Heights/Waterdown Bay Phase 2	Jul-13	8.89	To guide future development and management of the South Waterdown lands	SWMF	Grindstone Creek - East Tributary (north west) 5D	Quantity / Quality	Storage Capacity =	10,037				0.00	-	4,000,000	4,000,000	100	4,000,000	-	-	-	4,000,000
WAT	0-5	C	4	Mtview Heights	Jul-13	41.06	To guide future development and management of the South Waterdown lands	SWMF	Grindstone Creek - South west Tributary 2	Quantity / Quality	Storage Capacity =	53,288		2.46	2.98	2.60	4,849,288	2,991,510	7,840,798	100	7,840,798	-	-	-	7,840,798
WAT	11+	C	5	Mtview Heights	Jul-13	12.71	To guide future development and management of the South Waterdown lands	SWMF	East side of Waterdown Bay 55 (South)	Quantity / Quality	Storage Capacity =	28,055		0.76	1.56	1.56	2,909,573	1,582,188	4,491,761	100	4,491,761	-	-	-	4,491,761
WAT	11+	C	6	Mtview Heights	Jul-13	5.66	To guide future development and management of the South Waterdown lands	SWMF	Salem Property	Quantity / Quality	Storage Capacity =	16,754		0.34	0.34	633,392	930,160	1,563,551	100	1,563,551	-	-	-	1,563,551	
WAT	0-5	C	19	Waterdown North Master Drainage Plan	Feb. 2007	9.7	Assess proposed expansion for the urban settlement area of Waterdown	SWMF for quality and erosion control	Along Borer's Creek, NW of Centre Road and Parkside Road intersection	Quality/Erosion	Storage Capacity =	5,918			1.75	1.75	756,744	473,448	1,230,192	100	1,230,192	-	-	-	1,230,192
U	11+	C	U1	Undertified			provisional item for unidentified SWM works	open		Quantity / Quality					-	5,000,000	5,000,000	100	5,000,000	-	-	-	5,000,000		
U	11+	C	U2	Undertified			to include provision for LID infrastructure cost recovery	open		Quantity / Quality					-	1,500,000	1,500,000	100	1,500,000	-	-	-	1,500,000		
U	11+	C	U3	Frontage Costs			estimate of road frontage costs for 38 residential SWM facilities (Retrofits and Undertified facilities excluded)	open		Quantity / Quality	120m * \$1500/m per facility				-	6,840,000	6,840,000	100	6,840,000	-	-	-	6,840,000		
U	11+	C	U4	Land Footprint Contingency			estimate that 10 facilities will exceed the estimated land footprint by 20%	open		Quantity / Quality					3,500,000	3,500,000	100	3,500,000	-	-	-	-	3,500,000		
U	11+	C	U5	Facility Undertified Volume Contingency			estimate that 1/10 facilities will exceed the estimated volume by 10%	open		Quantity / Quality					3,150,000	3,150,000	100	3,150,000	-	-	-	-	3,150,000		
U	11+	C	U6	Facility Undertified Volume Contingency			estimate that 1/10 facilities will encounter unanticipated 8000 m3 rock	open		Quantity / Quality					2,736,000	2,736,000	100	2,736,000	-	-	-	-	2,736,000		
U	11+	C	U7	Undertified - Within Combined Sewershed			under study - estimate 3 projects will result in SWM facilities @ \$2M each	open		Quantity / Quality					6,000,000	6,000,000	100	6,000,000	-	-	-	-	6,000,000		
<b>Total Residential</b>												<b>682,978</b>					<b>97,714,240</b>	<b>67,938,584</b>	<b>180,002,824</b>	<b>96.71</b>	<b>174,080,524</b>	<b>5,922,300</b>	<b>0</b>	<b>1,022,108</b>	<b>173,058,417</b>







Development Charges Study, Stormwater Component

Storm Sewer Over-Sizing 1500 mm	400	695	278000	366960	\$	183,480.00	\$	183,480.00
Storm Sewer Over-Sizing 1650 mm	1000	1110	1110000	1465200	\$	732,600.00	\$	732,600.00
Storm Sewer Over-Sizing 1800 mm	300	1630	489000	645480	\$	322,740.00	\$	322,740.00
				2477640				

Jerome

Storm sewer servicing into storm water management pond H-31

Description	Length in (m) or Quantity	Rate	City Contribution	City Contribution Incl Overhead				
Storm Sewer Over-Sizing 1500 mm	200	695	139000	183480	\$	91,740.00	\$	91,740.00

Mewburn

1500 Diam. To Pond HAM#24

Description	Length in (m) or Quantity	Rate	City Contribution	City Contribution Incl Overhead				
Storm Sewer Over-Sizing 1500 mm	350	695	243250	321090	\$	160,545.00	\$	160,545.00

Nash Neighbourhood

North/South, East/West Street abutting Neighbourhood Park

Description	Length in (m) or Quantity	Rate	City Contribution	City Contribution Incl Overhead				
Storm Sewer Over-Sizing 1650 mm	150	1110	166500	219780	\$	109,890.00	\$	109,890.00
Storm Sewer Over-Sizing 1800 mm	200	1630	326000	430320	\$	215,160.00	\$	215,160.00
				650100				

DRAFT

**Sheldon**

North/South mid-block collector road opposite Matthew Street to Stone Church Road

Description	Length in (m) or Quantity	Rate	City Contribution	City Contribution Incl Overhead			
Storm Sewer Over-Sizing 1350 mm	300	313	93900	123948	\$	61,974.00	\$ 61,974.00
Storm Sewer Over-Sizing 1650 mm	350	1110	388500	512820 636768	\$	256,410.00	\$ 256,410.00

<b>Total by Period</b>						<b>\$2,784,639.00</b>	<b>\$2,784,639.00</b>
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<b>Secondary Plan Anticipated Oversizing Sub-total</b>							<b>\$5,569,278.00</b>
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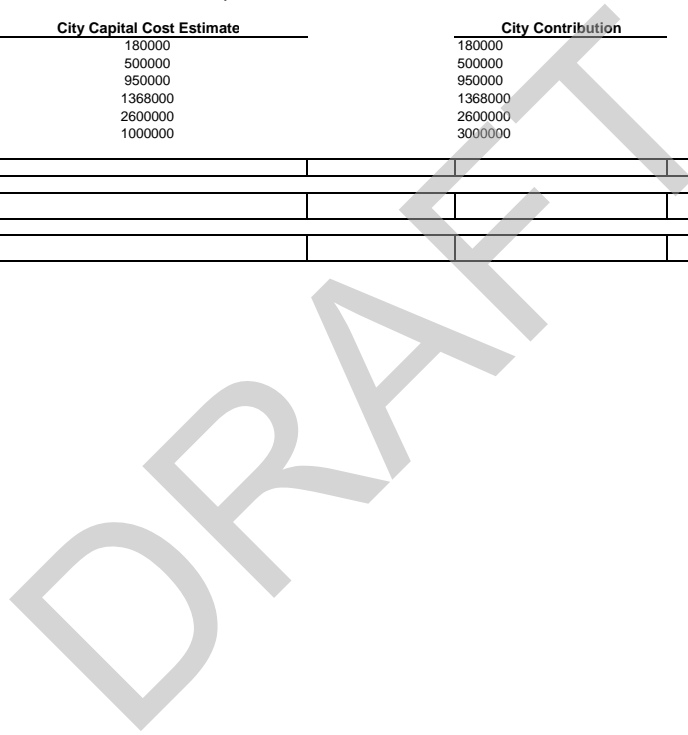
**APPENDIX G-1: CATEGORY D2 -STORM SEWERS - NEIGHBOURHOD STORM OUTLETS (AS PER APPROVED STUDIES**

Description		City Capital Cost Estimate	City Contribution				
Nebo Rd: Twenty to 400 m s of Rymal (NON-RES)	1	180000	180000	\$	180,000.00		
Parkside Dr storm sewer project (NON-RES)	1	500000	500000	\$	500,000.00		
Roxborough Nhd Storm Outlet (RES)	1	950000	950000	\$	950,000.00		
Airport Road Marion to Mountaingate (RES/NON-RES)	1	1368000	1368000	\$	1,368,000.00		
Swayze Nhd Storm Outlet (RES)	1	2600000	2600000	\$	2,600,000.00		
3 Unidentified Projects in Combined Watershed (RES)	3	1000000	3000000	\$	2,000,000.00	\$	1,000,000.00

<b>Total by Period</b>						<b>\$7,598,000.00</b>	<b>\$1,000,000.00</b>
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<b>Neighbourhood Storm Outlet Sub-total</b>							<b>\$8,598,000.00</b>
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<b>STORM SEWERS - Oversizing and Outlets - Total</b>							<b>\$18,282,709.24</b>
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## APPENDIX G-1 - CATEGORY E - CULVERTS AND BRIDGES NOT PREVIOUSLY IDENTIFIED IN CATEGORY A

## Ref: Hamilton Development Charges -Transportation

Item Number	Road Project Description	From	To	Improvement	Length km	Benefit to Growth % (Roads)	Number of Culverts/Bridges > 1m <sup>2</sup> end area	Replacement /Widening/ New	Identified in Category "A"	Small @\$84,300 1-4m <sup>2</sup>	Medium @\$168,600 4-8m <sup>2</sup>	Large @\$337,200 >8m <sup>2</sup>	Cost (2019\$)
<b>AEGD Projects</b>													
1	Airport Road	Upper James Street	Glancaster Road	2r-4u	2.84	60	3	Widening		3			\$252,900
2	Airport Road	Butter Road	Glancaster Road	2r-4u	0.86	85	0	Widening		0			\$0
3	Airport Service Road	Glancaster	Airport Road	4u	1.93	100	0	New		0			\$0
4	Book Road	Fiddler's Green Road	Highway 6	2r-4u	0.99	85	1	Widening		1			\$84,300
5	Book Road	Highway 6	Southcote Road	2r-4u	1.11	85	1	Widening		1			\$84,300
6	Book Road	Highway 6	Southcote Road	4u-6u	1.11	85	0	Widening		0			\$0
7	Book Road E	Collector 2W	Glancaster Road	2r-2u	0.59	85	0	Widening		0			\$0
8	Butter Road	Fiddler's Green Road	Glancaster Road	2r-4u	3.39	85	0	Widening		0			\$0
9	Carluka Road East	Fiddler's Green Road	Glancaster Road	2r-4u	1.05	85	0	Widening		0			\$0
10	Collector Road 10N	Garner Road	Smith Road	2u	0.83	100	2	New (Cat A)	2				\$0
11	Collector Road 10N	Smith Road	Collector Road 2W	2u	0.65	100	1	New (Cat A)	1				\$0
12	Collector Road 1E	Collector 6N	Dickenson Road	2u	0.76	100	5	New (Cat A)	5				\$0
13	Collector Road 1N	Southcote Road	Collector Road 2E	2u	2.06	100	5	New (Cat A)	5				\$0
14	Collector Road 2E	Collector Road 1N	Airport Boundary	2u	0.47	100	0	New (Cat A)	0				\$0
15	Collector Road 2W	Garner Road	Collector Road 10N	2u	0.27	100	1	New (Cat A)	1				\$0
16	Collector Road 2W	Collector Road 10N	Dickenson Road extension	2u	1.35	100	2	New (Cat A)	2				\$0
17	Collector Road 6E	Collector 6N	Dickenson Road	4u	0.71	100	2	New (Cat A)	2				\$0
18	Collector Road 6N	Glancaster Road	Collector Road 6E	4u	1.93	100	3	New (Cat A)	3				\$0
19	Collector Road 6N	Collector Road 6E	Collector Road 7E	4u	2.56	100	1	New (Cat A)	1				\$0
20	Collector Road 7E	Dickenson Road	Collector 6N	2u	0.49	100	2	New (Cat A)	2				\$0
21	Collector Road 7E	Collector 6N	Upper James Street	4u	0.58	100	1	New (Cat A)	1				\$0
22	Collector Road 7N	Book Road	Southcote Road	2u	0.91	100	1	New (Cat A)	1				\$0
23	Collector Road 7N	Southcote Road	Collector Road 2W	2u	0.89	100	1	New (Cat A)	1				\$0
24	Collector Road 12S	Collector 4E	Collector 5E	2u	0.35	100	1	New (Cat A)	1				\$0
25	Collector Road 12S	Collector 3E	Collector 4E	2u	0.35	100	2	New (Cat A)	2				\$0
26	Collector Road 1S	Fiddler's Green Road	Collector Road 9W	2u	0.41	100	1	New (Cat A)	1				\$0
27	Collector Road 2N	Collector Road 7N	Smith Road	2u	0.64	100	0	New (Cat A)	0				\$0
28	Collector Road 2S	Fiddler's Green Road	Collector Road 9W	2u	0.41	100	0	New (Cat A)	0				\$0
29	Collector Road 3E	Collector 12S	White Church Road	2u	0.2	100	0	New (Cat A)	0				\$0
30	Collector Road 3S	Collector 6W	Southcote Road	2u	0.52	100	1	New (Cat A)	1				\$0
31	Collector Road 4E	Collector 12S	White Church Road	2u	0.18	100	0	New (Cat A)	0				\$0
32	Collector Road 5E	Collector 12S	White Church Road	2u	0.18	100	1	New (Cat A)	1				\$0
33	Collector Road 5N	Fiddler's Green Road	Collector Road 8W	2u	0.84	100	0	New (Cat A)	0				\$0
34	Collector Road 6S	Glancaster Road (north)	Airport Road	2u	0.92	100	0	New (Cat A)	0				\$0
35	Collector Road 6S	Airport Road	Glancaster Road (south)	2u	0.4	100	1	New (Cat A)	1				\$0
36	Collector Road 6W	Collector 3S	Butter Road	2u	0.52	100	0	New (Cat A)	0				\$0

## APPENDIX G-1 - CATEGORY E - CULVERTS AND BRIDGES NOT PREVIOUSLY IDENTIFIED IN CATEGORY A

## Ref: Hamilton Development Charges -Transportation

Item Number	Road Project Description	From	To	Improvement	Length km	Benefit to Growth % (Roads)	Number of Culverts/Bridges > 1m <sup>2</sup> end area	Replacement /Widening/ New	Identified in Category "A"	Small @\$84,300 1-4m <sup>2</sup>	Medium @\$168,600 4-8m <sup>2</sup>	Large @\$337,200 >8m <sup>2</sup>	Cost (2019\$)
37	Collector Road 7S	Fiddler's Green Road	Collector 9W	2u	0.4	100	1	New (Cat A)	1				\$0
38	Collector Road 8S	Fiddler's Green Road	Collector 9W	2u	0.41	100	1	New (Cat A)	1				\$0
39	Collector Road 8W	Garner Road	Collector 5N	2u	1.36	100	0	New (Cat A)	0				\$0
40	Collector Road 9W	Garner Road	Carluka Road	2u	5.9	100	4	New (Cat A)	4				\$0
41	Dickenson Road	Glancaster Road	Upper James Street	2r-4u	2.9	85	8	Widening		7		1	\$927,300
42	Dickenson Road extension	Southcote Road	Smith Road	4u	0.42	100	1	New		1			\$84,300
43	Dickenson Road	Southcote Road	Smith Road	2r-4u	0.42	100	0	Widening					\$0
44	Dickenson Road extension	Smith Road	Glancaster Road	4u	0.8	100	0	New					\$0
45	Dickenson Road East	Upper James Street	w/o Nebo Road	2r-2u	4.6	60	0	Widening		0			\$0
46	Garner Road	w/o Southcote	e/o Glancaster	2r-5u	2.98	85	2	Widening		2			\$168,600
47	Garner Road	e/o Fiddler's Green Road	w/o Southcote Road	2r-4u	2.02	85	1	Widening		1			\$84,300
48	Garth Street extension	Twenty Road	Dickenson Road	5u	1.5	100	2	New		2			\$168,600
49	Garth Street extension	Dickenson Road	Collector 2E	5u	0.62	100	1	New		1			\$84,300
50	Glancaster Road	Collector 1N	Airport Boundary	2r-2u	0.49	85	0	Widening		0			\$0
51	Glancaster Road	Dickenson Road extension	Collector 1N	2r-4u	0.37	85	0	Widening		0			\$0
52	Glancaster Road	Garner Road	Dickenson Road	2r-4u	2.46	85	4	Widening		4			\$337,200
53	Smith Road	Dickenson Road extension	Collector 1N	2r-4u	0.65	85	0	Widening					\$0
54	Smith Road	Garner Road	Dickenson Road extension	2u	1.57	100	1	New		1			\$84,300
55	Smith Road	Collector 1N	Airport Boundary	2r-2u	0.35	100	0	Widening					\$0
56	Smith Road extension	Hydro corridor north crossing		2u	0.26	100	0	New					\$0
57	Southcote Road	Garner	Twenty Road extension	2r-4u	0.97	85	0	Widening					\$0
58	Southcote Road	Twenty Road extension	Book Road	2r-4u	0.97	85	0	Widening					\$0
59	Twenty Road	Glancaster Road	Aldercrest Avenue	2r-4u	3.08	85	9	Widening		9			\$758,700
60	Twenty Road extension	Southcote Road	Glancaster Road	4u	1.86	100	2	New		2			\$168,600
61	Fiddler's Green Road	Garner Road	Carluka Road	2r-4u	6.07	85	7	Widening		7			\$590,100
62	Glancaster Road	Butter Road	White Church Road	2r-4u	2.31	85	2	Widening		2			\$168,600
63	Southcote Road	Book Road	Collector 1N	2r-4u	0.65	85	0	Widening		0			\$0
64	Southcote Road	Airport Boundary	Butter Road	2u	0.81	100	0	Replacement		0			\$0
65	Upper James Street	Ardelea Avenue	Homestead Drive	4u-6u	4.69	85	6	Widening		5	1		\$590,100
66	White Church Road	Glancaster Road	Highway 6	2r-4u	2.31	85	1	Widening		1			\$84,300
67	Upper James Street	Malton	Highway 6	4r-5u NBR	7	85	0	Widening					\$0
<b>SMATS Projects</b>													
68	West 5th Street	Rymal Road	Stone Church Road	2r-3u	1	60	0	New					\$0
69	Garth Street	Rymal Road	Stone Church Road	2r-4u	1	85	0	Widening					\$0
70	Rymal Road	Glancaster Road	Garth Street	2r-5u	1.3	85	1	Widening				1	\$337,200
71	Rymal Road	Fletcher Road	Upper Centennial	2r-5u	2.49	85	1	Replacement				1	\$337,200
72	Rymal Road	Upper Wentworth	West of Dartnall	3r-3u	3.29	85	0	Widening					\$0

## APPENDIX G-1 - CATEGORY E - CULVERTS AND BRIDGES NOT PREVIOUSLY IDENTIFIED IN CATEGORY A

## Ref: Hamilton Development Charges -Transportation

Item Number	Road Project Description	From	To	Improvement	Length km	Benefit to Growth % (Roads)	Number of Culverts/Bridges > 1m <sup>2</sup> end area	Replacement /Widening/ New	Identified in Category "A"	Small @\$84,300 1-4m <sup>2</sup>	Medium @\$168,600 4-8m <sup>2</sup>	Large @\$337,200 >8m <sup>2</sup>	Cost (2019\$)
73	Rymal Road	Upper James Street	Upper Wellington Street	2r-5u	0.87	85	0	Widening					\$0
74	Rymal Road	Upper Wellington Street	Upper Wentworth Street	2r-5u	0.86	85	0	Widening					\$0
75	Upper Wellington Street	Rymal Road	Stone Church Road	2u-4u	1	60	0	Widening					\$0
<b>SCUBE Projects</b>													
76	Arvin Avenue	McNeilly	Lewis Road	2u	0.8	100	0	New					\$0
77	Arvin Avenue	Jones Road	existing east end	2u	0.5	100	0	New					\$0
78	Arvin Avenue	McNeilly	existing west end	2u	0.4	100	1	New (Cat A)	1				\$0
79	SCUBE Central (east-west collector)	McNeilly Road	eastern boundary collector	2u	1.47	100	0	New					\$0
80	SCUBE Central (north-south collector)	Highway 8	Arvin Road extension	2u	0.48	100	0	New					\$0
81	SCUBE Central (north-south collector)	Barton Street	Highway 8	2u	0.66	100	0	New					\$0
82	SCUBE West (Block 1) (east-west)	Fruitland Road	north-south collector	2u	1.36	100	1	New (Cat A)	1				\$0
83	SCUBE West (Block 1) (north-south)	Barton Street	Highway 8	2u	0.76	100	0	New					\$0
<b>Ancaster Industrial Park and TMP Projects</b>													
84	Ancaster New E/W Road (Trinity@Wilson)	Tradewind/ Cormorant	Trinity Road	2u	0.81	100	1	New (Cat A)	1				\$0
85	Garner Road / Wilson St / Hwy 2	Fiddler's Green Road	Hwy 2	2r-4r	3.5	85	0	Widening					\$0
86	Golf Links Rd intersection improvements (Martindale)			Int	--	85	0	Widening					\$0
87	Golf Links Road	McNiven Road	Kitty Murray Lane	2r-3u	0.8	85	0	Widening					\$0
88	Jerseyville Road	Shaver Road	Wilson Street	2r-3u	3.10	60	0	Widening					\$0
89	Springbrook Avenue	Regan Drive	Garner Road	2r-2u	0.69	85	0	Widening					\$0
90	Trinity Road	1km S. of Wilson	Hwy 403	2r-4u	2.2	85	2	Widening			2		\$674,400
91	Shaver Road	Trustwood	Garner Road	2r-2u	1.00	85	0	Widening					\$0
92	Southcote Road	Calder Street	Garner Road	2r-3u	1.26	60	0	Widening					\$0
93	McNiven Road	Rousseaux Street	Golf Links Road	2r-3u	0.63	20	0	Widening					\$0
94	Mohawk Road	McNiven Road	Highway 403	2r-3u	1.3	60	0	Widening					\$0
95	Stone Church Road	Harrogate Drive	Stonehenge Drive	2r-4u	0.34	85	0	Widening					\$0
<b>RHBPS Projects</b>													
96	Dartnall Road Extension	Twenty Road	Dickenson Road	4u	1.65	100	2	New (Cat A)	2				\$0
97	Dickenson Road	w/o Nebo	w/o Glover	2r-2u	1.1	60	3	Widening		3			\$252,900
98	Nebo Road	Rymal Road	Twenty Road	2r-2u	1.3	85	1	Replacement		1			\$84,300
99	Nebo Road	800m South of Twenty Road	Dickenson Road	2r-2u	0.6	85		Widening					\$0
100	Regional Road 56	Rymal Road	ROPA 9 Boundary	2r-5u	1.2	85	3	Widening		3			\$252,900
101	Regional Road 56	Cemetery Road	South Limits of ROPA 9	various/E SR	0	85	0	Widening					\$0
102	Twenty Road extension	Glover Road	Upper Red Hill Valley Parkway	3u	0.6	100	2	New		2			\$168,600
103	Glover Road	Twenty Road	Rymal Road	2r-2u	2.6	85	0	Widening					\$0
104	Upper Red Hill Valley Parkway (previously)	Rymal Road	Dartnall Road extension	5u	2.5	100	1	New		1			\$84,300
<b>Waterdown Projects</b>													
105	Burke Street	Dundas Street	Mountain Brow	4u	0.85	95	0	New					\$0

## APPENDIX G-1 - CATEGORY E - CULVERTS AND BRIDGES NOT PREVIOUSLY IDENTIFIED IN CATEGORY A

## Ref: Hamilton Development Charges -Transportation

Item Number	Road Project Description	From	To	Improvement	Length km	Benefit to Growth % (Roads)	Number of Culverts/Bridges > 1m <sup>2</sup> end area	Replacement /Widening/ New	Identified in Category "A"	Small @\$84,300 1-4m <sup>2</sup>	Medium @\$168,600 4-8m <sup>2</sup>	Large @\$337,200 >8m <sup>2</sup>	Cost (2019\$)
106	Parkside Drive	Highway 6	Main Street	2r-4u	2.92	60	2	New Cat A	2				\$0
107	Parkside Drive	Main Street	Churchill (500 m east)	2r-4u	0.61.52	60	0	Widening					\$0
108	East-West Road Corridor (Waterdown By-Pass)	Kerns Road	Highway 6	4u	6.34	95	8	New Cat A	8				\$0
109	Waterdown Road (Burlington portion)	Mountain Brow Road	Craven Avenue	2r-4u	1.9	100	0	Widening					\$0
110	Mountain Brow Road	Waterdown Road	New north-south link	2r-4u	0.91	85	2	Widening			2		\$337,200
111	Dundas Street	New north-south link	Hamilton Boundary	4u-6u	0.87	85	0	New (Cat A)					\$0
112	Centre Road	Northlawn	Parkside Drive	2r-3u	0.4	60	0	New (Cat A)					\$0
<b>Fruitland Winona Projects</b>													
113	Barton Street	Fruitland Road	Fifty Road	2r-3u	5	60	5	Widening (Cat A)	5				\$0
114	Fifty Road	South Service Road	Barton Street	2r-4u	1	85	0	Widening					\$0
115	Fifty Road Escarpment Access	QEW	Highway 8	2r-2u	0.8	85	0	Widening					\$0
116	Fruitland Road By-pass	Barton Street	Highway 8	4u	1.1	85	1	New (Cat A)	1				\$0
117	Fruitland Road	Arvin Avenue	Barton Street	2u-4u	0.3	85	0	Widening					\$0
118	Highway 8 (Stoney Creek)	Dewitt Road	Fruitland Road	2r-5u	0.8	60	0	Widening					\$0
119	Highway 8 (Stoney Creek)	Fruitland Road	East City Limit	2r-4r_NBR	3.3	60	4	Widening		3	1		\$421,500
<b>Elfrida Boundary Expansion Projects</b>													
120	First Road East	Highway 20	Mud Street	2r-3u	2.1	85	1	Widening		1			\$84,300
121	Fletcher Road	500m South of Rymal	Golf Club Road	2r-3u	1.6	85	1	Widening		1			\$84,300
122	Golf Club Road	Trinity Church Road	Hendershot Road	2r-2u	7.00	85	1	Widening		1			\$84,300
123	Hendershot Road	Highway 20	Golf Club Road	2r-3u	2.10	85	1	Widening		1			\$84,300
124	Highland Road	Upper Centennial Parkway	Second Road East	2r-3u	2.00	85	0	Widening					\$0
125	Mud Street	Upper Centennial Parkway	Second Road East	2r-2u	2.00	85	1	Widening		1			\$84,300
126	Second Road East	Highway 20	Mud Street	2r-3u	3.00	85	1	Widening			1		\$168,600
127	Trinity Church Road	Hydro corridor	Golf Club Road	2r-2u	2.00	85	0	Widening					\$0
128	Upper Centennial Parkway	Green Mountain Road	Highway 20	4r-5u	2.90	85	0	Widening					\$0
<b>Other Road Projects</b>													
129	Binbrook Road	Royal Winter Drive/Binhaven Road	Fletcher Road	2r-3u	0.7	85	0	Widening					\$0
130	Highway 8 (Dundas)	Bond Street	Dundas Limits	2r-3u	0.4	60	0	Widening					\$0
131	Highway 8 (Dundas)	Hillcrest	Park Ave	2r-3u	0.6	60	1	Widening		1			\$84,300
132	Jones Road	Barton Street	South Service Road	2r-2u	0.90	50	1	Widening		1			\$84,300
133	Lewis Road	Barton Street	South Service Road	2r-2u	0.80	50	1	New (Cat A)	1				\$0
134	Longwood Road	Aberdeen Avenue	Main Street	arious/ESF	0.65	50	0	Widening					\$0
135	Miles Road	Rymal Road	Hydro Corridor	2r-3u	2.00	85	1	Widening		1			\$84,300
136	Millen Road	Barton Street	South Service Road	2r-3u	1.00	60	0	Widening					\$0
137	Fletcher Road	Binbrook Road	Golf Club Road	2r-2u	4.20	60	3	Widening		3			\$252,900
138	South Service Road	Millen Road	Gray	2r-2u	1.70	85	0	Widening					\$0
139	Trinity Church Road	Binbrook Road	Golf Club Road	2r-2u	5.20	60	1	Widening				1	\$337,200

APPENDIX G-1 - CATEGORY E - CULVERTS AND BRIDGES NOT PREVIOUSLY IDENTIFIED IN CATEGORY A

Ref: Hamilton Development Charges -Transportation

Item Number	Road Project Description	From	To	Improvement	Length km	Benefit to Growth % (Roads)	Number of Culverts/Bridges > 1m <sup>2</sup> end area	Replacement /Widening/ New	Identified in Category "A"	Small @\$84,300 1-4m <sup>2</sup>	Medium @\$168,600 4-8m <sup>2</sup>	Large @\$337,200 >8m <sup>2</sup>	Cost (2019\$)
140	Nebo Road	800m South of Twenty Road	Dickenson Road	2r-2u	0.6	85	0	Widening					\$0
141	Twenty Road	Aldercrest Avenue	600m west of Nebo Road	2r-2u	4.1	60	0	Widening					\$0
142	Upper Gage Street	Mohawk Road	Thorley	4u-5u	0.6	50	0	Widening					\$0
143	Upper Sherman Avenue	Stone Church Road	LINC	2r-3u	0.90	60	0	Widening					\$0
144	Upper Sherman Avenue	Stone Church Road	Rymal Road	2r-3u	1.00	60	0	Widening					\$0
145	Upper Wellington Street	Limeridge Street	Stone Church Road	2r-5u	1.20	60	0	Widening					\$0
146	West 5th Street	Limeridge Street	Stone Church Road	2r-3u	1.20	60	0	Widening					\$0
147	Shaver Road	Hwy 403	Wilson Road		1.50	100	1	Widening			1		\$168,600
148	Scenic Drive	Old City Limits	Lavender S Leg		1.40	100	1	Widening			1		\$168,600
149	North Service Road	Green Road	East City Limits		8.30	100	1	New (Cat A)	1				\$0
150	Victoria Avenue	Ferrie Street	Burlington Street	Two-way conversion Service Roads	0.46	85	0	Widening					\$0
151	Highway 5/6 municipal roads					100	1	New (Cat A)	1				\$0
<b>Grand Total</b>													<b>\$9,441,600</b>
<b>Growth %</b>													
<b>Total Growth</b>													

\$4,467,900
\$4,973,700

APPENDIX G-1 - GRIDS-RELATED STORMWATER MANAGEMENT (QUALITY AND OR QUANTITY) FACILITIES:

Primary Dev. Areas	SWMF #	AEGD Stage #	Drainage Area (ha)	Volume (m3)	Estimated Footprint 4% (ha)	Land Cost 4%	Estimated Capital Cost (\$)	Estimated Cost (\$)	Growth Related %	Total Growth Associated Cost (\$)	Post Period Cost (\$)	Net Total Associated Cost 2014-2031 (\$)	Direct Developer Contribution (%)	Direct Developer Contribution (\$)	Net Total Associated Cost (\$)	
Expansion to Airport SPA	1	2	77	17,325	3.08	4,968,252	1,096,673	6,064,924	100	6,064,924	6,064,924	-	100	-	-	
	2	2	33	7,425	1.32	2,129,251	470,003	2,599,253	100	2,599,253	2,599,253	-	100	-	-	
	3	2	38.5	8,663	1.54	2,484,126	548,336	3,032,462	100	3,032,462	3,032,462	-	100	-	-	
	4	2	88	19,800	3.52	5,678,002	1,253,340	6,931,342	100	6,931,342	6,931,342	-	100	-	-	
	5	1	160	36,000	6.40	10,323,640	2,278,800	12,602,440	100	12,602,440	-	12,602,440	100	12,602,440	-	-
	6	1	63	14,175	2.52	4,064,933	897,278	4,962,211	100	4,962,211	-	4,962,211	100	4,962,211	-	-
	10	1	33	7,425	1.32	2,129,251	470,003	2,599,253	100	2,599,253	-	2,599,253	100	2,599,253	-	-
	11	1	28	6,300	1.12	1,806,637	398,790	2,205,427	100	2,205,427	-	2,205,427	100	2,205,427	-	-
	12	1	17.88	4,023	0.72	1,153,667	254,656	1,408,323	100	1,408,323	-	1,408,323	100	1,408,323	-	-
	13	1	108	24,300	4.32	6,968,457	1,538,190	8,506,647	100	8,506,647	-	8,506,647	100	8,506,647	-	-
	14	1	42.5	9,563	1.70	2,742,217	605,306	3,347,523	100	3,347,523	-	3,347,523	100	3,347,523	-	-
	15	1	25.5	5,738	1.02	1,645,330	363,184	2,008,514	100	2,008,514	-	2,008,514	100	2,008,514	-	-
	16	1	34	7,650	1.36	2,193,774	484,245	2,678,019	100	2,678,019	-	2,678,019	100	2,678,019	-	-
17	1	41	9,225	1.64	2,645,433	583,943	3,229,375	100	3,229,375	-	3,229,375	100	3,229,375	-	-	
18	1	124.88	28,098	5.00	8,057,601	1,778,603	9,836,205	100	9,836,205	-	9,836,205	100	9,836,205	-	-	
19	1	100	22,500	4.00	6,452,275	1,424,250	7,876,525	100	7,876,525	-	7,876,525	100	7,876,525	-	-	
20	1	230.5	51,863	9.22	14,872,494	3,282,896	18,155,391	100	18,155,391	-	18,155,391	100	18,155,391	-	-	
21	1	15	3,375	0.60	967,841	213,638	1,181,479	100	1,181,479	-	1,181,479	100	1,181,479	-	-	
22	1	34	7,650	1.36	2,193,774	484,245	2,678,019	100	2,678,019	-	2,678,019	100	2,678,019	-	-	
23	1	140.88	31,698	5.64	9,089,965	2,006,483	11,096,449	100	11,096,449	-	11,096,449	100	11,096,449	-	-	
24	1	50.5	11,363	2.02	3,258,399	719,246	3,977,645	100	3,977,645	-	3,977,645	100	3,977,645	-	-	
25	1	97	21,825	3.88	6,258,707	1,381,523	7,640,229	100	7,640,229	-	7,640,229	100	7,640,229	-	-	
26	2	45	10,125	1.80	2,903,524	640,913	3,544,436	100	3,544,436	3,544,436	-	-	100	-	-	
27	2	42.75	9,619	1.71	2,758,348	608,867	3,367,215	100	3,367,215	-	3,367,215	100	3,367,215	-	-	
28	2	18	4,050	0.72	1,161,410	256,365	1,417,775	100	1,417,775	-	1,417,775	100	1,417,775	-	-	
29	2	196.75	44,269	7.87	12,694,851	2,802,212	15,497,063	100	15,497,063	15,497,063	-	-	100	-	-	
30	2	24.75	5,569	0.99	1,596,938	352,502	1,949,440	100	1,949,440	-	1,949,440	100	1,949,440	-	-	
31	2	16.25	3,656	0.65	1,048,495	231,441	1,279,935	100	1,279,935	-	1,279,935	100	1,279,935	-	-	
32	2	15	3,375	0.60	967,841	213,638	1,181,479	100	1,181,479	-	1,181,479	100	1,181,479	-	-	
33	2	30.25	6,806	1.21	1,951,813	430,836	2,382,649	100	2,382,649	-	2,382,649	100	2,382,649	-	-	
34	1	24.75	5,569	0.99	1,596,938	352,502	1,949,440	100	1,949,440	-	1,949,440	100	1,949,440	-	-	
35	2	12.75	2,869	0.51	822,665	181,592	1,004,257	100	1,004,257	-	1,004,257	100	1,004,257	-	-	
36	2	22.5	5,063	0.90	1,451,762	320,456	1,772,218	100	1,772,218	-	1,772,218	100	1,772,218	-	-	
37	2	33.75	7,594	1.35	2,177,643	480,684	2,658,327	100	2,658,327	-	2,658,327	100	2,658,327	-	-	
38	2	56.25	12,656	2.25	3,629,405	801,141	4,430,545	100	4,430,545	-	4,430,545	100	4,430,545	-	-	
39	1	37.5	8,438	1.50	2,419,603	534,094	2,953,697	100	2,953,697	-	2,953,697	100	2,953,697	-	-	
7	1	20	4,500	0.80	1,290,455	284,850	1,575,305	100	1,575,305	-	1,575,305	100	1,575,305	-	-	
8	1	37.25	8,381	1.49	2,403,473	530,533	2,934,006	100	2,934,006	-	2,934,006	100	2,934,006	-	-	
9	1	58.13	13,079	2.33	3,750,708	827,917	4,578,624	100	4,578,624	-	4,578,624	100	4,578,624	-	-	
40	1	11.25	2,531	0.45	725,881	160,228	886,109	100	886,109	-	886,109	100	886,109	-	-	
41	Elfrida (Res)	126	28,350	5.04	8,129,867	1,794,555	9,924,422	100	9,924,422	-	9,924,422	0	-	-	9,924,422	
42	Elfrida (Res)	21.25	4,781	0.85	1,371,108	302,653	1,673,762	100	1,673,762	-	1,673,762	0	-	-	1,673,762	
43	Elfrida (Res)	60	13,500	2.40	3,871,365	854,550	4,725,915	100	4,725,915	-	4,725,915	0	-	-	4,725,915	
44	Elfrida (Res)	71.25	16,031	2.85	4,597,246	1,014,778	5,612,024	100	5,612,024	-	5,612,024	0	-	-	5,612,024	
45	Elfrida (Res)	22	4,950	0.88	1,419,501	313,335	1,732,836	100	1,732,836	-	1,732,836	0	-	-	1,732,836	
46	Elfrida (Res)	147	33,075	5.88	9,484,845	2,093,648	11,578,492	100	11,578,492	-	11,578,492	0	-	-	11,578,492	
47	Elfrida (Res)	168.75	37,969	6.75	10,888,214	2,403,422	13,291,636	100	13,291,636	-	13,291,636	0	-	-	13,291,636	
48	Elfrida (Res)	140	31,500	5.60	9,033,185	1,993,950	11,027,135	100	11,027,135	-	11,027,135	0	-	-	11,027,135	
49	Elfrida (Res)	66	14,850	2.64	4,258,502	940,005	5,198,507	100	5,198,507	-	5,198,507	0	-	-	5,198,507	
50	Elfrida (Res)	130.75	29,419	5.23	8,436,350	1,862,207	10,298,557	100	10,298,557	-	10,298,557	0	-	-	10,298,557	
51	Elfrida (Res)	38.5	8,663	1.54	2,484,126	548,336	3,032,462	100	3,032,462	-	3,032,462	0	-	-	3,032,462	
52	Elfrida (Res)	102.25	23,006	4.09	6,597,451	1,456,296	8,053,747	100	8,053,747	-	8,053,747	0	-	-	8,053,747	
53	Elfrida (Res)	25.16	5,661	1.01	1,623,392	358,341	1,981,734	100	1,981,734	-	1,981,734	0	-	-	1,981,734	
54	Elfrida (Res)	29.25	6,581	1.17	1,887,290	416,593	2,303,884	100	2,303,884	-	2,303,884	0	-	-	2,303,884	
55	Elfrida (Res)	48.75	10,969	1.95	3,145,484	694,322	3,839,806	100	3,839,806	-	3,839,806	0	-	-	3,839,806	
56	Elfrida (Res)	29.25	6,581	1.17	1,887,290	416,593	2,303,884	100	2,303,884	-	2,303,884	0	-	-	2,303,884	



	57	Elfrida (Res)	26	5,850	1.04	1,677,592	370,305	2,047,897	100	2,047,897	-	2,047,897	0	-	2,047,897
<b>Total</b>								<b>278,606,874</b>	<b>100</b>	<b>278,606,874</b>	<b>59,113,322</b>	<b>219,493,552</b>		<b>120,866,854</b>	<b>98,626,698</b>
<b>Total Residential</b>								<b>98,626,698</b>	<b>100</b>	<b>98,626,698</b>	<b>-</b>	<b>98,626,698</b>		<b>-</b>	<b>98,626,698</b>
<b>Total Non-Residential</b>								<b>179,980,176</b>	<b>100</b>	<b>179,980,176</b>	<b>59,113,322</b>	<b>120,866,854</b>		<b>120,866,854</b>	<b>-</b>

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## APPENDIX G-1 - GRIDS-RELATED OPEN WATERCOURSES: EROSION CONTROL AND CHANNEL SYSTEM IMPROVEMENTS

Primary Dev. Areas	Location	Total Length of Downstream Watercourse to Assumed End-Point <sup>3</sup>	Fraction of Watercourse Assumed to Required Erosion Control <sup>2</sup>	Length of Erosion Control Works	Estimated Cost (\$)	Land Cost	Estimated Total Cost (\$)	Growth Related %	Net Total Associated Cost (\$)	Remarks
Expansion to Airport SPA	Ancaster	1,303	0.2	260.6	390,900	243,024	633,924	100	633,924	
	North of Airport	-	0.2	-	-	-	-	100	-	
Potential New Business Park (In Existing Airport Spa)	West of Airport	24,231	0.2	4,846.2	7,269,300	4,519,350	11,788,650	100	11,788,650	
Potential Urban Boundary Expansion Area	South of Twenty Road West, north of Airport	-	0.2	-	-	-	-	100	-	
	Northwest of Golf Club Road and Second Road East	15,337	0.2	3,067.4	4,601,100	2,473,964	7,075,064	100	7,075,064	Residential
<b>Grand Total</b>							<b>19,497,638</b>	<b>100</b>	<b>19,497,638</b>	
<b>Total Residential</b>							<b>7,075,064</b>	<b>100</b>	<b>7,075,064</b>	
<b>Total Non-Residential</b>							<b>12,422,574</b>	<b>100</b>	<b>12,422,574</b>	

<sup>2</sup>0.05 - Where Development Fraction is 0 - 25%

0.10 - Where Development Fraction is 26 - 49%

0.15 - Where Development Fraction is 50 - 74%

0.20 - Where Development Fraction is 75 - 100%

<sup>3</sup>Location where d/s of this point no erosion is deemed to occur from subject development; total drainage area to this point estimated as a maximum of 2X the study watershed area.

<sup>4</sup>\$2500/m for Watershed Area > 500 ha

\$1500/m for Watershed Area < 500 ha



# 21. Draft Calculation and Rate Comparison

BY-LAW NO. 2019 - \_\_\_\_\_

## SCHEDULE OF DEVELOPMENT CHARGES

Service	RESIDENTIAL					NON-RESIDENTIAL
	Single and Semi-Detached Dwelling	Apartments - 2 Bedrooms +	Apartments - Bachelor and 1 Bedroom	Other Multiples	Special Care/Special Dwelling Units	(per sq.ft. of Gross Floor Area)
<b>City Wide Services:</b>						
Services Related to a Highway	10,875	6,369	4,356	7,783	3,513	8.14
Public Works Facilities, Fleet & Equipment	791	463	317	566	256	0.40
Police Services	502	294	201	359	162	0.25
Fire Protection Services	458	268	183	328	148	0.23
Transit Services	1,930	1,130	773	1,381	623	0.98
Parkland Development	2,301	1,347	922	1,647	743	0.11
Indoor Recreation Services	4,303	2,520	1,724	3,080	1,390	0.20
Library Services	1,019	597	408	729	329	0.04
Administrative Studies	497	291	199	356	161	0.25
Paramedics	137	80	55	98	44	0.02
Long Term Care	124	73	50	89	40	0.01
Health Services	1	1	-	1	-	0.00
Social & Child Services	13	8	5	9	4	0.00
Social Housing	673	394	270	482	217	0.00
Airport facilities	376	220	151	269	121	0.19
Parking services	491	288	197	351	159	0.25
Provincial Offences Act	34	20	14	24	11	0.02
Waste Diversion	657	385	263	470	212	0.13
<b>Total City Wide Services</b>	<b>25,182</b>	<b>14,748</b>	<b>10,088</b>	<b>18,022</b>	<b>8,133</b>	<b>11.22</b>
<b>Urban Services</b>						
Wastewater Facilities	3,893	2,280	1,559	2,786	1,258	1.87
Wastewater Linear Services	5,326	3,119	2,134	3,812	1,721	2.55
Water Services	4,755	2,785	1,905	3,403	1,536	2.29
<b>Combined Sewer System</b>						
Stormwater Drainage and Control Services	3,539	2,072	1,418	2,533	1,143	0.00
<b>Separated Sewer System</b>						
Stormwater Drainage and Control Services	13,085	7,663	5,242	9,365	4,227	2.24
<b>GRAND TOTAL CITY WIDE</b>	<b>25,182</b>	<b>14,748</b>	<b>10,088</b>	<b>18,022</b>	<b>8,133</b>	<b>11.22</b>
<b>GRAND TOTAL URBAN AREA (COMBINED SEWER SYSTEM)</b>	<b>42,695</b>	<b>25,004</b>	<b>17,104</b>	<b>30,556</b>	<b>13,791</b>	<b>17.93</b>
<b>GRAND TOTAL URBAN AREA (SEPARATED SEWER SYSTEM)</b>	<b>52,241</b>	<b>30,595</b>	<b>20,928</b>	<b>37,388</b>	<b>16,875</b>	<b>20.17</b>

## Residential (Single Detached) Comparison

Service	Current	Calculated	Calculated v. Current
<b>City Wide Services:</b>			
Services Related to a Highway	8,939	10,875	22%
Public Works Facilities, Fleet & Equipment	333	791	138%
Police Services	421	502	19%
Fire Protection Services	371	458	23%
Transit Services	544	1,930	255%
Parkland Development	1,479	2,301	56%
Indoor Recreation Services	2,271	4,303	89%
Library Services	642	1,019	59%
Administrative Studies	795	497	-37%
Paramedics	39	137	251%
Long Term Care	257	124	-52%
Health Services	28	1	-96%
Social & Child Services	31	13	-58%
Social Housing	583	673	15%
Airport facilities	261	376	44%
Parking services	366	491	34%
Provincial Offences Act	25	34	36%
Hamilton Conservation Authority	24	-	-100%
Waste Diversion	Previously Ineligible	657	N/A
<b>Total City Wide Services</b>	<b>17,409</b>	<b>25,182</b>	<b>45%</b>
<b>Water and Wastewater Urban Area Charges:</b>			
Wastewater Facilities	4,090	3,893	-5%
Wastewater Linear Services	5,151	5,326	3%
Water Services	4,603	4,755	3%
<b>Total Water and Wastewater Urban Area Services</b>	<b>13,844</b>	<b>13,974</b>	<b>1%</b>
<b>Stormwater Charges:</b>			
Stormwater Drainage and Control Services (Combined Sewer System)	7,065	3,539	-50%
Stormwater Drainage and Control Services (Separated Sewer System)	7,065	13,085	85%
<b>GRAND TOTAL CITY WIDE</b>	<b>17,409</b>	<b>25,182</b>	<b>45%</b>
<b>GRAND TOTAL URBAN AREA COMBINED SEWER SYSTEM</b>	<b>38,318</b>	<b>42,695</b>	<b>11%</b>
<b>GRAND TOTAL URBAN AREA SEPARATED SEWER SYSTEM</b>	<b>38,318</b>	<b>52,241</b>	<b>36%</b>

Calculated rate in 2019\$

## Non-Residential (per sq.ft.) Comparison

Service	Current	Calculated	Calculated v. Current
<b>City Wide Services:</b>			
Services Related to a Highway	9.10	8.14	-11%
Public Works Facilities, Fleet & Equipment	0.19	0.40	111%
Police Services	0.23	0.25	9%
Fire Protection Services	0.21	0.23	10%
Transit Services	0.34	0.98	188%
Parkland Development	0.11	0.11	0%
Indoor Recreation Services	0.16	0.20	25%
Library Services	0.04	0.04	0%
Administrative Studies	0.48	0.25	-48%
Paramedics	0.02	0.02	0%
Long Term Care	0.04	0.01	-75%
Health Services	-	-	-
Social & Child Services	-	-	N/A
Social Housing	-	-	-
Airport facilities	0.16	0.19	19%
Parking services	0.22	0.25	14%
Provincial Offences Act	0.01	0.02	100%
Hamilton Conservation Authority	0.02	-	-100%
Waste Diversion		0.13	
<b>Total City Wide Services</b>	<b>11.33</b>	<b>11.22</b>	<b>-1%</b>
<b>Water and Wastewater Urban Area Charges:</b>			
Wastewater Facilities	2.30	1.87	-19%
Wastewater Linear Services	2.90	2.55	-12%
Water Services	2.60	2.29	-12%
<b>Total Water and Wastewater Urban Area Services</b>	<b>7.80</b>	<b>6.71</b>	<b>-14%</b>
<b>Stormwater Charges:</b>			
Stormwater Drainage and Control Services (Combined Sewer System)	1.41	-	-100%
Stormwater Drainage and Control Services (Separated Sewer System)	1.41	2.24	59%
<b>GRAND TOTAL CITY WIDE</b>	<b>11.33</b>	<b>11.22</b>	<b>-1%</b>
<b>GRAND TOTAL URBAN AREA COMBINED SEWER SYSTEM</b>	<b>20.54</b>	<b>17.93</b>	<b>-13%</b>
<b>GRAND TOTAL URBAN AREA SEPARATED SEWER SYSTEM</b>	<b>20.54</b>	<b>20.17</b>	<b>-2%</b>

Calculated rate in 2019\$

**LEVEL OF SERVICE CEILING**  
**CITY OF HAMILTON**  
**SUMMARY OF SERVICE STANDARDS AS PER DEVELOPMENT CHARGES ACT, 1997, AS AMENDED**

Service Category	Sub-Component	10 Year Average Service Standard					Maximum Ceiling LOS	Utilized**	Remaining
		Cost (per capita)		Quantity (per capita)		Quality (per capita)			
Services Related to a Highway	Roads	\$22,997.80	0.0092	lane km of roadways	2,499,761	per lane km	1,982,019,397		
	Bridges, Culverts & Structures	\$3,021.00	0.0007	Number of Bridges, Culverts & Structures	4,315,714	per item	260,358,843		
	Traffic Signals	\$250.50	0.0010	No. of Traffic Signals	250,500	per signal	21,588,842	659,960,020	1,606,980,376
	Active Transportation - Terminals	\$17.80	0.0563	sq.ft. of terminal space	316	per sq.ft.	1,534,057		
	Active Transportation - Shelters	\$16.70	0.0021	No. of Shelters/Pads	7,952	per item	1,439,256		
	Facilities	\$945.73	1.6712	sq.ft. of building area	566	per sq.ft.	81,505,849	26,785,330	54,720,518
	Vehicles and Equipment	\$184.36	0.0023	No. of vehicles and equipment	80,157	per vehicle	15,888,698	14,210,885	1,677,813
Fire	Fire Facilities	\$194.54	0.4755	sq.ft. of building area	409	per sq.ft.	16,766,041		
	Fire Vehicles	\$122.13	0.0002	No. of vehicles	610,650	per vehicle	10,525,530	22,754,342	7,762,197
	Fire Small Equipment and Gear	\$37.42	0.0086	No. of equipment and gear	4,351	per Firefighter	3,224,968		
Police	Police Facilities	\$261.70	0.5821	sq.ft. of building area	450	per sq.ft.	22,554,091		
	Police Vehicles	\$16.30	0.0004	No. of vehicles and equipment	40,750	per vehicle	1,404,783	24,665,678	1,163,368
	Police Small Equipment and Gear	\$21.70	0.0045	No. of equipment and gear	4,822	per Officer	1,870,171		
Parking	Parking Spaces	\$263.81	0.0090	No. of spaces	29,312	per space	17,159,785		
	Parking Meters	\$4.37	0.0051	No. of Meters	857	per meter	284,251	22,114,537	880,525
	Parking Facilities	\$85.34	0.0599	sq.ft. of building area	1,425	per sq.ft.	5,551,026		
Airport	Airport Space	\$291.51	0.0029	acres of land	100,521	per sq.ft.	18,961,559	16,818,851	2,142,708
Parks	Parkland Development	\$447.94	0.0115	Acres of Parkland	38,951	per acre	29,136,705		
	Parkland Amenities	\$560.40	0.0334	No. of parkland amenities	16,778	per amenity	36,451,778		
	Parkland Amenities - Buildings	\$10.11	0.1066	sq.ft. of building area	95	per sq.ft.	657,615	65,965,460	1,645,954
	Parkland Trails	\$20.73	0.0001	Linear Kilometres of Paths and Trails	207,300	per lin m.	1,348,404		
	Parks Vehicles and Equipment	\$0.26	0.0001	No. of vehicles and equipment	2,600	per vehicle	16,912		
Recreation	Indoor Recreation Facilities	\$1,796.90	3.9848	sq.ft. of building area	451	per sq.ft.	116,881,157		
	Indoor Recreation Facilities - Buildings Within Parks	\$178.95	0.4181	sq.ft. of building area	428	per sq.ft.	11,639,982	123,522,251	5,033,362
	Recreation Vehicles and Equipment	\$0.53	0.0001	No. of vehicles and equipment	5,300	per vehicle	34,474		
Library	Library Facilities	\$389.01	0.7264	sq.ft. of building area	536	per sq.ft.	25,303,544	24,709,161	747,892
	Library Vehicles	\$2.36	0.00001	No. of vehicles and equipment	214,545	per vehicle	153,509		
	Library Collection Materials	\$70.77	2.0094	No. of library collection items	35	per collection item	4,603,305	3,171,031	1,432,274
Paramedics	Paramedics Facilities	\$38.52	0.1225	sq.ft. of building area	314	per sq.ft.	2,505,572	2,319,005	186,567
	Paramedics Vehicles	\$27.60	0.0005	No. of vehicles and equipment	55,200	per vehicle	1,795,270	1,794,600	670
Long Term Care	Long Term Care Facilities	\$305.30	0.6387	sq.ft. of building area	478	per sq.ft.	19,858,544	4,077,773	15,780,771

\*Transit is now based on a forward looking service standard based on the amendments to the DCA

\*\*Utilized amounts do not include interest costs from debentures.

## LEVEL OF SERVICE CEILING

## CITY OF HAMILTON

## SUMMARY OF SERVICE STANDARDS AS PER DEVELOPMENT CHARGES ACT, 1997, AS AMENDED

Service Category	Sub-Component	10 Year Average Service Standard					Maximum Ceiling LOS	Utilized**	Remaining
		Cost (per capita)	Quantity (per capita)	Quality (per capita)	Quantity (per capita)	Quality (per capita)			
Social Housing	Social Housing	\$1,604.83	10.71	sq.ft. of building area	149.84	per sq.ft.	104,387,772	18,734,570	85,653,202
Provincial Offences Act	Provincial Offences Act Facilities	\$22.48	0.0421	sq.ft. of building area	533.97	per sq.ft.	1,462,234	1,229,439	232,795
Health	Health Facilities	\$76.78	0.1975	sq.ft. of building area	389	per sq.ft.	4,994,232	81,191	4,961,175
	Health Vehicles	\$0.74	0.000002	No. of vehicles	390,898	per vehicle	48,134		
Social & Child Services	Social and Child Services Facilities	\$94.63	0.2647	sq.ft. of building area	357	per sq.ft.	6,155,303	362,227	5,793,076
Waste Diversion	Waste Diversion - Facilities - Stations/Depots	\$271.10	0.6940	sq.ft. of building area	391	per sq.ft.	17,633,971	22,054,910	2,055,691
	Waste Diversion - Vehicles & Equipment	\$79.39	0.0004	No. of vehicles and equipment	198,475	per vehicle	5,164,002		
	Waste Diversion - Carts & Containers	\$20.18	1.3441	No. of items	15	per Item	1,312,628		

\*Transit is now based on a forward looking service standard based on the amendments to the DCA

\*\*Utilized amounts do not include interest costs from debentures.





# 2019 Development Charges Background Study – Draft Capital Listings

City of Hamilton

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Development Charges Stakeholders Sub-Committee

January 28, 2019

Watson & Associates Economists Ltd.  
905-272-3600  
[info@watsonecon.ca](mailto:info@watsonecon.ca)

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# 1. Services Related to a Highway



## 1.1 Services Related to a Highway

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Services Related to a Highway

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Length	Capital Improvement	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%
<b>AEGD Projects</b>													
1	Airport Road - Upper James Street to East Cargo Road	2019-2022	1.07	2r-3i	4,437,000	-	-	4,437,000	1,775,000	-	2,662,000	1,331,000	1,331,000
2	Airport Road - East Cargo Road to Terminal Access Road	2019-2022	0.32	2r-4u	2,423,000	-	-	2,423,000	969,000	-	1,454,000	727,000	727,000
3	Airport Road - Terminal Access Road to Glancaster Road	2023-2031	1.68	2r-3i	7,325,000	-	-	7,325,000	2,930,000	-	4,395,000	2,197,500	2,197,500
4	Airport Road* - Butter Road to Glancaster Road	2032-2041	0.86	2r-4u	7,470,000	7,470,000	-	-	-	-	-	-	-
5	Book Road - Fiddler's Green Road to Highway 6	2032-2041	0.99	2r-4u	6,340,000	6,340,000	-	-	-	-	-	-	-
6	Book Road* - Highway 6 to Southcote Road	2032-2041	1.11	2r-4u	6,158,000	6,158,000	-	-	-	-	-	-	-
7	Book Road - Highway 6 to Southcote Road	2032-2041	1.11	4u-6u	6,421,000	6,421,000	-	-	-	-	-	-	-
8	Book Road - Collector 2W to Glancaster Road	2032-2041	0.59	2r-2u	1,984,000	1,984,000	-	-	-	-	-	-	-
9	Butter Road East - Airport Road to Glancaster Road	2023-2031	0.97	2r-2u	3,961,000	-	-	3,961,000	594,000	-	3,367,000	1,683,500	1,683,500
10	Butter Road East* - Highway 6 to Airport Road	2023-2031	0.37	2r-4u	3,428,000	3,428,000	-	-	-	-	-	-	-
11	Butter Road East - Fiddler's Green Road to Highway 6	2032-2041	0.94	2r-4u	8,708,000	8,708,000	-	-	-	-	-	-	-
12	Carluka Road East - Fiddler's Green Road to Glancaster Road	2032-2041	1.05	2r-4u	6,291,000	6,291,000	-	-	-	-	-	-	-
13	Collector Road 6N (oversizing) - Glancaster Road to Collector Road 6E	2032-2041	1.93	4u	2,896,000	2,896,000	-	-	-	-	-	-	-
14	Collector Road 6N (oversizing) - Collector Road 6E to Collector Road 7E	2032-2041	2.56	4u	3,635,000	3,635,000	-	-	-	-	-	-	-
15	Collector Road 7E (oversizing) - Collector 6N to Upper James Street	2032-2041	0.58	4u	1,312,000	1,312,000	-	-	-	-	-	-	-
16	Dickenson Road - Glancaster Road to Upper James Street	2025	2.90	2r-4u	14,282,000	-	-	14,282,000	2,142,000	-	12,140,000	6,070,000	6,070,000
17	Dickenson Road Extension - Southcote Road to Smith Road	2019-2022	0.42	4u	3,195,000	-	-	3,195,000	-	-	3,195,000	1,597,500	1,597,500
18	Dickenson Road Extension - Southcote Road to Smith Road	2032-2041	0.42	4u-6u	2,435,000	2,435,000	-	-	-	-	-	-	-
19	Dickenson Road Extension - Smith Road to Glancaster Road	2023-2031	0.80	4u	6,149,000	-	-	6,149,000	-	-	6,149,000	3,074,500	3,074,500
20	Garner Road* - Fiddler's Green Road to Glancaster Road	2023-2031	4.44	2r-4u	19,920,000	-	-	19,920,000	2,988,000	-	16,932,000	8,466,000	8,466,000
21	Garth Street extension (oversizing) - Twenty Road to Dickenson Road	2023-2031	1.50	5u	2,391,000	-	-	2,391,000	-	-	2,391,000	1,195,500	1,195,500
22	Garth Street extension (oversizing) - Dickenson Road to Collector 2E	2023-2031	0.62	5u	1,359,000	-	-	1,359,000	-	-	1,359,000	679,500	679,500
23	Glancaster Road - Collector 1N to Airport Boundary	2032-2041	0.49	2r-2u	2,019,000	2,019,000	-	-	-	-	-	-	-
24	Glancaster Road - Dickenson Road Extension to Collector 1N	2032-2041	0.37	2r-4u	2,426,000	2,426,000	-	-	-	-	-	-	-
25	Glancaster Road - Garner Road to Dickenson Road	2023-2031	2.46	2r-4u	16,844,000	-	-	16,844,000	2,527,000	-	14,317,000	7,158,500	7,158,500
26	Smith Road* - Dickenson Road extension to Collector 1N	2032-2041	0.65	2r-4u	4,055,000	4,055,000	-	-	-	-	-	-	-
27	Smith Road (except Hydro Corridor) - Garner Road to Dickenson Road extension	2032-2041	1.57	2u	9,919,000	9,919,000	-	-	-	-	-	-	-
28	Smith Road - Collector 1N to Airport Boundary	2032-2041	0.35	2r-2u	1,919,000	1,919,000	-	-	-	-	-	-	-
29	Smith Road extension - Hydro corridor north crossing	2032-2041	0.26	2u	1,037,000	1,037,000	-	-	-	-	-	-	-
30	Southcote Road* - Garner to Twenty Road extension	2019-2022	0.97	2r-4u	9,306,000	-	-	9,306,000	1,396,000	-	7,910,000	3,955,000	3,955,000
31	Southcote Road - Twenty Road extension to Book Road	2023-2031	0.97	2r-4u	8,541,000	-	-	8,541,000	1,281,000	-	7,260,000	3,630,000	3,630,000
32	Twenty Road - Glancaster Road to Aldercrest Avenue	2023-2031	3.08	2r-4u	17,826,000	-	-	17,826,000	2,674,000	-	15,152,000	7,576,000	7,576,000
33	Twenty Road extension - Southcote Road to Glancaster Road	2023-2031	1.86	4u	14,296,000	-	-	14,296,000	-	-	14,296,000	7,148,000	7,148,000
34	Fiddler's Green Road - Garner Road to Carluka Road	2032-2041	6.07	2r-4u	38,881,000	38,881,000	-	-	-	-	-	-	-
35	Glancaster Road* - Butter Road to Highway 6	2032-2041	1.40	2r-4u	13,210,000	13,210,000	-	-	-	-	-	-	-
36	Glancaster Road - Highway 6 to White Church Road	2032-2041	0.89	2r-4u	7,911,000	7,911,000	-	-	-	-	-	-	-
37	Southcote Road - Book Road to Collector 1N	2023-2031	0.65	2r-4u	4,210,000	4,210,000	-	-	-	-	-	-	-
38	Southcote Road - Airport Boundary to Butter Road	2032-2041	0.81	2r-2u	3,855,000	3,855,000	-	-	-	-	-	-	-
39	Upper James Street - Alderlea Avenue to Homestead Drive	2023-2031	3.67	4u-6u	30,929,000	-	-	30,929,000	4,639,000	-	26,290,000	13,145,000	13,145,000
40	White Church Road - Glancaster Road to Highway 6	2032-2041	2.31	2r-4u	19,651,000	19,651,000	-	-	-	-	-	-	-
41	Upper James Street* - Homestead to Highway 6	2023-2031	2.78	4r-5u_NBR	12,395,000	-	-	12,395,000	1,859,000	-	10,536,000	5,268,000	5,268,000
<b>South Mountain Area Transportation Study Projects</b>													



## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Length	Capital Improvement	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost				
									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%		
<b>2019-2031</b>															
42	West 5th Street - Rymal Road to Stone Church Road	2025	1.00	2r-3u	3,096,000	-	-	3,096,000	1,238,000	-	1,858,000	929,000	929,000		
43	Rymal Road - Glancaster Road to Garth Street	2019-2022	1.30	2r-5u	7,993,000	-	-	7,993,000	1,199,000	-	6,794,000	3,397,000	3,397,000		
44	Rymal Road - Fletcher Road to Upper Centennial	2020	2.49	2r-5u	15,717,000	-	-	15,717,000	2,358,000	-	13,359,000	6,679,500	6,679,500		
45	Rymal Road* - Upper Wentworth to West of Dartnall	2019-2022	3.29	2r-5u	22,520,000	-	-	22,520,000	3,378,000	-	19,142,000	9,571,000	9,571,000		
46	Rymal Road - Upper James Street to Upper Wellington Street	2026	0.87	2r-5u	4,624,000	-	-	4,624,000	694,000	-	3,930,000	1,965,000	1,965,000		
47	Rymal Road - Upper Wellington Street to Upper Wentworth Street	2030	0.86	2r-5u	4,664,000	-	-	4,664,000	700,000	-	3,964,000	1,982,000	1,982,000		
<b>Stoney Creek Urban Boundary Expansion Projects</b>															
48	Arvin Avenue - McNeilly to Lewis Road	2023-2031	0.80	2i	3,652,000	-	-	3,652,000	-	-	3,652,000	1,826,000	1,826,000		
49	Arvin Avenue - Jones Road to Existing east end	2023-2031	0.50	2i	2,564,000	-	-	2,564,000	-	-	2,564,000	1,282,000	1,282,000		
50	Arvin Avenue - McNeilly to Existing west end	2019-2022	0.40	2i	2,201,000	-	-	2,201,000	-	-	2,201,000	1,100,500	1,100,500		
51	Fruitland Road - Highway 8 to Barton Street	2023-2031	1.05	2r-4u	8,207,000	-	-	8,207,000	1,231,000	-	6,976,000	3,488,000	3,488,000		
52	McNeilly Road* - Highway 8 to Barton Street	2023-2031	0.89	2r-4u	6,797,000	-	-	6,797,000	1,020,000	-	5,777,000	2,888,500	2,888,500		
53	Lewis Road* - Highway 8 to Barton Street	2023-2031	0.52	2r-4u	4,290,000	-	-	4,290,000	644,000	-	3,646,000	1,823,000	1,823,000		
54	Glover Road* - Highway 8 to Barton Street	2023-2031	0.82	2r-4u	6,323,000	-	-	6,323,000	948,000	-	5,375,000	2,687,500	2,687,500		
55	Jones Road* - Highway 8 to Barton Street	2023-2031	0.93	2r-4u	7,068,000	-	-	7,068,000	1,060,000	-	6,008,000	3,004,000	3,004,000		
<b>Ancaster Industrial Park and Transportation Master Plan Projects</b>															
56	Garner Road - Fiddler's Green Road to Highway 2/Wilson Street	2019-2022	3.50	2r-4u	20,208,000	-	-	20,208,000	3,031,000	-	17,177,000	8,588,500	8,588,500		
57	Golf Links Road - McNiven Road to Kitty Murray Lane	2023-2031	0.80	2r-3u	4,646,000	-	-	4,646,000	697,000	-	3,949,000	1,974,500	1,974,500		
58	Jerseyville Road - Shaver Road to Wilson Street	2023-2031	3.10	2r-3u	16,438,000	-	-	16,438,000	6,575,000	-	9,863,000	4,931,500	4,931,500		
59	Springbrook Avenue - Regan Drive to Garner Road	2020	0.69	2r-2u	3,096,000	-	-	3,096,000	464,000	-	2,632,000	1,316,000	1,316,000		
60	Trinity Road - 1km south of Wilson to Highway 403	2019-2022	2.20	2r-4u	12,985,000	-	-	12,985,000	1,948,000	-	11,037,000	5,518,500	5,518,500		
61	Shaver Road - Trustwood to Garner Road	2023-2031	1.00	2r-2i	4,840,000	-	-	4,840,000	726,000	-	4,114,000	2,057,000	2,057,000		
62	Shaver Road - Highway 403 to Wilson Street	2019-2022	1.50	2r-2u	6,189,000	-	-	6,189,000	928,000	-	5,261,000	2,630,500	2,630,500		
63	Southcote Road - Calder Street to Garner Road	2022	1.26	2r-3u	5,871,000	-	-	5,871,000	2,348,000	-	3,523,000	1,761,500	1,761,500		
64	McNiven Road - Rousseaoux Street to Golf Links Road	2028	0.63	2r-3u	3,218,000	-	-	3,218,000	2,574,000	-	644,000	322,000	322,000		
65	Mohawk Road - McNiven Road to Highway 403	2019-2022	1.30	2r-3u	7,656,000	-	-	7,656,000	3,062,000	-	4,594,000	2,297,000	2,297,000		
66	Stone Church Road - Harrogate Drive to Stonehenge Drive	2023-2031	0.34	2r-4u	3,114,000	-	-	3,114,000	467,000	-	2,647,000	1,323,500	1,323,500		
<b>Red Hill Business Park Projects</b>															
67	Dartnall Road Extension - Twenty Road to Dickenson Road	2022	1.65	2i	4,988,000	-	-	4,988,000	-	-	4,988,000	2,494,000	2,494,000		
68	Dickenson Road - west of Nebo to west of Glover	2023-2031	1.10	2r-2i	5,585,000	-	-	5,585,000	2,234,000	-	3,351,000	1,675,500	1,675,500		
69	Dickenson Road East* - Upper James Street to west of Nebo Road	2023-2031	4.60	2r-2u	18,170,000	-	-	18,170,000	7,268,000	-	10,902,000	5,451,000	5,451,000		
70	Nebo Road - Rymal Road to Twenty Road	2020	1.30	2r-2i	5,870,000	-	-	5,870,000	881,000	-	4,989,000	2,494,500	2,494,500		
71	Nebo Road* - 800m South of Twenty Road to Dickenson Road	2019-2022	0.60	2r-2i	3,649,000	-	-	3,649,000	547,000	-	3,102,000	1,551,000	1,551,000		
72	Regional Road 56 - Rymal Road to ROPA 9 Boundary	2019	1.20	2r-5u	8,587,000	-	-	8,587,000	1,288,000	-	7,299,000	3,649,500	3,649,500		
73	Regional Road 56* - Cemetery Road to South Limits of ROPA 9	2023-2031	4.56	2r-5u	11,867,000	-	-	11,867,000	1,780,000	-	10,087,000	5,043,500	5,043,500		
74	Twenty Road extension - Glover Road to Upper Red Hill Valley Parkway	2023-2031	0.60	3i	3,077,000	-	-	3,077,000	-	-	3,077,000	1,538,500	1,538,500		
75	Glover Road - Twenty Road to Rymal Road	2023-2031	2.60	2r-2i	9,400,000	-	-	9,400,000	1,410,000	-	7,990,000	3,995,000	3,995,000		
76	Upper Red Hill Valley Parkway - Rymal Road to Twenty Road	2023-2031	1.23	5u	10,375,000	-	-	10,375,000	-	-	10,375,000	5,187,500	5,187,500		
<b>Waterdown Projects</b>															
77	Burke Street - Skinner Road to Mountain Brow	2023-2031	0.47	4u	3,948,000	-	-	3,948,000	197,000	-	3,751,000	1,875,500	1,875,500		
78	Parkside Drive - Highway 6 to Hollybush Drive	2023-2031	1.10	2r-4u	6,297,000	-	-	6,297,000	2,519,000	-	3,778,000	1,889,000	1,889,000		
79	Parkside Drive - Main Street to Churchill (500 m east)	2023-2031	0.61	2r-4u	4,749,000	-	-	4,749,000	1,900,000	-	2,849,000	1,424,500	1,424,500		





## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Length	Capital Improvement	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost			
									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%	
	2019-2031													
80	E-W Road Corridor (Waterdown By-Pass) - Dundas Street to Highway 6	2019-2022	6.29	4u	52,207,000	-		52,207,000	2,610,000	-	49,597,000	24,798,500	24,798,500	
81	Waterdown Road (Burlington portion) - Mountain Brow Road to Craven Avenue <sup>3</sup>	2019	1.90	2r-4u	24,720,000	-		24,720,000	-	-	24,720,000	22,248,000	2,472,000	
82	Mountain Brow Road - Waterdown Road to New N-S Link (Burke Street)	2019-2022	0.91	2r-4u	7,654,000	-		7,654,000	1,148,000	-	6,506,000	3,253,000	3,253,000	
83	Dundas Street - New north-south link to Hamilton Boundary	2023-2031	0.87	4u-6u	8,039,000	-		8,039,000	1,206,000	-	6,833,000	3,416,500	3,416,500	
84	Centre Road - Northlawn to Parkside Drive	2019-2022	0.40	2r-3u	2,434,000	-		2,434,000	974,000	-	1,460,000	730,000	730,000	
	<b>Fruitland Winona Projects</b>													
85	Barton Street - Fruitland Road to Fifty Road	2026	5.00	2r-3u	24,938,000	-		24,938,000	9,975,000	-	14,963,000	7,481,500	7,481,500	
86	Fifty Road - Q.E.W (South Service Road) to Highway 8	2023-2031	0.80	2r-4u	5,277,000	-		5,277,000	792,000	-	4,485,000	2,242,500	2,242,500	
87	Fruitland Road By-pass - Barton Street to Highway 8	2019	1.10	4u	8,761,000	-		8,761,000	1,314,000	-	7,447,000	3,723,500	3,723,500	
88	Fruitland Road - Arvin Avenue to Barton Street	2023-2031	0.30	2r-4u	3,010,000	-		3,010,000	452,000	-	2,558,000	1,279,000	1,279,000	
89	Highway 8 (Stoney Creek)* - Dewitt Road to Fruitland Road	2023-2031	0.80	2r-5u	6,534,000	-		6,534,000	2,614,000	-	3,920,000	1,960,000	1,960,000	
90	Highway 8 (Stoney Creek) - Fruitland Road to East City Limit	2023-2031	6.18	2r-4r NBR	20,674,000	-		20,674,000	8,270,000	-	12,404,000	6,202,000	6,202,000	
	<b>Elfrida Boundary Expansion Projects</b>													
91	First Road East - Highway 20 to Mud Street	2023-2031	2.10	2r-3u	12,229,000	8,071,000		4,158,000	624,000	-	3,534,000	1,767,000	1,767,000	
92	First Road East (oversizing) - Highway 20 to Golf Club Road	2023-2031	2.21	3u	3,225,000	2,129,000		1,096,000	-	-	1,096,000	548,000	548,000	
93	Fletcher Road* - 500m South of Rymal to Golf Club Road	2023-2031	1.60	2r-3u	10,124,000	6,682,000		3,442,000	516,000	-	2,926,000	1,463,000	1,463,000	
94	Golf Club Road - Trinity Church Road to Hendershot Road	2023-2031	7.00	2r-2u	29,795,000	19,665,000		10,130,000	1,520,000	-	8,610,000	4,305,000	4,305,000	
95	Hendershot Road - Highway 20 to Golf Club Road	2023-2031	2.10	2r-3u	10,729,000	7,081,000		3,648,000	547,000	-	3,101,000	1,550,500	1,550,500	
96	Highland Road - Upper Centennial Parkway to Second Road East	2023-2031	2.00	2r-3u	10,308,000	6,803,000		3,505,000	526,000	-	2,979,000	1,489,500	1,489,500	
97	Mud Street - Upper Centennial Parkway to Second Road East	2023-2031	2.00	2r-2u	9,166,000	6,049,000		3,117,000	468,000	-	2,649,000	1,324,500	1,324,500	
98	Second Road East - Highway 20 to Mud Street	2023-2031	3.00	2r-3u	15,267,000	10,076,000		5,191,000	779,000	-	4,412,000	2,206,000	2,206,000	
99	Trinity Church Road* - Hydro corridor to Golf Club Road	2023-2031	2.00	2r-2u	9,541,000	6,297,000		3,244,000	487,000	-	2,757,000	1,378,500	1,378,500	
100	Upper Centennial Parkway - Green Mountain Road to Highway 20	2023-2031	2.90	4r-5u	20,111,000	13,273,000		6,838,000	1,026,000	-	5,812,000	2,906,000	2,906,000	
	<b>Other Road Projects</b>													
101	Binbrook Road - Royal Winter Dr/Binhaven Rd to Fletcher Road	2019	0.70	2r-3u	6,840,000	-		6,840,000	1,026,000	-	5,814,000	2,907,000	2,907,000	
102	Highway 8 (Dundas) - Bond Street to Dundas Limits	2023-2031	0.40	2r-3u	3,199,000	-		3,199,000	1,280,000	-	1,919,000	959,500	959,500	
103	Highway 8 (Dundas) - Hillcrest to Park Ave	2020	0.60	2r-3u	2,566,000	-		2,566,000	1,026,000	-	1,540,000	770,000	770,000	
104	Jones Road - Barton Street to South Service Road	2023-2031	0.90	2r-2i	3,739,000	-		3,739,000	1,870,000	-	1,869,000	934,500	934,500	
105	Lewis Road - Barton Street to South Service Road	2023-2031	0.80	2r-2i	3,402,000	-		3,402,000	1,701,000	-	1,701,000	850,500	850,500	
106	Longwood Road - Aberdeen Avenue to Main Street	2023-2031	0.65	various/ESR	5,561,000	-		5,561,000	2,781,000	-	2,780,000	1,390,000	1,390,000	
107	Miles Road - Rymal Road to Hydro Corridor	2023-2031	2.00	2r-3i	10,769,000	-		10,769,000	1,615,000	-	9,154,000	4,577,000	4,577,000	
108	Millen Road - Barton Street to South Service Road	2023-2031	1.00	2r-3i	6,118,000	-		6,118,000	2,447,000	-	3,671,000	1,835,500	1,835,500	
109	Fletcher Road - Binbrook Road to Golf Club Road	2023-2031	4.20	2r-2u	17,568,000	-		17,568,000	7,027,000	-	10,541,000	5,270,500	5,270,500	
110	South Service Road - Millen Road to Gray	2023-2031	1.70	2r-2u	8,019,000	-		8,019,000	1,203,000	-	6,816,000	3,408,000	3,408,000	
111	Trinity Church Road - Binbrook Road to Golf Club Road	2023-2031	5.20	2r-2u	9,032,000	-		9,032,000	3,613,000	-	5,419,000	2,709,500	2,709,500	
112	Twenty Road - Aldercrest Avenue to 600m west of Nebo Road	2023-2031	4.10	2r-2u	16,290,000	-		16,290,000	6,516,000	-	9,774,000	4,887,000	4,887,000	
113	Upper Gage Street - Mohawk Road to Thorley	2023-2031	0.60	4u-5u	5,281,000	-		5,281,000	2,641,000	-	2,640,000	1,320,000	1,320,000	
114	Upper Wellington Street - Limeridge Street to Stone Church Road	2019-2022	1.20	2r-5u	9,350,000	-		9,350,000	3,740,000	-	5,610,000	2,805,000	2,805,000	
115	Shaver Road - Highway 403 to Wilson Street	2019-2022	1.50	2r-2u	6,189,000	-		6,189,000	928,000	-	5,261,000	2,630,500	2,630,500	
116	Scenic Drive - Lavender Drive (south leg) to Old City Limits	2019-2022	1.40	2r-2u	6,571,000	-		6,571,000	2,628,000	-	3,943,000	1,971,500	1,971,500	
117	North Service Road - Green Road to East City Limits	2019-2022	-	Intersection	3,013,000	-		3,013,000	-	-	3,013,000	1,506,500	1,506,500	
118	Victoria Avenue - Ferrie Street to Burlington Street	2019	0.46	2-way conversion	1,224,000	-		1,224,000	184,000	-	1,040,000	520,000	520,000	
119	Hwy 5/6 municipal roads (City portion)	2019-2022	-	Service Roads	22,981,000	-		22,981,000	-	-	22,981,000	11,490,500	11,490,500	
120	Post Period Benefit Deduction	2019-2031	-	-	-	175,000,000		(175,000,000)	-	-	(175,000,000)	(87,500,000)	(87,500,000)	
	<b>Major Structures</b>													
121	Highway 5/6 Interchange	2019-2022	-	Structure	18,299,000	-		18,299,000	-	-	18,299,000	9,149,500	9,149,500	



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City of Hamilton

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									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share	Non-Residential Share
2019-2031													
122	Strathcona Pedestrian Bridge	2027	-	Structure	7,601,000	-	-	7,601,000	1,140,000	-	6,461,000	3,230,500	3,230,500
123	Fifty Road - Grade Separation	2029	-	Structure	25,765,000	12,882,000	-	12,883,000	3,221,000	-	9,662,000	4,831,000	4,831,000
124	Other Grade Separation - Grade Separation	2024	-	Structure	25,765,000	12,882,000	-	12,883,000	3,221,000	-	9,662,000	4,831,000	4,831,000
125	Mohawk Road	2019-2022	-	Hwy 403 WB on-ramp	3,934,000	-	-	3,934,000	1,967,000	-	1,967,000	983,500	983,500
<b>Programs</b>													
126	Intersection Pedestrian Signal	2019-2031	-	City-Wide Program	11,700,000	-	-	11,700,000	585,000	-	11,115,000	5,557,500	5,557,500
127	Traffic Count Program	2019-2031	-	City-Wide Program	2,000,000	-	-	2,000,000	100,000	-	1,900,000	950,000	950,000
128	Geotechnical Investigation Program	2019-2031	-	City-Wide Program	9,100,000	-	-	9,100,000	7,735,000	-	1,365,000	682,500	682,500
129	Mapping Update Program	2019-2031	-	City-Wide Program	305,000	-	-	305,000	15,000	-	290,000	145,000	145,000
130	Active Transportation Benchmarking	2019-2031	-	City-Wide Program	390,000	-	-	390,000	20,000	-	370,000	185,000	185,000
131	Development Road Urbanization	2019-2031	-	City-Wide Program	6,500,000	-	-	6,500,000	325,000	-	6,175,000	3,087,500	3,087,500
132	Street Lighting Enhancement Program	2019-2031	-	City-Wide Program	3,250,000	-	-	3,250,000	163,000	-	3,087,000	1,543,500	1,543,500
133	Pedestrian Crossovers	2019-2031	-	City-Wide Program	900,000	-	-	900,000	45,000	-	855,000	427,500	427,500
134	Advanced Traffic Management Systems	2019-2031	-	City-Wide Program	14,390,000	-	-	14,390,000	10,793,000	-	3,597,000	1,798,500	1,798,500
135	Express Bus (L.A.S.T. Line) Enhanced Passenger Amenities	2019-2031	-	City-Wide Program	8,010,000	-	-	8,010,000	4,005,000	-	4,005,000	2,002,500	2,002,500
136	Miscellaneous Land Acquisitions	2019-2031	-	City-Wide Program	5,000,000	-	-	5,000,000	250,000	-	4,750,000	2,375,000	2,375,000
137	Transit Shelter Expansion Program	2019-2031	-	City-Wide Program	1,950,000	-	-	1,950,000	975,000	-	975,000	487,500	487,500
138	Bus Stop Shelter Rehabilitation Program	2019-2031	-	City-Wide Program	1,625,000	-	-	1,625,000	1,381,000	-	244,000	122,000	122,000
139	Cordon Count Program	2019-2031	-	City-Wide Program	330,000	-	-	330,000	17,000	-	313,000	156,500	156,500
140	New Sidewalk Program	2019-2031	-	City-Wide Program	6,500,000	-	-	6,500,000	325,000	-	6,175,000	3,087,500	3,087,500
141	New Traffic Signals	2020-2031	-	City-Wide Program	12,000,000	-	-	12,000,000	600,000	-	11,400,000	5,700,000	5,700,000
142	New Traffic Signal - Waterdown Road/Mill St at Mountain Brow	2019	-	Traffic Signal	250,000	-	-	250,000	13,000	-	237,000	118,500	118,500
143	New Traffic Signal - Rymal Road west of Walmart Access	2019	-	Traffic Signal	100,000	-	-	100,000	5,000	-	95,000	47,500	47,500
144	New Traffic Signal - Regional Road 56 at Dalgleish Road	2019	-	Traffic Signal	250,000	-	-	250,000	13,000	-	237,000	118,500	118,500
145	New Traffic Signal - Rymal at Canadian Tire Access	2019	-	Traffic Signal	200,000	-	-	200,000	10,000	-	190,000	95,000	95,000
146	New Traffic Signal - Rymal (opposite Celestial Crescent)	2019	-	Traffic Signal	100,000	-	-	100,000	5,000	-	95,000	47,500	47,500
147	New Traffic Signal - Drakes at North Service Road	2019	-	Traffic Signal	350,000	-	-	350,000	18,000	-	332,000	166,000	166,000
148	New Traffic Signal - Fifty at North Service Road	2019	-	Traffic Signal	350,000	-	-	350,000	18,000	-	332,000	166,000	166,000
149	Unidentified intersection improvements (excluding Traffic Signals)	2019-2031	-	City-Wide Program	3,250,000	-	-	3,250,000	163,000	-	3,087,000	1,543,500	1,543,500
150	Annual A and B Line Enhanced Bus Stops & Shelters	2019-2031	-	City-Wide Program	919,000	-	-	919,000	460,000	-	459,000	229,500	229,500
151	Annual Express Bus/Rapid Transit Enhanced Bus Stops & Shelters	2019-2031	-	City-Wide Program	5,054,000	-	-	5,054,000	2,527,000	-	2,527,000	1,263,500	1,263,500
152	Annual Transit Priority Measures	2019-2031	-	City-Wide Program	17,472,000	-	-	17,472,000	8,736,000	-	8,736,000	4,368,000	4,368,000
153	Annual Bike Parking at B/A Line Stops	2019-2031	-	City-Wide Program	46,000	-	-	46,000	23,000	-	23,000	11,500	11,500
154	Annual Enhanced Bike Parking at Express Bus/Rapid Transit Stops	2019-2031	-	City-Wide Program	275,000	-	-	275,000	138,000	-	137,000	68,500	68,500
155	Transportation Demand Management	2019-2031	-	City-Wide Program	2,000,000	-	-	2,000,000	1,000,000	-	1,000,000	500,000	500,000
<b>Studies/Environmental Assessments</b>													
156	Complete and Liveable Streets Guidelines	2019-2022	-	Study	250,000	-	-	250,000	-	-	250,000	125,000	125,000
157	Cycling Master Plan Review	2023-2031	-	Study	200,000	-	-	200,000	-	-	200,000	100,000	100,000
158	E.M.M.E Model Management	2019-2031	-	Monitoring	1,040,000	-	-	1,040,000	-	-	1,040,000	520,000	520,000
159	Goods Movement Study Review and Update	2019-2022	-	Study	150,000	-	-	150,000	-	-	150,000	75,000	75,000
160	Intelligent Transportation System Strategy	2019-2022	-	Study	250,000	-	-	250,000	-	-	250,000	125,000	125,000
161	Lincoln Alexander and Red Hill Valley Parkway Widening Feasibility Study	2019-2022	-	Study	500,000	-	-	500,000	-	-	500,000	250,000	250,000
162	Multi-modal Level of Service Guidelines	2019-2022	-	Study	250,000	-	-	250,000	-	-	250,000	125,000	125,000
163	Pedestrian Mobility Plan Review	2023-2031	-	Study	200,000	-	-	200,000	-	-	200,000	100,000	100,000
164	Revenue Tools Study	2019-2022	-	Study	250,000	-	-	250,000	-	-	250,000	125,000	125,000
165	Transportation Master Plan Review	2023-2031	-	Study	250,000	-	-	250,000	-	-	250,000	125,000	125,000





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									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%
2019-2031													
166	Truck Route Master Plan Review	2019-2022	-	Study	250,000	-	-	250,000	-	-	250,000	125,000	125,000
167	Escarpment Crossing People Mover Study	2023-2031	-	Study	200,000	-	-	200,000	-	-	200,000	100,000	100,000
<b>Active Transportation Projects</b>													
168	Red Hill Pedestrian Crossing - Eugene Street to Glengrove Avenue	2019-2031	-	Pedestrian Crossing	1,750,000	525,000	-	1,225,000	184,000	-	1,041,000	520,500	520,500
169	Heritage Green Trail Link	2019-2031	-	Commuter Trail	525,000	157,000	-	368,000	55,000	-	313,000	156,500	156,500
170	Flamborough Y.M.C.A Trail Link	2019-2031	-	Commuter Trail	565,000	169,000	-	396,000	59,000	-	337,000	168,500	168,500
171	Centre Road Link	2019-2031	-	Commuter Trail	640,000	192,000	-	448,000	67,000	-	381,000	190,500	190,500
172	Kerns Road, Waterdown South Link	2019-2031	-	Multi-Use Trail	957,000	287,000	-	670,000	101,000	-	569,000	284,500	284,500
173	Hunter - MacNab to Catharine	2019-2031	0.47	Bike Lane	78,000	23,000	-	55,000	8,000	-	47,000	23,500	23,500
174	Hunter - Liberty to Clarendon Access	2019-2031	0.23	Bike Lane	31,000	9,000	-	22,000	3,000	-	19,000	9,500	9,500
175	Wilson - James to Sherman	2019-2031	2.55	Bike Lane	81,000	24,000	-	57,000	9,000	-	48,000	24,000	24,000
176	Ferguson - Hunter to Charlton	2019-2031	0.20	Bike Lane	2,000	-	-	2,000	-	-	2,000	1,000	1,000
177	King over Red Hill Valley Parkway - Lawrence to Pottruff	2019-2031	0.50	Bike Lane	27,000	8,000	-	19,000	3,000	-	16,000	8,000	8,000
178	Locke - King to Hunter	2019-2031	1.28	Bike Lane	8,000	2,000	-	6,000	1,000	-	5,000	2,500	2,500
179	Barton - Red Hill Valley to Lake	2019-2031	1.61	Bike Lane	234,000	70,000	-	164,000	25,000	-	139,000	69,500	69,500
180	Wilson in Ancaster - Rousseaux to Halson	2019-2031	0.85	Bike Lane	20,000	6,000	-	14,000	2,000	-	12,000	6,000	6,000
181	Barton - Brockley to Fruiland	2019-2031	3.95	Bike Lane	123,000	37,000	-	86,000	13,000	-	73,000	36,500	36,500
182	Gage - Industrial to Lawrence	2019-2031	2.96	Bike Lane	115,000	34,000	-	81,000	12,000	-	69,000	34,500	34,500
183	Hunter Street - Escarpment Rail Trail Link - Hunter to West 5th at Fennell	2019-2031	3.50	Multi-Use Trail	3,275,000	982,000	-	2,293,000	344,000	-	1,949,000	974,500	974,500
184	Cannon - Sherman to Lottridge	2019-2031	0.42	Bike Lane	16,000	4,000	-	12,000	2,000	-	10,000	5,000	5,000
185	First Rd W/Whitdeer/Terryberry & Picardy/ Highbury - Glover Mtn Road/ Ridgeview Dr to Rymal/ Bellagio	2019-2031	4.08	Bike Lane	48,000	15,000	-	33,000	5,000	-	28,000	14,000	14,000
186	Olympic Park Twin Pad Arena Link - Chedoke Rail Trail to Old Mohawk Road	2019-2031	1.50	Multi-Use Trail	831,000	249,000	-	582,000	87,000	-	495,000	247,500	247,500
187	Dundas St - Main to Cootes	2019-2031	0.68	Bike Lane	16,000	5,000	-	11,000	2,000	-	9,000	4,500	4,500
188	Mohawk - Old Mohawk to Upper Paradise	2019-2031	1.83	Bike Lane	47,000	14,000	-	33,000	5,000	-	28,000	14,000	14,000
189	Hatt - Peel to Main	2019-2031	0.93	Bike Lane	29,000	9,000	-	20,000	3,000	-	17,000	8,500	8,500
190	Eastport Drive Lift Bridge Link	2019-2031	-	Multi-Use Trail	1,750,000	525,000	-	1,225,000	184,000	-	1,041,000	520,500	520,500
191	Beach Bike Lane - under QEW	2019-2031	0.24	Bike Lane	7,000	2,000	-	5,000	1,000	-	4,000	2,000	2,000
192	Beach Boulevard - lift bridge to Van Wagner's	2019-2031	4.25	Bike Lane	94,000	28,000	-	66,000	10,000	-	56,000	28,000	28,000
193	Van Wagner's - Beach Bike Lane to Centennial Parkway	2019-2031	2.50	Bike Lane	78,000	23,000	-	55,000	8,000	-	47,000	23,500	23,500
194	Montclair/ Central/ Graham/ Frederick	2019-2031	3.80	Bike Lane	19,000	6,000	-	13,000	2,000	-	11,000	5,500	5,500
195	Melvin - Strathhearn/ Shelby to Red Hill Valley Trail	2019-2031	1.90	Bike Lane	59,000	18,000	-	41,000	6,000	-	35,000	17,500	17,500
196	Britania - Cannon to Walter	2019-2031	0.84	Bike Lane	22,000	6,000	-	16,000	2,000	-	14,000	7,000	7,000
197	Creighton/ Market - Hatt/ King to Governor's	2019-2031	0.95	Bike Lane	25,000	8,000	-	17,000	3,000	-	14,000	7,000	7,000
198	Ogilvie/ Old Ancaster - Hatt/ King to Hamilton-Brantford Rail Trail	2019-2031	0.80	Bike Lane	14,000	5,000	-	9,000	1,000	-	8,000	4,000	4,000
199	Longwood - Franklin to King	2019-2031	0.73	Bike Lane	17,000	5,000	-	12,000	2,000	-	10,000	5,000	5,000
200	Mountain Brow in Waterdown - Mill to Burke to King Road	2019-2031	1.20	Multi-Use Trail	660,000	198,000	-	462,000	69,000	-	393,000	196,500	196,500
201	Golf Links/ Halson - Wilson to Southcote	2019-2031	1.19	Bike Lane	28,000	9,000	-	19,000	3,000	-	16,000	8,000	8,000
202	Meadowbrook	2019-2031	1.00	Bike Lane	16,000	5,000	-	11,000	2,000	-	9,000	4,500	4,500
203	West 5th - Mohawk College Access to Marlowe	2019-2031	1.13	Bike Lane	70,000	21,000	-	49,000	7,000	-	42,000	21,000	21,000
204	Limeridge - Garth/ Bonaventure to West 5th/ Hawkridge	2019-2031	1.37	Bike Lane	53,000	16,000	-	37,000	6,000	-	31,000	15,500	15,500
205	Scenic - Chedoke Rail Trail to Upper Paradise	2019-2031	2.27	Bike Lane	27,000	8,000	-	19,000	3,000	-	16,000	8,000	8,000
206	Green Mountain - First Road W to First Road E	2019-2031	1.50	Bike Lane	292,000	87,000	-	205,000	31,000	-	174,000	87,000	87,000
207	Walnut Grove & Sanctuary Park - Walnut Grove/ Ogilvie to Highland Park Dr	2019-2031	0.40	Multi-Use Trail	366,000	110,000	-	256,000	38,000	-	218,000	109,000	109,000
208	Scenic/ Denlow - Upper Paradise to Garth	2019-2031	0.95	Bike Lane	11,000	3,000	-	8,000	1,000	-	7,000	3,500	3,500
209	Waterdown local streets	2019-2031	-	Bike Lane	78,000	23,000	-	55,000	8,000	-	47,000	23,500	23,500
210	Frid/Chatham - Longwood to Dundurn	2019-2031	1.00	Bike Lane	6,000	2,000	-	4,000	1,000	-	3,000	1,500	1,500





Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Services Related to a Highway

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Length	Capital Improvement	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%
2019-2031													
259	Queenston/ Highway 8 - King to Dewitt	2019-2031	1.37	Bike Lane	246,000	74,000		172,000	26,000	-	146,000	73,000	73,000
260	Greenhill - Harrisford to Summercrest	2019-2031	1.94	Bike Lane	76,000	23,000		53,000	8,000	-	45,000	22,500	22,500
261	Mill in Waterdown - Parkside to Dundas St	2019-2031	0.95	Bike Lane	22,000	6,000		16,000	2,000	-	14,000	7,000	7,000
262	King in Stoney Creek - Gray to Queenston/ Highway 8	2019-2031	1.51	Bike Lane	78,000	23,000		55,000	8,000	-	47,000	23,500	23,500
263	Rousseaux/ Mohawk - Wilson to Filman	2019-2031	1.60	Bike Lane	225,000	68,000		157,000	24,000	-	133,000	66,500	66,500
264	Baseline/ Lockport - Winona Road to Niagara border	2019-2031	1.15	Bike Lane	23,000	7,000		16,000	2,000	-	14,000	7,000	7,000
265	Winona - Lido/ shore to Peachtree	2019-2031	1.97	Bike Lane	46,000	14,000		32,000	5,000	-	27,000	13,500	13,500
266	Cherry Beach Road Link - Millen to Dewitt	2019-2031	0.91	Multi-Use Trail	234,000	70,000		164,000	25,000	-	139,000	69,500	69,500
267	North Service Road - Dewitt to Lakeview	2019-2031	0.73	Bike Lane	16,000	5,000		11,000	2,000	-	9,000	4,500	4,500
268	North Service Road - Bellavista to Baseline	2019-2031	0.98	Bike Lane	23,000	7,000		16,000	2,000	-	14,000	7,000	7,000
269	Upper Sherman - Stone Church to Rymal to Miles	2019-2031	1.00	Bike Lane	179,000	53,000		126,000	19,000	-	107,000	53,500	53,500
270	Emperor - Brigade to Acadia	2019-2031	0.44	Bike Lane	16,000	5,000		11,000	2,000	-	9,000	4,500	4,500
271	Burlington/ Industrial - Sherman to Gage	2019-2031	0.86	Bike Lane	99,000	30,000		69,000	10,000	-	59,000	29,500	29,500
272	Birch/ Holton - Burlington St to Cannon/ King/ Delaware	2019-2031	1.40	Bike Lane	31,000	9,000		22,000	3,000	-	19,000	9,500	9,500
273	Dewitt - Barton to Dundee	2019-2031	0.90	Bike Lane	21,000	6,000		15,000	2,000	-	13,000	6,500	6,500
274	Chedmac - Southridge to Rice	2019-2031	0.53	Bike Lane	23,000	7,000		16,000	2,000	-	14,000	7,000	7,000
275	Kilbride - Upper Ottawa to Nebo	2019-2031	0.38	Bike Lane	9,000	3,000		6,000	1,000	-	5,000	2,500	2,500
276	Hamilton in Waterdown - Centre/Main to Highway 5/Dundas	2019-2031	1.00	Bike Lane	62,000	18,000		44,000	7,000	-	37,000	18,500	18,500
277	Osler/ Main - Hatt/ King to Main + 125m of Main	2019-2031	2.00	Bike Lane	88,000	26,000		62,000	9,000	-	53,000	26,500	26,500
278	Fiddler's Green - Amberly to Garner	2019-2031	0.68	Bike Lane	21,000	6,000		15,000	2,000	-	13,000	6,500	6,500
279	Shaver - Wilson to Garner	2019-2031	0.52	Bike Lane	12,000	3,000		9,000	1,000	-	8,000	4,000	4,000
280	Upper James - Twenty to Airport/ Mt Hope	2019-2031	4.05	Multi-Use Trail	1,153,000	346,000		807,000	121,000	-	686,000	343,000	343,000
281	Christie-Tews - Christie C.A. to Harvest	2019-2031	2.75	Multi-Use Trail	1,124,000	337,000		787,000	118,000	-	669,000	334,500	334,500
282	Fennell Avenue Boulevard Trail - Gantv/ West 18th to West 5th	2019-2031	1.20	Multi-Use Trail	412,000	124,000		288,000	43,000	-	245,000	122,500	122,500
283	Jones Road Link	2019-2031	-	Multi-Use Trail	222,000	222,000		-	-	-	-	-	-
284	Mountain Brow Boulevard Trail - Mohawk to Arbour	2019-2031	1.81	Multi-Use Trail	374,000	112,000		262,000	39,000	-	223,000	111,500	111,500
285	Mountain Brow East Path - Rendell to Oakcrest	2019-2031	0.81	Multi-Use Trail	1,560,000	468,000		1,092,000	164,000	-	928,000	464,000	464,000
286	Upper James/ Christie - Rymal to Twenty	2019-2031	0.80	Multi-Use Trail	197,000	59,000		138,000	21,000	-	117,000	58,500	58,500
287	Proposed Pipeline Trail - Museum of Steam and Technology to Mahoney	2019-2031	2.40	Multi-Use Trail	517,000	155,000		362,000	54,000	-	308,000	154,000	154,000
288	Existing Pipeline Trail - Main to Strathearne	2019-2031	2.20	Multi-Use Trail	4,679,000	1,404,000		3,275,000	491,000	-	2,784,000	1,392,000	1,392,000
289	Hydro Corridor - Barton to Lawrence	2019-2031	1.90	Multi-Use Trail	1,251,000	375,000		876,000	131,000	-	745,000	372,500	372,500
290	Hydro Corridor - Lawrence Avenue to Greenhill Avenue	2019-2031	1.15	Multi-Use Trail	430,000	129,000		301,000	45,000	-	256,000	128,000	128,000
291	Strachan Street Trail - James to Ferguson	2019-2031	0.66	Multi-Use Trail	337,000	101,000		236,000	35,000	-	201,000	100,500	100,500
292	Karst Escarpment Loop - Pritchard to Mount Albion/Winterberry	2019-2031	0.70	Multi-Use Trail	390,000	117,000		273,000	41,000	-	232,000	116,000	116,000
293	Chedoke Rail Trail - Highway 403 to Dundurn	2019-2031	4.68	Multi-Use Trail	1,487,000	446,000		1,041,000	156,000	-	885,000	442,500	442,500
294	Hamilton-Brantford Rail Trail - Bridlewood Dr to Ewen	2019-2031	4.00	Multi-Use Trail	406,000	122,000		284,000	43,000	-	241,000	120,500	120,500
295	Battlefield Park - Bruce Trail Link - Greenhill to Bruce Trail to Glover Mtn	2019-2031	0.75	Multi-Use Trail	533,000	160,000		373,000	56,000	-	317,000	158,500	158,500
296	Devil's Punchbowl Link - Mountain Ave/ Lake Ave to Ridge Road/ Devil's	2019-2031	0.42	Multi-Use Trail	150,000	150,000		-	-	-	-	-	-
297	Gage Park - Cumberland to Montclair/ Maple	2019-2031	0.59	Multi-Use Trail	331,000	99,000		232,000	35,000	-	197,000	98,500	98,500
298	Iroquois Heights to Old Mohawk - Chedoke Rail Trail to Old Mohawk Road	2019-2031	0.85	Multi-Use Trail	318,000	95,000		223,000	33,000	-	190,000	95,000	95,000
299	Museum of Steam and Tech Link - Woodward to Red Hill Valley Trail	2019-2031	0.75	Multi-Use Trail	607,000	182,000		425,000	64,000	-	361,000	180,500	180,500
300	Ottawa Street South - Bruce Trail Link	2019-2031	0.39	Multi-Use Trail	686,000	206,000		480,000	72,000	-	408,000	204,000	204,000
301	Limeridge Mall Hydro Corridor Trail - Mohawk Road to South of Rymal	2019-2031	3.80	Multi-Use Trail	1,404,000	421,000		983,000	147,000	-	836,000	418,000	418,000
302	Fallsview - Sydenham to Rock Chapel Road	2019-2031	1.40	Multi-Use Trail	350,000	105,000		245,000	37,000	-	208,000	104,000	104,000
303	Hydro Corridor - Wilson/Highway 52 to Regional Road 56	2019-2031	12.70	Multi-Use Trail	7,617,000	2,285,000		5,332,000	800,000	-	4,532,000	2,266,000	2,266,000
304	Beddoe Drive Link	2019-2031	0.91	Multi-Use Trail	519,000	156,000		363,000	54,000	-	309,000	154,500	154,500
305	Hydro Corridor - Glanaster Road to Chippewa Rail Trail	2019-2031	0.70	Multi-Use Trail	5,763,000	1,729,000		4,034,000	605,000	-	3,429,000	1,714,500	1,714,500
306	Hydro Corridor - Chippewa Rail Trail to Fletcher Road	2019-2031	2.35	Multi-Use Trail	3,685,000	1,105,000		2,580,000	387,000	-	2,193,000	1,096,500	1,096,500



## Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Services Related to a Highway

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Length	Capital Improvement	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost			
									Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 50%	Non-Residential Share 50%	
	2019-2031													
307	Hydro Corridor - Trinity Road to Glancaster Road	2019-2031	10.00	Multi-Use Trail	7,617,000	2,285,000		5,332,000	800,000	-	4,532,000	2,266,000	2,266,000	
308	Hydro Corridor - White Church Road	2019-2031	6.60	Multi-Use Trail	3,731,000	1,866,000		1,865,000	280,000	-	1,585,000	792,500	792,500	
309	White Church Road West Airport Link	2019-2031	-	Multi-Use Trail	673,000	336,000		337,000	51,000	-	286,000	143,000	143,000	
310	White Church Road West Link	2019-2031	-	Multi-Use Trail	1,315,000	657,000		658,000	99,000	-	559,000	279,500	279,500	
311	Chippewa Road at Highway 6	2019-2031	0.02	Multi-Use Trail	125,000	38,000		87,000	13,000	-	74,000	37,000	37,000	
312	Glancaster Road Link	2019-2031	-	Multi-Use Trail	495,000	248,000		247,000	37,000	-	210,000	105,000	105,000	
313	Centre - Concession 8 E to Concession 7 E	2019-2031	1.80	Paved Shoulder	351,000	105,000		246,000	37,000	-	209,000	104,500	104,500	
314	East Townline - Mud to Highland	2019-2031	1.10	Bike Lane	13,000	4,000		9,000	1,000	-	8,000	4,000	4,000	
315	Centre - Warren/ Carlisle Road to Progreton	2019-2031	0.78	Paved Shoulder	151,000	45,000		106,000	16,000	-	90,000	45,000	45,000	
316	Centre - Grinstone Creek to Concession 5 E	2019-2031	0.45	Paved Shoulder	88,000	27,000		61,000	9,000	-	52,000	26,000	26,000	
317	Edgewood - Safari to Highway 6	2019-2031	0.90	Bike Lane	11,000	4,000		7,000	1,000	-	6,000	3,000	3,000	
318	Binbrook Road - Trinity Church to Fletcher	2019-2031	1.26	Paved Shoulder	246,000	74,000		172,000	26,000	-	146,000	73,000	73,000	
319	Ridge Road - Devil Punch Bowl to Dewitt	2019-2031	2.91	Multi-Use Trail	780,000	234,000		546,000	82,000	-	464,000	232,000	232,000	
320	York Road - Olympic to Valley Road	2019-2031	1.70	Paved Shoulder	437,000	131,000		306,000	46,000	-	260,000	130,000	130,000	
321	York Road & York Road at Old Guelph - Valley Road to Highway 6	2019-2031	2.50	Multi-Use Trail	1,433,000	430,000		1,003,000	150,000	-	853,000	426,500	426,500	
322	Northlawn Avenue Link	2019-2031	1.10	Multi-Use Trail	400,000	120,000		280,000	42,000	-	238,000	119,000	119,000	
323	Mosaic Drive - Parkside Drive to Highway 6	2019-2031	1.90	Multi-Use Trail	886,000	266,000		620,000	93,000	-	527,000	263,500	263,500	
324	Valley Road - Rock Chapel to York Road	2019-2031	1.40	Paved Shoulder	312,000	94,000		218,000	33,000	-	185,000	92,500	92,500	
325	Regional Road 56 south of Kirk - Southbrook to Binbrook Cons Area	2019-2031	3.00	Multi-Use Trail	780,000	234,000		546,000	82,000	-	464,000	232,000	232,000	
326	Regional Road 56 - Swayze Road to Cemetery	2019-2031	4.60	Multi-Use Trail	3,119,000	936,000		2,183,000	327,000	-	1,856,000	928,000	928,000	
327	Old Guelph Road - Paterson to York Bike Lane	2019-2031	3.53	Paved Shoulder	907,000	272,000		635,000	95,000	-	540,000	270,000	270,000	
328	Hamilton Drive Link	2019-2031	-	Multi-Use Trail	1,980,000	1,980,000		-	-	-	-	-	-	
	<b>Existing Debt:</b>													
329	Debt on Expressway - Principal (discounted) <sup>1</sup>	2019-2025			17,811,239	-		17,811,239	-	-	17,811,239	13,002,194	4,809,045	
330	Debt on Expressway - Interest (discounted) <sup>1</sup>	2019-2025			2,778,869	-		2,778,869	-	-	2,778,869	2,028,573	750,296	
331	Debt on Various Growth Related Road Projects - Principal (discounted) <sup>2</sup>	2019-2023			2,033,756	-		2,033,756	-	-	2,033,756	278,625	1,755,131	
332	Debt on Various Growth Related Road Projects - Interest (discounted) <sup>2</sup>	2019-2023			175,985	-		175,985	-	-	175,985	24,110	151,875	
	<b>Future Financing:</b>													
333	Waterdown Road (Burlington portion) - Mountain Brow Road to Craven Avenue - Growth Related Debt Interest (Discounted)	2020-2035			4,782,128	-		4,782,128	-	-	4,782,128	4,303,916	478,213	
334	Reserve Fund Adjustment					-		-	13,535,975	-	(13,535,975)	(6,767,988)	(6,767,988)	
	<b>Total</b>				<b>1,383,221,977</b>	<b>482,096,000</b>	<b>-</b>	<b>901,125,977</b>	<b>233,428,975</b>	<b>-</b>	<b>667,697,002</b>	<b>349,582,930</b>	<b>318,114,072</b>	

<sup>1</sup> Debt on Expressway Issued for 73% Residential portion and 27% Non-Residential portion

<sup>2</sup> Debt on Various Growth Related Road Projects Issued for 13.7% Residential portion and 86.3% Non-Residential portion

<sup>3</sup> Residential/Non-Residential Split based on 90%/10%



# 1.2 Detail Sheets (Prepared by Dillon Consulting Limited)

Item #	Project Name	From	To	Estimated Timing	Improvement Type	Length	Gross Capital Cost Estimate 2019	Gross Capital Cost Including G.A. 2019	Gross Capital Cost 2019	Post Period Benefit	Developer Responsibility	Net Capital Estimate After Deduction 2019	Benefit to Existing (%)	Benefit to Existing (\$)	Benefit to Growth (%)	Benefit to Growth (\$)	Benefit to Growth (\$)
<b>Airport Employment Growth District Projects</b>																	
1	Airport Road	Upper James Street	East College Road	2019-2021	2+2	1.07	\$4,466,793	\$4,466,793	\$4,467,000	0%	0%	\$4,467,000	40	\$1,776,000	60	\$1,691,000	\$1,691,000
2	Airport Road	East College Road	Terminal Access Road	2019-2021	2+4u	0.32	\$1,215,294	\$1,215,294	\$1,215,000	0%	0%	\$1,215,000	40	\$500,000	60	\$465,000	\$465,000
3	Airport Road	Terminal Access Road	Grantchester Road	2019-2021	2+2	1.68	\$7,325,128	\$7,325,128	\$7,325,000	0%	0%	\$7,325,000	40	\$2,920,000	60	\$2,400,000	\$2,400,000
4	Airport Road*	Butler Road	Grantchester Road	2019-2041	2+4u	0.86	\$6,705,207	\$7,470,207	\$7,470,000	100%	0%	\$0	15	\$0	85	\$0	\$0
5	Beach Road	Highway 6	Pedlars Green Road	2019-2041	2+4u	0.69	\$6,229,813	\$6,229,813	\$6,230,000	100%	0%	\$0	15	\$0	85	\$0	\$0
6	Beach Road*	Highway 6	South Side Road	2019-2041	2+4u	1.11	\$5,841,813	\$6,158,013	\$6,158,000	100%	0%	\$0	15	\$0	85	\$0	\$0
7	Beach Road	Highway 6	Upper James Street	2019-2041	4u-6u	1.11	\$6,421,233	\$6,421,233	\$6,421,000	100%	0%	\$0	15	\$0	85	\$0	\$0
8	Beach Road	Collector 2/3	Grantchester Road	2019-2041	2+4u	0.59	\$1,968,241	\$1,968,241	\$1,968,000	100%	0%	\$0	15	\$0	85	\$0	\$0
9	Butler Road 3u+*	Airport Road	Grantchester Road	2019-2021	2+4u	0.37	\$1,189,574	\$1,260,574	\$1,261,000	0%	0%	\$1,261,000	15	\$540,000	85	\$1,336,000	\$1,337,000
10	Butler Road 3u+*	Highway 6	Airport Road	2019-2021	2+4u	0.37	\$1,427,759	\$1,427,759	\$1,428,000	100%	0%	\$0	15	\$0	85	\$0	\$0
11	Butler Road 3u+*	Pedlars Green Road	Highway 6	2019-2041	2+4u	0.84	\$6,708,261	\$6,708,261	\$6,708,000	100%	0%	\$0	15	\$0	85	\$0	\$0
12	Butler Road 3u+*	Pedlars Green Road	Grantchester Road	2019-2041	2+4u	1.05	\$1,535,028	\$1,535,028	\$1,535,000	100%	0%	\$0	15	\$0	85	\$0	\$0
13	Butler Road 3u+*	Collector Road 5E	Collector Road 5E	2019-2041	4u	1.92	\$1,825,269	\$1,825,269	\$1,826,000	0%	0%	\$0	0	\$0	100	\$0	\$0
14	Butler Road 3u+*	Collector Road 5E	Collector Road 7E	2019-2041	4u	2.56	\$1,625,195	\$1,625,195	\$1,625,000	100%	0%	\$0	0	\$0	100	\$0	\$0
15	Butler Road 3u+*	Collector Road 7E	Upper James Street	2019-2041	4u	1.58	\$1,911,913	\$1,911,913	\$1,912,000	100%	0%	\$0	0	\$0	100	\$0	\$0
16	Butler Road 3u+*	Collector Road 7E	Upper James Street	2019-2041	2+4u	2.90	\$1,912,913	\$1,912,913	\$1,913,000	0%	0%	\$1,913,000	15	\$1,212,000	85	\$1,212,000	\$1,212,000
17	Butler Road Extension	Southside Road	Smith Road	2019-2021	4u	0.42	\$1,195,218	\$1,195,218	\$1,195,000	0%	0%	\$1,195,000	0	\$0	100	\$0	\$0
18	Butler Road Extension	Southside Road	Smith Road	2019-2041	4u-6u	0.42	\$1,428,121	\$1,428,121	\$1,428,000	100%	0%	\$0	15	\$0	85	\$0	\$0
19	Butler Road Extension	Smith Road	Grantchester Road	2019-2021	4u	0.80	\$1,146,659	\$1,146,659	\$1,146,000	0%	0%	\$1,146,000	0	\$0	100	\$0	\$0
20	Butler Road*	Pedlars Green Road	Grantchester Road	2019-2021	2+4u	4.44	\$19,150,811	\$19,150,811	\$19,150,000	0%	0%	\$19,150,000	15	\$1,948,000	85	\$1,654,000	\$1,654,000
21	Butler Road extension (overriding)	Thruway Road	Olson Road	2019-2021	2+4u	1.50	\$1,291,418	\$1,291,418	\$1,291,000	0%	0%	\$1,291,000	0	\$0	100	\$0	\$0
22	Butler Road extension (overriding)	Olson Road	Collector 2/3	2019-2021	2+4u	0.62	\$1,258,447	\$1,258,447	\$1,258,000	0%	0%	\$1,258,000	0	\$0	100	\$0	\$0
23	Butler Road*	Collector 2/3	Upper James Street	2019-2021	2+4u	0.56	\$1,215,446	\$1,215,446	\$1,215,000	100%	0%	\$0	0	\$0	100	\$0	\$0
24	Butler Road*	Collector 2/3	Upper James Street	2019-2041	2+4u	0.37	\$1,425,891	\$1,425,891	\$1,426,000	100%	0%	\$0	15	\$0	85	\$0	\$0
25	Butler Road*	Butler Road extension	Olson Road	2019-2021	2+4u	1.45	\$1,647,021	\$1,647,021	\$1,647,000	0%	0%	\$1,647,000	0	\$0	100	\$0	\$0
26	Butler Road*	Butler Road extension	Collector 2/3	2019-2041	2+4u	1.65	\$1,285,893	\$1,285,893	\$1,286,000	100%	0%	\$0	15	\$0	85	\$0	\$0
27	Butler Road*	Butler Road extension	Collector 2/3	2019-2041	2+4u	1.87	\$1,918,276	\$1,918,276	\$1,918,000	100%	0%	\$0	15	\$0	85	\$0	\$0
28	Butler Road*	Upper James Street	Upper James Street	2019-2041	2+4u	0.25	\$1,919,124	\$1,919,124	\$1,919,000	100%	0%	\$0	15	\$0	85	\$0	\$0
29	Butler Road extension	Upper James Street	Upper James Street	2019-2041	2+4u	0.26	\$1,097,293	\$1,097,293	\$1,097,000	100%	0%	\$0	15	\$0	85	\$0	\$0
30	Butler Road*	Upper James Street	Upper James Street	2019-2021	2+4u	0.27	\$1,215,029	\$1,215,029	\$1,215,000	0%	0%	\$1,215,000	0	\$0	100	\$0	\$0
31	Butler Road*	Upper James Street	Upper James Street	2019-2021	2+4u	0.37	\$1,425,000	\$1,425,000	\$1,425,000	0%	0%	\$1,425,000	0	\$0	100	\$0	\$0
32	Butler Road*	Upper James Street	Upper James Street	2019-2021	2+4u	3.08	\$1,740,234	\$1,740,234	\$1,740,000	0%	0%	\$1,740,000	15	\$1,740,000	85	\$1,515,000	\$1,515,000
33	Butler Road extension	Upper James Street	Upper James Street	2019-2021	2+4u	1.66	\$1,245,653	\$1,245,653	\$1,245,000	0%	0%	\$1,245,000	0	\$0	100	\$0	\$0
34	Butler Road*	Upper James Street	Upper James Street	2019-2021	2+4u	6.07	\$1,811,603	\$1,811,603	\$1,811,000	100%	0%	\$0	15	\$0	85	\$0	\$0
35	Butler Road*	Upper James Street	Upper James Street	2019-2041	2+4u	1.40	\$1,244,410	\$1,244,410	\$1,244,000	100%	0%	\$0	15	\$0	85	\$0	\$0
36	Butler Road*	Upper James Street	Upper James Street	2019-2041	2+4u	0.89	\$1,911,243	\$1,911,243	\$1,911,000	100%	0%	\$0	15	\$0	85	\$0	\$0
37	Butler Road*	Upper James Street	Upper James Street	2019-2041	2+4u	0.81	\$1,208,292	\$1,208,292	\$1,208,000	100%	0%	\$0	15	\$0	85	\$0	\$0
38	Butler Road*	Upper James Street	Upper James Street	2019-2041	2+4u	0.81	\$1,069,218	\$1,069,218	\$1,069,000	100%	0%	\$0	15	\$0	85	\$0	\$0
39	Butler Road*	Upper James Street	Upper James Street	2019-2021	4u-6u	3.67	\$209,277	\$209,277	\$209,000	100%	0%	\$209,000	15	\$48,000	85	\$1,628,000	\$1,628,000
40	Butler Road*	Upper James Street	Upper James Street	2019-2041	2+4u	0.21	\$1,889,679	\$1,889,679	\$1,889,000	100%	0%	\$0	15	\$0	85	\$0	\$0
41	Butler Road*	Upper James Street	Upper James Street	2019-2021	4u-6u	1.78	\$1,919,849	\$1,919,849	\$1,919,000	0%	0%	\$1,919,000	15	\$1,919,000	85	\$1,033,000	\$1,033,000
<b>South Mountain Area Transportation Study Projects</b>																	
42	Butler Road	Upper James Street	Upper James Street	2019	2+4u	1.00	\$3,096,000	\$3,096,000	\$3,096,000	0%	0%	\$3,096,000	40	\$1,238,000	60	\$1,858,000	\$1,858,000
43	Butler Road	Upper James Street	Upper James Street	2019-2021	2+4u	1.30	\$7,991,024	\$7,991,024	\$7,991,000	0%	0%	\$7,991,000	15	\$1,990,000	85	\$1,791,000	\$1,791,000
44	Butler Road	Upper James Street	Upper James Street	2019	2+4u	1.49	\$1,171,020	\$1,171,020	\$1,171,000	0%	0%	\$1,171,000	15	\$1,171,000	85	\$1,171,000	\$1,171,000
45	Butler Road*	Upper James Street	Upper James Street	2019-2021	2+4u	3.29	\$1,203,288	\$1,203,288	\$1,203,000	0%	0%	\$1,203,000	15	\$93,000	85	\$1,110,000	\$1,110,000
46	Butler Road*	Upper James Street	Upper James Street	2019	2+4u	0.87	\$4,612,600	\$4,612,600	\$4,612,000	0%	0%	\$4,612,000	15	\$540,000	85	\$3,972,000	\$3,972,000
47	Butler Road*	Upper James Street	Upper James Street	2019	2+4u	0.66	\$4,664,400	\$4,664,400	\$4,664,000	0%	0%	\$4,664,000	15	\$540,000	85	\$3,972,000	\$3,972,000
<b>Stoney Creek Urban Boundary Expansion Projects</b>																	
48	Butler Road	Upper James Street	Upper James Street	2019-2021	2+4u	0.80	\$2,851,700	\$2,851,700	\$2,851,000	0%	0%	\$2,851,000	0	\$0	100	\$0	\$0
49	Butler Road	Upper James Street	Upper James Street	2019-2021	2+4u	0.30	\$1,569,569	\$1,569,569	\$1,569,000	0%	0%	\$1,569,000	0	\$0	100	\$0	\$0
50	Butler Road	Upper James Street	Upper James Street	2019-2021	2+4u	0.40	\$1,200,850	\$1,200,850	\$1,201,000	0%	0%	\$1,201,000	0	\$0	100	\$0	\$0
51	Butler Road*	Upper James Street	Upper James Street	2019-2021	2+4u	1.05	\$6,205,543	\$6,205,543	\$6,205,000	0%	0%	\$6,205,000	15	\$1,210,000	85	\$1,695,000	\$1,695,000
52	Butler Road*	Upper James Street	Upper James Street	2019-2021	2+4u	0.89	\$6,021,239	\$6,021,239	\$6,021,000	0%	0%	\$6,021,000	15	\$1,020,000	85	\$1,777,000	\$1,777,000
53	Butler Road*	Upper James Street	Upper James Street	2019-2021	2+4u	0.53	\$1,214,213	\$1,214,213	\$1,214,000	0%	0%	\$1,214,000	15	\$440,000	85	\$1,244,000	\$1,244,000
54	Butler Road*	Upper James Street	Upper James Street	2019-2021	2+4u	0.82	\$1,597,681	\$1,597,681	\$1,597,000	0%	0%	\$1,597,000	15	\$440,000	85	\$1,277,000	\$1,277,000
55	Butler Road*	Upper James Street	Upper James Street	2019-2021	2+4u	0.92	\$6,202,456	\$6,202,456	\$6,202,000	0%	0%	\$6,202,000	15	\$1,050,000	85	\$1,600,000	\$1,600,000
<b>Ancaster Industrial Park and Transportation Master Plan Projects</b>																	
56	Butler Road	Upper James Street	Upper James Street	2019-2021	2+4u	3.50	\$10,077,84	\$10,077,84	\$10,078,000	0%	0%	\$10,078,000	15	\$3,021,000	85	\$1,317,000	\$1,317,000
57	Butler Road	Upper James Street	Upper James Street	2019-2021	2+4u	0.80	\$1,461,400	\$1,461,400	\$1,461,000	0%	0%	\$1,461,000	15	\$480,000	85	\$1,334,000	\$1,334,000
58	Butler Road	Upper James Street	Upper James Street	2019-2021	2+4u	2.10	\$1,516,715	\$1,516,715	\$1,516,000	0%	0%	\$1,516,000	40	\$617,000	60	\$1,682,000	\$1,682,000
59	Butler Road	Upper James Street	Upper James Street	2019-2021	2+4u	0.69	\$1,096,000	\$1,096,000	\$1,096,000	0%	0%	\$1,096,000	15	\$440,000	85	\$1,682,000	\$1,682,000
60	Butler Road	Upper James Street	Upper James Street	2019-2021	2+4u	1.10	\$1,112,639	\$1,112,639	\$1,112,000	0%	0%	\$1,112,000	15	\$1,112,000	85	\$1,112,000	\$1,112,000
61	Butler Road	Upper James Street	Upper James Street	2019-2021	2+4u	1.50	\$1,188,574	\$1,188,574	\$1,188,000	0%	0%						



Item #	Project Name	From	To	Estimated Timing	Improvement Type	Length	Gross Capital Cost Estimate 2019\$	Gross Capital Cost Estimate E.A. 2019\$	Gross Capital Cost 2019\$	Post Period Benefit	Developer Responsibility	Net Capital Estimate After Deduction 2019\$	Benefit to Existing (%)	Benefit to Existing (\$)	Benefit to Growth (%)	Benefit to Growth (\$)	Benefit to Growth (\$)	
<b>Waterdown Projects</b>																		
77	Burke Street	Skinner Road	Mountain Brow	2023-2031	4u	0.47	\$3,183,280	\$3,948,280	\$3,948,280	0%	0%	\$3,948,000	5	\$197,000	95	\$3,751,000	\$3,751,000	
78	Parkside Drive	Highway 6	Hollybush Drive	2023-2031	2r-4u	1.10	\$6,297,446	\$6,297,446	\$6,297,000	0%	0%	\$6,297,000	40	\$2,519,000	60	\$3,778,000	\$3,778,000	
79	Parkside Drive	Main Street	Churchill (500 m east)	2023-2031	2r-4u	0.61	\$4,748,800	\$4,748,800	\$4,749,000	0%	0%	\$4,749,000	40	\$1,900,000	60	\$2,849,000	\$2,849,000	
80	E-W Road Corridor (Waterdown By-Pass)	Dundas Street	Highway 6	2019-2022	4u	6.29	\$52,207,200	\$52,207,200	\$52,207,000	0%	0%	\$52,207,000	5	\$2,610,000	95	\$49,596,500	\$49,597,000	
81	Waterdown Road (Burlington)	Mountain Brow Road	Craven Avenue	2019	2r-4u	1.90	\$24,720,000	\$24,720,000	\$24,720,000	0%	0%	\$24,720,000	0	\$0	100	\$24,720,000	\$24,720,000	
82	Mountain Brow Road	Waterdown Road	New N-S Link (Burke Street)	2019-2022	2r-4u	0.91	\$7,654,024	\$7,654,024	\$7,654,000	0%	0%	\$7,654,000	15	\$1,148,000	85	\$6,505,900	\$6,506,000	
83	Dundas Street	New north-south link	Hamilton Boundary	2023-2031	4u-6u	0.87	\$8,038,597	\$8,038,597	\$8,039,000	0%	0%	\$8,039,000	15	\$1,206,000	85	\$6,833,150	\$6,833,000	
84	Centre Road	Northlawn	Parkside Drive	2019-2022	2r-3u	0.40	\$2,433,561	\$2,433,561	\$2,434,000	0%	0%	\$2,434,000	40	\$974,000	60	\$1,460,400	\$1,460,000	
<b>Fruitland Winona Projects</b>																		
85	Barton Street	Fruitland Road	Fifty Road	2026	2r-3u	5.00	\$24,938,400	\$24,938,400	\$24,938,000	0%	0%	\$24,938,000	40	\$9,975,000	60	\$14,963,000	\$14,963,000	
86	Fifty Road	G.E.W (South Service Road)	Highway 8	2023-2031	2r-4u	0.80	\$4,531,779	\$5,276,779	\$5,277,000	0%	0%	\$5,277,000	15	\$792,000	85	\$4,485,000	\$4,485,000	
87	Fruitland Road By-pass	Highway 8	Highway 6	2019	4u	1.10	\$8,760,600	\$8,760,600	\$8,761,000	0%	0%	\$8,761,000	15	\$1,314,000	85	\$7,446,850	\$7,447,000	
88	Fruitland Road	Arvin Avenue	Barton Street	2023-2031	2u-4u	0.30	\$2,245,283	\$3,010,283	\$3,010,000	0%	0%	\$3,010,000	15	\$452,000	85	\$2,558,000	\$2,558,000	
89	Highway 8 (Stoney Creek)*	Dewitt Road	Fruitland Road	2023-2031	2r-5u	0.80	\$6,534,000	\$6,534,000	\$6,534,000	0%	0%	\$6,534,000	40	\$2,614,000	60	\$3,920,000	\$3,920,000	
90	Highway 8 (Stoney Creek)	Fruitland Road	East City Limit	2019-2022	2r-4r, NBR	6.18	\$20,673,968	\$20,673,968	\$20,674,000	0%	0%	\$20,674,000	40	\$8,270,000	60	\$12,404,000	\$12,404,000	
<b>Elkida Boundary Expansion Projects</b>																		
91	First Road East	Highway 20	Mud Street	2023-2031	2r-3u	2.10	\$11,463,696	\$12,228,696	\$12,229,000	66%	0%	\$4,158,000	15	\$624,000	85	\$3,534,000	\$3,534,000	
92	First Road East (oversting)	Highway 20	Golf Club Road	2023-2031	3u	2.21	\$3,224,515	\$3,224,515	\$3,225,000	66%	0%	\$1,096,000	0	\$0	100	\$1,096,000	\$1,096,000	
93	Fletcher Road*	500m South of Rymal	Golf Club Road	2023-2031	2r-3u	1.60	\$9,359,245	\$10,124,245	\$10,124,000	66%	0%	\$3,442,000	15	\$516,000	85	\$2,925,700	\$2,926,000	
94	Golf Club Road	Trinity Church Road	Hendershot Road	2023-2031	2r-2u	7.00	\$29,030,030	\$29,795,030	\$29,795,000	66%	0%	\$10,130,000	15	\$1,520,000	85	\$8,610,000	\$8,610,000	
95	Hendershot Road	Highway 20	Golf Club Road	2023-2031	2r-3u	2.10	\$9,636,696	\$10,728,696	\$10,729,000	66%	0%	\$3,648,000	15	\$547,000	85	\$3,100,800	\$3,101,000	
96	Highland Road	Second Road East	Upper Centennial Parkway	2023-2031	2r-2u	2.00	\$9,548,806	\$10,307,806	\$10,308,000	66%	0%	\$3,505,000	15	\$526,000	85	\$2,979,250	\$2,979,000	
97	Mud Street	Highway 20	Second Road East	2023-2031	2r-2u	2.00	\$8,401,437	\$9,166,437	\$9,166,000	66%	0%	\$3,117,000	15	\$468,000	85	\$2,649,450	\$2,649,000	
98	Second Road East*	Highway 20	Mud Street	2023-2031	2r-3u	3.00	\$14,501,709	\$15,266,709	\$15,267,000	66%	0%	\$5,191,000	15	\$779,000	85	\$4,412,350	\$4,412,000	
99	Trinity Church Road*	Hydro corridor	Golf Club Road	2023-2031	2r-2u	2.00	\$8,776,437	\$9,541,437	\$9,541,000	66%	0%	\$3,244,000	15	\$487,000	85	\$2,757,400	\$2,757,000	
100	Upper Centennial Parkway	Green Mountain Road	Highway 20	2023-2031	4r-5u	2.90	\$19,346,099	\$20,111,099	\$20,111,000	66%	0%	\$6,838,000	15	\$1,026,000	85	\$5,812,300	\$5,812,000	
<b>Other Road Projects</b>																		
101	Binbrook Road	Royal Winter Dr/Binhaven Rd	Fletcher Road	2019	2r-3u	0.70	\$6,840,000	\$6,840,000	\$6,840,000	0%	0%	\$6,840,000	15	\$1,026,000	85	\$5,814,000	\$5,814,000	
102	Bond Street	Dundas (Dundas)	Dundas Limits	2023-2031	2r-3u	0.40	\$2,433,561	\$3,198,561	\$3,199,000	0%	0%	\$3,199,000	40	\$1,280,000	60	\$1,919,000	\$1,919,000	
103	Highway 8 (Dundas)	Hillcrest	Park Ave	2020	2r-3u	0.60	\$2,565,600	\$2,565,600	\$2,566,000	0%	0%	\$2,566,000	40	\$1,026,000	60	\$1,539,600	\$1,540,000	
104	Bones Road	Barton Street	South Service Road	2023-2031	2r-2i	0.90	\$3,786,600	\$3,786,600	\$3,789,000	0%	0%	\$3,789,000	50	\$1,869,500	50	\$1,869,500	\$1,869,000	
105	Lewis Road	Barton Street	South Service Road	2023-2031	2r-2i	0.80	\$3,402,000	\$3,402,000	\$3,402,000	0%	0%	\$3,402,000	50	\$1,701,000	50	\$1,701,000	\$1,701,000	
106	Longwood Road	Aberdeen Avenue	Main Street	2023-2031	various/ESR	0.65	\$4,796,400	\$5,561,400	\$5,561,000	0%	0%	\$5,561,000	50	\$2,781,500	50	\$2,780,500	\$2,780,000	
107	Miles Road	Rymal Road	Hydro Corridor	2023-2031	2r-3i	2.00	\$10,004,400	\$10,769,400	\$10,769,000	0%	0%	\$10,769,000	15	\$1,615,000	85	\$9,153,650	\$9,154,000	
108	Milton Road	Barton Street	South Service Road	2023-2031	2r-3i	1.00	\$5,353,200	\$6,118,200	\$6,118,000	0%	0%	\$6,118,000	40	\$2,447,000	60	\$3,670,800	\$3,671,000	
109	Fletcher Road	Binbrook Road	Golf Club Road	2023-2031	2r-2u	4.20	\$17,568,018	\$17,568,018	\$17,568,000	0%	0%	\$17,568,000	40	\$7,027,000	60	\$10,540,800	\$10,541,000	
110	South Service Road	Willow Road	Gray	2023-2031	2r-2u	1.70	\$9,019,722	\$9,019,722	\$9,019,000	0%	0%	\$9,019,000	15	\$1,203,000	85	\$6,816,150	\$6,816,000	
111	Trinity Church Road	Binbrook Road	Golf Club Road	2023-2031	2r-2u	5.20	\$9,032,400	\$9,032,400	\$9,032,000	0%	0%	\$9,032,000	40	\$3,613,000	60	\$5,419,200	\$5,419,000	
112	Twenty Road	Aldercrest Avenue	600m west of Nelo Road	2023-2031	2r-2u	4.10	\$16,290,000	\$16,290,000	\$16,290,000	0%	0%	\$16,290,000	40	\$6,516,000	60	\$9,774,000	\$9,774,000	
113	Upper Gage Street	Mohawk Road	Thorley	2023-2031	4u-5u	0.60	\$4,516,176	\$5,281,176	\$5,281,000	0%	0%	\$5,281,000	50	\$2,644,500	50	\$2,640,500	\$2,640,000	
114	Upper Wellington Street	Limeridge Street	Stone Church Road	2019-2022	2r-5u	1.20	\$9,349,527	\$9,349,527	\$9,350,000	0%	0%	\$9,350,000	40	\$3,740,000	60	\$5,610,000	\$5,610,000	
115	Shaver Road	Wilson Street	Wilson Street	2019-2022	2r-2u	1.50	\$6,188,578	\$6,188,578	\$6,189,000	0%	0%	\$6,189,000	15	\$929,000	85	\$5,260,000	\$5,261,000	
116	Scenic Drive	Lavender Drive (south leg)	Old City Limits	2019-2022	2r-2u	1.40	\$5,806,006	\$6,571,006	\$6,571,000	0%	0%	\$6,571,000	40	\$2,628,000	60	\$3,942,600	\$3,943,000	
117	North Service Road	Green Road	East City Limits	2019-2022	Intersection	0%	\$2,248,000	\$3,013,000	\$3,013,000	0%	0%	\$3,013,000	0	\$0	100	\$3,013,000	\$3,013,000	
118	Victoria Avenue	Ferrie Street	Burlington Street	2019	2-way conversion	0.46	\$459,000	\$1,224,000	\$1,224,000	0%	0%	\$1,224,000	15	\$184,800	85	\$1,040,400	\$1,040,000	
119	Hwy 5/6 municipal roads (City portion)			2019-2022	Service Roads	0%	\$22,980,640	\$22,980,640	\$22,980,000	0%	0%	\$22,981,000	0	\$0	100	\$22,981,000	\$22,981,000	
120	Post Period Benefit Deduction			2019-2031						100%	0%	-\$175,000,000	0	\$0	100		-\$175,000,000	
<b>Major Structures</b>																		
121	Hwy 5/6 interchange			2019-2022	Structure		\$17,534,400	\$18,299,400	\$18,299,000	0%	0%	\$18,299,000	0	\$0	100	\$18,299,000	\$18,299,000	
122	Strathcona Pedestrian Bridge			2027	Structure		\$6,836,000	\$7,601,000	\$7,601,000	0%	0%	\$7,601,000	15	\$1,140,000	85	\$6,460,850	\$6,461,000	
123	Fifty Road	Grade Separation		2019	Structure		\$25,000,000	\$25,765,000	\$25,765,000	50%	0%	\$12,883,000	25	\$3,221,700	75	\$9,662,250	\$9,662,000	
124	Other Rail Grade Separations	Grade Separation		2023-2031	Structure		\$25,000,000	\$25,765,000	\$25,765,000	50%	0%	\$12,883,000	25	\$3,221,700	75	\$9,662,250	\$9,662,000	
125	Mohawk Road			2019-2022	Hwy 403 WB on-ramp		\$3,934,000	\$3,934,000	\$3,934,000	0%	0%	\$3,934,000	50	\$1,967,000	50	\$1,967,000	\$1,967,000	
<b>Programs</b>																		
126	Intersection Pedestrian Signal			2019-2031	City-Wide Program		\$11,700,000	\$11,700,000	\$11,700,000	0%	0%	\$11,700,000	5	\$85,000	95	\$11,115,000	\$11,115,000	
127	Traffic Count Program			2019-2031	City-Wide Program		\$2,000,000	\$2,000,000	\$2,000,000	0%	0%	\$2,000,000	5	\$100,000	95	\$1,900,000	\$1,900,000	
128	Geotechnical Investigation Program			2019-2031	City-Wide Program		\$9,100,000	\$9,100,000	\$9,100,000	0%	0%	\$9,100,000	85	\$7,735,000	15	\$1,365,000	\$1,365,000	
129	Mapping Update Program			2019-2031	City-Wide Program		\$305,000	\$305,000	\$305,000	0%	0%	\$305,000	5	\$15,000	95	\$289,750	\$290,000	
130	Active Transportation Benchmarking			2019-2031	City-Wide Program		\$390,000	\$390,000	\$390,000	0%	0%	\$390,000	5	\$20,000	95	\$370,500	\$370,000	
131	Development Road Urbanization			2019-2031	City-Wide Program		\$6,500,000	\$6,500,000	\$6,500,000	0%	0%	\$6,500,000	5	\$325,000	95	\$6,175,000	\$6,175,000	
132	Street Lighting Enhancement Program			2019-2031	City-Wide Program		\$3,250,000	\$3,250,000	\$3,250,000	0%	0%	\$3,250,000	5	\$163,000	95	\$3,087,000	\$3,087,000	
133	Pedestrian Crossovers			2019-2031	City-Wide Program		\$900,000	\$900,000	\$900,000	0%	0%	\$900,000	5	\$45,000	95	\$855,000		





Item #	Project Name	From	To	Estimated Timing	Improvement Type	Length	Gross Capital Cost Estimate 2019\$	Gross Capital Cost Including E.A. 2019\$	Gross Capital Cost 2019\$	Post Period Benefit	Developer Responsibility	Net Capital Estimate After Deduction 2019\$	Benefit to Existing (%)	Benefit to Existing (\$)	Benefit to Growth (%)	Benefit to Growth (\$)	Benefit to Growth (\$)	
152	Annual Transit Priority Measures			2019-2031	City-Wide Program		\$17,472,130	\$17,472,130	\$17,472,000	0%	0%	\$17,472,000	50	\$8,736,000	50	\$8,736,000	\$8,736,000	
153	Annual Bike Parking at B/A Line Stops			2019-2031	City-Wide Program		\$45,972	\$45,972	\$46,000	0%	0%	\$46,000	50	\$23,000	50	\$23,000	\$23,000	
154	Annual Enhanced Bike Parking at Express Bus/Rapid Transit Stops			2019-2031	City-Wide Program		\$275,155	\$275,155	\$275,000	0%	0%	\$275,000	50	\$138,000	50	\$137,500	\$137,000	
155	Transportation Demand Management			2019-2031	City-Wide Program		\$2,000,000	\$2,000,000	\$2,000,000	0%	0%	\$2,000,000	50	\$1,000,000	50	\$1,000,000	\$1,000,000	
<b>Studies</b>																		
156	Complete and Liveable Streets Guidelines			2019-2022	Study		\$250,000	\$250,000	\$250,000	0%	0%	\$250,000	0	\$0	100	\$250,000	\$250,000	
157	Cycling Master Plan Review			2023-2031	Study		\$200,000	\$200,000	\$200,000	0%	0%	\$200,000	0	\$0	100	\$200,000	\$200,000	
158	E.M.M.E Model Management			2019-2031	Monitoring		\$1,040,000	\$1,040,000	\$1,040,000	0%	0%	\$1,040,000	0	\$0	100	\$1,040,000	\$1,040,000	
159	Goods Movement Study Review and Update			2019-2022	Study		\$150,000	\$150,000	\$150,000	0%	0%	\$150,000	0	\$0	100	\$150,000	\$150,000	
160	Intelligent Transportation System Strategy			2019-2022	Study		\$250,000	\$250,000	\$250,000	0%	0%	\$250,000	0	\$0	100	\$250,000	\$250,000	
161	Lincoln Alexander and Red Hill Valley Parkway Widening Feasibility Study			2019-2022	Study		\$500,000	\$500,000	\$500,000	0%	0%	\$500,000	0	\$0	100	\$500,000	\$500,000	
162	Multi-modal Level of Service Guidelines			2019-2022	Study		\$250,000	\$250,000	\$250,000	0%	0%	\$250,000	0	\$0	100	\$250,000	\$250,000	
163	Pedestrian Mobility Plan Review			2023-2031	Study		\$200,000	\$200,000	\$200,000	0%	0%	\$200,000	0	\$0	100	\$200,000	\$200,000	
164	Revenue Tools Study			2019-2022	Study		\$250,000	\$250,000	\$250,000	0%	0%	\$250,000	0	\$0	100	\$250,000	\$250,000	
165	Transportation Master Plan Review			2019-2022	Study		\$250,000	\$250,000	\$250,000	0%	0%	\$250,000	0	\$0	100	\$250,000	\$250,000	
166	Truck Route Master Plan Review			2019-2022	Study		\$250,000	\$250,000	\$250,000	0%	0%	\$250,000	0	\$0	100	\$250,000	\$250,000	
167	Escarpment Crossing People Mover Study			2023-2031	Study		\$200,000	\$200,000	\$200,000	0%	0%	\$200,000	0	\$0	100	\$200,000	\$200,000	
<b>Active Transportation Projects</b>																		
168	Red Hill Pedestrian Crossing	Eugene Street	Glen Grove Avenue	2019-2031	Pedestrian Crossing		\$1,750,000	\$1,750,000	\$1,750,000	30%	0%	\$1,225,000	15	\$184,000	85	\$1,041,250	\$1,041,000	
169	Heritage Green Trail Link			2019-2031	Commuter Trail		\$525,000	\$525,000	\$525,000	30%	0%	\$368,000	15	\$55,000	85	\$312,800	\$313,000	
170	Flamborough Y.M.C.A. Trail Link			2019-2031	Commuter Trail		\$595,000	\$595,000	\$595,000	30%	0%	\$416,500	15	\$62,000	85	\$354,500	\$353,000	
171	Centre Road Link			2019-2031	Commuter Trail		\$640,000	\$640,000	\$640,000	30%	0%	\$448,000	15	\$67,000	85	\$380,800	\$381,000	
172	Kerns Road Waterdown South Link			2019-2031	Multi-Use Trail		\$957,000	\$957,000	\$957,000	30%	0%	\$670,000	15	\$101,000	85	\$569,500	\$569,000	
173	Hunter	MacNab	Catharine	2019-2031	Bike Lane	0.47	\$77,981	\$77,981	\$78,000	30%	0%	\$55,000	15	\$8,000	85	\$46,750	\$47,000	
174	Hunter	Liberty	Claremont Access	2019-2031	Bike Lane	0.23	\$31,192	\$31,192	\$31,000	30%	0%	\$22,000	15	\$3,000	85	\$18,750	\$19,000	
175	Wilson	Sherman	James	2019-2031	Bike Lane	2.55	\$81,120	\$81,120	\$81,000	30%	0%	\$57,000	15	\$9,000	85	\$48,450	\$48,000	
176	Ferguson	Hunter	Charlton	2019-2031	Bike Lane	0.20	\$2,339	\$2,339	\$2,000	30%	0%	\$2,000	15	\$0	85	\$1,700	\$2,000	
177	King over Red Hill Valley Parkway	Lawrence	Pottruff	2019-2031	Bike Lane	0.50	\$27,293	\$27,293	\$27,000	30%	0%	\$19,000	15	\$3,000	85	\$16,150	\$16,000	
178	Locke	King	Hunter	2019-2031	Bike Lane	1.28	\$7,993	\$7,993	\$8,000	30%	0%	\$6,000	15	\$1,000	85	\$5,100	\$5,000	
179	Barton	Red Hill Valley	Lake	2019-2031	Bike Lane	1.63	\$23,043	\$23,043	\$23,000	30%	0%	\$16,000	15	\$2,000	85	\$13,000	\$13,000	
180	Wilson In Ancaster	Rousseaux	Helson	2019-2031	Bike Lane	0.85	\$19,885	\$19,885	\$20,000	30%	0%	\$14,000	15	\$2,000	85	\$11,900	\$12,000	
181	Barton	Brockley	Fruitland	2019-2031	Bike Lane	3.95	\$123,210	\$123,210	\$123,000	30%	0%	\$86,000	15	\$13,000	85	\$73,100	\$73,000	
182	Gate	Industrial	Lawrence	2019-2031	Bike Lane	2.96	\$115,412	\$115,412	\$115,000	30%	0%	\$81,000	15	\$12,000	85	\$68,850	\$69,000	
183	Hunter Street - Escarpment Rail Trail Link	Hunter	West 5th at Fennell	2019-2031	Multi-Use Trail	3.50	\$3,275,212	\$3,275,212	\$3,275,000	30%	0%	\$2,292,500	15	\$344,000	85	\$1,949,050	\$1,949,000	
184	Cannon	Sherman	Hamilton-Brantford Rail Trail	2019-2031	Bike Lane	0.42	\$11,413	\$11,413	\$11,000	30%	0%	\$8,000	15	\$1,000	85	\$7,000	\$7,000	
185	First Rd W/Whitdeer/Terrberry & Picardy/ Highway	Glover Mtn Road/ Ridgeview Dr	Bymal/ Bellagio	2019-2031	Bike Lane	4.08	\$47,666	\$47,666	\$48,000	30%	0%	\$33,000	15	\$5,000	85	\$28,050	\$28,000	
186	Dyonic Park Twin Pad Arena Link	Chechoke Rail Trail	Old Mohawk Road	2019-2031	Multi-Use Trail	1.50	\$831,000	\$831,000	\$831,000	30%	0%	\$582,000	15	\$87,000	85	\$494,700	\$495,000	
187	Dundas St	Cootes	Bike Lane	0.68	\$15,908	\$15,908	\$16,000	30%	0%	\$11,000	15	\$2,000	85	\$9,350	\$9,000			
188	Mohawk	Upper Paradise	Old Mohawk	2019-2031	Bike Lane	1.83	\$46,789	\$46,789	\$47,000	30%	0%	\$33,000	15	\$5,000	85	\$28,050	\$28,000	
189	Hatt	peel	Main	2019-2031	Bike Lane	0.93	\$29,029	\$29,029	\$29,000	30%	0%	\$20,000	15	\$3,000	85	\$17,000	\$17,000	
190	Eastport Drive Lift Bridge Link	2019-2031	Multi-Use Trail			\$1,750,000	\$1,750,000	\$1,750,000	30%	0%	\$1,225,000	15	\$184,000	85	\$1,041,250	\$1,041,000		
191	Beach Bike Lane	lifter Q&W	Van Wagner's	2019-2031	Bike Lane	0.24	\$7,486	\$7,486	\$7,000	30%	0%	\$5,000	15	\$1,000	85	\$4,250	\$4,000	
192	Beach Boulevard	lifter bridge	Van Wagner's	2019-2031	Bike Lane	4.25	\$93,577	\$93,577	\$94,000	30%	0%	\$66,000	15	\$10,000	85	\$56,100	\$56,000	
193	Van Wagner's	Beach Bike Lane	Centennial Parkway	2019-2031	Bike Lane	2.50	\$77,981	\$77,981	\$78,000	30%	0%	\$55,000	15	\$8,000	85	\$46,750	\$47,000	
194	Mountair/ Central/ Graham/ Frederick	Strathhearn/ Shelby	Red Hill Valley Trail	2019-2031	Bike Lane	3.80	\$18,716	\$18,716	\$19,000	30%	0%	\$13,000	15	\$2,000	85	\$11,050	\$11,000	
195	Melvin	Strathhearn/ Shelby	Red Hill Valley Trail	2019-2031	Bike Lane	1.90	\$59,266	\$59,266	\$59,000	30%	0%	\$41,000	15	\$6,000	85	\$34,850	\$35,000	
196	Britania	Cannon	Walter	2019-2031	Bike Lane	0.84	\$22,271	\$22,271	\$22,000	30%	0%	\$16,000	15	\$2,000	85	\$13,600	\$14,000	
197	Creighton/ Market	Hatt/ King	Governor's	2019-2031	Bike Lane	0.95	\$24,954	\$24,954	\$25,000	30%	0%	\$17,000	15	\$3,000	85	\$14,450	\$14,000	
198	Ogilvie/ Old Ancaster	Hatt/ King	Hamilton-Brantford Rail Trail	2019-2031	Bike Lane	0.80	\$13,569	\$13,569	\$14,000	30%	0%	\$9,000	15	\$1,000	85	\$7,650	\$8,000	
199	Longwood	Franklin	King	2019-2031	Bike Lane	0.73	\$16,961	\$16,961	\$17,000	30%	0%	\$12,000	15	\$2,000	85	\$10,200	\$10,000	
200	Mountain Brow in Waterdown	Mill	Burke to King Road	2019-2031	Multi-Use Trail	1.20	\$660,000	\$660,000	\$660,000	30%	0%	\$462,000	15	\$69,000	85	\$392,700	\$393,000	
201	Golf Links/ Halson	Wilson	Southcoote	2019-2031	Bike Lane	1.19	\$27,839	\$27,839	\$28,000	30%	0%	\$19,000	15	\$3,000	85	\$16,150	\$16,000	
202	Meadowbrook	Wilson	Southcoote	2019-2031	Bike Lane	1.00	\$16,224	\$16,224	\$16,000	30%	0%	\$11,000	15	\$2,000	85	\$9,350	\$9,000	
203	West 5th	Mohawk College Access	Lake	2019-2031	Bike Lane	1.13	\$70,495	\$70,495	\$70,000	30%	0%	\$49,000	15	\$7,000	85	\$41,450	\$42,000	
204	Limeridge	Garth/ Bonaventure	West 5th/ Hawkridge	2019-2031	Bike Lane	1.37	\$53,418	\$53,418	\$53,000	30%	0%	\$37,000	15	\$6,000	85	\$31,450	\$31,000	
205	Scenic	Chechoke Rail Trail	Upper Paradise	2019-2031	Bike Lane	2.27	\$26,553	\$26,553	\$27,000	30%	0%	\$19,000	15	\$3,000	85	\$16,150	\$16,000	
206	Green Mountain	First Road W	First Road E	2019-2031	Bike Lane	1.50	\$292,429	\$292,429	\$292,000	30%	0%	\$205,000	15	\$33,000	85	\$174,250	\$174,000	
207	Walnut Grove & Sanctuary Park	Walnut Grove/ Ogilvie	Highland Park Dr	2019-2031	Multi-Use Trail	0.40	\$365,683	\$365,683	\$366,000	30%	0%	\$256,000	15	\$38,000	85	\$217,600	\$218,000	
208	Scenic/ Denlow	Upper Paradise	Garth	2019-2031	Bike Lane	0.95	\$11,112	\$11,112	\$11,000	30%	0%	\$8,000	15	\$1,000	85	\$6,800	\$7,000	
209	Waterdown local streets	Upper Paradise	Garth	2019-2031	Bike Lane	0.00	\$77,981	\$77,981	\$78,000	30%	0%	\$55,000	15	\$8,000	85	\$46,750	\$47,000	
210	Frid/Chatham	Longwood	Dundurn	2019-2031	Bike Lane	1.00	\$5,849	\$5,849	\$6,000	30%	0%	\$4,000	15	\$1,000	85	\$3,400	\$3,000	
211	Fiddler's Green	Jerseyville	Wilson	2019-2031	Bike Lane	0.25	\$5,849	\$5,849	\$6,000	30%	0%	\$4,000	15	\$1,000	85	\$3,400	\$3,000	
212	Upper Wentworth	Fennell	East 24th	2019-2031	Bike Lane	1.03	\$40,160	\$40,160	\$40,000	30%	0%	\$28,000	15	\$4,000	85	\$23,800	\$24,000	
213	Barton	Fruitland	Fifty	2019-2031	Multi-Use Trail	5.00	\$2,646,652	\$2,646,652	\$2,647,000	30%	0%	\$1,853,300	15	\$278,000	85	\$1,575,050	\$1,575,000	
214	Queenedale	Upper Sherman	Upper Ottawa	2019-2031	Bike Lane	1.56	\$36,496	\$36,496	\$36,000	30%	0%	\$26,000	15	\$4,000	85	\$22,100	\$22,000	
215	Old Mud	Mt Albion	Winterberry	20														



Item #	Project Name	From	To	Estimated Timing	Improvement Type	Length	Gross Capital Cost Estimate 2019\$	Gross Capital Cost Including E.A. 2019\$	Gross Capital Cost 2019\$	Post Period Benefit	Developer Responsibility	Net Capital Estimate After Deduction 2019\$	Benefit to Existing (%)	Benefit to Existing (\$)	Benefit to Growth (%)	Benefit to Growth (\$)	Benefit to Growth (\$)
232	Stuart Street Rail Link			2019-2031	Multi-Use Trail		\$254,424	\$254,424	\$254,000	30%	0%	\$178,000	15	\$27,000	85	\$151,300	\$151,000
233	Mud Street	Mountain Brow Boulevard		2019-2031	Multi-Use Trail	0.50	\$136,000	\$136,000	\$136,000	30%	0%	\$95,000	15	\$14,000	85	\$80,750	\$81,000
234	William Connell Park Link	Stone Church Road	Rymal	2019-2031	Multi-Use Trail	0.70	\$689,459	\$689,459	\$689,000	30%	0%	\$483,000	15	\$72,000	85	\$410,550	\$411,000
235	Upper James	William Connell Park		2019-2031	Multi-Use Trail	0.38	\$225,238	\$225,238	\$225,000	30%	0%	\$158,000	15	\$24,000	85	\$134,300	\$134,000
236	Gray/ Gray	Confederation Park gate	King	2019-2031	Bike Lane	3.00	\$116,977	\$116,977	\$117,000	30%	0%	\$80,000	15	\$12,000	85	\$68,700	\$70,000
237	King in Dundas	Bond	King	2019-2031	Bike Lane	0.80	\$31,192	\$31,192	\$31,000	30%	0%	\$22,000	15	\$3,000	85	\$18,700	\$19,000
238	Warrington/ South Service/ Lake	Centennial Parkway	Delawana	2019-2031	Bike Lane	2.05	\$77,981	\$77,981	\$78,000	30%	0%	\$55,000	15	\$8,000	85	\$46,750	\$47,000
239	Marston	Paramount	Gordon Drummond	2019-2031	Bike Lane	0.40	\$13,520	\$13,520	\$14,000	30%	0%	\$9,000	15	\$1,000	85	\$7,650	\$8,000
240	Kenora/ Greenford/ Owen	Rancroft	King	2019-2031	Bike Lane	2.60	\$71,559	\$71,559	\$72,000	30%	0%	\$50,000	15	\$18,000	85	\$110,000	\$102,000
241	Centennial Parkway	North Service	GO station/ Kenora	2019-2031	Multi-Use Trail	1.20	\$155,963	\$155,963	\$156,000	30%	0%	\$109,000	15	\$16,000	85	\$92,650	\$93,000
242	Victoria	Barton	Main	2019-2031	Bike Lane	1.04	\$40,356	\$40,356	\$40,000	30%	0%	\$28,000	15	\$4,000	85	\$23,800	\$24,000
243	Kentley	Eugene	Kenora	2019-2031	Bike Lane	0.40	\$3,744	\$3,744	\$4,000	30%	0%	\$3,000	15	\$0	85	\$2,550	\$3,000
244	Whitney	Emerson	Emerson	2019-2031	Bike Lane	1.50	\$46,789	\$46,789	\$47,000	30%	0%	\$33,000	15	\$5,000	85	\$28,050	\$28,000
245	West 5th	Fennell	Mohawk Coll. Access	2019-2031	Multi-Use Trail	0.33	\$28,268	\$28,268	\$28,000	30%	0%	\$20,000	15	\$3,000	85	\$17,000	\$17,000
246	Millen	Shoreview	Millen/ Seaman	2019-2031	Bike Lane	0.50	\$31,192	\$31,192	\$31,000	30%	0%	\$22,000	15	\$3,000	85	\$18,700	\$19,000
247	King in Stoney Creek	Battlefield/ Elm	Gray	2019-2031	Bike Lane	0.74	\$15,597	\$15,597	\$16,000	30%	0%	\$11,000	15	\$2,000	85	\$9,350	\$9,000
248	Limeridge	Birchview	Mtn Brow	2019-2031	Bike Lane	1.98	\$70,184	\$70,184	\$70,000	30%	0%	\$49,000	15	\$7,000	85	\$41,650	\$42,000
249	Dewitt	Dundee	Nidge	2019-2031	Bike Lane	0.50	\$70,000	\$70,000	\$70,000	30%	0%	\$52,000	15	\$79,000	85	\$446,250	\$446,000
250	Claremont Access	Inverness	Main	2019-2031	Bike Lane	1.60	\$49,908	\$49,908	\$50,000	30%	0%	\$35,000	15	\$5,000	85	\$29,750	\$30,000
251	Inverness	Upper James	Belvidere	2019-2031	Bike Lane	0.44	\$10,816	\$10,816	\$11,000	30%	0%	\$8,000	15	\$1,000	85	\$6,800	\$7,000
252	Burlington Street Link	Ferguson/ Dock Service Road	Sherman	2019-2031	Bike Lane	1.88	\$104,495	\$104,495	\$104,000	30%	0%	\$73,000	15	\$11,000	85	\$62,050	\$62,000
253	Dundas St in Waterdown	Highway 6	Hamilton St	2019-2031	Bike Lane	2.75	\$128,668	\$128,668	\$129,000	30%	0%	\$90,000	15	\$14,000	85	\$76,500	\$76,000
254	Hollybush	Parkside	Dundas St	2019-2031	Bike Lane	1.10	\$15,597	\$15,597	\$16,000	30%	0%	\$11,000	15	\$2,000	85	\$9,350	\$9,000
255	Greenhill	Sunmercrest	King	2019-2031	Bike Lane	1.20	\$46,789	\$46,789	\$47,000	30%	0%	\$33,000	15	\$5,000	85	\$28,050	\$28,000
256	Governor's	Ogilvie	Main	2019-2031	Bike Lane	0.24	\$43,043	\$43,043	\$43,000	30%	0%	\$30,000	15	\$5,000	85	\$25,500	\$25,000
257	Queenston/ Highway 8	Glover	Winona/ Niagara border	2019-2031	Bike Lane	3.80	\$681,555	\$681,555	\$682,000	30%	0%	\$477,000	15	\$72,000	85	\$405,450	\$405,000
258	Burlington Street East Boulevard Trail	Ottawa	Parkdale to Glow	2019-2031	Multi-Use Trail	2.30	\$1,050,000	\$1,050,000	\$1,050,000	30%	0%	\$735,000	15	\$110,000	85	\$624,750	\$625,000
259	Queenston/ Highway 8	King	Dewitt	2019-2031	Bike Lane	1.19	\$24,719	\$24,719	\$25,000	30%	0%	\$17,000	15	\$2,000	85	\$14,600	\$14,000
260	Greenhill	Harrisford	Sunmercrest	2019-2031	Bike Lane	1.94	\$75,642	\$75,642	\$76,000	30%	0%	\$53,000	15	\$8,000	85	\$45,050	\$45,000
261	Mill in Waterdown	Parkside	Dundas St	2019-2031	Bike Lane	0.95	\$22,224	\$22,224	\$22,000	30%	0%	\$16,000	15	\$2,000	85	\$13,600	\$14,000
262	King in Stoney Creek	Gray	Queenston/ Highway 8	2019-2031	Bike Lane	1.51	\$77,981	\$77,981	\$78,000	30%	0%	\$55,000	15	\$8,000	85	\$46,750	\$47,000
263	Rouseaux/ Mohawk	Wilson	Filman	2019-2031	Bike Lane	1.60	\$224,586	\$224,586	\$225,000	30%	0%	\$157,000	15	\$24,000	85	\$133,450	\$133,000
264	Baseline/ Lodgport	Winona	Niagara border	2019-2031	Bike Lane	3.15	\$21,095	\$21,095	\$21,000	30%	0%	\$15,000	15	\$2,000	85	\$13,000	\$14,000
265	Winona	Lido/ shore	Peachtree	2019-2031	Bike Lane	1.97	\$45,969	\$45,969	\$46,000	30%	0%	\$32,000	15	\$5,000	85	\$27,200	\$27,000
266	Cherry Beach Road Link	Millen	Dewitt	2019-2031	Multi-Use Trail	0.91	\$233,943	\$233,943	\$234,000	30%	0%	\$164,000	15	\$25,000	85	\$139,400	\$139,000
267	North Service Road	Lakeview	Dewitt	2019-2031	Bike Lane	0.73	\$15,597	\$15,597	\$16,000	30%	0%	\$11,000	15	\$2,000	85	\$9,350	\$9,000
268	North Service Road	Baseline	Baseline	2019-2031	Bike Lane	0.98	\$24,395	\$24,395	\$24,000	30%	0%	\$16,000	15	\$2,000	85	\$13,600	\$14,000
269	Upper Sherman	Stone Church	King to Miles	2019-2031	Bike Lane	1.15	\$19,354	\$19,354	\$19,000	30%	0%	\$14,000	15	\$2,000	85	\$12,000	\$12,000
270	Emperor	Brigade	Acadia	2019-2031	Bike Lane	0.44	\$15,597	\$15,597	\$16,000	30%	0%	\$11,000	15	\$2,000	85	\$9,350	\$9,000
271	Burlington/Industrial	Sherman	Gage	2019-2031	Bike Lane	0.86	\$99,018	\$99,018	\$99,000	30%	0%	\$69,000	15	\$10,000	85	\$58,650	\$59,000
272	Birch/ Holton	Burlington St	Cannon/ King/ Delaware	2019-2031	Bike Lane	1.40	\$31,192	\$31,192	\$31,000	30%	0%	\$22,000	15	\$3,000	85	\$18,700	\$19,000
273	Dewitt	Barton	Dundee	2019-2031	Bike Lane	1.17	\$21,095	\$21,095	\$21,000	30%	0%	\$15,000	15	\$2,000	85	\$13,000	\$14,000
274	Chemac	Southridge	Rice	2019-2031	Bike Lane	0.53	\$23,395	\$23,395	\$23,000	30%	0%	\$16,000	15	\$2,000	85	\$14,000	\$14,000
275	Kilbide	Upper Ottawa	Nebo	2019-2031	Bike Lane	0.38	\$8,889	\$8,889	\$9,000	30%	0%	\$6,000	15	\$1,000	85	\$5,000	\$5,000
276	Hamilton in Waterdown	Centre/Main	Highway 5/Dundas	2019-2031	Bike Lane	1.00	\$62,385	\$62,385	\$62,000	30%	0%	\$44,000	15	\$7,000	85	\$37,400	\$37,000
277	Doler/ Main	Hatt/ King	Main + 125m of Main	2019-2031	Bike Lane	2.00	\$87,880	\$87,880	\$88,000	30%	0%	\$62,000	15	\$9,000	85	\$52,700	\$53,000
278	Fiddler's Green	Amblerly	Garner	2019-2031	Bike Lane	0.68	\$21,212	\$21,212	\$21,000	30%	0%	\$15,000	15	\$2,000	85	\$12,750	\$13,000
279	Shaver	Wilson	Garner	2019-2031	Bike Lane	0.52	\$12,165	\$12,165	\$12,000	30%	0%	\$9,000	15	\$1,000	85	\$7,650	\$8,000
280	Upper James	Twenty	Airport/ Mt Hope	2019-2031	Multi-Use Trail	4.05	\$1,152,757	\$1,152,757	\$1,153,000	30%	0%	\$807,000	15	\$121,000	85	\$686,950	\$686,000
281	Christie-Teus	Christie C A	Harvest	2019-2031	Multi-Use Trail	2.75	\$1,123,693	\$1,123,693	\$1,124,000	30%	0%	\$787,000	15	\$118,000	85	\$669,950	\$669,000
282	Fennell Avenue Boulevard Trail	Garth/ West 18th	West 5th	2019-2031	Multi-Use Trail	1.20	\$412,100	\$412,100	\$412,000	30%	0%	\$288,000	15	\$43,000	85	\$244,800	\$245,000
283	Jones Road Link	2032-2041	Multi-Use Trail	1.37	\$221,799	\$221,799	\$222,000	100%	0%	\$0	15	\$0	85	\$0	\$0	\$0	
284	Mountain Brow Boulevard Trail	Mohawk	Arbour	2019-2031	Multi-Use Trail	1.81	\$374,038	\$374,038	\$374,000	30%	0%	\$262,000	15	\$39,000	85	\$222,700	\$223,000
285	Mountain Brow East Path	Rendell	Oakcrest	2019-2031	Multi-Use Trail	0.81	\$1,559,624	\$1,559,624	\$1,560,000	30%	0%	\$1,092,000	15	\$164,000	85	\$928,200	\$928,000
286	Upper James/ Christie	Rymal	Twenty	2019-2031	Multi-Use Trail	0.80	\$196,513	\$196,513	\$197,000	30%	0%	\$138,000	15	\$21,000	85	\$117,300	\$117,000
287	Proposed Pipeline Trail	Museum of Steam and Technology	Museum Park	2019-2031	Multi-Use Trail	2.40	\$517,000	\$517,000	\$517,000	30%	0%	\$362,000	15	\$54,000	85	\$308,700	\$308,000
288	Existing Pipeline Trail	Wain	Strathesne	2019-2031	Multi-Use Trail	2.20	\$4,678,873	\$4,678,873	\$4,679,000	30%	0%	\$3,275,000	15	\$491,000	85	\$2,783,750	\$2,784,000
289	Hydro Corridor	Barton	Lawrence	2019-2031	Multi-Use Trail	1.90	\$1,251,439	\$1,251,439	\$1,251,000	30%	0%	\$876,000	15	\$131,000	85	\$744,600	\$745,000
290	Hydro Corridor	Lawrence Avenue	Greenhill Avenue	2019-2031	Multi-Use Trail	1.15	\$430,457	\$430,457	\$430,000	30%	0%	\$301,000	15	\$45,000	85	\$256,000	\$256,000
291	Strachan Street Trail	James	Ferguson	2019-2031	Multi-Use Trail	0.66	\$336,879	\$336,879	\$337,000	30%	0%	\$236,000	15	\$35,000	85	\$200,600	\$201,000
292	Karl Escarpment Loop	Pritchard	Mount Albion/Winterberry	2019-2031	Multi-Use Trail	0.70	\$390,000	\$390,000	\$390,000	30%	0%	\$273,000	15	\$41,000	85	\$232,050	\$232,000
293	Chechoke Rail Trail	Highway 403	Dundurn	2019-2031	Multi-Use Trail	4.68	\$1,487,200	\$1,487,200	\$1,487,000	30%	0%	\$1,041,000	15	\$156,000	85	\$884,850	\$885,000
294	Hamilton-Brantford Rail Trail	Bridlewood Dr	Ewen	2019-2031	Multi-Use Trail	4.00	\$405,600	\$405,600	\$406,000	30%	0%	\$284,000	15	\$43,000	85	\$241,400	\$241,000
295	Battlefield Park - Bruce Trail Link	First Road W	2019-2031	Multi-Use Trail	0.75	\$533,354	\$533,354	\$533,000	30%	0%	\$373,000	15	\$56,000	85	\$317,050	\$317,000	
296	Devil's Punchbowl Link	Mountain Ave/ Lake Ave	Ridge Road/ Devil's Punch Bowl	2032-2041	Multi-Use Trail	0.42	\$150,000	\$150,000	\$150,000	100%	0%	\$0	15	\$0	85	\$0	\$0
297	Gage Park	Lumberland	Montclair/ Maple	2019-2031	Multi-Use Trail	0.59	\$31,264	\$31,264	\$31,000	30%	0%	\$23,000	15	\$3,000	85	\$19,700	\$19,000
298	Iroquois Heights to Old Mohawk	Chechoke Rail Trail	Old Mohawk Road	2019-2031	Multi-Use Trail	0.85	\$318,163	\$318,163	\$318,000	30%	0%	\$223,000	15	\$33,000	85	\$189,550	\$190,000
299	Museum of Steam and Tech Link	Woodward	Red Hill Valley Trail	2019-2031	Multi-Use Trail	0.75	\$607,392	\$607,392	\$607,000	30%	0%	\$425,000	15	\$64,000	85	\$361,250	\$361,000
300	Ottawa Street South - Bruce Trail Link			2019-2031	Multi-Use Trail	0.39	\$686,235	\$686,235	\$686,000	30%	0%	\$480,000	15	\$72,000	85	\$408,000	\$408,000
301	Limeridge Mall Hydro Corridor Trail	Mohawk Road	South of Rymal	2019-2031	Multi-Use Trail	3.80	\$1,404,										





Item #	Project Name	From	To	Estimated Timing	Improvement Type	Length	Gross Capital Cost Estimate 2019\$	Gross Capital Cost Including E.A. 2019\$	Gross Capital Cost 2019\$	Post Period Benefit	Developer Responsibility	Net Capital Estimate After Deduction 2019\$	Benefit to Existing (%)	Benefit to Existing (\$)	Benefit to Growth (%)	Benefit to Growth (\$)	Benefit to Growth (\$)
315	Centre	Warren/ Carlisle Road	Progression	2019-2031	Paved Shoulder	0.78	\$151,089	\$151,089	\$151,000	30%	0%	\$106,000	15	\$16,000	85	\$90,100	\$90,000
316	Centre	Grinstone Creek	Concession 5 E	2019-2031	Paved Shoulder	0.45	\$87,729	\$87,729	\$88,000	30%	0%	\$61,000	15	\$9,000	85	\$51,850	\$52,000
317	Edgewood	Safar	Highway 6	2019-2031	Bike Lane	0.90	\$10,528	\$10,528	\$11,000	30%	0%	\$7,000	15	\$1,000	85	\$5,950	\$6,000
318	Binbrook Road	Trinity Church	Fletcher	2019-2031	Paved Shoulder	1.26	\$245,641	\$245,641	\$246,000	30%	0%	\$172,000	15	\$26,000	85	\$146,200	\$146,000
319	Ridge Road	Devil Punch Bowl	Dewitt	2019-2031	Multi-Use Trail	2.91	\$779,812	\$779,812	\$780,000	30%	0%	\$546,000	15	\$82,000	85	\$464,100	\$464,000
320	York Road	Olympic	Valley Road	2019-2031	Paved Shoulder	1.70	\$437,475	\$437,475	\$437,000	30%	0%	\$306,000	15	\$46,000	85	\$260,100	\$260,000
321	York Road & York Road at Old Guelph	Valley Road	Highway 6 Interchange	2019-2031	Multi-Use Trail	2.50	\$1,433,464	\$1,433,464	\$1,433,000	30%	0%	\$1,003,000	15	\$150,000	85	\$852,550	\$853,000
322	Northlawn Avenue Link			2019-2031	Multi-Use Trail	1.10	\$400,000	\$400,000	\$400,000	30%	0%	\$280,000	15	\$42,000	85	\$238,000	\$238,000
323	Mosaic Drive	Parkside Drive	Highway 6	2019-2031	Multi-Use Trail	1.90	\$885,000	\$885,000	\$885,000	30%	0%	\$620,000	15	\$93,000	85	\$527,000	\$527,000
324	Valley Road	Rock Chapel	York Road	2019-2031	Paved Shoulder	1.40	\$311,925	\$311,925	\$312,000	30%	0%	\$218,000	15	\$33,000	85	\$185,300	\$185,000
325	Regional Road 56 south of Kirk	Southbrook	Binbrook Cons Area	2019-2031	Multi-Use Trail	3.00	\$779,812	\$779,812	\$780,000	30%	0%	\$546,000	15	\$82,000	85	\$464,100	\$464,000
326	Regional Road 56	Swayze Road	Cemetery	2019-2031	Multi-Use Trail	4.60	\$3,119,249	\$3,119,249	\$3,119,000	30%	0%	\$2,183,000	15	\$327,000	85	\$1,855,550	\$1,856,000
327	Old Guelph Road	Paterson	York Bike Lane	2019-2031	Paved Shoulder	3.53	\$907,116	\$907,116	\$907,000	30%	0%	\$635,000	15	\$95,000	85	\$539,750	\$540,000
328	Hamilton Drive Link			2032-2041	Multi-Use Trail		\$1,980,190	\$1,980,190	\$1,980,000	100%	0%	\$0	15	\$0	85	\$0	\$0
<b>Totals</b>							\$1,318,476,566	\$1,355,641,191	\$1,355,640,000			\$1,048,544,000		\$219,893,000		\$828,657,200	\$828,651,000



## 1.3 Facilities

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway - Facilities

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
1	Dundas Expansion	2019-2031	1,650,000	-		1,650,000	-		1,650,000		1,650,000	1,023,000	627,000
2	Lower Stoney Creek Expansion	2019-2031	1,960,000	-		1,960,000	-		1,960,000		1,960,000	1,215,200	744,800
3	North District Expansion	2019-2031	1,020,000	-		1,020,000	-		1,020,000		1,020,000	632,400	387,600
4	South Mountain Expansion	2019-2031	2,860,000	-		2,860,000	-		2,860,000		2,860,000	1,773,200	1,086,800
5	Upper Stoney Creek/Binbrook Expansion	2019-2031	1,640,000	-		1,640,000	-		1,640,000		1,640,000	1,016,800	623,200
6	Waterdown/Carlisle Expansion	2019-2031	1,780,000	-		1,780,000	-		1,780,000		1,780,000	1,103,600	676,400
7	Provision for Expansion of Parks Works Yards - Binbrook*	2019-2031	573,500	-		573,500	-		573,500	57,350	516,150	320,013	196,137
8	Streetlighting Facility Expansion (Storage)	2019-2023	1,200,000	-		1,200,000	318,200		881,800		881,800	546,716	335,084
9	Additional Snow Dump (Land)	2025-2028	5,750,000	-		5,750,000	-		5,750,000		5,750,000	3,565,000	2,185,000
10	Water & Wastewater Office/Storage Expansion	2019-2024	17,250,000	-		17,250,000	10,225,500		7,024,500		7,024,500	4,355,190	2,669,310
11	Confederation Park - Sports Park Development - Phase 2 (Maintenance Yard & Field House)*	2020	4,182,000	-		4,182,000	418,200		3,763,800	376,380	3,387,420	2,100,200	1,287,220
12	Public Works Depot - Bayfront Park (Design & Construction)*	2019	3,900,000	-		3,900,000	1,950,000		1,950,000	195,000	1,755,000	1,088,100	666,900
13	Reserve Fund Adjustment					-	3,439,540		(3,439,540)		(3,439,540)	(2,132,515)	(1,307,025)
	<b>Total</b>		<b>43,765,500</b>	<b>-</b>	<b>-</b>	<b>43,765,500</b>	<b>16,351,440</b>	<b>-</b>	<b>27,414,060</b>	<b>628,730</b>	<b>26,785,330</b>	<b>16,606,905</b>	<b>10,178,426</b>

\*Related to Parks Department therefore a 10% mandatory deduction has been attributed



## 1.4 Vehicles and Equipment

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway - Vehicles and Equipment

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less: Other (e.g. 10% Statutory Deduction)	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development			Total	Residential Share 62%	Non-Residential Share 38%
<b>Operations:</b>													
1	Aluminum Sander Prewelded (1)	2019-2031	225,000	-		225,000	-		225,000		225,000	139,500	85,500
2	1 1/2 Ton Pickup (9)	2019-2031	233,000	-		233,000	-		233,000		233,000	144,460	88,540
3	Large Front End Loader (2)	2019-2031	404,667	-		404,667	-		404,667		404,667	250,893	153,773
4	Grader (1)	2019-2031	281,000	-		281,000	-		281,000		281,000	174,220	106,780
5	Large Mobile Sweeper (4)	2019-2031	1,304,000	-		1,304,000	-		1,304,000		1,304,000	808,480	495,520
6	Snow Blower Attachment (1)	2019-2031	202,000	-		202,000	-		202,000		202,000	125,240	76,760
7	Street Flusher (1)	2019-2031	225,000	-		225,000	-		225,000		225,000	139,500	85,500
8	Hotspot Transporter (2)	2019-2031	63,000	-		63,000	-		63,000		63,000	39,060	23,940
9	Tandem Trailer - 12 Ton(1)	2019-2031	22,500	-		22,500	-		22,500		22,500	13,950	8,550
10	Large Hopper/Spreader Attachment (1)	2019-2031	18,000	-		18,000	-		18,000		18,000	11,160	6,840
11	Aluminum Dump/Crew/Crane/Plow (1)	2019-2031	84,500	-		84,500	-		84,500		84,500	52,390	32,110
12	Aluminum Dump/Crew/Plow (1)	2019-2031	78,500	-		78,500	-		78,500		78,500	48,670	29,830
13	Arrow Boards (3)	2019-2031	30,900	-		30,900	-		30,900		30,900	19,158	11,742
14	Steel Dump/Crew/Crane/Plow (1)	2019-2031	59,600	-		59,600	-		59,600		59,600	36,952	22,648
15	Steel Dump/Crew (1)	2019-2031	56,200	-		56,200	-		56,200		56,200	34,844	21,356
16	Sander Radius Dump with 2 Way Front (1)	2019-2031	259,000	-		259,000	-		259,000		259,000	160,580	98,420
17	Sander Pre-Wel 2 Way with Wing (2)	2019-2031	562,000	-		562,000	-		562,000		562,000	348,440	213,560
18	Trackless (1)	2019-2031	235,000	-		235,000	-		235,000		235,000	145,700	89,300
19	Gradal (1)	2019-2031	362,000	-		362,000	-		362,000		362,000	224,440	137,560
20	Alum Sander Prew Front & Wing Plow (4)	2019-2031	876,800	-		876,800	-		876,800		876,800	543,616	333,184
21	Sander Tandem Prew Plow (1)	2019-2031	253,000	-		253,000	-		253,000		253,000	156,860	96,140
<b>Parks:</b>													
22	1 1/2 Ton Pick-up Truck (3)	2019-2023	77,600	-		77,600	-		77,600	7,760	69,840	43,301	26,539
23	Small Tractor (2)	2019-2023	78,700	-		78,700	-		78,700	7,870	70,830	43,915	26,915
24	Medium Tractor (1)	2019-2023	50,600	-		50,600	-		50,600	5,060	45,540	28,235	17,305
25	Large Tractor (3)	2019-2023	186,000	-		186,000	-		186,000	18,600	167,400	103,788	63,612
26	Service Body - Utility (2)	2019-2023	101,000	-		101,000	-		101,000	10,100	90,900	56,358	34,542
27	1 Ton Pick-up with Plow (1)	2019-2023	56,200	-		56,200	-		56,200	5,620	50,580	31,360	19,220
28	Tow behind rotary mower (1)	2019-2023	2,900	-		2,900	-		2,900	290	2,610	1,618	992
29	Utility Turf Vehicle (3)	2019-2023	57,300	-		57,300	-		57,300	5,730	51,570	31,973	19,597
30	Mower Front Mount Riding (10)	2019-2023	211,500	-		211,500	-		211,500	21,150	190,350	118,017	72,333
31	Tandem Axle Trailer (5)	2019-2023	42,700	-		42,700	-		42,700	4,270	38,430	23,827	14,603
32	Overseeder (1)	2019-2023	21,400	-		21,400	-		21,400	2,140	19,260	11,941	7,319
33	Top Dresser (1)	2019-2023	18,000	-		18,000	-		18,000	1,800	16,200	10,044	6,156
34	Small Aerifier (1)	2019-2023	10,400	-		10,400	-		10,400	1,040	9,360	5,803	3,557
35	Aerifier (1)	2019-2023	16,900	-		16,900	-		16,900	1,690	15,210	9,430	5,780
36	Drop in Sander (3)	2019-2023	30,400	-		30,400	-		30,400	3,040	27,360	16,963	10,397
37	Aluminum Dump/Crew (1)	2019-2023	73,100	-		73,100	-		73,100	7,310	65,790	40,790	25,000
38	Aluminum Dump/Crew & Plow (1)	2019-2023	78,500	-		78,500	-		78,500	7,850	70,650	43,803	26,847



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway - Vehicles and Equipment

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 62%	Non-Residential Share 38%	
39	Packer Truck (1)	2019-2023	187,000	-		187,000	-		187,000	18,700	168,300	104,346	63,954	
40	Riding Mower (1)	2019-2023	73,100	-		73,100	-		73,100	7,310	65,790	40,790	25,000	
41	Rotary Riding Mower (1)	2019-2023	337,000	-		337,000	-		337,000	33,700	303,300	188,046	115,254	
42	Steel Dump Crew - 1 Ton	2019-2023	56,200	-		56,200	-		56,200	5,620	50,580	31,360	19,220	
43	Aerifier (2)	2019-2028	20,400	-		20,400	-		20,400	2,040	18,360	11,383	6,977	
44	Ball Diamond Groomer (1)	2019-2028	10,200	-		10,200	-		10,200	1,020	9,180	5,692	3,488	
45	Blower (1)	2019-2028	10,200	-		10,200	-		10,200	1,020	9,180	5,692	3,488	
46	Miscellaneous (1)	2019-2028	10,200	-		10,200	-		10,200	1,020	9,180	5,692	3,488	
47	Mower (1)	2019-2028	20,400	-		20,400	-		20,400	2,040	18,360	11,383	6,977	
48	Over Seeder (1)	2019-2028	20,400	-		20,400	-		20,400	2,040	18,360	11,383	6,977	
49	Top Dresser (1)	2019-2028	20,400	-		20,400	-		20,400	2,040	18,360	11,383	6,977	
50	Beach Rake (1)	2019-2028	93,600	-		93,600	-		93,600	9,360	84,240	52,229	32,011	
51	Golf Cart (4)	2019-2028	10,200	-		10,200	-		10,200	1,020	9,180	5,692	3,488	
52	Leaf Blower (1)	2019-2028	520	-		520	-		520	52	468	290	178	
53	Pressure Washer (1)	2019-2028	10,400	-		10,400	-		10,400	1,040	9,360	5,803	3,557	
54	Wood Chipper (1)	2019-2028	33,700	-		33,700	-		33,700	3,370	30,330	18,805	11,525	
55	Mower Outfront (3)	2019-2028	25,500	-		25,500	-		25,500	2,550	22,950	14,229	8,721	
56	Mower Riding (3)	2019-2028	140,000	-		140,000	-		140,000	14,000	126,000	78,120	47,880	
57	Mower Walk Behind (1)	2019-2028	7,300	-		7,300	-		7,300	730	6,570	4,073	2,497	
58	Pickup 1 ton Crew Cab (3)	2019-2028	134,000	-		134,000	-		134,000	13,400	120,600	74,772	45,828	
59	Pickup 1 ton Snow Plow (1)	2019-2028	52,000	-		52,000	-		52,000	5,200	46,800	29,016	17,784	
60	Refuse Rear Load Mini Packer (1)	2019-2028	169,300	-		169,300	-		169,300	16,930	152,370	94,469	57,901	
61	Refuse Side Loader (1)	2019-2028	169,300	-		169,300	-		169,300	16,930	152,370	94,469	57,901	
62	Service Body Truck (3/4 ton) (3)	2019-2028	66,300	-		66,300	-		66,300	6,630	59,670	36,995	22,675	
63	Sidewalk Sweeper (1)	2019-2028	59,200	-		59,200	-		59,200	5,920	53,280	33,034	20,246	
64	Tractor Loader/Backhoe Small (97-182 HP 6.5 cu yards) (1)	2019-2028	114,200	-		114,200	-		114,200	11,420	102,780	63,724	39,056	
65	Trailer Float (1)	2019-2028	20,400	-		20,400	-		20,400	2,040	18,360	11,383	6,977	
66	Utility Vehicle (5)	2019-2028	20,400	-		20,400	-		20,400	2,040	18,360	11,383	6,977	
67	Utility Vehicle - Toolcat (2)	2019-2028	102,000	-		102,000	-		102,000	10,200	91,800	56,916	34,884	
	<b>Forestry (Roads &amp; Parks):</b>													
68	Pickup 3/4 Ton	2019-2031	42,700	-		42,700	21,350		21,350	2,135	19,215	11,913	7,302	
69	Wood Chipper (2)	2019-2031	188,000	-		188,000	-		188,000	18,800	169,200	104,904	64,296	
70	Aerial Truck (1)	2019-2031	291,000	-		291,000	-		291,000	29,100	261,900	162,378	99,522	
71	Dump Truck Tandem Axle Chipper Body (1)	2019-2023	202,000	-		202,000	-		202,000	20,200	181,800	112,716	69,084	
	<b>Horticulture:</b>													
72	Tandem Axle Trailer (1)	2019-2031	12,500	-		12,500	-		12,500	1,250	11,250	6,975	4,275	
73	Aluminum Dump/Crew (2)	2019-2023	145,600	-		145,600	-		145,600	14,560	131,040	81,245	49,795	
	<b>Traffic</b>													
74	Signal Bucket Trucks (2)	2019-2023	573,000	-		573,000	-		573,000		573,000	355,260	217,740	



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Services Related to a Highway - Vehicles and Equipment

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 62%	Non-Residential Share 38%
	2019-2031												
75	Signal Tech Van	2019-2024	80,700	-		80,700	-		80,700		80,700	50,034	30,666
76	Foreman's Pickup Truck	2019-2026	54,600	-		54,600	-		54,600		54,600	33,852	20,748
77	Investigator Pickup Truck	2019-2027	57,300	-		57,300	-		57,300		57,300	35,526	21,774
78	Aerial Truck (2)	2019-2031	630,000	-		630,000	-		630,000		630,000	390,600	239,400
79	Line Painter - Walk Behind (2)	2019-2031	10,200	-		10,200	-		10,200		10,200	6,324	3,876
80	Sign Trucks (2)	2019-2031	1,275,000	-		1,275,000	-		1,275,000		1,275,000	790,500	484,500
	<b>Recreation</b>												
81	Ice Resurfacer (2)	2024-2028	191,000	-		191,000	-		191,000	19,100	171,900	106,578	65,322
82	Compact Car (3)	2024-2028	84,300	-		84,300	-		84,300	8,430	75,870	47,039	28,831
	<b>Building &amp; By-law Enforcement</b>												
83	Hybrid Vehicles (6)	2019-2023	239,000	-		239,000	-		239,000	23,900	215,100	133,362	81,738
84	Compact Pick-up (1)	2019-2023	25,850	-		25,850	-		25,850	2,585	23,265	14,424	8,841
	<b>Parks &amp; Roads:</b>												
85	Refuse Rear Load (11)	2019-2028	246,800	-		246,800	-		246,800	12,340	234,460	145,365	89,095
	<b>Roads:</b>												
86	SUV 2 Wheel Drive (15)	2019-2031	468,000	-		468,000	-		468,000		468,000	290,160	177,840
87	SUV 4 Wheel Drive (5)	2019-2031	208,000	-		208,000	-		208,000		208,000	128,960	79,040
88	Pickup 1/2 ton (5)	2019-2031	146,000	-		146,000	-		146,000		146,000	90,520	55,480
89	SUV 4 Wheel Drive (11)	2019-2031	458,000	-		458,000	-		458,000		458,000	283,960	174,040
90	SUV 2 Wheel Drive (3)	2019-2031	94,000	-		94,000	-		94,000		94,000	58,280	35,720
91	Pickup 1/2 ton (1)	2019-2031	29,100	-		29,100	-		29,100		29,100	18,042	11,058
	<b>Total</b>		<b>14,695,337</b>	<b>-</b>	<b>-</b>	<b>14,695,337</b>	<b>21,350</b>	<b>-</b>	<b>14,673,987</b>	<b>463,102</b>	<b>14,210,885</b>	<b>8,810,748</b>	<b>5,400,136</b>



# 2. Fire Protection Services



## 2.1 All Fire Services

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Fire Services

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less: Potential D.C. Recoverable Cost				
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 62%	Non-Residential Share 38%
	<b>Fire Facilities</b>										
1	New Station Waterdown Growth Area	2019-2021	7,500,000	-		7,500,000	-		7,500,000	4,650,000	2,850,000
2	Growth Related Debt Interest (Discounted) - New Station Waterdown Growth Area	2022-2037	838,420	-		838,420	-		838,420	519,820	318,600
3	New Station Elfrida/Upper Stoney Creek Growth Area	2025-2027	8,432,000	5,565,100		2,866,900	-		2,866,900	1,777,478	1,089,422
4	Provision for Station Expansion/Renovation - Upper Stoney Creek	2027-2028	2,473,000	346,100		2,126,900	1,237,000		889,900	551,738	338,162
5	Mechanical/Stores Relocation/Expansion	2021-2024	12,142,000	-		12,142,000	4,396,900		7,745,100	4,801,962	2,943,138
6	Outstanding Debt - Principal	2019-2023	859,624	-		859,624	-		859,624	532,967	326,657
7	Outstanding Debt - Interest (Discounted)	2019-2023	71,725	-		71,725	-		71,725	44,470	27,256
8	Outstanding Debt- Shared Training Facility - Principal	2019-2027	3,620,557	-		3,620,557	-		3,620,557	2,244,745	1,375,812
9	Outstanding Debt- Shared Training Facility - Interest (Discounted)	2019-2027	68,410	-		68,410	-		68,410	42,414	25,996
	<b>Fire Vehicles</b>										
10	Rural Pumper for Elfrida Growth Area (New Station)	2026-2027	755,000	-		755,000	-		755,000	468,100	286,900
11	Engine for Elfrida Growth Area (New Station)	2026-2027	814,000	537,200		276,800	-		276,800	171,616	105,184
12	Rural Tanker for Waterdown Growth Area - New Station	2021-2022	705,000	-		705,000	-		705,000	437,100	267,900



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Fire Services

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less: Potential D.C. Recoverable Cost				
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 62%	Non-Residential Share 38%
13	Urban Pumper for Waterdown Growth Area - New Station	2021-2022	814,000	-		814,000	-		814,000	504,680	309,320
14	Outstanding Debt on Stn 20 Vehicle - Principal	2019-2023	81,295	-		81,295	-		81,295	50,403	30,892
15	Outstanding Debt on Stn 20 Vehicle - Interest (Discounted)	2019-2023	6,783	-		6,783	-		6,783	4,206	2,578
	<b>Fire Equipment</b>			-			-				
	<b>Station #31 Waterdown</b>			-			-				
16	Air compressor	2020-2021	3,000	-		3,000	-		3,000	1,860	1,140
17	Washer Extractor	2020-2021	17,000	-		17,000	-		17,000	10,540	6,460
18	Portable Radios, Chargers & Batteries	2020-2021	25,000	-		25,000	-		25,000	15,500	9,500
19	S.C.B.A.'s	2020-2021	31,000	-		31,000	-		31,000	19,220	11,780
20	Portable Pumps	2020-2021	18,000	-		18,000	-		18,000	11,160	6,840
21	Multi Gas Detectors	2020-2021	6,000	-		6,000	-		6,000	3,720	2,280
22	Defibrillators	2020-2021	6,000	-		6,000	-		6,000	3,720	2,280
23	Thermal Imaging Camera	2020-2021	13,000	-		13,000	-		13,000	8,060	4,940
24	Auto Extrication Equipment	2020-2021	57,000	-		57,000	-		57,000	35,340	21,660
25	Air Bags	2020-2021	11,000	-		11,000	-		11,000	6,820	4,180
26	Fire Hose	2020-2021	43,000	-		43,000	-		43,000	26,660	16,340
27	Bunker Gear	2020-2021	41,000	-		41,000	-		41,000	25,420	15,580
28	Station Exhaust System	2020-2021	56,000	-		56,000	-		56,000	34,720	21,280
29	Protective Gear & Uniform Clothing	2020-2021	48,000	-		48,000	-		48,000	29,760	18,240
	<b>New Station Elfrida Growth Area</b>		-	-			-				
30	Air Compressor	2026-2027	3,000	2,000		1,000	-		1,000	620	380
31	Washer Extractor	2026-2027	17,000	11,200		5,800	-		5,800	3,596	2,204
32	Portable Radios, Chargers & Batteries	2026-2027	25,000	16,500		8,500	-		8,500	5,270	3,230
33	S.C.B.A.'s	2026-2027	31,000	20,500		10,500	-		10,500	6,510	3,990
34	Portable Pumps	2026-2027	18,000	11,900		6,100	-		6,100	3,782	2,318





### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Fire Services

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less: Potential D.C. Recoverable Cost				
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 62%	Non-Residential Share 38%
35	Multi Gas Detectors	2026-2027	6,000	4,000		2,000	-		2,000	1,240	760
36	Defibrillators	2026-2027	6,000	4,000		2,000	-		2,000	1,240	760
37	Thermal Imaging Camera	2026-2027	13,000	8,600		4,400	-		4,400	2,728	1,672
38	Auto Extrication Equipment	2026-2027	57,000	37,600		19,400	-		19,400	12,028	7,372
39	Air Bags	2026-2027	11,000	7,300		3,700	-		3,700	2,294	1,406
40	Fire Hose	2026-2027	43,000	28,400		14,600	-		14,600	9,052	5,548
41	Bunker Gear	2026-2027	41,000	27,100		13,900	-		13,900	8,618	5,282
42	Station Exhaust System	2026-2027	56,000	37,000		19,000	-		19,000	11,780	7,220
43	Protective Gear & Uniform Clothing	2026-2027	48,000	31,700		16,300	-		16,300	10,106	6,194
	<b>Glanbrook Growth Area Station Expansion/Renovation</b>										
44	Additional Firefighting Equipment at Glanbrook Growth Area	2021-2022	89,000	-		89,000	22,300		66,700	41,354	25,346
	<b>Winona Growth Area</b>										
45	Additional Firefighting Equipment at Winona Growth Area	2021-2022	89,000	-		89,000	22,300		66,700	41,354	25,346
	<b>Upper Stoney Creek Growth Area</b>										
46	Additional Firefighting Equipment at Upper Stoney Creek Station	2026-2027	89,000	18,700		70,300	22,300		48,000	29,760	18,240
47	Reserve Fund Adjustment			-		-	4,043,435		(4,043,435)	(2,506,930)	(1,536,505)
	<b>Total</b>		<b>40,198,816</b>	<b>6,714,900</b>	<b>-</b>	<b>33,483,916</b>	<b>9,744,235</b>	<b>-</b>	<b>23,739,681</b>	<b>14,718,602</b>	<b>9,021,079</b>



# 3. Police Services



### 3.1 All Police Services

#### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Police Services

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 62%	Non-Residential Share 38%
	<b>Facilities</b>										
1	Marine Facility Expansion & Replacement	2019	5,148,000	-		5,148,000	2,059,200		3,088,800	1,915,056	1,173,744
2	Additional Police Facility Requirements - Station 40	2025	25,500,000	23,103,000		2,397,000	-		2,397,000	1,486,140	910,860
3	Investigative Services Division (ISD) Forensics Headquarters	2019	25,824,000	-		25,824,000	13,471,600		12,352,400	7,658,488	4,693,912
4	Growth Related Component of ISD Forensics Headquarters Debt Interest (Discounted)	2019-2033	469,698	-		469,698	-		469,698	291,213	178,485
5	Backup Data Centre/Disaster Recovery Facility Space Expansion	2020	281,000	254,600		26,400	-		26,400	16,368	10,032
6	Debt Principal on Divisional 30 Headquarters	2019	302,808	-		302,808	-		302,808	187,741	115,067
7	Debt Interest (Discounted) on Divisional 30 Headquarters	2019	7,570	-		7,570	-		7,570	4,694	2,877
8	Debt Principal (Discounted) - Shared Training Facility	2019-2027	2,062,182	-		2,062,182	-		2,062,182	1,278,553	783,629
9	Debt Interest (Discounted) - Shared Training Facility	2019-2027	888,379	-		888,379	-		888,379	550,795	337,584
10	Communication/9-1-1 Centre Expansion	2020	500,000	-		500,000	250,000		250,000	155,000	95,000
11	Communications Centre Facility Expansion	2019	401,900	-		401,900	201,000		200,900	124,558	76,342
	<b>Vehicles &amp; Equipment</b>										
12	Station 40 Equipment	2025	213,000	193,000		20,000	-		20,000	12,400	7,600
13	Command Van	2020	750,000	-		750,000	275,600		474,400	294,128	180,272
14	Marine Vessel (Hike)	2019	800,000	-		800,000	-		800,000	496,000	304,000
15	Ice Rescue	2020	82,000	-		82,000	-		82,000	50,840	31,160
16	Additional Cruisers (46)	2019-2031	1,490,400	-		1,490,400	-		1,490,400	924,048	566,352
17	Equipment for Officers (200)	2019-2031	680,000	68,000		612,000	-		612,000	379,440	232,560



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Police Services

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 62%	Non-Residential Share 38%
18	Equipment for Senior Officers (2)	2019-2031	7,200	700		6,500	-		6,500	4,030	2,470
19	Equipment for Special Constables (21)	2019-2031	46,200	4,600		41,600	-		41,600	25,792	15,808
20	Equipment for Cadets (2)	2019-2031	5,400	500		4,900	-		4,900	3,038	1,862
21	Equipment for Auxiliary Officers (12)	2019-2031	30,600	3,100		27,500	-		27,500	17,050	10,450
22	Portable Radios (200)	2019-2031	1,177,100	117,700		1,059,400	-		1,059,400	656,828	402,572
23	Vehicle Equipment (46)	2019-2031	142,600	14,300		128,300	-		128,300	79,546	48,754
24	In-Car Mobile Radios / Electronics (46)	2019-2031	427,800	42,800		385,000	-		385,000	238,700	146,300
25	Reserve Fund Adjustment						1,146,812		(1,146,812)	(711,023)	(435,789)
	<b>Total</b>		<b>67,237,836</b>	<b>23,802,300</b>	<b>-</b>	<b>43,435,536</b>	<b>17,404,212</b>	<b>-</b>	<b>26,031,324</b>	<b>16,139,421</b>	<b>9,891,903</b>



# 4. Parking Services





# 5. Airport



## 5.1 Airport Space

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Airport Space

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
2019-2028											63%	37%	
1	Requirements for Additional Airport Space	2019-2023	14,000,000	-		14,000,000	-		14,000,000	1,400,000	12,600,000	7,938,000	4,662,000
2	Requirements for Additional Airport Space	2024-2028	14,000,000	9,240,000		4,760,000	-		4,760,000	476,000	4,284,000	2,698,920	1,585,080
3	Reserve Fund Adjustment						1,941,149		(1,941,149)		(1,941,149)	(1,222,924)	(718,225)
	<b>Total</b>		<b>28,000,000</b>	<b>9,240,000</b>	<b>-</b>	<b>18,760,000</b>	<b>1,941,149</b>	<b>-</b>	<b>16,818,851</b>	<b>1,876,000</b>	<b>14,942,851</b>	<b>9,413,996</b>	<b>5,528,855</b>





# 6. Outdoor Recreation



## 6.1 All Parkland Development

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Parkland Development

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
2019-2028											95%	5%	
1	John St. N. & Rebecca St. Park - Master Plan Implementation	2019-2022	3,860,000	-		3,860,000	3,319,600		540,400	54,040	486,360	462,042	24,318
2	Nash Orchard Park	2021-2022	832,000	-		832,000	-		832,000	83,200	748,800	711,360	37,440
3	Highland Road Park	2020	776,000	-		776,000	-		776,000	77,600	698,400	663,480	34,920
4	Highbury Meadows North Park	2020	703,000	-		703,000	-		703,000	70,300	632,700	601,065	31,635
5	Cherry Beach Lakefront Park	2021	969,000	-		969,000	-		969,000	96,900	872,100	828,495	43,605
6	The Crossings Park	2022	838,000	-		838,000	-		838,000	83,800	754,200	716,490	37,710
7	Brooks at Rymal Park	2020	883,000	-		883,000	-		883,000	88,300	794,700	754,965	39,735
8	Lancaster Heights Park	2020	675,000	-		675,000	-		675,000	67,500	607,500	577,125	30,375
9	Fletcher Road Parkette	2022	191,000	-		191,000	-		191,000	19,100	171,900	163,305	8,595
10	Ancaster Meadows Park	2019	641,000	-		641,000	-		641,000	64,100	576,900	548,055	28,845
11	Parkside Hills Park	2022	607,000	-		607,000	-		607,000	60,700	546,300	518,985	27,315
12	Clear Skies proposed park	2023-2024	978,000	-		978,000	-		978,000	97,800	880,200	836,190	44,010
13	Gatesbury Park Upgrades - New fitness area, skateboard feature and basketball	2019-2021	498,000	-		498,000	498,000		-	-	-	-	-
14	Meadowlands Community Park Spraypad	2019-2020	475,000	-		475,000	237,500		237,500	23,750	213,750	203,063	10,688
15	Broughton West Park Upgrade for New Spray Pad	2021-2022	475,000	-		475,000	237,500		237,500	23,750	213,750	203,063	10,688
16	Alexander Park - Upgrade for new skate park	2019	532,000	-		532,000	266,000		266,000	26,600	239,400	227,430	11,970
17	Mcquesten Park - Additional Fitness Equipment	2020	270,000	-		270,000	135,000		135,000	13,500	121,500	115,425	6,075
18	Waterfalls Viewing - Albion Falls New Access on South Side	2019	1,320,000	-		1,320,000	660,000		660,000	66,000	594,000	564,300	29,700
19	Chedoke Falls - New Access to Upper and Lower Falls	2019-2022	4,528,000	-		4,528,000	2,264,000		2,264,000	226,400	2,037,600	1,935,720	101,880
20	Skateboard Study Implementation at Various Locations Throughout the City	2019-2028	11,190,000	6,714,000		4,476,000	-		4,476,000	447,600	4,028,400	3,826,980	201,420
21	Johnson Tew New Arboretum	2019-2021	150,000	-		150,000	75,000		75,000	7,500	67,500	64,125	3,375
22	Billy Sherring - Class C Field Replace & Upgrade to Class A Artificial	2027	1,200,000	1,115,700		84,300	84,300		-	-	-	-	-



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Parkland Development

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost	
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 95%	Non-Residential Share 5%
23	Waterford Park	2019-2022	1,122,000	-		1,122,000	561,000		561,000	56,100	504,900	479,655	25,245
24	Summit Park Phase 10 Binbrook	2019	500,000	-		500,000	-		500,000	50,000	450,000	427,500	22,500
25	William Connell Expansion Lands	2022	1,224,000	-		1,224,000	-		1,224,000	122,400	1,101,600	1,046,520	55,080
26	Roxborough Park	2019	765,000	-		765,000	765,000		-	-	-	-	-
27	Provision for Elfrida Park Developments (8 neighbourhood parks & 1 community park)	2023-2028	7,710,200	1,542,000		6,168,200	-		6,168,200	616,820	5,551,380	5,273,811	277,569
28	Waterdown South Skinner Park (Asset ID 1013)	2019	624,000	-		624,000	-		624,000	62,400	561,600	533,520	28,080
29	Waterdown South Parkette 2 Water Tower (Asset ID 30)	2023	174,000	-		174,000	-		174,000	17,400	156,600	148,770	7,830
30	Waterdown South Parkette 1 (Asset ID 54) Skinner Road and Burke Avenue	2021	157,000	-		157,000	-		157,000	15,700	141,300	134,235	7,065
31	Waterdown South Smoky Hollow Park (Asset ID 72)	2021	676,000	-		676,000	-		676,000	67,600	608,400	577,980	30,420
32	Waterdown South Parkette 3 (Asset ID 71)	2023	82,000	-		82,000	-		82,000	8,200	73,800	70,110	3,690
33	Bookjans West Park	2019	570,000	-		570,000	-		570,000	57,000	513,000	487,350	25,650
34	Heritage Green Community Sports Park - Future Phases	2021-2023	2,405,000	-		2,405,000	-		2,405,000	240,500	2,164,500	2,056,275	108,225
35	Brian Timmis Field Development - Stadium Precinct Park	2020-2021	8,657,000	-		8,657,000	4,946,900		3,710,100	371,010	3,339,090	3,172,136	166,955
36	Fruitland/Winona Parkland Development	2023	1,237,000	-		1,237,000	-		1,237,000	123,700	1,113,300	1,057,635	55,665
37	Red Hill Phase 3 & 4 Park	2019	650,000	-		650,000	-		650,000	65,000	585,000	555,750	29,250
38	Spencer Creek Estates	2020	340,000	-		340,000	-		340,000	34,000	306,000	290,700	15,300
39	Lewis Road Park (Winona)	2019-2021	700,000	-		700,000	-		700,000	70,000	630,000	598,500	31,500
40	Confederation Park - Little Squirt Works & Area Redevelopment	2019-2020	1,530,000	-		1,530,000	765,000		765,000	76,500	688,500	654,075	34,425
41	Confederation Park - Sports Park Development - Phase 2 (Natural play area, tree planting)	2020	4,243,000	2,291,200		1,951,800	424,300		1,527,500	152,750	1,374,750	1,306,013	68,738
42	Confederation Park - Central Village - Pkg. Lot & Roadways, Phase 1	2029-2036	3,366,000	3,366,000		-	-		-	-	-	-	-
43	Confederation Park - Sports Park Development - Phase 3 (Picnic areas and shelter, parking lot lighting, tree planting, site furniture)	2020	803,000	433,600		369,400	80,300		289,100	28,910	260,190	247,181	13,010
44	Confederation Park - Central Village - Public Realm & Square	2029-2036	2,805,000	2,805,000		-	-		-	-	-	-	-



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Parkland Development

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost	
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
	2019-2028												
45	Confederation Park - West Entrance and Naturalizing the Go Karts Site	2021-2026	612,000	-		612,000	-		612,000	61,200	550,800	523,260	27,540
46	Confederation Park - Internal Trail Between Central Village and Beaches Grill	2029-2036	204,000	204,000		-	-		-	-	-	-	-
47	Confederation Park - Boardwalk to Beach	2021-2026	459,000	275,400		183,600	-		183,600	18,360	165,240	156,978	8,262
48	Confederation Park - General Trail Upgrades	2021-2026	204,000	61,200		142,800	102,000		40,800	4,080	36,720	34,884	1,836
49	Confederation Park - Group Picnic Area	2029-2036	561,000	280,500		280,500	280,500		-	-	-	-	-
50	Confederation Park - Central Parking Lot & Volleyball Centre Area	2029-2036	357,000	357,000		-	-		-	-	-	-	-
51	Confederation Park Soccer Field Area	2021-2026	51,000	36,700		14,300	5,100		9,200	920	8,280	7,866	414
52	Confederation Park - Wild Waterworks Property Upgrades	2021-2026	408,000	122,400		285,600	204,000		81,600	8,160	73,440	69,768	3,672
53	Confederation Park - Woodland Restoration - Phase 1	2021-2026	408,000	122,400		285,600	204,000		81,600	8,160	73,440	69,768	3,672
54	Confederation Park - Woodland Restoration - Phase 2	2029-2036	408,000	204,000		204,000	204,000		-	-	-	-	-
55	Confederation Park - Van Wagners Marsh Upgrades Phase 1	2021-2026	408,000	122,400		285,600	204,000		81,600	8,160	73,440	69,768	3,672
56	Confederation Park - Van Wagners Marsh Upgrades Phase 2	2029-2036	408,000	204,000		204,000	204,000		-	-	-	-	-
57	Confederation Park - Signage - Phase 2	2021-2026	255,000	-		255,000	-		255,000	25,500	229,500	218,025	11,475
58	Confederation Park - Park Corridor Upgrades along Van Wagners Beach Road	2021-2026	612,000	-		612,000	-		612,000	61,200	550,800	523,260	27,540
59	Confederation Park - Lighting along Strip	2021-2026	561,000	-		561,000	-		561,000	56,100	504,900	479,655	25,245
60	Confederation Park - Pumping station, sanitary forcemain, and electrical servicing for Lakeland area	2021-2026	918,000	-		918,000	-		918,000	91,800	826,200	784,890	41,310
61	Confederation Park - Public Art & Site Work - Centennial Pkwy Entrance	2029-2036	612,000	612,000		-	-		-	-	-	-	-
62	Confederation Park - Centennial Intersection & Entrance	2029-2036	4,998,000	4,998,000		-	-		-	-	-	-	-
63	Confederation Park - Primary infrastructure for servicing the central village and ice skating facility	2029-2036	2,193,000	2,193,000		-	-		-	-	-	-	-
64	Confederation Park - Services for Adventure Village Expansion	2029-2036	153,000	153,000		-	-		-	-	-	-	-



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Parkland Development

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							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 95%	Non-Residential Share 5%
	2019-2028												
65	West Harbour Parkland Development - Gas Dock and Marina Services	2019	1,200,000	-		1,200,000	600,000		600,000	60,000	540,000	513,000	27,000
66	West Harbour Pier 5-7 Marina Shoreline Rehab (HWT) (Additional funds)	2019	810,000	-		810,000	202,500		607,500	60,750	546,750	519,413	27,338
67	West Harbour Pier 5-7 Boardwalk (HWT)	2019-2021	7,325,000	-		7,325,000	1,831,300		5,493,700	549,370	4,944,330	4,697,114	247,217
68	West Harbour Pier 6 Artisan Village (HWT)	2021-2021	4,170,000	-		4,170,000	2,085,000		2,085,000	208,500	1,876,500	1,782,675	93,825
69	West Harbour Pier 7 Commercial Village (HWT)	2019	3,050,000	-		3,050,000	1,525,000		1,525,000	152,500	1,372,500	1,303,875	68,625
70	West Harbour Pier 8 Shorewall Rehab	2019-2028	16,575,000	5,920,600		10,654,400	9,945,000		709,400	70,940	638,460	606,537	31,923
71	West Harbour Macassa Bay - Shoreline Improvements	2019-2028	5,305,000	3,553,000		1,752,000	1,326,300		425,700	42,570	383,130	363,974	19,157
72	West Harbour Macassa Bay Boardwalk and Trail	2019-2028	7,000,000	4,688,300		2,311,700	1,750,000		561,700	56,170	505,530	480,254	25,277
73	West Harbour Pier 8 Greenway	2021-2028	1,235,000	661,700		573,300	494,000		79,300	7,930	71,370	67,802	3,569
74	West Harbour Bayfront Park Upgrades Phase 3 (Entrance Fountain)	2021-2028	780,000	174,100		605,900	585,000		20,900	2,090	18,810	17,870	941
75	West Harbour - Bayview Park Remediation and Redevelopment	2021-2028	2,275,000	1,015,800		1,259,200	1,137,500		121,700	12,170	109,530	104,054	5,477
	<b>Trails</b>												
76	Ancaster Creek Trail	2023	920,500	-		920,500	-		920,500	92,050	828,450	787,028	41,423
77	Churchill Park Trail	2020-2022	381,000	-		381,000	-		381,000	38,100	342,900	325,755	17,145
78	Chedoke Rail Trail Extension	2029-2030	240,300	240,300		-	-		-	-	-	-	-
79	Chedoke Rail Trail, Claremont Link	2029-2030	245,200	245,200		-	-		-	-	-	-	-
80	Glenburn Court - Battlefield Creek Trail	2024	235,100	-		235,100	-		235,100	23,510	211,590	201,011	10,580
81	Sam Manson Park Trail	2020	104,200	-		104,200	-		104,200	10,420	93,780	89,091	4,689
82	Park Trail Connections - Upper James St. to Limeridge Mall Hydro Corridor Trail	2027-2031	969,600	436,300		533,300	484,800		48,500	4,850	43,650	41,468	2,183
83	First Road West Link	2021-2022	376,200	-		376,200	-		376,200	37,620	338,580	321,651	16,929
84	Heritage Green Sports Park Link	2022	200,000	-		200,000	-		200,000	20,000	180,000	171,000	9,000
85	Summerlea West Park - Fletcher Road Parkette Link	2027	687,000	618,300		68,700	-		68,700	6,870	61,830	58,739	3,092
86	Filman Road Link - North Segment	2022	275,900	-		275,900	-		275,900	27,590	248,310	235,895	12,416
87	Filman Road Link - South Segment	2022	539,700	-		539,700	-		539,700	53,970	485,730	461,444	24,287



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Parkland Development

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
2019-2028											95%	5%	
88	Meadowlands Trail System Links	2020-2024	1,700,000	-		1,700,000	-		1,700,000	170,000	1,530,000	1,453,500	76,500
89	Tollgate Drive Link	2030	259,400	259,400		-	-		-	-	-	-	-
90	Spencer Creek, Main Street and Thorpe Street Link	2029-2031	3,731,000	3,731,000		-	-		-	-	-	-	-
91	Spencer Creek, Mercer Street and Governor's Road Lin	2029-2031	710,300	710,300		-	-		-	-	-	-	-
92	Cascade Trail Link	2029-2031	313,500	313,500		-	-		-	-	-	-	-
93	Dundas Valley Link	2029-2031	1,138,000	1,138,000		-	-		-	-	-	-	-
94	Borer's Creek Trail Link	2027	786,200	629,000		157,200	-		157,200	15,720	141,480	134,406	7,074
95	Waterdown Pipeline Trail Link	2019-2020	422,000	-		422,000	211,000		211,000	21,100	189,900	180,405	9,495
96	Parkside Drive - Robson Link	2019	181,500	-		181,500	-		181,500	18,150	163,350	155,183	8,168
97	Highway 5 - Mountain Brow Road Link	2019	600,000	-		600,000	-		600,000	60,000	540,000	513,000	27,000
98	East Mountain Trail Loop	2019-2020	854,000	-		854,000	811,300		42,700	4,270	38,430	36,509	1,922
99	Joe Sam's New Trail Connection Through the Park	2019-2020	100,000	-		100,000	-		100,000	10,000	90,000	85,500	4,500
100	Confederation Park - Growth Related Debt Interest (Discounted)	2019-2034	1,573,689	722,300		851,389	-		851,389		851,389	808,820	42,569
101	Reserve Fund Adjustment		4,812,660	-		4,812,660	-		4,812,660		4,812,660	4,572,027	240,633
	<b>Total</b>		<b>159,803,149</b>	<b>53,270,600</b>	<b>-</b>	<b>106,532,549</b>	<b>39,715,700</b>	<b>-</b>	<b>66,816,849</b>	<b>6,115,280</b>	<b>60,701,569</b>	<b>57,666,491</b>	<b>3,035,078</b>



# 7. Indoor Recreation



## 7.1 Indoor Recreation Facilities

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Indoor Recreation Facilities

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share	
													95%	5%
1	Valley Park Community Centre Expansion	2019-2021	1,800,000	-		1,800,000	180,000		1,620,000	162,000	1,458,000	1,385,100	72,900	
2	Norman Pinky Lewis Recreation Centre Expansion	2023-2025	6,600,000	-		6,600,000	3,300,000		3,300,000	330,000	2,970,000	2,821,500	148,500	
3	Winona Community Centre	2022-2024	26,500,000	-		26,500,000	-		26,500,000	2,650,000	23,850,000	22,657,500	1,192,500	
4	Elfrida Community Centre	2027-2036	27,500,000	22,000,000		5,500,000	-		5,500,000	550,000	4,950,000	4,702,500	247,500	
5	Binbrook Community Centre	2028	27,500,000	14,575,000		12,925,000	-		12,925,000	1,292,500	11,632,500	11,050,875	581,625	
6	Sackville Expansion	2026	6,700,000	-		6,700,000	-		6,700,000	670,000	6,030,000	5,728,500	301,500	
7	Waterdown Community Centre	2025-2027	27,000,000	-		27,000,000	-		27,000,000	2,700,000	24,300,000	23,085,000	1,215,000	
8	Riverdale Community Hub & Domenic Agostino Riverdale Community Centre Expansion	2020-2022	11,000,000	-		11,000,000	-		11,000,000	1,100,000	9,900,000	9,405,000	495,000	
9	Riverdale Community Hub & Domenic Agostino Riverdale Community Centre Expansion - Growth Related Debt Interest (Discounted)	2023-2038	1,436,413	-		1,436,413	-		1,436,413		1,436,413	1,364,592	71,821	
10	William Connell Park Washroom and changeroom Facilities (under construction)	2019	3,700,000	-		3,700,000	-		3,700,000	370,000	3,330,000	3,163,500	166,500	
11	Sir Wilfrid Laurier Gymnasium	2020-2021	8,650,000	-		8,650,000	-		8,650,000	865,000	7,785,000	7,395,750	389,250	
12	Sir Wilfrid Laurier Gymnasium - Growth Related Debt Interest (Discounted)	2022-2037	1,488,247	-		1,488,247	-		1,488,247		1,488,247	1,413,835	74,412	
13	Mt. Hope new Rec Centre	2025-2028	4,850,000	-		4,850,000	-		4,850,000	485,000	4,365,000	4,146,750	218,250	
14	Ancaster Tennis Bubble	2019-2020	1,000,000	-		1,000,000	-		1,000,000	100,000	900,000	855,000	45,000	
15	Parkdale Outdoor Pool Washroom & Changeroom	2019-2021	3,000,000	-		3,000,000	2,640,000		360,000	36,000	324,000	307,800	16,200	
16	Dundas Valley Washroom	2019	565,000	-		565,000	-		565,000	56,500	508,500	483,075	25,425	
17	Durand Park Washroom Building	2019	325,000	-		325,000	-		325,000	32,500	292,500	277,875	14,625	





### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Indoor Recreation Facilities

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
2019-2028											95%	5%	
18	Stadium Precinct Park Fieldhouses & Washrooms	2020	5,200,000	-		5,200,000	-		5,200,000	520,000	4,680,000	4,446,000	234,000
19	Confederation Park - Sports Park Buildings Phase 1: Gatehouse	2019	700,000	-		700,000	-		700,000	70,000	630,000	598,500	31,500
20	Confederation Park - Sports Park Buildings Phase 2: Fieldhouse and Staff Works Yard	2020-2024	5,500,000	-		5,500,000	-		5,500,000	550,000	4,950,000	4,702,500	247,500
21	Confederation Park - Ice skating rink/loop, field house & zamboni	2027-2036	3,570,000	-		3,570,000	-		3,570,000	357,000	3,213,000	3,052,350	160,650
22	West Harbour Washroom/Concession	2021-2022	1,000,000	-		1,000,000	500,000		500,000	50,000	450,000	427,500	22,500
23	Reserve Fund Adjustment						5,942,749		(5,942,749)		(5,942,749)	(5,645,612)	(297,137)
	<b>Total</b>		<b>175,584,660</b>	<b>36,575,000</b>	<b>-</b>	<b>139,009,660</b>	<b>12,562,749</b>	<b>-</b>	<b>126,446,911</b>	<b>12,946,500</b>	<b>113,500,411</b>	<b>107,825,390</b>	<b>5,675,021</b>



# 8. Library Services



## 8.1 Library Facilities & Vehicles

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Library Facilities & Vehicles

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
2019-2028											95%	5%	
1	South Mountain Complex - Turner Park - Debt Principal (Discounted)	2019-2023	1,129,104	-		1,129,104	-		1,129,104		1,129,104	1,072,648	56,455
2	South Mountain Complex - Turner Park - Debt Interest (Discounted)	2019-2023	94,210	-		94,210	-		94,210		94,210	89,500	4,711
3	Binbrook Expansion Growth Related Debt Principal	2020-2035	2,016,500	-		2,016,500	998,000		1,018,500		1,018,500	967,575	50,925
4	Binbrook Expansion Growth Related Debt Interest (Discounted)	2020-2035	243,530	-		243,530	-		243,530		243,530	231,353	12,176
5	Valley Park - Expansion & Renovation - Construction*	2020	6,452,000	-		6,452,000	262,000	1,250,000	4,940,000	494,000	4,446,000	4,223,700	222,300
6	Valley Park - Furnishings for Expansion	2020	1,347,000	-		1,347,000	-		1,347,000	134,700	1,212,300	1,151,685	60,615
7	Valley Park - Expansion - Growth Related Debt Interest (Discounted)	2020-2035	1,215,970	-		1,215,970	-		1,215,970		1,215,970	1,155,171	60,798
8	Winona/Stoney Creek - New - Furnishings for New Facility	2024-2025	1,000,000	-		1,000,000	-		1,000,000	100,000	900,000	855,000	45,000
9	Winona/Stoney Creek - New - Construction (Estimated 9,000 sq. ft.)	2024-2025	5,000,000	-		5,000,000	-		5,000,000	500,000	4,500,000	4,275,000	225,000
10	Mount Hope - Replacement & Expansion - Construction (Estimated 5,000 sq. ft.)	2022-2023	3,500,000	-		3,500,000	1,841,400		1,658,600	165,860	1,492,740	1,418,103	74,637
11	Mount Hope - New - Furnishings for Expansion	2022-2023	500,000	-		500,000	-		500,000	50,000	450,000	427,500	22,500
12	Ancaster - Expansion - Construction (estimated 20,000 sq. ft.)	2024	8,500,000	-		8,500,000	5,590,000		2,910,000	291,000	2,619,000	2,488,050	130,950



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Library Facilities & Vehicles

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
	2019-2028											95%	5%
13	Ancaster Furnishings for Expansion	2024	1,500,000	-		1,500,000	-		1,500,000	150,000	1,350,000	1,282,500	67,500
14	Bookmobile - Electronic	2020	550,000	-		550,000	-		550,000	55,000	495,000	470,250	24,750
15	Greenville - New Library	2019	2,434,000	-		2,434,000	1,789,700		644,300	64,430	579,870	550,877	28,994
16	Greenville - Furnishings	2019	441,000	-		441,000	-		441,000	44,100	396,900	377,055	19,845
17	Carlisle - Replacement/Renovation	2020	2,500,000	-		2,500,000	2,500,000		-	-	-	-	-
18	Lower City New/Expanded Library (Estimated 8,000 sq. ft.)	2025	5,241,000	4,533,500		707,500	-		707,500	70,750	636,750	604,913	31,838
19	Elfrida - New Branch (Estimated 12,000 sq. ft.)	2030	7,000,000	7,000,000		-	-		-	-	-	-	-
20	Central Library - Phase IV - Local History & Archives - Renovations	2022	1,500,000	-		1,500,000	1,500,000		-	-	-	-	-
21	New Permanent Location For Red Hill (Estimated 15,000 sq. ft.)	2025	8,000,000	1,494,700		6,505,300	6,272,000		233,300	23,330	209,970	199,472	10,499
22	Saltfleet Move to Stoney Creek (Estimated 15,000 sq. ft.)	2025	8,000,000	1,581,000		6,419,000	6,172,300		246,700	24,670	222,030	210,929	11,102
23	New North End Branch (Estimated 8,000 sq. ft.)	2025	5,500,000	4,757,500		742,500	-		742,500	74,250	668,250	634,838	33,413
24	Reserve Fund Adjustment		140,657	-		140,657	-		140,657		140,657	133,624	7,033
	<b>Total</b>		<b>73,804,970</b>	<b>19,366,700</b>	<b>-</b>	<b>54,438,270</b>	<b>26,925,400</b>	<b>1,250,000</b>	<b>26,262,870</b>	<b>2,242,090</b>	<b>24,020,780</b>	<b>22,819,741</b>	<b>1,201,039</b>





# 9. Paramedics





## 9.2 Paramedics Vehicles & Equipment

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Paramedics Vehicles & Equipment

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 90%	Non-Residential Share 10%
1	Additional Ambulances (5)	2019-2023	1,340,000	-		1,340,000	-		1,340,000	134,000	1,206,000	1,085,400	120,600
2	Additional Ambulances (5)	2024-2028	1,340,000	1,279,700		60,300	-		60,300	6,030	54,270	48,843	5,427
3	Additional Defibrillators (6)	2019-2023	180,600	-		180,600	-		180,600	18,060	162,540	146,286	16,254
4	Additional Defibrillators (7)	2024-2028	210,700	201,200		9,500	-		9,500	950	8,550	7,695	855
5	Additional Stretchers (6)	2019-2023	134,400	-		134,400	-		134,400	13,440	120,960	108,864	12,096
6	Additional Stretchers (7)	2024-2028	156,800	149,700		7,100	-		7,100	710	6,390	5,751	639
7	Additional Gear (5)	2019-2023	60,000	-		60,000	-		60,000	6,000	54,000	48,600	5,400
8	Additional Gear (5)	2024-2028	60,000	57,300		2,700	-		2,700	270	2,430	2,187	243
	<b>Total</b>		<b>3,482,500</b>	<b>1,687,900</b>	<b>-</b>	<b>1,794,600</b>	<b>-</b>	<b>-</b>	<b>1,794,600</b>	<b>179,460</b>	<b>1,615,140</b>	<b>1,453,626</b>	<b>161,514</b>





# 10. Long Term Care





# 11. Social Housing



## 11.1 Social Housing

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Social Housing

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 100%	Non-Residential Share 0%
1	Provision for Additional Social Housing	2019-2023	193,750,000	13,562,500		180,187,500	160,270,000		19,917,500	1,991,750	17,925,750	17,925,750	-
2	Provision for Additional Social Housing	2024-2028	227,660,000	39,157,500		188,502,500	188,320,400		182,100	18,210	163,890	163,890	-
3	Bay-Cannon (Replace 45 units and expand by 10 units)	2019-2023	16,600,000	-		16,600,000	16,078,400		521,600	52,160	469,440	469,440	-
4	55 Queenston Phase 1 (41 Units Replacement of Units from other locations)	2019-2023	10,529,000	-		10,529,000	10,529,000		-	-	-	-	-
5	Wellington-King William (Replace 14 units and expand by 6 units)	2019-2023	5,743,000	-		5,743,000	5,445,300		297,700	29,770	267,930	267,930	-
6	Macassa (Replace 45 units and expand by 20 units)	2019-2023	15,554,000	-		15,554,000	14,727,100		826,900	82,690	744,210	744,210	-
7	MacNab (Rehab 146 units)	2019-2023	16,282,000	-		16,282,000	10,382,000	5,900,000	-	-	-	-	-
8	55 Queenston Phase 2 (52 Additional Units)	2019-2023	13,350,000	-		13,350,000	11,043,100		2,306,900	230,690	2,076,210	2,076,210	-
9	Riverdale Community Hub (44 units)	2019-2023	11,040,000	-		11,040,000	9,132,300		1,907,700	190,770	1,716,930	1,716,930	-
	Reserve Fund Adjustment						7,225,830		(7,225,830)	(722,583)	(6,503,247)	(6,503,247)	-
	<b>Total</b>		<b>510,508,000</b>	<b>52,720,000</b>	<b>-</b>	<b>457,788,000</b>	<b>433,153,430</b>	<b>5,900,000</b>	<b>18,734,570</b>	<b>1,873,457</b>	<b>16,861,113</b>	<b>16,861,113</b>	<b>-</b>



# 12. Provincial Offences Act





# 13. Health Services







# 14. Social & Child Services



## 14.1 Social & Child Services Facilities

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Social and Child Services Facilities

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 90%	Non-Residential Share 10%
1	Riverdale Community Hub (Child Care Portion)	2019-2022	2,000,000	-		2,000,000	-	2,000,000	-	-	-	-	-
2	Reserve Fund Adjustment		362,227	-		362,227	-		362,227		362,227	326,004	36,223
	<b>Total</b>		<b>2,362,227</b>	<b>-</b>	<b>-</b>	<b>2,362,227</b>	<b>-</b>	<b>2,000,000</b>	<b>362,227</b>	<b>-</b>	<b>362,227</b>	<b>326,004</b>	<b>36,223</b>



# 15. Waste Diversion



## 15.1 All Waste Diversion Services

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Waste Diversion Services

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Other Deductions*	Gross Capital Cost (2019\$) Waste Diversion Related	Post Period Benefit	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost		
								Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 83%	Non-Residential Share 17%	
1	CCF Air Handling Upgrades (to provide for capital improvements to the CCF to mitigate the impacts of the Ontario Compost Quality Standards)	2019	1,734,000	-	1,734,000	89,000	1,645,000	1,556,400		88,600	8,860	79,740	66,184	13,556	
2	Diversion Container Replacement and Expansion Program	2019-2023	4,908,750	-	4,908,750	-	4,908,750	4,405,900		502,850	50,285	452,565	375,629	76,936	
3	Diversion Container Replacement and Expansion Program	2024-2028	4,908,750	-	4,908,750	-	4,908,750	4,405,900		502,850	50,285	452,565	375,629	76,936	
4	Public Space & Special Event Containers Replacement & Expansion	2019-2023	1,275,000	1,020,000	255,000	-	255,000	127,500		127,500	12,750	114,750	95,243	19,508	
5	Public Space & Special Event Containers Replacement & Expansion	2024-2028	1,275,000	1,020,000	255,000	-	255,000	127,500		127,500	12,750	114,750	95,243	19,508	
6	Glanbrook Landfill Capital Improvement Program	2019-2023	1,863,550	1,677,195	186,355	-	186,355	18,600		167,755	16,776	150,980	125,313	25,667	
7	Glanbrook Landfill Capital Improvement Program	2024-2028	1,863,550	1,677,195	186,355	-	186,355	18,600		167,755	16,776	150,980	125,313	25,667	
8	Maintenance & Capital Improvements to the Resource Recovery Centre (RRC) Program	2019-2023	1,537,150	-	1,537,150	-	1,537,150	999,100		538,050	53,805	484,245	401,923	82,322	
9	Maintenance & Capital Improvements to the Resource Recovery Centre (RRC) Program	2024-2028	1,537,150	-	1,537,150	-	1,537,150	999,100		538,050	53,805	484,245	401,923	82,322	
8	Leaf & Yard Waste Composting Facility Relocation	2019-2020	3,978,000	-	3,978,000	-	3,978,000	1,989,000		1,989,000	198,900	1,790,100	1,485,783	304,317	
9	Transfer Station/Community Recycling Centre Expansion & Capital Replacement	2019-2023	10,375,000	6,225,000	4,150,000	-	4,150,000	-		4,150,000	415,000	3,735,000	3,100,050	634,950	
10	Transfer Station/Community Recycling Centre Expansion & Capital Replacement	2024-2028	10,375,000	6,225,000	4,150,000	3,320,000	830,000	-		830,000	83,000	747,000	620,010	126,990	
11	Material Recycling Facility Lifecycle Replacement & Upgrades	2020-2022	24,150,000	-	24,150,000	2,963,000	21,187,000	12,075,000		9,112,000	911,200	8,200,800	6,806,664	1,394,136	
12	Provision for additional trucks (2.1 per 4,000 additional low and medium density units)	2019-2023	1,606,500	-	1,606,500	-	1,606,500	-		1,606,500	160,650	1,445,850	1,200,056	245,795	
13	Provision for additional trucks (2.1 per 4,000 additional low and medium density units)	2024-2028	1,606,500	-	1,606,500	-	1,606,500	-		1,606,500	160,650	1,445,850	1,200,056	245,795	
	<b>Total</b>		<b>72,993,900</b>	<b>17,844,390</b>	<b>55,149,510</b>	<b>6,372,000</b>	<b>48,777,510</b>	<b>26,722,600</b>	<b>-</b>	<b>22,054,910</b>	<b>2,205,491</b>	<b>19,849,419</b>	<b>16,475,018</b>	<b>3,374,401</b>	

\*Other deductions are portions attributable to landfill



# 16. Transit



## 16.1 All Transit Services

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Transit Services

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share	Non-Residential Share
	2019-2028									63%	37%
1	New Conventional Bus - (40 ft.) (117)	2019-2028	94,957,200	2,943,700		92,013,500	66,185,200		25,828,300	16,271,829	9,556,471
2	New Conventional Bus - (40 ft.) (Spares) (32)	2019-2028	25,971,200	805,100		25,166,100	18,101,900		7,064,200	4,450,446	2,613,754
3	Replacement of Retired 40 ft. buses on L.R.T. corridor (18)	2019-2028	14,608,800	452,900		14,155,900	10,182,300		3,973,600	2,503,368	1,470,232
4	New Conventional Bus - (40 ft.) (12)	2029-2031	9,739,200	2,951,000		6,788,200	6,788,200		-	-	-
5	New Conventional Bus - (40 ft.) (Spares) (8)	2029-2031	6,492,800	1,967,300		4,525,500	4,525,500		-	-	-
6	Replace 40 ft. buses with 60 ft. buses (11)	2019	11,055,000	65,900	8,927,600	2,061,500	1,482,800		578,700	364,581	214,119
7	Replace 40 ft. buses with 60 ft. buses (10)	2023	10,050,000	60,000	8,116,000	1,874,000	1,348,000		526,000	331,380	194,620
8	Replace 40 ft. buses with 30 ft. buses (6)	2019	3,833,400	-	3,833,400	-	-		-	-	-
9	Replace 26 ft. buses with 30 ft. buses (5)	2019	3,236,000	57,100	1,393,000	1,785,900	1,284,600		501,300	315,819	185,481
10	New Specialized Transit (Chevy 34' Braun) (3)	2019-2028	663,900	-		663,900	393,700		270,200	170,226	99,974
11	New Specialized Transit (Chevy 34' Braun) (1)	2029-2031	221,300	90,100		131,200	131,200		-	-	-
12	New Specialized Transit (Dodge Promaster) (16)	2019-2028	1,740,800	-		1,740,800	1,032,300		708,500	446,355	262,145
13	New Specialized Transit (Dodge Promaster) (5)	2029-2031	544,000	221,400		322,600	322,600		-	-	-



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Transit Services

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share	Non-Residential Share
	2019-2028									63%	37%
14	New Specialized Transit (Dodge Caravan) (38)	2019-2028	1,447,800	-		1,447,800	858,500		589,300	371,259	218,041
15	New Specialized Transit (Dodge Caravan) (10)	2029-2031	381,000	155,100		225,900	225,900		-	-	-
16	Support Vehicles - Facility Vehicles - Service Truck	2019-2028	114,400	-		114,400	86,200		28,200	17,766	10,434
17	Support Vehicles - Facility Vehicles - Stock Room Vehicle	2019-2028	34,300	-		34,300	25,800		8,500	5,355	3,145
18	Support Vehicles - Facility Vehicles - Garage Equipment Repair Walk Behind Forklift	2019-2028	166,400	38,400		128,000	125,300		2,700	1,701	999
19	Support Vehicles - Facility Vehicles - Garage Fork Lift	2019-2028	104,000	24,000		80,000	78,300		1,700	1,071	629
20	Support Vehicles - Facility Vehicles - Garage Tow Mobile	2019-2028	52,000	12,000		40,000	39,200		800	504	296
21	Support Vehicles - Facility Vehicles - Garage Equipment Repair Express Van Vehicles	2019-2028	72,800	-		72,800	54,800		18,000	11,340	6,660
22	Support Vehicles - Operations Vehicles	2019-2028	192,500	-		192,500	-		192,500	121,275	71,225
23	Transit & Maintenance Storage Facility	2020-2022	272,000,000	9,305,000		262,695,000	122,920,000	108,800,000	30,975,000	19,514,250	11,460,750
24	Transit & Maintenance Storage Facility - Land	2020-2022	10,500,000	599,000		9,901,000	7,908,000		1,993,000	1,255,590	737,410
25	Transit & Maintenance Storage Facility Growth Related Debt Interest (Discounted)	2023-2038	7,198,306	1,662,866		5,535,440	-		5,535,440	3,487,327	2,048,113
26	Reserve Fund Adjustment			-			2,006,481		(2,006,481)	(1,264,083)	(742,398)
	<b>Total</b>		<b>475,377,106</b>	<b>21,410,866</b>	<b>22,270,000</b>	<b>431,696,240</b>	<b>246,106,781</b>	<b>108,800,000</b>	<b>76,789,459</b>	<b>48,377,359</b>	<b>28,412,100</b>



# 17. Administration Studies





## 17.1 Administration Studies

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Administration Studies

Prj.No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 63%	Non-Residential Share 37%	
<b>2019-2028</b>														
1	Official Plan (Urban and Rural) Review	2019-2021	2,000,000	-		2,000,000	1,000,000		1,000,000	100,000	900,000	567,000	333,000	
2	Comprehensive Zoning By-Law 05-200 Update	2019-2021	57,000	-		57,000	28,500		28,500	2,850	25,650	16,160	9,491	
3	GRIDS/MCR Update	2019-2020	2,195,000	-		2,195,000	-		2,195,000	219,500	1,975,500	1,244,565	730,935	
4	Residential Intensification Strategy	2019	157,000	-		157,000	-		157,000	15,700	141,300	89,019	52,281	
5	Site Plan Guidelines Update/Consolidation	2019-2022	200,000	-		200,000	-		200,000	20,000	180,000	113,400	66,600	
6	Digital Planning Application Software/Hardware	2019-2022	150,000	-		150,000	-		150,000	15,000	135,000	85,050	49,950	
7	Natural Areas Inventory Study	2019-2028	300,000	-		300,000	30,000		270,000	27,000	243,000	153,090	89,910	
8	Woodland Protection Strategy	2019	325,000	-		325,000	32,500		292,500	29,250	263,250	165,848	97,403	
9	3D Model Development for Development Review Process	2019	120,000	-		120,000	-		120,000	12,000	108,000	68,040	39,960	
10	Planning and Zoning Growth Area	2019-2022	1,215,000	-		1,215,000	-		1,215,000	121,500	1,093,500	688,905	404,595	
<b>Secondary Plans and Strategies - Nodes and Corridors:</b>														
11	Sub-Regional Nodes			-			-							
12	- Eastgate/Centennial Node	2019-2020	320,400	-		320,400	192,200		128,200	12,820	115,380	72,689	42,691	
13	- Limeridge Node	2019-2020	320,400	-		320,400	192,200		128,200	12,820	115,380	72,689	42,691	
14	Corridors:			-			-							
15	- Main/King Corridor (B-Line)	2019-2022	304,700	-		304,700	182,800		121,900	12,190	109,710	69,117	40,593	
16	- James/Upper James Corridor (A-Line)	2019-2022	320,400	-		320,400	192,200		128,200	12,820	115,380	72,689	42,691	
17	Community Nodes:			-			-							
18	- Waterdown Node	2019-2021	282,200	-		282,200	211,700		70,500	7,050	63,450	39,974	23,477	
19	- Centre Mall Node	2021-2022	282,200	-		282,200	197,500		84,700	8,470	76,230	48,025	28,205	
20	- Dundas Node	2019-2020	282,200	-		282,200	169,300		112,900	11,290	101,610	64,014	37,596	
21	- Stoney Creek Node	2020-2021	304,700	-		304,700	182,800		121,900	12,190	109,710	69,117	40,593	
22	Community Planning Studies - Durand Neighbourhood	2019-2021	150,000	-		150,000	37,500		112,500	11,250	101,250	63,788	37,463	
22	East of Downtown Secondary Plan	2024-2025	320,400	-		320,400	-		320,400	32,040	288,360	181,667	106,693	
23	Elfrida Urban Boundary Expansion & Secondary Plan	2019-2021	1,577,500	-		1,577,500	-		1,577,500	157,750	1,419,750	894,443	525,308	
24	City-wide Employment Survey	2019-2028	900,000	-		900,000	-		900,000	90,000	810,000	510,300	299,700	
25	Community Energy Plan	2019-2021	100,000	-		100,000	50,000		50,000	5,000	45,000	28,350	16,650	
26	Development Charge Study	2019	730,800	-		730,800	-		730,800	73,080	657,720	414,364	243,356	
27	Development Charge Study (to 2041)	2021	730,800	-		730,800	-		730,800	73,080	657,720	414,364	243,356	
28	Development Charge Study	2026	730,800	-		730,800	-		730,800	73,080	657,720	414,364	243,356	



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service Administration Studies

Prj.No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 63%	Non-Residential Share 37%	
	2019-2028													
	<b>Water &amp; Wastewater Studies:</b>			-			-							
29	Integrated Water and Wastewater Master Plan	2019-2028	1,500,000	-		1,500,000	-		1,500,000			1,500,000	945,000	555,000
30	Water and Sanitary Sewer Models	2019-2028	130,000	-		130,000	65,000		65,000			65,000	40,950	24,050
31	Centennial Secondary Plan - Servicing Study	2019	200,000	-		200,000	-		200,000			200,000	126,000	74,000
	<b>Community Services:</b>			-			-							
32	Long Term Care Services Needs Study	2027	242,800	-		242,800	121,400		121,400	12,140		109,260	68,834	40,426
33	Child Care Service Plan	2020-2025	84,300	-		84,300	42,200		42,100	4,210		37,890	23,871	14,019
34	Human Services Study	2020-2025	224,900	-		224,900	112,500		112,400	11,240		101,160	63,731	37,429
35	Human Services Plan - Housing Affordability Study	2020-2025	45,000	-		45,000	11,300		33,700	3,370		30,330	19,108	11,222
36	Affordable Housing - Residential Pre-zoning & Underutilized Site Mapping	2020-2025	89,900	-		89,900	22,500		67,400	6,740		60,660	38,216	22,444
37	City Housing Hamilton Energy Investment Study	2020-2025	393,500	-		393,500	295,100		98,400	9,840		88,560	55,793	32,767
38	Ontario Works Review	2020-2025	112,400	-		112,400	84,300		28,100	2,810		25,290	15,933	9,357
39	Human Services Market Planning Study	2020-2025	224,900	-		224,900	56,200		168,700	16,870		151,830	95,653	56,177
40	Neighbourhood Community Needs Study	2020-2025	67,500	-		67,500	33,800		33,700	3,370		30,330	19,108	11,222
	<b>Transit Studies:</b>			-			-							
41	Hamilton West Interregional Transit Terminal Location Study	2019-2022	84,300	-		84,300	75,900		8,400			8,400	5,292	3,108
42	Rapid Ready & 10 Year Strategy Review	2019-2028	150,000	-		150,000	75,000		75,000			75,000	47,250	27,750
43	James Mountain Road - Transit only Roadway Feasibility Study	2020-2023	112,400	-		112,400	56,200		56,200			56,200	35,406	20,794
	<b>Future Transit Hubs and Stations:</b>			-			-							
44	SCUBE Transit Terminal Study	2019	242,400	-		242,400	-		242,400			242,400	152,712	89,688
	<b>Operations Facilities:</b>			-			-							
45	Yards Need Study	2025-2028	168,600	-		168,600	-		168,600			168,600	106,218	62,382
	<b>Police:</b>			-			-							
46	Police - Space Needs Study (GRIDS II)	2019	56,200	-		56,200	-		56,200			56,200	35,406	20,794
47	Police Business Plan	2019	32,000	-		32,000	24,000		8,000			8,000	5,040	2,960
48	Police Business Plan	2022	32,000	-		32,000	24,000		8,000			8,000	5,040	2,960
49	Police Business Plan	2025	32,000	-		32,000	24,000		8,000			8,000	5,040	2,960
50	Police Business Plan	2028	32,000	-		32,000	24,000		8,000			8,000	5,040	2,960
	<b>Paramedics:</b>			-			-							
51	Paramedics - Space Needs Study	2023	112,400	-		112,400	28,100		84,300	8,430		75,870	47,798	28,072
52	Paramedics - Space Needs Study	2028	112,400	-		112,400	-		112,400	11,240		101,160	63,731	37,429
	<b>Parking:</b>			-			-							
53	Parking Master Plan	2019	200,000	-		200,000	50,000		150,000	15,000		135,000	85,050	49,950
	<b>Library Studies:</b>			-			-							
54	Library Master Plan	2022	25,000	-		25,000	6,300		18,700	1,870		16,830	10,603	6,227
55	Service Model Master Plan	2020	25,000	-		25,000	6,300		18,700	1,870		16,830	10,603	6,227
	<b>Parks:</b>			-			-							
56	Trails Masterplan Update	2021	204,000	-		204,000	51,000		153,000	15,300		137,700	86,751	50,949



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service Administration Studies

Prj.No	Increased Service Needs Attributable to Anticipated Development  2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Subtotal	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 63%	Non-Residential Share 37%	
57	Parks Master Plans	2019-2023	1,214,200	-		1,214,200	303,600		910,600	91,060	819,540	516,310	303,230	
58	Recreation Studies	2019-2023	607,100	-		607,100	151,800		455,300	45,530	409,770	258,155	151,615	
59	Recreation Studies	2024-2028	607,100	-		607,100	151,800		455,300	45,530	409,770	258,155	151,615	
	<b>Waste Diversion:</b>													
60	Waste Management Research & Development Program	2019-2023	1,229,100	-	245,820	983,280	882,500		100,780	10,078	90,702	57,142	33,560	
61	Waste Management Research & Development Program	2024-2028	1,229,100	-	245,820	983,280	882,500		100,780	10,078	90,702	57,142	33,560	
62	Solid Waste Management Master Plan Approvals	2019-2021	561,000	-	140,250	420,750	63,100		357,650	35,765	321,885	202,788	119,097	
	<b>Other:</b>			-										
63	Provision for Growth Component of Unidentified Studies	2019-2023	2,248,500	-		2,248,500	-		2,248,500	224,850	2,023,650	1,274,900	748,751	
64	Outstanding Debt Principal	2019-2023	198,550	-		198,550	-		198,550		198,550	125,086	73,463	
65	Outstanding Debt Interest (Discounted)	2019-2023	36,884	-		36,884	-		36,884		36,884	23,237	13,647	
66	Reserve Fund Adjustment		1,336,059	-		1,336,059	-		1,336,059		1,336,059	841,717	494,342	
	<b>Total</b>		<b>28,579,992</b>	<b>-</b>	<b>631,890</b>	<b>27,948,102</b>	<b>6,423,600</b>	<b>-</b>	<b>21,524,502</b>	<b>1,754,921</b>	<b>19,769,581</b>	<b>12,454,836</b>	<b>7,314,745</b>	

\*Other deductions are portions attributable to landfill



# 18. Wastewater Services



## 18.1 Wastewater Linear Services

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Wastewater - Sewers

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 63%	Non-Residential Share 37%
1	Ancaster Sanitary Sewage System	2019-2023	3,090,000	741,000		2,349,000	-	838,000	1,511,000	951,930	559,070
2	Waterdown Sanitary Sewage System	2019-2023	11,719,000	300,800		11,418,200	7,322,000	714,000	3,382,200	2,130,786	1,251,414
3	Binbrook Sanitary Sewage System	2019-2023	2,406,000	-		2,406,000	-	619,000	1,787,000	1,125,810	661,190
4	AEGD/Mount Hope Sanitary Sewage System	2019-2023	18,910,000	-		18,910,000	-		18,910,000	11,913,300	6,996,700
5	AEGD/Mount Hope Sanitary Sewage System	2024-2031	12,749,000	-		12,749,000	-	3,294,000	9,455,000	5,956,650	3,498,350
6	Hamilton Mountain Sanitary Sewage System	2019-2023	90,297,000	8,840,000		81,457,000	-	532,000	80,925,000	50,982,750	29,942,250
7	Hamilton Mountain Sanitary Sewage System	2024-2031	68,000	-		68,000	-		68,000	42,840	25,160
8	Stoney Creek Upper Sanitary Sewage System	2019-2023	2,389,000	-		2,389,000	-		2,389,000	1,505,070	883,930
9	Stoney Creek Upper Sanitary Sewage System	2024-2031	27,695,000	18,279,000		9,416,000	-	3,107,000	6,309,000	3,974,670	2,334,330
10	Stoney Creek Lower Sanitary Sewage System	2019-2023	27,298,000	2,009,400		25,288,600	184,000	362,000	24,742,600	15,587,838	9,154,762
11	City Wide Sanitary System	2019-2023	47,106,000	-		47,106,000	11,163,750	-	35,942,250	22,643,618	13,298,633
12	City Wide Sanitary System	2024-2031	22,656,000	-		22,656,000	7,500,000	-	15,156,000	9,548,280	5,607,720
13	Existing Debt Principal	2019-2023	369,593	-		369,593	-		369,593	232,844	136,749
14	Existing Debt Interest (Discounted)	2019-2023	30,838	-		30,838	-		30,838	19,428	11,410
15	Financing (Linear) (Interest Discounted)	2019-2034	36,844,849	-		36,844,849	-		36,844,849	23,212,255	13,632,594
16	Provisional Post Period Benefit Deduction	2019-2031		10,000,000		(10,000,000)	-		(10,000,000)	(6,300,000)	(3,700,000)
17	Reserve Fund Adjustment		40,435,413			40,435,413	-		40,435,413	25,474,310	14,961,103
	<b>Total</b>		<b>344,063,693</b>	<b>40,170,200</b>	<b>-</b>	<b>303,893,493</b>	<b>26,169,750</b>	<b>9,466,000</b>	<b>268,257,743</b>	<b>169,002,378</b>	<b>99,255,365</b>



## 18.2 Wastewater Facilities

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Wastewater Facilities

Project Number	Increased Service Needs Attributable to Anticipated Development  2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less: Potential D.C. Recoverable Cost				
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 63%	Non-Residential Share 37%
	<b>Water Quality:</b>										
1	Wastewater Pumping Station	2019-2021	95,974,275	1,836,314		94,137,961	31,641,096	56,987,925	5,508,941	3,470,633	2,038,308
2a	Primary Clarifier - Primary Treatment (Phase 1 - CEPT) - Engineering Included	2019-2021	16,255,669	520,971		15,734,698	8,976,738	5,195,046	1,562,914	984,636	578,278
2b	Primary Clarifier - Primary Treatment (Phase 2 - Tanks) - Engineering Included	2019-2021	52,246,549	820,296		51,426,253	14,134,332	34,831,033	2,460,888	1,550,360	910,529
2c	Primary Clarifier - Other Costs (includes New/Expanded Laboratory/Admin Building)	2019-2021	11,857,782	1,568,785		10,288,997	5,582,644		4,706,354	2,965,003	1,741,351
4a	Tertiary Upgrades - New Secondary/Tertiary Treatment Plant (Phase 1)	2019-2021	134,908,478	1,375,990		133,532,488	52,072,583	77,331,936	4,127,969	2,600,621	1,527,349
5b	Chlorine Contact Tank and Outfall - Secondary/Tertiary Chlorine contact Tank, Outfall and Red Hill Creek Upgrades	2019-2021	43,246,869	997,717		42,249,152	16,081,115	23,174,887	2,993,150	1,885,684	1,107,465
8a	Plant Expansion - Engineering (Projects 1, 4a, 4b, 5, 13) Phase 1	2019-2021	24,810,804	913,658		23,897,146	21,156,173		2,740,974	1,726,813	1,014,160
8b	Plant Expansion - Engineering (Projects 1, 4a, 4b, 5, 13) Phase 2	2019-2021	25,573,521	941,745		24,631,776	21,806,541		2,825,235	1,779,898	1,045,337
8d	Plant Expansion - Engineering - Other Costs (includes WWE Modular Office Building)	2019-2021	8,428,089	310,364		8,117,725	7,186,631		931,093	586,589	344,504
11a	Biogas Digester - Biogas Upgrades	2019-2021	45,005,784	805,742		44,200,042	21,782,816	20,000,000	2,417,226	1,522,852	894,374
13a	Electrical System Upgrades - New Electrical and power systems - Phase 1	2019-2021	63,202,719	1,319,620		61,883,099	22,202,990	35,721,251	3,958,859	2,494,081	1,464,778
14	Collection System Upgrades	2019-2021	10,328,835	-		10,328,835	3,544,835	6,784,000	-	-	-
	<b>Plant Expansion:</b>										
4b	Tertiary Upgrades - New Secondary/Tertiary Treatment Plant (Phase 2)	2025-2031	224,800,000	56,200,000		168,600,000	-		168,600,000	106,218,000	62,382,000



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Wastewater Facilities

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less: Potential D.C. Recoverable Cost				
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 63%	Non-Residential Share 37%
	<b>2019-2031</b>										
8c	Plant Expansion - Engineering (Projects 1, 4a, 4b, 5, 13) Phase 3	2025-2031	28,300,000	7,075,000		21,225,000	-		21,225,000	13,371,750	7,853,250
11b	Biogas Digester - Digesters Upgrades	2025-2031	8,430,000	2,107,500		6,322,500	-		6,322,500	3,983,175	2,339,325
13b	Electrical System Upgrades - New Electrical and power systems - Phase 2	2025-2031	34,844,000	8,711,000		26,133,000	-		26,133,000	16,463,790	9,669,210
	<b>Biosolids Management Facility:</b>										
12	Biosolids Management Facility - Biosolids Thermal Reduction Disposal Facility	2019-2021	99,440,000	4,010,217		95,429,783	69,099,130	14,300,000	12,030,652	7,579,311	4,451,341
	Reserve Fund Adjustment		-	-		-	72,461,548		(72,461,548)	(45,650,775)	(26,810,773)
	<b>Total</b>		<b>927,653,374</b>	<b>89,514,918</b>	<b>-</b>	<b>838,138,456</b>	<b>367,729,172</b>	<b>274,326,078</b>	<b>196,083,206</b>	<b>123,532,420</b>	<b>72,550,786</b>



# 18.3 Detail Sheets (Prepared by GM BluePlan Engineering Consultants Ltd.)

TABLE F-3 - WASTEWATER CAPITAL PROGRAM

Area	Planning Period	Project ID	Project/Street	From	To	Length (m)	Size (mm)	Estimated Total Cost (\$2019)	Direct Developer Contribution (\$2019)	Benefit to Existing (%)	Benefit to Existing (\$2019)	Post Period Benefit (%)	Post Period Benefit (\$2019)	Development Charges (\$2019)	Updated Timing	Updated Cost	Scope Change: Location	Scope Change: Length and/or Size	Project Added	2014-2019 Change Details
<b>WATERDOWN</b>																				
Waterdown	0 to 5 years	W3-S-19	Waterdown North Area	McCurdy Ave	Northerly	340	600	\$ 291,000	\$ 248,000	0%	\$ -	0%	\$ -	\$ 43,000		X		X		Updated length, updated unit cost (inflation)
Waterdown	0 to 5 years	W4-S-19	Waterdown South Sewer	Dundas St and Evers Ave	300 m south and 300 m west of Dundas St and Evers Ave	640	625	\$ 498,000	\$ 466,000	0%	\$ -	0%	\$ -	\$ 32,000		X	X	X		Updated length and alignment, Updated unit cost (inflation)
Waterdown	0 to 5 years	W6-S-19	DCO14- Existing Pump Capacity & Wet Well upgrade at 1st SU / Hwy 5	Increase capacity from 283 L/s (measured) to 456 L/s with 3 replacement pumps				456 L/s	\$ 4,930,000	\$ -	39%	1,822,000	10%	\$ 300,800	\$ 2,707,200	X	X		X	Updated cost based on City Capital Budget
Waterdown	0 to 5 years	W7-S-19	Waterdown WWTP Decommissioning						\$ 6,000,000	\$ -	90%	\$ 5,400,000	0%	\$ -	\$ 600,000		X			Updated cost based on City Capital Budget
<b>ANCASTER</b>																				
Ancaster	0 to 5 years	A13-S-19	Ancaster Industrial Park Area- Hydro Corridor	Shaver Rd	New road	820	450	\$ 863,000	\$ -	0%	\$ -	0%	\$ -	\$ 863,000		X		X	X	Updated length and alignment, Updated unit cost (inflation)
Ancaster	0 to 5 years	A17-S-19	Area north of Garner Rd E / between Silver Maple Dr and Hwy 6	Garner Rd	30 m east of Silver Maple Dr	410	600	\$ 351,000	\$ 299,000	0%	\$ -	0%	\$ -	\$ 52,000	X	X	X	X		Updated length, updated unit cost (inflation)
Ancaster	0 to 5 years	A20-S-19	Commons Rd extension	Tradewind Dr	Trinity Rd	740	1050	\$ 1,290,000	\$ 538,000	0%	\$ -	58%	\$ 741,000	\$ -		X		X	X	Updated length, updated unit cost (inflation)
Ancaster	0 to 5 years	A21-S-19	Shaver Rd	Disprey Dr	Hydro Corridor	840	375	\$ 596,000	\$ -	0%	\$ -	0%	\$ -	\$ 596,000					X	New
<b>AEGD/Mt. HOPE</b>																				
AEGD/Mt. Hope	0 to 5 years	MH1-S-19	Twenty Rd	Silverbirch Blvd	Upper James St	2000	450	\$ 2,896,000	\$ -	0%	\$ -	0%	\$ -	\$ 2,896,000		X				Updated length, updated unit cost (inflation)
AEGD/Mt. Hope	0 to 5 years	MH2-S-19	Southcote Rd	Hydro Corridor	Garner Rd	875	375	\$ 621,000	\$ -	0%	\$ -	0%	\$ -	\$ 621,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	0 to 5 years	MH3-S-19	Garner Rd	Hwy 6	Killy Murray Ln	1150	375	\$ 1,553,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,553,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	0 to 5 years	MH4-S-19	Garner Rd	Killy Murray Ln	Springbrook Ave	630	450	\$ 912,000	\$ -	0%	\$ -	0%	\$ -	\$ 912,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	0 to 5 years	MH5-S-19	Smith Rd	Hydro Corridor	Garner Rd	700	375	\$ 497,000	\$ -	0%	\$ -	0%	\$ -	\$ 497,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	0 to 5 years	MH6-S-19	Garner Rd	Springbrook Rd	Raymond Rd	880	600	\$ 1,531,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,531,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	0 to 5 years	MH22-S-19	HC019 and HC018 Upgrade Strategy						\$ 10,900,000	\$ -	0%	\$ -	0%	\$ -	\$ 10,900,000				X	New
AEGD/Mt. Hope	6 years to UBBO	MH10-S-19	Dickenson Rd Trunk Sewer	Garth St Extension	Upper James St	1200	750	\$ 2,670,000	\$ -	0%	\$ -	0%	\$ -	\$ 2,670,000		X	X	X		Updated length, updated unit cost (inflation)
AEGD/Mt. Hope	6 years to UBBO	MH11-S-19	Book Rd Trunk Sewer	400 m west of Southcote	Smith Rd	830	600	\$ 710,000	\$ -	0%	\$ -	0%	\$ -	\$ 710,000		X	X	X		Updated length, updated unit cost (inflation)
AEGD/Mt. Hope	6 years to UBBO	MH12-S-19	Smith Rd	Hydro Corridor	Book Rd	950	375	\$ 674,000	\$ -	0%	\$ -	0%	\$ -	\$ 674,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH13-S-19	Garth St Extension	Smith Rd	Dickenson Rd	2275	525	\$ 3,625,000	\$ 3,294,000	0%	\$ -	0%	\$ -	\$ 331,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH14-S-19	Glancaister Rd	Airport	Garth St extension	450	375	\$ 319,000	\$ -	0%	\$ -	0%	\$ -	\$ 319,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH15-S-19	Glancaister Rd	Dickenson Rd	Garth St extension	375	375	\$ 266,000	\$ -	0%	\$ -	0%	\$ -	\$ 266,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH16-S-19	Glancaister Rd	Book Rd	Dickenson Rd	380	375	\$ 270,000	\$ -	0%	\$ -	0%	\$ -	\$ 270,000		X		X		Updated length, updated unit cost (inflation)
AEGD/Mt. Hope	6 years to UBBO	MH17-S-19	Dickenson Rd	Garth St Extension	Smith Rd	2420	600	\$ 2,069,000	\$ -	0%	\$ -	0%	\$ -	\$ 2,069,000		X	X	X		Updated length, diameter and unit cost (inflation)
AEGD/Mt. Hope	6 years to UBBO	MH18-S-19	Book Rd	Glancaister Rd	Smith Rd	950	375	\$ 674,000	\$ -	0%	\$ -	0%	\$ -	\$ 674,000		X		X		Updated length, updated unit cost (inflation)
AEGD/Mt. Hope	6 years to UBBO	MH19-S-19	Southcote Rd	Hydro Corridor	Book Rd	875	375	\$ 621,000	\$ -	0%	\$ -	0%	\$ -	\$ 621,000		X				Updated unit cost - inflation only
AEGD/Mt. Hope	6 years to UBBO	MH20-S-19	Smith Rd	Book Rd	Garth St extension	675	375	\$ 479,000	\$ -	0%	\$ -	0%	\$ -	\$ 479,000		X		X		Updated length, updated unit cost (inflation)
AEGD/Mt. Hope	6 years to UBBO	MH21-S-19	Southcote Rd	Book Rd	Garth St extension	525	375	\$ 372,000	\$ -	0%	\$ -	0%	\$ -	\$ 372,000		X		X	X	New - MH21 now gravity sewer - SPSR project removed
<b>BINBROOK</b>																				
Binbrook	0 to 5 years	B2-S-19	PS HC058 Upgrade - Regional Rd. 56 at Southcote Rd	Electrical, mechanical upgrades to SPS and replacement of 3 pumps			340 L/s		\$ 1,076,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,076,000		X			Updated cost - inflation only
Binbrook	0 to 5 years	B10-S-19	Winwood Dr Extension	Fletcher Rd	Bingham Ave	850	600	\$ 727,000	\$ 619,000	0%	\$ -	0%	\$ -	\$ 108,000		X	X	X		Updated length, updated unit cost (inflation)
Binbrook	0 to 5 years	B11-S-19	Binbrook Rd	Fletcher Rd	Bingham Ave	850	375	\$ 603,000	\$ -	0%	\$ -	0%	\$ -	\$ 603,000					X	Updated alignment, updated unit cost (inflation)





TABLE F-3 - WASTEWATER CAPITAL PROGRAM

Area	Planning Period	Project ID	Project/Street	From	To	Length (m)	Size (mm)	Estimated Total Cost (\$2019)	Direct Developer Contribution (\$2019)	Benefit to Existing (%)	Benefit to Existing (\$2019)	Post Period Benefit (%)	Post Period Benefit (\$2019)	Development Charges (\$2019)	Updated Timing	Updated Cost	Scope Change: Location	Scope Change: Length and/or Size	Project Added	2014-2019 Change Details
<b>HAMILTON MOUNTAIN</b>																				
Hamilton Mountain	0 to 5 years	HMB-S-19	Darriall Rd extension	Twenty Rd	730 m south	730	525	\$ 567,000	\$ 532,000	0%	\$ -	0%	\$ -	\$ 35,000		X	X	X		Updated length, updated unit cost (inflation)
Hamilton Mountain	0 to 5 years	HMB-S-19	Nebe Rd	250 m north of Twenty Rd East	480 m south of Rymal Rd	630	375	\$ 851,000	\$ -	0%	\$ -	0%	\$ -	\$ 851,000		X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM10-S-19	Upper Ottawa St	235 m north of Twenty Rd East	350 m south of Rymal Rd	675	375	\$ 479,000	\$ -	0%	\$ -	0%	\$ -	\$ 479,000		X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM20-S-19	Dickerson Rd Trunk Sewer	Upper James St	Miles Rd	2900	1200	\$ 44,200,000	\$ -	0%	\$ -	10%	\$ 4,420,000	\$ 39,780,000	X	X	X	X		Updated scope, length, alignment, cost from City Project Detail Sheet
Hamilton Mountain	0 to 5 years	HM26-S-19	Dickerson Rd Trunk Sewer	Miles Rd	RR 56	6800	1350	\$ 44,200,000	\$ -	0%	\$ -	10%	\$ 4,420,000	\$ 39,780,000	X	X	X	X		Updated scope, length, alignment, cost from City Project Detail Sheet
Hamilton Mountain	5 years to LIBBO	HMD-S-19	Miles Rd	Connection of sewers east and west of Miles Rd		50	375	\$ 68,000	\$ -	0%	\$ -	0%	\$ -	\$ 68,000		X	X	X		Updated length, updated unit cost (inflation)
<b>STONE CREEK UPPER</b>																				
Stoney Creek Upper	0 to 5 years	SCL5-S-19	Rymal Rd	Upper Centennial	2nd Rd West	1650	450	\$ 2,389,000	\$ -	0%	\$ -	0%	\$ -	\$ 2,389,000		X		X		Updated diameter, updated unit cost (inflation)
Stoney Creek Upper	5 years to LIBBO	SCU11-S-14	Elfrida Collection Network					\$ 27,695,000	\$ 3,107,000	0%	\$ -	66%	\$ 18,279,000	\$ 6,309,000		X				Updated cost - inflation only
<b>STONE CREEK LOWER</b>																				
Stoney Creek Lower	0 to 5 years	SCL1-S-19	South Service Rd	50 m east of Fifty Road	200 m east of Winona Rd	590	600	\$ 1,910,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,910,000		X	X	X		Updated length, updated unit cost (inflation)
Stoney Creek Lower	0 to 5 years	SCL2-S-19	Forcmain- South Service Rd	New SPS	30 m west	30	150	\$ 17,000	\$ -	0%	\$ -	0%	\$ -	\$ 17,000		X	X	X		Updated length, updated unit cost (inflation)
Stoney Creek Lower	0 to 5 years	SCL3-S-19	New Sewage Pumping Station at South Service Rd, east of Fifty Rd					\$ 352,000	\$ -	0%	\$ -	0%	\$ -	\$ 352,000		X				Updated cost - inflation only
Stoney Creek Lower	0 to 5 years	SCL11-S-19	Centennial Trunk Sewer	King St	ESI at Kenora Ave	3510	1500	\$ 17,324,000	\$ -	0%	\$ -	10%	\$ 1,732,400	\$ 15,591,600		X				Updated cost - inflation only
Stoney Creek Lower	0 to 5 years	SCL14-S-19	South Service Rd	50 m east of Fifty Road	500 m east	500	450	\$ 724,000	\$ 362,000	0%	\$ -	0%	\$ -	\$ 362,000		X	X	X		Updated length, updated unit cost (inflation)
Stoney Creek Lower	0 to 5 years	SCL17-S-19	Fifty Rd	South Service Rd	475 m south	475	675	\$ 1,387,000	\$ -	0%	\$ -	20%	\$ 277,000	\$ 1,110,000		X	X	X		Updated length, updated unit cost (inflation)
Stoney Creek Lower	0 to 5 years	SCL18-S-19	Barton St	Jones Rd	470 m east toward Glover	470	450	\$ 680,000	\$ -	0%	\$ -	0%	\$ -	\$ 680,000					X	New
Stoney Creek Lower	0 to 5 years	SCL19-S-19	Glover Rd	Hey 6	500 m north, past Watercourse 7	500	450	\$ 724,000	\$ -	10%	\$ 72,000	0%	\$ -	\$ 652,000					X	New
Stoney Creek Lower	0 to 5 years	SCL20-S-19	Barton St	McNeilly Rd	200 m east of McNeilly Rd	200	375	\$ 270,000	\$ -	0%	\$ -	0%	\$ -	\$ 270,000					X	New
Stoney Creek Lower	0 to 5 years	SCL21-S-19	Barton St	200 m east of McNeilly Rd	Lewis Rd	600	450	\$ 869,000	\$ -	0%	\$ -	0%	\$ -	\$ 869,000					X	New
Stoney Creek Lower	0 to 5 years	SCL22-S-19	Barton St	Lewis Rd	350 m east of Lewis Rd	350	450	\$ 507,000	\$ -	10%	\$ 51,000	0%	\$ -	\$ 456,000					X	New
Stoney Creek Lower	0 to 5 years	SCL24-S-19	Barton St	350 m east of Fruitland Rd	200 m east	200	525	\$ 319,000	\$ -	10%	\$ 32,000	0%	\$ -	\$ 287,000					X	New
Stoney Creek Lower	0 to 5 years	SCL25-S-19	Jones St	350 south of Barton St	200 m south	200	450	\$ 290,000	\$ -	10%	\$ 29,000	0%	\$ -	\$ 261,000					X	New
Stoney Creek Lower	0 to 5 years	SCL26-S-19	Vortex Flow Insert Units for Centennial Trunk Sewer					\$ 800,000	\$ -	0%	\$ -	0%	\$ -	\$ 800,000					X	New
Stoney Creek Lower	0 to 5 years	SCL16-S-19	Miles Rd and easement (DEW Crossing)	South Service Rd	North Service Rd	120	450	\$ 1,125,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,125,000					X	New



TABLE F-4 - WASTEWATER CAPITAL IWASTEWATER CAPITAL PROGRAM-CITYWIDE

Area	Planning Period	Project ID	Project	Description	Estimated Total Cost	Direct Developer Contribution	City Cost Share	Post Period Benefit	Development Charges (\$2019)	Updated Timing	Updated Cost	Scope Change: Location	Scope Change: Length and/or Size	Project Added	2014-2019 Change Details
City Wide Projects	0 to 5 years	CW1-S-19	Flow Monitoring	Total cost over a period of 2 - 2.5 years. Study being undertaken to know various flow characteristics to calibrate the Sanitary Sewer Model to assist the Master Planning Study	\$ 2,448,000	\$ -	\$ 1,224,000	\$ -	\$ 1,224,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW2-S-19	W Reduction Program	Program to free up extra capacity within the existing sewers - costs over five years	\$ 1,574,000	\$ -	\$ 787,000	\$ -	\$ 787,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW3-S-19	Annual Operational Improvements Outstations, \$160067052	Operational improvements to wastewater outstations to increase capacities.	\$ 611,000	\$ -	\$ 152,750	\$ -	\$ 458,250		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW4-S-19	Oversizing of Infrastructure-Sanitary	Oversizing of servicing infrastructure within subdivisions	\$ 611,000	\$ -	\$ -	\$ -	\$ 611,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW5-S-19	Land requirement for new sewage pumping stations and easements	Areas for SPS footprints and easements- 5 Ha	\$ 611,000	\$ -	\$ -	\$ -	\$ 611,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW6-S-19	Intensification Infrastructure Upgrades - Wastewater (0-5 years)	Upgrades to existing infrastructure to accommodate intensification	\$ 15,000,000	\$ -	\$ 7,500,000	\$ -	\$ 7,500,000		X		X		Updated cost; increased to account for additional anticipated intensification costs
City Wide Projects	0 to 5 years	CW15-S-19	Hwy 403 Trunk sewer twinning - Phase 1	MIP to Main-King	\$ 8,823,000	\$ -	\$ -	\$ -	\$ 8,823,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW18-S-19	Oversizing of Infrastructure-Sanitary	Oversizing of servicing infrastructure for subdivisions not identified on draft plans	\$ 1,171,000	\$ -	\$ -	\$ -	\$ 1,171,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW19-S-19	Regional Subdivider's Share for Local Improvements		\$ 257,000	\$ -	\$ -	\$ -	\$ 257,000		X				Updated cost - inflation only
City Wide Projects	0 to 5 years	CW20-S-19	West Harbour Sanitary Pumping Station and Foremain	New SPS at north end of Pier 7/B, storage tank and twin forcemain discharging to Ferguson/Burlington	\$ 15,000,000	\$ -	\$ 1,500,000	\$ -	\$ 13,500,000		X				Updated cost - City Estimate
City Wide Projects	0 to 5 years	CW22-S-19	Master Plan and additional studies		\$ 1,000,000	\$ -	\$ -	\$ -	\$ 1,000,000					X	New
City Wide Projects	6 years to UBBO	CW7-S-19	Intensification Infrastructure Upgrades - Wastewater	Upgrades to existing infrastructure to accommodate intensification	\$ 15,000,000	\$ -	\$ 7,500,000	\$ -	\$ 7,500,000		X		X		Updated cost; increased to account for additional anticipated intensification costs
City Wide Projects	6 years to UBBO	CW16-S-19	Hwy 403 Trunk sewer twinning - Phase 2	Royal CSO to MIP	\$ 7,656,000	\$ -	\$ -	\$ -	\$ 7,656,000		X				Updated cost - inflation only



TABLE F-5 - WOODWARD WWTP CAPITAL PROGRAM

Project ID	Description	CAPITAL COST					DEVELOPMENT CHARGES							
		Capital Cost Estimate (\$2019)	Internal Staffing Cost Allocation (Not Eligible for Funding)	Capital Cost w Internal Staffing (\$)	Grants, Subsidies and Other Contributions Attributable to New Development	Project Cost Less Grants, Subsidies, etc (\$)	Growth (%)	Non-Growth (%)	Benefit to Existing (\$)	Growth Related Cost (\$)	Post Period (%)	Growth - Post Period (\$)	Growth - In Period DC APPLICABLE COST (\$)	
1	Wastewater Pumping Station	\$ 94,537,613	\$ 1,436,662	\$ 95,974,275	\$ 56,987,925	\$ 38,986,350	18.84%	81.16%	\$ 31,641,095	\$ 7,345,254	25.00%	\$ 1,836,314	\$ 5,508,941	
2a	Primary Clarifier - Primary Treatment (Phase 1 - CEPT) - Engineering Included	\$ 16,255,669	\$ -	\$ 16,255,669	\$ 5,195,046	\$ 11,060,623	18.84%	81.16%	\$ 8,976,738	\$ 2,083,885	25.00%	\$ 520,971	\$ 1,562,914	
2b	Primary Clarifier - Primary Treatment (Phase 2 - Tanks) - Engineering Included	\$ 52,246,549	\$ -	\$ 52,246,549	\$ 34,831,033	\$ 17,415,516	18.84%	81.16%	\$ 14,134,332	\$ 3,281,184	25.00%	\$ 820,296	\$ 2,460,888	
2c	Primary Clarifier - Other Costs (includes New/Expanded Laboratory/Admin Building)	\$ 11,857,782	\$ -	\$ 11,857,782	\$ -	\$ 11,857,782	52.92%	47.08%	\$ 5,582,644	\$ 6,275,138	25.00%	\$ 1,568,785	\$ 4,706,354	
3	Tertiary Upgrades - North and South Secondary Treatment Plant Upgrades	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%	100.00%	\$ -	\$ -	0.00%	\$ -	\$ -	
4a	Tertiary Upgrades - New Secondary/Tertiary Treatment Plant (Phase 1)	\$ 132,889,001	\$ 2,019,477	\$ 134,908,478	\$ 77,331,936	\$ 57,576,542	9.56%	90.44%	\$ 52,072,582	\$ 5,503,959	25.00%	\$ 1,375,990	\$ 4,127,969	
4b	Tertiary Upgrades - New Secondary/Tertiary Treatment Plant (Phase 2)	\$ 224,800,000	\$ -	\$ 224,800,000	\$ -	\$ 224,800,000	100.00%	0.00%	\$ -	\$ 224,800,000	25.00%	\$ 56,200,000	\$ 168,600,000	
5a	Chlorine Contact Tank and Outfall - Railway Re-Alignment	\$ -	\$ -	\$ -	\$ -	\$ -	19.88%	80.12%	\$ -	\$ -	25.00%	\$ -	\$ -	
5b	Chlorine Contact Tank and Outfall - Secondary/Tertiary Chlorine contact Tank, Outfall and Red Hill Creek Upgrades	\$ 42,599,496	\$ 647,373	\$ 43,246,869	\$ 23,174,887	\$ 20,071,982	19.88%	80.12%	\$ 16,081,115	\$ 3,990,867	25.00%	\$ 997,717	\$ 2,993,150	
7	Chlorine Contact Tank and Outfall - New Outfall (included in 5b project)	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%	100.00%	\$ -	\$ -	25.00%	\$ -	\$ -	
8	Plant Expansion - Engineering (Projects 1, 4a, 4b, 5, 13) Phase 1	\$ 24,810,804	\$ -	\$ 24,810,804	\$ -	\$ 24,810,804	14.73%	85.27%	\$ 21,156,173	\$ 3,654,631	25.00%	\$ 913,658	\$ 2,740,974	
8	Plant Expansion - Engineering (Projects 1, 4a, 4b, 5, 13) Phase 2	\$ 25,573,521	\$ -	\$ 25,573,521	\$ -	\$ 25,573,521	14.73%	85.27%	\$ 21,806,541	\$ 3,766,980	25.00%	\$ 941,745	\$ 2,825,235	
8	Plant Expansion - Engineering (Projects 1, 4a, 4b, 5, 13) Phase 3	\$ 28,300,000	\$ -	\$ 28,300,000	\$ -	\$ 28,300,000	100.00%	0.00%	\$ -	\$ 28,300,000	25.00%	\$ 7,075,000	\$ 21,225,000	
8	Plant Expansion - Engineering - Other Costs (includes WWE Modular Office Building)	\$ 5,623,839	\$ 2,804,250	\$ 8,428,089	\$ -	\$ 8,428,089	14.73%	85.27%	\$ 7,186,631	\$ 1,241,457	25.00%	\$ 310,364	\$ 931,093	
6	Biogas Digester - New WAS Thickening Facility (forms part of the Digester Upgrades)	\$ -	\$ -	\$ -	\$ -	\$ -		100.00%	\$ -	\$ -	0.00%	\$ -	\$ -	
9	Biogas Digester - Additional Dewatering Capacity	\$ -	\$ -	\$ -	\$ -	\$ -		100.00%	\$ -	\$ -	0.00%	\$ -	\$ -	
10	Biogas Digester - Refurbishment of Digesters to Increase Capacity	\$ -	\$ -	\$ -	\$ -	\$ -		100.00%	\$ -	\$ -	0.00%	\$ -	\$ -	
11a	Biogas Digester - Biogas Upgrades	\$ 45,005,784	\$ -	\$ 45,005,784	\$ 20,000,000	\$ 25,005,784	12.89%	87.11%	\$ 21,782,616	\$ 3,222,968	25.00%	\$ 805,742	\$ 2,417,226	
11b	Biogas Digester - Digesters Upgrades	\$ 8,430,000	\$ -	\$ 8,430,000	\$ -	\$ 8,430,000	100.00%	0.00%	\$ -	\$ 8,430,000	25.00%	\$ 2,107,500	\$ 6,322,500	
12	Biosolids Management Facility - Biosolids Thermal Reduction Disposal Facility	\$ 99,440,000	\$ -	\$ 99,440,000	\$ 14,300,000	\$ 85,140,000	18.84%	81.16%	\$ 69,099,130	\$ 16,040,870	25.00%	\$ 4,010,217	\$ 12,030,652	
13a	Electrical System Upgrades - New Electrical and power systems - Phase 1	\$ 62,256,622	\$ 946,097	\$ 63,202,719	\$ 35,721,251	\$ 27,481,468	19.21%	80.79%	\$ 22,202,989	\$ 5,278,478	25.00%	\$ 1,319,620	\$ 3,958,859	
13b	Electrical System Upgrades - New Electrical and power systems - Phase 2	\$ 34,844,000	\$ -	\$ 34,844,000	\$ -	\$ 34,844,000	100.00%	0.00%	\$ -	\$ 34,844,000	25.00%	\$ 8,711,000	\$ 26,133,000	
14	Collection System Upgrades	\$ 10,176,000	\$ 154,642	\$ 10,330,642	\$ 6,784,000	\$ 3,546,642	0.00%	100.00%	\$ 3,546,642	\$ -	0.00%	\$ -	\$ -	
	Total	\$ 919,646,680	\$ 8,008,501	\$ 927,655,181	\$ 274,326,079	\$ 653,329,102			\$ 295,269,430	\$ 358,059,672		\$ 89,514,918	\$ 268,544,754	



# 19. Water Services



## 19.1 Water Services

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton  
Service: Water Services

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 63%	Non-Residential Share 37%
	<b>2019-2031</b>										
1	Ancaster Water Distribution System	2019-2023	31,804,000	672,500		31,131,500	7,402,000		23,729,500	14,949,585	8,779,915
2	Waterdown Water Distribution System	2019-2023	20,414,000	811,000		19,603,000	3,554,000	408,000	15,641,000	9,853,830	5,787,170
3	Binbrook Water Distribution System	2019-2023	11,465,000	-		11,465,000	-	729,000	10,736,000	6,763,680	3,972,320
4	AEGD/Mount Hope Water Distribution System	2019-2023	761,000	-		761,000	-		761,000	479,430	281,570
5	AEGD/Mount Hope Water Distribution System	2024-2031	15,180,000	-		15,180,000	-	3,636,000	11,544,000	7,272,720	4,271,280
6	Hamilton Mountain Water Distribution System	2019-2023	48,495,700	6,636,970		41,858,730	-	1,277,000	40,581,730	25,566,490	15,015,240
7	Hamilton Mountain Water Distribution System	2024-2031	2,283,000	-		2,283,000	-	215,000	2,068,000	1,302,840	765,160
8	Stoney Creek Upper Water Distribution System	2019-2023	39,036,000	2,705,250		36,330,750	5,217,500	498,000	30,615,250	19,287,608	11,327,643
9	Stoney Creek Upper Water Distribution System	2024-2031	63,819,000	27,310,000		36,509,000	-	3,107,000	33,402,000	21,043,260	12,358,740
10	Stoney Creek Lower Water Distribution System	2019-2023	1,353,000	-		1,353,000	-		1,353,000	852,390	500,610
11	Stoney Creek Lower Water Distribution System	2024-2031	7,317,000	-		7,317,000	-		7,317,000	4,609,710	2,707,290
12	City Wide Water Distribution System	2019-2023	92,448,000	5,636,700		86,811,300	7,917,000		78,894,300	49,703,409	29,190,891
13	City Wide Water Distribution System	2024-2031	19,294,000	-		19,294,000	7,500,000		11,794,000	7,430,220	4,363,780
14	Existing Debt Principal (Discounted)	2019-2023	98,608	-		98,608	-		98,608	62,123	36,485
15	Existing Debt Interest (Discounted)	2019-2023	8,228	-		8,228	-		8,228	5,183	3,044
16	Growth Related Financing Costs (Discounted)	2019-2034	32,135,051	-		32,135,051	-		32,135,051	20,245,082	11,889,969
17	Provisional Post Period Benefit Deduction	2019-2031		35,000,000		(35,000,000)	-		(35,000,000)	(22,050,000)	(12,950,000)
18	Reserve Fund Adjustment		-	-		-	26,169,980		(26,169,980)	(16,487,087)	(9,682,893)
	<b>Total</b>		<b>385,911,587</b>	<b>78,772,420</b>	<b>-</b>	<b>307,139,167</b>	<b>57,760,480</b>	<b>9,870,000</b>	<b>239,508,687</b>	<b>150,890,473</b>	<b>88,618,214</b>



# 19.2 Detail Sheets (Prepared by GM BluePlan Engineering Consultants Ltd.)

TABLE F-1 - WATER CAPITAL PROGRAM

Area	Planning Period	Project ID	Project/Street	From	To	Length (m)	Size (mm)	Estimated Total Cost (\$2019)	Direct Developer Contribution (\$2019)	Benefit to Existing	Benefit to Existing (\$2019)	Post Period Benefit (%)	Post Period Benefit (\$2019)	Development Charges (\$2019)	Updated Timing	Updated Cost	Scope Change Location	Scope Change Length and/or Size	Project Added	2014-2019 Change Details
<b>WATERDOWN</b>																				
Waterdown	0 to 5 years	W2-W-19	New Road	Sadelou Blvd	Mosaic Dr	700	400	\$ 680,000	\$ 408,000	0%	\$ -	0%	\$ -	\$ 272,000		X	X	X		Updated length and alignment, updated unit cost (inflation)
Waterdown	0 to 5 years	W6-W-19	HD016 Booster Station Upgrade, Back Up Power and Hydraulic Expansion	208 L/s			4 x 103 L/s	\$ 8,510,000	\$ -	10%	\$ 851,000	0%	\$ -	\$ 7,659,000		X				Updated cost based on City Capital Budget
Waterdown	0 to 5 years	W10-W-19	PD16 Feedmain - Valley Rd and Rock Chapel Rd	PS HD016	Dundas St/Algonquin Ave	2900	600	\$ 10,813,000	\$ -	25%	\$ 2,703,000	10%	\$ 811,000	\$ 7,299,000		X		X		Updated cost - inflation only, slight alignment update
Waterdown	0 to 5 years	W11-W-19	Up Country Estates - Dundas St	575 m west of Evans Ave	210 m west of Evans Ave	365	300	\$ 411,000	\$ -	0%	\$ -	0%	\$ -	\$ 411,000		X	X	X		Updated length, updated unit cost (inflation)
<b>ANCASTER</b>																				
Ancaster	0 to 5 years	A1-W-19	Garner Rd	Southcote Rd	Fiddlers Green Rd	2080	600	\$ 9,936,000	\$ -	0%	\$ -	0%	\$ -	\$ 9,936,000		X	X			Updated cost - inflation only
Ancaster	0 to 5 years	A2-W-19	Shaver Rd	Webb Ave	Katsura Pl	800	300	\$ 592,000	\$ -	75%	\$ 677,000	0%	\$ -	\$ 225,000	X	X	X			Updated extent, updated unit cost (inflation)
Ancaster	0 to 5 years	A4-W-19	Ancaster Industrial Park - South Connection	McClure Rd Extension WM	Comorant Dr (aka Hydro Eastment)	900	300	\$ 525,000	\$ -	0%	\$ -	0%	\$ -	\$ 525,000		X		X		Updated length, updated unit cost (inflation)
Ancaster	0 to 5 years	A16-W-19	Garner Rd	Fiddlers Green Rd	Hamilton Dr	1680	600	\$ 3,755,000	\$ -	0%	\$ -	0%	\$ -	\$ 3,755,000		X		X		Diameter updated from 500mm to 600mm, unit cost updated (inflation)
Ancaster	0 to 5 years	A17-W-19	Garner Rd	Hamilton Dr	Wilson St W	1800	500	\$ 3,236,000	\$ -	0%	\$ -	0%	\$ -	\$ 3,236,000		X				Updated unit cost - inflation only
Ancaster	0 to 5 years	A18-W-19	Reservoir W-H 18 (additional elevated storage) AEGD Proj B-20	North of Jerseyville Road - Final location to be determined			9.9 ML	\$ 13,450,000	\$ -	50%	\$ 6,725,000	10%	\$ 672,500	\$ 6,052,500	X	X	X			Updated capacity, location. Cost updated based on City Design Sheet
<b>AEGD/MT, HOPE</b>																				
AEGD/MT, Hope	0 to 5 years	MH6-W-19	PD 18 Watermain on Southcote Rd	Garner Rd	383 m South	383	400	\$ 372,000	\$ -	0%	\$ -	0%	\$ -	\$ 372,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	0 to 5 years	MH12-W-19	PD 18 Watermain on Garner Rd and Glancaster Rd	HD018	New Road	400	400	\$ 389,000	\$ -	0%	\$ -	0%	\$ -	\$ 389,000		X	X	X		Updated length, updated unit cost (inflation)
AEGD/MT, Hope	6 years to LBBO	MH1-W-19	PD 18 Watermain on Smith Rd	Garner Rd	389 m south	389	300	\$ 227,000	\$ -	0%	\$ -	0%	\$ -	\$ 227,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH2-W-19	PD 18 Watermain on new road	Southcote Rd	Smith Rd	417	400	\$ 405,000	\$ 243,000	0%	\$ -	0%	\$ -	\$ 162,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH3-W-19	PD 18 Watermain on Southcote Rd	New road	Hydro Corridor	700	400	\$ 680,000	\$ -	0%	\$ -	0%	\$ -	\$ 680,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH7-W-19	PD 6 Watermain on Book Rd	Smith Rd	372 m east of Smith Rd	372	400	\$ 361,000	\$ -	0%	\$ -	0%	\$ -	\$ 361,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH8-W-19	PD 18 Watermain on Southcote Rd	Book Rd	590 m north	590	300	\$ 344,000	\$ -	0%	\$ -	0%	\$ -	\$ 344,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH9-W-19	PD 18 Watermain on Smith Rd	Book Rd	603 m north	603	300	\$ 352,000	\$ -	0%	\$ -	0%	\$ -	\$ 352,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH10-W-19	PD 18 Watermain on new road	Smith Rd	421 m east	421	400	\$ 409,000	\$ 245,000	0%	\$ -	0%	\$ -	\$ 164,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH11-W-14	PD 6 Watermain on Glancaster Rd	Rymal Rd	Twenty Rd	1325	400	\$ 2,124,000	\$ -	0%	\$ -	0%	\$ -	\$ 2,124,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH13-W-19	PD 18 Watermain on new road	Raymond Rd Extension	883 m west	883	400	\$ 839,000	\$ 503,000	0%	\$ -	0%	\$ -	\$ 336,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH14-W-19	PD 18 Watermain on new road	Raymond Rd Extension	552 m east	552	400	\$ 536,000	\$ 322,000	0%	\$ -	0%	\$ -	\$ 214,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH15-W-19	PD 6 Watermain on Dickenson Rd	Garh St Extension	953 m west	953	300	\$ 556,000	\$ -	0%	\$ -	0%	\$ -	\$ 556,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH16-W-19	PD 18 Watermain on Southcote Rd	Hydro Corridor	293 m south	293	400	\$ 285,000	\$ -	0%	\$ -	0%	\$ -	\$ 285,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH17-W-19	PD 6 Watermain on Smith Rd	Book Rd	259 m south	259	400	\$ 252,000	\$ -	0%	\$ -	0%	\$ -	\$ 252,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH18-W-19	PD 18 Watermain on Smith Rd	Hydro Corridor	627 m north	627	300	\$ 366,000	\$ -	0%	\$ -	0%	\$ -	\$ 366,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH19-W-19	PD 18 Watermain on Smith Rd	Hydro Corridor	350 m south	350	300	\$ 294,000	\$ -	0%	\$ -	0%	\$ -	\$ 294,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH22-W-19	PD 6 Watermain on Book Rd	Glancaster Rd	595 m west	595	400	\$ 578,000	\$ -	0%	\$ -	0%	\$ -	\$ 578,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH23-W-19	PD 6 Watermain on Dickenson Rd	Glancaster Rd	598 m east	598	300	\$ 349,000	\$ -	0%	\$ -	0%	\$ -	\$ 349,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH24-W-19	PD 6 Watermain on new Garh St Extension	Dickenson Rd	837 m north	837	400	\$ 813,000	\$ 488,000	0%	\$ -	0%	\$ -	\$ 325,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH25-W-19	PD 6 Watermain on Dickenson Rd	Garh St	870 m east	870	300	\$ 507,000	\$ -	0%	\$ -	0%	\$ -	\$ 507,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH26-W-19	PD 6 Watermain on new Garh St Extension	Glancaster Rd	1365 m east	1365	400	\$ 1,326,000	\$ 796,000	0%	\$ -	0%	\$ -	\$ 530,000		X	X			Updated length, updated unit cost (inflation)
AEGD/MT, Hope	6 years to LBBO	MH27-W-19	PD 6 Watermain on new Garh St Extension	Dickenson Rd	MH26-W-19	600	400	\$ 583,000	\$ 350,000	0%	\$ -	0%	\$ -	\$ 233,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH28-W-19	PD 6 Watermain on Smith Rd	265 m south of Book Rd	625 m south of Book Rd	322	400	\$ 313,000	\$ -	0%	\$ -	0%	\$ -	\$ 313,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH29-W-19	PD 6 Watermain on new Garh St Extension	Twenty Rd	662 m north	662	400	\$ 643,000	\$ 386,000	0%	\$ -	0%	\$ -	\$ 257,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH30-W-19	PD 6 Watermain on Book Rd	Smith Rd	Southcote Rd	397	400	\$ 386,000	\$ -	0%	\$ -	0%	\$ -	\$ 386,000		X				Updated unit cost - inflation only
AEGD/MT, Hope	6 years to LBBO	MH44-W-19	PD 6 Watermain on new Garh St extension	Glancaster Rd	Smith Rd	520	400	\$ 505,000	\$ 303,000	0%	\$ -	0%	\$ -	\$ 202,000		X		X		Updated length, updated unit cost (inflation)
AEGD/MT, Hope	6 years to LBBO	MH45-W-19	PD 6 Watermain on Southcote Rd	Book Rd	590 m south	590	300	\$ 292,000	\$ -	0%	\$ -	0%	\$ -	\$ 292,000					X	New
AEGD/MT, Hope	6 years to LBBO	MH46-W-19	PD 6 Watermain on Book Rd	Southcote Rd	420 m west	420	300	\$ 245,000	\$ -	0%	\$ -	0%	\$ -	\$ 245,000					X	New
AEGD/MT, Hope	6 years to LBBO	MH47-W-19	PD 18 Watermain on Book Rd	West of Southcote Rd	East of Smith Rd	1200	300	\$ 700,000	\$ -	0%	\$ -	0%	\$ -	\$ 700,000					X	New



TABLE F-1 - WATER CAPITAL PROGRAM

Area	Planning Period	Project ID	Project/Street	From	To	Length (m)	Size (mm)	Estimated Total Cost (\$2019)	Direct Developer Contribution (\$2019)	Benefit to Existing	Benefit to Existing (\$2019)	Post Period Benefit (%)	Post Period Benefit (\$2019)	Development Charges (\$2019)	Updated Timing	Updated Cost	Scope Change Location	Scope Change: Length and/or Size	Project Added	2014-2019 Change Details
<b>BINBROOK</b>																				
Binbrook	0 to 5 years	B2-W-19	H2 019 Pumping Station Expansion	Regional Rd. 56				\$ 1,650,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,650,000	X	X				Updated cost based on City Capital Budget
Binbrook	0 to 5 years	B4-W-19	Pumpkin Pass	West end of Cuts Cross and Pumpkin Pass	Fletcher Rd	400	400	\$ 389,000	\$ 233,000	0%	\$ -	0%	\$ -	\$ 156,000		X	X	X		Updated length, updated unit cost (inflation)
Binbrook	0 to 5 years	B5-W-19	Fletcher Rd	Binbrook Rd	Pumpkin Pass	400	400	\$ 389,000	\$ -	0%	\$ -	0%	\$ -	\$ 389,000		X				Updated unit cost - inflation only
Binbrook	0 to 5 years	B6-W-19	Binbrook Rd	West of Royal Winter Blvd	Fletcher Rd	850	400	\$ 826,000	\$ -	0%	\$ -	0%	\$ -	\$ 826,000		X	X	X		Updated length, updated unit cost (inflation)
Binbrook	0 to 5 years	B7-W-19	Binbrook Trunk Feedermain - Fletcher's Rd and Cemetery Rd	Hydro Corridor	H2019	6950	400	\$ 6,753,000	\$ -	0%	\$ -	0%	\$ -	\$ 6,753,000		X	X			Updated unit cost - inflation only
Binbrook	0 to 5 years	B8-W-19	Fletcher Rd	Binbrook Blvd Extension	Binbrook Rd	650	400	\$ 632,000	\$ -	0%	\$ -	0%	\$ -	\$ 632,000		X	X			Updated unit cost - inflation only
Binbrook	0 to 5 years	B9-W-19	Binbrook Blvd Extension	Brigham Ave	Fletcher Rd	850	400	\$ 826,000	\$ 496,000	0%	\$ -	0%	\$ -	\$ 330,000		X	X	X		Updated length, updated unit cost (inflation)
<b>HAMILTON MOUNTAIN</b>																				
Hamilton Mountain	0 to 5 years	HM2-W-19	Terris Blvd extension	140m West of Upper Gage Ave	Miles Rd	430	400	\$ 418,000	\$ 251,000	0%	\$ -	0%	\$ -	\$ 167,000			X	X		Updated length, updated unit cost (inflation)
Hamilton Mountain	0 to 5 years	HM3-W-19	Terris Blvd extension	Miles Rd	300m west	300	400	\$ 292,000	\$ 175,000	0%	\$ -	0%	\$ -	\$ 117,000	X	X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM4-W-19	Miles Rd	West extension of Terris Blvd	East extension of Terris Blvd	50	400	\$ 80,000	\$ -	0%	\$ -	0%	\$ -	\$ 80,000	X	X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM5-W-19	Vineberg Dr	140m east of Upper Wentworth St	570m east of Upper Wentworth St	430	400	\$ 418,000	\$ 251,000	0%	\$ -	0%	\$ -	\$ 167,000			X			Updated length, updated unit cost (inflation)
Hamilton Mountain	0 to 5 years	HM6-W-19	Twenty Rd Extension	Glover Rd	Trinity Church Rd	580	400	\$ 564,000	\$ 338,000	0%	\$ -	0%	\$ -	\$ 226,000		X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM2-W-19	Nebo Rd	Dickenson Rd	Hydro Corridor	350	300	\$ 395,000	\$ -	0%	\$ -	0%	\$ -	\$ 395,000		X	X	X		Updated length, updated unit cost (inflation)
Hamilton Mountain	0 to 5 years	HM3-W-19	Dickenson Rd	Nebo Rd	800m east of Nebo Rd	800	300	\$ 902,000	\$ -	0%	\$ -	0%	\$ -	\$ 902,000	X	X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM5-W-19	Darvall Rd and new road alignment	Twenty Rd	Dickenson Rd	1475	300	\$ 860,000	\$ -	0%	\$ -	0%	\$ -	\$ 860,000		X	X	X		Updated length, updated unit cost (inflation)
Hamilton Mountain	0 to 5 years	HM9-W-19	Extension of Terris Blvd	590m east of Upper Wentworth St	300m west of Miles Rd	450	400	\$ 437,000	\$ 262,000	0%	\$ -	0%	\$ -	\$ 175,000	X	X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM20-W-19	Stone Church Trunk Feedermain	First Rd W	H206B	5420	1050	\$ 28,269,700	\$ -	0%	\$ -	10%	\$ 2,626,970	\$ 25,442,730	X	X	X	X		Updated alignment, cost update from City
Hamilton Mountain	0 to 5 years	HM26-W-19	Rymal Rd E	Darvall Rd		550	300	\$ 620,000	\$ -	0%	\$ -	0%	\$ -	\$ 620,000		X				Updated unit cost - inflation only
Hamilton Mountain	0 to 5 years	HM28-W-19	PD7 Elevated Tank	Trinity Church Rd Twenty Rd (Exact location to be determined)			9.9 ML	\$ 15,240,000	\$ -	0%	\$ -	25%	\$ 3,810,000	\$ 11,430,000		X	X	X		Updated capacity, location. Cost updated based on City Project Sheet
Hamilton Mountain	6 years to LBBO	HM1-W-19	Orator Dr	160m North of Stone Church Rd	Stone Church Rd	180	400	\$ 155,000	\$ 93,000	0%	\$ -	0%	\$ -	\$ 62,000		X				Updated unit cost - inflation only
Hamilton Mountain	6 years to LBBO	HM21-W-19	New East-West alignment	Upper Sherman Ave	Acadia Dr	210	400	\$ 204,000	\$ 122,000	0%	\$ -	0%	\$ -	\$ 82,000		X	X	X		Updated length, updated unit cost (inflation)
Hamilton Mountain	6 years to LBBO	HM27-W-19	Upper Wentworth / Turner Park / Twenty Rd	South Limit at Hydro Corridor	Springside Dr	1980	400	\$ 1,924,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,924,000	X	X				Updated unit cost - inflation only
<b>STONE CREEK UPPER</b>																				
Stoney Creek Upper	0 to 5 years	SCU6-W-19	First Rd W	Green Mountain Rd	Glover Mountain Rd	855	400	\$ 831,000	\$ 498,000	0%	\$ -	0%	\$ -	\$ 333,000		X	X	X		Updated length, updated unit cost (inflation)
Stoney Creek Upper	0 to 5 years	SCU12-W-19	PD5 Trunk Feedermain - Valve Chamber to Mud St	Valve Chamber 3B	Mud St W	2500	1200	\$ 11,400,000	\$ -	0%	\$ -	10%	\$ 1,140,000	\$ 10,260,000		X	X	X		Updated length and alignment, updated cost from City
Stoney Creek Upper	0 to 5 years	SCU16-W-19	Upper Mount Abion Rd	235 m south of Highland Rd W	Highland Rd W	235	300	\$ 265,000	\$ -	0%	\$ -	0%	\$ -	\$ 265,000		X	X			Updated unit cost - inflation only
Stoney Creek Upper	0 to 5 years	SCU18-W-19	PS W-H6A Upgrades					\$ 20,870,000	\$ -	25%	\$ 5,217,500	10%	\$ 1,965,250	\$ 14,087,250		X				Updated cost from City Detail Sheet
Stoney Creek Upper	0 to 5 years	SCU23-W-19	PD5 Trunk Feedermain - HD5A to Valve Chamber	HD5A	Valve Chamber 3B	240	1200	\$ 5,670,000	\$ -	0%	\$ -	0%	\$ -	\$ 5,670,000				X		New
Stoney Creek Upper	6 years to LBBO	SCU7-W-19	Highland Reservoir HDR07 (additional storage)				5.5 ML	\$ 12,420,000	\$ -	0%	\$ -	25%	\$ 3,105,000	\$ 9,315,000		X				Cost based on City Project Sheet
Stoney Creek Upper	6 years to LBBO	SCU17-W-19	Etrida Distribution Network					\$ 27,695,000	\$ 3,107,000	0%	\$ -	66%	\$ 18,279,000	\$ 6,309,000		X				Updated cost - inflation only
Stoney Creek Upper	6 years to LBBO	SCU21-W-19	New Zone 7 Booster Pumping Station	Upper Centennial Pkwy and Rymal Rd E			55 MLD	\$ 19,480,000	\$ -	0%	\$ -	25%	\$ 4,870,000	\$ 14,610,000		X				Updated capacity. Cost updated based on City Project Sheet
Stoney Creek Upper	6 years to LBBO	SCU22-W-19	Upper Centennial Pkwy	Mud St	New PD 7 Booster Station	1890	600	\$ 4,224,000	\$ -	0%	\$ -	25%	\$ 1,056,000	\$ 3,168,000		X	X	X		Updated length, updated unit cost (inflation)
<b>STONE CREEK LOWER</b>																				
Stoney Creek Lower	0 to 5 years	SCL4-W-19	Replacement on Lewis Rd	Hay 8	Barton St	500	300	\$ 564,000	\$ -	0%	\$ -	0%	\$ -	\$ 564,000	X	X				Updated cost - inflation only
Stoney Creek Lower	0 to 5 years	SCL6-W-19	Glover Rd	Barton St	Service Rd Extension	700	300	\$ 789,000	\$ -	0%	\$ -	0%	\$ -	\$ 789,000		X				Updated cost - inflation only
Stoney Creek Lower	6 years to LBBO	SCL7-W-19	Miles Rd	South Service Rd	Arvin Ave	670	400	\$ 1,074,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,074,000		X		X		Updated length, updated unit cost (inflation)
Stoney Creek Lower	6 years to LBBO	SCL8-W-19	South Service Rd	Fruitland Rd	Jones Rd	950	400	\$ 1,523,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,523,000		X		X		Updated length, updated unit cost (inflation)
Stoney Creek Lower	6 years to LBBO	SCL9-W-19	South Service Rd	Miles Rd	Seaman St	1600	400	\$ 2,565,000	\$ -	0%	\$ -	0%	\$ -	\$ 2,565,000		X				Updated cost - inflation only
Stoney Creek Lower	6 years to LBBO	SCL10-W-19	Dewitt Rd	CNR Tracks	Barton St	610	300	\$ 688,000	\$ -	0%	\$ -	0%	\$ -	\$ 688,000		X				Updated cost - inflation only
Stoney Creek Lower	6 years to LBBO	SCL11-W-19	Jones Rd	South Service Rd	Barton St	915	400	\$ 1,467,000	\$ -	0%	\$ -	0%	\$ -	\$ 1,467,000		X				Updated cost - inflation only



# 20. Stormwater Services





## 20.1 Stormwater Works & Studies – Within Separated Sewer System

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Stormwater Works & Studies (excluding Facilities) - Within Separated Sewer System

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 44%	Non-Residential Share 56%
	2019-2031										
1	Open Watercourses - Channel System Improvements - Residential (Category A)	2019-2023	2,913,000	-		2,913,000	-		2,913,000	1,281,720	1,631,280
2	Open Watercourses - Channel System Improvements - Residential (Category A)	2024-2028	1,410,000	-		1,410,000	-		1,410,000	620,400	789,600
3	Open Watercourses - Channel System Improvements - Residential (Category A)	2029-2031	15,650,000	-		15,650,000	-		15,650,000	6,886,000	8,764,000
4	Open Watercourses - Channel System Improvements - Non-Residential (Category A)	2019-2023	1,590,000	-		1,590,000	795,000		795,000	349,800	445,200
5	Open Watercourses - Channel System Improvements - Non-Residential (Category A)	2029-2031	21,497,000	-		21,497,000	2,667,500		18,829,500	8,284,980	10,544,520
6	Off Site Erosion Works (Category B)	2019-2031	25,804,837	-		25,804,837	12,339,935		13,464,902	5,924,557	7,540,345
7	Oversizing of trunk sewers and culverts (Category D)	2019-2023	12,498,070	-		12,498,070	-		12,498,070	5,499,151	6,998,919
8	Oversizing of trunk sewers and culverts (Category D)	2024-2028	2,784,639	-		2,784,639	-		2,784,639	1,225,241	1,559,398
9	Culverts and Bridges not previously identified (Category E)	2019-2022	2,191,800	-		2,191,800	337,200		1,854,600	816,024	1,038,576
10	Culverts and Bridges not previously identified (Category E)	2023-2031	7,249,800	-		7,249,800	1,331,940		5,917,860	2,603,858	3,314,002
11	GRIDS Related Open Watercourses	2019-2031	19,497,638	-		19,497,638	-		19,497,638	8,578,961	10,918,677
12	Existing Debt on Growth Related Projects - Principal (Discounted)	2019-2031	212,923	-		212,923	-		212,923	93,686	119,237
13	Existing Debt on Growth Related Projects - Interest (Discounted)	2019-2031	61,539	-		61,539	-		61,539	27,077	34,462
14	Reserve Fund Adjustment		1,243,801			1,243,801	-		1,243,801	547,273	696,529



### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Stormwater Works & Studies (excluding Facilities) - Within Separated Sewer System

Project Number	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 44%	Non-Residential Share 56%
	<b>2019-2031</b>										
	<b>Stormwater Studies:</b>					-	-		-	-	-
15	Stormwater Management Monitoring (Separated System)	2019-2031	8,000,000	-		8,000,000	-		8,000,000	3,520,000	4,480,000
16	Specific Area Water Shed Master Plans for Separated System Area	2019-2031	3,750,000	-		3,750,000	-		3,750,000	1,650,000	2,100,000
17	Airport Block Servicing Studies (Separated System)	2019-2028	6,000,000	-		6,000,000	-		6,000,000	2,640,000	3,360,000
18	Cherry Beach EA & Preliminary Design Study (Lower Stoney Creek) (Separated System)	2022	500,000	-		500,000	-		500,000	220,000	280,000
19	Falkirk East Storm Drainage Study (Separated System)	2025	500,000	-		500,000	-		500,000	220,000	280,000
20	Stoney Creek Watercourse 6 Drainage Improvements Hwy. 8 to Lake Ontario (Separated System)	2019	1,500,000	-		1,500,000	-		1,500,000	660,000	840,000
21	Stoney Creek Watercourse 7 Drainage Improvements Upstream of Barton to Hwy. 8 (Separated System)	2020	750,000	-		750,000	-		750,000	330,000	420,000
22	Watercourse 10 - S.C.U.B.E. Drainage Improvement Study (Separated System)	2020	500,000	-		500,000	-		500,000	220,000	280,000
23	Stormwater Master Plan Update - City Wide (Proportion for Separated Sewer System)	2019	208,717	-		208,717	41,743		166,973	73,468	93,505
24	Stormwater Master Plan Update - City Wide (Proportion for Separated Sewer System)	2024	1,252,301	-		1,252,301	250,460		1,001,840	440,810	561,031
25	Stormwater Master Plan Update - City Wide (Proportion for Separated Sewer System)	2029	1,252,301	400,736		851,564	250,460		601,104	264,486	336,618
26	Unidentified Studies (Separated System)	2019-2031	2,500,000	-		2,500,000	-		2,500,000	1,100,000	1,400,000
	<b>Total</b>		<b>141,318,366</b>	<b>400,736</b>	<b>-</b>	<b>140,917,630</b>	<b>18,014,239</b>	<b>-</b>	<b>122,903,392</b>	<b>54,077,492</b>	<b>68,825,899</b>



## 20.2 Stormwater Facilities – Within Separated Sewer System

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Stormwater Facilities - Within Separated Sewer System

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 100%	Non-Residential Share 0%
1	Stormwater Management Quality/Quantity Facilities - Residential	2019-2023	87,987,899	-		87,987,899	-		87,988,000	87,988,000	-
2	Stormwater Management Quality/Quantity Facilities - Residential	2024-2031	86,014,925	-		86,014,925	5,922,300		80,093,000	80,093,000	-
3	Provision for Non-Residential Portion of Residential Ponds	2019-2031	(1,022,108)	-		(1,022,108)	-		(1,022,000)	(1,022,000)	-
4	Stormwater Management Quality/Quantity Facilities - Non-Residential	2019-2023	4,122,067	-		4,122,067	675,200	3,446,867	-	-	-
5	Stormwater Management Quality/Quantity Facilities - Non-Residential	2024-2031	103,879,110	-		103,879,110	2,018,178	101,860,932	-	-	-
6	Provision for Residential Portion of Non-Residential Ponds	2024-2031	651,896	-		651,896	-		652,000	652,000	-
7	GRIDS Related SWM Projects - Residential Portion	2019-2031	98,626,698	-		98,626,698	-		98,627,000	98,627,000	-
8	GRIDS Related SWM Projects - Non-Residential Portion	2019-2031	179,980,176	59,113,323		120,866,853	-	120,866,853	-	-	-
9	Provision for Stormwater Credits	2019-2031	28,922,863	-		28,922,863	-		28,922,863	28,922,863	-
10	Provision for Best Efforts Agreements	2019-2031	952,693	-		952,693	-		952,693	952,693	-
11	Reserve Fund Adjustment		2,942,503	-		2,942,503	-		2,942,503	2,942,503	-
	<b>Total</b>		<b>593,058,722</b>	<b>59,113,323</b>	<b>-</b>	<b>533,945,399</b>	<b>8,615,678</b>	<b>226,174,652</b>	<b>299,156,059</b>	<b>299,156,059</b>	<b>-</b>



## 20.3 Stormwater Facilities – Within Combined Sewer System

### Infrastructure Costs Covered in the D.C. Calculation

City of Hamilton

Service: Stormwater Facilities - Within Combined Sewer System

Project Number	Increased Service Needs Attributable to Anticipated Development 2019-2031	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 100%	Non-Residential Share 0%
1	Stormwater Management Quality/Quantity Facilities (Combined)	2024-2031	6,000,000	-		6,000,000	-		6,000,000	6,000,000	-
2	Oversizing of trunk sewers and culverts (Category D)	2019-2023	2,000,000	-		2,000,000	-		2,000,000	2,000,000	-
3	Oversizing of trunk sewers and culverts (Category D)	2025-2031	1,000,000	-		1,000,000	-		1,000,000	1,000,000	-
	<b>Stormwater Studies:</b>										
4	Specific Area Water Shed Master Plans for Combined Sewer Area	2019-2031	3,750,000	-		3,750,000	-		3,750,000	3,750,000	-
5	Ainslie Wood Westdale Stormwater Drainage Master Plan (Combined System)	2019	750,000	-		750,000	-		750,000	750,000	-
6	Ainslie Wood Westdale Neighbourhoods Class EA (Combined System)	2023	340,000	-		340,000	-		340,000	340,000	-
7	Unidentified Studies (Combined System)	2019-2031	2,500,000	-		2,500,000	-		2,500,000	2,500,000	-
8	Stormwater Master Plan Update - City Wide (Proportion for Combined Sewer System)	2019	41,283	-		41,283	8,257		33,027	33,027	-
9	Stormwater Master Plan Update - City Wide (Proportion for Combined Sewer System)	2024	247,699	-		247,699	49,540		198,160	198,160	-
10	Stormwater Master Plan Update - City Wide (Proportion for Combined Sewer System)	2029	247,699	79,264		168,436	49,540		118,896	118,896	-
11	Reserve Fund Adjustment		76,961	-		76,961	-		76,961	76,961	-
	<b>Total</b>		<b>16,953,643</b>	<b>79,264</b>	<b>-</b>	<b>16,874,379</b>	<b>107,336</b>	<b>-</b>	<b>16,767,043</b>	<b>16,767,043</b>	<b>-</b>



## 20.4 Detail Sheets (Prepared by Wood Environment & Infrastructure Solutions)

**APPENDIX G-1: CATEGORY A - OPEN WATERCOURSES: CHANNEL SYSTEM IMPROVEMENTS (IDENTIFIED PROJECTS) RESIDENTIAL**

Category			SWMF/ Drainage Work													
Primary Dev. Areas	Build Out (yr)	Secondary	Project Title	Study Year	Drainage Area (ha)	Purpose	Type of Work	Location of Work	Type	Description	Length (m)	2014 Estimated Capital Cost (\$)	2019 Estimated Capital Cost (\$)	Estimated Total Cost (Rounded)(\$)	Growth Related %	Net Total Cost (\$)
ANC	6+	A	Garner Road EA	2013			5 structures	Garner Rd Hwy 6 to Glancaster				1,250,000	1,405,000	1,410,000	100	1,410,000
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1989		Erosion Control and Channel System Improvements	Lower culvert by 0.4 m - South Service Rd. under w/c #6					163,182	183,417	180,000	100	180,000
SCL	11+	A	SCUBE - Barton Street	2013		road crossings at existing watercourses	7 structures (3@\$400k, 4@\$750k)	Fruitland to Fifty				4,200,000	4,720,800	4,720,000	100	4,720,000
SCL	0-5	A	SCUBE Block 1	2017		road crossings at existing watercourses	1 structure	Fruitland to N/S Collector				750,000	843,000	843,000	100	843,000
SCL	0-5		SCUBE Block 2	2017		road crossings at existing watercourses	2 structures	Jones to Glover				1,500,000	1,686,000	1,690,000	100	1,690,000
SCM	11+	A	ELFRIDA Secondary Plan major roads xngs	2017		road crossings at existing watercourses	20 culverts (6 small, 6 med, 8 large)	ELFRIDA SP				4,215,000	4,737,660	4,740,000	100	4,740,000
WAT	11+	A	East West Corridor - North Waterdown Drive	2012		road crossings at existing watercourses	6 culverts (med)	EW2,3,4,7,8,EW9					1,011,600	1,010,000	100	1,010,000
WAT	11+	A	East West Corridor - North Waterdown Drive	2012		road crossings at existing watercourses	1 structure	EW5					5,000,000	5,000,000	100	5,000,000
WAT	0-5	A	Parkside Drive EA	2013			2 culverts (med)	Parkside Dr Hwy 6 to Hollybush				337,200	379,013	380,000	100	380,000
<b>Total Residential</b>												<b>12,415,382</b>	<b>19,966,490</b>	<b>19,973,000</b>	<b>100</b>	<b>19,973,000</b>

ANC: Ancaster  
 BMH: Binbrook / Mount Hope  
 HAM: Hamilton Mountain  
 SCL: Stoney Creek - Lower  
 SCM: Stoney Creek - Mountain  
 WAT: Waterdown


**APPENDIX G-1: CATEGORY A - OPEN WATERCOURSES: CHANNEL SYSTEM IMPROVEMENTS (IDENTIFIED PROJECTS) NON-RESIDENTIAL**

Category			Project Title	Study Year	Drainage Area (ha)	Purpose	SWMF/ Drainage Work					2014 Estimated Capital Cost (\$)	2019 Estimated Capital Cost (\$)	Estimated Total Cost (Rounded)(\$)	Growth Related %	Net Total Cost (\$)
Primary Dev. Areas	Build Out (yr)	Secondary					Type of Work	Location of Work	Type	Description	Length (m)					
ANC	0-5	A	Ancaster Industrial Park - Cormorant Midblock	2013			culvert	Trinity to Tradewind				400,000	400,000	50	200,000	
ANC	0-5	A	Ancaster Industrial Park - Cormorant Midblock	2013			channel improvements	Trinity to Tradewind				400,000	400,000	50	200,000	
BMH	11+	A	AEGD major roads crossings	2017		road crossings at existing watercourses	40 culverts (12 small, 12 med, 16 large)	AEGD				8,430,000	9,475,320	9,480,000	100	9,480,000
HAM	11+	A	Red Hill Business Park - Dartnall Road	2017			2 culverts (small)	Twenty to Dickenson				400,000	400,000	100	400,000	
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990			Triple-Culvert replacement - QEW Corridor at w/c #5					1,405,493	1,579,774	1,580,000	100	1,580,000
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990			New culvert - North Service Rd. at w/c #5					233,434	262,380	260,000	100	260,000
SCL	11+	A	Creek System Improvement W/C 7	2003			Lower culvert by 0.4 m - South Service Rd. under w/c #6					117,145	131,670	130,000	50	65,000
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990			Culvert replacement - QEW Corridor on w/c #6.2					518,783	583,112	580,000	100	580,000
SCL	11+	A	Water Course 5- Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990	582		channel improvements		Length of channel improvement work	1015		2,305,703	2,591,610	2,590,000	100	2,590,000
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990			Lower culvert by 1.6 m - Arvin Ave. on w/c #5					62,477	70,224	70,000	20	14,000
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990			Culvert replacement - CNR line on w/c #5					163,556	183,837	180,000	20	36,000
SCL	11+	A	Water Course 6 - Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990	67		channel improvements		Length of channel improvement work	1077		2,469,333	2,775,530	2,780,000	50	1,390,000
SCL	11+	A	Master Drainage Plan Area No. 5, 6, 7. City of Stoney Creek	1990			Lower culvert by 1.84 m - South Service Rd. under w/c #5					117,145	131,670	130,000	100	130,000
SCL	0-5	A	SCUBE - Barton Street	2017			WC9 channel/enclosure	west property limit of school to 140 m east				700,000	786,800	790,000	50	395,000
SCL	11+	A	SCUBE - NSR	2013			culvert	Green easterly to City limits				750,000	843,000	843,000	100	843,000
WAT	11+	A	Hwy 5/6 Interchange				2 or 3 culverts	Hwy 5/6 and ramp				1,200,000	1,348,800	1,350,000	25	337,500
WAT	11+	A	Highway 6				culvert	Borer's Ck				1,000,000	1,124,000	1,124,000	100	1,124,000
<b>Total Non-Residential</b>												<b>19,473,068</b>	<b>23,087,728</b>	<b>23,087,000</b>	<b>85</b>	<b>19,624,500</b>
<b>Grand Total</b>												<b>31,888,450</b>	<b>43,054,218</b>	<b>43,060,000</b>	<b>92</b>	<b>39,597,500</b>

ANC: Ancaster  
 BMH: Binbrook / Mount Hope  
 HAM: Hamilton Mountain  
 SCL: Stoney Creek - Lower  
 SCM: Stoney Creek - Mountain  
 WAT: Waterdown



APPENDIX G-1 CATEGORY B: OFF SITE EROSION WORKS NOT IDENTIFIED IN PREVIOUS STUDIES (RESIDENTIAL & NON RESIDENTIAL)

ID #	Primary Development Area	Res/Non-Res	Subwatershed	Watershed	Remarks	Watershed Area <sup>1</sup>	Existing Development Area (ha)		Future Development Area (ha)		Development Fraction	Fraction of Watercourse Assumed to Require Erosion Control <sup>2</sup>	Total Length of Downstream Watercourse to Assumed End-Point <sup>3</sup>	Length of Erosion Control Works	Cost <sup>4</sup>	Land Cost	Total Cost	New Development Fraction	Development Related Cost				
						A	B	C	D	E	F = 100 X (B+C+D+E) / A	G	H	I = G X H	J	K	L=J+K	M = (D+E) / (B+C+D+E)	L X M				
						(ha)	Res. (ha)	Non-Res. (ha)	Res. (ha)	Non-Res. (ha)	(%)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
						(ha)	(ha)	(ha)	(ha)	(ha)	(%)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
2	ANC	Non-Res	Big Creek (Outlet #1 & #2 Industrial Park)	Big Creek		271		11.6	5.32	136.83	56.73	0.15	4,988	748	\$1,122,300	\$697,738	\$1,820,038	0.925	\$1,682,721				
3	ANC	Res	Big Creek (Spring Valley West and Shaver Neighbourhood)	Big Creek	South of Shaver Neighbourhood	43	35		5.5		94.19	0.20	600	120	\$180,000	\$111,907	\$291,907	0.136	\$39,642				
4	ANC	Res	Big Creek (Spring Valley West and Shaver Neighbourhood)	Big Creek		100	70.92		21.48	0.29	92.69	0.20	1,500	300	\$450,000	\$279,767	\$729,767	0.235	\$171,399				
5	BMH	Non-Res	Three Mile Creek	Twenty Mile Creek	Part of Airport Business Park and Airport	165		20		24.48	26.96	0.10	1,500	150	\$225,000	\$139,883	\$364,883	0.550	\$200,817				
6	ANC	Res	Tiffany Creek	Coote's Paradise	Meadowlands, Garner, Ancaster. A portion of the w/c is lined in a SWMF	165	25		129.84	0.37	94.07	0.20	2,500	500	\$750,000	\$466,278	\$1,216,278	0.839	\$1,020,369				
7	ANC	Res	Tiffany Creek	Coote's Paradise	Falkirk West and Bayview Glen Estates	110			11.5	1.76	12.05	0.05	450	23	\$33,750	\$20,982	\$54,732	1.000	\$54,732				
8	ANC	Res	Sulphur Creek	Coote's Paradise		1794			15.98		0.89	0.05	500	25	\$62,500	\$46,628	\$109,128	1.000	\$109,128				
9	BMH	Res	Binbrook Node B	Welland River	Binbrook Urban area of 200 ha Draining at Node B	300	191.27		100.12	0.5	97.30	0.20	4,500	900	\$1,350,000	\$725,881	\$2,075,881	0.345	\$715,595				
11	BMH	Res	Binbrook Node D	Welland River	Three tributaries B7-a,b,c	133			100.26		75.38	0.20	4,100	820	\$1,230,000	\$661,358	\$1,891,358	1.000	\$1,891,358				
12	BMH	Res	Binbrook Node G	Twenty Mile Creek (Three Mile, Sinkhole Creek)	Jackson Heights etc	25	15		9.14		96.56	0.20	750	150	\$225,000	\$120,980	\$345,980	0.379	\$130,997				
13	BMH	Res	Node of Welland River south of Mount Hope Urban Boundary SWMF # B-10	Welland River	Mount Hope & adjacent areas (including Airport Business Area)-two outlet	220	128.52	20	47.39	4.76	91.21	0.20	1,500	300	\$450,000	\$241,960	\$691,960	0.260	\$179,826				
14	BMH	Non-Res	Node of Welland River north of Mount Hope Urban Boundary	Welland River		30				20	66.67	0.15	1,200	180	\$270,000	\$145,176	\$415,176	1.000	\$415,176				
15	HAM	Res	Node Downstream of Glanbrook Hills	Twenty Mile Creek (Three Mile, Sinkhole Creek)	Garth Trail, North Glanbrook Industrial Park, Airport Industrial Business Park, part of Binbrook and others	40	20		16.47		91.18	0.20	900	180	\$270,000	\$145,176	\$415,176	0.452	\$187,495				

<sup>1</sup>To point immediately d/s of future development (start of off-site erosion assessment)

<sup>2</sup>0.05 - Where Development Fraction is 0 - 25%

0.10 - Where Development Fraction is 26 - 49%

0.15 - Where Development Fraction is 50 - 74%

0.20 - Where Development Fraction is 75 - 100%

<sup>3</sup>Location where d/s of this point no erosion is deemed to occur from subject development; total drainage area to this point estimated as a maximum of 2X the study watershed area (Column A). Note that the end point may also be set by Hamilton Harbour or La

<sup>4</sup>\$2500/m for Watershed Area > 500 ha

\$1500/m for Watershed Area < 500 ha

Coote's Paradise (Borer's Creek, Spencer Creek, Sulphur Creek, Ancaster Creek, Chedoke Creek, Others)

Hamilton Harbour (Red Hill Creek, Central Business Park)



APPENDIX G-1 CATEGORY B: OFF SITE EROSION WORKS NOT IDENTIFIED IN PREVIOUS STUDIES (RESIDENTIAL & NON RESIDENTIAL)

ID #	Primary Development Area	Res/Non-Res	Subwatershed	Watershed	Remarks	Watershed Area <sup>1</sup>		Existing Development Area (ha)		Future Development Area (ha)		Development Fraction	Fraction of Watercourse Assumed to Require Erosion Control <sup>2</sup>	Total Length of Downstream Watercourse to Assumed End-Point <sup>3</sup>	Length of Erosion Control Works	Cost <sup>4</sup>	Land Cost	Total Cost	New Development Fraction	Development Related Cost					
						A	B	C	D	E	F = 100 X (B+C+D+E) / A										G	H	I = G X H	J	K
						(ha)	(ha)	(ha)	(ha)	(ha)	(%)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
							Res.	Non-Res.	Res.	Non-Res.															
16	BMH	Non-Res	Node Downstream of SWMF # R53	Twenty Mile Creek (Three Mile, Sinkhole Creek)		40				36.81	92.03	0.20		850	170	\$255,000	\$137,111	\$392,111	1.000	\$392,111					
17	HAM	Non-Res	Node Downstream of SWMF #B 13	Twenty Mile Creek (Three Mile, Sinkhole Creek)		32				19.67	61.47	0.15		600	90	\$135,000	\$72,588	\$207,588	1.000	\$207,588					
18	HAM	Non-Res	Node Downstream of SWMF # H 13	Twenty Mile Creek (Three Mile, Sinkhole Creek)		181				63.3	34.97	0.10		2,000	200	\$300,000	\$161,307	\$461,307	1.000	\$461,307					
19	HAM	Non-Res	Node Downstream of SWMF # B 14	Twenty Mile Creek (Three Mile, Sinkhole Creek)		58				5.71	9.84	0.05		1,100	55	\$82,500	\$44,359	\$126,859	1.000	\$126,859					
20	HAM	Non-Res	Node Downstream of SWMF # B 11 & B 12	Twenty Mile Creek (Three Mile, Sinkhole Creek)		700	282.29		26.2	48.63	51.02	0.15		3,000	450	\$1,125,000	\$725,881	\$1,850,881	0.210	\$387,829					
21	BMH	Non-Res	Node Downstream of SWMF # B 15 & 16	Twenty Mile Creek (Three Mile, Sinkhole Creek)		179	100			54.41	86.26	0.20		1,400	280	\$420,000	\$225,830	\$645,830	0.352	\$227,573					
22	HAM	Res	Upper Ottawa subwatershed	Hamilton Harbour	Erosion works downstream identified in previous studies	1356	766	308.9	136.28	0.86	89.38	0.20		1,100	220	\$550,000	\$354,875	\$904,875	0.113	\$102,385					
23	HAM	Res	Hannon Creek subwatershed	Hamilton Harbour		1070	115.2	357.7	75.95	292.53	78.63	0.20		2,000	400	\$1,000,000	\$645,228	\$1,645,228	0.438	\$720,523					
25	SCL	Res	Battlefield Creek	Lake Ontario (Battlefield Creek, SC, WC 0-12)	Nash	300			62.09	1.92	21.34	0.05		1,250	63	\$93,750	\$50,408	\$144,158	1.000	\$144,158					
26	SCL	Res	Water Course 0	Lake Ontario (Battlefield Creek, SC, WC 0-12)	WC 0	321	112.9	149.7	1.12	2.98	83.08	0.20		50	10	\$15,000	\$8,065	\$23,065	0.015	\$355					
27	SCL	Res	Water Course 1	Lake Ontario (Battlefield Creek, SC, WC 0-12)	WC 1	330	157.5	61	13.09	2.87	71.05	0.15		1,900	285	\$427,500	\$229,862	\$657,362	0.068	\$44,748					
28	Water Course 10/12	Non-Res	Fifty Point Industrial Park	Lake Ontario (Battlefield Creek, SC, WC 0-12)	assumed Fruitland-Winona SP land use	20				16.56	82.80	0.20		600	120	\$180,000	\$96,784	\$276,784	1.000	\$276,784					

<sup>1</sup>To point immediately d/s of future development (start of off-site erosion assessment)

<sup>2</sup>0.05 - Where Development Fraction is 0 - 25%

0.10 - Where Development Fraction is 26 - 49%

0.15 - Where Development Fraction is 50 - 74%

0.20 - Where Development Fraction is 75 - 100%

<sup>3</sup>Location where d/s of this point no erosion is deemed to occur from subject development; total drainage area to this point estimated as a maximum of 2X the study watershed area (Column A). Note that the end point may also be set by Hamilton Harbour or La

<sup>4</sup>\$2500/m for Watershed Area > 500 ha

\$1500/m for Watershed Area < 500 ha

Coote's Paradise (Borer's Creek, Spencer Creek, Sulphur Creek, Ancaster Creek, Chedoke Creek, Others)

Hamilton Harbour (Red Hill Creek, Central Business Park)





APPENDIX G-1 CATEGORY B: OFF SITE EROSION WORKS NOT IDENTIFIED IN PREVIOUS STUDIES (RESIDENTIAL & NON RESIDENTIAL)

ID #	Primary Development Area	Res/Non-Res	Subwatershed	Watershed	Remarks	Watershed Area <sup>1</sup>	Existing Development Area (ha)		Future Development Area (ha)		Development Fraction	Fraction of Watercourse Assumed to Require Erosion Control <sup>2</sup>	Total Length of Downstream Watercourse to Assumed End-Point <sup>3</sup>	Length of Erosion Control Works	Cost <sup>4</sup>	Land Cost	Total Cost	New Development Fraction	Development Related Cost
						A	B	C	D	E	F = 100 X (B+C+D+E) / A	G	H	I = G X H	J	K	L=J+K	M = (D+E) / (B+C+D+E)	L X M
						(ha)	Res. (ha)	Non-Res. (ha)	Res. (ha)	Non-Res. (ha)	(%)		(m)	(m)	(\$)	(\$)	(\$)		(\$)
29	SCL	Res	Fifty Point Joint Venture	Lake Ontario (Battlefield Creek, SC, WC 0-12)		45	32		1.17	0.19	74.13	0.20	300	60	\$90,000	\$48,392	\$138,392	0.041	\$5,642
30	SCL	Non-Res	Water Course 12	Lake Ontario (Battlefield Creek, SC, WC 0-12)	assumed Fruitland-Winona SP land use	642	75.8	14.1	0.89	24	17.88	0.05	1,350	68	\$168,750	\$108,882	\$277,632	0.217	\$60,199
31	SCL	Res	Water Course 2	Lake Ontario (Battlefield Creek, SC, WC 0-12)	WC 2	283	148	76.8	1.69	0.56	80.23	0.20	1,100	220	\$330,000	\$177,438	\$507,438	0.010	\$5,029
32	SCL	Res	Water Course 3	Lake Ontario (Battlefield Creek, SC, WC 0-12)	WC 3	190	74.4	73.3	4.44	2.44	81.36	0.20	900	180	\$270,000	\$145,176	\$415,176	0.045	\$18,479
33	SCL	Non-Res	Water Course 4	Lake Ontario (Battlefield Creek, SC, WC 0-12)	WC 4	376	133.9	60.9		14	55.53	0.15	800	120	\$180,000	\$96,784	\$276,784	0.067	\$18,558
34	SCL	Res	Water Course 5	Lake Ontario (Battlefield Creek, SC, WC 0-12)	w/c 5.1-1100m, w/c 5.0 2500; assumed FWSP land use	636	121.4	112.9	118.35	7.64	56.65	0.15	3,600	540	\$1,350,000	\$871,057	\$2,221,057	0.350	\$776,683
35	SCL	Res	Water Course 6	Lake Ontario (Battlefield Creek, SC, WC 0-12)	assumed Fruitland-Winona SP land use	100	19	18.1	50.39	11.65	99.14	0.20	1,300	260	\$390,000	\$209,699	\$599,699	0.626	\$375,281
36	SCL	Non-Res	Water Course 7	Lake Ontario (Battlefield Creek, SC, WC 0-12)	assumed Fruitland-Winona SP land use	421	77.2	28.2	25.28	36.2	39.64	0.10	1,000	100	\$150,000	\$80,653	\$230,653	0.368	\$84,975
37	SCL	Non-Res	Water Course 9	Lake Ontario (Battlefield Creek, SC, WC 0-12)	assumed Fruitland-Winona SP land use	579	148.76	51.2	86.41	16.98	52.39	0.15	800	120	\$300,000	\$193,568	\$493,568	0.341	\$168,222
40	SCM	Res	Sinkhole Creek	Twenty Mile Creek (Three Mile, Sinkhole Creek)	Felkirk South and ROPA #9 (Rymal Rd.)	140	63.1		100.13		116.59	0.20	1,200	240	\$360,000	\$193,568	\$553,568	0.613	\$339,575

<sup>1</sup>To point immediately d/s of future development (start of off-site erosion assessment)

<sup>2</sup>0.05 - Where Development Fraction is 0 - 25%

0.10 - Where Development Fraction is 26 - 49%

0.15 - Where Development Fraction is 50 - 74%

0.20 - Where Development Fraction is 75 - 100%

<sup>3</sup>Location where d/s of this point no erosion is deemed to occur from subject development; total drainage area to this point estimated as a maximum of 2X the study watershed area (Column A). Note that the end point may also be set by Hamilton Harbour or La

<sup>4</sup>\$2500/m for Watershed Area > 500 ha

\$1500/m for Watershed Area < 500 ha

Coote's Paradise (Borer's Creek, Spencer Creek, Sulphur Creek, Ancaster Creek, Chedoke Creek, Others)

Hamilton Harbour (Red Hill Creek, Central Business Park)



APPENDIX G-1 CATEGORY B: OFF SITE EROSION WORKS NOT IDENTIFIED IN PREVIOUS STUDIES (RESIDENTIAL & NON RESIDENTIAL)

ID #	Primary Development Area	Res/Non-Res	Subwatershed	Watershed	Remarks	Watershed Area <sup>1</sup>		Existing Development Area (ha)		Future Development Area (ha)		Development Fraction	Fraction of Watercourse Assumed to Require Erosion Control <sup>2</sup>	Total Length of Downstream Watercourse to Assumed End-Point <sup>3</sup>	Length of Erosion Control Works	Cost <sup>4</sup>	Land Cost	Total Cost	New Development Fraction	Development Related Cost
						A	B	C	D	E	F = 100 X (B+C+D+E) / A									
						(ha)	(ha)	Non-Res. (ha)	(ha)	Non-Res. (ha)	(%)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
42	WAT	Res	Falcon Creek	Grindstone Creek/ North Shore Watershed	OPA 28 South	48			48		100.00	0.20	1,200	240	\$360,000	\$223,813	\$583,813	1.000	\$583,813	
43	WAT	Res	Grindstone Creek SWMF # W7	Grindstone Creek/ North Shore Watershed		45			45		100.00	0.20	900	180	\$270,000	\$167,860	\$437,860	1.000	\$437,860	
44	WAT	Res	Grindstone Creek SWMF # W1 to SWMF # W8	Grindstone Creek/ North Shore Watershed	OPA 28 South and Upcountry Estates, Gatesbury, etc.	1011	254.8		108.81		35.97	0.10	2,000	200	\$500,000	\$373,022	\$873,022	0.299	\$261,251	
45	WAT	Non-Res	Flamborough Industrial Park SWMF # W14	Grindstone Creek/ North Shore Watershed		45				15	33.33	0.10	900	90	\$135,000	\$83,930	\$218,930	1.000	\$218,930	
46	WAT	Res	Indian Creek	Grindstone Creek/ North Shore Watershed	OPA 28 South	14			10.91		77.93	0.20	450	90	\$135,000	\$83,930	\$218,930	1.000	\$218,930	
48	OTH	Res	Central Business Subwatershed	Hamilton Harbour	Not in growth area	2400					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
49	OTH	Res	Chedoke Creek	Hamilton Harbour	Not in growth area	2706					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
50	OTH	Res	Green Hill subwatershed	Hamilton Harbour	Not in growth area	1225	1102.5				90.00	0.20	0	0	\$0	\$0	\$0	0.000	\$0	
51	OTH	Res	Logies Creek	Coote's Paradise	Not in growth area	1217					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
52	OTH	Res	Lower Spencer Creek	Coote's Paradise	Not in growth area	277					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
53	OTH	Res	Mid Spencer Creek	Coote's Paradise	Not in growth area	5513					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
54	OTH	Res	Spring Creek	Coote's Paradise	Not in growth area	1305					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
55	OTH	Res	Sydenham Creek	Coote's Paradise	Not in growth area	442					0.00	0.00		0	\$0	\$0	\$0	0.000	\$0	
<b>Grand Total</b>						<b>27,643.0</b>	<b>4,270.5</b>	<b>1,364.4</b>	<b>1,379.2</b>	<b>863.9</b>	<b>28.50</b>		<b>58,638</b>	<b>9446</b>	<b>\$16,191,050</b>	<b>\$9,613,787</b>	<b>\$25,804,837</b>	<b>52.18</b>	<b>\$13,464,902</b>	

<sup>1</sup>To point immediately d/s of future development (start of off-site erosion assessment)

<sup>2</sup>0.05 - Where Development Fraction is 0 - 25%

0.10 - Where Development Fraction is 26 - 49%

0.15 - Where Development Fraction is 50 - 74%

0.20 - Where Development Fraction is 75 - 100%

<sup>3</sup>Location where d/s of this point no erosion is deemed to occur from subject development; total drainage area to this point estimated as a maximum of 2X the study watershed area (Column A). Note that the end point may also be set by Hamilton Harbour or La

<sup>4</sup>\$2500/m for Watershed Area > 500 ha

\$1500/m for Watershed Area < 500 ha

Coote's Paradise (Borer's Creek, Spencer Creek, Sulphur Creek, Ancaster Creek, Chedoke Creek, Others)

Hamilton Harbour (Red Hill Creek, Central Business Park)



APPENDIX G-1: CATEGORY C - STORMWATER MANAGEMENT (QUALITY AND OR QUANTITY) FACILITIES RESIDENTIAL

Category	Primary Dev. Area	Build Out (yr)	Secondary	# of SWM	Project Title	Year	Drainage Area (ha)	Purpose	SWM/ Drainage Work											Growth Related %	Net Growth Total Associated Cost (\$)	Existing Benefits	Direct Developer Contribution (\$)	Non-Rex Area Fraction Cost (\$)	Net Total Associated Cost (\$)
									Type of Work	Location of Work	Type	Description	Total Volume (m3)	Estimated Footprint % (ha)	Estimated Footprint % (ha)	Study/Draft Plan Footprint (ha)	Footprint (ha)	Land Cost	Estimated Capital Cost (\$)						
ANC	11+	C	7		Garner Neighbourhood Master Drainage Plan - Ancaster	July 1996 Rev. Nov 2003	10.4	MCP addressing drainage related issues for existing and future development	Proposed Quality Facility #1: Extended detention wetland	Between proposed Highway 8 (new interchange corridor) and the existing development	Quality	Storage Capacity =	910	0.42		0.42	775,886	72,800	848,686	100	848,686	-	-	-	848,686
ANC	0-5	C	14		Measowlands Phase IV		6		Quality / Quantity	Springbrook at Garner	Quality / Quantity	Storage Capacity =	2,110	0.36	0.50	0.60	1,119,066	168,797	1,287,863	100	1,287,863	-	-	-	1,287,863
ANC	11+	C	22		Woodland Manor Preliminary SWM Report	Jul-08	15.3	SWM Plan for proposed urban development	SWMF	Upper Springs Road and Mansfield Drive	Quality / Quantity	Storage Volume =	13,289	0.92		0.92	1,712,172	791,576	2,503,748	100	2,503,748	-	-	-	2,503,748
ANC	11+	C	24		Miller's pond expansion		5		SWMF	Shaver Road and Garner Road	Quality		3,600	0.20		0.20	373,022	288,000	661,022	100	661,022	-	-	-	661,022
ANC	11+	C	25		Golf Stream Manor		36						25,920	1.44		1.44	2,685,760	1,296,800	3,982,560	100	3,982,560	-	-	-	3,982,560
ANC	11+	R	3		N/A	N/A	31.34	Flood Control	Future Retrofit	Galley Cr. & Speers Rd	Quality				0.00	-	443,100	443,100	30	132,930	310,170	-	-	-	132,930
ANC	11+	R	22		N/A	N/A	2.19	Flood Control	Future Retrofit	Harrington Place and Lower's Lane	Quality				0.00	-	422,000	422,000	50	211,000	211,000	-	-	-	211,000
ANC	11+	R	70		Drainage Report - The Measowlands	N/A	296.0		Future Retrofit	Hey 403 and Golf Links Rd	Quality				0.00	-	4,135,600	4,135,600	40	1,654,240	2,481,360	-	-	-	1,654,240
ANC	11+	R	71		Drainage Report - The Measowlands	N/A	42.51		Future Retrofit	Golf Links Rd and Measowlands Blvd	Quality				0.00	-	601,350	601,350	40	240,540	360,810	-	-	-	240,540
ANC	11+	R	72		Drainage Report - The Measowlands	N/A	18.03		Future Retrofit	Golf Links Rd and Measowlands Blvd	Quality				0.00	-	422,000	422,000	40	168,800	253,200	-	-	-	168,800
BMH	11+	C	24		Celestis	2013	15		SWMF	Birbrook Rd west of Woodlawn	Quality / Quantity	Storage Capacity =	9,400	0.90	0.90	1,451,762	635,996	2,087,758	100	2,087,758	-	-	-	2,087,758	
BMH	0-5	C	10		Mountainside Functional Services Report	Oct. 2007	100.66	SWM Plan for proposed urban development	SWMF	South west of new Hey - 6	Quality / Quantity	Storage Volume =	34,698	6.04	5.15	5.15	8,307,304	1,647,904	9,955,208	100	9,955,208	-	-	-	9,955,208
BMH	11+	C	21		Master Drainage Plan Update Report - Birbrook Settlement Area	Oct. 2006	31	additional facility adjacent to the watercourse	SWMF	Upper Springs Road	Quality / Quantity	Storage Capacity =	19,376	1.86		1.86	3,000,308	1,035,058	4,035,366	100	4,035,366	-	-	-	4,035,366
BMH	11+	C	20		Birbrook Settlement Area	2013	22.72	Machinery facility	SWMF	Area draining to the south west near Fischer Road	Quality / Quantity	Storage Capacity =	19,201	1.36	1.80	1.80	2,903,524	1,028,029	3,931,552	100	3,931,552	-	-	-	3,931,552
HAM	11+	C	12		Harbour Creek SWIS - North Glenbrook Industrial Business Park, MGP	Nov. 2008	10		SWMF	Upper Oage/Turn in tandem with HWMP	Quality / Quantity	Storage volume =	8,817	0.40	0.40	645,228	612,664	1,257,892	100	1,257,892	-	-	-	1,257,892	
HAM	0-5	C	24		Measowlands and Shandon Neighbourhoods Master Servicing Plan	2011	15.9	SWM Plan for proposed urban development	SWMF	West Strand Stonechurch Road	Quality / Quantity	Storage Capacity =	12,650	0.95	1.25	1.25	2,016,336	1,006,000	3,022,336	100	3,022,336	-	-	-	3,022,336
HAM	11+	C	28		305 Stone Church Road West	2011	33.29	SWM Plan for proposed urban development	SWMF	NE limit of development	Quality / Quantity	Storage volume =	20,382	2.00	2.00	3,221,944	1,475,266	4,697,210	100	4,697,210	-	-	-	4,697,210	
HAM	11+	C	29		Miles	2011	42	SWM Plan for proposed urban development	SWMF	NE limit of development	Quality / Quantity	Storage volume =	30,240	2.52	2.52	4,064,933	1,969,600	6,034,533	100	6,034,533	-	-	-	6,034,533	
HAM	11+	C	30		St Elizabeth expansion	2013	50	SWM facility expansion	SWMF	expand for new development	Quality / Quantity	Storage volume =	38,000			0.00	-	1,780,000	1,780,000	100	1,780,000	-	-	-	1,780,000
HAM	0-5	C	31		Upper Wellington and Stonechurch		14		SWMF	SW corner of Upper Wellington and Stonechurch Rd	Quality / Quantity	Extended Detention Pond	11,263	0.84	1.40	1.40	2,258,296	901,059	3,159,356	100	3,159,356	-	-	-	3,159,356
HAM	11+	R	55		Village of Glencaster	Jul. 1990	77.63	Flood Control	Future Retrofit	Twelvey Rd and Oak St	Quality		-	3.11	3.11	5,008,901	1,086,650	6,095,551	80	4,876,441	1,219,110	-	-	-	4,876,441
SCL	0-5	C	2		SCUBE Subwatershed Study (Phase 3)	May-13	26.4	Stormwater management strategy	SWMF	WCS south of Barton West	SCUBE Quality / Quantity	wet pond #3	13,216	1.58	2.64	2.64	4,258,502	788,640	5,047,142	100	5,047,142	-	-	-	5,047,142
SCL	0-5	C	3		SCUBE Subwatershed Study (Phase 3 - Block 1)	Sep-16	16.4	Stormwater management strategy	SWMF	WCS-1 south of Barton West	SCUBE Quality / Quantity	wet pond for 6.0	10,331	0.98	1.64	1.64	2,645,433	673,240	3,318,673	100	3,318,673	-	-	-	3,318,673
SCL	0-5	C	31		SCUBE Subwatershed Study (Phase 3 - Block 2)	Sep-16	27.6	Stormwater management strategy	SWMF	WCS-1 south of Barton West	SCUBE Quality / Quantity	wet pond for 6.1	18,115	1.66	2.76	2.76	4,452,070	984,600	5,436,670	100	5,436,670	-	-	-	5,436,670
SCL	0-5	C	12		SCUBE Subwatershed Study (Phase 3)	May-13	54	Stormwater management strategy	SWMF	SCUBE Central	SCUBE Quality / Quantity	wet pond #9-2	34,060	3.24	5.40	5.40	8,710,572	1,622,400	10,332,972	100	10,332,972	-	-	-	10,332,972
SCL	0-5	C	13		SCUBE Subwatershed Study (Phase 3)	May-13	23.1	Stormwater management strategy	SWMF	SCUBE Central	SCUBE Quality / Quantity	wet pond #9-3	14,592	1.39	2.31	2.31	3,726,189	843,680	4,569,869	100	4,569,869	-	-	-	4,569,869

ANC: Ancaster  
 BMH: Birbrook / Mount Hope  
 HAM: Hamilton Mountain  
 SCL: Stoney Creek - Lower  
 SCM: Stoney Creek - Mountain  
 WAT: Waterben



APPENDIX G-1: CATEGORY C - STORMWATER MANAGEMENT (QUALITY AND OR QUANTITY) FACILITIES RESIDENTIAL

Category			Project Title	Year	Drainage Area (ha)	Purpose	SWMF Drainage Work											Growth Related %	Net Growth/Total Associated Cost (\$)	Existing Benefits	Direct Developer Contribution (\$)	Non-Res Area Fraction Cost (\$)	Net Total Associated Cost (\$)		
Primary Dev. Areas	Build Out (yr)	Secondary					Type of Work	Location of Work	Type	Description	Total Volume (m3)	Estimated Footprint 4% (ha)	Estimated Footprint 6% (ha)	Study/Drift Plan Footprint (ha)	Footprint (ha)	Land Cost	Estimated Capital Cost (\$)							Estimated Total Cost Including Land	
SCL	0-6	C	29	SCURE Subwatershed Study (Phase 3)	May-13	38.6	Stormwater management strategy	SWMF	WCS south of Barton West	Quantity / Quality	wet pond #1	19,417		2.39	3.98	3.98	6,420,014	1,036,680	7,456,694	100	7,456,694	-	-	-	7,456,694
SCL	0-6	C	30	SCURE Subwatershed Study (Phase 3)	May-13	24.5	Stormwater management strategy	SWMF	WCS.2 south of Barton West	Quantity / Quality	wet pond #2	12,773		1.47	2.45	2.45	3,952,019	770,920	4,722,939	100	4,722,939	-	-	-	4,722,939
SCL	11+	R	16	Lake Vista			Stormwater quality and associated resource management	Storm outfall retrofit	Lake Vista	Quality	OSS						50,000	50,000	100	50,000	-	-	-	50,000	
SCL	11+	R	18	Management Strategy Stony Creek Master Plan	2004	27.2	Stormwater quality and associated resource management	Storm outfall retrofit	BFC Little League Park, Queenston Rd	Quality	Wetland	2,413					193,040	193,040	100	193,040	-	-	-	193,040	
SCL	11+	R	19	Management Strategy Stony Creek Master Plan	2004	33	Stormwater quality and associated resource management	Storm outfall retrofit	BFC Lake Ave. Park, Huckleberry Dr	Quality	Wetland	2,562					206,560	206,560	100	206,560	-	-	-	206,560	
SCL	11+	R	20	Management Strategy Stony Creek Master Plan	2004	77	Stormwater quality and associated resource management	Storm outfall retrofit	North of Barton St.	Quality	Wetland	6,724					528,960	528,960	100	528,960	-	-	-	528,960	
SCL	11+	R	21	Management Strategy Stony Creek Master Plan	2004	20.5	Stormwater quality and associated resource management	Storm outfall retrofit	Lake Avenue, Warrington St.	Quality	Wetland	1,923					153,840	153,840	100	153,840	-	-	-	153,840	
SCM	0-6	C	10	Burnet Park - ROP# 9		83.9	MOP addressing drainage related issues for future development	Proposed wetland/wetpond #3	West side of Shearbye Road	Quantity / Quality		52,577					3,320,000	3,320,000	100	3,320,000	-	-	-	3,320,000	
SCM	0-6	C	18	Future Planned Residential Development		42	eastern portion	SWMF		Quality		29,890					3,630,000	3,630,000	100	3,630,000	-	-	-	3,630,000	
SCM	11+	C	21	Davis Cr. SWS - Nash Nhd		21		SWMF	North limit of First Road W. at east side CH lands	Quality	Extended Detention Pond	15,395		1.26	1.26	2,032,467	875,794	2,908,261	100	2,908,261	-	-	-	2,908,261	
SCM	0-6	C	22	Davis Cr. SWS - Nash Nhd		15		SWMF	North limit of First Road W. at east side	Quality	Extended Detention Pond	11,425		0.90	0.90	1,451,762	716,996	2,168,758	100	2,168,758	-	-	-	2,168,758	
SCM	11+	C	2	Davis Cr. SWS - Nash Nhd		22.85		SWMF	Northwest portion, east of Montgomery Creek Nash	Quality	Extended Detention Pond	22,394		1.66	1.66	2,677,694	1,435,757	4,113,451	100	4,113,451	-	-	-	4,113,451	
SCM	11+	C	6	Montgomery Creek Nash		22.49		SWMF	SW corner Mud St. and Upper Glenwood Drive	Quality		17,436	0.90	1.35	2,177,643	957,429	3,135,072	100	3,135,072	-	-	-	3,135,072		
SCM	0-6	C	17	Community Functional SWM	Nov. 2008	30	Functional Service Plan for proposed urban development	SWMF	SW corner Mud St. and Upper Glenwood Drive	Quality / Quantity	Storage volume =	20,300		1.80	1.87	1.87	3,016,439	1,071,992	4,088,431	100	4,088,431	-	-	-	4,088,431
SCM	11+	R	65	N/A		15.2		Future Records	Hwy 20 and Highland Rd	Quality						422,000	422,000	30	126,600	295,400	-	-	-	126,600	
SCM	11+	R	67	Deerfield Estate Phase 1	Apr. 1991	19.8		Future Records	Rymal Rd E and Whiteaker Rd	Quality						422,000	422,000	50	211,000	211,000	-	-	-	211,000	
SCM	11+	R	69	Heritage Green Valley Park Stage II	Sept. 1990	83.9		Future Records	Winter Drive and Paramount Drive	Quality						1,160,500	1,160,500	50	580,250	580,250	-	-	-	580,250	
WAT	0-6	C	1	Mkiew Heights/Walton Drive Bay Phase 2	Jul-13	12.43	To guide future development and management of the South Walston lands	SWMF	Griststone Creek - East Tributary (S. of approx 16)	Quantity / Quality	Storage Capacity =	13,509					3,400,000	3,400,000	100	3,400,000	-	-	-	3,400,000	
WAT	0-6	C	3	Mkiew Heights/Walton Drive Bay Phase 2	Jul-13	9.89	To guide future development and management of the South Walston lands	SWMF	Griststone Creek - East Tributary (S. of approx 16)	Quantity / Quality	Storage Capacity =	10,037					4,000,000	4,000,000	100	4,000,000	-	-	-	4,000,000	
WAT	0-6	C	4	Mkiew Heights	Jul-13	41.08	To guide future development and management of the South Walston lands	SWMF	Griststone Creek - South west Tributary 2	Quantity / Quality	Storage Capacity =	53,288	2.46	2.98	2.60	4,849,288	2,991,510	7,840,798	100	7,840,798	-	-	-	7,840,798	
WAT	11+	C	5	Mkiew Heights	Jul-13	12.71	To guide future development and management of the South Walston lands	SWMF	East side of Walston Bay	Quantity / Quality	Storage Capacity =	28,055	0.76	1.56	1.56	2,909,573	1,582,188	4,491,761	100	4,491,761	-	-	-	4,491,761	
WAT	11+	C	6	Mkiew Heights	Jul-13	5.66	To guide future development and management of the South Walston lands	SWMF	Sabat Property	Quantity / Quality	Storage Capacity =	16,754	0.34	0.34	633,392	930,160	1,563,551	100	1,563,551	-	-	-	1,563,551		
WAT	0-6	C	19	Walston North Master Drainage Plan	Feb. 2007	9.7	Assess proposed expansion for the urban settlement area of Walston	SWMF	Along Bower's Creek, NW of Centre Road and Parks Road intersection	Quality/Erosion	Storage Capacity =	5,918					756,744	473,448	1,230,192	100	1,230,192	-	-	-	1,230,192
U	11+	C	LU1	Undertified			provisional item for unidentified SWM works			Quality / Quantity							5,000,000	5,000,000	100	5,000,000	-	-	-	5,000,000	
U	11+	C	LU2	Undertified			to include provision for LID infrastructure cost recovery			Quality / Quantity							1,500,000	1,500,000	100	1,500,000	-	-	-	1,500,000	
U	11+	C	US3	Frontage Costs			estimate of road frontage costs for 30 residential SWM facilities (Retrofits and Undertified facilities excluded)			Quality / Quantity							6,840,000	6,840,000	100	6,840,000	-	-	-	6,840,000	
U	11+	C	UL4	Land Forestry Contingency			estimate that 10 facilities will exceed the estimated land buffer by 20%			Quality / Quantity							3,500,000	3,500,000	100	3,500,000	-	-	-	3,500,000	
U	11+	C	UL5	Facility Undertified Volume Contingency			estimate that 110 facilities will exceed the estimated volume by 50%			Quality / Quantity							3,150,000	3,150,000	100	3,150,000	-	-	-	3,150,000	
U	11+	C	UL6	Facility Undertified Volume Contingency			estimate that 170 facilities will encounter unanticipated 3000 m3 rock			Quality / Quantity							2,736,000	2,736,000	100	2,736,000	-	-	-	2,736,000	
U	11+	C	UL7	Undertified - Water Combined Seweraged			under study - estimate 3 projects will result in SWM facilities @ \$2M each			Quality / Quantity							6,000,000	6,000,000	100	6,000,000	-	-	-	6,000,000	
<b>Total Residential</b>												<b>682,978</b>					<b>97,714,240</b>	<b>67,938,584</b>	<b>180,002,824</b>	<b>96.71</b>	<b>174,089,524</b>	<b>5,922,300</b>	<b>0</b>	<b>1,022,108</b>	<b>173,058,417</b>







Storm Sewer Over-Sizing 1500 mm	400	695	278000	366960	\$	183,480.00	\$	183,480.00
Storm Sewer Over-Sizing 1650 mm	1000	1110	1110000	1465200	\$	732,600.00	\$	732,600.00
Storm Sewer Over-Sizing 1800 mm	300	1630	489000	645480	\$	322,740.00	\$	322,740.00
				2477640				

#### Jerome

Storm sewer servicing into storm water management pond H-31

Description	Length in (m) or Quantity	Rate	City Contribution	City Contribution Incl Overhead				
Storm Sewer Over-Sizing 1500 mm	200	695	139000	183480	\$	91,740.00	\$	91,740.00

#### Mewburn

1500 Diam. To Pond HAM#24

Description	Length in (m) or Quantity	Rate	City Contribution	City Contribution Incl Overhead				
Storm Sewer Over-Sizing 1500 mm	350	695	243250	321090	\$	160,545.00	\$	160,545.00

#### Nash Neighbourhood

North/South, East/West Street abutting Neighbourhood Park

Description	Length in (m) or Quantity	Rate	City Contribution	City Contribution Incl Overhead				
Storm Sewer Over-Sizing 1650 mm	150	1110	166500	219780	\$	109,890.00	\$	109,890.00
Storm Sewer Over-Sizing 1800 mm	200	1630	326000	430320	\$	215,160.00	\$	215,160.00

**Sheldon**

North/South mid-block collector road opposite Matthew Street to Stone Church Road

Description	Length in (m) or Quantity	Rate	City Contribution	City Contribution Incl Overhead			
Storm Sewer Over-Sizing 1350 mm	300	313	93900	123948	\$	61,974.00	\$ 61,974.00
Storm Sewer Over-Sizing 1650 mm	350	1110	388500	512820	\$	256,410.00	\$ 256,410.00
				636768			
<b>Total by Period</b>						<b>\$2,784,639.00</b>	<b>\$2,784,639.00</b>
<b>Secondary Plan Anticipated Oversizing Sub-total</b>							<b>\$5,569,278.00</b>

**APPENDIX G-1: CATEGORY D2 -STORM SEWERS - NEIGHBOURHOD STORM OUTLETS (AS PER APPROVED STUDIES)**

Description		City Capital Cost Estimate	City Contribution				
Nebo Rd: Twenty to 400 m s of Rymal (NON-RES)	1	180000	180000	\$	180,000.00		
Parkside Dr storm sewer project (NON-RES)	1	500000	500000	\$	500,000.00		
Roxborough Nhd Storm Outlet (RES)	1	950000	950000	\$	950,000.00		
Airport Road Marion to Mountaingate (RES/NON-RES)	1	1368000	1368000	\$	1,368,000.00		
Swayze Nhd Storm Outlet (RES)	1	2600000	2600000	\$	2,600,000.00		
3 Unidentified Projects in Combined Watershed (RES)	3	1000000	3000000	\$	2,000,000.00	\$	1,000,000.00
<b>Total by Period</b>					<b>\$7,598,000.00</b>		<b>\$1,000,000.00</b>
<b>Neighbourhood Storm Outlet Sub-total</b>							<b>\$8,598,000.00</b>
<b>STORM SEWERS - Oversizing and Outlets - Total</b>							<b>\$18,282,709.24</b>





APPENDIX G-1 - CATEGORY E - CULVERTS AND BRIDGES NOT PREVIOUSLY IDENTIFIED IN CATEGORY A

Ref: Hamilton Development Charges -Transportation

24 new

Item Number	Road Project Description	From	To	Improvem	Length km	Benefit to Growth % (Roads)		Number of Culverts/Bridges > 1m <sup>2</sup> end area	Replacement /Widening/ New	Identified in Category "A"	Small @ \$84,300 1-4m <sup>2</sup>	Medium @ \$168,600 4-8m <sup>2</sup>	Large @ \$337,200 >8m <sup>2</sup>	Cost (2019\$)	Benefit to Growth % (SWM)	Cost
<b>AEGD Projects</b>																
1	Airport Road	Upper James Street	Glancaster Road	2r-4u	2.84	60		3	Widening		3			\$252,900	60	\$151,740
2	Airport Road	Butter Road	Glancaster Road	2r-4u	0.86	85		0	Widening		0			\$0	85	\$0
3	Airport Service Road	Glancaster	Airport Road	4u	1.93	100		0	New		0			\$0	100	\$0
4	Book Road	Fiddler's Green Road	Highway 6	2r-4u	0.99	85		1	Widening		1			\$84,300	85	\$71,655
5	Book Road	Highway 6	Southcote Road	2r-4u	1.11	85		1	Widening		1			\$84,300	85	\$71,655
6	Book Road	Highway 6	Southcote Road	4u-6u	1.11	85		0	Widening		0			\$0	85	\$0
7	Book Road E	Collector 2W	Glancaster Road	2r-2u	0.59	85		0	Widening		0			\$0	85	\$0
8	Butter Road	Fiddler's Green Road	Glancaster Road	2r-4u	3.39	85		0	Widening		0			\$0	85	\$0
9	Carlisle Road East	Fiddler's Green Road	Glancaster Road	2r-4u	1.05	85		0	Widening		0			\$0	85	\$0
10	Collector Road 10N	Garner Road	Smith Road	2u	0.83	100		2	New (Cat A)	2				\$0	100	\$0
11	Collector Road 10N	Smith Road	Collector Road 2W	2u	0.65	100		1	New (Cat A)	1				\$0	100	\$0
12	Collector Road 1E	Collector 6N	Dickenson Road	2u	0.76	100		5	New (Cat A)	5				\$0	100	\$0
13	Collector Road 1N	Southcote Road	Collector Road 2E	2u	2.06	100		5	New (Cat A)	5				\$0	100	\$0
14	Collector Road 2E	Collector Road 1N	Airport Boundary	2u	0.47	100		0	New (Cat A)	0				\$0	100	\$0
15	Collector Road 2W	Garner Road	Collector Road 10N	2u	0.27	100		1	New (Cat A)	1				\$0	100	\$0
16	Collector Road 2W	Collector Road 10N	Dickenson Road extension	2u	1.35	100		2	New (Cat A)	2				\$0	100	\$0
17	Collector Road 6E	Collector 6N	Dickenson Road	4u	0.71	100		2	New (Cat A)	2				\$0	100	\$0
18	Collector Road 6N	Glancaster Road	Collector Road 6E	4u	1.93	100		3	New (Cat A)	3				\$0	100	\$0
19	Collector Road 6N	Collector Road 6E	Collector Road 7E	4u	2.56	100		1	New (Cat A)	1				\$0	100	\$0
20	Collector Road 7E	Dickenson Road	Collector 6N	2u	0.49	100		2	New (Cat A)	2				\$0	100	\$0
21	Collector Road 7E	Collector 6N	Upper James Street	4u	0.58	100		1	New (Cat A)	1				\$0	100	\$0
22	Collector Road 7N	Book Road	Southcote Road	2u	0.91	100		1	New (Cat A)	1				\$0	100	\$0
23	Collector Road 7N	Southcote Road	Collector Road 2W	2u	0.89	100		1	New (Cat A)	1				\$0	100	\$0
24	Collector Road 12S	Collector 4E	Collector 5E	2u	0.35	100		1	New (Cat A)	1				\$0	100	\$0
25	Collector Road 12S	Collector 3E	Collector 4E	2u	0.35	100		2	New (Cat A)	2				\$0	100	\$0
26	Collector Road 1S	Fiddler's Green Road	Collector Road 9W	2u	0.41	100		1	New (Cat A)	1				\$0	100	\$0
27	Collector Road 2N	Collector Road 7N	Smith Road	2u	0.64	100		0	New (Cat A)	0				\$0	100	\$0
28	Collector Road 2S	Fiddler's Green Road	Collector Road 9W	2u	0.41	100		0	New (Cat A)	0				\$0	100	\$0
29	Collector Road 3E	Collector 12S	White Church Road	2u	0.2	100		0	New (Cat A)	0				\$0	100	\$0
30	Collector Road 3S	Collector 6W	Southcote Road	2u	0.52	100		1	New (Cat A)	1				\$0	100	\$0
31	Collector Road 4E	Collector 12S	White Church Road	2u	0.18	100		0	New (Cat A)	0				\$0	100	\$0
32	Collector Road 5E	Collector 12S	White Church Road	2u	0.18	100		1	New (Cat A)	1				\$0	100	\$0
33	Collector Road 6N	Fiddler's Green Road	Collector Road 8W	2u	0.84	100		0	New (Cat A)	0				\$0	100	\$0
34	Collector Road 6S	Glancaster Road (north)	Airport Road	2u	0.92	100		0	New (Cat A)	0				\$0	100	\$0
35	Collector Road 6S	Airport Road	Glancaster Road (south)	2u	0.4	100		1	New (Cat A)	1				\$0	100	\$0
36	Collector Road 6W	Collector 3S	Butter Road	2u	0.52	100		0	New (Cat A)	0				\$0	100	\$0



## APPENDIX G-1 - CATEGORY E - CULVERTS AND BRIDGES NOT PREVIOUSLY IDENTIFIED IN CATEGORY A

Ref: Hamilton Development Charges -Transportation

24 new

Item Number	Road Project Description	From	To	Improvement	Length km	Benefit to Growth % (Roads)	Number of Culverts/Bridges > 1m <sup>2</sup> end area	Replacement /Widening/ New	Identified in Category "A"	Small @ \$84,300 1-4m <sup>2</sup>	Medium @ \$168,600 4-8m <sup>2</sup>	Large @ \$337,200 >8m <sup>2</sup>	Cost (2019\$)	Benefit to Growth % (SWM)	Cost
37	Collector Road 7S	Fiddler's Green Road	Collector 9W	2u	0.4	100	1	New (Cat A)	1				\$0	100	\$0
38	Collector Road 8S	Fiddler's Green Road	Collector 9W	2u	0.41	100	1	New (Cat A)	1				\$0	100	\$0
39	Collector Road 8W	Garner Road	Collector 5N	2u	1.36	100	0	New (Cat A)	0				\$0	100	\$0
40	Collector Road 9W	Garner Road	Carluka Road	2u	5.9	100	4	New (Cat A)	4				\$0	100	\$0
41	Dickenson Road	Glancaster Road	Upper James Street	2r-4u	2.9	85	8	Widening		7		1	\$927,300	85	\$788,205
42	Dickenson Road extension	Southcote Road	Smith Road	4u	0.42	100	1	New		1			\$84,300	100	\$84,300
43	Dickenson Road	Southcote Road	Smith Road	2r-4u	0.42	100	0	Widening					\$0	100	\$0
44	Dickenson Road extension	Smith Road	Glancaster Road	4u	0.8	100	0	New					\$0	100	\$0
45	Dickenson Road East	Upper James Street	w/o Nebo Road	2r-2u	4.6	60	0	Widening		0			\$0	60	\$0
46	Garner Road	w/o Southcote	e/o Glancaster	2r-5u	2.98	85	2	Widening		2			\$168,600	85	\$143,310
47	Garner Road	e/o Fiddler's Green Road	w/o Southcote Road	2r-4u	2.02	85	1	Widening		1			\$84,300	85	\$71,655
48	Garth Street extension	Twenty Road	Dickenson Road	5u	1.5	100	2	New		2			\$168,600	100	\$168,600
49	Garth Street extension	Dickenson Road	Collector 2E	5u	0.62	100	1	New		1			\$84,300	100	\$84,300
50	Glancaster Road	Collector 1N	Airport Boundary	2r-2u	0.49	85	0	Widening		0			\$0	85	\$0
51	Glancaster Road	Dickenson Road extension	Collector 1N	2r-4u	0.37	85	0	Widening		0			\$0	85	\$0
52	Glancaster Road	Garner Road	Dickenson Road	2r-4u	2.46	85	4	Widening		4			\$337,200	85	\$286,620
53	Smith Road	Dickenson Road extension	Collector 1N	2r-4u	0.65	85	0	Widening					\$0	85	\$0
54	Smith Road	Garner Road	Dickenson Road extension	2u	1.57	100	1	New		1			\$84,300	100	\$84,300
55	Smith Road	Collector 1N	Airport Boundary	2r-2u	0.35	100	0	Widening					\$0	100	\$0
56	Smith Road extension	Hydro corridor north crossing		2u	0.26	100	0	New					\$0	100	\$0
57	Southcote Road	Garner Road	Twenty Road extension	2r-4u	0.97	85	0	Widening					\$0	85	\$0
58	Southcote Road	Twenty Road extension	Book Road	2r-4u	0.97	85	0	Widening					\$0	85	\$0
59	Twenty Road	Glancaster Road	Aldercrest Avenue	2r-4u	3.08	85	9	Widening		9			\$758,700	85	\$644,895
60	Twenty Road extension	Southcote Road	Glancaster Road	4u	1.86	100	2	New		2			\$168,600	100	\$168,600
61	Fiddler's Green Road	Garner Road	Carluka Road	2r-4u	6.07	85	7	Widening		7			\$590,100	85	\$501,585
62	Glancaster Road	Butter Road	White Church Road	2r-4u	2.31	85	2	Widening		2			\$168,600	85	\$143,310
63	Southcote Road	Book Road	Collector 1N	2r-4u	0.65	85	0	Widening		0			\$0	85	\$0
64	Southcote Road	Airport Boundary	Butter Road	2u	0.81	100	0	Replacement		0			\$0	100	\$0
65	Upper James Street	Ardelea Avenue	Homestead Drive	4u-6u	4.69	85	6	Widening		5	1		\$590,100	85	\$501,585
66	White Church Road	Glancaster Road	Highway 6	2r-4u	2.31	85	1	Widening		1			\$84,300	85	\$71,655
67	Upper James Street	Malton	Highway 6	4r-5u NBR	7	85	0	Widening					\$0	85	\$0
<b>SMATS Projects</b>															
68	West 5th Street	Rymal Road	Stone Church Road	2r-3u	1	60	0	New					\$0	60	\$0
69	Garth Street	Rymal Road	Stone Church Road	2r-4u	1	85	0	Widening					\$0	85	\$0
70	Rymal Road	Glancaster Road	Garth Street	2r-5u	1.3	85	1	Widening				1	\$337,200	85	\$286,620
71	Rymal Road	Fletcher Road	Upper Centennial	2r-5u	2.49	85	1	Replacement				1	\$337,200	85	\$286,620
72	Rymal Road	Upper Wentworth	West of Dartnall	3r-3u	3.29	85	0	Widening					\$0	85	\$0



## APPENDIX G-1 - CATEGORY E - CULVERTS AND BRIDGES NOT PREVIOUSLY IDENTIFIED IN CATEGORY A

Ref: Hamilton Development Charges -Transportation

24 new

Item Number	Road Project Description	From	To	Improvem	Length km	Benefit to Growth % (Roads)	Number of Culverts/Bridges > 1m <sup>2</sup> end area	Replacement /Widening/ New	Identified in Category "A"	Small @\$84,300 1-4m <sup>2</sup>	Medium @\$168,600 4-8m <sup>2</sup>	Large @\$337,200 >8m <sup>2</sup>	Cost (2019\$)	Benefit to Growth % (SWM)	Cost
73	Rymal Road	Upper James Street	Upper Wellington Street	2r-5u	0.87	85	0	Widening					\$0	85	\$0
74	Rymal Road	Upper Wellington Street	Upper Wentworth Street	2r-5u	0.86	85	0	Widening					\$0	85	\$0
75	Upper Wellington Street	Rymal Road	Stone Church Road	2u-4u	1	60	0	Widening					\$0	60	\$0
<b>SCUBE Projects</b>															
76	Arvin Avenue	McNeilly	Lewis Road	2u	0.8	100	0	New					\$0	100	\$0
77	Arvin Avenue	Jones Road	existing east end	2u	0.5	100	0	New					\$0	100	\$0
78	Arvin Avenue	McNeilly	existing west end	2u	0.4	100	1	New (Cat A)	1				\$0	100	\$0
79	SCUBE Central (east-west collector)	McNeilly Road	eastern boundary collector	2u	1.47	100	0	New					\$0	100	\$0
80	SCUBE Central (north-south collector)	Highway 8	Arvin Road extension	2u	0.48	100	0	New					\$0	100	\$0
81	SCUBE Central (north-south collector)	Barton Street	Highway 8	2u	0.66	100	0	New					\$0	100	\$0
82	SCUBE West (Block 1) (east-west collector)	Fruitland Road	north-south collector	2u	1.36	100	1	New (Cat A)	1				\$0	100	\$0
83	SCUBE West (Block 1) (north-south collector)	Barton Street	Highway 8	2u	0.76	100	0	New					\$0	100	\$0
<b>Ancaster Industrial Park and TMP Projects</b>															
84	Ancaster New E/W Road (Trinity@Wilson Development)	Tradewind/ Cormorant	Trinity Road	2u	0.81	100	1	New (Cat A)	1				\$0	100	\$0
85	Garner Road / Wilson St/ Hwy 2	Fiddler's Green Road	Hwy 2	2r-4r	3.5	85	0	Widening					\$0	85	\$0
86	Golf Links Rd intersection improvements (Martindale, Cloverleaf)			Int	--	85	0	Widening					\$0	85	\$0
87	Golf Links Road	McNiven Road	Kitty Murray Lane	2r-3u	0.8	85	0	Widening					\$0	85	\$0
88	Jerseyville Road	Shaver Road	Wilson Street	2r-3u	3.10	60	0	Widening					\$0	60	\$0
89	Springbrook Avenue	Regan Drive	Garner Road	2r-2u	0.69	85	0	Widening					\$0	85	\$0
90	Trinity Road	1km S. of Wilson	Hwy 403	2r-4u	2.2	85	2	Widening			2		\$674,400	85	\$573,240
91	Shaver Road	Trustwood	Garner Road	2r-2u	1.00	85	0	Widening					\$0	85	\$0
92	Southcote Road	Calder Street	Garner Road	2r-3u	1.26	60	0	Widening					\$0	60	\$0
93	McNiven Road	Rousseaux Street	Golf Links Road	2r-3u	0.63	20	0	Widening					\$0	20	\$0
94	Mohawk Road	McNiven Road	Highway 403	2r-3u	1.3	60	0	Widening					\$0	60	\$0
95	Stone Church Road	Harrogate Drive	Stonehenge Drive	2r-4u	0.34	85	0	Widening					\$0	85	\$0
<b>RHBPS Projects</b>															
96	Dartnall Road Extension	Twenty Road	Dickenson Road	4u	1.65	100	2	New (Cat A)	2				\$0	100	\$0
97	Dickenson Road	w/o Nebo	w/o Glover	2r-2u	1.1	60	3	Widening		3			\$252,900	60	\$151,740
98	Nebo Road	Rymal Road	Twenty Road	2r-2u	1.3	85	1	Replacement		1			\$84,300	85	\$71,655
99	Nebo Road	800m South of Twenty Road	Dickenson Road	2r-2u	0.6	85		Widening					\$0	85	\$0
100	Regional Road 56	Rymal Road	ROPA 9 Boundary	2r-5u	1.2	85	3	Widening		3			\$252,900	85	\$214,965
101	Regional Road 56	Cemetery Road	South Limits of ROPA 9	various/ESR	0	85	0	Widening					\$0	85	\$0
102	Twenty Road extension	Glover Road	Upper Red Hill Valley Parkway	3u	0.6	100	2	New		2			\$168,600	100	\$168,600
103	Glover Road	Twenty Road	Rymal Road	2r-2u	2.6	85	0	Widening					\$0	85	\$0
104	Upper Red Hill Valley Parkway (previously Trinity Church Road)	Rymal Road	Dartnall Road extension	5u	2.5	100	1	New		1			\$84,300	100	\$84,300
<b>Waterdown Projects</b>															
105	Burke Street	Dundas Street	Mountain Brow	4u	0.85	95	0	New					\$0	95	\$0



APPENDIX G-1 - CATEGORY E - CULVERTS AND BRIDGES NOT PREVIOUSLY IDENTIFIED IN CATEGORY A

Ref: Hamilton Development Charges -Transportation

24 new

Item Number	Road Project Description	From	To	Improvement	Length km	Benefit to Growth % (Roads)	Number of Culverts/Bridges > 1m <sup>2</sup> end area	Replacement /Widening/ New	Identified in Category "A"	Small @ \$84,300 1-4m <sup>2</sup>	Medium @ \$168,600 4-8m <sup>2</sup>	Large @ \$337,200 >8m <sup>2</sup>	Cost (2019\$)	Benefit to Growth % (SWM)	Cost
106	Parkside Drive	Highway 6	Main Street	2r-4u	2.92	60	2	New Cat A	2				\$0	60	\$0
107	Parkside Drive	Main Street	Churchill (500 m east)	2r-4u	0.61.52	60	0	Widening					\$0	60	\$0
108	East-West Road Corridor (Waterdown By-Pass)	Kerns Road	Highway 6	4u	6.34	95	8	New Cat A	8				\$0	95	\$0
109	Waterdown Road (Burlington portion)	Mountain Brow Road	Craven Avenue	2r-4u	1.9	100	0	Widening					\$0	100	\$0
110	Mountain Brow Road	Waterdown Road	New north-south link	2r-4u	0.91	85	2	Widening			2		\$337,200	85	\$286,620
111	Dundas Street	New north-south link	Hamilton Boundary	4u-6u	0.87	85	0	New (Cat A)					\$0	85	\$0
112	Centre Road	Northlawn	Parkside Drive	2r-3u	0.4	60	0	New (Cat A)					\$0	60	\$0
<b>Fruitland Winona Projects</b>															
113	Barton Street	Fruitland Road	Fifty Road	2r-3u	5	60	5	Widening (Cat A)	5				\$0	60	\$0
114	Fifty Road	South Service Road	Barton Street	2r-4u	1	85	0	Widening					\$0	85	\$0
115	Fifty Road Escarpment Access	QEW	Highway 8	2r-2u	0.8	85	0	Widening					\$0	85	\$0
116	Fruitland Road By-pass	Barton Street	Highway 8	4u	1.1	85	1	New (Cat A)	1				\$0	85	\$0
117	Fruitland Road	Arvin Avenue	Barton Street	2u-4u	0.3	85	0	Widening					\$0	85	\$0
118	Highway 8 (Stoney Creek)	Dewitt Road	Fruitland Road	2r-5u	0.8	60	0	Widening					\$0	60	\$0
119	Highway 8 (Stoney Creek)	Fruitland Road	East City Limit	2r-4r_NBR	3.3	60	4	Widening		3	1		\$421,500	60	\$252,900
<b>Elfrida Boundary Expansion Projects</b>															
120	First Road East	Highway 20	Mud Street	2r-3u	2.1	85	1	Widening		1			\$84,300	85	\$71,655
121	Fletcher Road	500m South of Rymal	Golf Club Road	2r-3u	1.6	85	1	Widening		1			\$84,300	85	\$71,655
122	Golf Club Road	Trinity Church Road	Hendershot Road	2r-2u	7.00	85	1	Widening		1			\$84,300	85	\$71,655
123	Hendershot Road	Highway 20	Golf Club Road	2r-3u	2.10	85	1	Widening		1			\$84,300	85	\$71,655
124	Highland Road	Upper Centennial Parkway	Second Road East	2r-3u	2.00	85	0	Widening					\$0	85	\$0
125	Mud Street	Upper Centennial Parkway	Second Road East	2r-2u	2.00	85	1	Widening		1			\$84,300	85	\$71,655
126	Second Road East	Highway 20	Mud Street	2r-3u	3.00	85	1	Widening			1		\$168,600	85	\$143,310
127	Trinity Church Road	Hydro corridor	Golf Club Road	2r-2u	2.00	85	0	Widening					\$0	85	\$0
128	Upper Centennial Parkway	Green Mountain Road	Highway 20	4r-5u	2.90	85	0	Widening					\$0	85	\$0
<b>Other Road Projects</b>															
129	Binbrook Road	Royal Winter Drive/Binhaven Road	Fletcher Road	2r-3u	0.7	85	0	Widening					\$0	85	\$0
130	Highway 8 (Dundas)	Bond Street	Dundas Limits	2r-3u	0.4	60	0	Widening					\$0	60	\$0
131	Highway 8 (Dundas)	Hillcrest	Park Ave	2r-3u	0.6	60	1	Widening		1			\$84,300	60	\$50,580
132	Jones Road	Barton Street	South Service Road	2r-2u	0.90	50	1	Widening		1			\$84,300	50	\$42,150
133	Lewis Road	Barton Street	South Service Road	2r-2u	0.80	50	1	New (Cat A)	1				\$0	50	\$0
134	Longwood Road	Aberdeen Avenue	Main Street	various/ES	0.65	50	0	Widening					\$0	50	\$0
135	Miles Road	Rymal Road	Hydro Corridor	2r-3u	2.00	85	1	Widening		1			\$84,300	85	\$71,655
136	Millen Road	Barton Street	South Service Road	2r-3u	1.00	60	0	Widening					\$0	60	\$0
137	Fletcher Road	Binbrook Road	Golf Club Road	2r-2u	4.20	60	3	Widening		3			\$252,900	60	\$151,740



APPENDIX G-1 - CATEGORY E - CULVERTS AND BRIDGES NOT PREVIOUSLY IDENTIFIED IN CATEGORY A

Ref: Hamilton Development Charges -Transportation

24 new

Item Number	Road Project Description	From	To	Improvement	Length km	Benefit to Growth % (Roads)	Number of Culverts/Bridges > 1m <sup>2</sup> end area	Replacement /Widening/ New	Identified in Category "A"	Small @ \$84,300 1-4m <sup>2</sup>	Medium @ \$168,600 4-8m <sup>2</sup>	Large @ \$337,200 >8m <sup>2</sup>	Cost (2019\$)	Benefit to Growth % (SWM)	Cost
138	South Service Road	Millen Road	Gray	2r-2u	1.70	85	0	Widening					\$0	85	\$0
139	Trinity Church Road	Binbrook Road	Golf Club Road	2r-2u	5.20	60	1	Widening				1	\$337,200	60	\$202,320
140	Nebo Road	800m South of Twenty Road	Dickenson Road	2r-2u	0.6	85	0	Widening					\$0	85	\$0
141	Twenty Road	Aldercress Avenue	600m west of Nebo Road	2r-2u	4.1	60	0	Widening					\$0	60	\$0
142	Upper Gage Street	Mohawk Road	Thorley	4u-5u	0.6	50	0	Widening					\$0	50	\$0
143	Upper Sherman Avenue	Stone Church Road	LINC	2r-3u	0.90	60	0	Widening					\$0	60	\$0
144	Upper Sherman Avenue	Stone Church Road	Rymal Road	2r-3u	1.00	60	0	Widening					\$0	60	\$0
145	Upper Wellington Street	Limeridge Street	Stone Church Road	2r-5u	1.20	60	0	Widening					\$0	60	\$0
146	West 5th Street	Limeridge Street	Stone Church Road	2r-3u	1.20	60	0	Widening					\$0	60	\$0
147	Shaver Road	Hwy 403	Wilson Road		1.50	100	1	Widening			1		\$168,600	100	\$168,600
148	Scenic Drive	Old City Limits	Lavender S Leg		1.40	100	1	Widening			1		\$168,600	100	\$168,600
149	North Service Road	Green Road	East City Limits		8.30	100	1	New (Cat A)	1				\$0	100	\$0
150	Victoria Avenue	Ferrie Street	Burlington Street	Two-way conversion Service Roads	0.46	85	0	Widening					\$0	85	\$0
151	Highway 5/6 municipal roads					100	1	New (Cat A)	1				\$0	100	\$0
															\$0
<b>Grand Total</b>															
<b>Growth %</b>															<b>82%</b>
<b>Total Growth</b>															<b>\$7,772,460</b>

\$4,467,900	Res	\$3,536,385
\$4,973,700	Non-Res	\$4,236,075



APPENDIX G-1 - GRIDS-RELATED STORMWATER MANAGEMENT (QUALITY AND OR QUANTITY) FACILITIES

Primary Dev. Areas	SWMF #	AEGD Stage #	Drainage Area (ha)	Volume (m3)	Estimated Footprint 4% (ha)	Land Cost 4%	Estimated Capital Cost (\$)	Estimated Cost (\$)	Growth Related %	Total Growth Associated Cost (\$)	Post Period Cost (\$)	Net Total Associated Cost 2014-2031 (\$)	Direct Developer Contribution (%)	Direct Developer Contribution (\$)	Net Total Associated Cost (\$)	
Expansion to Airport SPA	1	2	77	17,325	3.08	4,968,252	1,096,673	6,064,924	100	6,064,924	6,064,924	-	100	-	-	
	2	2	33	7,425	1.32	2,129,251	470,003	2,599,253	100	2,599,253	2,599,253	-	100	-	-	
	3	2	38.5	8,663	1.54	2,484,126	548,336	3,032,462	100	3,032,462	3,032,462	-	100	-	-	
	4	2	88	19,800	3.52	5,678,002	1,253,340	6,931,342	100	6,931,342	6,931,342	-	100	-	-	
	5	1	160	36,000	6.40	10,323,640	2,278,800	12,602,440	100	12,602,440	-	12,602,440	100	12,602,440	-	-
	6	1	63	14,175	2.52	4,064,933	897,278	4,962,211	100	4,962,211	-	4,962,211	100	4,962,211	-	-
	10	1	33	7,425	1.32	2,129,251	470,003	2,599,253	100	2,599,253	-	2,599,253	100	2,599,253	-	-
	11	1	28	6,300	1.12	1,806,637	398,790	2,205,427	100	2,205,427	-	2,205,427	100	2,205,427	-	-
	12	1	17.88	4,023	0.72	1,153,667	254,656	1,408,323	100	1,408,323	-	1,408,323	100	1,408,323	-	-
	13	1	108	24,300	4.32	6,968,457	1,538,190	8,506,647	100	8,506,647	-	8,506,647	100	8,506,647	-	-
	14	1	42.5	9,563	1.70	2,742,217	605,306	3,347,523	100	3,347,523	-	3,347,523	100	3,347,523	-	-
	15	1	25.5	5,738	1.02	1,645,330	363,184	2,008,514	100	2,008,514	-	2,008,514	100	2,008,514	-	-
	Potential New Business Park (In existing Airport Spa)	16	1	34	7,650	1.36	2,193,774	484,245	2,678,019	100	2,678,019	-	2,678,019	100	2,678,019	-
17		1	41	9,225	1.64	2,645,433	583,943	3,229,375	100	3,229,375	-	3,229,375	100	3,229,375	-	-
18		1	124.88	28,098	5.00	8,057,601	1,778,603	9,836,205	100	9,836,205	-	9,836,205	100	9,836,205	-	-
19		1	100	22,500	4.00	6,452,275	1,424,250	7,876,525	100	7,876,525	-	7,876,525	100	7,876,525	-	-
20		1	230.5	51,863	9.22	14,872,494	3,282,896	18,155,391	100	18,155,391	-	18,155,391	100	18,155,391	-	-
21		1	15	3,375	0.60	967,841	213,638	1,181,479	100	1,181,479	-	1,181,479	100	1,181,479	-	-
22		1	34	7,650	1.36	2,193,774	484,245	2,678,019	100	2,678,019	-	2,678,019	100	2,678,019	-	-
23		1	140.88	31,698	5.64	9,089,965	2,006,483	11,096,449	100	11,096,449	-	11,096,449	100	11,096,449	-	-
24		1	50.5	11,363	2.02	3,258,399	719,246	3,977,645	100	3,977,645	-	3,977,645	100	3,977,645	-	-
25		1	97	21,825	3.88	6,258,707	1,381,523	7,640,229	100	7,640,229	-	7,640,229	100	7,640,229	-	-
26		2	45	10,125	1.80	2,903,524	640,913	3,544,436	100	3,544,436	3,544,436	-	-	100	-	-
27		2	42.75	9,619	1.71	2,758,348	608,867	3,367,215	100	3,367,215	3,367,215	-	-	100	-	-
28		2	18	4,050	0.72	1,161,410	256,365	1,417,775	100	1,417,775	1,417,775	-	-	100	-	-
29		2	196.75	44,269	7.87	12,694,851	2,802,212	15,497,063	100	15,497,063	15,497,063	-	-	100	-	-
30		2	24.75	5,569	0.99	1,596,938	352,502	1,949,440	100	1,949,440	1,949,440	-	-	100	-	-
31		2	16.25	3,656	0.65	1,048,495	231,441	1,279,935	100	1,279,935	1,279,935	-	-	100	-	-
32		2	15	3,375	0.60	967,841	213,638	1,181,479	100	1,181,479	1,181,479	-	-	100	-	-
33		2	30.25	6,806	1.21	1,951,813	430,836	2,382,649	100	2,382,649	2,382,649	-	-	100	-	-
34		1	24.75	5,569	0.99	1,596,938	352,502	1,949,440	100	1,949,440	-	1,949,440	100	1,949,440	-	-
35		2	12.75	2,869	0.51	822,665	181,592	1,004,257	100	1,004,257	1,004,257	-	-	100	-	-
36		2	22.5	5,063	0.90	1,451,762	320,456	1,772,218	100	1,772,218	1,772,218	-	-	100	-	-
37		2	33.75	7,594	1.35	2,177,643	480,684	2,658,327	100	2,658,327	2,658,327	-	-	100	-	-
38		2	56.25	12,656	2.25	3,629,405	801,141	4,430,545	100	4,430,545	4,430,545	-	-	100	-	-
39		1	37.5	8,438	1.50	2,419,603	534,094	2,953,697	100	2,953,697	-	2,953,697	100	2,953,697	-	-
Potential Urban Boundary Expansion Area	7	1	20	4,500	0.80	1,290,455	284,850	1,575,305	100	1,575,305	-	1,575,305	100	1,575,305	-	-
	8	1	37.25	8,381	1.49	2,403,473	530,533	2,934,006	100	2,934,006	-	2,934,006	100	2,934,006	-	-
	9	1	58.13	13,079	2.33	3,750,708	827,917	4,578,624	100	4,578,624	-	4,578,624	100	4,578,624	-	-
	40	1	11.25	2,531	0.45	725,881	160,228	886,109	100	886,109	-	886,109	100	886,109	-	-
	41	Elfrida (Res)	126	28,350	5.04	8,129,867	1,794,555	9,924,422	100	9,924,422	-	9,924,422	0	-	-	9,924,422
	42	Elfrida (Res)	21.25	4,781	0.85	1,371,108	302,653	1,673,762	100	1,673,762	-	1,673,762	0	-	-	1,673,762
	43	Elfrida (Res)	60	13,500	2.40	3,871,365	854,550	4,725,915	100	4,725,915	-	4,725,915	0	-	-	4,725,915
	44	Elfrida (Res)	71.25	16,031	2.85	4,597,246	1,014,778	5,612,024	100	5,612,024	-	5,612,024	0	-	-	5,612,024
	45	Elfrida (Res)	22	4,950	0.88	1,419,501	313,335	1,732,836	100	1,732,836	-	1,732,836	0	-	-	1,732,836
	46	Elfrida (Res)	147	33,075	5.88	9,484,845	2,093,648	11,578,492	100	11,578,492	-	11,578,492	0	-	-	11,578,492
47	Elfrida (Res)	168.75	37,969	6.75	10,888,214	2,403,422	13,291,636	100	13,291,636	-	13,291,636	0	-	-	13,291,636	
48	Elfrida (Res)	140	31,500	5.60	9,033,185	1,993,950	11,027,135	100	11,027,135	-	11,027,135	0	-	-	11,027,135	



## APPENDIX G-1 - GRIDS-RELATED STORMWATER MANAGEMENT (QUALITY AND OR QUANTITY) FACILITIES

Primary Dev. Areas	SWMF #	AEGD Stage #	Drainage Area (ha)	Volume (m3)	Estimated Footprint 4% (ha)	Land Cost 4%	Estimated Capital Cost (\$)	Estimated Cost (\$)	Growth Related %	Total Growth Associated Cost (\$)	Post Period Cost (\$)	Net Total Associated Cost 2014-2031 (\$)	Direct Developer Contribution (%)	Direct Developer Contribution (\$)	Net Total Associated Cost (\$)
Potential Urban Boundary Expansion Area	49	Elfrida (Res)	66	14,850	2.64	4,258,502	940,005	5,198,507	100	5,198,507	-	5,198,507	0	-	5,198,507
	50	Elfrida (Res)	130.75	29,419	5.23	8,436,350	1,862,207	10,298,557	100	10,298,557	-	10,298,557	0	-	10,298,557
	51	Elfrida (Res)	38.5	8,663	1.54	2,484,126	548,336	3,032,462	100	3,032,462	-	3,032,462	0	-	3,032,462
	52	Elfrida (Res)	102.25	23,006	4.09	6,597,451	1,456,296	8,053,747	100	8,053,747	-	8,053,747	0	-	8,053,747
	53	Elfrida (Res)	25.16	5,661	1.01	1,623,392	358,341	1,981,734	100	1,981,734	-	1,981,734	0	-	1,981,734
	54	Elfrida (Res)	29.25	6,581	1.17	1,887,290	416,593	2,303,884	100	2,303,884	-	2,303,884	0	-	2,303,884
	55	Elfrida (Res)	48.75	10,969	1.95	3,145,484	694,322	3,839,806	100	3,839,806	-	3,839,806	0	-	3,839,806
	56	Elfrida (Res)	29.25	6,581	1.17	1,887,290	416,593	2,303,884	100	2,303,884	-	2,303,884	0	-	2,303,884
	57	Elfrida (Res)	26	5,850	1.04	1,677,592	370,305	2,047,897	100	2,047,897	-	2,047,897	0	-	2,047,897
<b>Total</b>								<b>278,606,874</b>	<b>100</b>	<b>278,606,874</b>	<b>59,113,322</b>	<b>219,493,552</b>		<b>120,866,854</b>	<b>98,626,698</b>
<b>Total Residential</b>								<b>98,626,698</b>	<b>100</b>	<b>98,626,698</b>	<b>-</b>	<b>98,626,698</b>		<b>-</b>	<b>98,626,698</b>
<b>Total Non-Residential</b>								<b>179,980,176</b>	<b>100</b>	<b>179,980,176</b>	<b>59,113,322</b>	<b>120,866,854</b>		<b>120,866,854</b>	<b>-</b>


**APPENDIX G-1 - GRIDS-RELATED OPEN WATERCOURSES: EROSION CONTROL AND CHANNEL SYSTEM IMPROVEMENTS**

Primary Dev. Areas	Location	Total Length of Downstream Watercourse to Assumed End-Point <sup>3</sup>	Fraction of Watercourse Assumed to Required Erosion Control <sup>2</sup>	Length of Erosion Control Works	Estimated Cost (\$)	Land Cost	Estimated Total Cost (\$)	Growth Related %	Net Total Associated Cost (\$)	Remarks
Expansion to Airport SPA	Ancaster	1,303	0.2	260.6	390,900	243,024	633,924	100	633,924	
	North of Airport	-	0.2	-	-	-	-	100	-	
Potential New Business Park (In Existing Airport Spa)	West of Airport	24,231	0.2	4,846.2	7,269,300	4,519,350	11,788,650	100	11,788,650	
Potential Urban Boundary Expansion Area	South of Twenty Road West, north of Airport	-	0.2	-	-	-	-	100	-	
	Northwest of Golf Club Road and Second Road East	15,337	0.2	3,067.4	4,601,100	2,473,964	7,075,064	100	7,075,064	Residential
<b>Grand Total</b>							<b>19,497,638</b>	<b>100</b>	<b>19,497,638</b>	
<b>Total Residential</b>							<b>7,075,064</b>	<b>100</b>	<b>7,075,064</b>	
<b>Total Non-Residential</b>							<b>12,422,574</b>	<b>100</b>	<b>12,422,574</b>	

<sup>2</sup>0.05 - Where Development Fraction is 0 - 25%

0.10 - Where Development Fraction is 26 - 49%

0.15 - Where Development Fraction is 50 - 74%

0.20 - Where Development Fraction is 75 - 100%

<sup>3</sup>Location where d/s of this point no erosion is deemed to occur from subject development; total drainage area to this point estimated as a maximum of 2X the study watershed area.

<sup>4</sup>\$2500/m for Watershed Area > 500 ha

\$1500/m for Watershed Area < 500 ha





# 21. Draft Calculation and Rate Comparison



## 21.1 Draft D.C. By-law Rates

Service	RESIDENTIAL					NON-RESIDENTIAL
	Single and Semi-Detached Dwelling	Apartments - 2 Bedrooms +	Apartments - Bachelor and 1 Bedroom	Other Multiples	Special Care/Special Dwelling Units	(per sq.ft. of Gross Floor Area)
<b>City Wide Services:</b>						
Services Related to a Highway	10,875	6,369	4,356	7,783	3,513	8.14
Public Works Facilities, Fleet & Equipment	791	463	317	566	256	0.40
Police Services	502	294	201	359	162	0.25
Fire Protection Services	458	268	183	328	148	0.23
Transit Services	1,930	1,130	773	1,381	623	0.98
Parkland Development	2,301	1,347	922	1,647	743	0.11
Indoor Recreation Services	4,303	2,520	1,724	3,080	1,390	0.20
Library Services	1,019	597	408	729	329	0.04
Administrative Studies	497	291	199	356	161	0.25
Paramedics	137	80	55	98	44	0.02
Long Term Care	124	73	50	89	40	0.01
Health Services	1	1	-	1	-	0.00
Social & Child Services	13	8	5	9	4	0.00
Social Housing	673	394	270	482	217	0.00
Airport facilities	376	220	151	269	121	0.19
Parking services	491	288	197	351	159	0.25
Provincial Offences Act	34	20	14	24	11	0.02
Waste Diversion	657	385	263	470	212	0.13
<b>Total City Wide Services</b>	<b>25,182</b>	<b>14,748</b>	<b>10,088</b>	<b>18,022</b>	<b>8,133</b>	<b>11.22</b>
<b>Urban Services</b>						
Wastewater Facilities	3,893	2,280	1,559	2,786	1,258	1.87
Wastewater Linear Services	5,326	3,119	2,134	3,812	1,721	2.55
Water Services	4,755	2,785	1,905	3,403	1,536	2.29
<b>Combined Sewer System</b>						
Stormwater Drainage and Control Services	3,539	2,072	1,418	2,533	1,143	0.00
<b>Separated Sewer System</b>						
Stormwater Drainage and Control Services	13,085	7,663	5,242	9,365	4,227	2.24
<b>GRAND TOTAL CITY WIDE</b>	<b>25,182</b>	<b>14,748</b>	<b>10,088</b>	<b>18,022</b>	<b>8,133</b>	<b>11.22</b>
<b>GRAND TOTAL URBAN AREA (COMBINED SEWER SYSTEM)</b>	<b>42,695</b>	<b>25,004</b>	<b>17,104</b>	<b>30,556</b>	<b>13,791</b>	<b>17.93</b>
<b>GRAND TOTAL URBAN AREA (SEPARATED SEWER SYSTEM)</b>	<b>52,241</b>	<b>30,595</b>	<b>20,928</b>	<b>37,388</b>	<b>16,875</b>	<b>20.17</b>



## 21.2 Rate Comparison – Residential & Non-Residential

Residential (Single Detached) Comparison			
Service	Current	Calculated	Calculated v. Current
<b>City Wide Services:</b>			
Services Related to a Highway	8,939	10,875	22%
Public Works Facilities, Fleet & Equipment	333	791	138%
Police Services	421	502	19%
Fire Protection Services	371	458	23%
Transit Services	544	1,930	255%
Parkland Development	1,479	2,301	56%
Indoor Recreation Services	2,271	4,303	89%
Library Services	642	1,019	59%
Administrative Studies	795	497	-37%
Paramedics	39	137	251%
Long Term Care	257	124	-52%
Health Services	28	1	-96%
Social & Child Services	31	13	-58%
Social Housing	583	673	15%
Airport facilities	261	376	44%
Parking services	366	491	34%
Provincial Offences Act	25	34	36%
Hamilton Conservation Authority	24	-	-100%
Waste Diversion	Previously Ineligible	657	N/A
<b>Total City Wide Services</b>	<b>17,409</b>	<b>25,182</b>	<b>45%</b>
<b>Water and Wastewater Urban Area Charges:</b>			
Wastewater Facilities	4,090	3,893	-5%
Wastewater Linear Services	5,151	5,326	3%
Water Services	4,603	4,755	3%
<b>Total Water and Wastewater Urban Area Services</b>	<b>13,844</b>	<b>13,974</b>	<b>1%</b>
<b>Stormwater Charges:</b>			
Stormwater Drainage and Control Services (Combined Sewer System)	7,065	3,539	-50%
Stormwater Drainage and Control Services (Separated Sewer System)	7,065	13,085	85%
<b>GRAND TOTAL CITY WIDE</b>	<b>17,409</b>	<b>25,182</b>	<b>45%</b>
<b>GRAND TOTAL URBAN AREA COMBINED SEWER SYSTEM</b>	<b>38,318</b>	<b>42,695</b>	<b>11%</b>
<b>GRAND TOTAL URBAN AREA SEPARATED SEWER SYSTEM</b>	<b>38,318</b>	<b>52,241</b>	<b>36%</b>

Calculated rate in 2019\$



## Non-Residential (per sq.ft.) Comparison

Service	Current	Calculated	Calculated v. Current
<b>City Wide Services:</b>			
Services Related to a Highway	9.10	8.14	-11%
Public Works Facilities, Fleet & Equipment	0.19	0.40	111%
Police Services	0.23	0.25	9%
Fire Protection Services	0.21	0.23	10%
Transit Services	0.34	0.98	188%
Parkland Development	0.11	0.11	0%
Indoor Recreation Services	0.16	0.20	25%
Library Services	0.04	0.04	0%
Administrative Studies	0.48	0.25	-48%
Paramedics	0.02	0.02	0%
Long Term Care	0.04	0.01	-75%
Health Services	-	-	-
Social & Child Services	-	-	N/A
Social Housing	-	-	-
Airport facilities	0.16	0.19	19%
Parking services	0.22	0.25	14%
Provincial Offences Act	0.01	0.02	100%
Hamilton Conservation Authority	0.02	-	-100%
Waste Diversion		0.13	
<b>Total City Wide Services</b>	<b>11.33</b>	<b>11.22</b>	<b>-1%</b>
<b>Water and Wastewater Urban Area Charges:</b>			
Wastewater Facilities	2.30	1.87	-19%
Wastewater Linear Services	2.90	2.55	-12%
Water Services	2.60	2.29	-12%
<b>Total Water and Wastewater Urban Area Services</b>	<b>7.80</b>	<b>6.71</b>	<b>-14%</b>
<b>Stormwater Charges:</b>			
Stormwater Drainage and Control Services (Combined Sewer System)	1.41	-	-100%
Stormwater Drainage and Control Services (Separated Sewer System)	1.41	2.24	59%
<b>GRAND TOTAL CITY WIDE</b>	<b>11.33</b>	<b>11.22</b>	<b>-1%</b>
<b>GRAND TOTAL URBAN AREA COMBINED SEWER SYSTEM</b>	<b>20.54</b>	<b>17.93</b>	<b>-13%</b>
<b>GRAND TOTAL URBAN AREA SEPARATED SEWER SYSTEM</b>	<b>20.54</b>	<b>20.17</b>	<b>-2%</b>

Calculated rate in 2019\$



## 21.3 Summary of Utilized Service Standards

### LEVEL OF SERVICE CEILING

#### CITY OF HAMILTON

#### SUMMARY OF SERVICE STANDARDS AS PER DEVELOPMENT CHARGES ACT, 1997, AS AMENDED

Service Category	Sub-Component	10 Year Average Service Standard					Maximum Ceiling LOS	Utilized**	Remaining
		Cost (per capita)	Quantity (per capita)		Quality (per capita)				
Services Related to a Highway	Roads	\$22,997.80	0.0092	lane km of roadways	2,499,761	per lane km	1,982,019,397		
	Bridges, Culverts & Structures	\$3,021.00	0.0007	Number of Bridges, Culverts & Structures	4,315,714	per item	260,358,843		
	Traffic Signals	\$250.50	0.0010	No. of Traffic Signals	250,500	per signal	21,588,842	659,960,020	1,606,980,375
	Active Transportation - Terminals	\$17.80	0.0563	sq.ft. of terminal space	316	per sq.ft.	1,534,057		
	Active Transportation - Shelters	\$16.70	0.0021	No. of Shelters/Pads	7,952	per item	1,439,256		
	Facilities	\$945.73	1.6712	sq.ft. of building area	566	per sq.ft.	81,505,849	26,785,330	54,720,518
	Vehicles and Equipment	\$184.36	0.0023	No. of vehicles and equipment	80,157	per vehicle	15,888,698	14,210,885	1,677,813
Fire	Fire Facilities	\$194.54	0.4755	sq.ft. of building area	409	per sq.ft.	16,766,041		
	Fire Vehicles	\$122.13	0.0002	No. of vehicles	610,650	per vehicle	10,525,530	22,754,342	7,762,196
	Fire Small Equipment and Gear	\$37.42	0.0086	No. of equipment and gear	4,351	per Firefighter	3,224,968		
Police	Police Facilities	\$261.70	0.5821	sq.ft. of building area	450	per sq.ft.	22,554,091		
	Police Vehicles	\$16.30	0.0004	No. of vehicles and equipment	40,750	per vehicle	1,404,783	24,665,678	1,163,367
	Police Small Equipment and Gear	\$21.70	0.0045	No. of equipment and gear	4,822	per Officer	1,870,171		
Parking	Parking Spaces	\$263.81	0.0090	No. of spaces	29,312	per space	17,159,785		
	Parking Meters	\$4.37	0.0051	No. of Meters	857	per meter	284,251	22,114,537	880,525
	Parking Facilities	\$85.34	0.0599	sq.ft. of building area	1,425	per sq.ft.	5,551,026		
Airport	Airport Space	\$291.51	0.0029	acres of land	100,521	per sq.ft.	18,961,559	16,818,851	2,142,708
Parks	Parkland Development	\$447.94	0.0115	Acres of Parkland	38,951	per acre	29,136,705		
	Parkland Amenities	\$560.40	0.0334	No. of parkland amenities	16,778	per amenity	36,451,778		
	Parkland Amenities - Buildings	\$10.11	0.1066	sq.ft. of building area	95	per sq.ft.	657,615	65,965,460	1,645,954
	Parkland Trails	\$20.73	0.0001	Linear Kilometres of Paths and Trails	207,300	per lin m.	1,348,404		
	Parks Vehicles and Equipment	\$0.26	0.0001	No. of vehicles and equipment	2,600	per vehicle	16,912		
Recreation	Indoor Recreation Facilities	\$1,796.90	3.9848	sq.ft. of building area	451	per sq.ft.	116,881,157		
	Indoor Recreation Facilities - Buildings Within Parks	\$178.95	0.4181	sq.ft. of building area	428	per sq.ft.	11,639,982	123,522,251	5,033,362
	Recreation Vehicles and Equipment	\$0.53	0.0001	No. of vehicles and equipment	5,300	per vehicle	34,474		

\*Transit is now based on a forward looking service standard based on the amendments to the DCA

\*\*Utilized amounts do not include interest costs from debentures.



## LEVEL OF SERVICE CEILING

## CITY OF HAMILTON

## SUMMARY OF SERVICE STANDARDS AS PER DEVELOPMENT CHARGES ACT, 1997, AS AMENDED

Service Category	Sub-Component	10 Year Average Service Standard				Maximum Ceiling LOS	Utilized**	Remaining	
		Cost (per capita)	Quantity (per capita)	Quality (per capita)					
Library	Library Facilities	\$389.01	0.7264	sq.ft. of building area	536	per sq.ft.	25,303,544	24,709,161	747,892
	Library Vehicles	\$2.36	0.00001	No. of vehicles and equipment	214,545	per vehicle	153,509		
	Library Collection Materials	\$70.77	2.0094	No. of library collection items	35	per collection item	4,603,305		
Paramedics	Paramedics Facilities	\$38.52	0.1225	sq.ft. of building area	314	per sq.ft.	2,505,572	2,319,005	186,567
	Paramedics Vehicles	\$27.60	0.0005	No. of vehicles and equipment	55,200	per vehicle	1,795,270	1,794,600	670
Long Term Care	Long Term Care Facilities	\$305.30	0.6387	sq.ft. of building area	478	per sq.ft.	19,858,544	4,077,773	15,780,771
Social Housing	Social Housing	\$1,604.83	10.71	sq.ft. of building area	149.84	per sq.ft.	104,387,772	18,734,570	85,653,202
Provincial Offences Act	Provincial Offences Act Facilities	\$22.48	0.0421	sq.ft. of building area	533.97	per sq.ft.	1,462,234	1,229,439	232,795
Health	Health Facilities	\$76.78	0.1975	sq.ft. of building area	389	per sq.ft.	4,994,232	81,191	4,961,175
	Health Vehicles	\$0.74	0.000002	No. of vehicles	390,898	per vehicle	48,134		
Social & Child Services	Social and Child Services Facilities	\$94.63	0.2647	sq.ft. of building area	357	per sq.ft.	6,155,303	362,227	5,793,076
Waste Diversion	Waste Diversion - Facilities - Stations/Depots	\$271.10	0.6940	sq.ft. of building area	391	per sq.ft.	17,633,971	22,054,910	2,055,691
	Waste Diversion - Vehicles & Equipment	\$79.39	0.0004	No. of vehicles and equipment	198,475	per vehicle	5,164,002		
	Waste Diversion - Carts & Containers	\$20.18	1.3441	No. of items	15	per item	1,312,628		

\*Transit is now based on a forward looking service standard based on the amendments to the DCA

\*\*Utilized amounts do not include interest costs from debentures.







# Hamilton 2019 D.C. Study: Capital Presentation

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Development Charges Stakeholders Sub-committee Meeting  
January 28, 2019





# Agenda

- Services in D.C. Calculation
- Capital Summary
- Level of Service Ceiling Summary
- Capital Cost Drivers
- Draft D.C. Quantum
- D.C. Survey – Municipalities by Service
- D.C. Charge as a proportion of new home sales – 2014 vs. 2018
- Next Steps
- Questions



# Services in D.C. Calculation – City-Wide

- Services Related a Highway
- Public Works Facilities, Fleet & Equipment
- Police
- Fire Protection
- Transit
- Parkland
- Indoor Recreation
- Library
- Administrative Studies
- Paramedics
- Long Term Care
- Health Services
- Social & Child Services
- Social Housing
- Airport
- Parking
- Provincial Offences Act
- **Waste Diversion - new**

All services are calculated on a City-wide (or Urban-wide) basis with the exception of Stormwater which has been calculated on an area-specific basis for the separated and combined sewer system areas



# Services in D.C. Calculation – Urban Services

- Water Services
- Wastewater Linear Services
- Wastewater Facilities
- Stormwater\*

\*Water and Wastewater Services are calculated on an Urban-wide basis and Stormwater has been calculated on an area-specific basis for the separated and combined sewer system areas.



# Capital Summary

## All Services

#	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deduction	Net Capital Cost	Less:		Subtotal	Other (e.g. 10% Statutory Deduction)	Potential DC Recoverable Cost				
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development			Total	Residential Share	Non-Residential Share		
<b>Municipal Wide Services</b>															
1	Fire Services	2019-2031	40,198,816	6,714,900	-	33,483,916	9,744,235	-	23,739,681		23,739,681	14,718,602	9,021,079		
2	Police Services	2019-2031	67,237,836	23,802,300	-	43,435,536	17,404,212	-	26,031,324		26,031,324	16,139,421	9,891,903		
3	Services Related to a Highway	2019-2031	1,383,221,977	482,096,000	-	901,125,977	233,428,975	-	667,697,002		667,697,002	349,582,930	318,114,072		
4	Public Works Facilities, Fleet & Equipment	2019-2031	58,460,837	-	-	58,460,837	16,372,790	-	42,088,047	1,091,832	40,996,215	25,417,653	15,578,562		
5	Transit <sup>1</sup>	2019-2028	475,377,106	21,410,866	22,270,000	431,696,240	246,106,781	108,800,000	76,789,459		76,789,459	48,377,359	28,412,100		
6	Parking Services	2019-2028	56,080,000	4,930,000	-	51,150,000	29,035,463	-	22,114,537	2,579,200	19,535,337	12,307,262	7,228,075		
7	Airport Space	2019-2028	28,000,000	9,240,000	-	18,760,000	1,941,149	-	16,818,851	1,876,000	14,942,851	9,413,996	5,528,855		
8	Parkland Development	2019-2028	159,803,149	53,270,600	-	106,532,549	39,715,700	-	66,816,849	6,115,280	60,701,569	57,666,491	3,035,078		
9	Indoor Recreation	2019-2028	175,584,660	36,575,000	-	139,009,660	12,562,749	-	126,446,911	12,946,500	113,500,411	107,825,390	5,675,021		
10	Library Facilities & Vehicles	2019-2028	73,804,970	19,366,700	-	54,438,270	26,925,400	1,250,000	26,262,870	2,242,090	24,020,780	22,819,741	1,201,039		
11	Library Materials	2019-2028	4,816,650	1,645,619	-	3,171,031	-	-	3,171,031	317,103	2,853,928	2,711,232	142,696		
12	Health Services	2019-2028	583,000	-	-	583,000	501,809	-	81,191	58,300	22,891	20,602	2,289		
13	Provincial Offences Act Facilities <sup>2</sup>	2019-2028	3,431,276	1,857,021	-	1,574,254	232,795	-	1,341,459	-	1,341,459	845,119	496,340		
14	Social and Child Services Facilities <sup>3</sup>	2019-2028	2,362,227	-	-	2,362,227	-	2,000,000	362,227	-	362,227	326,004	36,223		
15	Social Housing	2019-2028	510,508,000	52,720,000	-	457,788,000	433,153,430	5,900,000	18,734,570	1,873,457	16,861,113	16,861,113	-		
16	Paramedics Facilities	2019-2028	5,369,545	3,040,000	-	2,329,545	-	-	2,329,545	136,000	2,193,545	1,974,190	219,354		
17	Paramedics Vehicles & Equipment	2019-2028	3,482,500	1,687,900	-	1,794,600	-	-	1,794,600	179,460	1,615,140	1,453,626	161,514		
18	Long Term Care Facilities	2019-2028	45,843,000	-	-	45,843,000	36,485,227	5,280,000	4,077,773	614,000	3,463,773	3,117,396	346,377		
19	Administration Studies <sup>4</sup>	2019-2028	28,579,992	-	631,890	27,948,102	6,423,600	-	21,524,502	1,754,921	19,769,581	12,454,836	7,314,745		
20	Waste Diversion Services <sup>4</sup>	2019-2028	72,993,900	6,372,000	17,844,390	48,777,510	26,722,600	-	22,054,910	2,205,491	19,849,419	16,475,018	3,374,401		
<b>Urban Services - Water &amp; Wastewater</b>															
21	Wastewater Facilities	2019-2031	927,653,374	89,514,918	-	838,138,456	367,729,172	274,326,078	196,083,206		196,083,206	123,532,420	72,550,786		
22	Wastewater Linear Services	2019-2031	344,063,693	40,170,200	-	303,893,493	26,169,750	9,466,000	268,257,743		268,257,743	169,002,378	99,255,365		
23	Water Services	2019-2031	385,911,587	78,772,420	-	307,139,167	57,760,480	9,870,000	239,508,687		239,508,687	150,890,473	88,618,214		
<b>Urban Services - Stormwater within the Separated Sewer System Area</b>															
24	Stormwater Drainage and Control Services	2019-2031	734,377,088	59,514,059	-	674,863,029	26,629,917	226,174,652	422,058,460		422,058,460	353,233,551	68,825,899		
<b>Urban Services - Stormwater within the Combined Sewer System Area</b>															
25	Stormwater Drainage and Control Services	2019-2031	16,953,643	79,264	-	16,874,379	107,336	-	16,767,043		16,767,043	16,767,043	-		
<b>Total</b>			<b>5,604,698,826</b>	<b>992,779,767</b>	<b>40,746,280</b>	<b>4,571,172,779</b>	<b>1,615,153,570</b>	<b>643,066,730</b>	<b>2,312,952,479</b>	<b>33,989,634</b>	<b>2,278,963,835</b>	<b>1,533,933,847</b>	<b>745,029,988</b>		

Note: Above figures include Reserve Adjustments and Interest Cost from Debentures

<sup>1</sup>Other Deductions have been made to account for the value of an existing bus when upsizing to a larger-sized bus

<sup>2</sup>Capital program for POA includes the recovery of growth related debt as well as a deduction made to account for the reserve fund

<sup>3</sup>This service includes a growth-related project which is 100% grant funded. The remainder is the recovery of the reserve fund deficit.

<sup>4</sup>Other Deduction relates to the portion of capital projects related to landfill



# Level of Service Ceiling Summary

Summary of Service Standards – Services with a 13-Year (2019-2031)

Growth Forecast

Service Category	Sub-Component	Maximum Ceiling LOS	Utilized**	Remaining
Services Related to a Highway	Roads	1,982,019,397	667,697,002	1,599,243,394
	Bridges, Culverts & Structures	260,358,843		
	Traffic Signals	21,588,842		
	Active Transportation - Terminals	1,534,057		
	Active Transportation - Shelters	1,439,256		
	Facilities	81,505,849	26,785,330	54,720,518
	Vehicles and Equipment	15,888,698	14,210,885	1,677,813
Fire	Fire Facilities	16,766,041	23,739,681	6,776,858
	Fire Vehicles	10,525,530		
	Fire Small Equipment and Gear	3,224,968		
Police	Police Facilities	22,554,091	26,031,324	(202,279)
	Police Vehicles	1,404,783		
	Police Small Equipment and Gear	1,870,171		

\*Transit is now based on a forward looking service standard based on the amendments to the DCA

\*\*Utilized amounts include interest costs from debentures.



# Level of Service Ceiling Summary

Summary of Service Standards - Services with a 10-Year (2019-2028)

Growth Forecast

Service Category	Sub-Component	Maximum Ceiling LOS	Utilized**	Remaining
Parking	Parking Spaces	17,159,785	22,114,537	880,525
	Parking Meters	284,251		
	Parking Facilities	5,551,026		
Airport	Airport Space	18,961,559	16,818,851	2,142,708
Parks	Parkland Development	29,136,705	66,816,849	794,565
	Parkland Amenities	36,451,778		
	Parkland Amenities - Buildings	657,615		
	Parkland Trails	1,348,404		
	Parks Vehicles and Equipment	16,912		
Recreation	Indoor Recreation Facilities	116,881,157	126,446,911	2,108,703
	Indoor Recreation Facilities - Buildings Within Parks	11,639,982		
	Recreation Vehicles and Equipment	34,474		

\*Transit is now based on a forward looking service standard based on the amendments to the DCA

\*\*Utilized amounts include interest costs from debentures.



# Level of Service Ceiling Summary

## Summary of Service Standards - Services with a 10-Year (2019-2028) Growth Forecast

Service Category	Sub-Component	Maximum Ceiling LOS	Utilized**	Remaining
Library	Library Facilities	25,303,544	26,262,870	(805,817)
	Library Vehicles	153,509		
	Library Collection Materials	4,603,305	3,171,031	1,432,274
Paramedics	Paramedics Facilities	2,505,572	2,329,545	176,027
	Paramedics Vehicles	1,795,270	1,794,600	670
Long Term Care	Long Term Care Facilities	19,858,544	4,077,773	15,780,771
Social Housing	Social Housing	104,387,772	18,734,570	85,653,202
Provincial Offences Act	Provincial Offences Act Facilities	1,462,234	1,341,459	120,775
Health	Health Facilities	4,994,232	81,191	4,961,175
	Health Vehicles	48,134		
Social & Child Services	Social and Child Services Facilities	6,155,303	362,227	5,793,076
Waste Diversion	Waste Diversion - Facilities - Stations/Depots	17,633,971	22,054,910	2,055,691
	Waste Diversion - Vehicles & Equipment	5,164,002		
	Waste Diversion - Carts & Containers	1,312,628		

\*Transit is now based on a forward looking service standard based on the amendments to the DCA

\*\*Utilized amounts include interest costs from debentures.



# Capital Cost Drivers

## Cost Drivers to Capital Costs for all services

- Inflationary factors applied to all services
- Increased land values
- New projects identified by City Staff, Master Plans, and other recent studies (i.e. Active Transportation projects)
- Updated costs based on actual recent tender prices





## Capital Cost Drivers – Soft Services

- Land values have been incorporated into the capital cost of projects where land purchases are anticipated;
- Public Works facilities and fleet have had conservative provisions for capital projects in the past. Specific projects have since been identified and included in the D.C.;
- The Recreational Trails Master Plan has resulted in updates to the parks capital listing with several new trails projects included;
- As a newly eligible service, waste diversion is now included in the D.C. calculation; and
- More comprehensive asset inventories and replacement costing valuations have resulted in more accurate service standard ceiling calculations.



# Capital Cost Drivers - Water

The following are the main cost drivers to the Growth-Related Water Program:

- 6 new projects added versus the projects included in the 2014 D.C. study;
- 20 projects removed from list – completed or removed from the list based on discussions with City staff;

## **Cost Updates to Projects from Previous D.C. Study:**

- 47 project costs were updated due to inflation from 2014 to 2019 dollars (12.4%);
- 33 project costs were updated as a result of scope changes related to location, length and/or size of infrastructure; and
- Costs were updated on 6 projects based on recent tender prices, detailed E.A. project cost estimates or from the City's Budget, where available.

Note: Several project costs were updated as a result of a combination of the above (i.e. updated cost due to inflation and scope change, etc.)



# Capital Cost Drivers – Wastewater Linear Projects

The following are the main cost drivers to the Growth-Related Wastewater Program:

- 14 new projects added versus the projects included in the 2014 D.C. study;
- 30 projects removed from capital list;

## **Cost Updates to Projects from Previous D.C. Study:**

- Inflation increased costs on 31 projects - based on indexing from 2014 to 2019 (12.4%) to represent current 2019\$ dollars;
- Updates to 25 projects with respect to scope changes based on information from the City; and
- 8 project costs were updated based on tender prices, detailed E.A. project cost estimates or from the City's Budget, where available.

Note: Several project costs were updated as a result of a combination of the above (i.e. updated cost due to inflation and scope change, etc.)



# Capital Cost Drivers – Woodward Wastewater Treatment Plant

The following are the main cost drivers to the Growth-Related Wastewater Treatment Plan Program:

- Updates to project implementation and costing since the 2014 D.C. study;
- Costing based on actual tender costs received, preliminary design estimates, or conceptual estimates; and
- Post period benefit has now been included as a result of conservation measures and other changes to the system that has resulted in a capacity adjustment.



## Capital Cost Drivers - Stormwater

The following are the main cost drivers to the Growth-Related Stormwater Program:

- 43 new projects identified and included in D.C.;
- Projects have been updated or removed based on project completion or new information from the City;
- Unit rates for land costs have increased;
- Capital costs have been inflated by 12.4%;
- Capital cost calculations for SWM facilities are based on actual costs from the 2014-2018 period;
- Contingencies have been added for SWM facility footprint and volume increases;
- Non-residential stormwater facility growth costs have been excluded from the D.C. – direct developer responsibility; and
- D.C. for stormwater is now being calculated on an area-specific basis for the separated and combined sewer system areas



# Capital Cost Drivers – Services Related to a Highway

The following are the main cost drivers to the Growth-Related Services Related to a Highway Program:

- 74 new projects added (excluding AT projects) versus the projects included in the 2014 D.C. study;
  - Most of these additional projects have been identified through the most recent Transportation Master Plan;
- 40 projects completed/removed;
- Added 161 Active Transportation projects not included in previous study;
- Updated unit costs to account for inflationary factors, added land costs, E.A. costs, etc. where necessary; and
- Post period provision deduction added to account for benefit to growth beyond the 2019-2031 period.



## Capital Cost Drivers - Transit

The following are the main cost drivers to the Growth-Related Transit Program:

- Transit is now based on a forward looking service standard as per the changes in Bill 73;
- Bill 73 also removed the mandatory 10% reduction for growth-related capital costs;
- Current HSR bus-only transit mode share is 6.5%;
- 2028 HSR modal split target of 8.5%;
- In order to reach target, HSR will need 219 new buses, 73 specialized transit vehicles and 14 operations vehicles; and
- The forecasted cost of the Transit Maintenance and Storage Facility has increased based on updated estimates due to increased capacity requirements.



**Residential (Single Detached) Comparison**

Service	Current	Calculated	Calculated v. Current
<b>City Wide Services:</b>			
Services Related to a Highway	8,939	10,875	22%
Public Works Facilities, Fleet & Equipment	333	791	138%
Police Services	421	502	19%
Fire Protection Services	371	458	23%
Transit Services	544	1,930	255%
Parkland Development	1,479	2,301	56%
Indoor Recreation Services	2,271	4,303	89%
Library Services	642	1,019	59%
Administrative Studies	795	497	-37%
Paramedics	39	137	251%
Long Term Care	257	124	-52%
Health Services	28	1	-96%
Social & Child Services	31	13	-58%
Social Housing	583	673	15%
Airport facilities	261	376	44%
Parking services	366	491	34%
Provincial Offences Act	25	34	36%
Hamilton Conservation Authority	24	-	-100%
Waste Diversion	Previously Ineligible	657	N/A
<b>Total City Wide Services</b>	<b>17,409</b>	<b>25,182</b>	<b>45%</b>
<b>Water and Wastewater Urban Area Charges:</b>			
Wastewater Facilities	4,090	3,893	-5%
Wastewater Linear Services	5,151	5,326	3%
Water Services	4,603	4,755	3%
<b>Total Water and Wastewater Urban Area Services</b>	<b>13,844</b>	<b>13,974</b>	<b>1%</b>
<b>Stormwater Charges:</b>			
Stormwater Drainage and Control Services (Combined Sewer System)	7,065	3,539	-50%
Stormwater Drainage and Control Services (Separated Sewer System)	7,065	13,085	85%
<b>GRAND TOTAL CITY WIDE</b>	<b>17,409</b>	<b>25,182</b>	<b>45%</b>
<b>GRAND TOTAL URBAN AREA COMBINED SEWER SYSTEM</b>	<b>38,318</b>	<b>42,695</b>	<b>11%</b>
<b>GRAND TOTAL URBAN AREA SEPARATED SEWER SYSTEM</b>	<b>38,318</b>	<b>52,241</b>	<b>36%</b>

Calculated rate in 2019\$





## Non-Residential (per sq.ft.) Comparison

Service	Current	Calculated	Calculated v. Current
<b>City Wide Services:</b>			
Services Related to a Highway	9.10	8.14	-11%
Public Works Facilities, Fleet & Equipment	0.19	0.40	111%
Police Services	0.23	0.25	9%
Fire Protection Services	0.21	0.23	10%
Transit Services	0.34	0.98	188%
Parkland Development	0.11	0.11	0%
Indoor Recreation Services	0.16	0.20	25%
Library Services	0.04	0.04	0%
Administrative Studies	0.48	0.25	-48%
Paramedics	0.02	0.02	0%
Long Term Care	0.04	0.01	-75%
Health Services	-	-	-
Social & Child Services	-	-	N/A
Social Housing	-	-	-
Airport facilities	0.16	0.19	19%
Parking services	0.22	0.25	14%
Provincial Offences Act	0.01	0.02	100%
Hamilton Conservation Authority	0.02	-	-100%
Waste Diversion		0.13	
<b>Total City Wide Services</b>	<b>11.33</b>	<b>11.22</b>	<b>-1%</b>
<b>Water and Wastewater Urban Area Charges:</b>			
Wastewater Facilities	2.30	1.87	-19%
Wastewater Linear Services	2.90	2.55	-12%
Water Services	2.60	2.29	-12%
<b>Total Water and Wastewater Urban Area Services</b>	<b>7.80</b>	<b>6.71</b>	<b>-14%</b>
<b>Stormwater Charges:</b>			
Stormwater Drainage and Control Services (Combined Sewer System)	1.41	-	-100%
Stormwater Drainage and Control Services (Separated Sewer System)	1.41	2.24	59%
<b>GRAND TOTAL CITY WIDE</b>	<b>11.33</b>	<b>11.22</b>	<b>-1%</b>
<b>GRAND TOTAL URBAN AREA COMBINED SEWER SYSTEM</b>	<b>20.54</b>	<b>17.93</b>	<b>-13%</b>
<b>GRAND TOTAL URBAN AREA SEPARATED SEWER SYSTEM</b>	<b>20.54</b>	<b>20.17</b>	<b>-2%</b>

Calculated rate in 2019\$



# D.C. Survey – Municipalities by Service

## Residential

Service	Hamilton (Draft Calculated) - Separated Sewer System	Oakville (Including Region of Halton)	Milton (Including Region of Halton)	Burlington (Including Region of Halton)*	Halton Hills (Including Region of Halton)	Lincoln (Including Region of Niagara)**	Grimsby (Including Region of Niagara)	Niagara-on- the-Lake (Including Region of Niagara)	City of Waterloo (Including Region of Waterloo)	Kitchener (Including Region of Waterloo)*	Cambridge (Including Region of Waterloo)*	Brantford*	City of Guelph*
Services Related to a Highway (includes Fleet & Facilities)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Police	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fire	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Transit	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓
Parks & Recreation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cemeteries									✓	✓			
Library	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Administrative Studies	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Paramedics	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Long Term Care	✓					✓	✓	✓					
Health Services	✓					✓	✓	✓					✓
Social & Child Services	✓												
Social Housing	✓	✓	✓	✓	✓	✓	✓	✓					
Airport	✓								✓	✓	✓		
Parking	✓	✓	✓		✓	✓	✓		✓	✓		✓	✓
POA	✓					✓	✓	✓					✓
Waste Diversion	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Wastewater	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stormwater	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Total (Services Hamilton does not collect for removed)</b>	<b>52,241</b>	<b>71,030</b>	<b>55,998</b>	<b>45,486</b>	<b>52,393</b>	<b>39,444</b>	<b>39,444</b>	<b>27,051</b>	<b>38,511</b>	<b>33,739</b>	<b>34,029</b>	<b>22,239</b>	<b>29,909</b>
<b>Total (Services Hamilton does not collect for removed) - Less Stormwater</b>	<b>39,156</b>	<b>71,030</b>	<b>55,998</b>	<b>44,927</b>	<b>52,211</b>	<b>37,866</b>	<b>37,866</b>	<b>25,833</b>	<b>37,235</b>	<b>33,588</b>	<b>33,136</b>	<b>21,877</b>	<b>29,776</b>
Hamilton's D.C. Charge if Collecting Like Services to Each Municipality		38,608	38,608	38,117	38,608	36,837	36,837	36,346	38,311	38,311	37,821	37,278	37,313

\*By-law to expire in 2019

\*\*By-law passed with March 2019 enforcement date

Note: Region of Waterloo's By-law is currently under review



# New Home Sales in Hamilton

2014 vs. 2018

Year	Median price of 2-storey home	D.C. Charge (Combined Sewer System)	D.C. Charge as a % of Home Price	D.C. Charge (Separated Sewer System)	D.C. Charge as a % of Home Price
<b>2014</b>	\$391,787	\$34,983	<b>9%</b>	\$34,983	<b>9%</b>
<b>2018</b>	\$610,595	\$41,841	<b>7%</b>	\$51,196	<b>8%</b>

Source: Royal LePage

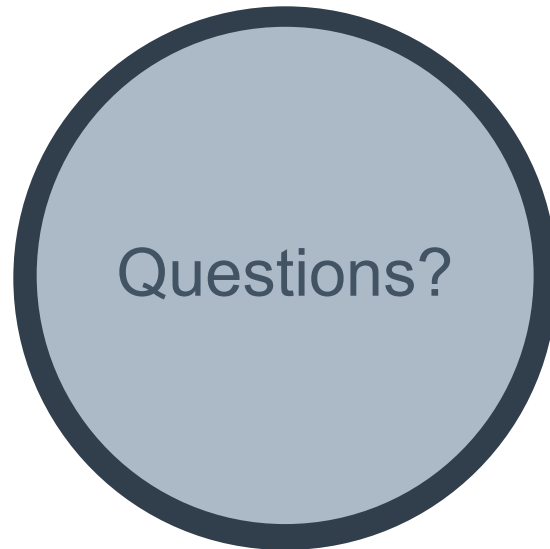
\*2014 D.C. in 2014\$, 2018 D.C. in 2018\$ (deflated by 2% from previous schedules)

- While the calculated D.C. quantum has increased significantly, it is relatively stable when viewed as a percentage of home sales.



## Next Steps

- The Consulting team to support staff to address inquiries and information requests
- Background Study and draft by-law released to public (March 25, 2019)
- Public Meeting (April 18, 2019)
- Council Consider By-law for Adoption (May 16, 2019 - TBC)





**CITY OF HAMILTON**  
**CORPORATE SERVICES DEPARTMENT**  
*Financial Planning, Administration and Policy Division*

<b>TO:</b>	Chair and Members Development Charges Stakeholder Sub-Committee
<b>COMMITTEE DATE:</b>	January 28, 2019
<b>SUBJECT/REPORT NO:</b>	2019 Development Charges By-law Policy (FCS18062(a)) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Lindsay Gillies (905) 546-2424 Ext. 2790 Joseph Spiler (905) 546-2424 Ext. 4519
<b>SUBMITTED BY:</b>	Cindy Mercanti Director, Customer Service and POA Acting Director, Financial Planning and Policy Corporate Services Department
<b>SIGNATURE:</b>	

### RECOMMENDATIONS

- (a) That staff be directed to include the policy as outlined in Appendix "B" to Report FCS18062(a) in the draft DC By-law to be included the 2019 Development Charges (DC) Background Study;
- (b) That the anticipated cost of providing the exemption policy as outlined in Appendix "B" be supported through the Rate and Tax Capital Budgets as well as through allocations from the City's annual operating budget surplus;
- (c) That the 2019 Development Charges (DC) Background Study, as prepared by Watson and Associates Economists Ltd., be released to the public through the next Development Charges Stakeholder Sub-Committee meeting;
- (d) That staff be directed to prepare the necessary reports and draft by-laws to amend the City's GO Transit By-law 11-174 to be consistent with the policy as outlined in Appendix "B" to Report FCS18062(a);
- (e) That the "Meeting with downtown developers regarding the proposed Downtown Community Improvement Project Area Development Charge Exemption" be considered complete and removed from the Outstanding Business List;

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**SUBJECT: 2019 Development Charges By-law Policy (FCS18062(a)) (City Wide) –  
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- (f) That “Laneway Housing DC Policy” be considered complete and removed from the Outstanding Business List;
- (g) That “Review of Downtown and Community Renewal Improvement Program” be considered complete and removed from the Outstanding Business List;
- (h) That “Including Affordable Housing in the Development Charges Policy Review” be considered complete and removed from the Development Charges Stakeholders Subcommittee Outstanding Business List;
- (i) That “Revise Agriculture Definition in the City’s DC By-law” be considered complete and removed from the Outstanding Business List.

**EXECUTIVE SUMMARY**

The City is currently undergoing the process to release the 2019 Development Charges (DC) Background Study and By-law. The current DC By-law expires on July 5, 2019. The *Development Charges Act, 1997, as amended* (DC Act) requires that Council make the DC Background Study available to the public at least 60 days prior to passing a DC By-law. In addition, a draft DC by-law needs to be available to the public at least two weeks in advance of the public meeting regarding the proposed by-law.

The purpose of Report FCS18062(a) is to receive direction as to the policies that the draft DC by-law shall contain. These policies will be written into the draft DC By-law to be released at the March DC Stakeholders Subcommittee meeting. The public meeting, as required by the DC Act, will be held at the April 18, 2019 Audit, Finance and Administration Committee meeting. At that time, Council may direct changes to the DC By-law or Background Study. In order to both provide an opportunity for staff to examine any direction provided, as well as respect the 60-day required public consultation period, the passing of the DC By-law and Background Study will occur in May / June with a proposed effective date of July 6, 2019.

The policy recommendations as detailed in Appendix “B” to Report FCS18062(a) utilizes the results of the third party incentive review completed by Watson and Associates Economists Ltd. and N. Barry Lyon Consultants Limited along with staff input. As summarized in Table 1 of Appendix “B” to Report FCS18062(a) staff is recommending removing five exemptions, maintaining (with minor clarifications) eight exemptions, modifying five exemptions and adding one exemption.

***Alternatives for Consideration – Page10***

**SUBJECT: 2019 Development Charges By-law Policy (FCS18062(a)) (City Wide) –  
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**FINANCIAL – STAFFING – LEGAL IMPLICATIONS**

**Financial:** DC exemptions need to be funded by non-DC sources. Annually, the City budgets funding towards the cost of DC exemptions through the Rate and Tax Capital Budgets.

Table 2 in Appendix “B” to Report FCS18062(a) details the funding that is included in the 2019 Rate and Tax Capital Budgets and the forecasted amounts to 2024.

The cost of each recommended DC exemption is identified in Appendix “B” to Report FCS18062(a) and summarized in Table 1 of Appendix “B” to Report FCS18062(a) at an estimated annualized cost of \$12.5 M.

**Staffing:** None

**Legal:** The DC Act requires the following:

*“A development charge by-law must set out the following:*

- 1. The rules developed under paragraph 9 of subsection 5 (1) for determining if a development charge is payable in any particular case and for determining the amount of the charge.*
- 2. An express statement indicating how, if at all, the rules provide for exemptions, for the phasing in of development charges and for the indexing of development charges.*
- 3. How the rules referred to in paragraph 1 apply to the redevelopment of land.*
- 4. The area of the municipality to which the by-law applies.”*

The recommendations within Appendix “B” to Report FCS18062(a) address point 2 above.



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## **HISTORICAL BACKGROUND**

Staff has received several directions with respect to the 2019 DC By-law Policy.

May 17, 2016  
Planning Committee

*To Limit the Agricultural Use Development Designation Only to Those Properties Used for Agricultural Purposes*

- (a) *That staff be directed to revise the City's Development Charge (DC) By-law regarding Agricultural DC Exemptions at the next opportunity (currently forecast to be 4th quarter of 2016) and report to the Audit, Finance and Administration Committee;*
- (b) *That staff revise the Agricultural Use Definition in the City's DC By-law so that a "Farm Business Registration Number" will be required by the property owner in order for a proposed development to be eligible for an agricultural use designation.*

Agriculture has been included in the DC Policy review. See Appendix "B" to Report FCS18062(a). This item should be removed from the Outstanding Business List.

June 21, 2017  
General Issues Committee

*Review of the Downtown and Community Renewal Improvement Program*

*That staff be directed to review the Downtown and Community Renewal Improvement Program and report back to the General Issues Committee, prior to the 2019 Operating Budget process.*

The Downtown Community Renewal Improvement Program was reviewed as part of the DC Exemption Review attached as Appendix "A" to Report FCS18062(a) by Watson and Associates Economists Ltd. and N. Barry Lyons Consultants Limited. This item should be removed from the Outstanding Business List.

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May 17, 2018  
Audit, Finance & Administration Committee

*Joe Deschenes Smith, Trillium Housing, respecting implementation of by-law 14-153 and how the City can add its support for housing affordability at Trillium Housing's two affordable housing projects in Hamilton (Item 6.2)*

*That staff be directed to include affordable housing in the Development Charges Policy review.*

Affordable Housing has been included in the DC Policy review. See Appendix "B" to Report FCS18062(a). This item should be removed from the Outstanding Business List.

June 19, 2018  
Planning Committee

*Amendments to City of Hamilton Zoning By-law No. 6593 to allow secondary dwelling units in detached structures for properties adjoining a laneway ("Laneway Housing") (PED16200(a)) (Parts of Wards 1, 2, 3 and 4) (Item 6.5)*

- (c) That Corporate Services staff be requested to present Report PED16200(a) to the Development Charges Stakeholders Subcommittee for consideration when recommending policy direction for the 2019 Development Charges Study and in addition, bring forward for Council's consideration at the earliest possible date a standalone amendment to the Development Charges By-law to deal specifically with laneway-related housing developed in accordance with Report PED16200(a);*
- (d) That, as part of the report back on a standalone Development Charges By-law amendment, staff include options for potentially retroactively applying any reduced Development Charges requirement, or benefit of any reduced Development Charges requirement, to recently completed laneway housing projects;*

Report PED16200(a) has been attached as Appendix "D" to report FCS18062(a). Staff has made a recommendation regarding laneway housing in Appendix "B" to Report FCS18062(a). Case law and the DC Act prevent a retroactive application of the 2019 DC By-law. This item should be removed from the Outstanding Business List.

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June 25, 2018

Audit, Finance and Administration Committee

(June 14, 2018 Development Charges Stakeholders Sub-Committee)

*Development Charges Stakeholders Sub-Committee Report 18-002 (Item 8.4)*

- (a) *2019 Development Charges By-law Policy (FCS18062) (City Wide)*
- (i) *That the Downtown Hamilton Community Improvement Project Area Development Charge Exemption be set at 50% effective July 6, 2019 and be reduced 10 percentage points annually thereafter, subject to the results of the independent incentive review;*
  - (ii) *That the annual indexing transition policy, Section 37 of By-law 14-153, not be included in the 2019 Development Charges By-law;*
  - (iii) *That the 2019 Development Charge By-law not contain phasing provisions for the specific policy changes in Recommendations (a) and (b) Report FCS18062;*
  - (iv) *That appropriate staff be directed to meet with the stakeholders to provide an update regarding the proposed changes to the Downtown Hamilton Community Improvement Project Area Development Charge Exemption;*
  - (v) *That the offer made by the President of the Chamber of Commerce to facilitate the stakeholder meeting for the downtown developers, be accepted.*
- (b) *Public Input Respecting the 2019 Development Charges By-law*  
*That appropriate staff be directed to hold a public engagement session respecting the proposed policy changes for the 2019 Development Charges By-law at the appropriate time and that all relative stakeholders, including members of the general public, be invited.*
- (c) *Input Respecting the 2019 Development Charges By-law from the Agricultural Community*  
*That staff be directed to consult with the Agriculture and Rural Affairs Committee ensuring that representatives of the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) and the Ontario Federation of Agriculture are in attendance and obtain the Committee's input respecting the proposed policy changes for the 2019 Development Charges By-law.*

With respect to (a) (iv) and (a) (v), staff, with the aid of the Hamilton Chamber of Commerce, scheduled a meeting on November 5, 2018 with some downtown developers (as recommended by the Chamber of Commerce) to discuss the proposed changes to the Downtown Hamilton Community Improvement Project Area Development Charge Exemption. Staff also provided the option to submit written comments. This item should be removed from the Outstanding Business List.

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**SUBJECT: 2019 Development Charges By-law Policy (FCS18062(a)) (City Wide) –  
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With respect to (b), the appropriate time to receive input on DC Policy changes is the Public meeting required under the DC Act. This meeting is planned to be held April 18, 2019.

With respect to (c), at the time of writing, the first 2019 meeting date of the Agriculture and Rural Affairs Committee has not been scheduled. Staff will forward a memo to the Committee members summarizing the proposed changes and will include options for providing input.

**POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS**

Report FCS18062(a), largely through Appendix “B” to Report FCS18062(a), makes recommendations for the policy to be included in the draft 2019 DC By-law. This policy uses inputs from third party suggestions and staff input alongside the financial impact.

The draft DC by-law forms the starting point for public consultation and is a requirement under the DC Act. Where staff is recommending policy that varies from existing policy, it is detailed in Appendix “B” to Report FCS18062(a).

The DC Act outlines the requirements for a municipality to pass a DC By-law. Municipalities are required to undertake a background study no less than every five years to support the DC rates. A municipality may choose to impose less than the calculated rate but must express so through the DC By-law and cannot make up the lost revenues by increasing the development charge for other types of development.

Table 1 outlines the municipality’s requirements under the DC Act and the planned dates related to the adoption of the 2019 DC By-law:

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**Table 1: Schedule of Dates for the 2019 DC By-law Process**

2019 DC Background Study including draft 2019 DC by-law available to public	March 25, 2019 via DC Stakeholders Subcommittee
Public Meeting ad placed in newspaper(s)	March TBD, 2019 At least 20 days prior to the public meeting
Public Meeting	April 18, 2019 to be held at Audit, Finance and Administration Committee, at least two weeks after proposed background study and by-law are available to the public
Council considers passage of by-law	AF&A – May 16, 2019 or June 6, 2019 Council – May 22, 2019 or June 12, 2019  (Date dependent on outcome of the Public Meeting)  No less than 60 days after the background study is made available to the public
Newspaper and written notice given of by-law passage	By 20 days after passage
Last day for by-law appeal	40 days after passage
City makes available pamphlet (where by-law not appealed)	By 60 days after passage

The following City DC By-law will be revoked and replaced on July 6, 2019:

- By-law 14-153 – City Wide Development Charges (expires July 6, 2019)

City By-law 11-174 – GO Transit Development Charges will remain in effect. The Province passed Ontario Regulation 468/16 and Ontario Regulation 469/16 which permits municipalities to collect GO Transit charges until December 31, 2019. During the extension period, the Ministry of Transportation is to undertake a broader review of the framework governing municipal contributions to GO Transit. To date, the City has not received communications regarding the future of GO Transit as it relates to DC collections.

The GO Transit DC By-law will need to be amended for policy changes arising through the 2019 DC By-law process.

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The funds collected through the GO Transit DC By-law are remitted annually to Metrolinx. The last update from the Province on the future of the GO Transit DCs was received in December 2016. At that time, the Province extended the expiration of GO Transit By-laws to December 31, 2019 and informed municipalities that a three-year review would be performed.

## **RELEVANT CONSULTATION**

### Internal

- Planning and Economic Development Department
- Public Works Department
- Healthy and Safe Communities Department
- City Manager's Office
- Corporate Services Department - Legal and Risk Management Services
- CityHousing Hamilton

### External

- Watson and Associates Economists Ltd.
- N. Barry Lyon Consultants Limited

## **ANALYSIS AND RATIONALE FOR RECOMMENDATIONS**

The City of Hamilton DC By-law has historically contained a number of discretionary DC policies with full or partial exemptions. The City has successfully used DC policies (sometimes in conjunction with other policies such as low-cost loan programs and remediation incentives) so that certain types of development can cross the economic threshold and become viable. The foregone DC revenue is funded by existing tax and rate payers as growth infrastructure is developed. This cost is justified through the tangible and intangible benefits the City realizes as a result of increased development activity made possible through lower DC costs.

The cost of providing the existing portfolio of DC exemptions far exceeds the City's current funding dedicated towards finding DC exemptions. To maintain the existing discretionary DC exemption policy the City is forecasted to need approximately \$40 M annually. The City budgets approximately \$15 M annually.

Watson and Associates Economists Ltd. along with N. Barry Lyons Consultants Limited analyzed the City's DC exemption policies and made recommendations regarding what should continue and where the City may be able to reduce exemptions. An executive summary of this analysis and the recommendations are attached as Appendix "A" to Report FCS18062(a).

**SUBJECT: 2019 Development Charges By-law Policy (FCS18062(a)) (City Wide) –  
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Staff has utilized the exemption review and made recommendations regarding DC exemption policy to be contained in the 2019 DC By-law. The recommendations and rationale are attached as Appendix “B” to Report FCS18062(a). The priorities that are upheld with the staff recommendations are a continued revitalization of Downtown Hamilton as well as commercial revitalization of all the City’s Community Improvement Project Areas (CIPAs) and Business Improvement Areas (BIAs). Policies to incentivize industrial development continue to be a priority and a focus on encouraging and attracting office development has been considered when recommending the 2019 DC Policy.

**ALTERNATIVES FOR CONSIDERATION**

Council may consider alternatives as identified in Appendix “B” to Report FCS18062(a).

**Financial:** The financial impact is identified with each type of exemption in Appendix “B” to Report FCS18062(a).

The City will need to finance the cost of exemptions through non-DC sources.

**Staffing:** None

**Legal:** The DC By-law needs to contain an express statement of any exemptions. The cost of exemptions cannot be made up through increases to other forms of development.

**ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN**

**Community Engagement & Participation**

*Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community.*

**Economic Prosperity and Growth**

*Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.*

**Built Environment and Infrastructure**

*Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.*

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**Culture and Diversity**

*Hamilton is a thriving, vibrant place for arts, culture, and heritage where diversity and inclusivity are embraced and celebrated.*

**Our People and Performance**

*Hamiltonians have a high level of trust and confidence in their City government.*

**APPENDICES AND SCHEDULES ATTACHED**

Appendix A – City of Hamilton Development Charge Exemptions Review Executive Summary – Prepared by Watson and Associates Economists Ltd. with N. Barry Lyons Consultants Limited

Appendix B – City of Hamilton Recommended 2019 Development Charges Policies

Appendix C – Maps for Community Improvement Project Area (CIPA) and Business Improvement Area (BIA)

Appendix D – Staff Report: Amendments to City of Hamilton Zoning By-law No. 6593 to allow secondary dwelling units in detached structures for properties adjoining a laneway (“Laneway Housing”) (PED16200(a)) (Parts of Wards 1, 2, 3 and 4)

LG/JS/dt



## City of Hamilton Development Charge Exemptions Review Executive Summary

Watson & Associates Economists Ltd. and N. Barry Lyon Consultants Limited (NBLC) were retained by the City of Hamilton to undertake a Development Charge Exemptions Review Study.

Rules regarding calculations and the use of development charges are provided in the Development Charges Act, 1997 (D.C.A.) as amended. This Act, and the associated regulations (Ontario Regulation 82/98) provide guidance with respect to the use of exemptions and discounts. If a municipality elects to reduce the calculated development charges for a specific use for policy reasons, eligible D.C. costs relating to the reductions must be funded from sources other than development charges (e.g. taxes, water and sewer rates, other reserves). As with any government subsidy or program which is designed to influence private-sector investment decisions, it is important to ensure that the public expenditure or foregone revenue produces a community benefit of a greater magnitude.

The purpose of this study is to provide background information on the historical performance of D.C. exemptions in the City of Hamilton, a review of exemptions practices in comparator municipalities, assessment of existing and anticipated future market conditions, and application of investor perspectives through conceptual development feasibility analysis. Based on this comprehensive analysis, a series of objective D.C. exemption policy recommendations is provided.

### **Current D.C. Exemption Policies and Historical Performance**

City of Hamilton By-laws 14-153 (as amended) and 11-174 (as amended) include a series of discretionary exemptions that apply to a range of residential, non-residential and mixed-use development. Over the 2013-2017 period, the Downtown CIPA has accounted for the largest share of total discretionary D.C. exemptions (27% of total dollars). Other major categories include Academic Facilities (20%), Transition Policy (13%), Agricultural Use (13%), Industrial Reduced Rate (7%), Non-Industrial Stepped Rate (6%), Parking Structures (4%), Non-Industrial Expansion (3%), and Student Residences (2%).



Key observations from the historical assessment (2013 to 2017 period) of notable discretionary D.C. exemptions include:

- **Downtown CIPA** – Exemption has historically been important to fund project feasibility “gap” for residential projects in downtown Hamilton; exemption has helped to revitalize downtown, generating population and employment growth, and helping achieve density and intensification targets.
- **Industrial Reduced Rate** – D.C. discount has been beneficial in improving industrial development feasibility; Hamilton is cost competitive for industrial development.
- **Non-Industrial Stepped Rates** – Retail/services sector key beneficiary – a sector with strong feasibility and market dynamics; qualifying projects have generated significant building space and employment.
- **Academic Facilities and Student Residences** – Significant “lost” D.C. revenues; qualifying projects have generated notable employment growth and expansion in student housing.
- **Affordable Housing D.C. Exemption** – Limited number of projects have benefited from exemption.

## Market Analysis and Feasibility Assessment

The real estate market for higher density residential apartments in the City of Hamilton has improved significantly over the past several years. It is apparent that a number of factors are contributing to the downtown’s urban renaissance, of which the City’s package of financial incentives is notable. Other factors, however, such as the improving and diversifying economy, current and planned investments in transit, post-secondary growth, improving public realm and lifestyle changes, demographic shifts, improved built environment and public realm, and housing affordability relative to other markets, are also driving private-sector residential development.

As the downtown CIPA continues to experience public- and private-sector investment, it will increasingly become more attractive for continued residential intensification, subject to other market shifts or development impacts. The continued market strengthening of the area is considered highly important for the City to meet its intensification targets.

The residential projects modelled in the feasibility analysis do not currently display signs of viability without the City’s financial tools. Despite strong improvements in absorption



and achievable pricing over the past five years, development in the City’s downtown is also experiencing rising development costs. The results of the analysis indicate that large projects that are located in strong market areas are nearing the point where they do not require the assistance of the City’s financial tools. Should pricing and absorption continue to strengthen, the need for incentives will continue to decrease for these projects. Notwithstanding the above, smaller scale projects that are located in slightly weaker market areas are not “near-viable” without the City’s financial tools.

### Recommended Changes to D.C. Exemption Policy Framework

Based on the City’s growth trends and development targets, forecast market conditions and development feasibility analysis, the following changes to the City of Hamilton D.C. exemptions policies are recommended:

Modify	Maintain	Remove
<ul style="list-style-type: none"> <li>• <b>CIPA</b> – Phase out D.C. exemption. Continue to apply to residential, non-residential and mixed-use development except for standalone major office development; continue to provide the current exemption for standalone major office developments (Class A) greater than 20,000 sq.ft. G.F.A.</li> <li>• <b>Non-Industrial Stepped Rate D.C.</b> – D.C. exemption should be removed from non-office-based commercial and institutional developments; exemption should be maintained for office development,</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Industrial Reduced Rate</b> – maintain current D.C. exemption.</li> <li>• <b>Parking Structures</b> – continue to exempt parking structures which are associated with the development of, and serve the needs of, residential, mixed-use or non-residential uses; charge D.C.s for revenue generating parking.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Non-Industrial Expansion D.C. exemption.</b></li> <li>• <b>Academic D.C. exemptions</b> – remove, where permitted.</li> <li>• <b>Student Residence D.C.</b></li> <li>• <b>Affordable housing</b> – replace with an equivalent incentive program.</li> </ul>



Modify	Maintain	Remove
excluding medical office.		

There are a number of D.C. exemptions that could not be empirically analyzed on a market basis. As such, no specific recommendations have been provided for the following D.C. exemptions.

Agriculture	Redevelopment for Residential Facility
Heritage Building	Farm Help House
ERASE	Public Hospital
Places of Worship	Covered Sports Field
Transition Policy	Council Granted
Downtown Public Art	

**CITY OF HAMILTON  
RECOMMENDED  
2019 DEVELOPMENT CHARGES POLICIES**

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RECOMMENDED  
2019 DEVELOPMENT CHARGES POLICIES**

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*Note: All estimated costs in this document are dependent on the type, location, timing and pace of development. If development occurs faster than anticipated then the cost of exemptions increases, if development occurs slower than anticipated then the cost of exemptions decreases. The recommendations regarding the appropriate level of budgeted Development Charges (DC) exemption funding will be subject to regular review and update.*

## INTRODUCTION

The City of Hamilton Development Charge (DC) By-law has historically contained a number of discretionary DC policies with full or partial exemptions. The City has successfully used DC policies (sometimes in conjunction with other policies such as low-cost loan programs and remediation incentives) so that certain types of development can cross the economic threshold and become viable. The foregone DC revenue is funded by existing tax and rate payers through funding allocations in both the Rate and Tax Capital Budgets. This cost is justified through the tangible and intangible benefits the City realizes as a result of increased development activity.

The *DC Act, 1997, as amended* (DC Act) requires mandatory exemptions that all municipalities must provide; one for residential intensification and one for a 50% expansion of existing industrial buildings. A municipality may choose to provide any additional discretionary exemptions but must do so through an express statement in the DC By-law.

The cost of providing the existing portfolio of discretionary DC exemptions exceeds the current capital financing plan allocation. To maintain the existing discretionary DC exemption policy the City is forecasted to need approximately \$40 M annually. The City current budgets approximately \$15 M annually.

Watson and Associates Economists Ltd. along with N. Barry Lyon Consultants Limited analyzed the City’s DC exemption policies in the context of growth, economic and financial considerations and provided recommendations where the City may be able to reduce exemptions and where the City should continue exemptions. One market gap identified through the review is that office development is challenging from a developer’s perspective within the City. The consultant makes recommendations to promote economic growth in this sector. While the market analysis revealed a gap related to office development, the same gap does not exist for medical office and, therefore, the incentives recommended for office development are not extended to medical office.

Staff has utilized the exemption review and made recommendations regarding DC exemption policy to be contained in the 2019 DC By-law. Key priorities that are advocated with the staff recommendations are:

- A continued revitalization of Downtown Hamilton;
- Commercial revitalization of all the City’s Community Improvement Project Areas (CIPAs) and Business Improvement Areas (BIAs);
- Continued support for the City’s industrial sector; and
- Promoting economic growth of the City’s office sector by refocusing other non-industrial incentives on encouraging and attracting office development.



<b>RECOMMENDED POLICIES COST SUMMARY</b>
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<b>Cost Summary</b>
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Details regarding the specific staff recommendation are located within the appropriate “DC EXEMPTION POLICIES” section of this document.

Table 1 summarizes the financial impact of the recommended 2019 DC policies on an annualized basis.

**Table 1: Staff Recommended Polices and related annualized costs**

<b>Exemption</b>	<b>High Level Recommendation</b>	<b>Annualized Cost</b>
Parking Structure	Remove	\$ -
Covered Sports Field	Remove	\$ -
Small Industrial Rate	Remove	\$ -
Academic – Post secondary / Not-for profit	Remove	\$ -
Affordable Housing	Remove	Alternate program
Places of Worship	Maintain	\$ 400,000
Public Hospitals	Maintain	\$ 5,000
Public Art	Maintain	\$ 180,000
Heritage Buildings	Maintain	\$ 150,000
Redevelopment for Residential Facility	Maintain	\$ 6,000
Industrial Rate	Maintain	\$ 2,600,000
Expansion of existing industrial (in excess of Act requirement)	Maintain	\$ 1,500,000
Transition Policy	Maintain	\$ 1,690,000
Student Residences	Modify	\$ 960,000
Agriculture	Modify	\$ 360,000
New non-industrial stepped rates	Modify	\$ 1,000,000
Expansion of existing non-industrial	Modify	\$ 160,000
Downtown Hamilton CIPA	Modify	\$ 3,250,000
Laneway Houses	Add	\$ 230,000
<b>TOTAL</b>		<b>\$ 12,491,000</b>

Funding for exemptions is anticipated to come from both the Rate and Tax Capital Budgets, specifically 40% rates, 60% tax.

Note that there are some policies where staff has recommended phasing an exemption reduction, in these cases the actual cost for the first year will be higher than in year five.

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The annualized costs were estimated using current residential development levels, modestly increased non-residential levels, consultant or staff estimates where a new exemption is being proposed, and draft 2019 DC rates as of January 2019. The growth pattern to meet the Province’s target was not used because the City is not realizing growth at that pace and would lead to an over estimation of the annual cost. The City will need to re-evaluate the cost of providing DC exemptions annually and adjust as growth patterns change.

<b>Future Budget DC Exemption Funding</b>
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The City’s budget documents currently identify funding dedicated towards DC exemptions as detailed in Table 2.

**Table 2: DC Exemption Funding identifying in 2019 Budget documents**

<b>Year</b>	<b>Rate Capital Budget</b>	<b>Tax Capital Budget</b>	<b>Total DC Exemption Funding</b>
<b>2019</b>	\$ 9.0 M	\$ 6.5 M	\$ 15.5 M
<b>2020</b>	\$ 8.0 M	\$ 6.5 M	\$ 14.5 M
<b>2021</b>	\$ 8.0 M	\$ 6.5 M	\$ 14.5 M
<b>2022</b>	\$ 8.0 M	\$ 6.5 M	\$ 14.5 M
<b>2023</b>	\$ 8.0 M	\$ 6.5 M	\$ 14.5 M
<b>2024</b>	\$ 8.0 M	\$ 6.5 M	\$ 14.5 M

Funding for exemptions identified in Table 1 is anticipated to come from both the Rate and Tax Capital Budgets, specifically 40% rates, 60% tax.

With the DC rate and development forecast information the time of this report, the exemption funding identified in the Rates Capital Budget will be sufficient to support the policy recommended as well as make progress in funding the shortfall from past DC exemptions.

With the DC rate and development forecast information available at the time of this report, the exemption funding within the Tax Capital Budget is not expected to be sufficient to support the policy recommended and make progress in funding the shortfall from past DC exemptions. Annually, through both the Capital Budget and the annual operating budget surplus allocation staff will make recommendations for funding in order to address the funding gap related to forecasted and historical DC exemptions.

## DC EXEMPTION POLICIES

### Parking Structures

**Current Policy:**

Parking garages and structures, including outdoor parking lots located at grade are 100% exempt from City DCs.

**DC Exemption Review Recommendation:**

Continue to exempt parking structures which are associated with the development of, and serve the needs of, residential, mixed use or non-residential uses; charge DCs for other parking structures (e.g. standalone revenue generating parking facilities) – no requirement to fund other parking exemptions.

**Additional Comments:**

None.

**Staff Recommendation:**

Charge DCs for commercial parking.

**Estimated Cost:**

\$0

**Alternative:**

Continue to exempt all forms of parking.

Estimated cost: \$4.0 M over 10 years

### Covered Sports Field

**Current Policy:**

A covered sports field, as defined in the DC By-law, is 100% exempt from City DCs.

**DC Exemption Review Recommendation:**

No specific recommendation provided.

**Additional Comments:**

There are no other comparator municipalities that provide a similar exemption.

**Staff Recommendation:**

Do not exempt covered sports fields.

**Estimated Cost:**

\$0

**Alternative:**

Continue to provide an exemption to covered sports fields.

Estimated cost: \$0.9 M over 10 years

<b>Small Industrial Rate</b>
------------------------------

**Current Policy:**

For new industrial developments that are less than 10,000 square feet, the industrial rate is set at 75% of the effective non-residential industrial rate.

**DC Exemption Review Recommendation:**

Not applicable.

**Additional Comments:**

DC exemptions need to be funded from other sources or infrastructure will not be able to keep up with growth. When deciding what exemptions to provide the City must focus on strategic priorities. A reduced rate for industrial development is already recommended therefore no further reduction is recommended.

**Staff Recommendation:**

Do not provide a lower rate for small industrial developments.

**Estimated Cost:**

\$0

**Alternative:**

Continue to discount new industrial developments under 10,000 square feet by levying only 75% of the industrial rate.

Estimated cost: \$1.3 M over 10 years

<b>Academic – Post Secondary / Not-for-profit elementary/secondary</b>
--

**Current Policy:**

Development of Academic Space by a University, Post-Secondary School offering a Degree or Diploma recognized by the Province of Ontario, or a Not-for-Profit Private Elementary or Secondary School operated in compliance with section 16 of the Education Act, as amended are exempt from City DCs, save and except for the transit component of the City DC.

**DC Exemption Review Recommendation:**

Remove exemption where permitted.

**Additional Comments:**

Crown agents are not required to follow local zoning requirements or otherwise follow the building permit process. In 1998, the “College d’arts appliques et de technologie La Cite collegiale” successfully argued that it was not required to pay DCs by virtue of being a Crown agent in a trial against “The Corporation of the City of Ottawa” and “The Regional Municipality of Ottawa-Carleton”

Staff is proposing to remove the exemption for academic uses. In cases where the academic organization can prove that it is a Crown agent, the city will not be able to enforce a DC.

**Staff Recommendation:**

Remove exemption.

Require documentation from developer to support mandatory exemption as a Crown agent.

**Estimated Cost:**

\$0

**Alternative:**

Continue to charge only the Transit component of the DC for post-secondary academic space.

Estimated cost: \$85.0 M over 10 years

**Affordable Housing****Current Policy:**

An affordable housing project that has been approved to receive funding through either a Government of Canada, Province of Ontario (including their crown corporations), City of Hamilton, or CityHousing Hamilton Corporation affordable housing program, where funding is not provided for DC liabilities, is 100% exempt from City DCs.

**DC Exemption Review Recommendation:**

It is recommended that a new affordable housing incentive program be developed that is outside the DC By-law. The program should be targeted and offer development charge grants and possibly other municipal funding incentives (e.g. capital contributions, property tax grant) for clearly defined depths of affordability. The program should align and be stackable with senior level funding where appropriate and provide as much certainty to the development community as possible. Certainty in this situation refers to qualifying requirements and the availability and timing of funds.

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In order to most effectively aid affordable housing providers and be able to adapt to the changing affordable housing market, staff is recommending that an affordable housing grant program be developed outside the DC By-law.

Some challenges with incentivizing through the DC By-law are that it views any type of upper level funding as being equal (\$50K loan vs millions in construction funds), it does not allow the City to assess the merit of a project and it does not allow for changes in criteria to reflect the changing affordable housing market.

Staff is recommending that a program be developed outside of the DC By-law to effectively replace the DC exemption and allow the flexibility of project prioritization and ability to vary incentives with the depth of affordability. It is expected that the timing of payment under such a program can be concurrent with the timing on DCs so that the cash flow of the developing organization is not impacted by this change in the delivery method of an affordable housing incentive.

Note that CityHousing Hamilton is not impacted by this recommendation. CityHousing Hamilton projects will continue not to be subject to DCs. Any City owned facility is not charged DCs.

Should a separate affordable housing program not be developed and approved prior to passing the 2019 DC By-law that staff will recommend amending the 2019 DC By-law to include the affordable housing exemption on a per unit basis. Once a separate affordable housing program is scheduled to be in place, staff will seek to amend the 2019 DC By-law to remove the exemption.

**Staff Recommendation:**

Do not exempt affordable housing within the DC By-law

AND

That Housing Services be directed to draft an affordable housing grant program in lieu of including an affordable housing exemption within the DC By-law prior to the passing of the 2019 DC By-law.

**Estimated Cost:**

To be determined.

The cost will depend on the terms and expected use of the program to be designed.

**Alternative:**

Continue to exempt affordable housing in the DC By-law, edit wording to apply on a unit basis rather than a project basis.

Estimated cost: \$5.5 M over 10 years

## Places of Worship

**Current Policy:**

A place of worship, as defined in the DC By-law, is 100% exempt from City DCs.

**DC Exemption Review Recommendation:**

No specific recommendation provided.

**Staff Recommendation:**

Maintain exemption – clarify that revenue generating space is not exempt.

**Estimated Cost:**

\$4.0 M over 10 years

**Alternative:**

Do not provide an exemption for places of worship.

Estimated cost: \$0

## Public Hospitals

**Current Policy:**

Development of a Public Hospital, as defined in the DC By-law, is exempt from 50% of the City DCs otherwise payable under the DC By-law.

**DC Exemption Review Recommendation:**

No specific recommendation provided.

**Staff Recommendation:**

Maintain 50% exemption.

**Estimated Cost:**

\$0.05 M over 10 years based on historical

However, note that while no future hospital projects are known, one single project would likely exceed the historical average.

**Alternative:**

Do not provide an exemption for public hospitals.

Estimated cost: \$0

**Downtown Public Art Reserve voluntary contributions****Current Policy:**

Developments within the Downtown Hamilton Community Improvement Project Area (CIPA) are eligible to receive a dollar for dollar exemption for voluntary contributions made to the Downtown Public Art Reserve, to a maximum of 10% of the City DC calculated prior to the application of the Downtown Hamilton CIPA exemption.

**DC Exemption Review Recommendation:**

No specific recommendation provided.

**Additional Comments:**

Cities around the world are realizing the economic and social benefits, and quality of life enhancements that flow from creativity and investment in culture and the expression of a community's culture through mediums such as Public Art. In addition to bringing vibrancy to a city's public spaces, Public Art is a tremendous source of civic pride and conveys the identity and cultural image of a city to its residents and visitors. Developers contributing the Downtown Public Art Reserve demonstrates a commitment to and a sense of ownership of the public spaces that reflect the evolving community across the Downtown Hamilton CIPA for the benefit of future tenants and residents as well as the existing community.

The funding from developers provides the only source of funds to the City's Downtown Public Art Reserve (108049). Staff makes recommendations for how to spend the funds and Council approves through Capital Budget requests. In absence of providing developers and opportunity to receive a DC exemption for voluntary contributions to the Downtown Public Art Reserve an annual contribution would need to be included in the City's annual budget.

**Staff Recommendation:**

Maintain exemption, place an annual limit of \$250K on the contributions that will be accepted by the City under this program.

**Estimated Cost:**

\$1.8 M over 10 years

**Alternative:**

Remove exemption, budget annually through the City's budget process.

Estimated cost: \$1.8 M over 10 years



## Heritage Buildings

**Current Policy:**

Adaptive Reuse of Protected Heritage Properties as defined in the DC By-law, is exempt from City DCs within the existing building envelope.

**DC Exemption Review Recommendation:**

No specific recommendation provided.

**Additional Comments:**

The cost related to renovating properties with a heritage designation can be substantially more than the costs related to renovating non-heritage designated properties. Therefore, staff is recommending maintaining the exemption to aid in the preservation and adaptive reuse of the City’s heritage properties and adding clarification that any existing sections of the building that are not covered by the heritage designation are not eligible for the exemption.

**Staff Recommendation:**

Maintain exemption - within existing building envelope except for sections that are not covered by the Heritage designation.

**Estimated Cost:**

\$1.5 M over 10 years

**Alternative:**

Do not provide an exemption for the Adaptive Reuse of Heritage Properties.

Estimated cost: \$0

## Redevelopment for Residential Facility

**Current Policy:**

Residential facilities created within the existing building envelope of an existing residential development, is exempt from 50% of the City DCs otherwise payable under the DC By-law.

Redevelopment of an existing residential facility to create additional units within the existing building envelope is exempt from 50% of the City DCs otherwise payable under the DC By-law. DC Credit for any existing residential facilities being redeveloped shall be provided at 100% of the DC rate in effect.

**DC Exemption Review Recommendation:**

No specific recommendation provided.

**Additional Comments:**

This exemption does not apply to brand new residential facility developments. Older style residential facilities are being converted from rooms containing two beds per room to one bed per room. Therefore, staff recommends maintaining the exemption.

**Staff Recommendation:**

Maintain exemption.

**Estimated Cost:**

\$0.06 M over 10 years

**Alternative:**

Do not provide any exemption for redevelopment for use as a residential facility.

Estimated cost: \$0

<b>Industrial Rate</b>
------------------------

**Current Policy:**

Industrial developments are only charged 100% of the water and wastewater and 65% of the services related to a highway components of the DC. This equates to a 39% reduction from the calculated rate.

**DC Exemption Review Recommendation:**

Reduced rate exemption (39% reduction) should continue.

**Additional Comments:**

None.

**Staff Recommendation:**

Continue with exemption, 39% reduction, by adjusting the % of the services related to a highway component charged.

**Estimated Cost:**

\$26.0 M over 10 years

**Alternative:**

None

<b>Expansion of an existing Industrial development</b>
--

**Current Policy:**

Current DC By-law reads:

17. *No development charge shall be imposed on:*
  - (a) *one or more enlargements of an existing industrial building as defined herein, up to a maximum of fifty percent (50%) of the gross floor area of the existing industrial building.*
  - (b) *one or more industrial buildings on the same lot or parcel of land as one or more existing industrial buildings, up to a maximum of fifty percent (50%) of the combined gross floor area of the existing industrial buildings.*
18. *Where a proposed enlargement exceeds fifty percent (50%) of the gross floor area of an existing industrial building, development charges are payable on the amount by which the proposed enlargement exceeds fifty percent (50%) of the gross floor area before the enlargement.*
19. *The cumulative total of the gross floor area previously exempted hereunder shall be included in the determination of the amount of the exemption applicable to any subsequent enlargement.*

Where:

- (a) *a subdivision of a lot or parcel of land subsequent to any enlargement or additional industrial building previously exempted hereunder results in the existing industrial building being on a lot or parcel separate from the development previously, further exemptions, if any, pertaining to the existing industrial building shall be calculated on the basis of the lot or parcel of land as it exists at the time of said enlargement or additional industrial building.*
- (b) *lands are merged or otherwise added to a lot or parcel of land after July 16, 2018, the exemption in 17 (b) shall only be available to development on the lot or parcel of land as it existed as of July 16, 2018 and the exemption in subsection 17(b) shall not apply to any development on lands that were merged with or added to a lot or parcel of land after July 16, 2018.*

**DC Exemption Review Recommendation:**

Not applicable.

**Additional Comments:**

The DC Act requires that municipalities provide a 50% expansion exemptions for industrial buildings. The City allows the exemption to be used whether the expansion is attached or unattached to recognize that industrial expands in different forms and DC policy should not favour an attached expansion over a detached structure.

**Staff Recommendation:**

Maintain the 50% Industrial expansion exemption as written in the active DC By-law.

**Estimated Cost:**

\$15.0 M over 10 years

**Alternative:**

Require that industrial expansions be attached to an existing structure in order to receive 50% expansion exemption.

Estimated cost: \$0

<b>Transition Policy</b>
--------------------------

**Current Policy:**

Current DC By-law reads:

37. *The development charge rates payable are the rates in effect on the date a complete building permit application is received and accepted by the City’s Chief Building Official, provided that the permit is issued within 6 months of the effective date of a development charge rate increase. Where the said building permit is lawfully revoked by the Chief Building Official on or after the date of the said development charge rate increase, any subsequent application for a building permit on the lands or site will be subject to the development charge rate in effect on the date of building permit issuance. For the purposes of this Section, a “complete application” shall mean an application with all required information and plans provided, all application fees paid and all prior charges and taxes relating to the subject land paid and discharged.*
38. *Where a complete application for site plan approval pursuant to City of Hamilton By-law 03-294, as amended, or any successor thereto, has been received by the City prior to May 1, 2014, and no building permit in relation thereto has been issued prior to July 06, 2014, the development charge payable upon the issuance of the building permit or permits issued in relation to said approved site plan shall be the applicable development charge as of July 5, 2014, provided that:*
- (a) any building permit required in relation to the said approval has been issued prior to January 6, 2015; and*
  - (b) construction has commenced thereafter within six (6) months of the date of issuance of the said building permit or permits, such construction to be deemed to have commenced when all footings and foundations have been completed.*

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*For the purposes of this Section 38, a “complete site plan application” means an application in compliance with the requirements of the City as set out in the document entitled “City of Hamilton Submission Requirements and Application Form for Site Plan Control” dated January 01, 2004, or any successor thereto, as the same may be amended from time to time, together with all applicable fees.*

**DC Exemption Review Recommendation:**

No specific recommendation provided.

**Additional Comments:**

Staff previously sought approval to discontinue the annual transition policy. Such a policy is not identified in any comparator municipality DC By-laws. Staff is now recommending that the policy be continued for the implementation of the new rates and the annual transitions thereafter for the following reasons:

- When large increases in DC rates are announced the building department is overwhelmed with permit applications.
- The influx of permit applications will correlate with the size of the rate increase, a large increase leads to a large volume of applications attempting to get permits ahead of the rate increase.
- If a transition based on application date is not provided then, in order to meet building code requirements related to permit issuance, additional staff will need to be hired and trained for the few weeks leading up to a DC rate increase.
- Hiring staff for a few weeks of work is not an option due to the technical nature of the position and a required 4-5 month training period.

Therefore, since annual indexation cannot be predicted and hiring and training staff for a few weeks of work is not a feasible option, staff are recommending that the transition policy remain.

Staff is not recommending a transition tied to site plan application at this time.

**Staff Recommendation:**

Maintain the transition policy tied to building permit application.

**Estimated Cost:**

\$6.7 M for the first year, \$0.44 M annually thereafter.

The first year will result in a much higher cost to the City due to a new DC rate coming into effect.

Note that the cost has been spread over the five year by-law period when estimating the annualized cost for Table 1.

**Alternative:**

None

## Student Residences

**Current Policy:**

Development of a student residence by a university, college of applied arts, or other accredited post-secondary institution is exempt from 50% of the City DCs otherwise payable under the DC By-law. In the case of redevelopment of student residences, credit for existing residences to be redeveloped shall be applied based on 100% of the rate in effect, as outlined in the DC By-law.

**DC Exemption Review Recommendation:**

Remove exemption.

**Additional Comments:**

There are a few student residence projects that are in discussions. While staff is recommending removing the exemption, careful considerations has been provided. A sudden elimination of an exemption of this magnitude for a key sector of development will be better accommodated with a longer period of notice. Therefore, staff recommends providing approximately a year and half notice of the change.

**Staff Recommendation:**

Remove the 50% exemption effective June 30, 2020, maintain until then.

**Estimated Cost:**

\$4.8 M to June 30, 2020 assuming approximately 660 student rooms benefit from the exemption.

Note that the cost has been spread over the five year by-law period when estimating the annualized cost for Table 1.

**Alternative:**

Remove 50% exemption effective immediately.

Estimated cost: \$0

## Agriculture

### Current Policy:

Agricultural uses, as defined in the DC By-law, which are located outside the urban boundary, are 100% exempt from City DCs.

The DC By-law currently defines agriculture as:

*“agricultural use” means the bona fide use of lands and buildings for apiaries, fish farming, dairy farming, fur farming, the raising or exhibiting of livestock, or the cultivation of trees, shrubs, flowers, grains, sod, fruits, vegetables and any other crops or ornamental plants and includes the operation of a farming business and the erection of a farm help house on agricultural land outside the Urban Area Boundary, but excludes a commercial greenhouse. Agricultural use does not include the development of a single detached dwelling on agricultural land. Development of building or structures inside the Urban Area Boundary for a use that would, except for its location inside the Urban Area Boundary, be an agricultural use under this By-law shall be an industrial development.*

### DC Exemption Review Recommendation:

No specific recommendation provided.

### Additional Comments:

In Ontario, farm properties satisfying the eligibility requirements are identified for the Farm Property Class and are taxed at 25% of the municipal residential tax rate.

For a number of years and until 2016, the City of Hamilton reduced the tax ratio of the farmland property tax in order to mitigate the impacts of reassessment (the value of farmland has increased at a pace higher than the other tax classes). The provincial tax ratio threshold for farmland properties is 0.2500. Hamilton, along with some identified municipalities, provides a tax ratio under this threshold.

Table 3 shows Hamilton’s historical farmland tax ratios and Table 4 shows a list of municipalities that have implemented farmland tax ratios below the Provincial threshold of 0.2500.

**Table 3: City of Hamilton Historical Farmland Tax Ratios**

	2013	2014	2015	2016	2017	2018
<b>Tax Ratio</b>	0.1982	0.1857	0.1807	0.1767	0.1767	0.1767
<b>Municipal Tax Impact</b>	7.4%	3.7%	5.20%	3.70%	5.6%	5.3%

With all other factors held constant, a 0.01 increase in the 2018 farmland tax ratio would have equated to an additional \$116 K in tax revenue from the farmland class.

## Appendix “B” to Report FCS18062(a)

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Table 4: Farmland tax ratios below Provincial threshold of 0.2500

Municipality	2018 Farmland Ratio
London	0.1180
North Bay	0.1500
Caledon	0.1689
Hamilton	0.1767
Durham	0.2000
Greater Sudbury	0.2000
Halton	0.2000
Ottawa	0.2000
Chatam-Jent	0.2200
Kingston	0.2250
Lambton	0.2260
Oxford	0.2350
Brant County	0.2400

Source: BMA Municipal Study 2018

In addition to a low tax ratio, agriculture development currently benefits from a 100% DC exemption. Staff recommends removing farm help houses from the definition of agriculture and reducing the agriculture DC exemption to 50% with a phased approach.

Staff were directed, through the May 17, 2016 Planning Committee to add the requirement of a farm business registration number for developers accessing the agriculture exemption. Staff will add this clarification in the draft 2019 DC By-law.

Further, staff has reviewed other municipal DC By-laws and there are at least four municipalities (Milton, Niagara Region, Bradford West Gwillimbury and Centre Wellington) that have a definition related to cannabis/marijuana. It is recommended that the definition of agriculture be structured to exclude cannabis growing and processing facilities and that these facilities be charged the industrial DC rate.

**Staff Recommendations:**

Do not exempt farm help houses.

Require proof of a farm business registration number to receive the agriculture DC exemption.

Agriculture – bona fide farm:

Start reducing the DC exemption for agriculture

July 6, 2019 – July 5, 2020 – continue to provide 100% exemption

July 6, 2020 – July 5, 2021 – reduce agriculture exemption to 75%

July 6, 2021 – July 5, 2023 – reduce agriculture exemption to 50%.



Redefine agriculture to exclude cannabis growing and processing, charge the industrial DC rate.

**Estimated Cost:**

\$1.8 M over five years

Note that where varying (decreasing) exemption rates have been recommended, staff analysed the estimated cost for the five year By-law period rather than a 10 year period.

**Alternatives:**

1. Continue to exempt agriculture at 100%.  
Estimated cost: \$5.5 M over 10 years (\$2.8 M over five years)

Direct staff to review increasing the farmland class tax ratio.

2. Do not define redefine agriculture to exclude cannabis growing and processing.  
Estimated cost: \$13.0 M over 10 years

<b>New Non-industrial (Commercial/Institutional) stepped rates</b>
--

**Current Policy:**

That the effective City DC rate for new non-industrial (Commercial/Institutional) be set as follows:

- i. 50% of the rate in effect be charged on the first 5,000 ft<sup>2</sup> of gross floor area;
- ii. 75% of the rate in effect be charged on the second 5,000 ft<sup>2</sup> of gross floor area;
- iii. 100% of the rate in effect be charged on the gross floor area in excess of 10,000 ft<sup>2</sup>.

**DC Exemption Review Recommendation:**

Non-industrial stepped rate DC exemption should be removed from non-office based commercial and institutional developments.

DC exemption should be maintained for office development, excluding medical office.

**Additional Comments:**

Staff is generally supportive of implementing the consultant's recommendation. The City has priority commercial development areas that staff is recommending the stepped DC rates be maintained.

**Appendix “B” to Report FCS18062(a)****Page 22 of 30**

Staff is recommending that the stepped non-industrial (commercial/institutional) rates be maintained within the City’s CIPAs and BIAs and for office development outside these borders.

The City’s CIPAs and BIAs borders are included for reference as Appendix “C” to Report FCS18062(a).

**Staff Recommendation:**

Continue stepped DC rates for office, excluding medical office.  
Continue stepped DC rates within the City’s CIPAs and BIAs.  
Remove stepped rates for all other development.

**Estimated Cost:**

\$10.0 M over 10 years

**Alternative:**

Continue stepped rates for all non-industrial development.  
\$27.5 M over 10 years

**Expansion of Existing Non-Industrial (Commercial/Institutional)**

**Current Policy:**

That the initial 5,000 ft<sup>2</sup> of gross floor area of an expansion be exempted, provided that the development did not receive the stepped DC rates in the past.

**DC Exemption Review Recommendation:**

Remove non-industrial expansion exemption.

**Additional Comments:**

Staff is generally supportive of the consultant’s recommendation. Staff is recommending maintaining the exemption for office, excluding medical office. This approach is consistent with how office has been treated with other exemption recommendations.

**Staff Recommendation:**

Only provide a 5,000 ft<sup>2</sup> exemption for office, excluding medical office.  
Remove exemption for all other non-industrial development.

**Estimated Cost:**

\$1.6 M over 10 years

**Alternative:**

Remove non-industrial expansion DC exemption.  
Estimated cost: \$0

<b>Downtown Hamilton CIPA</b>
-------------------------------

**Current Policy:**

Current DC By-law reads:

22. *All development within the boundaries of the Downtown Hamilton Community Improvement Project Area (CIPA) as shown on Schedule “D” attached to this By-law shall:*

- (a) *be exempted from the following percentages of the development charges otherwise payable, after all other credits and exemptions are considered, under the By-law for only the portion of the building that is within the height restrictions as shown in Schedule “H” attached to this By-law based on the later of the date on which development charges are payable or the date all applicable development charges were actually paid:*

<i>Date</i>	<i>Percentage of exemption (%)</i>	<i>Percentage of development charge payable (%)</i>
<i>July 6, 2014 to July 5, 2015</i>	<i>90</i>	<i>10</i>
<i>July 6, 2015 to July 5, 2016</i>	<i>85</i>	<i>15</i>
<i>July 6, 2016 to July 5, 2017</i>	<i>80</i>	<i>20</i>
<i>July 6, 2017 to July 5, 2018</i>	<i>75</i>	<i>25</i>
<i>July 6, 2018 to July 6, 2019</i>	<i>70</i>	<i>30</i>

*Schedule “H” attached to this By-law shall not be amended by any decision by the Local Planning Appeal Tribunal relating to the City’s Zoning By-law Amendment 18-114; or by any amendments, including site specific or area specific, to the City’s Zoning By-law 05-200 either through Local Planning Appeal Tribunal decisions or by Council.*

*For clarity, any development in excess of the height restrictions as shown in Schedule “H” shall be subject to the full calculated development charge and only be reduced if there are any credits or exemptions remaining after applying any and all other credits or exemptions to the portion of the building that is within the height restrictions as shown in Schedule “H” attached to this By-law.*

In summary, currently all development within the Downtown Hamilton CIPA receives a 70% exemption for all height that is within the heights that were approved with the Downtown Hamilton Secondary Plan.

**DC Exemption Review Recommendation:**

Reduce CIPA exemption through a phased approach. Continue to apply to residential, non-residential and mixed use development except for standalone major office development.

Continue to provide 70% CIPA exemption for standalone major office developments (Class A) greater than 20,000 ft<sup>2</sup> gross floor area.

**Additional Comments:**

Staff supports the consultant's recommendation. Previously staff proposed an initial reduction from 70% exemption to 50% exemption. The DC exemption is one of the most significant incentives that encourages development within the Downtown Hamilton CIPA. Staff recommends a more conservative approach, so as not to constrain development in the downtown.

While there have been a number of multi-residential projects announced in downtown Hamilton, the real estate market is experiencing volatility. A number of factors can influence the viability of these and future projects. These factors include increases in labour and material costs, rise in interest rates, tightening of construction financing, and a potential slowdown in the housing market. It is important that the residential activity which is starting to take shape in the core be continued in order to attract interest in the commercial and office sectors. Economic Development is focussed on attracting more companies and jobs into the downtown but a key component of this strategy is to increase the density in the downtown in order to provide the talent pool that employers require. Companies and businesses are attracted by increased density and downtown Hamilton is showcased as a place where people want to live and work. In order to continue the interest in attracting new multi-residential and commercial projects in the downtown, it is important that incentives be adjusted gradually and to provide sufficient notice to developers and investors as projects take time to plan, by reducing the development charge exemption by 10% per year (an increase from the previous 5% reduction) to 2021. The proposed schedule of reducing the development charge exemption to 60% on July 6, 2019 to 50% in 2020 and then 40% in 2021, 2022 and 2023 would also allow the City to review the impact of the changes on development in the downtown. Staff would seek to re-evaluate the exemption once the 40% is reached in 2021 to determine what, if any, modifications are required.

**Staff Recommendations:**

Continue to provide 70% CIPA exemption for major office developments (Class A - greater than 20,000 ft<sup>2</sup> gross floor area), whether or not the development is standalone office.

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For other development within the Downtown Hamilton CIPA

- July 6, 2019 – July 5, 2020           60% exemption
- July 6, 2020 – July 5, 2021           50% exemption
- July 6, 2021 – July 5, 2022           40% exemption
- July 6, 2022 – July 5, 2023           40% exemption
- July 6, 2023 – July 5, 2024           40% exemption

Maintain the same height limits on exemption use.

Add clarity that the Downtown Hamilton CIPA exemption cannot be combined/stacked with other DC exemptions and that the Downtown Hamilton CIPA exemption will not be applied if other exemptions result in a lower amount payable. (Example: in the Downtown Hamilton CIPA the stepped non-industrial rates will not be applied, only the Downtown Hamilton CIPA exemption – unless the stepped non industrial rates result in a lower charge to the developer, in that case the Downtown Hamilton CIPA exemption will not be applied.)

**Estimated Cost:**

\$16.3 M over five years.

Note that where varying (decreasing) exemption rates have been recommended, staff analysed the estimated cost for the five year By-law period rather than a 10 year period.

**Alternative:**

A different phase-out approach could be used; all other recommendations remain the same.

For other development within the Downtown Hamilton CIPA

- July 6, 2019 – July 5, 2020           50% exemption
- July 6, 2020 – July 5, 2021           40% exemption
- July 6, 2021 – July 5, 2022           30% exemption
- July 6, 2022 – July 5, 2023           20% exemption
- July 6, 2023 – July 5, 2024           10% exemption

Estimated cost: \$10.1 M over five years

<b>Laneway Housing</b>
------------------------

**Current Policy:**

None

**DC Exemption Review Recommendation:**

Not applicable.

**Additional Comments:**

Staff were directed to consider addressing a DC exemption for laneway houses with the 2019 DC By-law through Report PED16200(a) (Attached as Appendix “D” to Report FCS18062(a)). Laneway houses are physically detached structures and therefore are classified as single detached dwellings within the current DC By-law. The DC Act contains statutory exemptions when an additional dwelling unit is added within an existing residential dwelling but does not address second dwellings that are on the same lot as an existing dwelling.

Staff is recommending an exemption for laneway houses to encourage this form of development.

Currently, zoning only exists to permit laneway homes within Wards 1, 2, 3 and 4.

**Staff Recommendation:**

Exempt laneway housing.

**Estimated Cost:**

\$2.3 M over 10 years

**Alternative:**

Do not provide an exemption for laneway housing.

Estimated cost: \$0

**Uses charged Industrial Rate****Current Policy:**

That self-storage facilities and hotels be charged at the industrial DC rate.

**DC Exemption Review Recommendation:**

Not applicable.

**Additional Comments:**

The DC rate calculation utilizes the North American Industry Classifications System (NAICS) when classifying development.

Self storage facilities and hotels are not industrial uses within the NAICS but have been benefitting from the industrial rates through the City’s DC By-law in the past. Staff is recommending that these uses be charged the appropriate non-industrial (commercial) DC rate.

Staff has identified film, production and artists’ studios as a key economic industry that the City should support as able. Therefore, staff recommends adding a definition for this type of development and that they be charged the industrial DC rate.

**Staff Recommendation:**

Do not provide the industrial rate for self-storage facilities or hotels.  
Provide the industrial rate for film, production and artists' studios.

**Estimated Cost:**

The anticipated costs will be minor and will be able to be covered with what is already calculated for reducing the industrial rate from the calculated rate.

**Alternative:**

Only provide the industrial rate to industrial developments.  
Estimated cost: \$0

**OTHER DC POLICIES****Environmental Remediation and Site Enhancement (ERASE)  
Redevelopment Program****Current Policy:**

Development of a brownfield property that has been approved by the City for an ERASE Redevelopment Grant, is eligible to receive an exemption equivalent to the cost of the environmental remediation on, in or under the property (as approved by the City under the ERASE Redevelopment Grant program and required to be paid to the owner), up to but not exceeding the amount of City DCs otherwise payable under the DC By-law.

The ERASE Grant payments are then reduced by the amount that was used to offset the DC.

**DC Exemption Review Recommendation:**

No specific recommendation provided.

**Additional Comments:**

The ability to offset the DCs with the future ERASE Grants aids developers with the financial costs of site remediation. Where a developer is receiving an ERASE Grant they are required to pay for the site remediation works up front and wait until the development is completed and reassessed by the Municipal Property Assessment Corporation (MPAC) to benefit from the grant. Being able to defer the DCs to the time of the Grant payments assists the development with managing cash flow.

It is, however, recommended that this exemption be rephrased as a deferral and a formal agreement be entered into in order to protect the City's interest and ensure collection in the future.

**Staff Recommendation:**

Maintain ability to offset DCs with ERASE grant, require security through a DC Deferral Agreement.

**Estimated Cost:**

DC impact negligible (lost interest) – the cost of the ERASE Grant is approved through the ERASE Grant and would be incurred regardless of the decision related to DCs.

**Alternative:**

Do not permit ERASE Grant recipients to offset the DC with the ERASE Grant.

Estimated cost: \$0

**Deferral Agreements****Current Policy:**

The City (subject to the approval of the General Manager of Finance & Corporate Services) may enter into an agreement for non-residential developments, residential facilities, and apartment developments only, to defer payment, with interest, of City DCs for a term of no longer than 5 years, after it would otherwise be payable under the DC By-law.

Deferral Agreements for a Public Hospital may allow the City DCs to be deferred for no longer than 10 years after it is otherwise payable under the DC By-law, and deferral agreements for the student residence of a university may allow the City DCs to be deferred for no longer than thirty (30) years after it is otherwise payable under the DC By-law.

**DC Exemption Review Recommendation:**

Not applicable.

**Additional Comments:**

In recent years Council has received requests to extend a few DC deferral agreements past the five years that staff have authority to enter into. With the current policy, staff is not able to approve extensions. It is recommended that staff's authority be increased to permit staff to negotiate extension requests for up to two years after the initial five year term.

Another opportunity to enhance the effectiveness of deferral agreements is to add a deferral option for podium developments. The DC Act requires DCs to be paid with the first building permit. This is a challenge for podium development since the towers can be in phases with years in between and DCs are due with what is typically the underground parking because it forms the foundation for the future towers. It is recommended that staff be provided authority to enter into deferral agreements to delay the timing and rate of DC collection to the structure permit for each tower.



In addition, when an ERASE grant is used towards the DC there is not a registered deferral on title. Staff recommends that this become formal process and therefore need approval to enter into a deferral when the ERASE grant is used to offset the DC.

**Staff Recommendation:**

Maintain existing policy and add:

1. That staff be authorized to negotiate extensions of DC Deferral Agreements of up to two years.
2. That staff be authorized to enter into DC Deferral Agreements related to Podium Developments to delay timing and applicable rate of DC payment to the issuance of each structure permit (no time limit).
3. That staff be authorized to enter into zero interest DC Deferral Agreements where a developer is applying their ERASE grant to offset the DC (no time limit).

**Estimated Cost:**

\$0

**Alternative:**

None

<b>Other DC Policies</b>
--------------------------

**Current Policy:**

Temporary Building or Structure:

A temporary building or structure is 100% exempt from City DCs, provided that the temporary building or structure not remain on the lands for more than one year.

Redevelopment/Demolition Credits:

A DC credit shall be provided for any existing development, and any demolished buildings, provided that a building permit has been issued within five years of demolition permit issuance. No credit shall be provided where a demolished building, or part thereof, would have been exempt pursuant to the DC By-law.

The DC credit shall be based upon the number of residential units multiplied by the related DC rates in effect at the time of redevelopment, and the non-residential gross floor area multiplied by the appropriate non-residential DC rates in effect at the time of redevelopment based on former use.

**Indexing of Rates:**

The City DC rates shall be indexed annually on the anniversary of the effective date of the DC By-law, based on the percentage change during the preceding year, as recorded in Statistics Canada’s Construction Cost Index (non-residential building for the City of Toronto – CANSIM table 327-0043).

**Demolition Credit Extensions:**

The General Manager of Finance & Corporate Services may extend demolition credits for developments located outside the urban boundary, or for developments where it has been determined by the General Manager of Planning & Economic Development that significant development delays were not the responsibility of the developer. Otherwise, only Council may extend Demolition Credits.

**Staff Recommendation:**

That the above policies continue to be included in the DC By-law  
Estimated cost: \$0

**Alternative:**

Remove demolition credit extension policy.

**GENERAL DC BY-LAW HOUSEKEEPING****Staff Recommendation:**

Where no change in policy from the current DC By-law 14-153 has been addressed through Report FCS18062(a) the existing policy will continue. Staff will review all existing DC By-law definitions, schedules, and appendices and add/modify/clarify as deemed necessary. Example: adding a definition of a live/work dwelling, stacked townhouse, laneway house, etc.

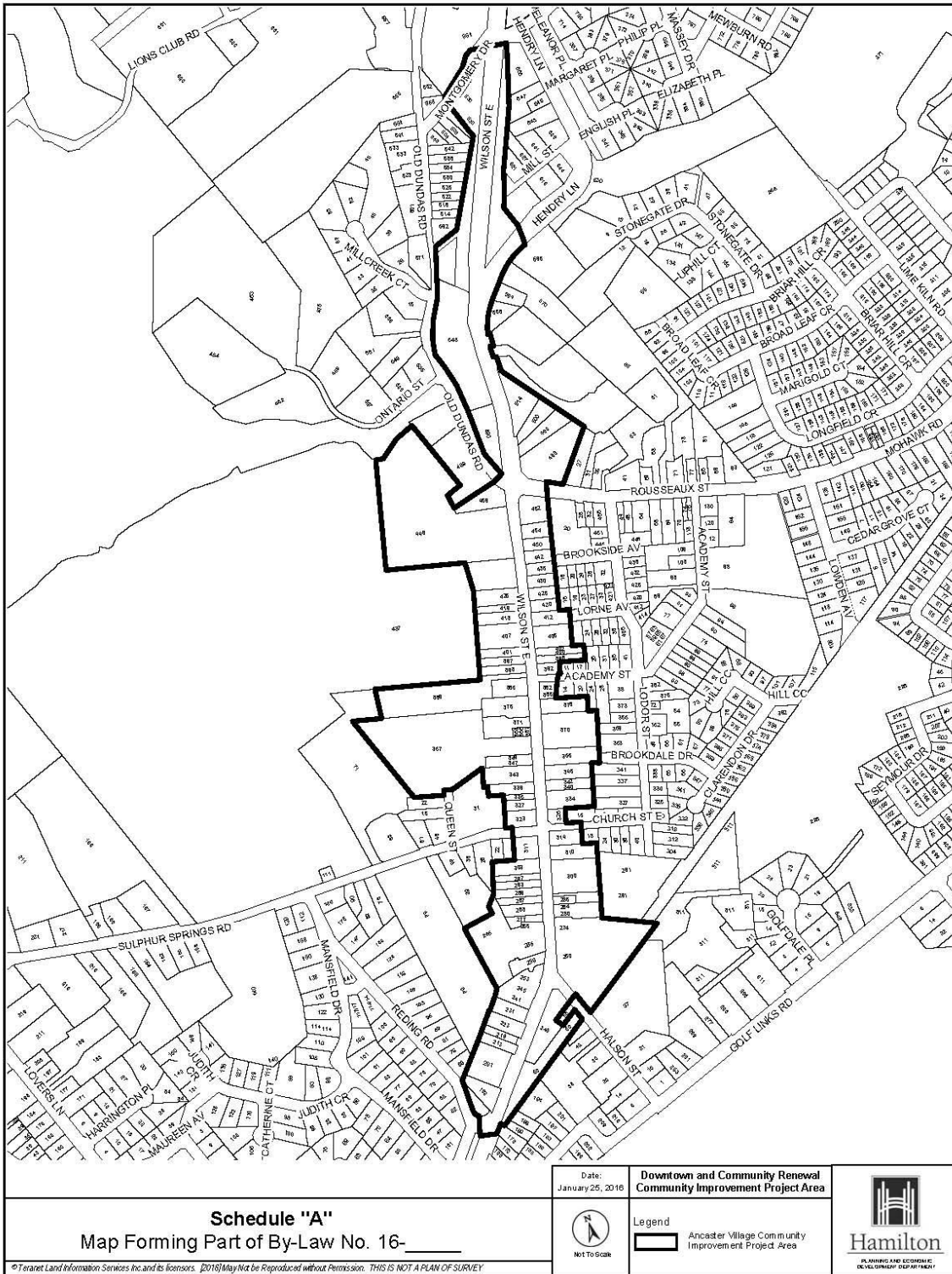
**MAPS FOR COMMUNITY IMPROVEMENT  
PROJECT AREA (CIPA) & BUSINESS  
IMPROVEMENT AREA (BIA)**

**MAPS FOR COMMUNITY IMPROVEMENT PROJECT AREA (CIPA) &  
BUSINESS IMPROVEMENT AREA (BIA)**

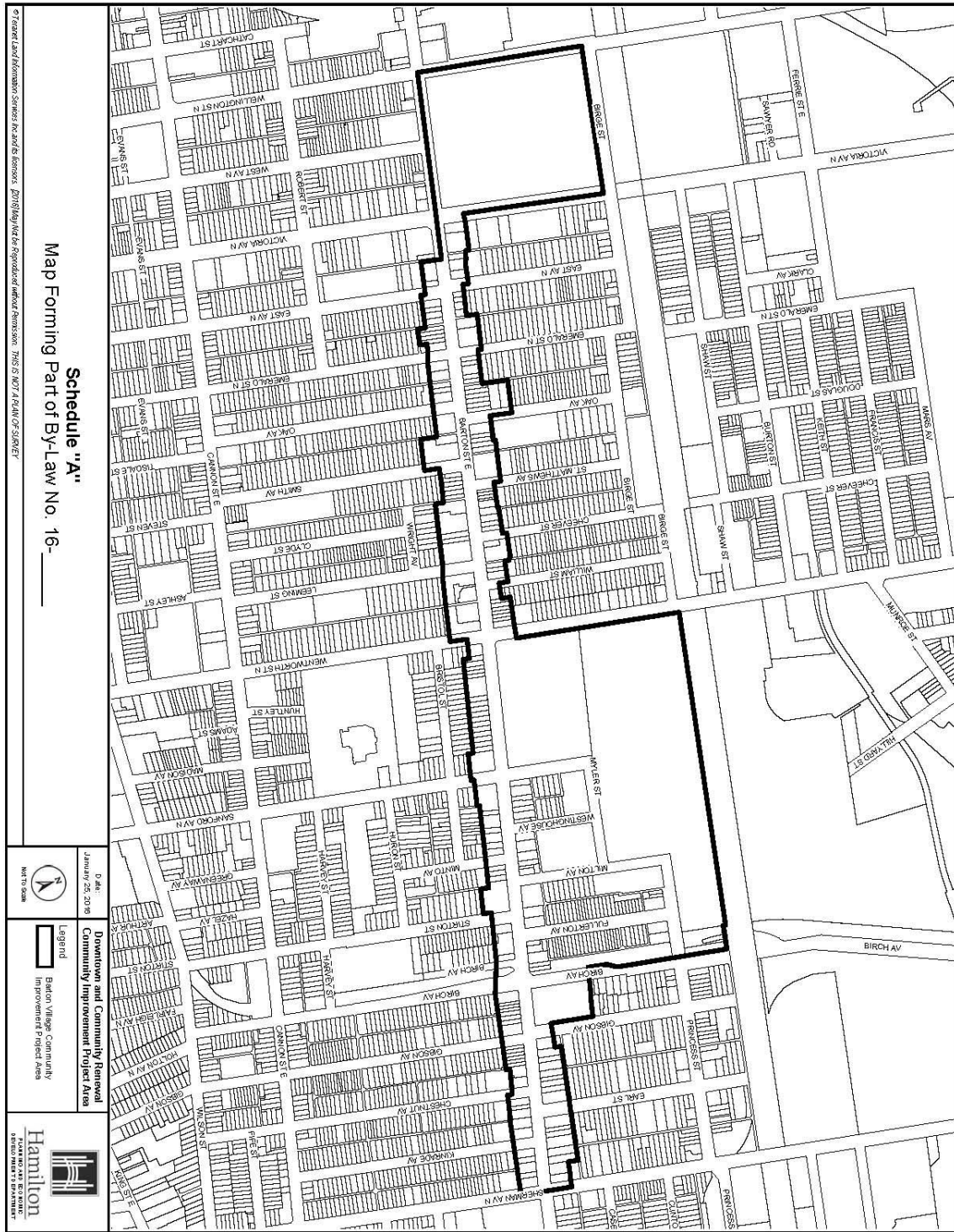
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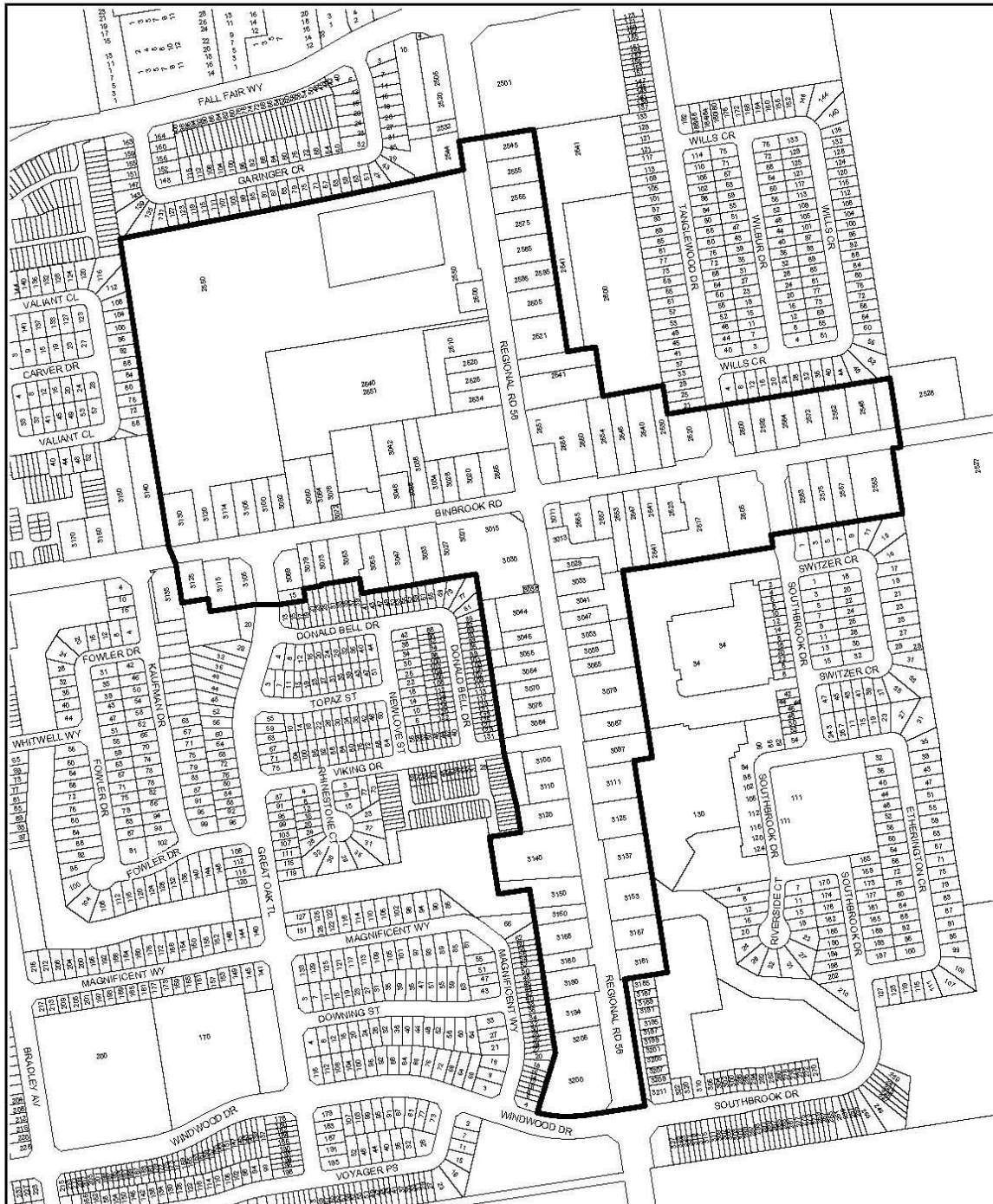
### Ancaster Village CIPA



### Barton Village CIPA



Binbrook CIPA



Schedule "A"  
Map Forming Part of By-Law No. 16-\_\_\_\_\_

Date: January 25, 2016  
Downtown and Community Renewal  
Community Improvement Project Area



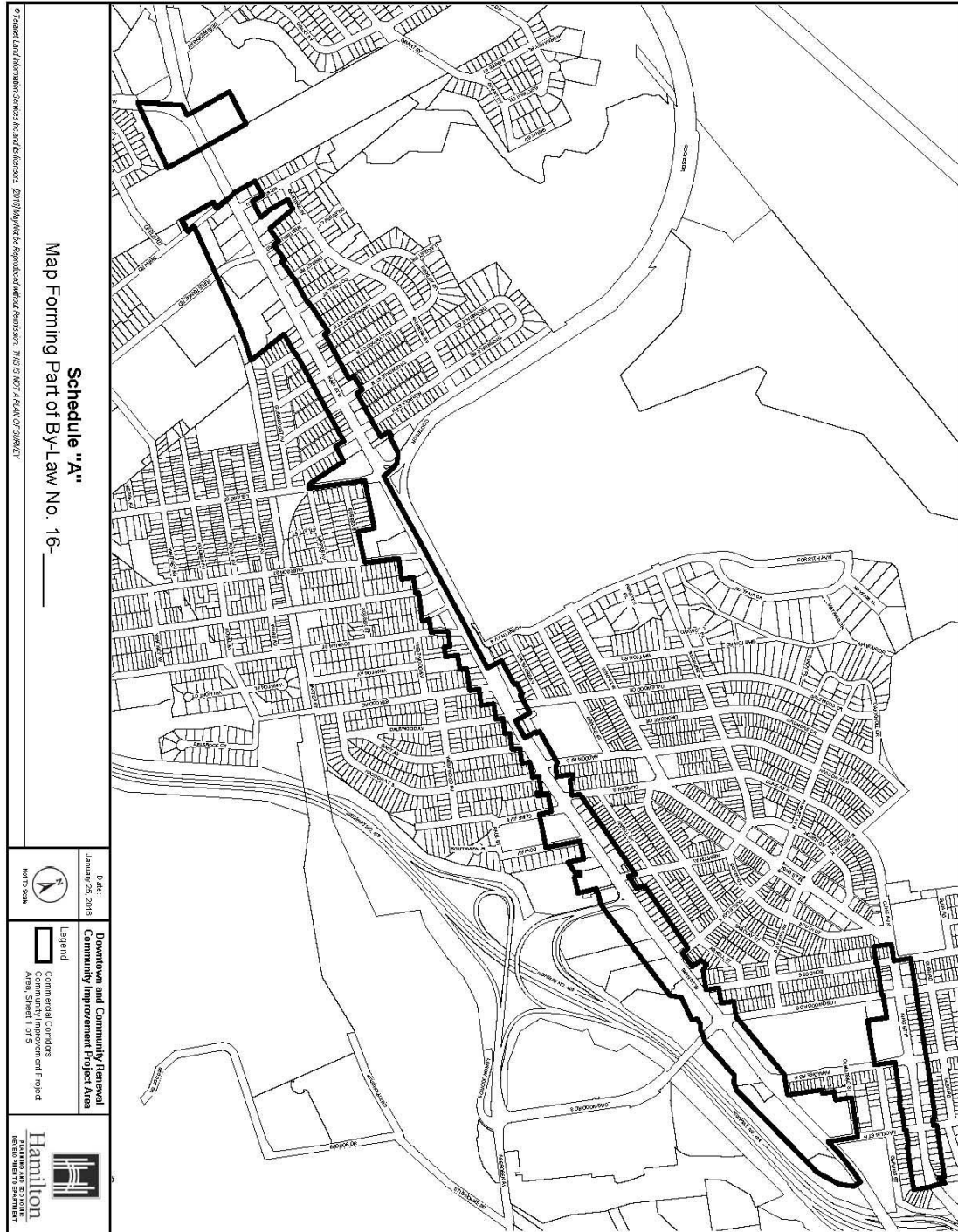
Legend  
[Thick black line symbol] Binbrook Community Improvement Project Area



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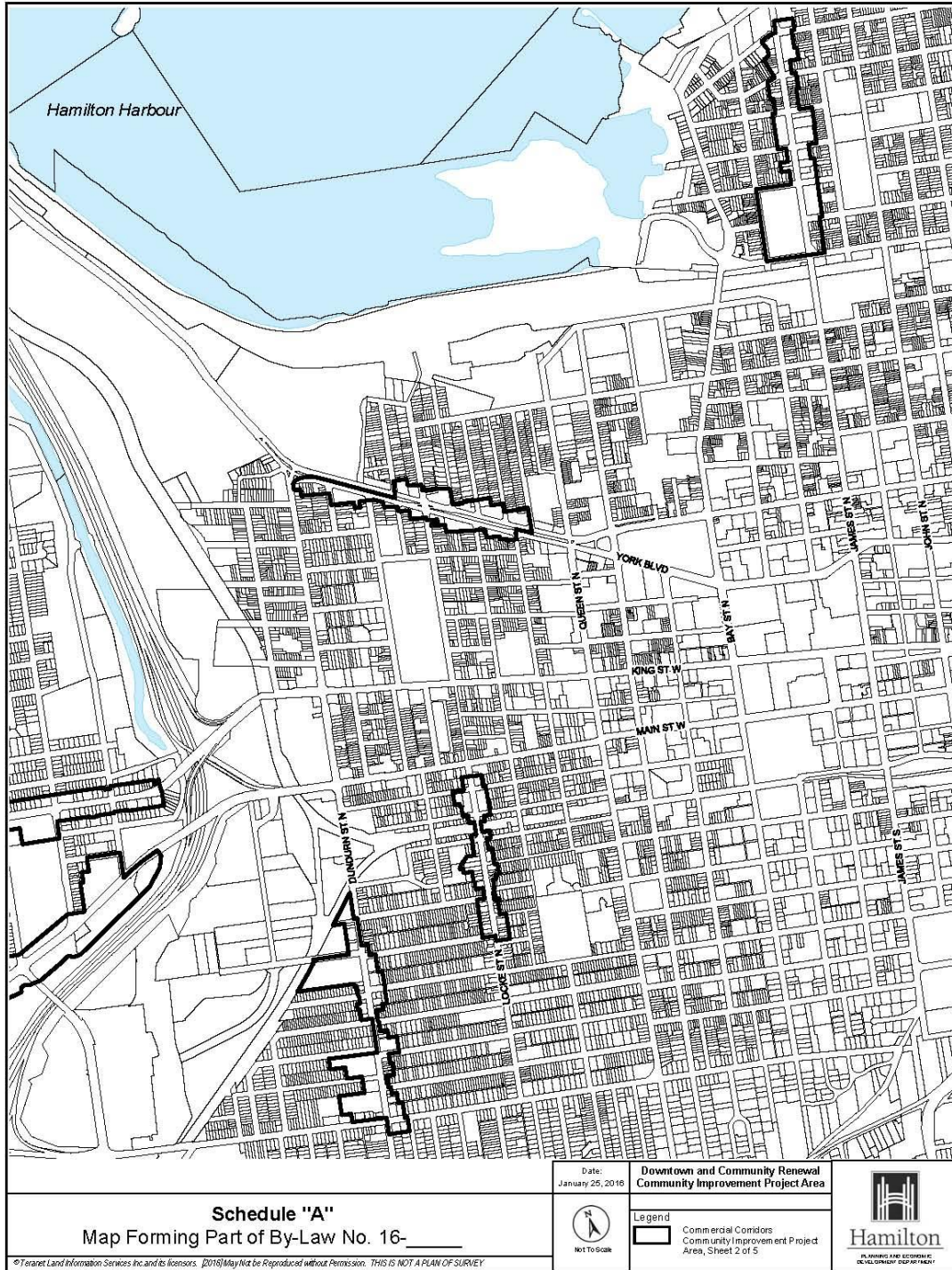


Commercial Corridors CIPA (1 of 5)



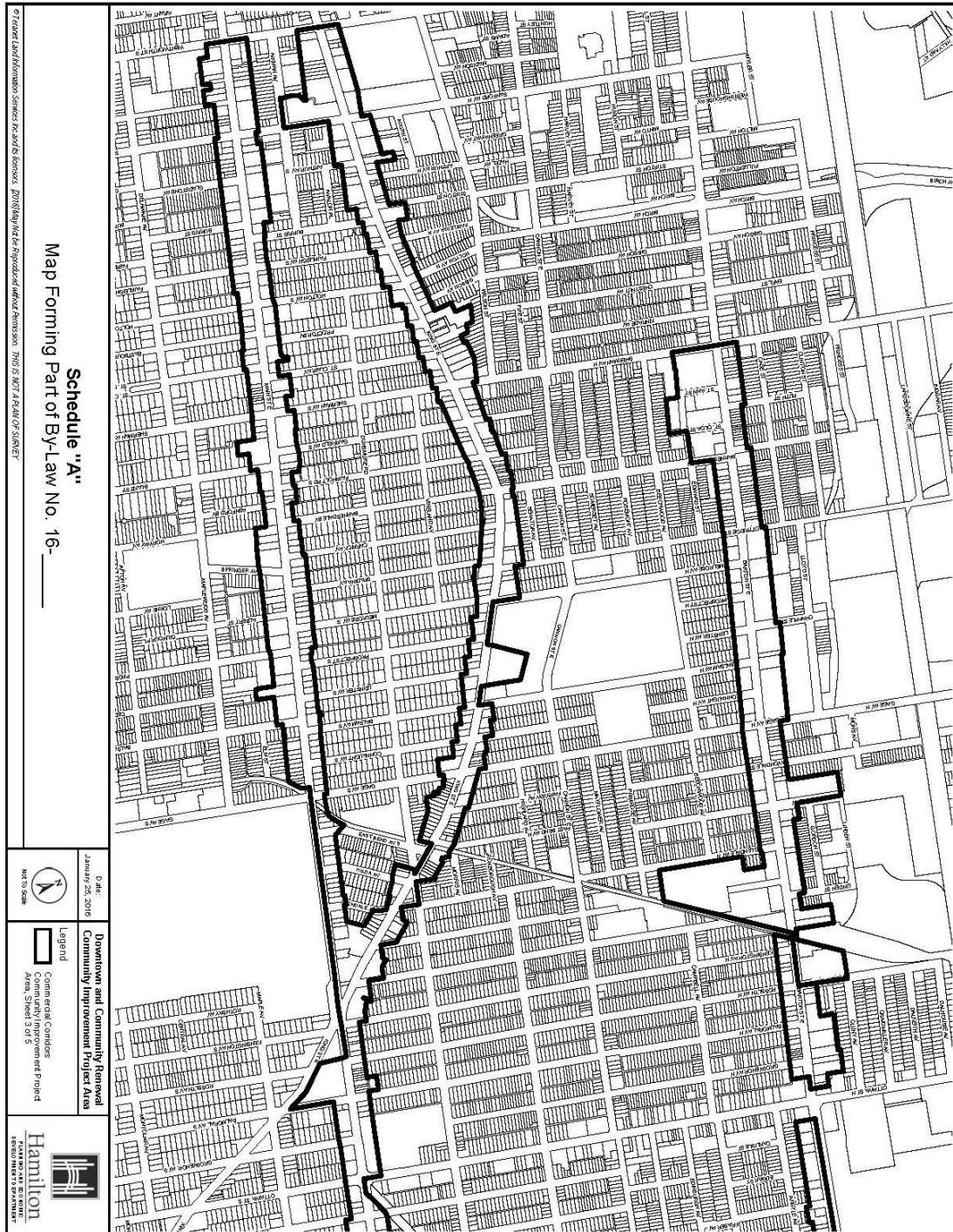


Commercial Corridors CIPA (2 of 5)



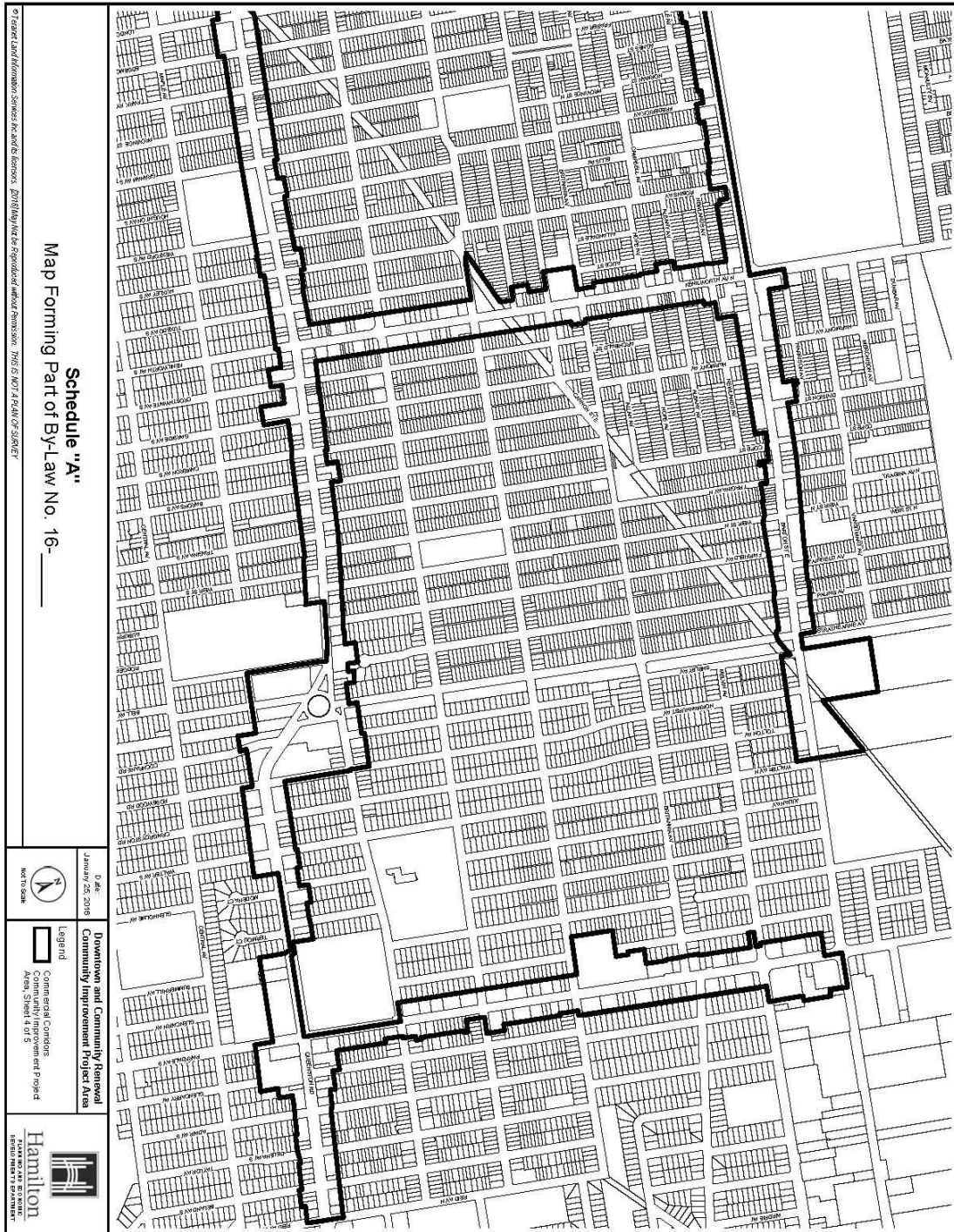


Commercial Corridors CIPA (3 of 5)



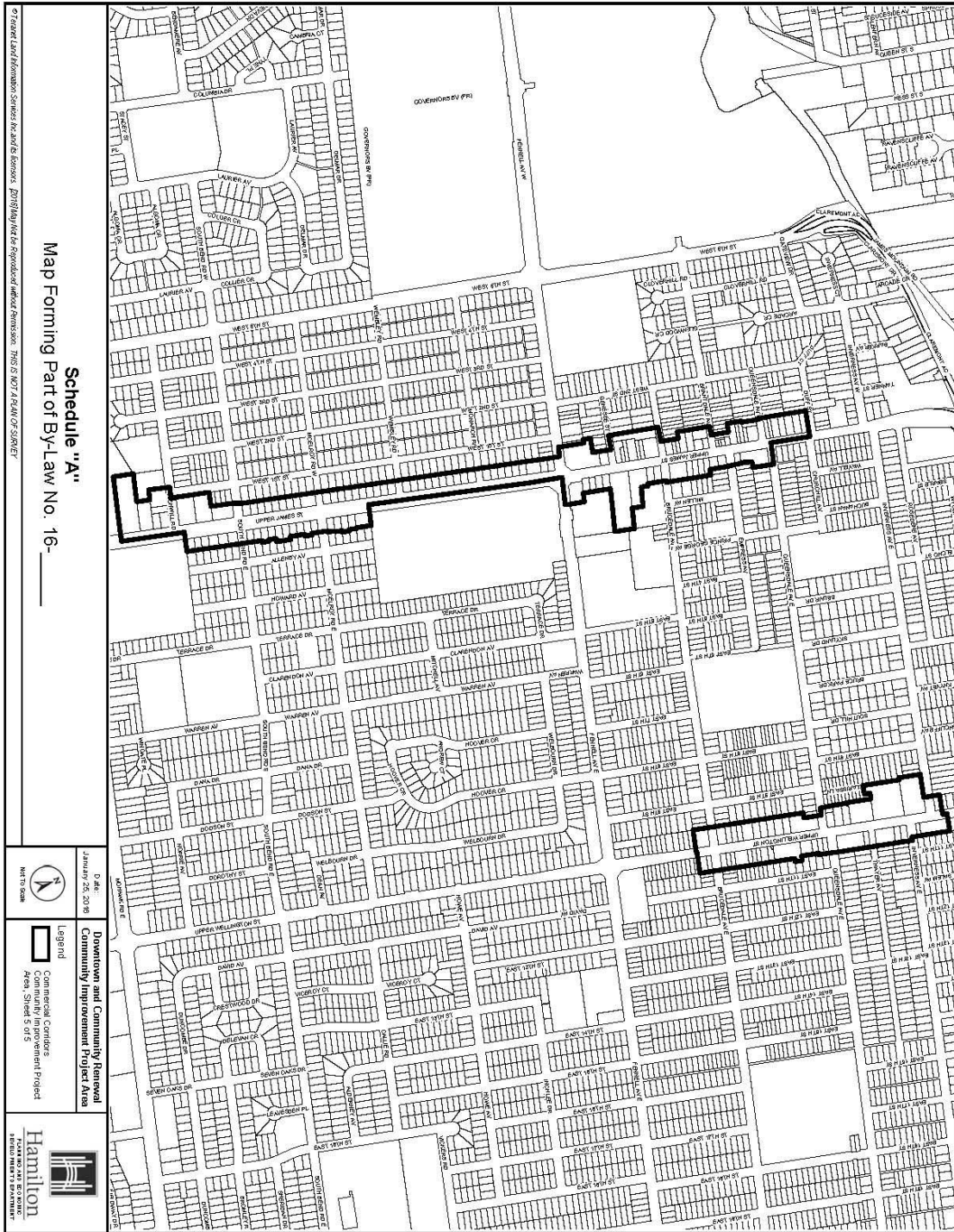


Commercial Corridors CIPA (4 of 5)





Commercial Corridors CIPA (5 of 5)

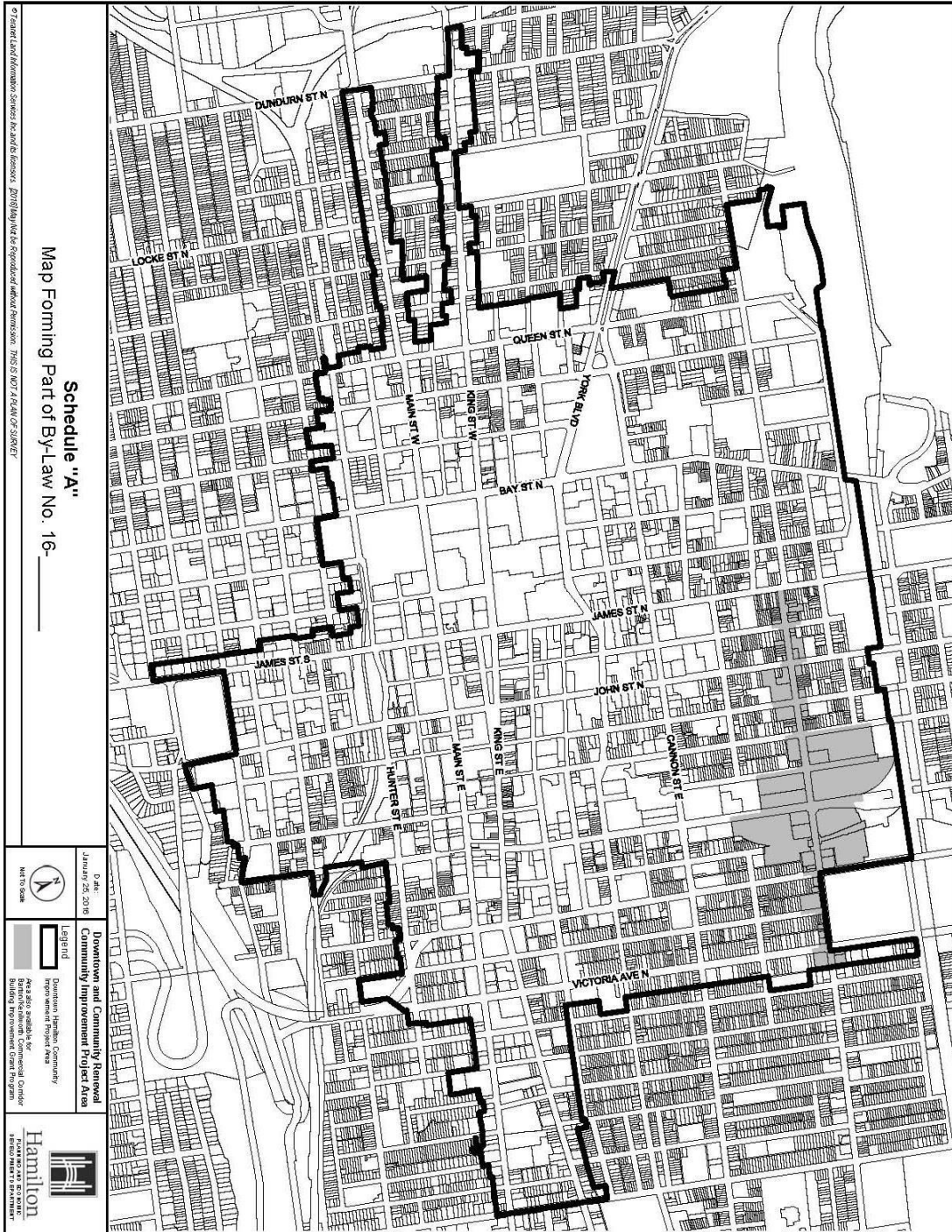




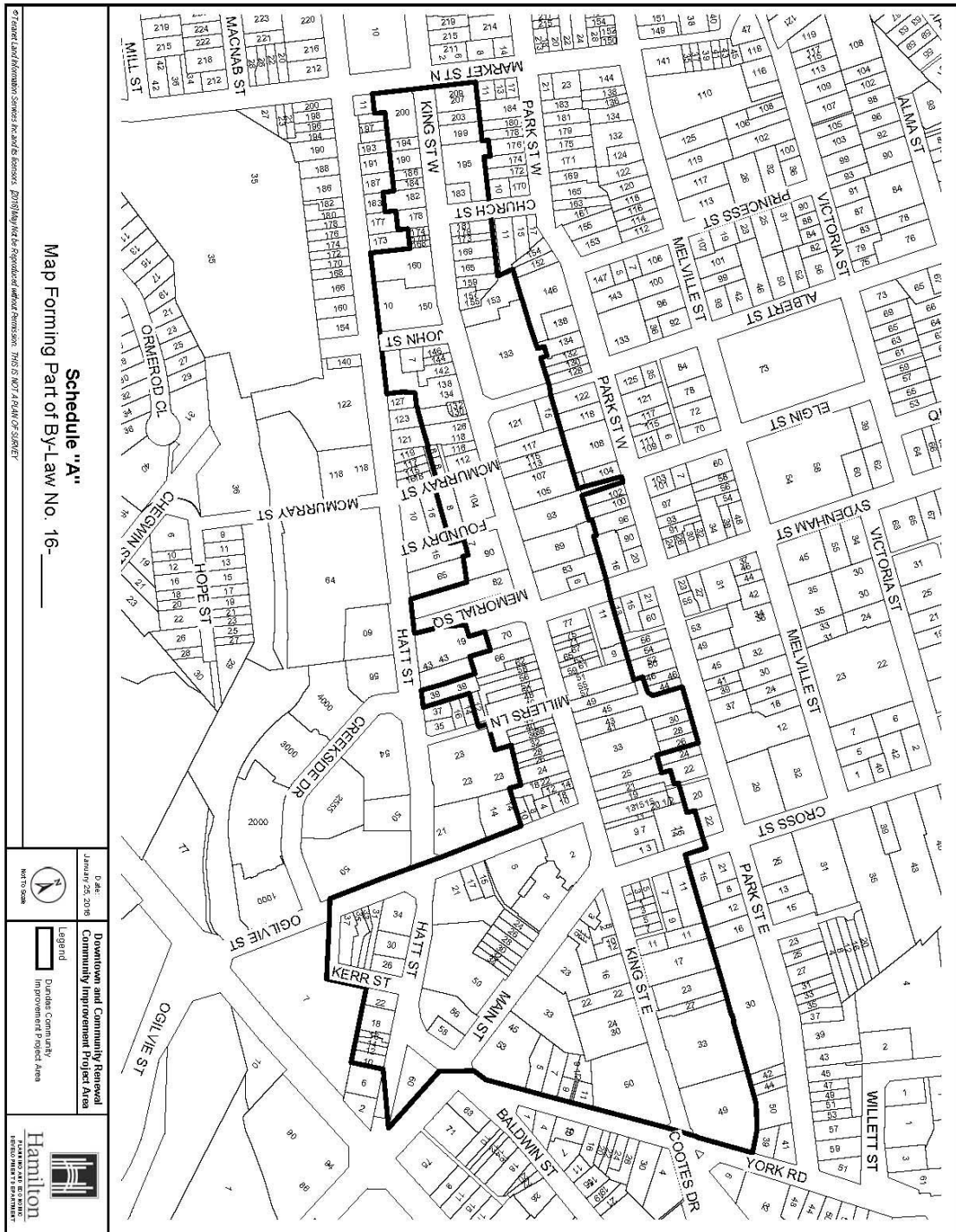




### Downtown Hamilton CIPA

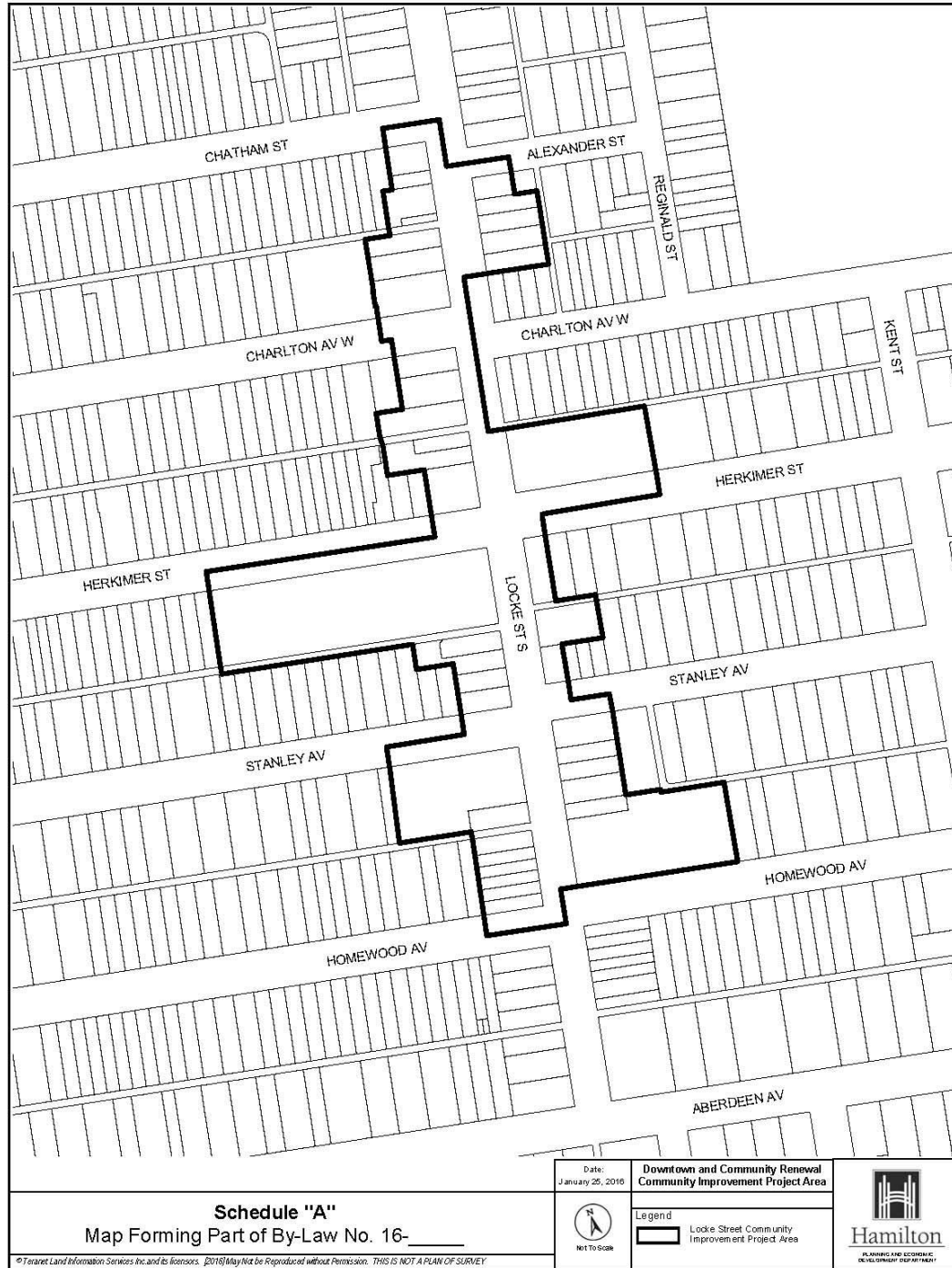


Dundas CIPA





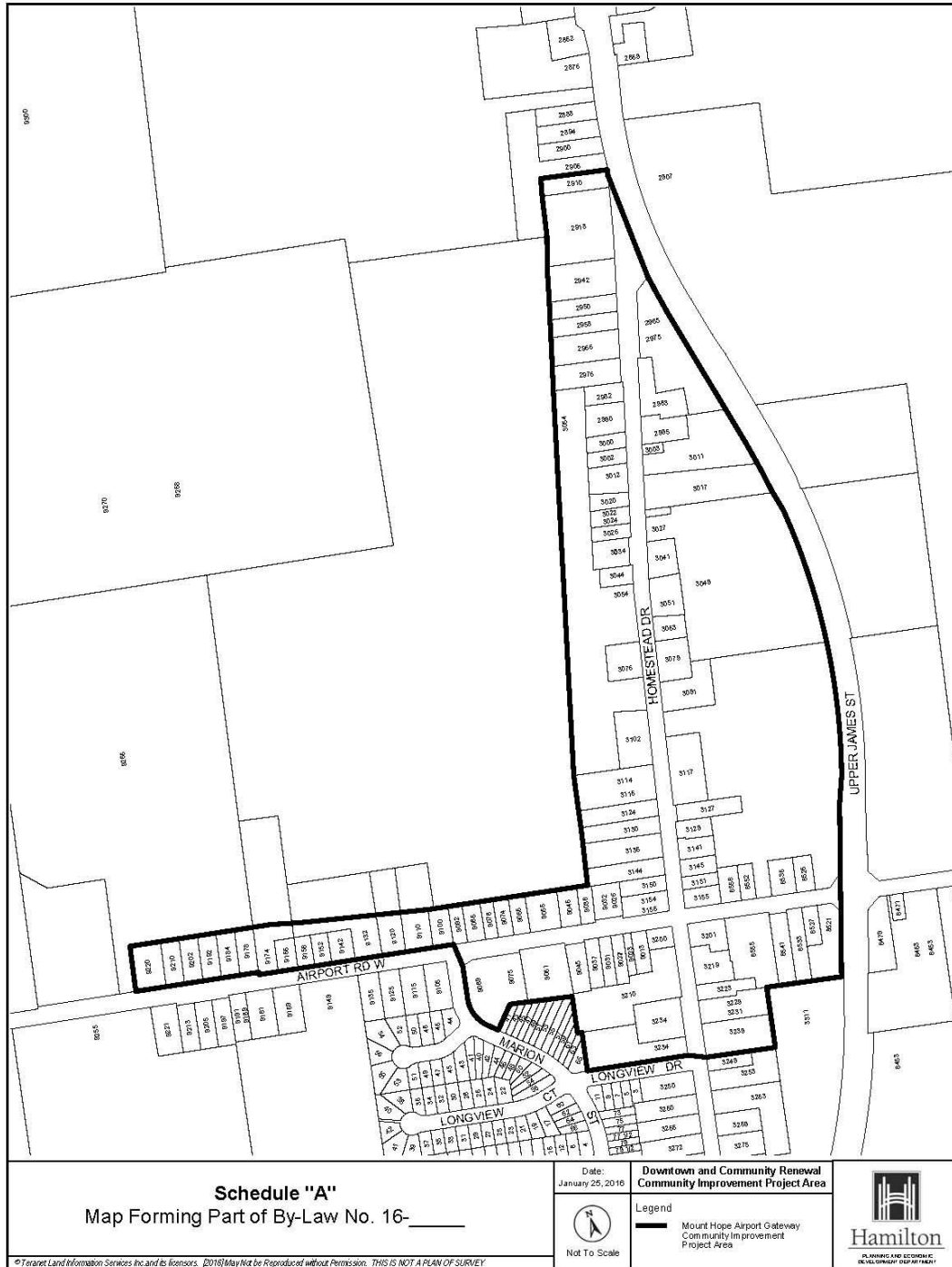
### Locke Street CIPA





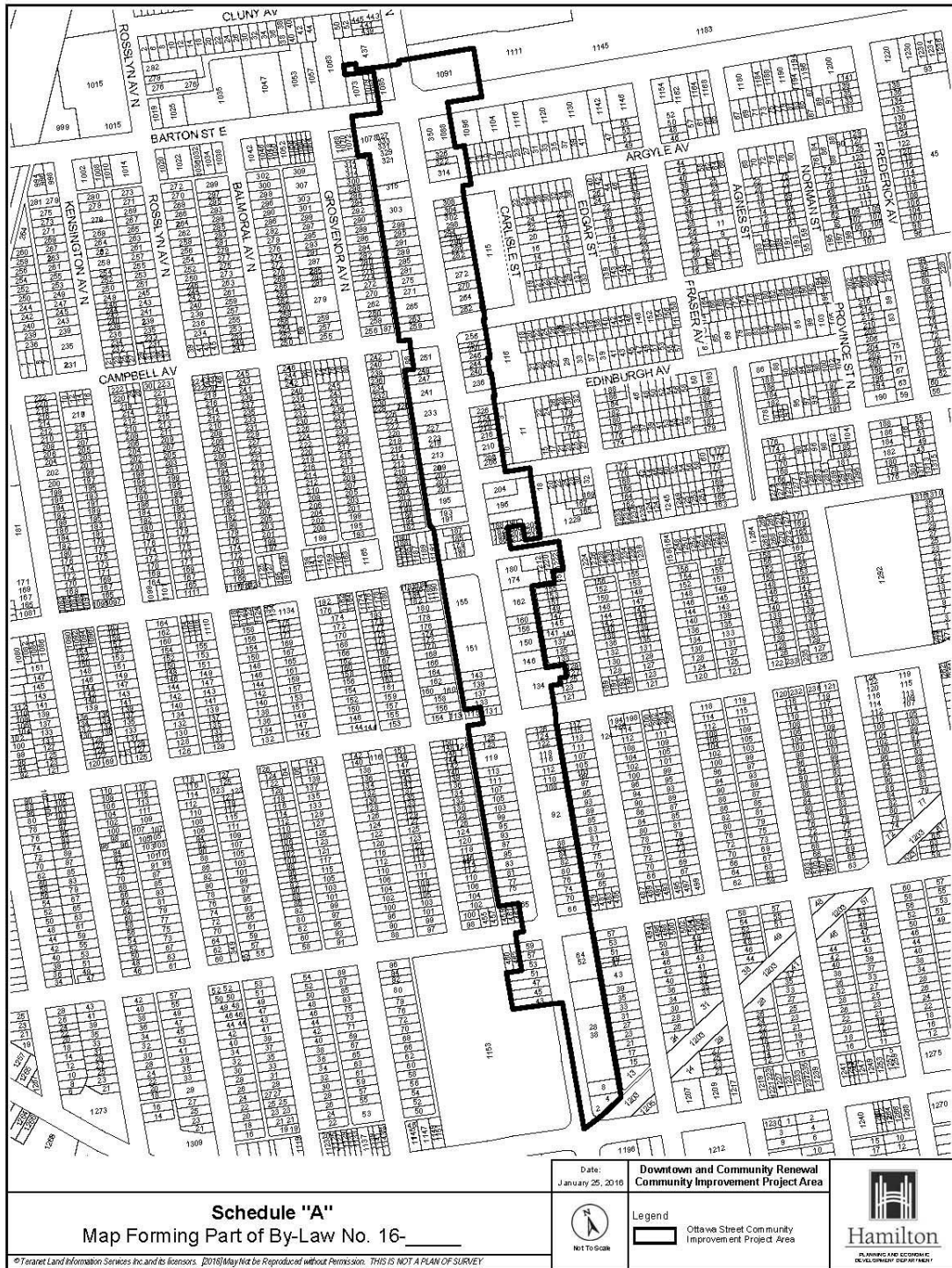
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Mount Hope Airport Gateway CIPA

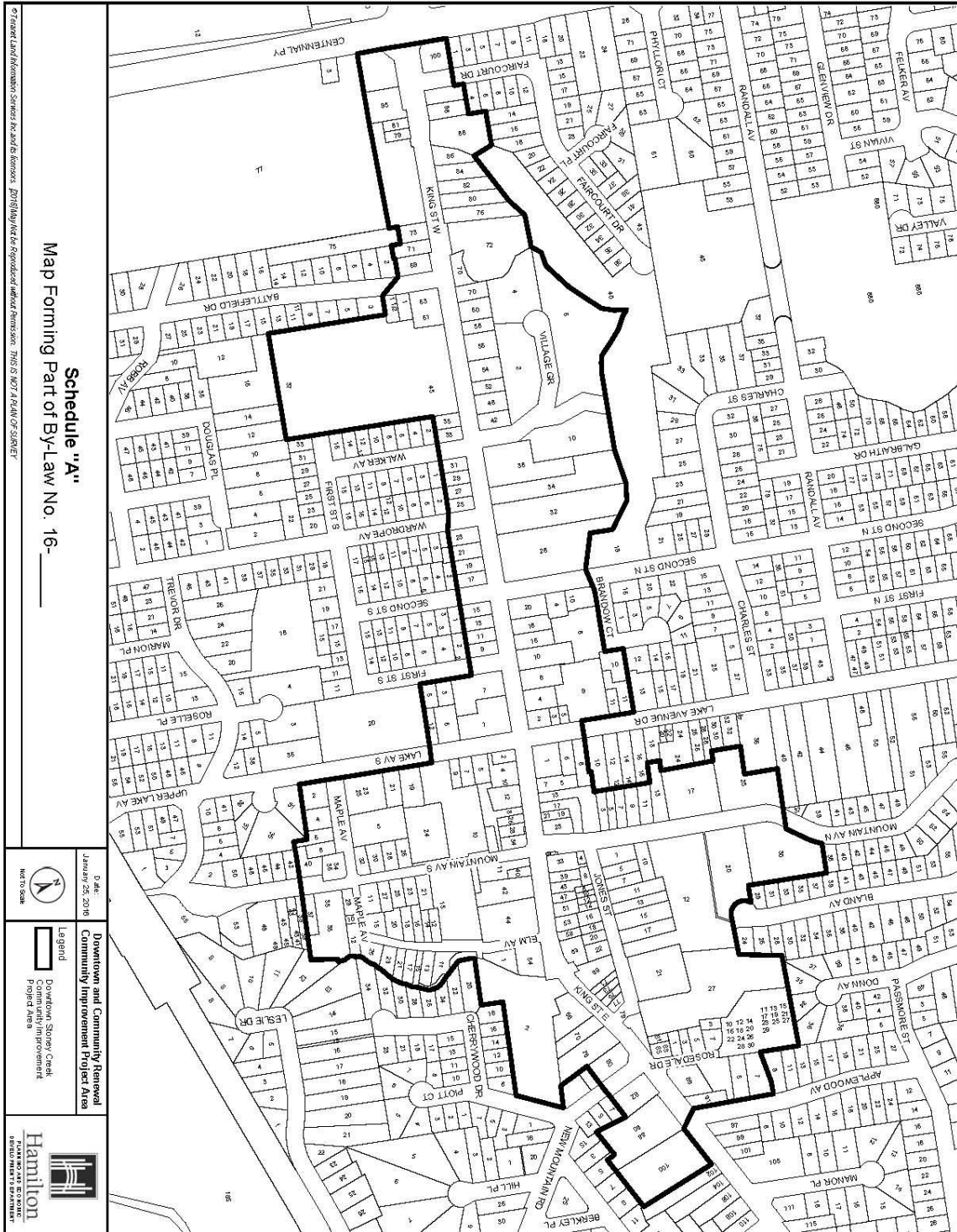


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Ottawa Street CIPA

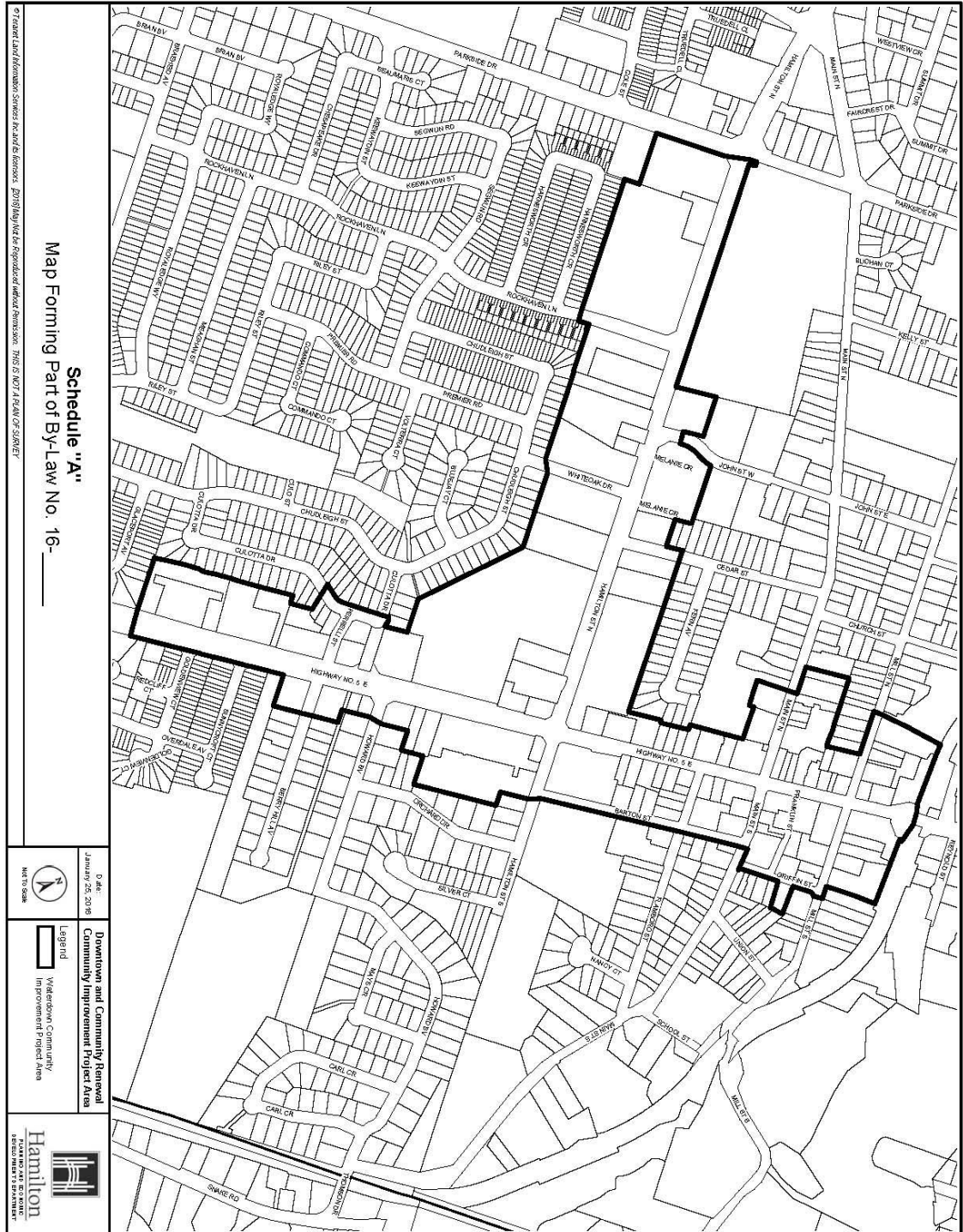


### Stoney Creek CIPA

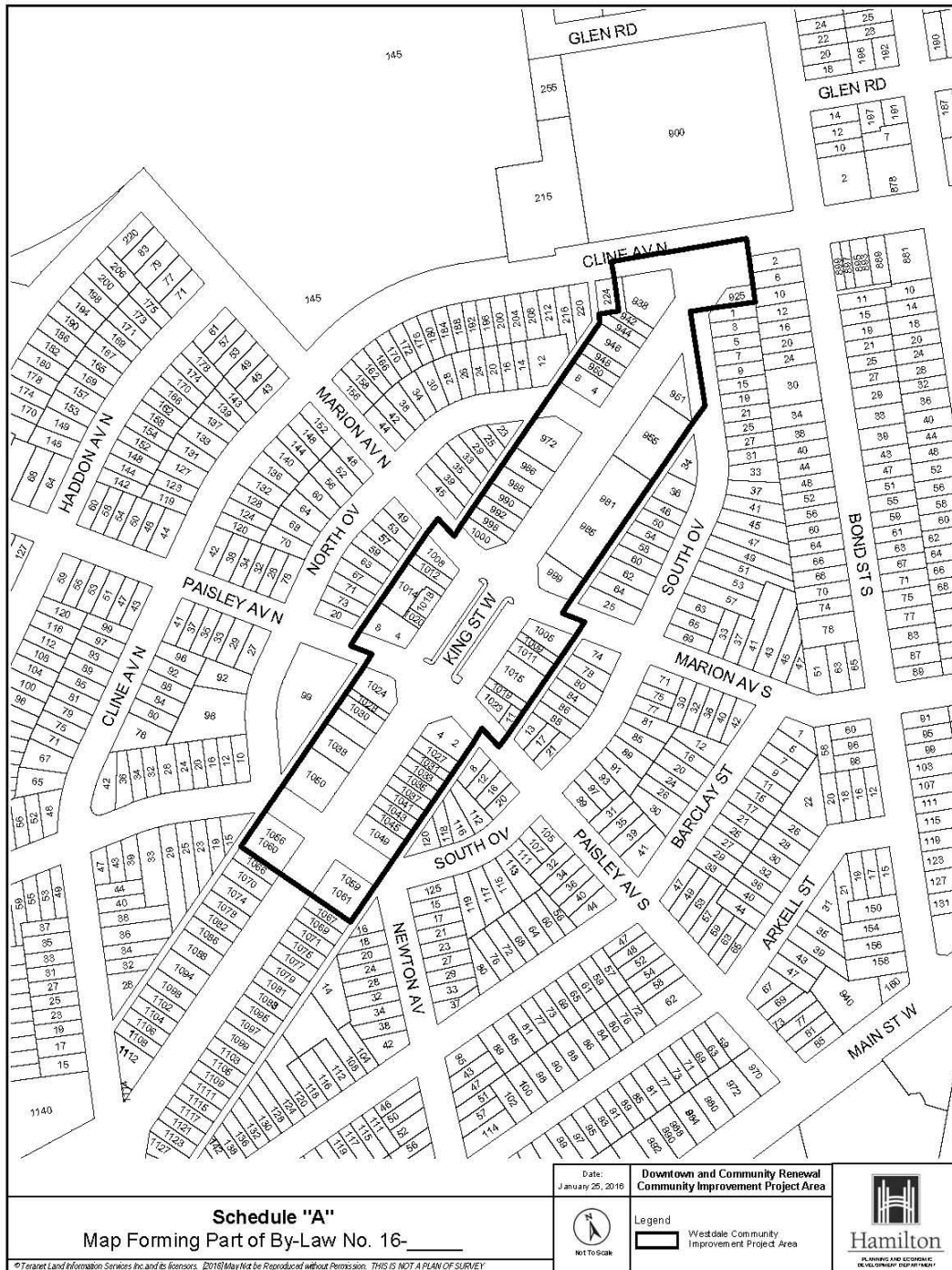




### Waterdown CIPA



Westdale CIPA



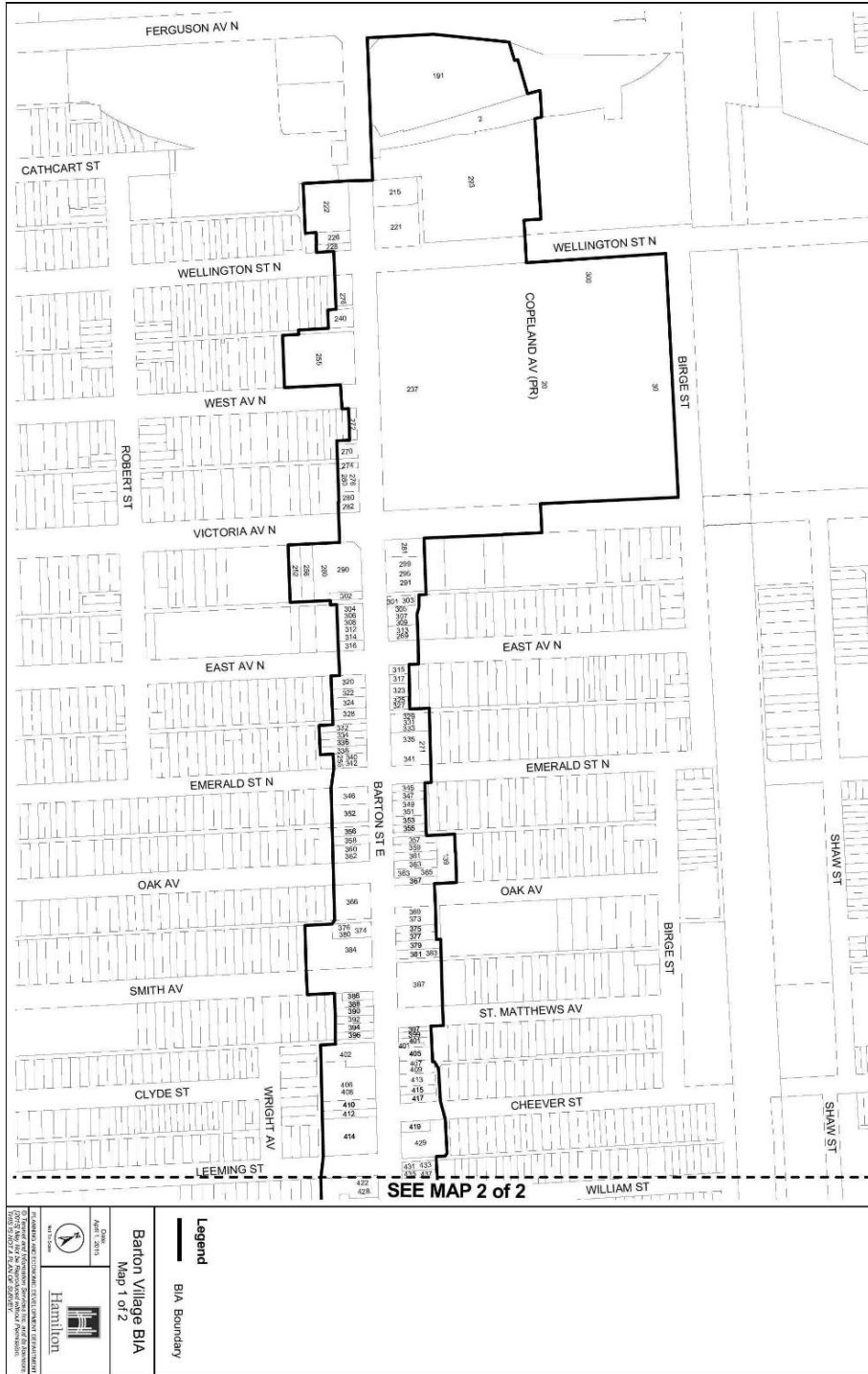
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Ancaster BIA



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Barton Village BIA (1 of 2)



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Barton Village BIA (2 of 2)





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Concession Street BIA (1 of 2)



Concession Street BIA (2 of 2)



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Downtown Hamilton BIA



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Dundas BIA



### International Village BIA



### King West BIA



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Locke Street BIA



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Main West BIA





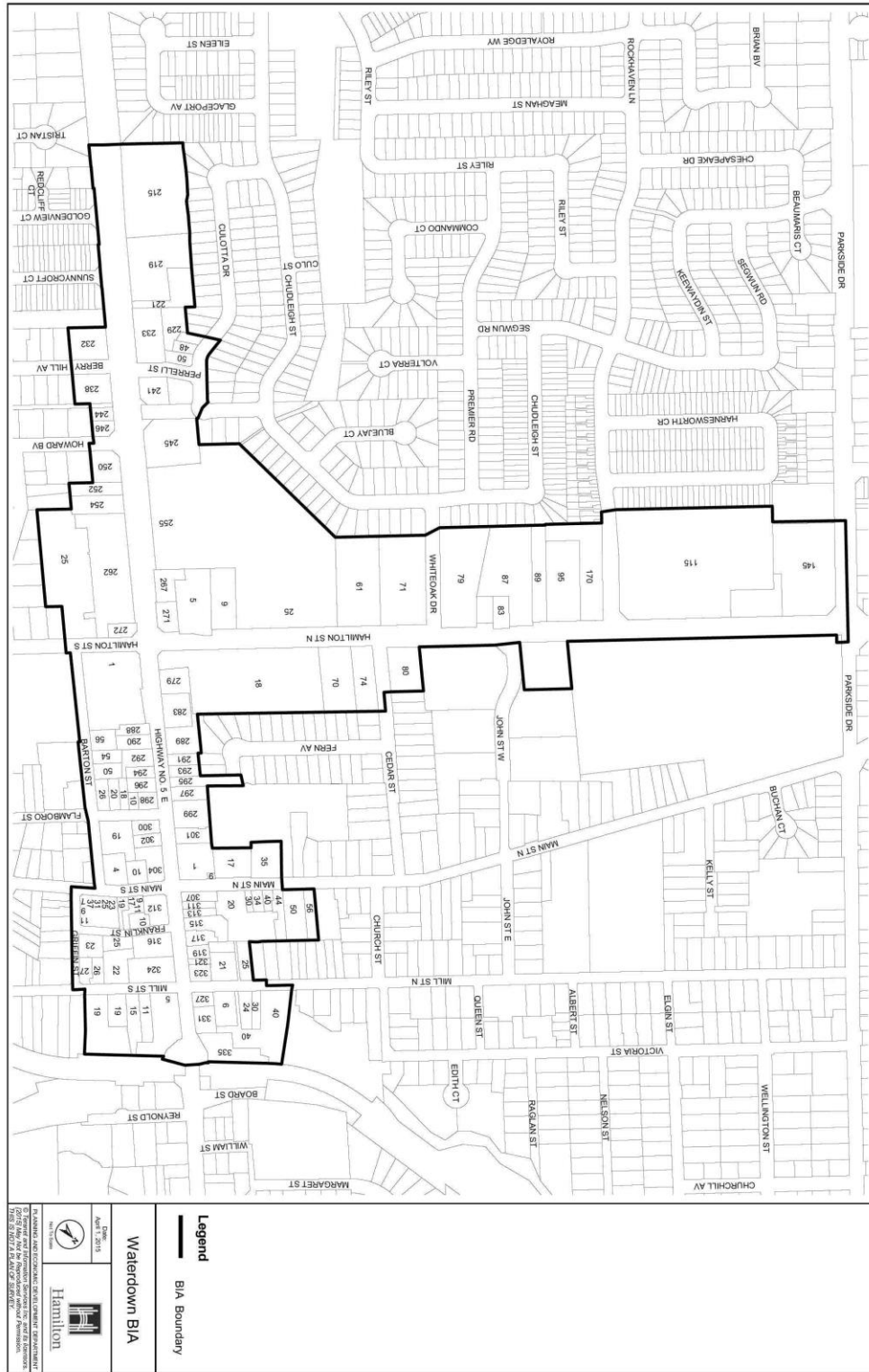
### Ottawa Street BIA





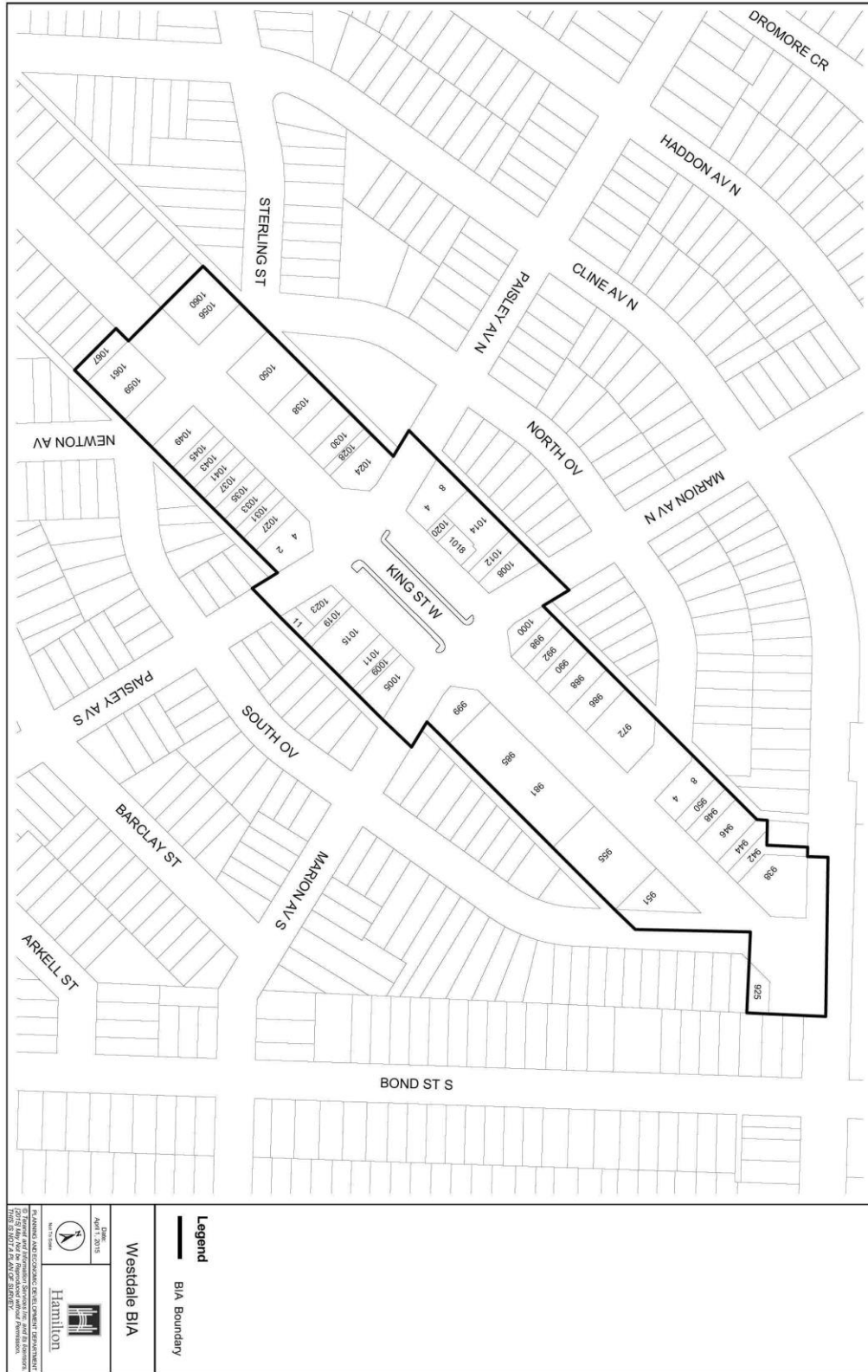
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Waterdown BIA



Appendix "C" to Report FCS18062(a)  
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Westdale BIA





**CITY OF HAMILTON**  
**PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT**  
 Planning Division

<b>TO:</b>	Chair and Members Planning Committee
<b>COMMITTEE DATE:</b>	June 19, 2018
<b>SUBJECT/REPORT NO:</b>	Amendments to City of Hamilton Zoning By-law No. 6593 to allow secondary dwelling units in detached structures for properties adjoining a laneway ("Laneway Housing") (PED16200(a)) (Parts of Wards 1, 2, 3 and 4)
<b>WARD(S) AFFECTED:</b>	Wards 1, 2, 3 and 4 (Parts Thereof)
<b>PREPARED BY:</b>	Edward John (905) 546-2424 Ext. 2359
<b>SUBMITTED BY:</b>	Steve Robichaud Director, Planning and Chief Planner Planning and Economic Development Department
<b>SIGNATURE:</b>	

**RECOMMENDATION**

- (a) That Report PED16200(a) (City Initiative CI-18-F) to amend regulations of Section 19 of Zoning By-law No. 6593 to allow secondary units within detached structures for those properties within the lower City (parts of Wards 1, 2, 3 and 4) adjoining a laneway, be received;
- (b) That Report PED16200(a), together with any written submissions and input from delegations received at Planning Committee, be referred to staff for consideration and incorporated into a further report and amending by-law to be presented to the a future Planning Committee meeting;
- (c) That Corporate Services staff be requested to present Report PED16200(a) to the Development Charge Stakeholders subcommittee for consideration when recommending policy direction for the 2019 Development Charge Study.

**EXECUTIVE SUMMARY**

The purpose of this Report is to continue the evolution and implementation of innovative measures to increase the supply, range of housing options and affordability of units within Hamilton, consistent with the Urban Hamilton Official Plan vision. This Report marks one of the continued and on-going strategies to support appropriate and compact infill development.

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In particular, this Report seeks to amend Section 19 of Zoning By-law 6593 with respect to secondary dwelling units in separate built structures. The proposed Zoning By-law Amendment would permit modest secondary residential units within the rear yard of existing dwellings for properties that adjoin a laneway for certain areas of the lower City.

The Zoning By-law will ensure the relationship between the principal unit and the secondary suite regulations is maintained over time with respect to servicing, access and maintenance.

The proposed By-Law Amendment would:

- Permit secondary dwelling units within stand alone buildings on lots adjoining a laneway;
- Limit these dwellings to 6m in height and 50 sq m in area;
- Restrict the location of windows and doors above 1<sup>st</sup> floor; and,
- Not require any additional parking.

A more detailed discussion of the specific amendments is provided in the Analysis/Rationale for Recommendations Section of this Report.

***Alternatives for Consideration – See Page 17***

**FINANCIAL – STAFFING – LEGAL IMPLICATIONS**

**Financial:** As detailed within the servicing review, separate services to the secondary unit are the preferred option by Growth Management staff. This option would likely result in increased cost of development due to the requirement of road cuts. Joint servicing from the private lot would be considered more cost effective (saving between \$15,000 and \$20,000) however, based on discussions with Growth Management staff, this would have to be reviewed and approved on a case-by-case basis.

This Report recommends potential changes to the Development Charges By-law when they are reviewed and updated July, 2019. The intent is to align the development charges with that of an accessory unit, notwithstanding that it is located wholly within a detached structure.

**Staffing:** There are no staffing implications.

**Legal:** As required by the *Planning Act*, Council must hold at least one Public Meeting to consider an amendment to the Zoning By-law.

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Public Notice as per the *Planning Act* has been provided in the Hamilton Spectator.

As this is a City-initiated Zoning By-law Amendment with City Wide effects, no notification by mail or sign on the property is required.

## **HISTORICAL BACKGROUND**

At its meeting on March 1<sup>st</sup>, 2016, Planning Committee approved the following motion:

"That staff prepare a report and presentation to Committee on the current inventory and policies related to 'Laneway Housing' in Hamilton."

In response to this motion, staff brought forward Report PED16200 on December 5<sup>th</sup>, 2016 which provided an inventory and overview of the laneways within Hamilton. The Report identified that a number of constraints face the creation of Laneway Housing particularly with regard to servicing, emergency access and tenure.

As detailed in previous Report PED16200, although a number of examples of Laneway Housing exist, the current process to permit new Laneway Housing would require a rezoning application and potential site plan process. The required investment in time and money to pursue these applications limits the effectiveness and responsiveness of this form of housing in supporting rental stock development.

Report PED16200 also identified the significant constraints involved with the expense of constructing laneway servicing and functional challenges including garbage collection, snow clearing and emergency access.

These constraints are considerably more limiting when laneway units are dependent on servicing and access only through the laneway because the lot does not have frontage on a municipal street. Subsequently, Planning Division staff was requested to report back to Planning Committee following consultation with the Alleyway Management Strategy Working Group on a process for including appropriate permissions for Laneway Housing as part of the review and update of the City's Residential Zoning By-law planned for 2018-2019.

Staff continues to review and resolve these issues. However, as presented within this report, staff is recommending an additional measure which would permit secondary dwelling units as a pilot project in existing and proposed accessory structures on those properties that adjoin a laneway. The absorption rate and any potential impacts will be monitored by Planning Division staff and the results of this monitoring will be used to

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inform the development of secondary unit zoning permissions as part of the Comprehensive Residential Zoning Project.

## **POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS**

### **1.0 Provincial Direction**

The policy framework in place to support Laneway Housing in the City of Hamilton is derived from Provincial policies, goals and targets pertaining to growth and intensification, affordable housing, and the accommodation of a variety of housing forms. The *Strong Communities Through Affordable Housing Act, 2011* amended the *Planning Act, 1990* to improve the affordable housing system. Section 2 of the *Planning Act, 1990* was amended to further identify affordable housing as a matter of Provincial interest. The amendments also included enhanced provisions for garden suites and secondary units.

Garden suites are units intended for temporary purposes only, and are required through the *Planning Act* to be located in structures that are both temporary and moveable. Converted accessory buildings or newly constructed secondary units in accessory buildings would not be considered under the provisions of a garden suite, as by definition, the housing created through such units would be both permanent and within a structure that is not moveable. Secondary units are additional separate dwelling units on a property that would normally accommodate only one dwelling unit.

### **1.1 Growth Plan of the Greater Golden Horseshoe, 2017**

The Growth Plan for the Greater Golden Horseshoe, 2017 (Growth Plan) encourages municipalities to accommodate growth in the built-up areas, prescribes intensification targets, and supports intensification through the provision of a range and mix of housing, taking into account affordable housing needs and through the creation of secondary dwelling units. Policy 2.2.1.4 states in particular:

"Applying the policies of this Plan will support the achievement of *complete communities* that:

- a) feature a diverse mix of land uses, including residential and employment uses, and convenient access to local stores, services, and *public service facilities*;
- b) improve social equity and overall quality of life, including human health, for people of all ages, abilities, and incomes;

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- c) provide a diverse range and mix of housing options, including second units and *affordable* housing, to accommodate people at all stages of life, and to accommodate the needs of all household sizes and incomes;"

Secondary units located within accessory structures would provide the opportunity to accommodate growth within the built up area, and potentially address some affordable housing needs with respect to supply and, therefore, would conform with the Growth Plan.

## 1.2 Provincial Policy Statement, 2014

The Provincial Policy Statement, 2014 identifies the need for a range of residential options and prescribes the role of Planning authorities to identify opportunities and locations for suitable for intensification.

In particular, Policy 1.1 - Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns, identifies that healthy, liveable and safe communities are sustained by an appropriate range and mix of residential uses including secondary units, affordable housing and housing for elderly people. The proposed by-law changes would assist in removing some of the regulatory barriers that encumber secondary suite development without compromising other planning objectives. More specifically, Policy 1.1.1 states:

"1.1.1 Healthy, liveable and safe communities are sustained by:

- a) Promoting efficient development and land-use patterns which sustain the financial well-being of the Province and Municipalities over the long term;
- b) Accommodating an appropriate range and mix of residential units including secondary units, affordable housing and housing for the elderly, employment including industrial and commercial, institutional including places of worship, cemeteries and long-term care homes, recreation, park and open space, and other uses to meet long-term needs;
- e) Promoting cost-effective development patterns and standards to minimize land consumption and servicing costs;"

Settlement areas are identified as the areas to focus on growth and development, and to use existing infrastructure to promote efficient development patterns. The proposed introduction of detached secondary dwelling units for those properties adjoining a laneway would encapsulate this efficient approach to development. In particular Policy 1.1.3.2 states:

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"1.1.3.2 Land use patterns within *settlement areas* shall be based on:

- a) densities and a mix of land uses which:
  - 1. efficiently use land and resources;
  - 2. are appropriate for, and efficiently use, the *infrastructure* and *public service facilities* which are planned or available, and avoid the need for their unjustified and/or uneconomical expansion;
  - 3. minimize negative impacts to air quality and climate change, and promote energy efficiency;
  - 4. support *active transportation*;
  - 5. are *transit-supportive*, where transit is planned, exists or may be developed;

Following review of impacts and existing infrastructure, it is considered in accordance with Policy 1.1.3.3 which states:

"1.1.3.3 Planning authorities shall identify appropriate locations and promote opportunities for *intensification* and *redevelopment* where this can be accommodated taking into account existing building stock or areas, including *brownfield sites*, and the availability of suitable existing or planned *infrastructure* and *public service facilities* required to accommodate projected needs."

Furthermore, Policy 1.4.3 specifically directs planning authorities to provide for an appropriate range and mix of housing types and densities to meet projected requirements of current and future residents of the regional market area by:

"b) permitting and facilitating:

- 1) all forms of housing required to meet the social, health and well-being requirements of current and future residents, including *special needs* requirements;"

On the basis of the above comprehensive review, staff considers the proposed By-law to be consistent with the goals and direction of the PPS.

## 2.0 Urban Hamilton Official Plan

The Urban Hamilton Official Plan (UHOP) identifies forecasts and targets for growth and intensification, as mandated by the Growth Plan. In addition to population forecasts, the

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UHOP provides other targets that include the Downtown Urban Growth Centre Density Target of 250 people and jobs per hectare (Policy A.2.3.3.1) and a Residential Intensification Target that includes 40% of all residential development required to occur annually within the built-up area (Policy A.2.3.3.4). In accordance with the 2017 Growth Plan, these targets will be revised to 60% once the City updates the UHOP to implement the 2017 Growth Plan.

Section B.2.4 of the UHOP identifies the need for residential intensification to ensure the efficient use of infrastructure, support existing communities, and contribute to the development of vibrant communities. Intensification is directed to the Downtown Urban Growth Centre, as well as nodes, corridors, and neighbourhoods.

UHOP Policy B.2.4.1.4 sets out the criteria to be followed when evaluating the appropriateness of residential intensification developments. The criteria include, but are not limited to, compatibility and integration of the development with the existing neighbourhood and built form, the contribution the development will make to achieving a range of dwelling types, and infrastructure and transportation capacity.

With particular regard to residential intensification, Policy B.2.4.2.2 policy has been used to review and support the proposed Zoning By-law Amendment:

"When considering an application for a residential intensification *development* within the Neighbourhoods designation, the following matters shall be evaluated:

- a) the matters listed in Policy B.2.4.1.4;
- b) *compatibility* with adjacent land uses including matters such as shadowing, overlook, noise, lighting, traffic, and other nuisance effects;
- c) the relationship of the proposed building(s) with the height, massing, and scale of nearby residential buildings;
- d) the consideration of transitions in height and density to adjacent residential buildings;
- e) the relationship of the proposed lot(s) with the lot pattern and configuration within the neighbourhood;
- f) the provision of amenity space and the relationship to existing patterns of private and public amenity space;

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- g) the ability to respect and maintain or enhance the streetscape patterns including block lengths, setbacks and building separations;
- h) the ability to complement the existing functions of the neighbourhood;
- i) the conservation of *cultural heritage resources*; and,
- j) infrastructure and transportation capacity and impacts."

The UHOP also identifies ways in which the City can facilitate residential intensification:

"Facilitating Residential Intensification

- 2.4.4 The City, when reviewing or developing new secondary plans or corridor studies, shall identify opportunities for residential intensification to support the intensification targets and related policies.
- 2.4.5 The City shall establish zoning that permits residential intensification generally throughout the built-up area in accordance with this Plan.
- 2.4.6 The City shall prepare detailed design guidelines for residential intensification projects in a variety of contexts.
- 2.4.7 The City shall consider the creation of new, or expansion of existing programs, including public transit, to encourage and/or facilitate residential intensification."

With respect to urban housing, UHOP Section B.3.2 outlines goals and policies that lay the groundwork for the creation and provision of a range of housing types, forms, tenures, densities, affordable housing, and housing in complete communities.

The potential for Laneway Housing is particularly influenced by the general urban housing policies of UHOP Section B.3.2.4, which makes allowances for secondary dwelling units and detached secondary dwelling units on lots of existing single detached dwellings (which secondary units adjoining a laneway would be considered), subject to the City undertaking a study, as follows:

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“3.2.4 General Policies for Urban Housing

- 3.2.4.4 Second dwelling units shall be permitted within single and semi-detached dwellings in all Institutional, Neighbourhoods, Commercial and Mixed Use designations, as shown on Schedule E-1 – Urban Land Use Designations, and shall be subject to zoning regulations.
- 3.2.4.5 Subject to the City undertaking a study, in certain conditions it may be appropriate to permit new detached second dwelling units on lots of existing single detached dwellings.”

It is considered that for the purposes of this proposal, this Report fulfills this policy requirement.

Finally, with respect to the Hamilton’s Housing and Homelessness Action Plan, it is noted that a key outcome is to identify areas where pre-zoning for appropriate zoning designations is possible and would support affordable housing development. The consideration of Laneway Housing, and creation of appropriate zoning regulations to facilitate their creation, may potentially assist with the delivery of this outcome.

**RELEVANT CONSULTATION**

- Recycling and Waste Disposal, Public Works;
- Growth Management, Planning and Economic Development Department;
- Building Services, Planning and Economic Development Department;
- Community Safety & Planning, Healthy and Safe Communities; and,
- Corporate Services, Finance.

**Public Consultation**

In accordance with the provisions of the *Planning Act* and the Council Approved Public Participation Policy, Notice of Public Meeting was advertised in the Hamilton Spectator on May 25, 2018.

Given the potential for additional community or stakeholder consultation, staff will consider the possibility of a Public Consultation event in September prior to the matter being considered by Planning Committee. Matters raised at the public meeting and received correspondence will be addressed through this process.

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## **ANALYSIS AND RATIONALE FOR RECOMMENDATION**

Previous staff Report PED16200(a) provided an inventory and characterization of Laneway Housing and existing laneways (See Appendix "B" to Report PED16200(a)). As detailed within Appendix "B", existing laneways have the following general characteristics. They are:

- Predominantly public and un-assumed;
- Predominantly located within wards 1-4 (Lower City); and,
- Typically lower density zones with the majority of lots having 25-50% lot coverage.

### **1.0 Housing Opportunities**

It is considered that while constraints face the creation of independent Laneway Housing that is contingent on servicing and access from the laneway; as discussed below, the laneway itself provides numerous secondary advantages which support the consideration of accessory structures being permitted to convert to residential use or, alternatively, new separate buildings being purpose-built for residential occupation.

#### 1.1 Character and Separation

As previously noted within Report PED16200, laneways and laneway housing represent a historical presence throughout Hamilton, particularly within the lower City with over 100 km of laneways. These 'service' corridors represented a means for access for services, delivery, and in several cases secondary dwelling units. The proposed by-law to permit the conversion and / or creation of modest habitable units for those properties adjacent to a laneway is considered in keeping with the historical fabric of the area and would enhance the utilization and animation of the laneways.

This mild form of intensification is comparable to the impact of creating a basement unit except that, in this case, the unit would be within a separate structure within the rear yard. The laneway acts as a buffer that would limit concerns of overview and loss of privacy that may otherwise be experienced.

Additional advantages include separation from the typical backyard to backyard configuration, lessening concerns over loss of privacy and detrimental impacts upon daylight. Given that most laneways are between 3.0 – 6.0 m in width and are often considered to be public thruways, intensification along these routes is not considered to be detrimental to the character or amenity of the properties that adjoin them.

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These concerns would be further mitigated through the provisions that restrict the height of the structure and ensure second floor windows face only the laneway unless within the plane of a roofline (discussed further in Section 5.0 of this Report).

### 1.2 Laneway Animation

The ability to provide adequate pedestrian secondary access to the new unit, notwithstanding securing primary access particularly for vehicles, remains a concern of the laneways and is also considered to significantly contribute to the successful implementation of secondary dwelling units within accessory structures.

It is considered that allowing the creation and conversion of accessory buildings to residential uses would also provide the opportunity for greater animation, security and vitality of the laneway due to increased pedestrian usage through the creation of these additional units.

### 1.3 Site functionality

Maintaining a relationship with the principal dwelling unit provides considerable benefit in terms of the site functionality, with servicing and garbage collection permitted and required through the same arrangements as the principal dwelling.

On this basis, while not creating independent freehold units, the proposed provisions would increase the supply of housing stock, some of which maybe rental.

The intent is to permit a new secondary dwelling unit that is not severable and instead remains ancillary to the principal dwelling. This approach resolves many of the fundamental constraints related to the dependence upon the laneway as an access and servicing corridor, and instead recognizes the benefits of the laneway as a secondary access that provides a buffer between the typical rear yard to rear yard lot configuration.

### 1.4 Affordable Housing

These forms of secondary dwelling units can be used to house family, aging relatives or dependents, or rented out to provide a household income supplement. The regulations require these units to be smaller, both in height and area, than the principal dwelling, not require parking and be serviced from the public right-of-way at the front of the principal dwelling.

It should be noted that unlike a "granny suite" which by definition under the *Planning Act* must be wholly moveable and a temporary structure, secondary dwelling units would be

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permanent structures and be an investment opportunity, one that could provide a meaningful option to those residents challenged by housing affordability.

The proposed by-law modifications are considered to represent a meaningful way to address the supply of affordable rental housing in the City of Hamilton. While unlikely to cater to the need for housing families, the ability for this modest form of housing to address the shrinking rental market and provide more options within existing neighbourhoods is considered an important consideration. Given the size and location, the units may generate lower rental rates but be located close to many services – two important factors often desirable for those in search of affordable housing.

The provision may also assist with some of the pressures being experienced as a result of rising property values through the lower City. The ability to secure a secondary suite may provide a mechanism to create a revenue stream for the owner of the property, providing the option to either live in the principal dwelling and rent out the suite or, alternatively, rent out the principle dwelling and downsize to the new suite. Under either circumstance, additional opportunities would be provided which would allow residents who may be experiencing pressure to relocate and to remain within their neighbourhood.

Finally, the provisions proposed would also foster positive community building opportunities such as "aging in place" options, as well as opportunities for greater independence from those family members who are seeking separate accommodations but cannot afford to enter the formal market.

## **2.0 Geographic Considerations**

The proposed By-law Amendments would apply in the lower City only and more specifically as per Appendix "B" to Report PED16200(a) to residential areas zoned "C" (Urban Protected Residential, Etc.) District, or the "D" (Urban Protected Residential – One and Two Family Dwellings, etc.) District.

The restriction of these provisions to this geographic area was based on the consistency in character of the laneway configuration exhibited in these Wards. In addition, it is noted these areas contained the necessary infrastructure and services that could successfully accommodate the proposed intensification. Although laneways exist within the suburban and rural areas of the City, the character of these laneways was less consistent and more diverse in form and function.

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### 2.1 West of Highway 403

The Secondary Suite provisions as proposed in Appendix "B" to Report PED16200(a) do not extend west of Highway 403. The intent of this provision is to avoid over-intensification of the residential neighbourhoods, understanding these areas are characterized by modest dwellings on modest lots and which have been placed under increased development pressures as a result of the proximity to McMaster University. These areas have subsequently been zoned with site specific regulations intended to address these matters. On this basis, consideration of infill opportunities within these areas was not considered appropriate without additional study of the specific characteristics and pressures currently experienced within these areas.

### 2.2 Downtown Hamilton

The provisions also do not include Downtown Hamilton, which is part of the Secondary Plan and Zoning By-law Amendment Update, which has recently been approved by City Council, and does not extend north of Burlington Street which is predominantly an industrial area.

Given the recent updates to the Downtown Zoning By-law and the added concern that the role of alley ways within the Downtown Secondary Plan Area are more often strategically utilized as assembled components of more comprehensive developments, this area was not included in the pilot project. Inclusion of it will, however, be considered through the future Residential Zoning Review.

## **3.0 Zoning By-law Provisions**

### 3.1 Single Detached Dwelling

Additional secondary dwelling units would only be eligible for existing single detached dwelling lots and would not be permitted within maisonettes, semi-detached properties, multiple dwellings and townhouses. This requirement ensures appropriate intensification, and allows the City to monitor potential impacts from the pilot project prior to these permissions extending city wide.

Extending the provisions beyond single detached dwellings would require an Official Plan Amendment as Policy B.3.2.4.5 of the UHOP specifically identifies this as applicable to single detached dwellings only.

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### 3.2 Height and Area

To ensure the scale of laneway houses are modest and subservient to the scale and massing of the principal dwelling, restrictions to the height and area of the secondary dwelling unit are recommended. It is considered that the maximum height of 6m and Gross Floor area to 50 sq. m would ensure the ancillary residential unit would be comparable to the regulations that govern typical ancillary structures (See Appendix "C" to Report PED16200(a)).

### 3.3 Setbacks

The requirement to maintain a 7.5 m separation between the principal dwelling and the secondary unit would ensure sufficient amenity space is maintained for the main dwelling and that the lot is not overly intensified. Similarly, requiring the 1.2 m side yard setbacks allow for the built form to respect the existing configuration of built form as well as ensuring servicing such as swales are not detrimentally affected (See Appendix "C" to Report PED16200(a)).

### 3.4 Location of Fenestration

As discussed previously, requirements have been added to ensure loss of privacy and overlook are not generated. In particular, restricting second floor windows that could look into neighbouring private amenity areas is restricted. Second floor windows are only permitted facing the laneway, where due to the separation and existence of a public right-of-way, privacy expectations are less sensitive (See Appendix "C" to Report PED16200(a)).

### 3.5 Parking

As detailed in Appendix "A" to Report PED16200(a), additional parking will not be required for the new units created through the recommended provisions. It is considered that given the limited floor area (50 sq. m) of the unit and the fact that the unit would maintain access and relationship with the principal dwelling, demand for parking would be low. In those circumstances where parking is desired, informal use of the parking available for the principal dwelling could be utilized where available. It is noted that pressure may be placed for the front yard landscaping requirements of the principal dwelling to accommodate tenant parking. Where variances are sought to amend this requirement, such variances should not be supported.

The requirement to not have additional parking for the secondary unit also reduces the reliance on the laneway for vehicular access. Discussions regarding the precarious ability for these units to secure continued access in perpetuity to parking was

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highlighted in the previous staff report and, not requiring it as a provision within the recommended amendment would ensure those who do provide parking accessed from the laneway would not be placed in a position of non-conformity with the regulation should the laneway access be compromised in the future.

Finally, these units, as they would only exist on lots containing single detached dwellings, would be eligible for on-street parking permits, where applicable.

### 3.6 Site Plan Control

Under Section 8 of 15-176 of the Site Plan Control By-law, accessory buildings to single detached dwellings are not subject to the Site Plan.

It is not necessary to place these lands under site plan control to capture the review of these secondary dwelling units. It is considered that the proposed regulations are sufficient to address the continued functionality of the residential lots and those adjoining lots.

## **4.0 Financial Implications**

### 4.1 Development Charges

With respect to applicable Development Charges, it is noted that the current By-law does not specifically recognize the secondary suite as a separate item and instead, given that it is a separate structure, would be applied the rate of a single detached unit.

Given that this is more characteristically defined as a basement unit in an accessory structure it is considered that the applicable fee should be reviewed and assigned a lower rate. A recommendation has been made to identify secondary dwelling units within an accessory structure as a separately defined item within the future update to the Development Charge By-law to be brought forward in 2019.

### 4.2 Parkland

Based on the same rationale, as detailed above, it is recommended that secondary dwelling units adjacent to a laneway should be treated equal to that of any other units created through Section 19 conversion provisions and not be considered a separate new dwelling unit. This motion has been captured in the recent update to the Parkland Dedication By-law approved by Council in May, 2018 which established the same flat fee as an accessory apartment.

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#### 4.3 Taxation

Approval of secondary units will require Building Permits to be approved. As such, changes to the property's assessed value will be captured by the Municipal Properties Assessment Corporation and result in increased Municipal taxation. In addition, it is noted that rental housing is exempt from the capital gains shelter and subject to increased income tax.

### **5.0 Technical Considerations**

#### 5.1 Servicing

All servicing (water/sanitary/utilities) will be facilitated from the public road of the principal dwelling or extended directly from the principal dwelling lot, where appropriate. As previously identified, servicing within the laneway was identified as a significant constraint, one borne not only due to the limited width in which to accommodate all the required services, but also the cost and tenure of the laneway in which to secure servicing and access in perpetuity.

Following discussions with Building and Growth Management Division staff, it was noted that under the current Building Code requirements, servicing under the existing dwelling is not permitted. On this basis, in accordance with current engineering guidelines, a separate service is preferred; however, given the potential additional road cut costs that would be incurred, staff would be willing to review alternative options on a case-by-case basis, subject to conformity with applicable Building Code provisions.

#### 5.2 Fire Suppression

As part of the approvals process, the applicant would be required to demonstrate to the satisfaction of the City's Building Department that access and infrastructure such as hydrants are available to ensure any fire related issue can be safely and satisfactorily addressed. Matters such as the width of unencumbered access to the secondary unit, distance from the frontage of the property, and existing locations of hydrants would be matters addressed through this review.

#### 5.3 Severance Potential

It is not appropriate to permit separate title to the secondary unit to be established through severance. As detailed within this Report and previous Report (PED16200), full dependence on the laneway for access and servicing remains a significant constraint. It is not considered appropriate until such point as clear and effective reduced regulations can be approved for the servicing of reduced rights-of-way. In addition, the tenure of

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**SUBJECT: Amendments to City of Hamilton Zoning By-law No. 6593 to allow secondary dwelling units in detached structures for properties adjoining a laneway ("Laneway Housing") (PED16200(a)) (Parts of Wards 1, 2, 3 and 4) - Page 17 of 18**

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each entire laneway would need to be resolved to the extent that the laneways become assumed and officially maintained by the City of Hamilton. While this would secure in perpetuity the ability to provide access and offer the ability to service the laneway, it raises other fiscal and operational concerns from a Public Works perspective. While this will be continued to be reviewed, the alternative approach of maintaining a legal and functional relationship with the principal dwelling as proposed within this Report, would allow the possibility of securing smaller, more affordable rental units within the City.

## **6.0 Monitoring**

City Initiative CI-18-F is a pilot project intended to introduce a series of regulations that are to be comprehensively monitored to evaluate the impacts of regulatory changes on the built form and to assess the ease of administering the regulations. The monitoring program will be undertaken over an 18-24 month period as part of the residential zoning project.

## **7.0 Conclusion**

In conclusion, it is considered that the proposed amendment would provide a meaningful way to secure mild intensification, compact infill development and the potential to bolster declining rental options within the private market. Aspects such as character and amenity have been protected and enhanced through the recommended provisions.

## **8.0 Next steps**

It is noted that the proposed By-law changes represent part of a larger more comprehensive approach to innovative housing solutions within the City of Hamilton. Additional work will be required to review the potential for secondary dwelling units, and in particular, secondary dwelling units within accessory structures to be permitted City wide and, further, that the ability to sever and create small lot homes be explored.

## **ALTERNATIVES FOR CONSIDERATION**

- Option 1: Planning Committee / City Council could choose alternative performance standards.
- Option 2: Planning Committee / City Council could table this Report and direct any future changes to be included in the new residential zones for Zoning By-law No. 05-200.

**SUBJECT: Amendments to City of Hamilton Zoning By-law No. 6593 to allow secondary dwelling units in detached structures for properties adjoining a laneway ("Laneway Housing") (PED16200(a)) (Parts of Wards 1, 2, 3 and 4) - Page 18 of 18**

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Option 3: Planning Committee / City Council could recommend the changes proposed not be approved. The existing conversion policies of By-law No.6593 would remain in effect.

## **ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN**

### **Community Engagement and Participation**

*Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community.*

### **Economic Prosperity and Growth**

*Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.*

### **Culture and Diversity**

*Hamilton is a thriving, vibrant place for arts, culture, and heritage where diversity and inclusivity are embraced and celebrated.*

## **APPENDICES AND SCHEDULES ATTACHED**

Appendix "A" – Draft Zoning By-law Amendment to Zoning By-law No. 6593

Appendix "B" – Background laneway Review

Appendix "C" – Relationship of Secondary Dwelling Units to Principal Dwelling

EJ:dt:mo

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**Authority:** Item [REDACTED]  
Planning Committee: June 19, 2018  
Report: 18-[REDACTED] (PED16200(a))  
CM: [REDACTED]

**Bill No.**

## CITY OF HAMILTON

### BY-LAW NO. 18-[REDACTED]

#### To Amend Zoning By-law No. 6593 Respecting Second Dwelling Units for Certain Lands Bounded by Highway 403, Burlington Street, Red Hill Valley and the Escarpment

**WHEREAS** the *City of Hamilton Act, 1999*, Statutes of Ontario, 1999 Chap. 14, Sch. C. did incorporate, as of January 1, 2001, the municipality "City of Hamilton";

**AND WHEREAS** the City of Hamilton is the successor to certain area municipalities, including the former municipality known as the "The Corporation of the City of Hamilton" and is the successor to the former regional municipality, namely, "The Regional Municipality of Hamilton-Wentworth";

**AND WHEREAS** the *City of Hamilton Act, 1999* provides that the Zoning By-laws of the former area municipalities continue in force in the City of Hamilton until subsequently amended or repealed by the Council of the City of Hamilton;

**AND WHEREAS** the Council of The Corporation of the City of Hamilton passed Zoning By-law No. 6593 (Hamilton) on the 25th day of July 1950, which by-law was approved by the Ontario Municipal Board by Order dated the 7th day of December 1951, (File No. P.F.C. 3821);

**AND WHEREAS** the Council of the City of Hamilton, in adopting Item [REDACTED] of Report 18-[REDACTED] of the Planning Committee at its meeting held on the XX day of XX, 2018, recommended that Zoning By-law No. 6593 (Hamilton), be amended as hereinafter provided;

**AND WHEREAS** this By-law is in conformity with the Urban Hamilton Official Plan.

**NOW THEREFORE** the Council of the City of Hamilton enacts as follows:

- 1.0 That the following new Subsection be added to Section 19: Residential Conversion Requirements as follows:

**"(5) "C" and "D" Districts – Second Dwelling Unit on a Single Detached Dwelling Lot**

Notwithstanding anything contained in this by-law, a second dwelling unit on the same lot as a single detached dwelling may be constructed provided all the following requirements are met:

- (i) For the purpose of this Subsection, laneway shall mean a public highway or road allowance having a width of less than 12.0 metres;
- (ii) the lot shall contain a single-detached dwelling unit;
- (iii) the lot shall abut a laneway;
- (iv) Subsection (5) shall apply to lands zoned "C" (Urban Protected Residential, etc.) District and "D" (Urban Protected Residential-One and Two Family Dwellings, etc.) District and identified in Section 22 as Schedule P;
- (v) An accessory structure to the single detached dwelling legally existing at the date of the passing of this by-law {DATE} may be converted to a dwelling unit provided it meets all the following requirements:
  - (a) For any elevation not facing a laneway, windows and doors are permitted only on the ground floor or within a roof.
  - (b) it shall not exceed a gross floor area of 50 square metres, excluding any parking contained within the second dwelling unit.
  - (c) no parking shall be required.
- (vi) A second dwelling unit may be constructed on the same lot as a single detached dwelling unit provided it meets all the following requirements:
  - (a) the maximum height shall be 6.0 metres;
  - (b) it shall not be located in the required rear yard of the principal dwelling;
  - (c) it shall not be permitted in a front yard;
  - (d) A minimum 1.2 metre setback from a side and rear lot line shall be provided and maintained;
  - (e) For any elevation not facing a laneway, windows and doors are permitted only on the ground floor or within a roof;



- (f) it shall not exceed a gross floor area of 50 square metres, excluding any parking contained within the second dwelling unit; and,
  - (g) no parking shall be required.
2. That Section 22: Restricted Areas By-laws Repealed is amended by adding Schedule P.
  3. That the Clerk is hereby authorized and directed to proceed with the giving of notice of the passing of this by-law, in accordance with the *Planning Act*.

**PASSED and ENACTED** this \_\_\_\_ day of \_\_\_\_, 2018.

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F. Eisenberger  
Mayor

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R. Caterini  
Clerk

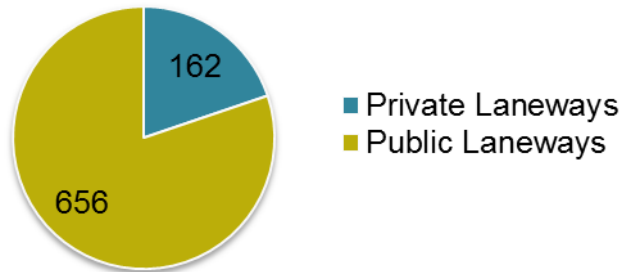
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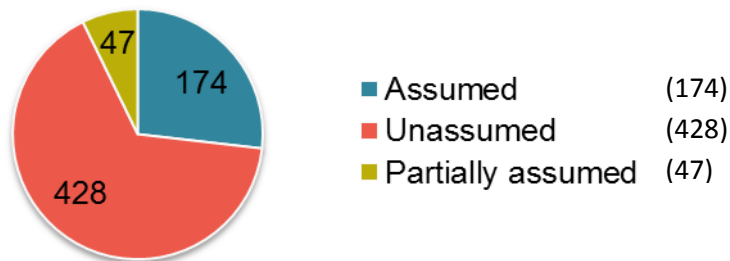
Laneway Overview

There are 818 laneways in the City of Hamilton. In total, there are approximately 100 kilometres and 38 hectares of laneways. Laneway widths range between three and four meters. The large majority of laneways are City-owned (656), while the remainder are privately owned (162) (see Figure 1). Of the publicly owned laneways, 174 are assumed, 428 are unassumed, and 47 are partially assumed laneways (see Figure 2).

**Figure 1 – Laneway Ownership in the City of Hamilton**



**Figure 2 – Laneway Assumption in the City of Hamilton**

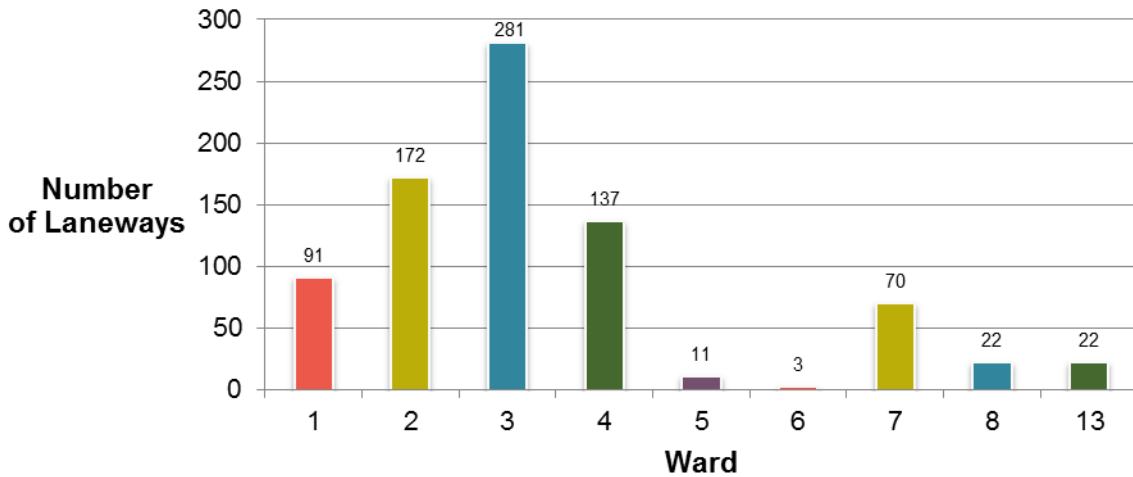


The majority of laneways are located in the lower city in the area bounded by Burlington Street to the north, Parkdale Avenue to the east, the Niagara Escarpment to the south, and Dundurn Street to the west (see Appendix "A" of Report PED16200). Ten percent of laneways are located within the Downtown Urban Growth Centre. Ward 3 contains the most laneways with 281 (34 percent of all laneways), followed by Ward 2 with 172 (21 percent), and Ward 4 with 137 (17 percent) (see Figure 3).

Laneways are also found in the upper city between Concession Street, Upper Gage Avenue, Fennell Avenue, and West 5<sup>th</sup> Street. A small pocket of laneways also exists in

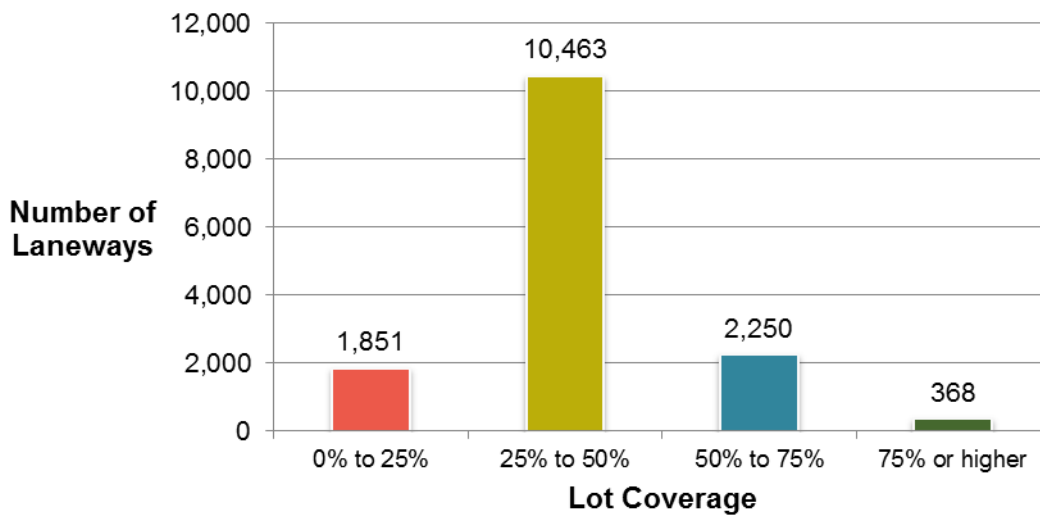
the upper city between Fennell Avenue, Upper James Street, South Bend Road West, and West 5<sup>th</sup> Street.

**Figure 3 – Location of Laneways in the City of Hamilton by Ward**



Approximately 15,435 properties in Hamilton abut laneways, 13,608 or 88 percent are currently used for residential purposes (see Appendix "B" of Report PED16200). Zoning for those existing residential units that abut a laneway vary, but are typically lower density zones.

**Figure 4 – Lot Coverage of Properties Abutting Laneways**



Laneway Housing



A laneway home is typically a small, detached home located at the centre of the block and fronting a laneway. Laneway homes are a form of secondary suite typically created through the conversion of an existing accessory building or new construction separate from the principal dwelling (see Figures 5 and 6 for examples of laneway homes in Hamilton).

**Figure 5 – 20 and 22 Wheeler Lane, Hamilton**



**Figure 6 – Fanning Street, Hamilton**



Many of the laneway homes in the City of Hamilton were originally built as outbuildings or carriage houses, but have since been adaptively reused to accommodate habitable space. There are approximately 70 known laneway homes in existence in the City of Hamilton, most of which are located in the lower city.

On the vast majority of abutting properties (10,463 properties), 25 to 50 percent of the lot is covered with a building or structure. Table 1 provides examples of setbacks and percent of existing building envelope for ten laneway homes that currently exist in Hamilton. Laneway house building envelopes are smaller than that of the principal dwelling unit, with the median percent of primary building envelope being approximately 41 percent. Front and side yard setbacks for laneway homes are also minimal (See Table 1).

The majority of laneway homes in Hamilton are non-complying and non-conforming uses with respect to the Urban Hamilton Official Plan and the City of Hamilton Zoning By-law.

**Table: 1 Examples of Setbacks and % Building Envelope for Existing Laneway Homes in Hamilton**

	<b>Setback from Laneway (metres)</b>	<b>Combined Side Setback (metres)</b>	<b>Primary Dwelling Envelope (sq. meters)</b>	<b>Laneway House Envelope (sq. meters)</b>	<b>% of Primary Dwelling Envelope</b>
1	2.3	6.9	208	60	29%
2	0	4	136	54	40%
3	0	1.3	157	88	56%
4	0	8.8	162	56	35%
5	0	2.5	96	69	72%
6	0	11.2	294	122	41%
7	0.4	0.3	128	61	48%
8	0	5.3	204	66	32%
9	0.6	5.5	139	33	24%
10	0.8	0	97	73	75%
<b>Median*</b>	<b>0.6</b>	<b>4.65</b>	<b>148</b>	<b>63.5</b>	<b>41%</b>
<b>Average*</b>	<b>0.82</b>	<b>4.6</b>	<b>162.1</b>	<b>68.2</b>	<b>45%</b>

\*If more than one "zero" value occurred in a column, only one "zero" value was used to calculate median and average.

