

March 16, 2022

**RE: Pompano Citi Centre**

**1190-1400 NE 23rd Street, Pompano Beach, Florida 33062**

Required Fire Flow Calculations

In order to estimate the needed fire flow for the proposed building, Botek Thurlow Engineering used the ISO method. The following equation was used to calculate the fire flow:

$$NFF = (C)(O)[1.0 + (X + P)]$$

Where:

NFF = the needed fire flow in gallons per minute (gpm)

C = a factor related to the type of construction (gpm)

O = a factor related to the type of occupancy

X = a factor related to the exposure buildings

P = a factor related to the communication between buildings

The factor related to the type of construction was calculated using the following equation:

$$C = 18F(A)^{0.5}$$

Where:

F = 0.8 for Construction Class 4 (Masonry Non-Combustible)

A = effective area

The effective area is the sum of the square footage of the largest floor in the building and ½ the area of the other floors:

Building Type I Effective Area = 13252 sq. ft. + 0.5(13069 sq. ft. + 13069 sq. ft. + 13069 sq. ft.)  
= 32855.5 sq. ft.

Building Type II Effective Area = 12607 sq. ft. + 0.5(12497 sq. ft. + 12497 sq. ft. + 12497 sq. ft.)  
= 31352.5 sq. ft.

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Rounded to the nearest 250 gpm, the type of construction factor was calculated to be 2750 gpm for Building Type I and 2750 gpm for Building Type II. The following calculations were used to estimate the needed fire flow:

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$$\text{NFF (per building)} = (C)(O)[1.0 + (X + P)]$$

$$\text{NFF (per building)} = (2750)(0.85)[1.0 + 0.0]$$

$$\text{NFF (per building)} = 2337.5 \text{ gpm} \rightarrow 2340 \text{ gpm}$$

Therefore, the estimated needed fire flow per building for Building Type I and Building Type II is 2340 gpm.

Sincerely,

**BOTEK THURLOW ENGINEERING, INC.**



**Stephen F. Botek, P.E.**  
**Fla. Registration #55335**

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4/20/2022