

# **FUNCTIONAL SERVICE REPORT**

**PROPOSED SUBDIVISION AT 120 FAIRVIEW ROAD WEST  
IN THE CITY OF MISSISSAUGA**

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**FUNCTIONAL SERVICE REPORT**  
**120 FAIRVIEW ROAD WEST, MISSISSAUGA, ON L5B 1K6**

**INTRODUCTION**

In support of the Building Permit Application for the proposed subdivision at 120 Fairview Road West in the City of Mississauga, we herewith submit the following Stormwater Management Report.

The Stormwater Management Report has been undertaken to ensure that the proposed development can be constructed without any adverse impact to the surroundings and existing storm drainage and runoff patterns can be maintained.

The subject property is located south of Central Pkwy West and east of Joan Drive on the south side of Fairview Road West in the City of Mississauga in the Region of Peel as shown on the Key Plan.

The site's drainage is currently split draining to Fairview Road West and Sir Antonio Drive. The stormwater for the area will be controlled with storm pipe, underground retention tank and LID.

The proposed area will consist of 0.1104 ha of building, 0.0740 ha of impermeable, 0.0319 ha of permeable and 0.1443 ha of landscaped area. The property will be graded and controlled to drain towards proposed catchbasins.

## WATER SERVICE CONNECTION

Existing 25mm water service will be removed and new 25mm water service for domestic demand will be provided for each dwelling. The existing 150mm at Sir Antonio Drive will be extended into proposed private road and 25mm water service will be connected to the proposed watermain for Lot 1-3.

### Water Modelling Demand Table

Region of Peel 2020 DC Background Study

- Single/Semi PPU: 4.2

Proposed residential	Units	Persons
Single/Semi	8	33.6
Total	8	33.6

### Water Connection

Required Fire flow (Fire Underwriter Survey 2020)

Required fire flow in LPM (RFF) =  $220Cv(A)$

where,

$C = 1.5$  (Wood Frame Construction, FUS guideline)

	LOT 1	LOT 2	LOT 4	LOT 5	LOT 6	LOT 7	LOT 8	LOT 9
Effective area (m <sup>2</sup> )	137.39	137.39	124.99	120.12	120.12	120.12	167.37	176.63
RFF (LPM)	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000

### Adjustment Factor

- Residential Occupancies: -15% (Group C, FUS guideline, page 25)

- Non-Sprinklered: N/A

Exposure adjustment Charge (Table 5 & 6, FUS guideline) – Type V, Construction

	LOT 1	LOT 2	LOT 4	LOT 5	LOT 6	LOT 7	LOT 8	LOT 9
East	0%	0%	10%	25%	25%	25%	19%	19%
West	6%	6%	25%	25%	25%	20%	0%	0%
North	25%	15%	0%	0%	0%	0%	25%	0%
South	0%	25%	0%	0%	13%	13%	20%	25%
Total	31%	46%	35%	50%	63%	58%	64%	44%

### Adjusted required fire flow in LMP (round off to the nearest 1,000 LPM, FUS page 19)

	LOT 1	LOT 2	LOT 4	LOT 5	LOT 6	LOT 7	LOT 8	LOT 9
Effective area (m <sup>2</sup> )	137.39	137.39	124.99	120.12	120.12	120.12	167.37	176.63
RFF (LPM)	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Total Adjustment Factor	16%	31%	20%	35%	48%	43%	49%	29%
Adjusted RFF (LPM)	5,000	5,000	5,000	5,000	6,000	6,000	6,000	5,000
Adjusted RFF (L/s)	83	83	83	83	100	100	100	83

## Water Domestic/Fire Demand (L/s)

Average Day Flow: 280 L/cap\*d

Maximum Flow Factor: 2.0

Peak Hour Flow Factor: 3.0

Demand Type	LOT 1	LOT 2	LOT 4	LOT 5	LOT 6	LOT 7	LOT 8	LOT 9
Average Day Flow	0.0136	0.0136	0.0136	0.0136	0.0136	0.0136	0.0136	0.0136
Maximum Day Flow	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272
Peak Hour Flow	0.0408	0.0408	0.0408	0.0408	0.0408	0.0408	0.0408	0.0408
Fire Flow	83	83	83	83	100	100	100	83
Total Required Flow	83.04	83.04	83.04	83.04	100.04	100.04	100.04	83.04

## SANITARY CONNECTION

### Wastewater Modelling Demand Table

#### Wastewater Connection

Region of Peel 2020 DC Background Study

- Single/Semi PPU: 4.2

Domestic Sewage Flow: 302.8 L/cap/d

$$\text{Peak Sanitary Flow Factor (M)} = 1 + 14/(4 + 4.2^{0.5}) \\ = 3.31$$

Infiltration = 0.0002 m<sup>3</sup>/s/ha

	LOT 1	LOT 2	LOT 4	LOT 5	LOT 6	LOT 7	LOT 8	LOT 9
Area (ha)	0.0351	0.0354	0.0415	0.0305	0.0305	0.0305	0.0432	0.0495
Sewage Flow (L/s)	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
Peak Flow (L/s)	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049
Infiltration Flow (L/s)	0.007	0.007	0.008	0.006	0.006	0.006	0.009	0.01
Total Flow (L/s)	0.071	0.071	0.072	0.070	0.070	0.070	0.073	0.074

#### Proposed Sanitary Lateral Pipe

125mm $\phi$  PVC SDR-28 @ 2.0%

Flow Capacity = 0.013 m<sup>3</sup>/s

$$= 13 \text{ L/s } (> \text{ Total sewage required flows})$$

## STORMWATER MANAGEMENT

The areas surrounding the perimeter of the building have been designed with positive drainage (away from building).

Proposed stormwater management: 55 gal rain barrel, enhanced grass swale, and underground retention tank.

The detail analysis for storm drainage system is provided in a Stormwater Management (SWM) Report outlining the proposed quality and quantity controls for stormwater on this site has been prepared under separate cover, also by Land & Building Experts.

## **EROSION & SEDIMENT CONTROL**

To minimize erosion during the grading and site servicing period of construction the following measures will be implemented in accordance with the Erosion & Sediment Control Guidelines

- Installation of silt fencing to protect adjacent lands from the migration of sediment in overland flow
- Installation of a mud mat at the construction entrance to the site to minimize the amount of sediment transported off the site on construction vehicle tires
- Locating stockpiled topsoil in an area that will not impact adjacent lands
- Stabilizing all disturbed or landscaped areas with hydro seeding/sodding to minimize the opportunity for erosion

To ensure and document the effectiveness of the erosion and sediment control structures, an appropriate inspection and maintenance program is necessary.

## **CONCLUSION AND RECOMMENDATION**

The above analysis indicates that the proposed development shall be provided with sanitary, storm, and water services without any constraint.

It is our opinion that adequate services exist to support the proposed subdivision at 120 Fairview Road West. Recommendations from our report shall be incorporated into the detailed design phase of the addition following the approval of the site plan.

## **Land & Building Experts**

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**April 10, 2024**

