

# FIRE FLOW CALCULATIONS

*for*

## 3885 N. Federal Hwy. – Proposed Restaurant

3885 N. Federal Highway,  
Pompano Beach, FL

*Prepared for:*

## SCHMIER PROPERTY GROUP

Ryan  
Thomas

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Thomas  
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Florida Business Certificate of Authorization No. 27528

August 18, 2022

### 3885 N. Federal Hwy. – Proposed Restaurant FIRE FLOW CALCULATIONS

Schmier Property Group is proposing the development of a 2,575 square-foot restaurant with a drive-thru. The project site is located at 3885 N. Federal Highway, Pompano Beach FL 33064 and is generally located at the southwest corner of NE 39<sup>th</sup> Court and N. Federal Highway.

Fire flow calculations were prepared to evaluate the required fire flow to the proposed development, **assuming the building is not sprinkled**. One (1) single-story building is proposed. The building has a footprint of 2,575 square feet (S.F.). Maximum height of the building is 24'-8" and is located 89.75' feet away from the nearest facing wall of exposure. Fire Flow calculations for this project are shown below.

Using the I.S.O. method, the needed fire flow for the building is listed below:

Bldg	ISO Const. Class	(SF)	√SF	F	C Const. Factor	Rounded C (GPM)	Oi	Rounded C x Oi (GPM)	Fire Sprinkler System Credit	(X) & (P) Factor [1.0 + (X) + (P)]	Needed Fire Flow (GPM)
1	3	2,575	50.74	0.8	731	750	1.00	750	0	759	759

Where:

Step 1: Determine predominant construction type and associated factor (F)

F = coefficient related to the class of construction

= 1.5 for Construction Class 1 (frame construction)

= 1.0 for Construction Class 2 (joisted masonry construction)

**= 0.8 for Construction Class 3 (noncombustible construction)** and

Construction Class 4 (masonry noncombustible construction)

= 0.6 for Construction Class 5 (modified fire-resistive construction) and

Construction Class 6 (fire-resistive construction)

Step 2: Determine effective area (SF)= **2,575 square feet**

Step 3: Calculate Construction factor (C)

C = construction factor;  $18 \times F \times \sqrt{SF} = 18 \times 0.80 \times \sqrt{2,575} = 731 \text{ gpm}$

Step 4: Rounded C = rounded up or down to the nearest 250 gpm= **750 gpm**

Step 5: Determine predominant occupancy type and associated factor (Oi)

Oi = Occupancy factor based on occupancy combustibility class

= 0.75 for C-1 (Noncombustible)

= 0.85 for C-2 (Limited-combustible)

**= 1.00 for C-3 (Combustible)**

= 1.15 for C-4 (Free-burning)  
= 1.25 for C-5 (Rapid burning)

Step 6: Building Exposure Factor (X)

- a. Construction of facing wall exposure: 2,575 SF Fast Food Restaurant: Class 3 (noncombustible construction)
- b. Length-Height of facing wall exposure: length of facing wall exposure (ft) x height of exposure in stories.

Maximum building height of 24'-8".

- c. Exposure Distance: distance in feet from the subject building to the exposure building.

Building separation: 89.75'.

**X= 0.0112**

Step 7: Communication Factor (P)=0

Step 8: Determine needed fire flow (NFFi)

$$\begin{aligned} \text{NFFi} &= (C) \times (O_i) \times [1.0 + (X + P)i] \\ &= (750) \times (1.0) \times [1.0 + (0.0112 + 0)] \\ &= 759 \\ &= 759 \text{ gpm} \end{aligned}$$

Per a Hydrant Flow Test performed by Wayne Inc. and witnessed by City of Pompano Beach Fire Department on June 15th 2022, the flow (gpm) provided at 75 psi was **1,126 gpm**.

1,126 gpm provided > 759 gpm needed therefore sufficient fire flow is provided.

See Flow Test requests attached at end of this report.



**K9 Resorts Pompano Beach, LLC**  
**3885 N Federal Highway**  
**Pompano Beach, FL. 33064**

**DATE: June 15, 2022**

Zach,

A fire flow test has been conducted by Wayne Automatic Fire Sprinklers, Inc. for the following project:

PROJECT NAME: K9 Resorts

PROJECT LOCATION: 3885 N Federal Highway Pompano Beach, FL. 33064

HYDRANT LOCATION: FIRE HYDRANTS: SW corner of property on NE 18<sup>th</sup> Terrace  
NW corner of property on the corner of NE 39<sup>th</sup> St. & NE 18<sup>th</sup> Terrace

TEST DATE: 6/14/2022 & 6/15/2022

The results of this test are:

STATIC PRESSURE.....75 PSI

RESIDUAL PRESSURE.....74 PSI

PITOT PRESSURE (1) HYD. FLOWING.....45 PSI

HYDRANT OUTLET COEFFICIENT: .....90

FIRE HYDRANT FLOW.....1126 GPM

TIME OF TEST..... 8:00 AM

The data contained herein are furnished only to demonstrate the available water supply at the time of the test. Fluctuations to pressure and flow will occur due to demands on the system and other conditions beyond the control of Wayne Automatic Fire Sprinklers, Inc.: therefore, additional criteria must be considered, and additional independent test run to confirm pressures for use in design of any water distribution, sprinkler, or fire protection system.

Additionally, Wayne Automatic Fire Sprinklers, Inc. (WAFS) attests only to the correct use of generally recognized applicable procedures and techniques by experienced, qualified personnel in the execution of the flow test. WAFS in no way implies any guarantee as to the repeatability of the pressure/flow as observed and recorded. Neither does WAFS assume any liability for the overall quality of the water source.

At your service,  
**WAYNE AUTOMATIC FIRE SPRINKLERS, INC.**

*Kenneth J. Buchanan*

Kenneth J. Buchanan  
Sales Representative  
Cell – (954)-445-9848

[kjbuchanan@waynefire.com](mailto:kjbuchanan@waynefire.com)

**Corporate Office: 222 Capitol Court • Ocoee, Florida 34761-3033 • (407) 656-3030 • Fax (407) 656-3020**  
*Regional Offices: Jacksonville • Fort Myers • Pompano Beach • Tampa • Concord, NC*

**DRC**

**PZ22-12000030**  
**9/21/2022**



# WATER FLOW TEST CHART

## HYDRANT # AND LOCATION

H1	SW corner of property on 18th Terrace
H2	NW corner of property on corner of NE 39th St, & NE 18th Terrace
H3	

DATE: 15-Jun-2022 TIME: 8:00 AM MIN. OF FLOW: 1

TEST BY: Wayne Automatic Fire Sprinklers Inc.

WATER PURVEYOR: Pompano Beach

PURPOSE OF TEST: New fire line

### Flow Hydrants

	H1	H2	H3
SIZE OPENING:	2.5	0	0
# OF OUTLETS:	1	0	0
COEFFICIENT:	0.9	0	0
PITOT READING:	45	0	0
GPM FLOW:	1126	0	0

### Pitot Calculator

SIZE OPENING:	2.5
# OF OPENINGS:	1
COEFFICIENT:	0.9
PITOT READING:	44
GPM FLOW:	1113

TOTAL FLOW DURING TEST: 1126 GPM

STATIC READING: 75 PSI

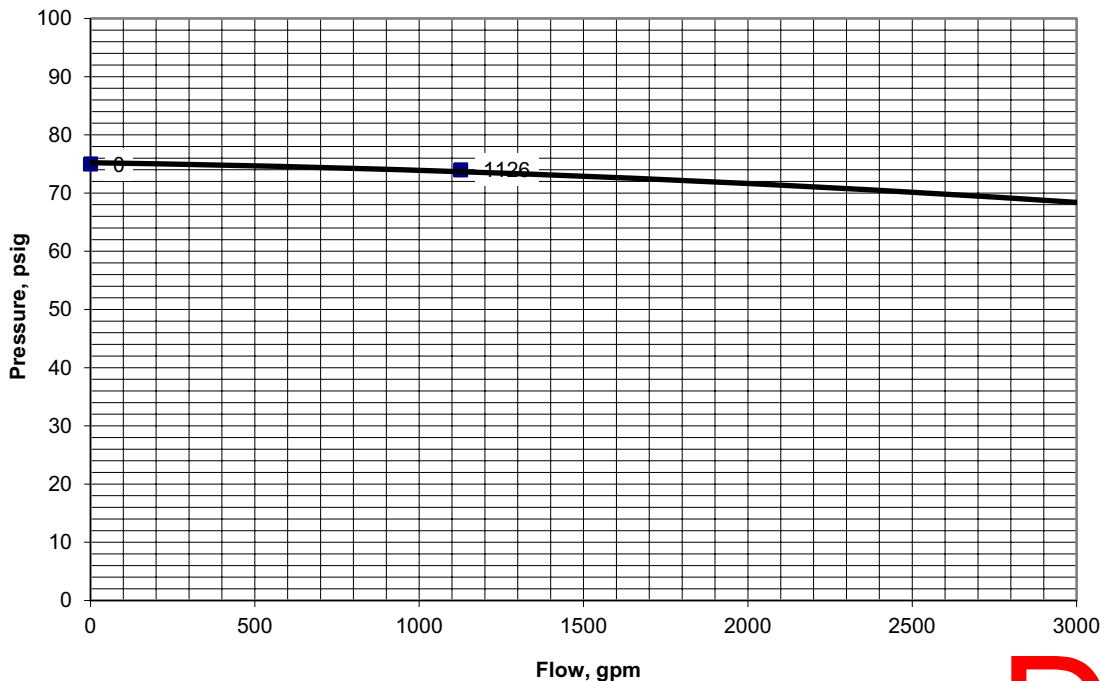
RESIDUAL: 74 PSI

RESULTS: AT 20 PSI RESIDUAL 9799 GPM

AT 0 PSI 11586 GPM

ESTIMATED CONSUMPTION: 1126 GAL.

REMARKS:



# DRC

PZ22-12000030

9/21/2022

# K9 Resorts Pompano Beach - June 14, 2022

