

March 17, 2020

City of Ottawa
Planning, Infrastructure and Economic Development Department
Planning and Infrastructure Approvals
110 Laurier Street West, 4th Floor
Ottawa, ON, K1P 1J1

Attention: Mr. Andrew McCreight, MCIP, RPP
Planner, Development Review Urban Services

Dear Sir:

Re: Phase 1 LeBreton Flats – Revised Building Statistics

This letter is in support of rezoning application for revised phasing of Phase 4 of LeBreton Flats East. Notable revisions to the site plan include:

- Commercial area has been reduced from 21,500 ft² to 2,475 ft²
- Institutional area has been reduced from 43,000 ft² to 4,090 ft²
- Residential units have increased from 350 units to 612 units
- Revisions to building statistics are noted in the Table 1 below:

Table 1 Statistics	Current Plan January 2020	Previous Plan May 2018
Residential Units	612	350
Residential Floor Area	373,120 ft ² (34,664 m ²)	247,570 ft ² (23,000 m ²)
Retail Area	2,475 ft ² (230 m ²)	21,500 ft ² (2,000 m ²)
Institutional Area	4,090 ft ² (380 m ²)	43,000 ft ² (4,000 m ²)

Table 2 summarizes the different phases of LeBreton Flats East. Phase 1, 2 and 3 are currently built. Phase 4 is the subject of this rezoning application. Phase 5 is the next phase to be developed. The development phases are illustrated in the Figure 1 below.

Table 2 Development Statistics

Phase	Area (ha)	Studio	1 Bdr	2 Bdr	3 Bdr	Total	Comm (m ²)
Phases 1-3 Currently Constructed							
1	0.30	3	45	77	2	127	75
2	0.29	1	91	81	0	173	
3	0.57	1	69	72	0	142	
Total	1.16	5	205	230	2	442	75
Phase 4 This Application							
4	0.51	132	229	244	7	612	610
Total	0.51	132	229	244	7	612	610
Phase 5 Future Development							
5	0.75	212	362	401	13	988	5,000
Total	0.75	212	362	401	13	988	5,000
Phases 1 - 5	2.42	349	796	875	22	2042	5,885



Figure 1 Development Phasing

Sanitary Flows Phases 1 - 4

Sanitary capacity to the area both east and west of Booth Street, e.g. tributary to the Fleet Street Sanitary Sewer and Fleet Street Pump Station was allocated per the Master Servicing Study completed by Dessau Soprin in February 2004. It is understood that this study is being updated but pending this the recommendation of the Dessau Soprin Report are to be followed.

Sanitary capacity allocated to Phases 1-5 in Figure 1 as taken from the Sanitary Sewer Design Sheet in the Dessau Soprin report is as follows:

Block ½ S (Node 25)

210 people
0.59 ha

Block R & ¼ Block Q (Node 28)

415 people
0.43 ha

Block ¼ Q (Node 26)

114 people
0.12 ha

Block ½ P and ½ Q (Node 27)

330 people
0.33 ha

Block ½ P (Node 24)

104 people
0.09 ha

Block I (Node 33)

21 people
0.10 ha

Block P3 (Node 23)

18,915 m² Commercial/Retail (37,830 m²/2)

Total: 1194 people, 2.01 ha, 18,915 m² Comm/Retail

Using the design criteria in the Dessau Soprin Report, Sanitary Flow Allocation to Phase 1-5 is calculated as follows:

$$Q_T = \frac{(1194)(350)(3.75)}{86,400} + \frac{(18,915)(5.0)(1.5)}{86,400} + (2.01)(0.28) = 20.34 \text{ L/sec}$$

M:\2016\116042\DATA\Reports\January2020ServicingMemo\ServicingMarch2020.doc

Sanitary flows from the built Phases 1-3 and proposed Phase 4 is calculated below using the City's new Sewer Design Criteria.

$$\text{Population} = (137)(1.4) + (434)(1.4) + (474)(2.1) + (9)(3.1) = 1823 \text{ people}$$

$$\text{Peak Factor} = [1 + 14/(4 + P^{1/2})] \times 0.80 = 2.89$$

$$\text{Area} = 1.67 \text{ ha}$$

$$\text{Commercial/Institutional} = 685 \text{ m}^2$$

$$\text{Peak Factor} = 1.0$$

$$Q_{\text{Phases 1-4}} = \frac{(1823)(280)(2.89)}{86,400} + \frac{(685)(2.8)(1.0)}{86,400} + (1.67)(0.33) = 17.64 \text{ L/sec}$$

Therefore, the total peak sanitary flow of 17.64 L/sec is within the allowance allocated by the Dessau Soprin Master Study of 2004, e.g. 20.34 L/sec.

The capacity of the receiving sanitary collection system can be described as follows:

- Capacity of 375 mm diameter gravity sewer on Fleet Street = 122.7 L/sec
- Firm Capacity of the Fleet Street Lift Station (per ECA) = 100 L/sec
- Actual Operating Capacity of the Fleet Street Lift Station = 106 L/sec
- Capacity of Fleet Street 250 mm discharge sewer when under surcharge = 130 L/sec

Sanitary Flows Including Future Phase 5

Sanitary flows including development of the future Phase 5 lands are estimated below:

$$\text{Population} = (349)(1.4) + (796)(1.4) + (875)(2.1) + (22)(3.1) = 3508 \text{ people}$$

$$\text{Peak Factor} = [1 + 14/(4 + P^{1/2})] \times 0.80 = 2.70$$

$$\text{Area} = 2.42 \text{ ha}$$

$$\text{Commercial/Institutional} = 5,685 \text{ m}^2$$

$$\text{Peak Factor} = 1.0$$

$$Q_{\text{Phases 1-4}} = \frac{(3508)(280)(2.70)}{86,400} + \frac{(5685)(2.8)(1.0)}{86,400} + (2.42)(0.33) = 31.67 \text{ L/sec}$$

Estimated sanitary flows for full build-out of the Claridge LeBreton Flats East Lands Phase 1 – 5 exceed the allowable flows assigned in the Dessau Soprin Report by 11.33 L/sec, e.g. 31.67 L/sec – 20.34 L/sec)..

The Master Servicing Study by Dessau Soprin calculated total sanitary flows to the Fleet Street Sanitary Sewer and Pump Station of 87.8 L/sec, which includes an allowance of 20 L/sec from Victoria Island. Under existing conditions, a surplus capacity of 12.20 l/sec is available assuming the limited capacity in the system to be the firm capacity of the Fleet Street Pump Station of 100 L/sec, e.g. 100L/sec – 87.8 L/sec. Further, by doing some minor upgrades to the Fleet Street Pump Station, such as changing the pump impellers, the limiting capacity could be increased to 122.7 L/sec which is the capacity of the 375 mm diameter @ 0.45 % Fleet Street gravity sanitary sewer. This surplus capacity of 34.90 L/sec could be distributed to the benefitting tributary area on an area-basis, as follows:

Total Benefitting Tributary Area = 12.32 ha (ref.: Dessau Soprin Sanitary Spread Sheet)

Surplus Capacity = 34.90 L/sec

Distribution = $\frac{34.90 \text{ L/sec}}{12.32 \text{ ha}} = 2.83 \text{ L/sec/ha}$

Assigning Claridge's portion of the surplus capacity would result in a total allowable allocation of $20.34 \text{ L/sec} + (2.42 \text{ ha})(2.83 \text{ L/sec/ha}) = 20.34 + 6.85 = 27.19 \text{ L/sec}$, which is about 4.5 L/sec less than the calculated full build out flow of 31.67 L/sec for Phase 1 – 5. Prior to full buildout of Phase 5, a more detailed analysis of sanitary flows and capacities for the full tributary area will need to be undertaken as part of a new Master Servicing Study.

Fire demand and availability remains as per the 2018 plan.

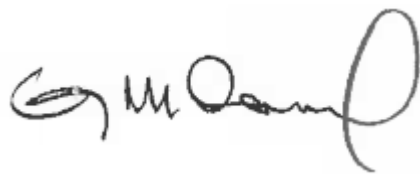
Because of no change to the imperviousness of the site, there is no effect on the proposed stormwater management solution (May 2018 Report) for the site.

Based on the above, adequate servicing is available to service Phase 4 of this development. It is understood that the existing Master Servicing Study prepared by Dessau Soprin will need to be updated or replaced with new to confirm servicing strategy for the lands west of Booth and Phase 5 of the Claridge development east of Booth.

Trusting this is satisfactory. Should you have any questions or require additional information, please contact the undersigned.

Yours truly,

Novatech



Greg MacDonald, P.Eng.
Director | Land Development and Public Sector Infrastructure

c.c. Vincent Denomme, Claridge Homes

Attachments

Dessau Soprin Sanitary Sewer Design Sheet
Dessau Soprin Sanitary Drainage Area Plan