Hamilton

Memorandum

Date: May 17, 2019

To: Suzanne Mammel, HHHBA

From: Brian McMullen, Acting GM Finance and Corporate Services, Corporate Service Department

Subject: **Hamilton DC Review - Responses to April 16, 2019 AltusGroup Memo**

This memorandum is in response to questions and comments raised in the April 16, 2019 Memorandum that you forwarded from Altus Group Economic Consulting (Altus) related to the City of Hamilton's 2019 Development Charge (DC) Background Study and proposed 2019 DC By-law.

We have formatted this memorandum to include the question/comment from the Altus memorandum followed by a response.

Population, Household and Employment Forecasts

1) *As the proposed DC by-law would remove the exemption for student residences (and the current DC by-law already charges for off-campus student housing), should the existing and projected student population growth and growth in student housing units be incorporated into the population and household forecast used throughout the DC calculation? Other municipalities with significant student populations (i.e. Waterloo Region) include student population and housing in the calculation of DCs.*

   According to the 2014 Waterloo Region DC study:
   Full-time students are included in all population figures in this study because the need for municipal services is in part driven by development triggered by student growth.

RESPONSE:
In municipalities where there is a notable non-permanent post-secondary student population that is not captured in the Census (permanent) population, such as Waterloo Region, students have been specifically identified in Watson's DC growth work.

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Through the 2015 Hamilton Ward Boundary Review work, the 2015 the non-permanent students not captured in standard population reporting (i.e. Census) data was estimated to total approximately 13,300 (on and off-campus). The Study determined that the 2015 share of non-permanent post-secondary students not captured in Census and living off Campus totals approx. 9,100 and accounts for approximately 1.6% of the City's total population – a relatively small share of the population.

In Waterloo Region, the 2019 DC identified that off-campus post-secondary students not captured in Census data account for approximately 5% of total population (as of 2016), a notably higher share than Hamilton.

Based on the relatively small share that non-permanent students represent of the population base in Hamilton, it is reasonable to have excluded them from the analysis.

General Questions

Accounting for Debt Financed Facilities in LOS [Level of Service] Inventory

2) There are a number of items for which debt principal and interest costs are included in the capital project lists for recovery through the DC, that are also listed in the Level of Service inventory used for the purposes of setting the maximum allowable funding envelope. Some examples include the Division 30 Headquarters, the Shared Training Facility (Police and Fire), etc. Deductions to the GFA in the LOS inventory should be made that are proportionate to the debt principal being recovered through the DC for these items.

RESPONSE:
For cashflow purposes, the City has issued debentures on a number of facilities in the past. The facilities have been fully opened as of the year identified for each in the service standard calculations. The balance of debenture payments for remaining years of each debenture have been included in the calculations.

The following sections of the DC Act have been followed in the determination of service standard calculations:

- Section 5(1) 4 of the DCA provides: "The estimate under paragraph 2 must not include an increase that would result in the level of service exceeding the average level of that service provided in the municipality over the 10-year period immediately preceding the preparation of the background study required under section 10."

- Section 4(1) of the Regulations provides: "For the purpose of subsection 5 (1) of the Act, both the quantity and quality of a service shall be taken into account in determining the level of service and the average level of service."

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Inclusion of Funding of Exemptions / Discounts

3) The figure on page 4-10 of the 2019 DC Study shows the addition of $40.8 million in "funding of exemptions/discounts". Is this amount meant to show all exemptions granted over the life of the current in-force DC by-law, or does this represent the cost of only the exemptions/discounts granted over 2018 so as to adjust the 2018 year-end balance as needed (with all discounts/exemptions in prior years already incorporated into the pre-adjusted 2018 year-end balance)?

RESPONSE:
The $40.8 M represented the unfunded portion of Council directed DC exemptions over the life of the by-law. It represents the additional funds the City needs to contribute to the DC reserves to 'make them whole' due to the exemptions/discounts provided by the by-law.

Questions Regarding Level of Service Analysis

Parking

4) The header for the parking LOS inventory shows the 2019 value as being expressed in "$/space including land", but this appears to actually be expressed in terms of the value of the lots. Can you please confirm what value is being shown, and advise what the underlying per space and per hectare land values were used to reach the per parking lot values?

RESPONSE:
The calculations used in the parking service standards were based on the construction cost of a parking space, excluding the value of the land for each of the lots. The column in the spreadsheet that was provided in the background study was the value of the land, which was to be included in an adjusted value per space however was missed in the ultimate calculations. If the land value was calculated as part of the cost, the overall service standard ceiling calculations would increase from $17,159,785 to $18,587,545. This will be corrected in the future to ensure the land value is properly included in the calculations.

The construction cost for surface spaces (including circulation space) was based on $12,400/space for all lots except Carpark #37 which was based on $70,700/space and Carpark #68 which was based on $50,300/space.

Parkland Development

5) What are the "Non-City-Owned Lands" being referred to on page B-45 as being parklands that the City maintains?

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RESPONSE:
The city provides parkland on properties through agreements with various private property owners such as Public Works Canada, the Ministry of Transportation, Hydro One, Enbridge, etc. The City maintains these properties as part of their parks operations, the parks are accessible to the public and the city would have to develop other parks if these lands were not provided.

6) *For the "School Lands" included in the City LOS inventory, which are assigned a value of $34,000 per acre – does the City contribute any costs towards the development of amenities on these lands, or are these amenities provided by the area's school boards?*

RESPONSE:
The general public has access to the amenities and land on school properties outside of school hours. Amenities such as soccer and ball diamonds are programmed by the City of Hamilton Recreation. Where programs are booked through City of Hamilton Recreation, the City also provides maintenance by Parks staff.

Historically the City of Hamilton has provided funding of assets such as play structures on school board properties. Where the City has funded a play structure asset, there would be maintenance associated with that amenity. In some cases, there may be an amenity on provincial lands (such as a hydro corridor), and there may be investment in items such as a pathway. Where there is a city amenity, the City also provides associated maintenance.

7) *What is the difference between "Parks on Utility Lands" and "Other Utility Lands", and why are these each assigned the same value per acre of $10,600 – what City amenities are provided on these lands? Does the public have access to these lands?*

RESPONSE:
Parks on Utility Lands include various parks that have open space and small amenities such as sun shelters, pedestrian bridges, and open space for passive plan/practice which are accessible to the public. Other Utility Lands are linear open spaces along pipeline corridors and/or adjacent to retention ponds/stormwater pond and rail lines. The value per acre of $10,600 is based on the average value to develop open space parkland, and includes minor amenities, such as benches, signage, etc.

8) *Why is the value of Ivor Wynne Stadium $1,585 per sf when the new Tim Horton's Field is valued at $443 per sf?*

RESPONSE:
The value for Ivor Wynne Stadium was based on the historic valuation with inflation applied to it from 2014-2019. The new Tim Horton's Field is valued based on the actual cost for the redevelopment project.

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9) The LOS inventory includes numerous items related to Confederation Park and Wild Water Works, which is owned and operated by Conservation Hamilton. As these facilities are not owned by the City or a City board, these items and other items owned by Conservation Halton should be removed from the LOS inventory.

RESPONSE:
The city owns the entirety of Confederation Beach Park. The City contracts the Hamilton Conservation Authority to manage a portion of it, including Wild Waterworks, but it is a city asset on city land and therefore, the city is responsible for all capital costs associated with the park, including Wild Waterworks.

Questions Regarding Capital Projects

Services Related to a Highway

10) What is the nature of the "Street Lighting Enhancement Program" and why is the BTE allocation only 5%? Are these works to be done to enhance existing street lights?

RESPONSE:
This program is to enhance street lighting in areas of the city that are external to development areas, and that are currently at lower standard for lighting than what would be required once growth occurs. Additional, with the increase in the active transportation mode share, enhanced street lighting provides for increased usage of the network and assists the City in achieving the active transportation targets. Therefore, an allocation of 95% to growth has been applied (resulting in the 5% BTE share).

11) What is the nature of the "Intersection Pedestrian Signal" program and why is the BTE allocation only 5%? Are these works being done to improve pedestrian signals at existing or new intersections?

RESPONSE:
This program is intended to ensure that existing intersections which do not currently warrant pedestrian signals can be upgraded to include the pedestrian signals as growth occurs and triggers the need. Similar to the street lighting enhancement program the with the increase in the active transportation mode share, intersection pedestrian signals provides for increased usage of the network and assists the City in achieving the active transportation targets. Therefore, an allocation of 95% to growth has been applied (resulting in the 5% BTE share).

12) Does the City know the location of the works to be done under the "New Sidewalk Program"? Are these to be sidewalks built in existing rights-of-way that do not have sidewalks? Are sidewalks associated with identified road projects included into those project costs?

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RESPONSE:
This program is to fund the installation of new sidewalks throughout various locations within the City required due to growth. Specific projects are identified annually by staff based on where development occurs, and the sidewalk network gaps required to be put in place to ensure the safe movement of people.

13) *There are several projects in the City's 2019 capital budget forecast for which there are "Pre-2019" amounts shown. One such example is the East-West Road Corridor (Waterdown Bypass) project. The capital budget shows $42.36 million in total costs for the project, of which $23.66 million are identified as "Pre-2019" costs, with the remaining $18.7 million in 2019. However, the 2019 DC Study shows what appears to be the full capital cost ($52.2 million) with no accounting for what appears to have been spent in years prior to 2019. It is understood that the DC reserve funds were adjusted for "funding for projects that have already partial received DC funding", we would like to understand what comprises the adjustment made to the reserve fund balances. In the case of the East-West Road Corridor project alone, there is $23.6 million in previous funding, but the total adjustment made for the Services Related to a Highway is shown on page 4-10 of the DC Study as being only $14.9 million. The figure below shows all of the projects with "pre-2019" funding in the 2019 capital budget.*

Examples of Projects with "Pre-2019" Costs in 2019 Capital Budget Included in Costs within 2019 DC Study

	2019 DC Study	Capital Budget (2019 Onwards)	Capital Budget (Incl. Pre-2019)	% Change	Timing (From DC Study)
		Dollars		*Percent*	
E-W Road Corridor (Waterdown By-Pass) - Dundas Street to Highway 6	52,207,000	18,700,000	42,360,000	23%	2019-2031
Cordon Count Program	330,000	160,000	270,000	22%	2019-2031
Nebo Road - Rymal Road to Twenty Road	5,870,000	4,800,000	5,020,000	17%	2020
Rymal Road - Fletcher Road to Upper Centenial	15,717,000	12,100,000	12,870,000	22%	2019
Highway 8 (Dundas) - Hillcrest to Park Ave	2,566,000	1,610,000	1,840,000	39%	2019-2031

Source: Altus Group based on Watson & Associates, City of Hamilton 2019 DC Background Study & 2019-2028 Capital Budget, City of Hamilton

RESPONSE:
The adjustment on page 4-10 of the DC Study in the amount of $14.9 M relates to returning funds that have been provided to Capital Projects that are also included in the 2019 DC Study to ensure that there is no double counting occurring.

The East-West Road Corridor (Waterdown By-pass) Project had been planned to be funded by a mix of DC reserve funds and DC debt. The project had only received $3.97 M in DC reserve funding to the end of 2018. This $3.97 M is part of the $14.9 M adjustment.

The Cordon Count Program was not included in the 2014 DC Background Study so it neither had DC funding budgeted nor provided to the end of 2018. There is no adjustment on page 4-10 related to this project.

The Nebo Road – Rymal Road to Twenty Road project had budgeted DC funds in the amount of $220 K at the end of 2018 but had not received any actual DC reserve funding to the end of 2018. There is no adjustment on page 4-10 for this project.

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The Rymal Road – Fletcher Road to Upper Centennial project had budgeted DC funding in the amount of $770 K at the end of 2018. It had actually received $229,500 in DC funding at the end 2018. This $229,500 is part of the $14.9 M adjustment.

The Highway 8 (Dundas) – Hillcrest to Park Ave project had budgeted DC funding in the amount of $106 K at the end of 2018 (plus $124 K from levy). It had actually received $78,517 in DC funding at the end of 2018. This $78,517 is part of the $14.9 M adjustment

14) *A 15% BTE is applied to Active Transportation projects - page 9 of the Dillon report appended to the DC Study states that this is based on the notion that bicycle lands and active transportation works reduces the capital infrastructure needs for things such as road widenings, and that the "principle reason for implementing this approach is to help accommodate growth." Conversely, the City's 2014 DC Study, in Appendix E applied a 50% BTE to Commuter Trails and Bicycle Facilities with a rationale that "a 50/50 split has been allocated to acknowledge that new and existing growth will equally benefit from active transportation improvements." We would suggest that the approach taken in the 2014 DC Study was more reflective of the benefit and ultimate usage of these additions to the City's active transportation network.*

RESPONSE:
The Hamilton Official Plan and the Hamilton Transportation Master Plan puts a heavy emphasis on designing corridors, streets and paths to accommodate all modes of travel including transit, cyclists and pedestrians using the "complete streets" concept. It also sets aggressive targets for non-auto mode share including active transportation. This in turn reduces the vehicular demand on the roadway network to accommodate growth by minimizing the building/expansion of roads. Therefore, these active transportation projects contribute to accommodating growth. The 85% growth split was viewed to be more appropriate and in line with other infrastructure built to accommodate growth.

15) *There are numerous projects with significant cost increases over and above what is shown in the City of Hamilton capital budget forecast. We would like to understand the reasons for the differences in costs between the two documents. The figure below lists the projects for which we are seeing significant cost increases over the City's 2019 capital budget.*

Change in Capital Costs of Services Related to a Highway Projects, 2019 DC Study and 2019-2028 Capital Budget, City of Hamilton

	2019 DC Study	Capital Budget (2019 Onwards)	Capital Budget (Incl. Pre-2019)	% Change	Timing (From DC Study)
		Dollars		*Percent*	
White Church Road - Glancaster Road to Highway 6	19,651,000	1,240,000	1,240,000	1485%	2023-2031
Mapping Update Program	6,500,000	890,000	890,000	630%	2019-2031
Airport Road* - Butter Road to Glancaster Road	7,470,000	1,280,000	1,280,000	484%	2023-2031
Southcote Road* - Garner to Twenty Road extension	9,306,000	3,400,000	3,400,000	174%	2023-2031
Highway 8 (Stoney Creek) - Fruitland Road to East City Limit	20,674,000	7,660,000	7,660,000	170%	2023-2031
Fletcher Road - Binbrook Road to Golf Club Road	17,568,000	6,610,000	6,610,000	166%	2026
Southcote Road - Twenty Road extension to Book Road	8,541,000	3,400,000	3,400,000	151%	2023-2031
Twenty Road extension - Southcote Road to Glancaster Road	14,296,000	6,100,000	6,100,000	134%	2023-2031
Arvin Avenue - McNeilly to Existing west end	2,201,000	1,000,000	1,000,000	120%	2023-2031
Butter Rd/Airport Rd - Glancaster to Fiddlers Green (AEGD)	16,097,000	7,500,000	7,500,000	115%	2023-2031
Fifty Road - Q.E.W (South Service Road) to Highway 8	5,277,000	2,800,000	2,800,000	88%	2019-2031
Carluke Road East - Fiddler's Green Road to Glancaster Road	6,291,000	3,410,000	3,410,000	84%	2023-2031
Millen Road - Barton Street to South Service Road	6,118,000	3,410,000	3,410,000	79%	2023-2031
Multi-modal Level of Service Guidelines	8,761,000	5,280,000	5,280,000	66%	2019-2022
Development Road Urbanization	250,000	160,000	160,000	56%	2019-2031
Binbrook Road - Royal Winter Dr/Binhaven Rd to Fletcher Road	6,840,000	4,500,000	4,500,000	52%	2019
Highway 8 (Stoney Creek)* - Dewitt Road to Fruitland Road	6,534,000	4,200,000	4,200,000	56%	2030
Golf Links Road - McNiven Road to Kitty Murray Lane	4,646,000	3,070,000	3,070,000	51%	2025

Source: Altus Group based on Watson & Associates, City of Hamilton 2019 DC Background Study & 2019-2028 Capital Budget, City of Hamilton

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RESPONSE:
Each project was independently evaluated and costed for the 2019 Development Charge Background Study. The rationale for the change in cost for each project varies but overall the increase from previous costing is due to some or all of the following:

- Unit costs increased from previous costing;
- The project scope changed (e.g. from a rehabilitation of a two lane road to a road widening from two lanes to four lanes and urbanization);
- Land costs were added/updated where required;
- EA costs were added/updated where required; and

Contingencies were added (or they increased due to scope change) for construction (10%), engineering (10%) and project management & other misc. fees/chargebacks (10%).

Due to incorporation of additional EA identified projects, along with updated land and construction costs (in particular the per km construction costs), the resulting value has therefore increased accordingly.

The 2019 Capital budget was not updated to be in alignment with the calculated costs based on the most recent scopes and related calculated estimates.

Staff have provided a general statement regarding why differences between the two documents may occur. A line by line response is not necessary and staff encountered inconsistencies when attempting to cross reference the information. Some examples follow as specific project notes.

Specific project note: White Church – Glancaster Road to Highway 8
The timing per page 5-48 of the 2019 DC Background Study is 2032-2041 and the entire gross cost is identified as post period benefit, therefore the Capital costs would not be expected in the 10 year capital budget forecast.

Specific project note: Mapping Update Program
For the Mapping Update Program, the gross capital cost included in 2019 Development Charge Background Study on page 5-50 is $305,000 rather than the $6,500,000 shown in the table.

Specific project note: Airport Road* - Butter Road to Glancaster Road
The timing per page 5-47 of the 2019 DC Background Study is 2032-2041 and the entire gross cost is identified as post period benefit, therefore the Capital costs would not be expected in the 10 year capital budget forecast.

Specific project note: Multi-Modal Level of Service
The gross capital cost included in 2019 DC study on page 5-51 is $25,000 rather than the $8,761,000 shown in the table.

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Specific project note: Development Road Urbanization
The gross capital cost included in 2019 DC study on page 5-50 is $6,500,000 rather than the $250,000 shown in the table. $6,500,000 over 13 years aligns with the 2020 Tax Capital Budget allocation of $500 K annually.

16) *There are several projects that are within the City's 2019 DC study project list, with timing prior to 2031 that are shown in the City's 2019 capital budget forecast as having timing beyond 2031. Any such projects deemed by Council to be post-2031 projects can be identified in the DC Study but should have a full Post Period Benefit allocation made. The figure below lists the projects where this is an issue.*

2019 DC Study Projects with Post-2031 Timing in City 2019 Capital Budget

	2019-2028 Capital Budget		2019 DC Study			
	Start Date	Gross Cost	Timing	2019 DC Study	Post Period Benefit	Net Capital Cost
		Dollars			*Dollars*	
Jones Road - Barton Street to South Service Road	2032	2,930,000	2023-2031	3,739,000	-	3,739,000
Miles Road - Rymal Road to Hydro Corridor	2032	7,970,000	2023-2031	10,769,000	-	10,769,000
Southcote Road - Twenty Road extension to Book Road	2032	3,400,000	2023-2031	8,541,000	-	8,541,000
Glover Road - Twenty Road to Rymal Road	2033	8,480,000	2023-2031	9,400,000	-	9,400,000
Lewis Road - Barton Street to South Service Road	2034	2,600,000	2023-2031	3,402,000	-	3,402,000
Butter Rd/Airport Rd - Glancaster to Fiddlers Green (AEGD)	2034	7,500,000	2023-2041	16,097,000	12,136,000	3,961,000
Millen Road - Barton Street to South Service Road	2034	3,410,000	2023-2031	6,118,000	-	6,118,000
Trinity Church Road - Binbrook Road to Golf Club Road	2034	8,120,000	2023-2031	9,032,000	-	9,032,000
Twenty Road - Aldercrest Avenue to 600m west of Nebo Road	2034	14,500,000	2023-2031	16,290,000	-	16,290,000
Centre Road - Northlawn to Parkside Drive	2034	4,620,000	2019-2022	2,434,000	-	2,434,000
Garth Street extension (oversizing) - Dickenson Road to Collector 2E	2034	4,080,000	2023-2031	1,359,000	-	1,359,000
Dickenson Road Extension - Smith Road to Glancaster Road	2034	4,150,000	2023-2031	6,149,000	-	6,149,000
Airport Rd - U. James to Glancaster (AEGD)	2034	10,550,000	2019-2031	14,185,000	-	14,185,000
Twenty Road extension - Southcote Road to Glancaster Road	2034	6,100,000	2023-2031	14,296,000	-	14,296,000

Source: Altus Group based on Watson & Associates, City of Hamilton 2019 DC Background Study & 2019-2028 Capital Budget, City of Hamilton

RESPONSE:
The 2031 forecast represents the Places to Grow targeted growth forecast. This forecast has been used in each DC study. It is recognized that the actual City growth has been slower than the Provincial forecast. For Capital Budgeting purposes, a less aggressive forecast was used in order to be fiscally conservative.

17) *The unit costs used in the 2014 and 2019 DC studies have increased only slightly, most in the range of 7-15% (see Figure 4 below). However, when we look at how the project costs by improvement type have changed, the costs per kilometre for road improvements have increased in the range of 36% to 58% (see Figure 5), which is far above the percentage increase seen in almost any single unit cost (of all unit costs where comparisons were available, only installation of maintenance manholes increased by more than 36%). Can you please explain how the project costs ($/km) increased so much more significantly than the unit costs that supposedly comprise the bulk of project costs?*

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Comparison of Unit Costs, City of Hamilton 2014 and 2019 DC Studies

Item	Unit	2014 DC Study	2019 DC Study	% Change
				Percent
Clearing and Grubbing (Area)	m2	3.50	3.93	12%
Excavation	m3	18.11	14.84	-18%
Remove Concrete Sidewalk/Driveway	m2	15.00	16.86	12%
Remove Culverts (including headwalls/sewers)	m	28.53	32.07	12%
Remove Catchbasin (single)	each	706.88	427.71	-39%
Remove Concrete Curb and Gutter	m	9.28	10.43	12%
Remove Manholes (full depth)	each	494.40	555.71	12%
Remove Manholes (partial depth)	each	494.40	668.58	35%
Remove Concrete Curb Outlets	each	9.28	10.43	12%
Remove Catchbasin (double)	each	692.76	778.66	12%
Cold plane exist. Asphalt	m2	13.66	9.41	-31%
Full Depth Asphalt Removal	m2	3.42	3.93	15%
Granular A - Roadway	m3	51.10	54.73	7%
Granular B - Roadway	m3	40.76	48.59	19%
Tack Coat	m2	0.50	0.61	22%
Hot Mix HL3 (40mm)	tonne	124.68	133.79	7%
150mm DIA non perforated sub drain	m	23.60	27.27	16%
Concrete Sidewalk (not including granular or excavation)	m2	56.44	60.70	8%
Concrete Sidewalk (including granular base)	m2	65.99	85.68	30%
Install Concrete Curb & Gutter (OPSD600.040)	m	98.74	105.56	7%
Topsoil and Sod (300mm)	m2	17.14	20.41	19%
Supply and Install Storm, Sewer Pipes (300mm min.)	m	331.47	350.26	6%
Supply and Install Catchbasin Leads including appropriate fittings, Class 'B' bedding and Granular Backfill (single, 250mm DIA)	m	332.03	373.20	12%
Supply and Install Catchbasin (single, OPSD 705.010)	each	2,446.86	3,180.28	30%
Supply and Install Catchbasin (double, OPSD 705.020)	each	3,540.87	3,979.94	12%
Supply and Install Manhole, Maintenance Holes (OPSD701.01)	each	3,762.41	6,426.00	71%
Pavement Markings	m	2.59	3.21	24%
Fire Hydrant	each	5,579.65	6,588.73	18%

Source: City of Hamilton 2014 and 2019 DC Studies - 2014 Appendix H, HDR, 2019 Appendix H, Dillon

Comparison of Project Costs by Improvement Type, City of Hamilton 2014 and 2019 DC Studies

Improvement Type	Code	2014 DC Study	2019 DC Study	% Change
		Dollars per Kilometre		*Percent*
Collector Rural Residential	2r	1,418,600	2,241,620	58%
Rural 3 Lanes	3r	1,529,900	2,344,853	53%
Rural 4 Lanes	4r	2,512,800	3,681,788	47%
Collector Urban Residential	2u	2,417,600	3,815,428	50%
Urban 3 Lanes Arterial/Collector	3u	2,686,600	3,929,403	46%
Urban 4 Lanes Arterial	4u	3,548,500	5,177,191	46%
Urban 5 Lanes Arterial	5u	4,281,200	6,040,438	41%
Collector Rural Residential to Industrial Collector 2 Lanes	2r-2i	2,458,800	3,556,562	45%
Collector Rural Residential to Collector Urban Residential	2r-2u	2,644,000	3,825,719	45%
Collector Rural Residential to 4 Lanes Urban Arterial	2r-4u	3,439,800	4,702,224	37%
Collector Rural Residential to 5 Lanes Urban Arterial	2r-5u	4,120,900	5,591,273	36%
Collector Urban Residential to 4 Lanes Urban Arterial	2u-4u	3,475,300	4,984,283	43%
3 Lanes Rural to 3 Lanes Urban	3r-3u	2,774,700	4,080,044	47%
4 Lanes Rural to 5 Lanes Urban	4r-5u	3,988,500	5,895,207	48%
4 Lanes Urban to 5 Lanes Urban	4u-5u	4,275,400	6,276,960	47%

Source: City of Hamilton 2014 and 2019 DC Studies - 2014 Appendix H, HDR, 2019 Appendix H, Dillon

RESPONSE:
The cost/km for each type of road improvement (e.g. 2r-4u or two-lane rural to four-lane urban) were updated to reflect land costs, construction contingency (10%), engineering contingency (10%) and project management & other misc. fees/chargebacks costs (10%). While the individual unit costs (e.g. Granular A or Hot Mix HL3) didn't increase much, these other charges lead to higher increases to the per km costs.

Water and Wastewater

18) Do the water and wastewater line items for "New Growth-Related Financing" relate to anticipated debt financing? If so:

a. What assumptions were made regarding borrowing terms?
b. Why is the City assuming the need to borrow $32.1 million for water if there is an existing surplus in the reserve fund of $26.2 million?

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RESPONSE:
Yes, the water and wastewater line items for "New Growth-Related Financing" relate to anticipated debt financing.

a. The same assumptions used in the 2019 Capital Budget were used in the 2014 DC Study - 15 years, 5%. The future interest is discounted to reflect the fact that DCs will be indexed annually.
b. Note that the $32.1 million included in the 2019 Development Charge Background Study is the financing (interest) costs, not the debenture principal anticipated to be issued. As water infrastructure generally needs to be in place before development can proceed (before DCs are collected), the City balances the need to issue debt with available funds. The DC assumes that, in addition to the $26.2 million reserve fund balance, there will be a need to issue debt on approximately 25% of the growth-related capital works that area anticipated over the 5-year term of the by-law.

19) *The costs for both sections of the Dickenson Road Trunk Sewer are shown as $44.2 million, despite significantly different lengths (Upper James to Miles Road is 2,900 metres, while Miles Road to RR56 is 6,800 metres). Is one of these cost estimates shown in error, or are they meant to be the same amounts? In the 2014 DC study, a similar sewer to the Upper James to Miles Road sewer had a cost of $11.48 million.*

RESPONSE:
The Dickenson Trunk sewer is being designed and constructed as a single project with total estimated cost of $88.4M. For the purposes of the DC, it was split into two project numbers, with equal costs.

20) *Why has the cost of the "HC011-Calvin St SPS Upgrades" increased from $230,000 in the 2014 DC Study to $3,500,000 in the 2019 DC Study?*

RESPONSE:
The cost for the Calvin St Upgrades are based on recent budget estimates. Additional detail and refinement to the scope has been completed by the City since the previous DC Study.

21) *The cost of "Intensification Infrastructure Upgrades – Wastewater" for the initial five-year period after the by-law comes into force has increased from $5.0 million in the 2014 DC Study to $15.0 million in the 2019 DC Study. Does the City have any data to share about recent expenditures that can justify the new annual amount being incorporated into the DC calculation?*

RESPONSE:
It is important to note that this item is subject to a 50/50 split between benefit to existing and growth related. Accordingly, the $5 M previously included in the 2014 DC Background Study limited the scope of projects that could be implemented.

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A recent intensification pilot study for a small, isolated area within downtown identified significant upgrade requirements to service growth. To meet intensification targets for a larger area across the City, it was estimated that a significant increase to the previous $5 M would be required.

In addition, since 2014, there has been a significant increase in costs. Accordingly, this item has been increased to the identified $15 M in the 2019 Development Charge Background Study.

22) *The 2019 DC Study has a cost of $15.0 million for a "West Harbour Sanitary Pumping Station and Forcemain", with 10% of the costs attributable to the City/BTE. The 2014 DC Study had a cost of $2.7 million for the SPS and $590,000 for West Harbour Servicing (for a total of $3.3 million), with the costs for each allocated 50% to the City/BTE. What are the reasons for the cost increase and the reduced allocation to the City/BTE?*

RESPONSE:
The 2014 DC cost estimate did not include the cost of a wet weather storage tank required for the station. In addition, the 2014 cost estimates for this project were based on conceptual level of detail for the scope of the project. The revised cost estimate was provided by the City team which reflects additional detail and updated scope (including storage tank and twin forcemain). The 2014 estimate also assumed a much greater share of the project benefiting/servicing existing areas. The new scope and service area is predominantly to service growth.

23) *The costs for the Woodward WTP include $8,008,501 for "Internal Staffing Cost Allocation". What is the nature of these costs, and are they better classified as operating costs?*

RESPONSE:
Internal staffing costs/project management costs to deliver growth related capital works are DC eligible. The city often contracts a project manager and/or assigns dedicated staff to oversee the project management of large capital projects. If an external project manager was contracted to oversee the project on behalf of the city, the costs would be included in the overall costs of the capital project. Therefore, if the city decides to hire a project manager on a contract and/or dedicate existing staff to oversee the projects, the costs are charged to the capital project.

The Woodward WTP is project CW12-W-19 in Table F-2 of the 2019 Development Charge Background Study. There are no costs identified as "Internal Staffing Cost Allocation" in this table.

The Woodward WWTP includes $8,008,501 in costs identified as "Internal Staffing Cost Allocation" as identified In Figure F-5. These are the project management costs necessary to construct the Woodward WWTP. They are not operating costs.

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Storm Drainage

24) The land costs for stormwater management facilities is a significant cost in the City's DC calculation. There are roughly $97 million in gross costs associated with residential stormwater management facilities. The lands for these facilities are valued at roughly $1.6 million to $1.8 million per hectare. We would like to understand what the City's typical acquisition price would be for stormwater management facility lands, based on recent experience.

RESPONSE:
Every few years Real Estate provides subdivision land value estimates to Growth Management for input into the DC study and DC budget calculations. In the intervening years the land values are adjusted upward, based on the Construction Cost Index. As the 2019 construction costs were not available at the time of formulation, a 2% annual index was applied to 2018 values as a ballpark estimate

2018 values for subdivision lands in Ancaster, Dundas and Waterdown was at $740,000 per acre and for the rest of the City (Hamilton, Stoney Creek, Glancaster, Binbrook) at $640,000 per acre and adjusted by 2% for annual indexing. For 2019, the City's typical acquisition price for SWMF lands would be based on $1.865 and $1.613 million per hectare depending on location.

25) The table in Appendix G-1 shows the estimated footprints of various SWM ponds under two scenarios - 1) based on either 4% or 6% of the drainage area (as per the conditions in the local service guidelines) or 2) based on the study or draft plan the need for the SWM facility was based on. In cases where both calculations are made, the amount from the draft plan is used, and in almost all of these cases, the draft plan estimate is significantly larger than the 4%/6% method. Some of the draft plans these SWMF areas are based on are somewhat dated. The figure below shows the size of the SWMF land areas. Are the footprints identified in older studies still deemed to be reasonable and in keeping with current practices of stormwater management?

Stormwater Management Facilities - Footprints Used in City of Hamilton 2019 DC Study

Project Title	Year of Plan	Drainage Area	Estimated Footprint (4%/6%)	Study/Draft Plan Footprint	Footprint Used in DC Study	Footprint Used as % of Drainage Area
		Hectares				*Percent*
Meadowlands Phase IV		6.00	0.36	0.60	0.60	10%
Binbrook Settlement Area	Jul-05	22.72	1.36	1.80	1.80	8%
Mewburn and Sheldon Neighbourhoods Master Servicing Plan	Jul-05	15.90	0.95	1.25	1.25	8%
Upper Wellington and Stonechurch		14.00	0.84	1.40	1.40	10%
SCUBE Subwatershed Study (Phase 3)	May-13	26.40	1.58	2.64	2.64	10%
SCUBE Subwatershed Study (Phase 3 - Block2)	Sep-18	16.40	0.98	1.64	1.64	10%
SCUBE Subwatershed Study (Phase 3 - Block 2)	Sep-18	27.60	1.66	2.76	2.76	10%
SCUBE Subwatershed Study (Phase 3)	May-13	54.00	3.24	5.40	5.40	10%
SCUBE Subwatershed Study (Phase 3)	May-13	23.10	1.39	2.31	2.31	10%
SCUBE Subwatershed Study (Phase 3)	May-13	39.80	2.39	3.98	3.98	10%
SCUBE Subwatershed Study (Phase 3)	May-13	24.50	1.47	2.45	2.45	10%
Montgomery Creek Nash Orchards		22.49	0.90	1.35	1.35	6%
Fieldgate Estates - FelkerCommunity Functional SWM	Nov-08	30.00	1.80	1.87	1.87	6%
Mtview Heights	Jul-13	41.06	2.46	2.98	2.60	6%
Mtview Heights	Jul-13	12.71	0.76	1.56	1.56	12%
Waterdown North Master Drainage Plan	Feb-07	9.70	0.00	1.75	1.75	18%

Source: Watson & Associates, City of Hamilton 2019 DC Background Study

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RESPONSE:
The majority of the footprints identified in studies are reasonable and in keeping with current practices, i.e. the estimated 4 - 6%. For each renewal of the DC, the City reviews the list of actual facility costs for those constructed since the previous DC.

The City actual statistics for eight (8) quality, quantity and combined quality/quantity control facilities (2014-2018 +/-) showed the footprint to average 5.19 % (facilities that encountered rock are put in a separate category, as are those with grade constraints which tend towards the higher 10 % estimate).

The City notes that the study-based estimates are preliminary, but in the City's experience the estimates are typically accurate, and that the City pays based on actual land, not estimated land footprint.

26) *In addition to the approach taken regarding land footprints outlined above, there is also a contingency line item included in the capital program, for "Land Footprint Contingency" on the assumption that "10 facilities will exceed the estimated land footprint by 20%", resulting in $3.5 million in additional costs being included in the charge. Is this contingency item necessary given the specificity for which land areas are identified elsewhere in the study and given how the footprints in the draft plans appear to be relatively liberal estimates of necessary land areas?*

RESPONSE:
The City considers the contingency to still be necessary. Land costs are paid out based on the actual land footprint required for the facility.

27) *There are also $6.84 million in costs for "Frontage Costs" to capture 'road frontage costs for 38 residential SWM facilities', calculated on the basis of 120 metres per facility, at a cost of $1,500 per metre. Wouldn't the land area already estimated for each SWM pond already be assuming that the lands that front onto the road allowances?*

RESPONSE:
The land area estimated for stormwater facilities does assume that the lands front onto a road allowance. However, frontage costs are still incurred over and above the land cost. Frontage costs include both aboveground (sidewalk, road, streetlighting, pavement) and underground works (sewers, watermains) and are established in accordance with the City's Financial Policies. Aboveground frontage costs are calculated using the New Roads Servicing Rate and the underground frontage costs are calculated based on actual costs of the underground works and prorated amongst the abutting frontage.

28) *There are also two separate line items for unspecified works – one for "Unidentified SWM works" with a cost of $5.0 million, and a second for "Unidentified – Within Combined Sewershed" with a cost of $6.0 million. Can you explain the need for having two unspecified works line items?*

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RESPONSE:
The City has split stormwater management into two distinct area specific charges for this DC: within the combined sewer catchment area, and without (the separated system or built boundary and greenfield areas). Therefore, there are two line items, one for each set of Unidentified SWM Works, in the combined and separated areas.

29) *There are also separate line items for "Unidentified Volume Contingency", one on the assumption that "1 out of 10 facilities will exceed the estimated volume by 10%", and the other on the assumption that "1 out of 10 facilities will encourage unanticipated 9000 m3 rock". In particular, for the first item, if the facility is exceeding the estimated volume, would the associated expenditure to fix that deficiency be an ongoing maintenance/repair expenditure or a capital expenditure?*

RESPONSE:
The contingency is for the unanticipated increase in the capital cost of the facility, which has, in the City's experience, occurred at the detailed design stage and resulted in actual construction costs being higher than the estimate (land excluded).

Public Works

30) *What is the nature of the "Water & Wastewater Office / Storage Expansion" project, with a cost of $17.25 million?*

RESPONSE:
The project is a replacement with expansion of the current office/storage facilities. Assumption was for a new facility with 34,780 sq.m. replacing three existing facilities that total 20,617 sq.m.

Transit

31) *According to Appendix I, the Transit Maintenance and Storage Facility will include administrative, corporate and operational departments, as well as a 205,230 square foot bus storage garage.*

Excluding land costs, this facility has a gross cost of $272 million. Our questions related to this project are as follows:

a. *How much square footage will non-garage elements combine for?*
b. *Even assuming the non-garage elements amount to 100,000 square feet, a 305,000 sf facility, at the current capital cost would equate to nearly $900 per sf. According to the 2019 Altus Group Cost Guide, the cost per sf for a Bus Terminal/Garage ranges from $260 to $340 per sf. Please explain how the $272 million cost was arrived at.*

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RESPONSE:
The $272 million cost for the MSF is the all-in cost of the project inclusive of design, consultant fees, ancillary work at the site, and construction of the facility.

a. The square footage information in Appendix I was missed being updated to reflect the most recent plans and associated costs. While the square footage listed in Appendix I is outdated, the bus capacity and all calculations related to transit are correct. The facility is in the design phase and based on the preferred design it will include 251,000 square (sq.) feet for bus maintenance, 168,000 sq. feet for bus storage, 46,000 sq. feet for two levels for administrative purposes, and 181,000 sq. feet for four levels of staff parking. The total square footage of the facility is 646,000 sq. feet.

b. Site remediation, demolition and associated costs account for $62 M of the estimated $272 M total. The remaining $210 M is for the facility construction and associated costs, this would put the facility at approx. $325/sq. foot; within the range the Altus Group Cost Guide.

Parkland Development

32) The capital program includes several items for Confederation Park (items 41 through 65 of the capital program), which amounts to a development charge for capital works identified by Hamilton Conservation Authority. This is contrary to the OMB decision that found that a charge for a conservation authority is not within the purview of the Development Charges Act because capital charges are approved by the province, and that therefore the Conservation authority is an independent entity separate from the City of Hamilton.

RESPONSE:
The city owns the entirety of Confederation Beach Park. The City contracts the Hamilton Conservation Authority to manage a portion of it, including Wild Waterworks, but it is a city asset on city land, therefore, the City is responsible for all capital expenditures related to the park, including Wild Waterworks.

33) There is an $11.2 million item for the implementation of items identified in a "Skateboard Study", with 0% allocation to benefit to existing development. The City's Skateboard Study identified numerous geographic gaps in the existing provision of skate parks and found that the current City-wide provision of 1 facility per 13,357 persons aged 10-19 was worse than the recommended provision target of 1 community-level facility per 7,500 residents aged 10-19 and 1 neighbourhood-level facility per 15,000 residents aged 10-19. Can you please explain the rationale for a 0% BTE allocation?

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RESPONSE:
The additional skateboard facilities identified on this line item are in the 2019 Development Charge Background Study to support growth in outdoor recreation amenities provide throughout the city with new skateboard facilities. There are also other skate parks being added within existing parks through park redevelopments, in those cases, a BTE has been provided, these projects assist in making up for gaps identified in the Skateboard Study (e.g. Alexander Park and Gatesbury park upgrades).

Indoor Recreation

34) Does the $1.0 million (before the 10% statutory deduction) included in the DC for the Ancaster Tennis Bubble accurately represent the City's share of costs for the project? Based on news articles from mid-2018, the City is providing a $290,000 loan to the Ancaster Tennis Club and a $60,000 grant. The Tennis Club has raised $200,000 of its own money and is seeking additional grants from upper levels of government for the remainder of the costs.

RESPONSE:
The Ancaster Tennis Bubble has been restated to show 100% contribution from other sources through Addendum #1 to the 2019 DC Background Study as prepared by Watson & Associates Economists Ltd. dated May 15, 2019.

35) What terms were assumed for future debt associated with the Riverdale Community Hub and Sir Wilfrid Laurier Gymnasium?

RESPONSE:
The term assumed for future debt associated with the Riverdale Community Hub and Sir Wilfrid Laurier Gymnasium was 15 years. The future interested is discounted to reflect the fact that DCs will be indexed annually.

36) Should the William Connell Ice Loop, which is an outdoor recreation amenity, be included in the Parkland Development DC capital program instead?

RESPONSE:
It is correctly grouped with indoor recreation. The inclusion in indoor recreation is consistent with existing Waterdown Memorial Park & Ice Loop included in the historical Service Standards on the list of Indoor Recreation Facilities - Building within Parks (Page B-69. The cost included in the service standard includes the Ice Loop and associated buildings. To include a future ice loop with parkland development would result in the historical service standard and future capital works to be in different categories.

37) The Indoor Recreation capital program also includes several items related to Confederation Park (items 20-22). Similar to the analysis presented regarding the Confederation Park items in the Parkland Development DC, these items should be removed from the City's DC calculation.

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RESPONSE:
As provided in the response to item 32 above, the city owns the entirety of Confederation Beach Park and is responsible for capital expenditures related to it. The City contracts the Hamilton Conservation Authority to manage a portion of it, including Wild Waterworks, but it is a city asset on city land and therefore, is are eligible for inclusion in the DC study.