February 23, 2016

Joshua White
Program Manager
City of Ottawa - Infrastructure Approvals
Planning and Growth Management Department
110 Laurier Avenue West
Ottawa, ON K1P 1J1

Re: **318 Bank/Lisgar Street Servicing Update in Support of Rezoning Application**

Dear Mr. White:

This letter report is being submitted in support of the rezoning application for 318 Bank Street to allow for the addition of office space on the 2nd and 3rd floors of the proposed building.

A Site Servicing & Stormwater Management Report dated August 7th, 2015 was previously submitted and accepted by the City for the site plan control application for the subject site. The addition of office space on the 2nd and 3rd floors of the proposed building will only affect the water and sanitary demands for the project. There will be no impact on the Stormwater Management design of the project. As per calculations below the revised water and sanitary demands with the addition of office space will be less than the demands previously calculated for the building without office space.

Water

Residential

Total domestic population:

One Bedroom units (4) x 1.4 ppu: 5.6

Two Bedroom units (7) x 2.1 ppu: 14.7

Total: 20.3 **say 21**

Residential Average Demand = 21 x 350 L/person/day x (1/86,400 sec/day) = **0.085 L/sec**

Using a peak factor of 2.5, the Maximum Daily Demand = 2.5 x 0.085 L/sec = **0.21 L/sec**

Using a peak factor of 2.2, the Maximum Hour Demand = 2.2 x 0.21 L/sec = **0.46 L/sec**

Commercial/Office Space

Total Commercial/Office area = 1334 m^2 = 0.1334 ha

Average daily demand (L/sec):

Commercial Average Demand = 0.1334 ha x 28,000 l/ha/day x (1/86,400) = **0.043 L/sec**

Using a peak factor of 1.5, the maximum daily demand yields:

Maximum Commercial Daily Demand = 0.043 x 1.5 = **0.065 L/sec**

Using a peak factor of 1.8, the maximum hourly demand yields:

Maximum Commercial Hourly Demand = 0.065 ha x 1.8 = **0.12 L/sec**

Total Demand (Residential and Commercial/Offices)

Total Average Daily demand = **0.13 L/sec**

Total Maximum Daily Demand = **0.28 L/sec**

Total Maximum Hourly Demand = **0.58 L/sec**

The maximum day water demand of 0.28L/ s is less than the maximum day demand of 0.38L/s previously calculated for the building without office space. Refer to the Site Servicing Report dated August 7th, 2015.

There will be no change in the fire flow requirement for the proposed development with office spaces. The fire flow requirement based on the Fire Underwriters Survey 1999 as previously calculated is 150 L/sec. The available fire flow based on City of Ottawa fire flow testing results for the fire hydrants on Lisgar Street in the vicinity of the proposed development is approximately 2,530 gpm (160 L/sec). Therefore, the existing 300mm diameter water main should provide adequate flow to meet the domestic and fire water demands of the proposed development following the rezoning and addition of offices.

Sanitary

Total population as calculated above for water demands is 21

$Q_{Domestic}$ = 21 x 350 L/person/day x (1/86,400 sec/day) = 0.085 L/sec

Peaking Factor $M = 1 + \frac{14}{4 + (21/1000)^{0.5}} = 4.38$ *use 4 maximum

$Q_{Peak\ Domestic}$ = 0.085 L/sec x 4.0 = **0.34 L/sec**

Commercial/Office Space

Total Commercial/Office area = 1334 m^2 = 0.1334 ha

Avg. Flow = 50,000 L/ha/day

Peak Factor = 1.5

$Q_{Peak\ Comm}$ = 0.1334 ha x 50,000 l/ha/day x 1.5 x (1/86,400 sec/day) = **0.116 L/sec**

Infiltration

$Q_{Infiltration}$ = 0. 28L/ha/sec x 0.099 ha = **0.028 L/sec**

Total Peak Sanitary Flow = 0.34 + 0.116 + 0.028 = **0.48 L/sec**

The estimated peak sanitary flow of 0.48L/s if less than the previous estimate of 0.66L/s for the building without office space. (Reference the Site Servicing Report dated August 7th, 2015).

Conclusion

The proposed building with the addition of office space can be adequately serviced from the existing municipal water, sanitary and storm water systems.

Sincerely,
exp Services Inc.

Marc Alain Lafleur
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