

WATER SUPPLY FOR PUBLIC FIRE PROTECTION - 1999

Project Name: Fellowship Church - 1350 Waterdown Road, Burlington, On

Project Number: TP114053

Date: July 2016

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Guide for Determination of Required Fire Flow - Fire Underwriters Survey

$F = 220 C (A)^{0.5}$ An estimate of the fire flow required for a given area may be determined by this formula.

F = required fire flow in litres per minute

C = coefficient related to the type of construction

= 1.5 for wood frame construction (structure essentially all combustible)

= 1.0 for ordinary construction (brick or other masonry walls, combustible floor and interior)

= 0.8 for non-combustible construction (unprotected metal structural components, masonry or metal wall)

= 0.6 for fire-restive construction (fully protected frame, floors, roof)

A = the total floor area in m^2 (including all storeys, but excluding basements at least 50% below grade) in the building being considered

OUTLINE OF PROCEDURE

A. Determine the type of construction.

= 1.0 ordinary construction

B. Determine the ground floor area.

- Total ground floor area: = 1,178.00 m^2

D. Using the fire flow formula above, determine the required fire flow to the nearest 1,000 litres/min

= 7,550.84 L/min Round to 8,000.00 L/min

E. Determine the increase or decrease for occupancy and apply to the value obtained in D above.

Do not round off the answer.

= -15% limited combustible -1200 L/min = 6,800.00 L/min

F. Determine the decrease, if any, for automatic sprinkler protection. Do not round off the value.

= 2,040 L/min 30% Reduction for adequately designed sprinkler system conforming to NFPA

G. Determine the total increase for exposures. Do not round off the values.

= 1,700 L/min 25% Exposure Factor conforming to NFPA

H. To the answer obtained in E, subtract the value obtained in F and add the value obtained in G.

= 6,460 L/min Round to **6,500 L/min**

This is only preliminary and subject to change based on Architectural and Mechanical design. This is only an estimate and we do not take responsibility for errors as we do not claim to be fire protection experts.