D.B. Gray Engineering Inc.

Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains

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151-159 Wescar Lane

PHASE 1 BUILDING 'C' - 1-Storey Warehouse + Mezanine

Ottawa, Ontario

FIRE FLOW AND WATER STORAGE CALCULATIONS

(Based OFS Proposal)

OBC Method to Calculate Fire Flow

As per "Required Minimum Water Supply Flow Rate" as calculated using the Ontario Building Code - Appendix A - Article A-3.2.5.7 "Water Supply For Fire Fighting".

K = Water supply coefficient as per OBC A-3.2.5.7. Table 1
= 17 Group F-2 Occupancy, Building is of noncombustible construction with fire separations without fire resistance ratings.

V = Building volume in cubic meters

Fooprint Area (sq.m)	Average Height (m)	Volume (cu.m)
1,497	10.50	15,726

S_{Total} = Total of spatial coefficients from exposure distances
= $1.0 + S_{Side\ 1} + S_{Side\ 2} + S_{Side\ 3} + S_{Side\ 4}$

	Spatial Coefficient	Exposure Distance (m)	
$S_{Side\ 1}$	0.0	76	(to N property line)
$S_{Side\ 2}$	0.0		(to 2 hr firewall)
$S_{Side\ 3}$	0.0	38	(to S property line)
$S_{Side\ 4}$	0.0	83.0	(to W property line)
S_{Total}	1.0		

Q = KVS_{Tot} (required water supply in litres)
Q = 267,339 L
= 6,300 L/min as per OBC A-3.2.5.7. Table 2
(less than 9,000 L/min; therefore, FUS calculations are not required)

Q = 189,000 L (minimum storage for 30 minute supply)