

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK



# CITY OF PORTLAND BUILDING PERMIT



**This is to certify that**

FITZPATRICK EDWIN & JUNE JTS /Freedom Fire  
Protection, Inc

**PERMIT ID:** 2013-00102

**Located at**

106 PARK ST

**CBL:** 045 B005001

has permission to **Install Water based Fire suppression system.**

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise cloed-in. 48 HOUR NOTICE IS REQUIRED.

A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be procured prior to occupancy.

  
Fire Prevention Officer



Code Enforcement Officer / Plan Reviewer

**THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY  
THERE IS A PENALTY FOR REMOVING THIS CARD**

**BUILDING PERMIT INSPECTION PROCEDURES**  
Please call 874-8703 (ONLY)  
or email: [buildinginspections@portlandmaine.gov](mailto:buildinginspections@portlandmaine.gov)

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**

**REQUIRED INSPECTIONS:**

Final - Fire

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.

**City of Portland, Maine - Building or Use Permit**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

<b>Permit No:</b> 2013-00102	<b>Date Applied For:</b> 01/16/2013	<b>CBL:</b> 045 B005001
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<b>Location of Construction:</b> 106 PARK ST	<b>Owner Name:</b> FITZPATRICK EDWIN & JUNE J	<b>Owner Address:</b> 106 PARK ST	<b>Phone:</b>
<b>Business Name:</b>	<b>Contractor Name:</b> Freedom Fire Protection, Inc	<b>Contractor Address:</b> 209 Quaker Ridge Road Casco	<b>Phone</b> (207) 627-4109
<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> Fire Suppression Water Based	

<b>Proposed Use:</b> Multi Family - same - 3 family	<b>Proposed Project Description:</b> Install Water based Fire suppression system.
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**Dept:** Zoning      **Status:** Approved w/Conditions      **Reviewer:** Ann Machado      **Approval Date:** 01/16/2013

**Note:** **Ok to Issue:**

- 1) ANY exterior work requires a separate review and approval thru Historic Preservation. This property is located within an Historic District.
- 2) This property shall remain a three family dwelling. Any change of use shall require a separate permit application for review and approval.

**Dept:** Fire      **Status:** Approved w/Conditions      **Reviewer:** Ben Wallace Jr      **Approval Date:** 01/28/2013

**Note:** Partial NFPA 13R sprinkler system covers basement, fourth floor, attic, and common areas. **Ok to Issue:**

- 1) A Knox Box is required.
- 2) Installation shall be in accordance with the City of Portland Fire Department Regulations and NFPA 13R as published. A copy of the State Sprinkler permit with RMS date and signature and the Contractor's Material and Test Certificate for Aboveground Piping (NFPA 13 figure 24.1) shall be provided prior to scheduling of the final inspection.
- 3) Fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions or any other wall required to have protected openings or penetrations shall be effectively and permanently identified with signs or stenciling in accessible concealed floor, floor-ceiling or attic spaces at intervals not exceeding 30 feet with lettering not less than 0.5 inches in height.
- 4) The entire sprinkler system shall be maintained in accordance with NFPA 25, Standard for Inspection, Testing and Maintenance of Water-Based Fire Protection Systems, 2008 edition.
- 5) Fire department connection shall be one 2 1/2".
- 6) System acceptance and commissioning must be coordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.
- 7) Sprinkler supervision shall be provided in accordance with NFPA 101, Life Safety Code, and NFPA 72, National Fire Alarm and Signaling Code.

**City of Portland, Maine - Building or Use Permit Application**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

<b>Permit No:</b> 2013-00102	<b>Issue Date:</b>	<b>CBL:</b> 045 B005001
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<b>Location of Construction:</b> 106 PARK ST	<b>Owner Name:</b> FITZPATRICK EDWIN & JUNE JTS	<b>Owner Address:</b> 106 PARK ST PORTLAND, ME 04101	<b>Phone:</b>
<b>Business Name:</b>	<b>Contractor Name:</b> Freedom Fire Protection, Inc	<b>Contractor Address:</b> 209 Quaker Ridge Road Casco ME 04015	<b>Phone:</b> (207) 627-4109
<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> Fire Suppression Water Based	<b>Zone:</b> R6
<b>Past Use:</b> Multi Family (3 units)	<b>Proposed Use:</b> Multi Family (3 units)	<b>Permit Fee:</b> \$350.00	<b>Cost of Work:</b> \$33,000.00
		<b>FIRE DEPT:</b> 1/28/13 <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied <input type="checkbox"/> N/A	<b>INSPECTION:</b> Use Group: Type:
<b>Proposed Project Description:</b> Install WB Fire suppression system. water based		<b>Signature:</b> <i>[Signature]</i> (58)	<b>Signature:</b>
		<b>PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)</b> Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Signature: Date:	

<b>Permit Taken By:</b> bjs	<b>Date Applied For:</b> 01/16/2013	<b>Zoning Approval</b>	
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<ol style="list-style-type: none"> <li>This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</li> <li>Building permits do not include plumbing, septic or electrical work.</li> <li>Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..</li> </ol>	<b>Special Zone or Reviews</b> <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> Date: 1/16/13 <i>ASU</i>	<b>Zoning Appeal</b> <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date:	<b>Historic Preservation</b> <input type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date: <i>requires a separate permit's approval for historic preservation</i>
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**CERTIFICATION**

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE



# Water-Based Fire Suppression System Permit

If you or the property owner owes real estate or property taxes or user charges on any property within the city, payment arrangements must be made before permits of any kind are accepted.

Installation address: 106 Park Street CBL: \_\_\_\_\_

Exact location: (within structure) Please see sprinkler drawing for exact areas.

Type of occupancy(s) (NFPA & ICC): Mutifamily (3 Unit)

Building owner: June Fitzpatrick GC K.R. Stiffler Construction John Medici

Managing Supervisor (RMS): Timothy Vess License No: 348

Supervisor phone: 207-671-8639 E-mail: wwales@maine.rr.com

Installing contractor: Freedom Fire Protection License No: 295

Contractor phone: 207-627-4109 E-mail: wwales@maine.rr.com

The suppression work to be done will be: New:  Renovation:  Addition to existing system:

This is an amendment to an existing permit: Yes:  NO:  Permit no: \_\_\_\_\_

NFPA Standard this system is designed to: NFPA 13R Edition: 2010

\*Non-NFPA systems are not approved for use within the City of Portland.

Download a new copy of this document from [www.portlandmaine.gov/fire](http://www.portlandmaine.gov/fire) for every submittal. Attach all working documents and complete approved submittals as may be required by the State Fire Marshal's Office on electronic PDF's in addition to full sized plans.

Contractor shall verify location and type of all FDCs shall be approved in writing by the Fire Prevention Bureau.

<b>COST OF WORK:</b> <u>\$32,278.00</u>
<b>PERMIT FEE:</b> <u>\$350.00</u>
(\$10 PER \$1,000 + \$30 FOR THE FIRST \$1,000)
<b>RECEIVED</b>
<b>JAN 16 2013</b>
<b>Dept. of Building Inspections</b> City of Portland Maine

Submit all information to the Building Inspections Department, 389 Congress Street, Room 315, Portland, Maine 04101.

Prior to acceptance of any fire protection system, a complete commissioning and acceptance test must be coordinated with all fire system contractors and the Fire Department, and proper documentation of such test(s) provided.

All installation(s) must comply with NFPA and the Fire Department Technical Standard(s).

Applicant signature: wwales Date: 1/8/2013

# Freedom Fire Protection, Inc.

*30 Years of Fire Protection Experience*  
209 Quaker Ridge Road  
Casco, Maine 04015  
Phone (207) 627-4109 Fax (207) 627-7340

January 9, 2013

Portland City Hall  
Third Floor Room #315  
Portland, Maine 04101

Attention: Captain Chris Pirone

Ref: 106 Park Street  
Portland, Maine

Subject: Fire Sprinkler Plan Review

Enclosed please find for your review and comment the following sprinkler information.

- Fire Suppression System Permit
- Permit Fee check
- Freedom Fire Protections drawings FP1, and FP2
- Hydraulic Calculations
- 8 ½" x 11" FP Drawings
- CD Copy of Drawings and Calculations
- Copy of email correspondence for sprinkler requirements

Please get in touch with me to discuss any questions or if you need additional information.

Regards,

  
Mark Radziszewski

(O) 207-627-4109

(F) 207-627-7340

(C) 207-318-9992

E-mail [markrad@maine.rr.com](mailto:markrad@maine.rr.com)

11/11/13

**Subject:** Re: 106 Park St Fire Sprinkler System  
**From:** "Benjamin Wallace" <wallaceb@portlandmaine.gov>  
**Date:** 10/16/2012 12:19 PM  
**To:** "Mark Radziszewski" <markrad@maine.rr.com>  
**CC:** <mark@alphaarchitects.com>, "Bill Wales" <wwales@maine.rr.com>, "John Medici" <john@stifflerconstruction.com>

This all looks appropriate and is based upon the exit stair doors being replaced with 1-hour rated opening protectives and permits approvals from the City and State Fire Marshal's Office. Please understand that the system needs to be designed for future expansion to the remaining floors and the entire system electrically supervised by the required fire alarm system in accordance with NFPA 101 and 72 including fire pump and power if used.

Thanks,

Lt. Benjamin Wallace Jr.  
Fire Prevention Officer  
Portland Fire Department  
380 Congress Street  
Portland, Maine 04101  
(207)874-8400  
wallaceb@portlandmaine.gov

>>> Mark Radziszewski <markrad@maine.rr.com> 10/15/2012 5:34 PM >>>  
Lt. Wallace,

Per our conversation this afternoon the sprinkler system for 106 Park St will be subject to the following requirements.

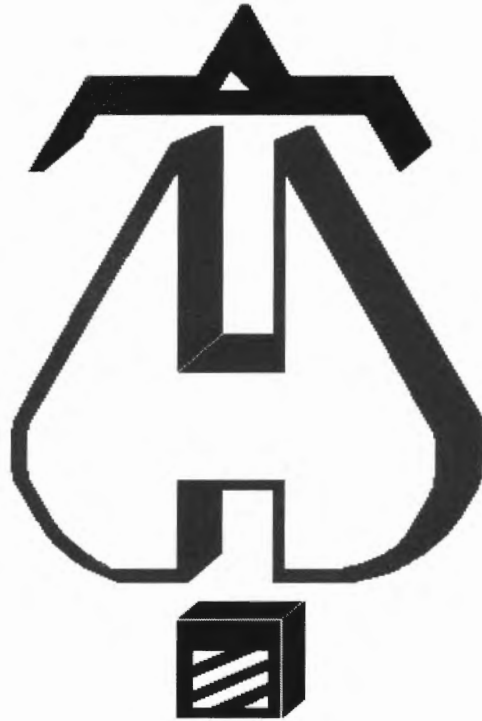
- Sprinkler system installed per NFPA 13R
- Areas requiring sprinkler system are the Basement, 4th Floor Apartment, Attic above 4th floor Apartment, and all common area egress.
- (1) Main Control Valve and Flow Switch in the Basement at the sprinkler riser.
- (1) Isolation Valve and Flow Switch for the Basement Level sprinkler system.
- (1) Isolation Valve and Flow Switch for the 4th Floor and Attic level combined.
- The Isolation Valve for the 4th needs to be accessible in a common area, not in an individual unit.
- By sprinkling per the 13R Standard the Attic space would not be able to be converted to a living space in the future unless the sprinkler system was converted to a NFPA 13 Standard because the building would become a 5 story instead of the current 4 story.

Please let me know if I missed or misunderstood anything we discussed on the phone this afternoon.

Thank You

--  
Mark Radziszewski  
Freedom Fire Protection, Inc.  
209 Quaker Ridge Road  
Casco, Maine 04015  
Office 207-627-4109  
Cell 207-318-9992  
Fax 207-627-7340  
email [markrad@maine.rr.com](mailto:markrad@maine.rr.com)

ccf



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JAN 16 2013

Dept. of Building Inspections  
100 State Street, 1st Floor

... Fire Protection by Computer Design

FREEDOM FIRE PROTECTION INC.  
209 QUAKER RIDGE ROAD  
CASCO, MAINE 04015  
207-627-4109

Job Name : 106 PARK STREET HC1  
Building : 106 PARK STREET  
Location : PORTLAND, MAINE 04104  
System : #1 AREA#1  
Contract :  
Data File : 106 Park Street HC.WXF



HYDRAULIC DESIGN INFORMATION SHEET

Name - 106 PARK STREET Date - 11/19/12  
Location - PORTLAND, MAINE 04104  
Building - 106 PARK STREET System No. - #1 AREA#1  
Contractor - Contract No. -  
Calculated By - MIKE NOBLIT Drawing No. -  
Construction: (X) Combustible ( ) Non-Combustible Ceiling Height VARIES  
OCCUPANCY - APARTMENT ATTIC STORAGE

S Type of Calculation: (X)NFPA 13 Residential (X)NFPA 13R ( )NFPA 13D  
Y Number of Sprinklers Flowing: ( )1 ( )2 (X)4 ( )  
S ( )Other  
T ( )Specific Ruling Made by Date  
E  
M Listed Flow at Start Point - 13 Gpm System Type  
Listed Pres. at Start Point - 7 Psi (X) Wet ( ) Dry  
D MAXIMUM LISTED SPACING 15' x 15' ( ) Deluge ( ) PreAction  
E Domestic Flow Added - Gpm Sprinkler or Nozzle  
S Additional Flow Added - Gpm Make TYCO Model TY-FRB  
I Elevation at Highest Outlet - 62'-6"Feet Size 1/2" K-Factor 5.6  
G Note: Temperature Rating 155  
N

Calculation Gpm Required 64.246 Psi Required 52.511 At Test  
Summary C-Factor Used: Overhead 120 Underground

W Water Flow Test: Pump Data: Tank or Reservoir:  
A Date of Test - Rated Cap. 80 Cap.  
T Time of Test - @ Psi 58 Elev.  
E Static (Psi) - Elev.  
R Residual (Psi) - Other Well  
Flow (Gpm) - Proof Flow Gpm  
S Elevation -  
P Location:  
L Source of Information:  
Y

Water Supply Curve (C)

FREEDOM FIRE PROTECTION INC.  
106 PARK STREET HC1

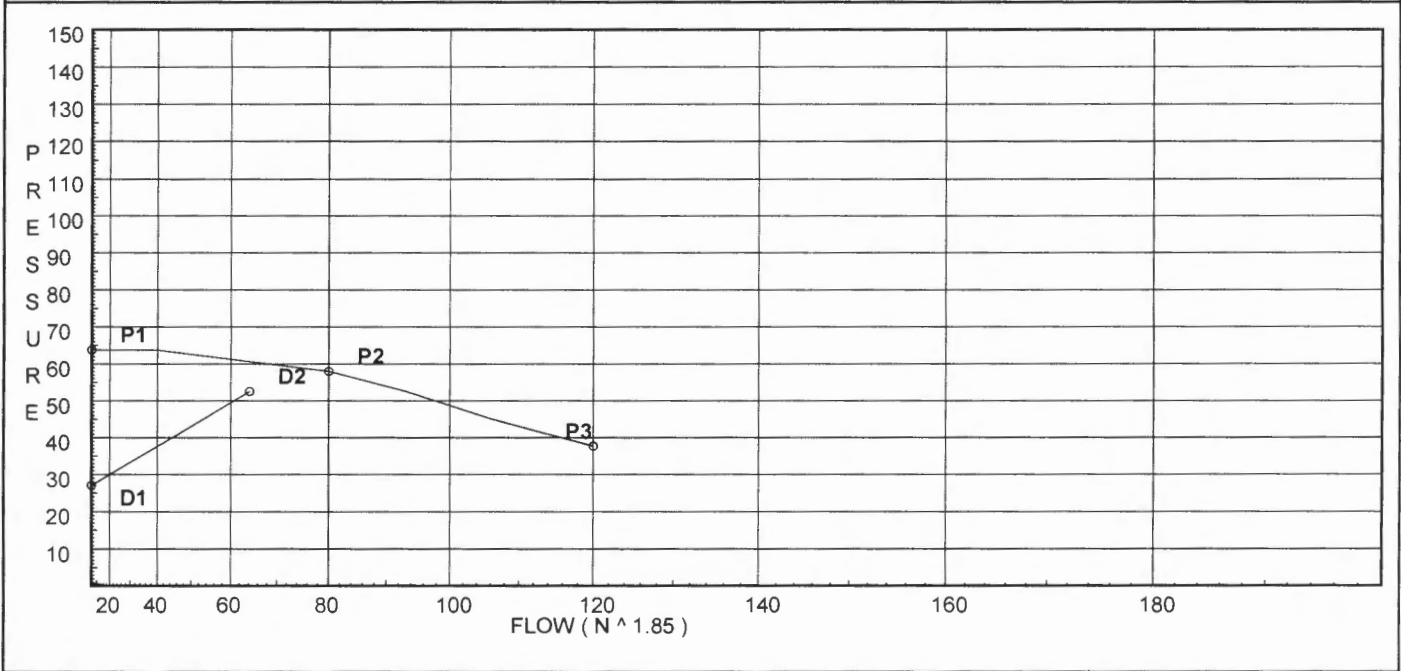
Page 2  
Date 11/19/12

Pump Data:

P1 - Pump Churn Pressure : 63.8  
P2 - Pump Rated Pressure : 58  
P2 - Pump Rated Flow : 80  
P3 - Pump Pressure @ Max Flow : 37.7  
P3 - Pump Max Flow : 120

Demand:

D1 - Elevation : 27.069  
D2 - System Flow : 64.2457  
D2 - System Pressure : 52.511  
Hose ( Adj City ) : \_\_\_\_\_  
Hose ( Demand ) : \_\_\_\_\_  
D3 - System Demand : 64.2457  
Safety Margin : 8.161



Fittings Used Summary

FREEDOM FIRE PROTECTION INC.  
106 PARK STREET HC1

Page 3  
Date 11/19/12

Fitting Legend		½	¾	1	1¼	1½	2	2½	3	3½	4	5	6	8	10	12	14	16	18	20	24	
Abbrev.	Name																					
E	90° Standard Elbow	2	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61	
S	Generic Swing Check Vlv	4	5	5	7	9	11	14	16	19	22	27	32	45	55	65	76	87	98	109	130	
T	90° Flow Thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121	

Pressure / Flow Summary - STANDARD

FREEDOM FIRE PROTECTION INC.  
106 PARK STREET HC1

Page 4  
Date 11/19/12

Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
102	62.5	5.6	7.0	na	14.82	0.05	130	7.0
101	62.5	5.6	7.97	na	15.81	0.05	130	7.0
15	62.5		8.65	na				
104	58.083	5.6	8.44	na	16.27	0.05	130	7.0
103	58.083	5.6	9.6	na	17.35	0.05	130	7.0
14	58.083		10.4	na				
13	55.66		12.2	na				
12	55.66		12.58	na				
11	55.66		14.37	na				
10	51.66		17.22	na				
9	51.66		18.86	na				
8	51.66		20.99	na				
7	51.66		21.71	na				
6	39.5		29.8	na				
5	39.5		31.04	na				
4	6.5		46.48	na				
3	6.5		46.73	na				
2	6.5		49.0	na				
1	0.0		52.49	na				
TEST	0.0		52.51	na				

The maximum velocity is 10.28 and it occurs in the pipe between nodes 10 and 9

Final Calculations - Hazen-Williams

FREEDOM FIRE PROTECTION INC.  
106 PARK STREET HC1

Page 5  
Date 11/19/12

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv. Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	***** Notes *****
102	14.82	1.049		13.000	7.000		K Factor = 5.60
to		120		0.0	0.0		
101	14.82	0.0747		13.000	0.971		Vel = 5.50
101	15.81	1.38	1E	3.0	6.000	7.971	K Factor = 5.60
to		120		0.0	3.000	0.0	
15	30.63	0.0753		9.000	0.678		Vel = 6.57
15	0.0	1.38	1T	6.0	6.830	8.649	
to		120		0.0	6.000	2.962	
12	30.63	0.0753		12.830	0.966		Vel = 6.57
	0.0						
	30.63				12.577		K Factor = 8.64
104	16.27	1.049		13.000	8.442		K Factor = 5.60
to		120		0.0	0.0		
103	16.27	0.0888		13.000	1.155		Vel = 6.04
103	17.35	1.38	1E	3.0	6.000	9.597	K Factor = 5.60
to		120		0.0	3.000	0.0	
14	33.62	0.0894		9.000	0.805		Vel = 7.21
14	0.0	1.38	1T	6.0	2.416	10.402	
to		120		0.0	6.000	1.049	
13	33.62	0.0895		8.416	0.753		Vel = 7.21
13	0.0	1.61		8.830	12.204		
to		120		0.0	0.0	0.0	
12	33.62	0.0422		8.830	0.373		Vel = 5.30
12	30.63	1.61	1T	8.0	4.830	12.577	
to		120		0.0	8.000	0.0	
11	64.25	0.1399		12.830	1.795		Vel = 10.13
11	0.0	1.61	1E	4.0	4.000	14.372	
to		120		0.0	4.000	1.732	
10	64.25	0.1400		8.000	1.120		Vel = 10.13
10	0.0	1.598	1T	11.656	5.330	17.224	
to		150		0.0	11.656	0.0	
9	64.25	0.0961		16.986	1.632		Vel = 10.28
9	0.0	1.598	1T	11.656	10.583	18.856	
to		150		0.0	11.656	0.0	
8	64.25	0.0960		22.239	2.136		Vel = 10.28
8	0.0	1.598	1E	5.828	1.660	20.992	
to		150		0.0	5.828	0.0	
7	64.25	0.0960		7.488	0.719		Vel = 10.28
7	0.0	1.61	1T	8.0	12.166	21.711	
to		120		0.0	8.000	5.266	
6	64.25	0.1399		20.166	2.822		Vel = 10.13
6	0.0	2.157		36.783	29.799		
to		120		0.0	0.0	0.0	
5	64.25	0.0337		36.783	1.239		Vel = 5.64

Final Calculations - Standard

FREEDOM FIRE PROTECTION INC.  
106 PARK STREET HC1

Page 6  
Date 11/19/12

Hyd. Ref. Point	Qa  Qt	Dia. "C" Pf/Ft	Fitting or Eqv. Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	***** Notes *****
5 to 4	0.0 64.25	2.157 150 0.0223	1T 0.0	18.596 0.0 18.597	33.000 14.292	31.038	Vel = 5.64
4 to 3	0.0 64.25	2.157 120 0.0336	1E 0.0	6.153 0.0 6.153	1.166 0.0 7.319	46.480	Vel = 5.64
3 to 2	0.0 64.25	2.157 120 0.0337	1E 0.0	6.153 0.0 6.153	61.330 0.0 67.483	46.726	Vel = 5.64
2 to 1	0.0 64.25	2.157 120 0.0337	1S 0.0	13.537 0.0 13.537	6.500 2.815	48.999	Vel = 5.64
1 to TEST	0.0 64.25 0.0 64.25	2.157 150 0.0220	0.0 0.0	1.000 0.0 0.0	52.489 0.0	52.489	Vel = 5.64
						52.511	K Factor = 8.87



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... Fire Protection by Computer Design

Dept. of Building Inspections  
City of Portland Maine

FREEDOM FIRE PROTECTION INC.  
209 QUAKER RIDGE ROAD  
CASCO, MAINE 04015  
207-627-4109

Job Name : 106 PARK STREET HC2  
Building : 106 PARK STREET  
Location : PORTLAND, MAINE 04104  
System : #1 AREA#2  
Contract :  
Data File : 106 Park Street HC BASEMENT.WXF

HYDRAULIC DESIGN INFORMATION SHEET

Name - 106 PARK STREET Date - 11/19/12  
 Location - PORTLAND, MAINE 04104  
 Building - 106 PARK STREET System No. - #1 AREA#2  
 Contractor - Contract No. -  
 Calculated By - MIKE NOBLIT Drawing No. -  
 Construction: (X) Combustible ( ) Non-Combustible Ceiling Height 7'-6"  
 OCCUPANCY - BASEMENT

S Type of Calculation: (X)NFPA 13 Residential (X)NFPA 13R ( )NFPA 13D  
 Y Number of Sprinklers Flowing: ( )1 ( )2 (X)4 ( )

S ( )Other  
 T ( )Specific Ruling Made by Date

M Listed Flow at Start Point - 13 Gpm System Type  
 Listed Pres. at Start Point - 7 Psi (X) Wet ( ) Dry  
 D MAXIMUM LISTED SPACING 16' x 16' ( ) Deluge ( ) PreAction  
 E Domestic Flow Added - Gpm Sprinkler or Nozzle  
 S Additional Flow Added - Gpm Make TYCO Model LFII  
 I Elevation at Highest Outlet - 6'-6"Feet Size 1/2" K-Factor 4.9  
 G Note: Temperature Rating 155  
 N

Calculation Gpm Required 63.210 Psi Required 43.991 At Test  
 Summary C-Factor Used: Overhead 120 Underground

W Water Flow Test: Pump Data: Tank or Reservoir:  
 A Date of Test - Rated Cap. 80 Cap.  
 T Time of Test - @ Psi 58 Elev.  
 E Static (Psi) - Elev.  
 R Residual (Psi) - Other Well  
 Flow (Gpm) - Proof Flow Gpm  
 S Elevation -

P Location:  
 P  
 L Source of Information:  
 Y



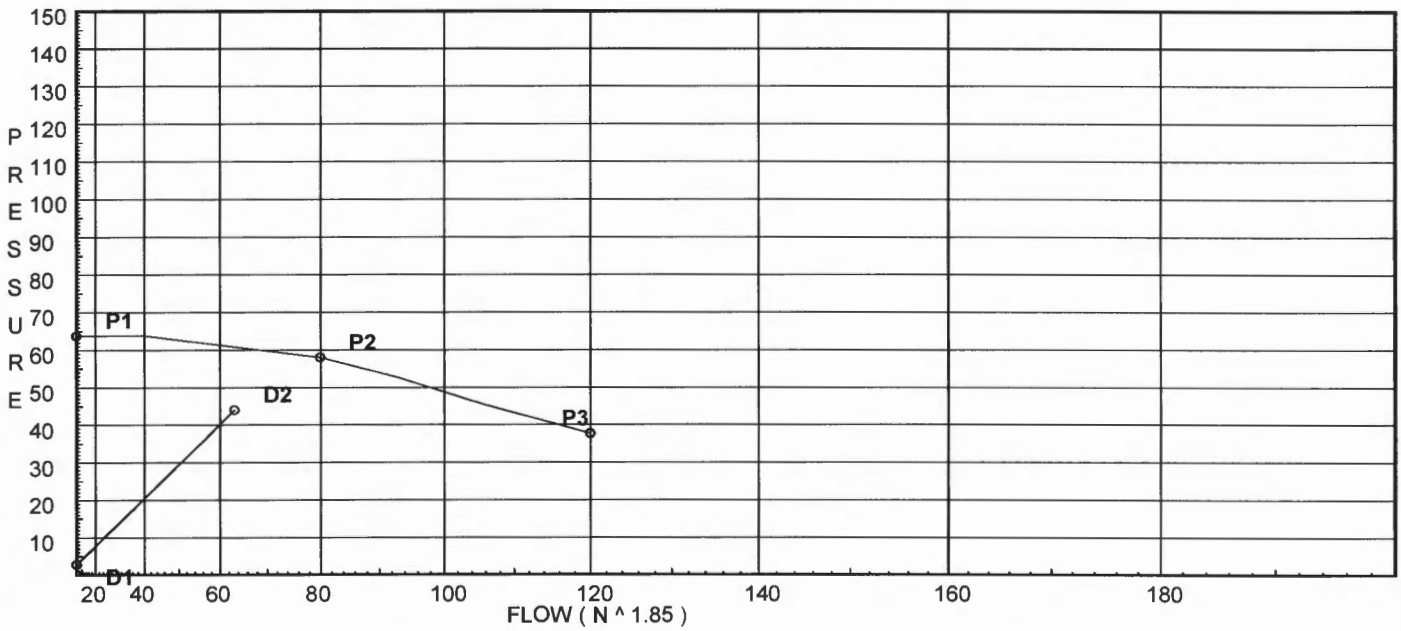
Water Supply Curve (C)

FREEDOM FIRE PROTECTION INC.  
106 PARK STREET HC2

Page 2  
Date 11/19/12

Pump Data:  
P1 - Pump Churn Pressure : 63.8  
P2 - Pump Rated Pressure : 58  
P2 - Pump Rated Flow : 80  
P3 - Pump Pressure @ Max Flow : 37.7  
P3 - Pump Max Flow : 120

Demand:  
D1 - Elevation : 2.815  
D2 - System Flow : 63.2096  
D2 - System Pressure : 43.991  
Hose ( Adj City ) :  
Hose ( Demand ) :  
D3 - System Demand : 63.2096  
Safety Margin : 16.839



Node No.	Elevation	K-Fact	Pt Actual	Pn	Flow Actual	Density	Area	Press Req.
202	6.5	5.6	7.81	na	15.65	0.05	130	7.0
201	6.5	5.6	9.02	na	16.82	0.05	130	7.0
204	6.5	5.6	7.0	na	14.82	0.05	130	7.0
203	6.5	5.6	8.09	na	15.93	0.05	130	7.0
23	6.5		14.82	na				
22	6.5		17.41	na				
21	6.5		31.81	na				
20	6.5		38.93	na				
2	6.5		40.5	na				
1	0.0		43.97	na				
TEST	0.0		43.99	na				

The maximum velocity is 23.47 and it occurs in the pipe between nodes 22 and 21

Final Calculations - Hazen-Williams

FREEDOM FIRE PROTECTION INC.  
106 PARK STREET HC2

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Date 11/19/12

Hyd. Ref. Point	Qa Qt	Dia. "C" Pf/Ft	Fitting or Eqv. Ln.	Pipe Ftng's Total	Pt Pe Pf	Pt Pv Pn	*****	Notes	*****
202 to 201	15.65	1.049 120		14.600 0.0	7.809 0.0			K Factor = 5.60	
201 to 22	15.65	0.0827		14.600	1.207			Vel = 5.81	
201 to 22	16.81	1.049 120	1T	5.0 0.0	21.330 5.000	9.016 0.0		K Factor = 5.60	
	32.46	0.3189		0.0	26.330	8.396		Vel = 12.05	
	0.0 32.46					17.412		K Factor = 7.78	
204 to 203	14.82	1.049 120		14.600 0.0	7.000 0.0			K Factor = 5.60	
203 to 23	14.82	0.0747		14.600	1.091			Vel = 5.50	
203 to 23	15.92	1.049 120	1E	2.0 0.0	21.330 2.000	8.091 0.0		K Factor = 5.60	
23 to 22	30.74	0.2883		0.0	23.330	6.726		Vel = 11.41	
23 to 22	0.0	1.049 120		0.0 0.0	9.000 0.0	14.817 0.0			
22 to 21	30.74	0.2883		0.0	9.000	2.595		Vel = 11.41	
22 to 21	32.47	1.049 120	1T	5.0 0.0	8.166 5.000	17.412 0.0			
21 to 20	63.21	1.0937		0.0	13.166	14.400		Vel = 23.47	
21 to 20	0.0	1.38 120	1T	6.0 0.0	18.750 6.000	31.812 0.0			
20 to 2	63.21	0.2877		0.0	24.750	7.120		Vel = 13.56	
20 to 2	0.0	1.38 120	1E	3.0 0.0	2.450 3.000	38.932 0.0			
2 to 1	63.21	0.2877		0.0	5.450	1.568		Vel = 13.56	
2 to 1	0.0	2.157 120	1S	13.537 0.0	6.500 13.537	40.500 2.815			
1 to TEST	63.21	0.0327		0.0	20.037	0.655		Vel = 5.55	
1 to TEST	0.0	2.157 150		0.0 0.0	1.000 0.0	43.970 0.0			
	63.21	0.0210		0.0	1.000	0.021		Vel = 5.55	
	0.0 63.21					43.991		K Factor = 9.53	



State of Maine  
Department of Public Safety



Fire Sprinkler System Permit

# 10360

106 PARK STREET

Located at: 106 PARK STREET  
In the Town of: Portland  
Occupancy/Use: APARTMENTS  
Type of System: NFPA 13R

Permission is hereby given to:

**Freedom Fire Protection, Inc.**  
209 Quaker Ridge Road  
Casco, ME 04015  
Contractor License # 295

to begin installation according to plans submittal approved by the Office of State Fire Marshal. The submittal is filed under log # 2121530 , and no departure from the application submittal shall be made without prior approval in writing. This permit is issued under the provisions of Title 32, Chapter 20, Section 12004-I. Nothing herein shall excuse the holder of this permit from failure to comply with local ordinances, zoning laws, or other pertinent legal restrictions. This permit shall be displayed at the construction site or be made readily available.

This permit was issued on 11/28/2012 for a fee paid of \$100.00

This permit will expire at midnight on Monday, May 27, 2013

The expiration date applies only if the installation has not begun by that date and no permission has been granted to extend the date. Once installation begins, then the permit is valid for however long it takes to complete the installation, assuming that the work is fairly continuous.

John E. Morris  
Commissioner

*The type of Fire Department Connection and its location is to be according to the Local Fire Department*

Within 30 days of the completion of a new fire sprinkler system or an addition to an existing fire sprinkler system, a fire sprinkler system contractor shall provide to the Office of State Fire Marshal a copy of this permit signed and dated by the certified Responsible Managing Supervisor representing that the fire sprinkler system has been installed according to specifications of the approved plan to the best of the supervisor's knowledge, information, and belief. This requirement is part of the sprinkler law, and neglect of this duty is grounds to not renew the contractor's license to do work in the State of Maine. All renewed sprinkler licenses are good for two years and expire on a June 30th.

Job completed, tested and verified by date of \_\_\_\_\_

RMS for this job: Vess Timothy L.

RMS Signature: \_\_\_\_\_