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To:	Mr. John Russo City of Ottawa 110 Laurier Avenue West Ottawa, ON K1P 1J1	From:	Daniel Chochlinski 400-1331 Clyde Avenue Ottawa, ON K2C 3G4
File:	160401588	Date:	October 6, 2020

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**Reference: 1707 Fisher Avenue – Adequacy of Services Memo**

Dear Mr. Russo,

## **BACKGROUND**

Stantec Consulting Ltd. has been commissioned to prepare an Adequacy of Services Memo in support of a Zoning By-law Amendment Application for the property known municipally as 1707 Fisher Avenue. A two-storey building comprised of two semi-detached dwellings is proposed for the subject property. The zoning amendment application seeks to add semi-detached units as an additional permitted land use for the subject property only. The current site is zoned as “R1GG”: Residential First Density Zone and was previously occupied by a single-family home. The site is currently undeveloped.

The intent of this letter is to provide an engineering rationale for the modifications with respect to any proposed changes in local infrastructure demands or loading, while adhering to City of Ottawa design guidelines and recommendations and utilizing the existing local infrastructure in accordance with any known servicing restrictions.

## **POTABLE WATER SERVICING**

The subject site lies within the City of Ottawa’s 2W2C water pressure zone. The proposed two-storey building, consisting of two semi-detached dwellings, will be serviced from the existing 150mm diameter cast iron watermain within the Fisher Avenue right-of-way using two service connections. As each unit will be individually serviced from the municipal main and no on-site private watermain or fire hydrants are required, water demand calculations and hydraulic modeling are not required as per the City of Ottawa Water Distribution Design Guidelines section 2.3.

An existing hydrant located approximately 59m south of the subject site offers fire flows for the proposed redevelopment. It is assumed that the existing watermain is capable of providing sufficient flows for fire suppression based on size and spacing of existing adjacent residential units.

Please refer to **Appendix B** for the detailed servicing drawing (**SSP-1**).

## **SANITARY WATER SERVICING**

The proposed building will continue to be serviced via the existing 225mm diameter concrete sanitary sewer located within the Fisher Avenue right-of-way. Each unit will be serviced using a 135mm diameter PVC sanitary service lateral.

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As outlined in the City of Ottawa Sewer Design Guidelines and the Ministry of the Environment, Conservation and Parks (MECP) Design Guidelines for Sewage Works, the following criteria were used to calculate the estimated wastewater flow rates:

- Minimum velocity – 0.6 m/s (0.8 m/s for upstream sections)
- Maximum velocity – 3.0 m/s
- Manning's roughness coefficient (n) for all smooth wall pipes – 0.013
- Average wastewater generation – 280 L/person/day (residential)
- Average townhouse population – 2.7 persons/townhouse
- Average wastewater generation – 28,000 L/ha/day (institutional)
- Residential peak factor – 4.0 (Harmon's)
- Institutional peak factor – 1.5 (Harmon's)
- Extraneous flow allowance – 0.33 L/s/ha (conservative value)

Based on the above criteria, the proposed units each have a peak sanitary discharge rate of approximately 0.05 L/s (for a total peak discharge of approximately 0.10 L/s). Please refer to **Appendix A** for detailed peak sanitary discharge calculations and to **Appendix B** for the detailed servicing drawing (**SSP-1**). It is assumed that as the existing sanitary sewer services approximately 20 such properties that ample capacity exists in the sewer to receive flows from the proposed redevelopment.

## **STORMWATER SERVICING/MANAGEMENT**

The proposed building's foundation drain will be serviced by gravity via an existing 600mm diameter storm sewer situated within the Fisher Avenue right-of-way, west of the site.

Since the proposed building is subject to a Building Permit but not to the Site Plan Control Process, on-site stormwater management controls are not required.

The site will drain from back to front with overland flow draining into the Fisher Avenue ROW. This is in accordance with the existing topography of the site. Please refer to **Appendix B** for detailed servicing and grading drawings.

## **UTILITIES**

As the subject site lies within a developed residential community, Hydro, Bell, Gas and Cable servicing for the proposed buildings should be readily available. It is anticipated that existing infrastructure will be sufficient to provide a means of distribution for the proposed site. No off-site works are anticipated to be required for redevelopment of the subject site.

## **RECOMMENDATIONS**

Based on the above findings, it is anticipated that the current servicing infrastructure for the 1707 Fisher Avenue site will be adequate for rezoning purposes and to permit the construction of the two proposed semi-detached dwellings.

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**Stantec Consulting Ltd.**



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Attachments: Appendix A

- Sanitary Service Discharge Calculations

Appendix B

- Site Plan
- Proposed Servicing and Grading Plan, SSGP-1

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## **APPENDIX A – SANITARY SERVICE DESIGN SHEET**

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## **APPENDIX B – DRAWINGS**