DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

# CITY OF PORTLAND

# BUILDING PERMIT

This is to certify that
FREEDOM FIRE PROTECTION
209 QUAKER RIDGE RD
CASCO, ME 04015

For installation at
285 FOREST AVE
C PORT CREDIT UNION

Job ID: 2011-10-2435-NEWCOM

CBL: 112- H-001-001

has permission to install a supervised, automatic sprinkler 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 closed-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

58

Fire Prevention Officer

Code Enforcement Officer / Plan Reviewer

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY
PENALTY FOR REMOVING THIS CARD

# CITY OF PORTLAND, MAINE
**Department of Building Inspections**

## Original Receipt

2/28 20 12

Received from Friedan Fire

Location of Work 28 Forest

Cost of Construction $_____ Building Fee: 1,000

Permit Fee $_____ Site Fee: _____

Certificate of Occupancy Fee: _____

W/B Fire Supp. **Total:** 140

Building (IL) ___ Plumbing (I5) ___ Electrical (I2) ___ Site Plan (U2) ___

Other _____

CBL: _____

RECEIVED
FEB 28 2012
Dept. of Building Inspections
City of Portland Maine

Check #: 16687 **Total Collected** $ 140

**No work is to be started until permit issued.**
**Please keep original receipt for your records.**

Taken by: BS

WHITE - Applicant's Copy
YELLOW - Office Copy
PINK - Permit Copy

# BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

or email: 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.**

## 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.

PORTLAND MAINE
*Strengthening a Remarkable City, Building a Community for Life* • www.portlandmaine.gov
Director of Planning and Urban Development
Penny St. Louis

**Job ID:** 2011-10-2435-NEWCOM
install a supervised, automatic sprinkler system

**For installation at:**
285 FOREST AVE
C PORT CREDIT UNION

**CBL:** 112- H-001-001

## Conditions of Approval:

## Fire

This is a required supervised, automatic sprinkler system due to a single means of egress.
The sprinkler system shall be installed in accordance with NFPA 13. A signed compliance letter will be required.
A separate sprinkler permit is required from the State Fire Marshal's Office.
A sprinkler supervisory system shall be provided in accordance with NFPA 101, *Life Safety Code*, and NFPA 72, *National Fire Alarm and Signaling Code*. Sprinkler supervisory systems shall monitor for water flow and sprinkler supervisory signals via an approved fire alarm panel to central station. One smoke detector shall be located over the panel, a manual pull station located at the front door, and an audible water flow alarm provided.
The sprinkler supervisory system shall comply with the City of Portland Standard for Signaling Systems for the Protection of Life and Property. All fire alarm installation and servicing companies shall have a Certificate of Fitness from the Fire Department.
A separate Fire Alarm Permit is required.
Sprinkler protection shall be maintained. Where the system is to be shut down for maintenance or repair, the system shall be checked at the end of each day to insure the system has been placed back in service.
The fire department connection shall be 2 ½" NH. A single connection is permitted for a 3 inch or smaller sprinkler riser. The Fire Department will require Knox locking caps on all Fire Department Connections on the exterior of the building.
System acceptance and commissioning must be coordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.
City ordinance requires a Knox Box for all structures with a sprinkler or fire alarm system.

## DRC

11-9-11
See Planning Conditions of Approval.

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

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

| Job No: | Date Applied: | CBL: | |
|---|---|---|---|
| 2011-10-2435-NEWCOM<br>2012-41312 FAFS | 2/28/2012 | 112- H-001-001 | |
| Location of Construction:<br>285 FOREST AVE | Owner Name:<br>CPORT CREDIT UNION | Owner Address:<br>PO BOX 777, PORTLAND, ME 04104 | Phone: |
| Business Name:<br>CPort Credit Union | Contractor Name:<br>FREEDOM FIRE PROTECTION | Contractor Address:<br>209 QUAKER RIDGE RD, CASCO, ME 04015 | Phone:<br>(207) 671-8639 |
| Lessee/Buyer's Name: | Phone: | Permit Type:<br>FAFS | Zone:<br>B-2 |
| Past Use:<br>Drive-thru Bank | Proposed Use:<br>Same: Drive-thru Bank – to install fire suppression system | Cost of Work:<br>$12,000.00<br>Fire Dept:<br>✓ Approved w/ conditions<br>___ Denied<br>___ N/A<br>Signature: BJ Andrews (58) | CEO District:<br>Inspection:<br>Use Group:<br>Type:<br>Signature: |
| Proposed Project Description:<br>Fire Suppression System | | Pedestrian Activities District (P.A.D.) | |
| Permit Taken By: Brad | | | |

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building Permits do not include plumbing, septic or electrial work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False informatin may invalidate a building permit and stop all work.

**Zoning Approval**

| Special Zone or Reviews | Zoning Appeal | Historic Preservation |
|---|---|---|
| ___ Shoreland | ___ Variance | ✓ Not in Dist or Landmark |
| ___ Wetlands | ___ Miscellaneous | ___ Does not Require Review |
| ___ Flood Zone | ___ Conditional Use | ___ Requires Review |
| ___ Subdivision | ___ Interpretation | ___ Approved |
| ___ Site Plan | ___ Approved | ___ Approved w/Conditions |
| ___ Maj ___ Min ~~MM~~ | ___ Denied | ___ Denied |
| Date: 2/20/12 | Date: | Date: |

**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 appication 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

Entered 2/28/12 (18)
2012-41312

# Water-Based Fire Suppression System Permit

5-2

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.

2011-10 2435 - NewCom

RECEIVED
FEB 28 2012
Dept. of Building Inspections
City of Portland, Maine

Installation address: 285 Forest Ave CBL:

Exact location: (within structure) Mechanical Room

Type of occupancy(s) (NFPA & ICC): Bank

Building owner: cPort Credit Union PO Box 777 - Portland, ME 04104

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

Supervisor phone: 20/627-4109 E-mail: wwales@maine.rr.com

Installing contractor: Freedom Fire Protection License No: 295

Contractor phone: 207/671-8639 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 13 Edition: 2010

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

**COST OF WORK:** $11,937.00

PERMIT FEE: $140.00

($10 PER $1,000 + $30 FOR THE FIRST $1,000)

1/2 M001

**Download a new copy of this document from 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.**

**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: William W. Wales Date: 2/27/12

# PORTLAND MAINE

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Receipts Details:

**Tender Information:** Check , Check Number: 16687
**Tender Amount:** 140.00

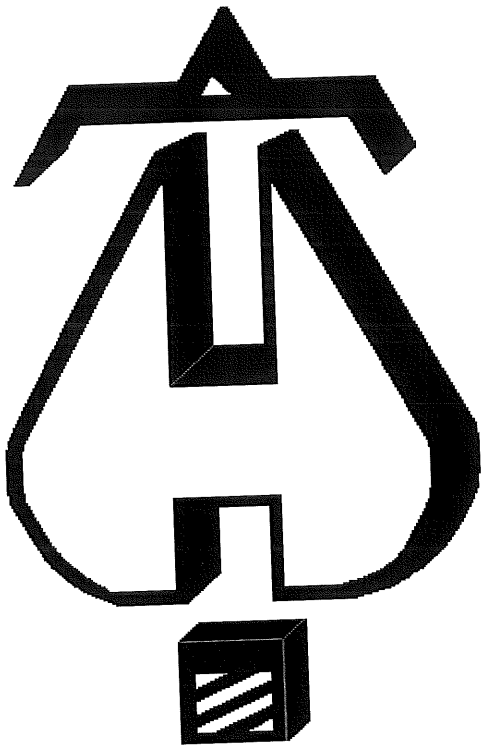
Receipt Header:

**Cashier Id:** bsaucier
**Receipt Date:** 2/28/2012
**Receipt Number:** 41313

Receipt Details:

| | | | |
|---|---|---|---|
| Referance ID: | 5403 | Fee Type: | BP-Permit |
| Receipt Number: | 0 | Payment Date: | |
| Transaction Amount: | 140.00 | Charge Amount: | 140.00 |
| Job ID: Job ID: 2011-10-2435-NEWCOM - New CPort Credit Union 3,815 sq ft | | | |
| Additional Comments: 285 Forest | | | |

Thank You for your Payment!



. . . Fire Protection by Computer Design

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

Job Name : CPORT CREDIT UNION
Building : 285 FOREST AVENUE
Location : PORTLAND, MAINE 04101
System : #1 AREA #1
Contract :
Data File : CPORT CREDIT UNION HC.WXF

FREEDOM FIRE PROTECTION INC.
CPORT CREDIT UNION

## Hydraulic Design Information Sheet

Date - 2/22/12

Name - CPORT CREDIT UNION
Location - PORTLAND, MAINE 04101
Building - 285 FOREST AVENUE
Contractor -
Calculated By - MIKE NOBLIT
Construction: (X) Combustible ( ) Non-Combustible
Occupancy - CREDIT UNION

System No. - #1 AREA #1
Contract No. -
Drawing No. - FP-2
Ceiling Height - 9'-0"

**SYSTEM DESIGN**

(X) NFPA 13 (X) Lt. Haz. Ord.Haz.Gp. ( ) 1 ( ) 2 ( ) 3 ( ) Ex.Haz.
( ) NFPA 231 ( ) NFPA 231C ( ) Figure Curve
Other
Specific Ruling Made By Date

| | | | |
|---|---|---|---|
| Area of Sprinkler Operation | - AREA | System Type | Sprinkler/Nozzle |
| Density | - .10 | (X) Wet | Make TYCO |
| Area Per Sprinkler | - 130 | ( ) Dry | Model TY-FRB |
| Elevation at Highest Outlet | - 23'-10" | ( ) Deluge | Size 1/2" |
| Hose Allowance - Inside | - | ( ) Preaction | K-Factor 5.6 |
| Rack Sprinkler Allowance | - | ( ) Other | Temp.Rat.155 |
| Hose Allowance - Outside | - 100 | | |

Note

Calculation Summary: Flow Required - 408.977 Press Required - 82.365 At Test
C-Factor Used: 120 Overhead 140 Underground

**WATER SUPPLY**

Water Flow Test:
Date of Test - 8/5/11
Time of Test -
Static Press - 104
Residual Press - 0
Flow - 1546
Elevation -

Pump Data:
Rated Cap.-
@ Press -
Elev. -

Tank or Reservoir:
Cap. -
Elev.-

Well
Proof Flow

Location -

Source of Information - PORTLAND WATER DISTRICT

Water Supply Curve (C)

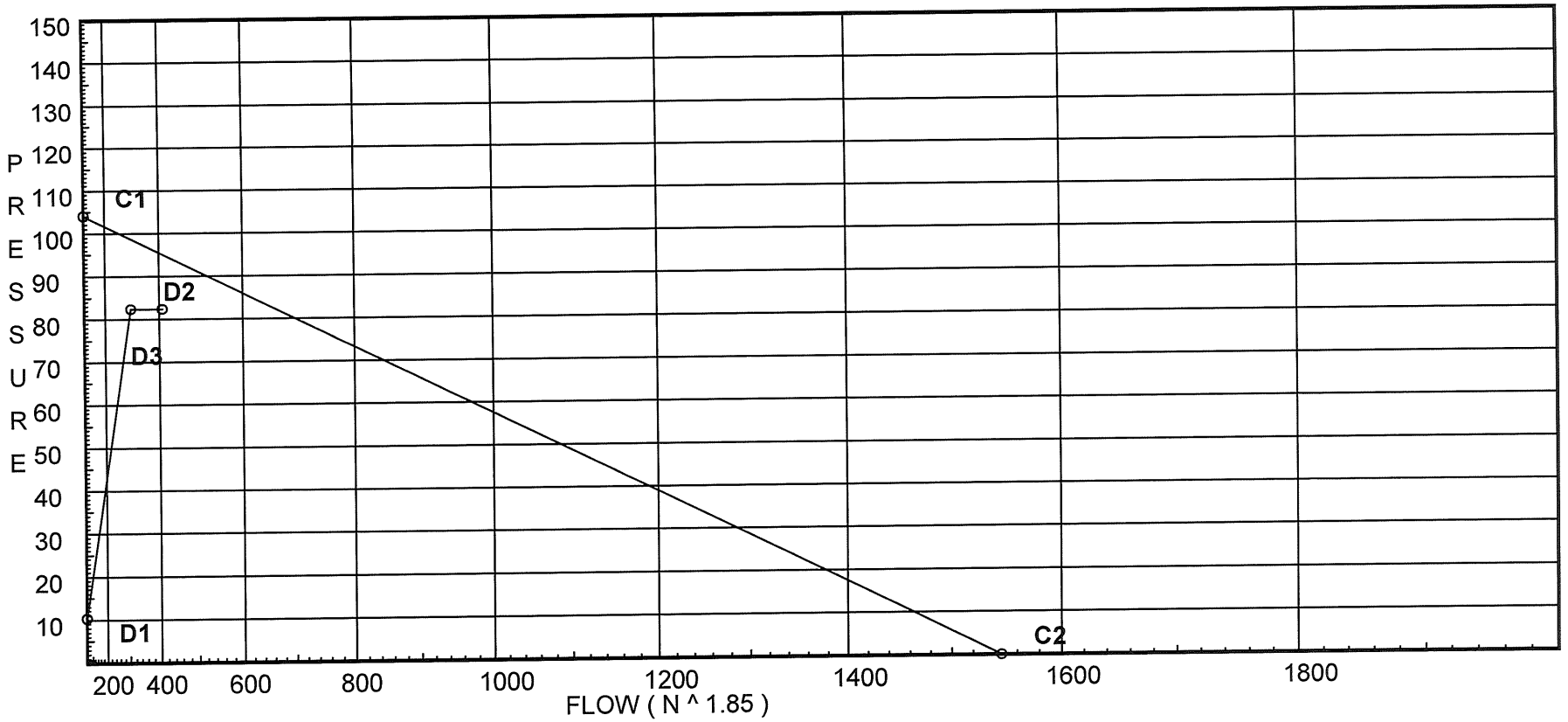
FREEDOM FIRE PROTECTION INC.
CPORT CREDIT UNION


Date 2/22/12

City Water Supply:
C1 - Static Pressure : 104
C2 - Residual Pressure: 0
C2 - Residual Flow : 1546

Demand:

| | |
|---|---|
| D1 - Elevation | : 10.321 |
| D2 - System Flow | : 308.977 |
| D2 - System Pressure | : 82.365 |
| Hose ( Adj City ) | : |
| Hose ( Demand ) | : 100 |
| D3 - System Demand | : 408.977 |
| Safety Margin | : 12.750 |



# Fittings Used Summary

FREEDOM FIRE PROTECTION INC.
CPORT CREDIT UNION



| Fitting Legend Abbrev. | Name | ½ | ¾ | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 3½ | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E | 90' Standard Elbow | 2 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 12 | 14 | 18 | 22 | 27 | 35 | 40 | 45 | 50 | 61 |
| 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 |
| Zac | Ames 2000SS | Fitting generates a Fixed Loss Based on Flow | | | | | | | | | | | | | | | | | | | |

FREEDOM FIRE PROTECTION INC.
CPORT CREDIT UNION



| Node No. | Elevation | K-Fact | Pt Actual | Pn | Flow Actual | Density | Area | Press Req. |
|---|---|---|---|---|---|---|---|---|
| 102 | 19.166 | 5.6 | 15.55 | na | 22.08 | 0.1 | 130 | 7.0 |
| 101 | 19.166 | 5.6 | 16.95 | na | 23.06 | 0.1 | 130 | 7.0 |
| 34 | 19.166 | | 18.76 | na | | | | |
| 104 | 19.166 | 5.6 | 15.78 | na | 22.25 | 0.1 | 130 | 7.0 |
| 103 | 19.166 | 5.6 | 17.21 | na | 23.23 | 0.1 | 130 | 7.0 |
| 33 | 19.166 | | 19.04 | na | | | | |
| 32 | 19.166 | | 23.5 | na | | | | |
| 31 | 19.166 | | 26.31 | na | | | | |
| 30 | 18.33 | | 28.81 | na | | | | |
| 105 | 23.83 | 5.6 | 18.15 | na | 23.86 | 0.1 | 130 | 7.0 |
| 106 | 23.83 | 5.6 | 10.36 | na | 18.02 | 0.1 | 130 | 7.0 |
| 107 | 23.83 | 5.6 | 7.87 | na | 15.71 | 0.1 | 130 | 7.0 |
| 108 | 23.83 | 5.6 | 7.47 | na | 15.3 | 0.1 | 130 | 7.0 |
| 17 | 23.83 | | 8.34 | na | | | | |
| 16 | 23.83 | | 10.98 | na | | | | |
| 15 | 23.83 | | 19.18 | na | | | | |
| 14 | 23.83 | | 20.53 | na | | | | |
| 109 | 23.83 | 5.6 | 17.85 | na | 23.66 | 0.1 | 130 | 7.0 |
| 110 | 23.83 | 5.6 | 11.97 | na | 19.38 | 0.1 | 130 | 7.0 |
| 111 | 23.83 | 5.6 | 9.05 | na | 16.85 | 0.1 | 130 | 7.0 |
| 112 | 23.83 | 5.6 | 9.1 | na | 16.89 | 0.1 | 130 | 7.0 |
| 20 | 23.83 | | 9.57 | na | | | | |
| 19 | 23.83 | | 12.71 | na | | | | |
| 18 | 23.83 | | 18.92 | na | | | | |
| 113 | 23.83 | 5.6 | 13.89 | na | 20.87 | 0.1 | 130 | 7.0 |
| 114 | 23.83 | 5.6 | 10.04 | na | 17.75 | 0.1 | 130 | 7.0 |
| 115 | 23.83 | 5.6 | 7.42 | na | 15.25 | 0.1 | 130 | 7.0 |
| 116 | 23.83 | 5.6 | 7.0 | na | 14.82 | 0.1 | 130 | 7.0 |
| 13 | 23.83 | | 7.87 | na | | | | |
| 12 | 23.83 | | 10.63 | na | | | | |
| 11 | 23.83 | | 14.87 | na | | | | |
| 10 | 23.83 | | 17.39 | na | | | | |
| 9 | 23.83 | | 20.77 | na | | | | |
| 8 | 23.83 | | 24.36 | na | | | | |
| 7 | 23.83 | | 26.89 | na | | | | |
| 6 | 18.33 | | 31.5 | na | | | | |
| 5 | 11.33 | | 42.63 | na | | | | |
| 4 | 11.33 | | 51.51 | na | | | | |
| 3 | 11.33 | | 65.19 | na | | | | |
| 2 | 11.33 | | 69.79 | na | | | | |
| 1 | 0.0 | | 81.06 | na | | | | |
| TEST | 0.0 | | 82.37 | na | 100.0 | | | |

The maximum velocity is 27.13 and it occurs in the pipe between nodes 6 and 5

Final Calculations - Hazen-Williams

FREEDOM FIRE PROTECTION INC.
CPORT CREDIT UNION



| 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 | 22.08 | 1.049 | | 0.0 | 9.000 | 15.548 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 101 | 22.08 | 0.1562 | | 0.0 | 9.000 | 1.406 | | Vel = 8.20 |
| 101 | 23.06 | 1.049 | 1E | 2.0 | 1.083 | 16.954 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 2.000 | 0.0 | | |
| 34 | 45.14 | 0.5868 | | 0.0 | 3.083 | 1.809 | | Vel = 16.76 |
| 34 | 0.0 | 1.049 | 1T | 5.0 | 3.083 | 18.763 | | |
| to | | 120 | | 0.0 | 5.000 | 0.0 | | |
| 32 | 45.14 | 0.5867 | | 0.0 | 8.083 | 4.742 | | Vel = 16.76 |
| | 0.0 | | | | | | | |
| | 45.14 | | | | | 23.505 | | K Factor = 9.31 |
| 104 | 22.25 | 1.049 | | 0.0 | 9.000 | 15.783 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 103 | 22.25 | 0.1584 | | 0.0 | 9.000 | 1.426 | | Vel = 8.26 |
| 103 | 23.23 | 1.049 | 1E | 2.0 | 1.083 | 17.209 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 2.000 | 0.0 | | |
| 33 | 45.48 | 0.5949 | | 0.0 | 3.083 | 1.834 | | Vel = 16.88 |
| 33 | 0.0 | 1.049 | | 0.0 | 7.500 | 19.043 | | |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 32 | 45.48 | 0.5949 | | 0.0 | 7.500 | 4.462 | | Vel = 16.88 |
| 32 | 45.14 | 1.38 | 1E | 3.0 | 2.000 | 23.505 | | |
| to | | 120 | | 0.0 | 3.000 | 0.0 | | |
| 31 | 90.62 | 0.5602 | | 0.0 | 5.000 | 2.801 | | Vel = 19.44 |
| 31 | 0.0 | 1.38 | 1E | 3.0 | 0.830 | 26.306 | | |
| to | | 120 | | 0.0 | 3.000 | 0.362 | | |
| 30 | 90.62 | 0.5601 | | 0.0 | 3.830 | 2.145 | | Vel = 19.44 |
| 30 | 0.0 | 1.61 | 1T | 8.0 | 2.166 | 28.813 | | |
| to | | 120 | | 0.0 | 8.000 | 0.0 | | |
| 6 | 90.62 | 0.2644 | | 0.0 | 10.166 | 2.688 | | Vel = 14.28 |
| | 0.0 | | | | | | | |
| | 90.62 | | | | | 31.501 | | K Factor = 16.15 |
| 105 | 23.86 | 1.049 | 1T | 5.0 | 0.750 | 18.147 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 5.000 | 0.0 | | |
| 15 | 23.86 | 0.1803 | | 0.0 | 5.750 | 1.037 | | Vel = 8.86 |
| | 0.0 | | | | | | | |
| | 23.86 | | | | | 19.184 | | K Factor = 5.45 |
| 106 | 18.02 | 1.049 | 1T | 5.0 | 0.750 | 10.360 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 5.000 | 0.0 | | |
| 16 | 18.02 | 0.1073 | | 0.0 | 5.750 | 0.617 | | Vel = 6.69 |
| | 0.0 | | | | | | | |
| | 18.02 | | | | | 10.977 | | K Factor = 5.44 |

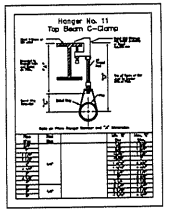
| Hyd. Ref. Point | Qa Qt | Dia. "C" Pf/Ft | Fitting or Eqv. | Ln. | Pipe Ftng's Total | Pt Pe Pf | Pt Pv Pn | ******* Notes ****** |
|---|---|---|---|---|---|---|---|---|
| 107 | 15.71 | 1.049 | 1T | 5.0 | 0.583 | 7.874 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 5.000 | 0.0 | | |
| 17 | 15.71 | 0.0833 | | 0.0 | 5.583 | 0.465 | | Vel = 5.83 |
| | 0.0 | | | | | | | |
| | 15.71 | | | | | 8.339 | | K Factor = 5.44 |
| 108 | 15.30 | 1.049 | | 0.0 | 11.000 | 7.467 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 17 | 15.3 | 0.0793 | | 0.0 | 11.000 | 0.872 | | Vel = 5.68 |
| 17 | 15.72 | 1.049 | | 0.0 | 9.000 | 8.339 | | |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 16 | 31.02 | 0.2931 | | 0.0 | 9.000 | 2.638 | | Vel = 11.52 |
| 16 | 18.02 | 1.049 | | 0.0 | 12.000 | 10.977 | | |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 15 | 49.04 | 0.6839 | | 0.0 | 12.000 | 8.207 | | Vel = 18.20 |
| 15 | 23.86 | 1.38 | 1E | 3.0 | 0.583 | 19.184 | | |
| to | | 120 | | 0.0 | 3.000 | 0.0 | | |
| 14 | 72.9 | 0.3745 | | 0.0 | 3.583 | 1.342 | | Vel = 15.64 |
| 14 | 0.0 | 1.38 | 1T | 6.0 | 4.250 | 20.526 | | |
| to | | 120 | | 0.0 | 6.000 | 0.0 | | |
| 8 | 72.9 | 0.3745 | | 0.0 | 10.250 | 3.839 | | Vel = 15.64 |
| | 0.0 | | | | | | | |
| | 72.90 | | | | | 24.365 | | K Factor = 14.77 |
| 109 | 23.66 | 1.049 | 1T | 5.0 | 1.000 | 17.852 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 5.000 | 0.0 | | |
| 18 | 23.66 | 0.1777 | | 0.0 | 6.000 | 1.066 | | Vel = 8.78 |
| | 0.0 | | | | | | | |
| | 23.66 | | | | | 18.918 | | K Factor = 5.44 |
| 110 | 19.38 | 1.049 | 1T | 5.0 | 1.000 | 11.974 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 5.000 | 0.0 | | |
| 19 | 19.38 | 0.1228 | | 0.0 | 6.000 | 0.737 | | Vel = 7.19 |
| | 0.0 | | | | | | | |
| | 19.38 | | | | | 12.711 | | K Factor = 5.44 |
| 111 | 16.85 | 1.049 | 1T | 5.0 | 0.500 | 9.051 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 5.000 | 0.0 | | |
| 20 | 16.85 | 0.0947 | | 0.0 | 5.500 | 0.521 | | Vel = 6.26 |
| | 0.0 | | | | | | | |
| | 16.85 | | | | | 9.572 | | K Factor = 5.45 |
| 112 | 16.89 | 1.049 | | 0.0 | 5.000 | 9.097 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 20 | 16.89 | 0.0950 | | 0.0 | 5.000 | 0.475 | | Vel = 6.27 |
| 20 | 16.85 | 1.049 | | 0.0 | 9.166 | 9.572 | | |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 19 | 33.74 | 0.3425 | | 0.0 | 9.166 | 3.139 | | Vel = 12.53 |

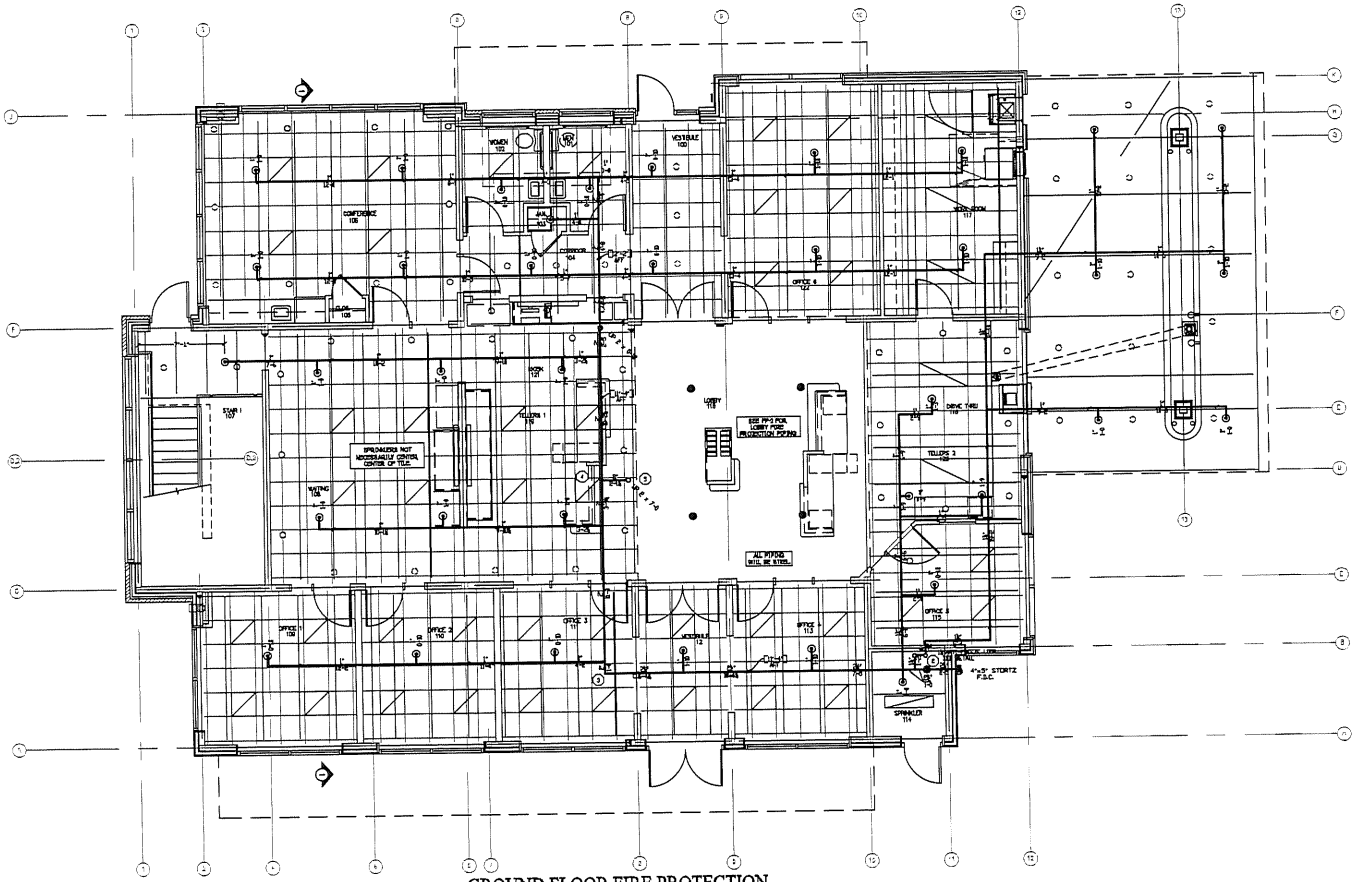
| Hyd. Ref. Point | Qa / Qt | Dia. "C" / Pf/Ft | Fitting or Eqv. | Ln. | Pipe Ftng's Total | Pt Pe Pf | Pt Pv Pn | ******* Notes ****** |
|---|---|---|---|---|---|---|---|---|
| 19 | 19.38 | 1.049 | | 0.0 | 7.830 | 12.711 | | |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 18 | 53.12 | 0.7927 | | 0.0 | 7.830 | 6.207 | | Vel = 19.72 |
| 18 | 23.66 | 1.38 | | 0.0 | 4.500 | 18.918 | | |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 9 | 76.78 | 0.4122 | | 0.0 | 4.500 | 1.855 | | Vel = 16.47 |
| | 0.0 | | | | | | | |
| | 76.78 | | | | | 20.773 | | K Factor = 16.85 |
| 113 | 20.87 | 1.049 | 1T | 5.0 | 2.000 | 13.889 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 5.000 | 0.0 | | |
| 11 | 20.87 | 0.1407 | | 0.0 | 7.000 | 0.985 | | Vel = 7.75 |
| | 0.0 | | | | | | | |
| | 20.87 | | | | | 14.874 | | K Factor = 5.41 |
| 114 | 17.75 | 1.049 | 1T | 5.0 | 0.660 | 10.042 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 5.000 | 0.0 | | |
| 12 | 17.75 | 0.1042 | | 0.0 | 5.660 | 0.590 | | Vel = 6.59 |
| | 0.0 | | | | | | | |
| | 17.75 | | | | | 10.632 | | K Factor = 5.44 |
| 115 | 15.25 | 1.049 | 1T | 5.0 | 0.660 | 7.419 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 5.000 | 0.0 | | |
| 13 | 15.25 | 0.0788 | | 0.0 | 5.660 | 0.446 | | Vel = 5.66 |
| | 0.0 | | | | | | | |
| | 15.25 | | | | | 7.865 | | K Factor = 5.44 |
| 116 | 14.82 | 1.049 | | 0.0 | 11.583 | 7.000 | | K Factor = 5.60 |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 13 | 14.82 | 0.0747 | | 0.0 | 11.583 | 0.865 | | Vel = 5.50 |
| 13 | 15.25 | 1.049 | | 0.0 | 10.000 | 7.865 | | |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 12 | 30.07 | 0.2767 | | 0.0 | 10.000 | 2.767 | | Vel = 11.16 |
| 12 | 17.75 | 1.049 | | 0.0 | 6.500 | 10.632 | | |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 11 | 47.82 | 0.6526 | | 0.0 | 6.500 | 4.242 | | Vel = 17.75 |
| 11 | 20.87 | 1.38 | 1E | 3.0 | 4.500 | 14.874 | | |
| to | | 120 | | 0.0 | 3.000 | 0.0 | | |
| 10 | 68.69 | 0.3355 | | 0.0 | 7.500 | 2.516 | | Vel = 14.73 |
| 10 | 0.0 | 1.38 | 1T | 6.0 | 4.083 | 17.390 | | |
| to | | 120 | | 0.0 | 6.000 | 0.0 | | |
| 9 | 68.69 | 0.3355 | | 0.0 | 10.083 | 3.383 | | Vel = 14.73 |
| 9 | 76.77 | 1.61 | | 0.0 | 5.660 | 20.773 | | |
| to | | 120 | | 0.0 | 0.0 | 0.0 | | |
| 8 | 145.46 | 0.6346 | | 0.0 | 5.660 | 3.592 | | Vel = 22.92 |

| Hyd. Ref. Point | Qa Qt | Dia. "C" Pf/Ft | Fitting or Eqv. | Ln. | Pipe Ftng's Total | Pt Pe Pf | Pt Pv Pn | ******* Notes ****** |
|---|---|---|---|---|---|---|---|---|
| 8 | 72.90 | 2.067 | 1E | 5.0 | 1.330 | 24.365 | | |
| to | | 120 | | 0.0 | 5.000 | 0.0 | | |
| 7 | 218.36 | 0.3984 | | 0.0 | 6.330 | 2.522 | | Vel = 20.88 |
| 7 | 0.0 | 2.067 | | 0.0 | 5.600 | 26.887 | | |
| to | | 120 | | 0.0 | 0.0 | 2.382 | | |
| 6 | 218.36 | 0.3986 | | 0.0 | 5.600 | 2.232 | | Vel = 20.88 |
| 6 | 90.62 | 2.157 | 1E | 6.153 | 7.000 | 31.501 | | |
| to | | 120 | | 0.0 | 6.153 | 3.032 | | |
| 5 | 308.98 | 0.6154 | | 0.0 | 13.153 | 8.094 | | Vel = 27.13 |
| 5 | 0.0 | 2.157 | 1T | 12.307 | 2.125 | 42.627 | | |
| to | | 120 | | 0.0 | 12.307 | 0.0 | | |
| 4 | 308.98 | 0.6154 | | 0.0 | 14.432 | 8.881 | | Vel = 27.13 |
| 4 | 0.0 | 2.157 | 1E | 6.153 | 16.083 | 51.508 | | |
| to | | 120 | | 0.0 | 6.153 | 0.0 | | |
| 3 | 308.98 | 0.6154 | | 0.0 | 22.236 | 13.685 | | Vel = 27.13 |
| 3 | 0.0 | 2.635 | | 0.0 | 26.330 | 65.193 | | |
| to | | 140 | | 0.0 | 0.0 | 0.0 | | |
| 2 | 308.98 | 0.1746 | | 0.0 | 26.330 | 4.596 | | Vel = 18.18 |
| 2 | 0.0 | 2.469 | 1Zac | 0.0 | 10.330 | 69.789 | | |
| to | | 140 | | 0.0 | 0.0 | 8.792 | | * Fixed loss = 3.885 |
| 1 | 308.98 | 0.2397 | | 0.0 | 10.330 | 2.476 | | Vel = 20.71 |
| 1 | 0.0 | 4.1 | 1E | 14.534 | 50.000 | 81.057 | | |
| to | | 140 | | 0.0 | 14.534 | 0.0 | | |
| TEST | 308.98 | 0.0203 | | 0.0 | 64.534 | 1.308 | | Vel = 7.51 |
| | 100.00 | | | | | | | Qa = 100.00 |
| | 408.98 | | | | | 82.365 | | K Factor = 45.06 |

## FIRE SPRINKLER GENERAL NOTES

OCCUPANCY: BUSINESS
DESIGN STANDARD: NFPA-13 2010
DESIGN DENSITY: 0.10 GPM/1500 SQ.FT.
SPRINKLERS UPRIGHT: TYCO (AS NOTED ON PLAN)
SPRINKLERS PENDENT: TYCO (AS NOTED ON PLAN)
ESCUTCHEONS: WHITE 2 PIECE SEMI-REC.
PIPING 1"-1½": SCH. 40 BLACK STEEL WITH THREADED ENDS.
PIPING 2"-6": SCH. 10 BLACK WITH GROOVED ENDS.
HANGERS TO BE U.L. & FM APPROVED.
AND SPACED PER NFPA-13
ALL PIPING TO BE TESTED AT 200 PSI FOR 2 HOURS.
PROVIDE TAMPER SWITCH ON ALL CONTROL VALVES.
PROVIDE SPARE HEAD CABINET PER NFPA-13.
PROVIDE HYDRAULIC NAME PLATE PER NFPA-13.
COORDINATE FIRE SPRINKLER PIPING WITH OTHER TRADES.
Ⓗ DENOTES HYDRAULIC REFERENCE POINTS.
+ DENOTES GROOVED COUPLING IN PIPE.
RN = RISER NIPPLE.
SG = SPRIG.
DN = DROP NIPPLE.
GC = GROOVED COUPLING.
TOE = THREAD ONE END.
GBE = GROOVE BOTH ENDS.

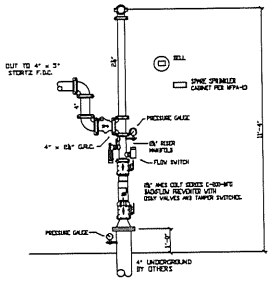


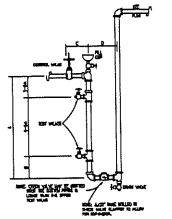

## GROUND FLOOR FIRE PROTECTION

SCALE 1/4"=1'-0"

QUANTITY ⊕ = 37
QUANTITY ● = 4




RISER DETAIL
N.T.S.



ANTIFREEZE LOOP DETAIL

| MK | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | 3-0 | 8-0 | 0-6 | 9-6 | L |
| 2 | 3-0 | 8-0 | 0-6 | 10-0 | L |
| 3 | 3-0 | 8-0 | 0-6 | 10-12 | L |
| 4 | 3-0 | 8-0 | 0-6 | 11-6 | L |
| 5 | 3-0 | 8-0 | 0-6 | 12-12 | L |
| 6 | 3-0 | 8-0 | 1-0 | 13-6 | L |
| 7 | 3-0 | 8-0 | 1-0 | 14-0 | L |

** ANTI-FREEZE TYPE 30/30 FACTORY PREMIX.
** TOTAL CAPACITY OF ANTIFREEZE SYSTEM = 12 GALLONS

| REVISIONS | NOTES |
|---|---|
| | |

HEAD COUNT

| SPRINKLER TYPE | MODIFICATION NO. | MFG. | ESC. | MODEL | FINISH | ORIFICE | TEMP. | SYMBOL | QUANT. |
|---|---|---|---|---|---|---|---|---|---|
| QUICK RESP. PENDANT 8= 3.6 | TY 3231 | TYCO | SEMI-REC. | TY-FRB | WHITE | 1/2" | 155° | ⊕ | 37 |
| QUICK RESP. PENDANT 8= 3.6 | TY 3231 | TYCO | CONCEALED | FRED | WHITE | 1/2" | 155° | ● | 4 |
| TOTAL SPRINKLERS THIS DRAWING | | | | | | | | | 41 |

STANDARD SYMBOLS

- POST INDICATOR VALVE
- KEY VALVE
- FIRE HYDRANT
- FIRE DEPT. CONNECTION
- O.S. & Y GATE VALVE
- SWING CHECK VALVE
- NEW UNDERGROUND
- EXIST UNDERGROUND

STANDARD SYMBOLS

- ALARM CHECK VALVE
- RISER W/ALARM VALVE
- RISER W/DRY VALVE
- RISER W/ELEC. FLOW SWITCH
- RISER W/DELUGE VALVE
- WATER MOTOR BELL
- ELECTRIC BELL
- FLUSH/ FIRE DEPT. CONNECTION

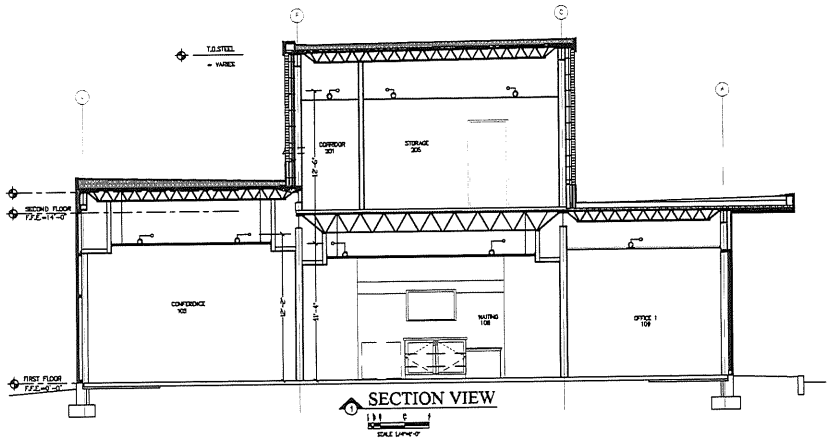
| INSPECTIONS | |
|---|---|
| 1. | |
| 2. | |
| 3. | |
| 4. | |
| 5. | |
| RESPONSIBLE MANAGING SUPERVISOR #548 | |
| CONTRACTOR LICENSE #358 | |

C PORT CREDIT UNION
285 FOREST AVENUE
PORTLAND, MAINE 04101

FIRE PROTECTION PLAN

FREEDOM FIRE PROTECTION, INC.
209 QUAKER RIDGE ROAD
CASCO, MAINE 04015

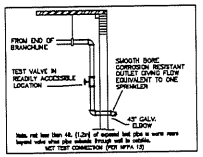
| | |
|---|---|
| JOB No. | 12084 |
| DATE | 3/30/12 |
| DRAWN BY | MJN |
| SCALE | AS NOTED |
| SHEET No. | FP-1of2 |



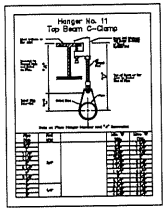

SECTION VIEW

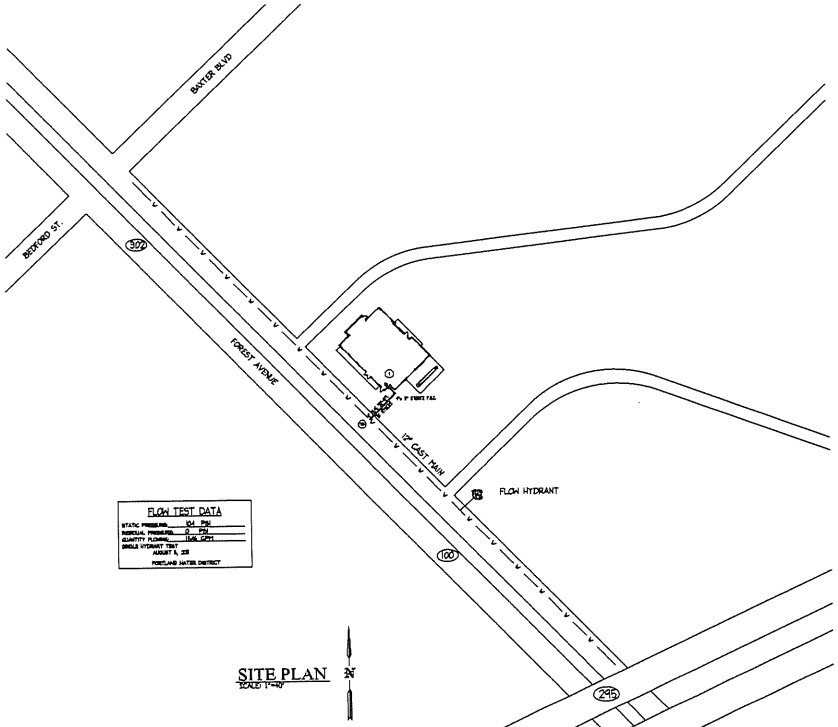
SCALE 1/4"=1'-0"

| HYDRAULIC DESIGN DATA | | |
|---|---|---|
| System # & Area | #1 - #1 | |
| No. of Sprinklers | 16 | |
| Density | 0.10 | GPM |
| Designed Area | 1300 | SQ. FT. |
| Hose Allowance | 100 | GPM |
| Water Flow Rate | 409 | GPM |
| Residual Pressure at Base of Riser | 82 | PSI |
| Safety Factor at Base of Riser | 18.75 | PSI |




Note: not less than 4ft. (1.2m) of nominal test pipe in work area beyond valve shall pipe sidewalls through wall to outside.
NOT TEST CONNECTION PER NFPA 13)

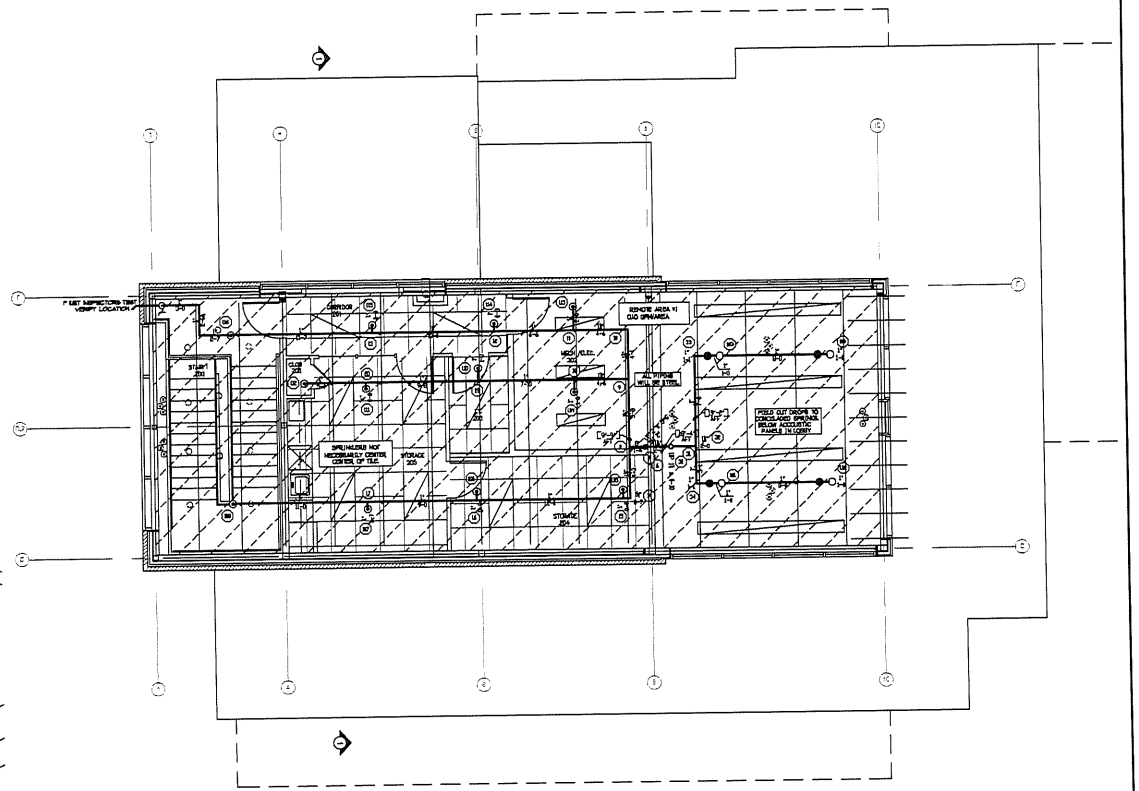



| FLOW TEST DATA | |
|---|---|
| STATIC PRESSURE | 104 PSI |
| RESIDUAL PRESSURE | 0 PSI |
| QUANTITY FLOWING | FLOW GPM |
| SINGLE HYDRANT TEST | AUGUST 5, 201 |
| PORTLAND WATER DISTRICT | |

SITE PLAN

SCALE 1"=40'




SECOND FLOOR FIRE PROTECTION

SCALE 1/4"=1'-0"

QUANTITY ⊗ = 12
QUANTITY ○ = 4

| REVISIONS | NOTES |
|---|---|
| | |

| HEAD COUNT | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SPRINKLER TYPE | IDENTIFICATION NO. | MFR. | ESC. | MODEL | FINISH | ORIFICE | TEMP. | SYMBOL | QUANT. |
| QUICK RESP. PENDANT K= 5.6 | TY 3826 | TYCO | 3/00-RES. | TY-FRB | WHITE | 1/2" | 155° | ⊗ | 12 |
| QUICK RESP. UPRIGHT K= 5.6 | TY2531 | TYCO | N/A | TY-FRB | BRASS | 1/2" | 212° | ○ | 4 |
| | | | | | | | | | |
| | | | | | | | | | |
| TOTAL SPRINKLERS THIS DRAWING | | | | | | | | | 16 |

| STANDARD SYMBOLS |
|---|
| – POST INDICATOR VALVE |
| – KEY VALVE |
| – FIRE HYDRANT |
| – FIRE DEPT. CONNECTION |
| – O.S. & Y GATE VALVE |
| – SWING CHECK VALVE |
| – NEW UNDERGROUND |
| – EXIST UNDERGROUND |

| STANDARD SYMBOLS |
|---|
| – ALARM CHECK VALVE |
| – RISER W/ALARM VALVE |
| – RISER W/DRY VALVE |
| – RISER W/ELEC. FLOW SWITCH |
| – RISER W/DELUGE VALVE |
| – WATER MOTOR BELL |
| – ELECTRIC BELL |
| – FLUSH FIRE DEPT. CONNECTION |

| INSPECTIONS | |
|---|---|
| 1. | |
| 2. | |
| 3. | |
| 4. | |
| 5. | |
| RESPONSIBLE MANAGING SUPERVISOR #546 | |
| CONTRACTOR LICENSE #216 | |

C PORT CREDIT UNION
285 FOREST AVENUE
PORTLAND, MAINE 04101

FIRE PROTECTION PLAN

FREEDOM FIRE PROTECTION, INC.
209 QUAKER RIDGE ROAD
CASCO, MAINE 04015

| | |
|---|---|
| JOB No. | M0084 |
| DATE | 2/20/13 |
| DRAWN BY | MJN |
| SCALE | AS NOTED |
| SHEET No. | FP-2of2 |

# Freedom Fire Protection, Inc.

*Over 30 Years of Fire Protection Experience*
209 Quaker Ridge Rd. Casco, Maine 04015
Phone 207/627-4109 Fax 207/627-7340

February 28, 2012

Portland City Hall
Third Floor Room 315
Portland, Maine 04101

Attn: Lt. Benjamin Wallace Jr.

Ref: cPort Credit Union
285 Forest Ave.
Portland, Maine 04101

Subj: Fire Sprinkler Permit Review

Lt. Wallace,

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

- Fire Suppression System Permit
- Permit Fee Check
- Full Size FFP Drawings FP-1 & FP-2
- 1 set of 8-1/2 x 11 PDF sprinkler plans.
- Hydraulic Calculations Area # 1
- CD-R disc with Drawing, Calculation Files

Regards,

William W. Wales