Form # P 04

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING INSPECTION

PERMIT

Permit Number: 100974

Please Read Application And Notes, If Any, Attached

PERMIT ISSUED

This is to certify that RICE GEOFFREY J /Freedom Fire Protection, Inc

has permission to install a Water-based fire suppression system

AT 600 CONGRESS ST CBL 039 A013001 AUG 1 /

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

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and written permission procured before this building or part thereof is lathed or otherwise closed-in. 24 HOUR NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. CAPT. R. Gouhea

Health Dept.

Appeal Board

Other

Department Name

Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

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

Permit No:	Issue Date:	CBL:
10-0974		039 A013001

Location of Construction:	Owner Name:	Owner Address:	Phone:
600 CONGRESS ST	RICE GEOFFREY I	658 CONGRESS ST 1ST FLOOR	
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	Freedom Fire Protection, Inc	209 Quaker Ridge Road Casco	2076274109
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	**Zone:**
		Fire Suppression System	B-3

Past Use:	Proposed Use:	Permit Fee:	Cost of Work:	CEO District:
Commercial Mixed Use Commercial/1st floor use - 12 res. units above	Commercial Mixed Use - install a Water-based fire suppression system	$500.00	$47,669.00	2

FIRE DEPT: ☑ Approved ☐ Denied — *See Conditions — Signature: [illegible]

INSPECTION: Use Group — Type: IBC/NFPA — Signature: [illegible]

Proposed Project Description:
install a Water-based fire suppression system

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)

Action: ☐ Approved ☐ Approved w/Conditions ☐ Denied

Signature: Date:

Permit Taken By:	Date Applied For:
ldobson	08/10/2010

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 electrical work.
3. 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..

PERMIT ISSUED

AUG 17 2010

City of Portland

Zoning Approval

Special Zone or Reviews	Zoning Appeal	Historic Preservation
☐ Shoreland	☐ Variance	☐ Not in District or Landmark
☐ Wetland	☐ Miscellaneous	☐ Does Not Require Review
☐ Flood Zone	☐ Conditional Use	☐ Requires Review
☐ Subdivision	☐ Interpretation	☐ Approved
☐ Site Plan	☐ Approved	☐ Approved w/Conditions
Maj ☐ Minor ☐ MM ☐	☐ Denied	☐ Denied
Date: ok with Condition 8/12/10	Date:	Date: Any exterior work requires ASE approval

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

City of Portland, Maine - Building or Use Permit

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

Permit No:	Date Applied For:	CBL:
10-0974	08/10/2010	039 A013001

Location of Construction:	Owner Name:	Owner Address:	Phone:
600 CONGRESS ST	RICE GEOFFREY I	658 CONGRESS ST 1ST FLOOR	
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	Freedom Fire Protection, Inc	209 Quaker Ridge Road Casco	(207) 627-4109
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	
		Fire Suppression System	

Proposed Use:	Proposed Project Description:
Commercial Mixed Use - install a Water-based fire suppression system	install a Water-based fire suppression system

Dept: Zoning **Status:** Approved with Conditions **Reviewer:** Marge Schmuckal **Approval Date:** 08/12/2010

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 is NOT an approval for an additional dwelling unit. You SHALL NOT add any additional kitchen equipment including, but not limited to items such as stoves, microwaves, refrigerators, or kitchen sinks, etc. Without special approvals.
3) This property shall remain commercial use on first floor with 12 residential dwelling units above. Any change of use shall require a separate permit application for review and approval.
4) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.

Dept: Building **Status:** Approved with Conditions **Reviewer:** Tammy Munson **Approval Date:** 08/17/2010

Note: **Ok to Issue:** ✓

1) Sprinkler systems to be designed and installed per IBC 2003 standards Sec. 903.3.1

Dept: Fire **Status:** Approved with Conditions **Reviewer:** Capt Keith Gautreau **Approval Date:** 08/13/2010

Note: **Ok to Issue:** ✓

1) The Standpipe system shall be installed in accordance with NFPA 14.
   A signed compliance letter will be required.
2) 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.
3) The Fire alarm and Sprinkler systems shall be reviewed by a licensed contractor[s] for code compliance.
   Compliance letters are required
4) The sprinkler system shall be installed in accordance with NFPA 13.
5) Application requires State Fire Marshal approval.
6) Fire department connection type and location shall be approved in writing by fire prevention bureau.
7) The Fire Department will require knox locking caps on all Fire Department Connections on the exterior of the building.
8) System acceptance and commissioning must be co-ordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.

PERMIT ISSUED

AUG 17 2010

City of Portland

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 Inspection 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 with construction.**

__X__ **Final inspection required at completion of work performed by the Fire Department.**

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

PERMIT ISSUED

AUG 17 20[illegible]

City of Portland

CBL: 039 A013001 **Building Permit #: 10-0974**

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

August 9, 2010

Portland City Hall
Third Floor Room 315
Portland, Maine 04101

Attn: Captain Keith Gautreau

Ref: Rice Management Schwartz Building
602 Congress Street
Portland, Maine 04101

Subj: Fire Sprinkler Plan Review

Dear Captain Gautreau,

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

- Fire Suppression System Permit.
- Permit Fee check.
- Freedom Fire Protections drawing FP1, FP2, FP3, FP4, Fp5 and FP6 dated 6/30/10.
- 1 set of 8-1/2 x 11 PDF sprinkler plans.
- Hydraulic Calculations Area Basement, 1st flr. &4th flr.
- Copy of the State Marshall's sprinkler permit # 9163.

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

Regards,

William Wales

(O) 20//627-4109
(F) 207/627-7340
(C) 207/671-8639
Email wwales@maine.rr.com

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: 602 Congress Street CBL: 39-A-13

Exact location: (within structure) Basement, First, Second, Third & Fourth levels.

Type of occupancy(s) (NFPA & ICC): Mixed - Mercantile & Apartment

Building owner: Geoffrey Rice (Rice Management)

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

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

Installing contractor: Freedom Fire protection, Inc 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: 13 & 13R Edition: 2007

*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 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.

COST OF WORK: 47,669.00

PERMIT FEE: 500.00

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

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 Wales Date: 8/4/10

State of Maine
Department of Public Safety
Fire Sprinkler System Permit

 # 9163

Shwartz Building

Located at: 602 Congress Street
In the Town of: Portland
Occupancy/Use: Residential & Retail
Type of System: NFPA 13R

Permission is hereby given to:

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

according to plans submittal filed with the Licensing and Inspections Unit and are now approved.
This application form/plans are filed under log # **2101260**, and no departure from application form/plans 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 for failure to comply with local ordinances, zoning laws, or other pertinent legal restrictions. Each permit issued shall be displayed/available at the site of construction.

This permit was issued on **7/28/2010** for a fee paid of **$180.00**

This permit will expire at midnight on *Monday, January 24, 2011*

Anne H. Jordan
Commissioner

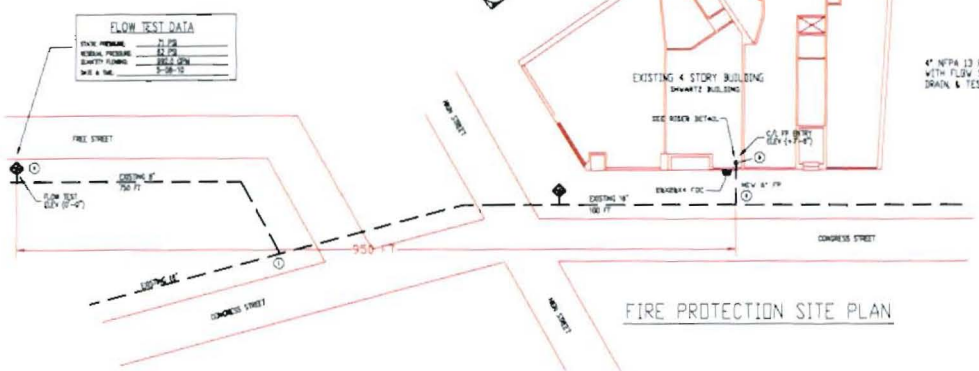
Fire Department Connection Location/Type per Local Fire Department

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 Licensing and Inspections Unit 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 sprinkler licenses expire June 30th every year.

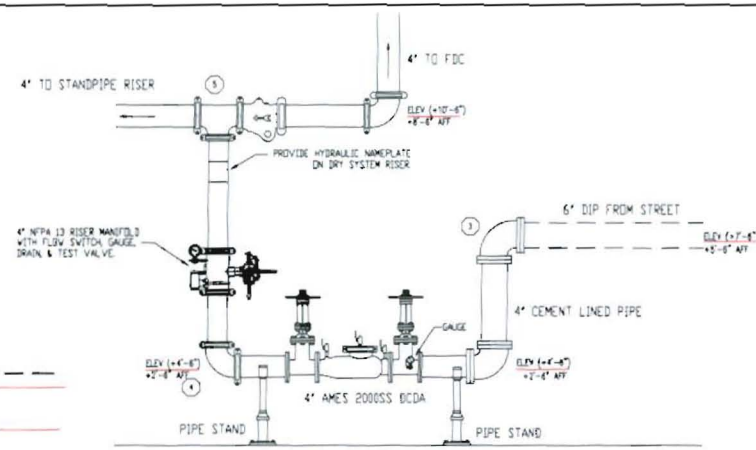
Job completed, tested and verified on date of _____

RMS for this job: Vess Timothy L.

RMS Signature: _____



FIRE PROTECTION SITE PLAN



RISER ENTRY DETAIL

GENERAL NOTES

OCCUPANCY: RETAIL FLOOR & RESIDENTIAL UNITS
DESIGN STANDARD: NFPA #13 & 13R 2007
DESIGN DENSITY: 10 & 20 GPM OVER AREAS NOTED
SPRINKLERS UPRIGHT: TYCO (AS NOTED ON PLAN)
SPRINKLERS PENDENT: TYCO (AS NOTED ON PLAN)
ESCUTIONS: WHITE SEMI-RECESSED
BRANCHLINE PIPING: SCH 40 BLACK
MAIN PIPING: SCH 10 BLACK
HANGERS TO BE UL & FM APPROVED
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
RN=RISER NIPPLE
SG=SPRIG
DN=DROP NIPPLE
GC=GROOVED COUPLING
TOE=THREAD ONE END
GBE=GROOVE BOTH ENDS

High Street Elevation

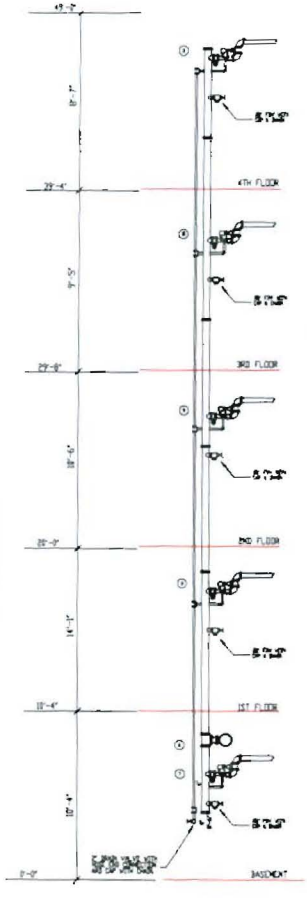
Congress Street Elevation

REVISIONS	NOTES	MAX HEAD SPACING	HEAD COUNT	STANDARD SYMBOLS	STANDARD SYMBOLS	INSPECTIONS
7-27-10						

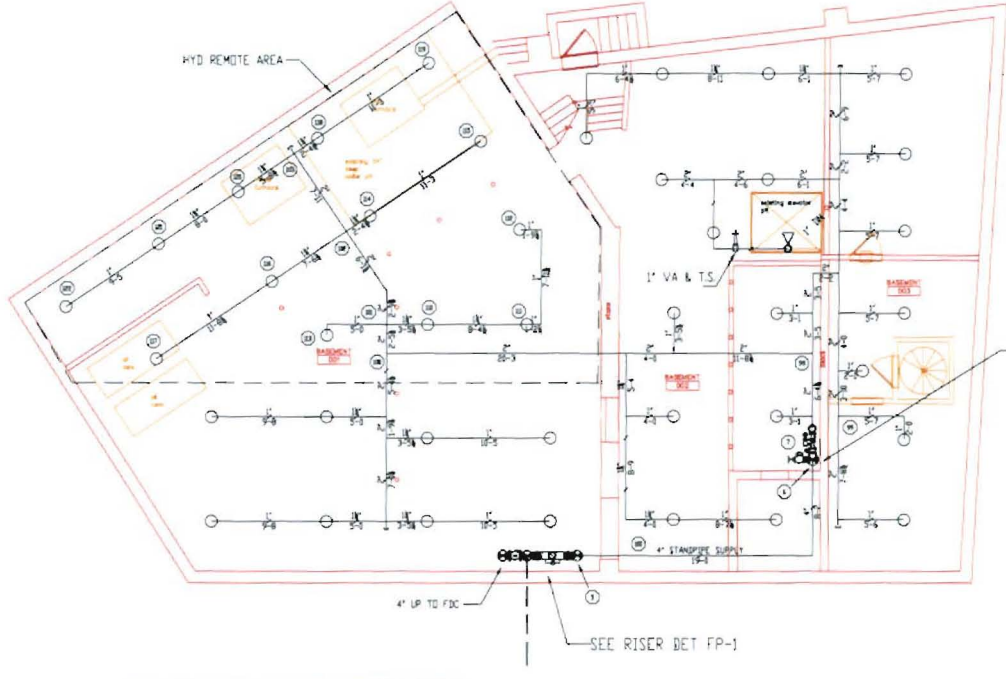
SHWARTZ BUILDING
602 CONGRESS STREET
PORTLAND, MAINE
SITE PLAN, ELEVATION, RISER, & NOTES

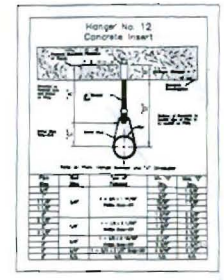
FREEDOM FIRE PROTECTION, INC
209 QUAKER RIDGE ROAD
CASCO, MAINE 04015
(207)627-4109

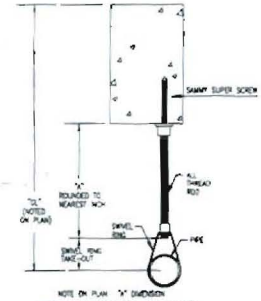
JOB No. 10009
DATE 8-20-10
Drawn BY DLF
SCALE 1/4"=1'-0"
SHEET No. FP-1



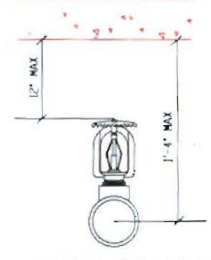
4" STANDPIPE



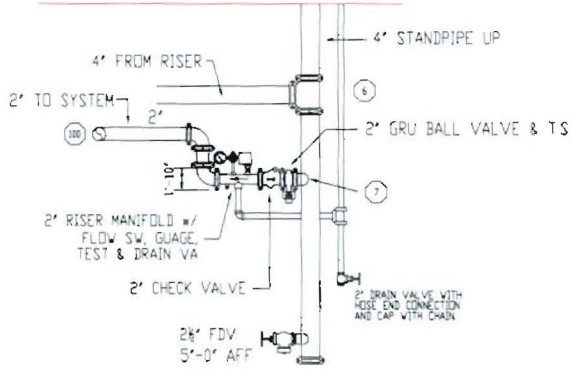




TYPE "SBC" HANGER



UPRIGHT SPKR DETAIL



BASEMENT ZONE DETAIL

BASEMENT LEVEL FIRE SPRINKLER PLAN

SCALE: 1/4"=1'-0"

BOTTOM OF CONCRETE DECK = 9'-10

(+10'-10) DENOTES ELEVATION OF PIPING ABOVE FIN FLOOR

(-0'-0") DENOTES DISTANCE FROM BOTTOM OF DECK DOWN TO PIPING

LINE HANGERS= TYPE #SBC (SEE DETAIL)

MAIN HANGERS= TYPE #12 (SEE DETAIL)

(45) DENOTES HYDRAULIC REFERENCE POINTS

0 4' 8' 16'

REDUCED AREA FOR QR HEADS

HYDRAULIC DESIGN	
SYSTEM WET	AREA BASEMENT
SPRINKLERS CALCULATED	13 SPRINKLERS
MINIMUM DENSITY REQ'D	15 GPM
AREA OF DISCHARGE	1000 SQ FT
HOSE ALLOWANCE	250 GPM
REMOTE SYSTEM DEMAND @ TEST PT	238.48 GPM
RESIDUAL PRESSURE @ TEST PT	57.61 PSI
SAFETY FACTOR @ TEST	10.96 PSI

REVISIONS	NOTES	MAX HEAD SPACING
7-27-10		

HEAD COUNT

SPRINKLER TYPE	K	NPS	ESC.	MODEL	FINISH	ORIFICE	TEMP.	SYMBOL	QUANT.
QR UPRIGHT	5.6	TYP.	N/A	TYPE J	BRASS	1/2	155°	○	10
QR HORIZ SW	5.6	TYP.	N/A	TYPE J	BRASS	1/2	155°	◁	1

STANDARD SYMBOLS

- POST INDICATOR VALVE
- KEY VALVE
- FIRE HYDRANT
- FIRE DEPT. CONNECTION
- O.S. & Y. GATE VALVE
- SWING CHECK VALVE
- NEW UNDERGROUND
- EXIST. UNDERGROUND
- ALARM CHECK VALVE
- RISER W/ALARM VALVE
- RISER W/FDH VALVE
- RISER W/ELEC. FLOW SWITCH
- RISER W/RELEASE VALVE
- WATER MOTOR BELL
- ELECTRIC BELL
- FLUSH FIRE DEPT. CONNECTION

INSPECTIONS

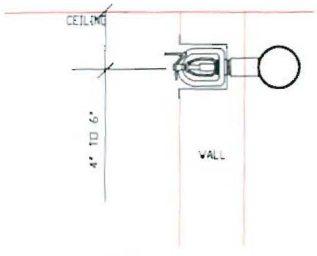
1.	
2.	
3.	
4.	
5.	

SHWARTZ BUILDING
602 CONGRESS STREET
PORTLAND MAINE

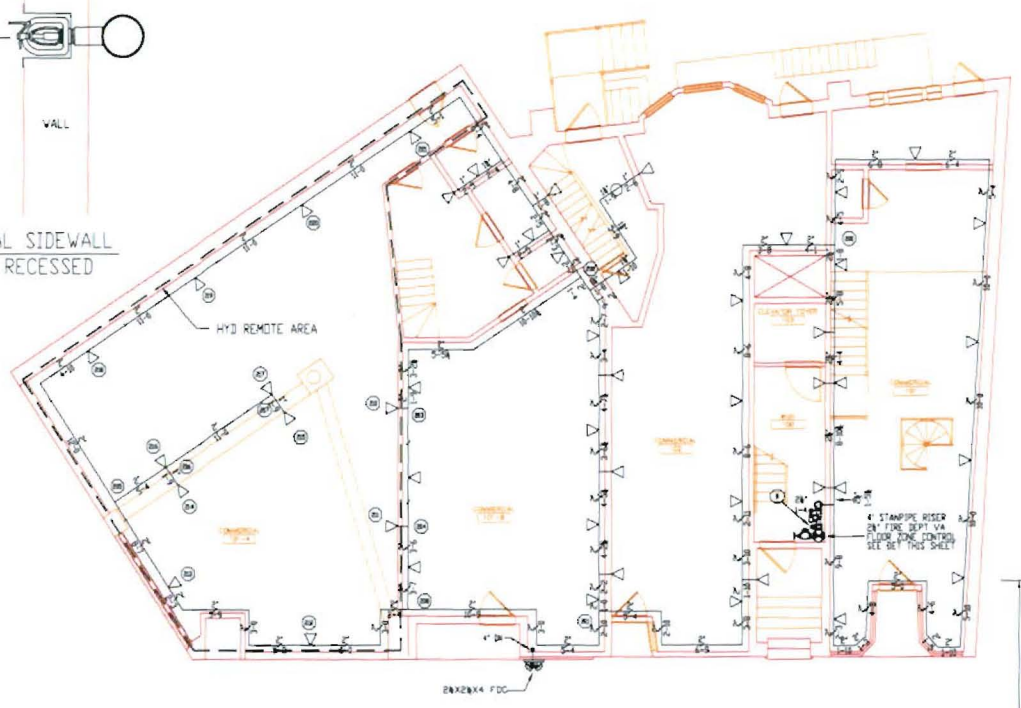
BASEMENT FIRE SPRINKLER PLAN

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

JOB No.	20008
DATE	8-30-10
DRAWN BY	TSP
SCALE	1/4"=1'-0"
SHEET No.	FP-2



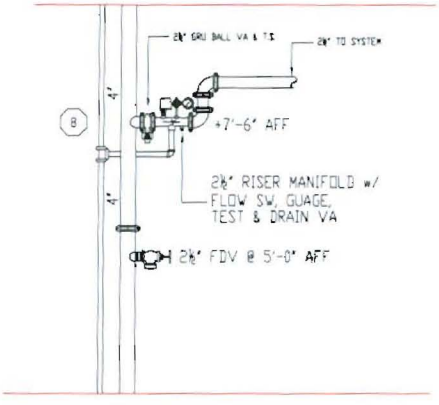
TYPICAL SIDEWALL
SEMI RECESSED



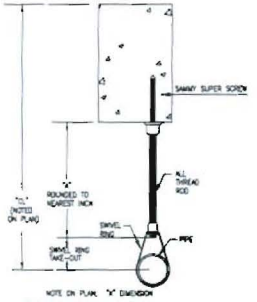
FIRST FLOOR FIRE SPRINKLER PLAN

SCALE: 1/4"=1'-0"

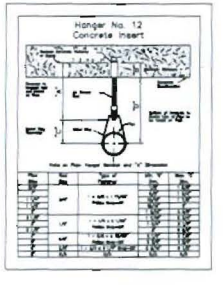
BOTTOM OF CONCRETE DECK = 13'-0"
[+10"-0] DENOTES ELEVATION OF PIPING ABOVE FIN FLOOR
(-0'-0") DENOTES DISTANCE FROM BOTTOM OF DECK DOWN TO PIPING
LINE HANGERS= TYPE #SBC (SEE DETAIL)
MAIN HANGERS= TYPE #12 (SEE DETAIL)
(43) DENOTES HYDRAULIC REFERENCE POINTS

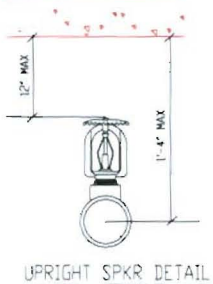


FIRST FLOOR ZONE CONTROL DETAIL
SCALE:N.T.S



TYPE "SBC" HANGER
NO SCALE

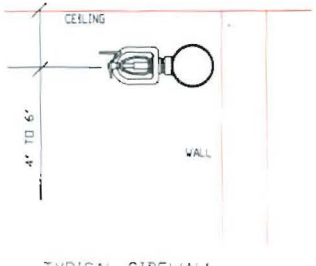




UPRIGHT SPKR DETAIL

REDUCED AREA FOR DR HEADS

HYDRAULIC DESIGN	
SYSTEM	WET
AREA	1ST FLOOR
SPRINKLERS CALCULATED	12 SPRINKLERS
SPRINKLER DENSITY REQ'D	.20 GPM
AREA OF DISCHARGE	1000 SQ FT
HOSE ALLOWANCE	250 GPM
SPRINKLER SYSTEM DEMAND @ 100 PSI	256.8 GPM
RESIDUAL PRESSURE @ HOSE TEST FLOW	60.58 PSI
SAFETY FACTOR @ TEST	7.82 PSI



TYPICAL SIDEWALL

0 4 8 16

REVISIONS	NOTES	MAX HEAD SPACING	HEAD COUNT									
7-27-18			SPRINKLER TYPE	K	NPS	ESC (MODEL)	FINISH	ORIFICE	TEMP	SYMBOL	QUANT
			UP UPRIGHT	5.6	7/32	N/A	TYPICAL FINISH	1/2	155°	○	1
			DR HORIZ SW	5.6	7/32	N/A	TYPICAL FINISH	1/2	155°	◁	42
			TOTAL SPRINKLERS THIS DRAWING								43

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/FLOW SWITCH
- RISER W/CLOSURE VALVE
- WATER MOTOR BELL
- ELECTRIC BELL
- PLUSH FIRE DEPT. CONNECTION

INSPECTIONS

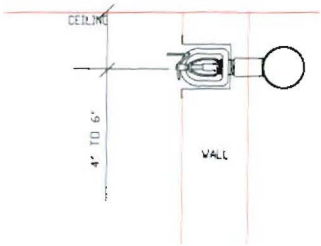
1.
2.
3.
4.
5.

SHWARTZ BUILDING
602 CONGRESS STREET
PORTLAND MAINE

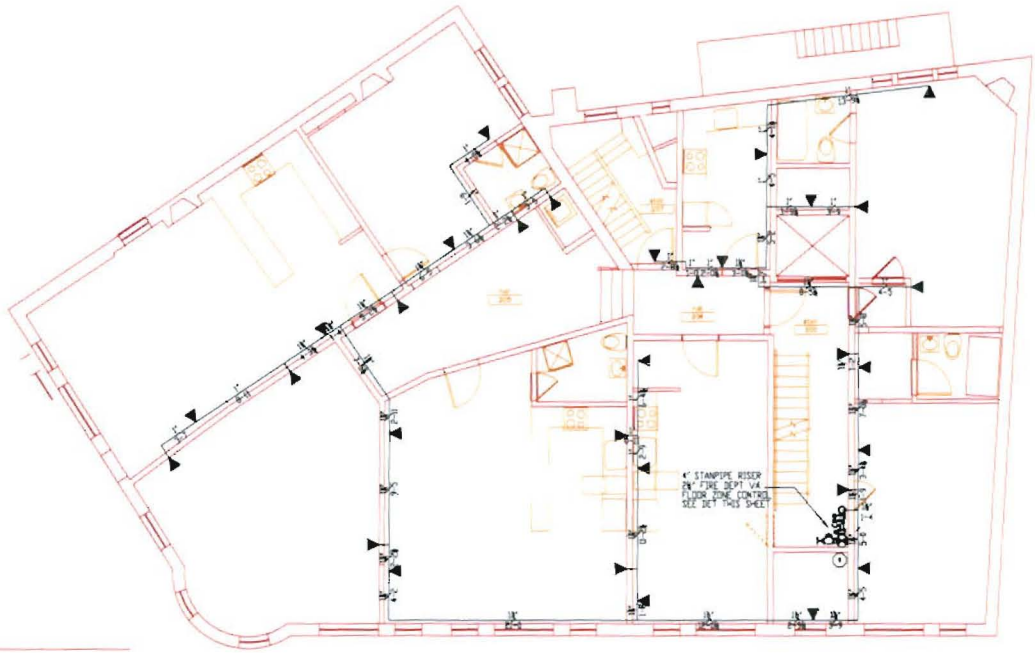
FIRST FLOOR FIRE SPRINKLER PLAN

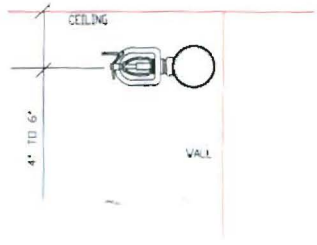
FREEDOM FIRE PROTECTION, INC.
209 QUAKER RIDGE ROAD
CASCO, MAINE 04015
(207)627-4109

JOB No.	20004
DATE	4-30-18
DRAWN BY	DLF
SCALE	1/4"=1'-0"
SHEET No.	FP-3

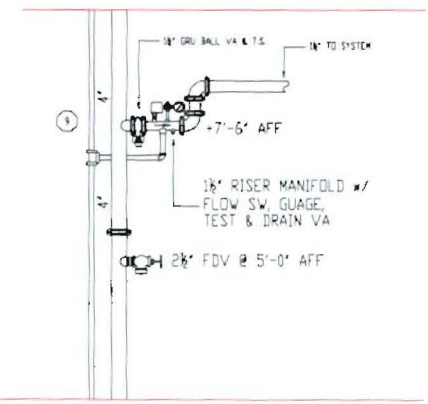


TYPICAL SIDEWALL
SEMI RECESSED





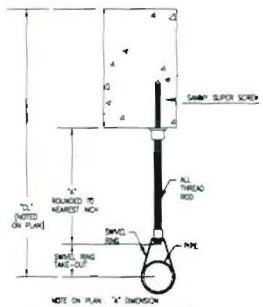
TYPICAL SIDEWALL
EXPOSED



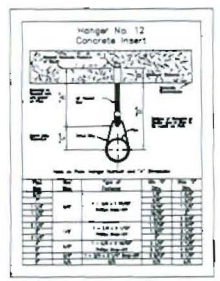
SECOND FLOOR ZONE CONTROL DETAIL
SCALE:NTS

SECOND FLOOR FIRE SPRINKLER PLAN

BOTTOM OF CONCRETE DECK = 10'-0" AFF
(+10'-0) DENOTES ELEVATION OF PIPING ABOVE FIN FLOOR
(-0'-0") DENOTES DISTANCE FROM BOTTOM OF DECK DOWN TO PIPING
LINE HANGERS= TYPE #SBC (SEE DETAIL)
MAIN HANGERS= TYPE #12 (SEE DETAIL)
(#) DENOTES HYDRAULIC REFERENCE POINTS



TYPE "SBC" HANGER
NO SCALE



0 4 8 16

REVISIONS	NOTES	MAX HEAD SPACING
7-27-18		

HEAD COUNT

SPRINKLER TYPE	K	MFR.	ESC.	MODEL	FINISH	ORIFICE	TEMP.	SYMBOL	QUANT.
RSB HSW	4.2	TYCO	SEMI-REC	VK-111	CHROME	7/16"	155°	◆	51
TOTAL SPRINKLERS FOR SYSTEM									51

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

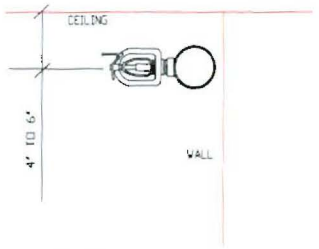
- ALARM CHECK VALVE
- RISER W/ALARM VALVE
- RISER W/DRY VALVE
- RISER W/ELEC. FLOW SWITCH
- RISER W/RELEASE VALVE
- WATER MOTOR BELL
- ELECTRIC BELL
- PUSH FIRE DEPT. CONNECTION

INSPECTIONS

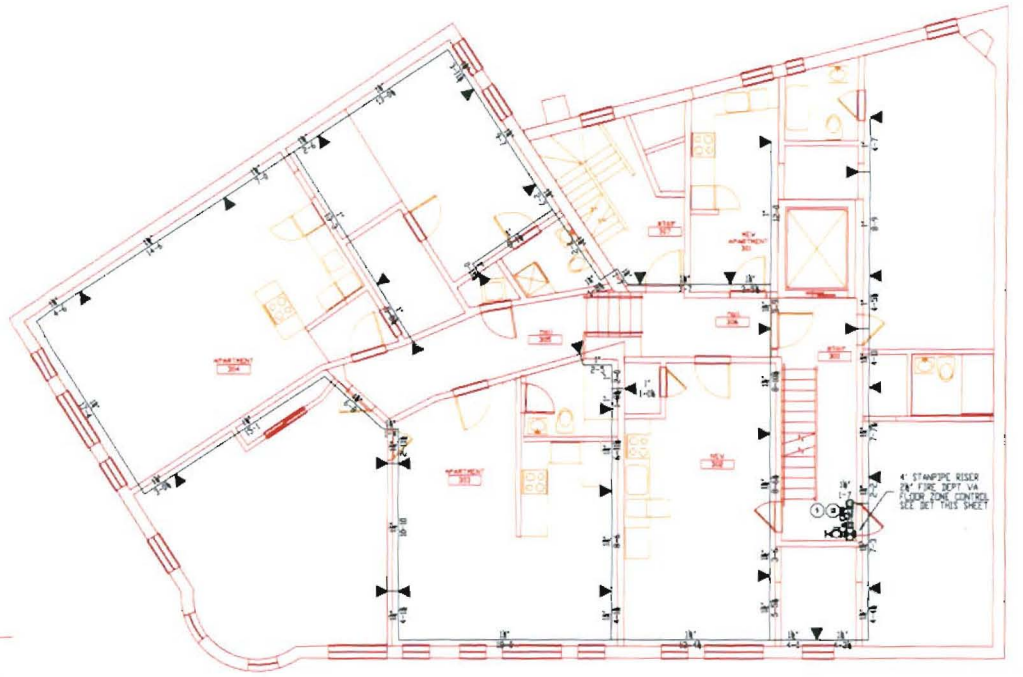
1.
2.
3.
4.
5.

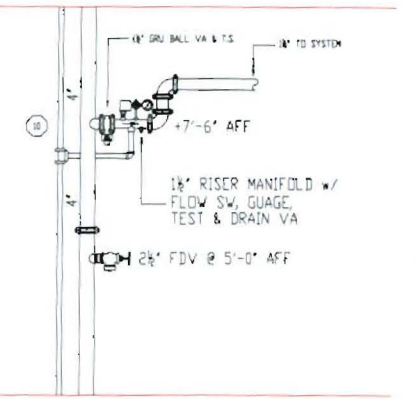
SHWARTZ BUILDING
602 CONGRESS STREET
PORTLAND MAINE
SECOND FLOOR FIRE SPRINKLER PLAN
FREEDOM FIRE PROTECTION, INC.
209 QUAKER RIDGE ROAD
CASCO, MAINE 04015
(207)627-4109

JOB No.	2475
DATE	8-30-18
DRAWN BY	DCP
SCALE	1/4"=1'-0"
SHEET No.	FP-4

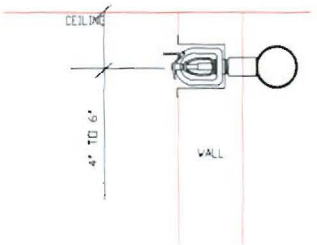


TYPICAL SIDEWALL
EXPOSED





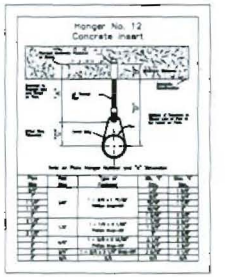
THIRD FLOOR ZONE CONTROL DETAIL
SCALE:NTS

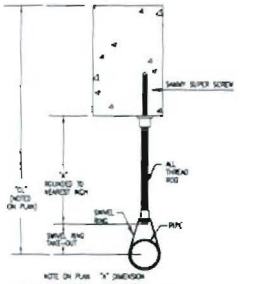


TYPICAL SIDEWALL
SEMI RECESSED

THIRD FLOOR FIRE SPRINKLER PLAN

BOTTOM OF CONCRETE DECK = 9'-5" AFF
C+W-0 DENOTES ELEVATION OF PIPING ABOVE FIN FLOOR
(-0'-0") DENOTES DISTANCE FROM BOTTOM OF DECK DOWN TO PIPING
LINE HANGERS= TYPE #SBC (SEE DETAIL)
MAIN HANGERS= TYPE #12 (SEE DETAIL)
(45) DENOTES HYDRAULIC REFERENCE POINTS





TYPE "SBC" HANGER
NO SCALE

0 4' 8' 16'

REVISIONS	NOTES	MAX HEAD SPACING
7-27-10		

HEAD COUNT										
SPRINKLER TYPE	K	MFG	ESC	MODEL	FINISH	ORIFICE	TEMP	SYMBOL	QUANT.
RUB VERT	4.2	TYCO	ROM-RUS	V-11	CHROME	7/16"	155°	◀	34
TOTAL SPRINKLERS THIS DRAWING									34

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/RELEASE VALVE
- WATER MOTOR BELL
- ELECTRIC BELL
- FLUSH FIRE DEPT CONNECTION

INSPECTIONS

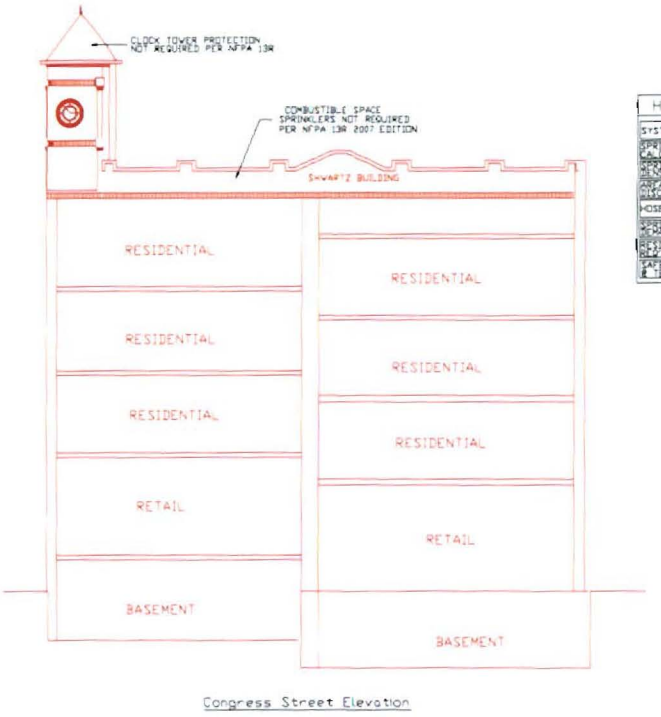
1.
2.
3.
4.
5.

SHWARTZ BUILDING
602 CONGRESS STREET
PORTLAND MAINE

3RD FLOOR FIRE SPRINKLER PLAN

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

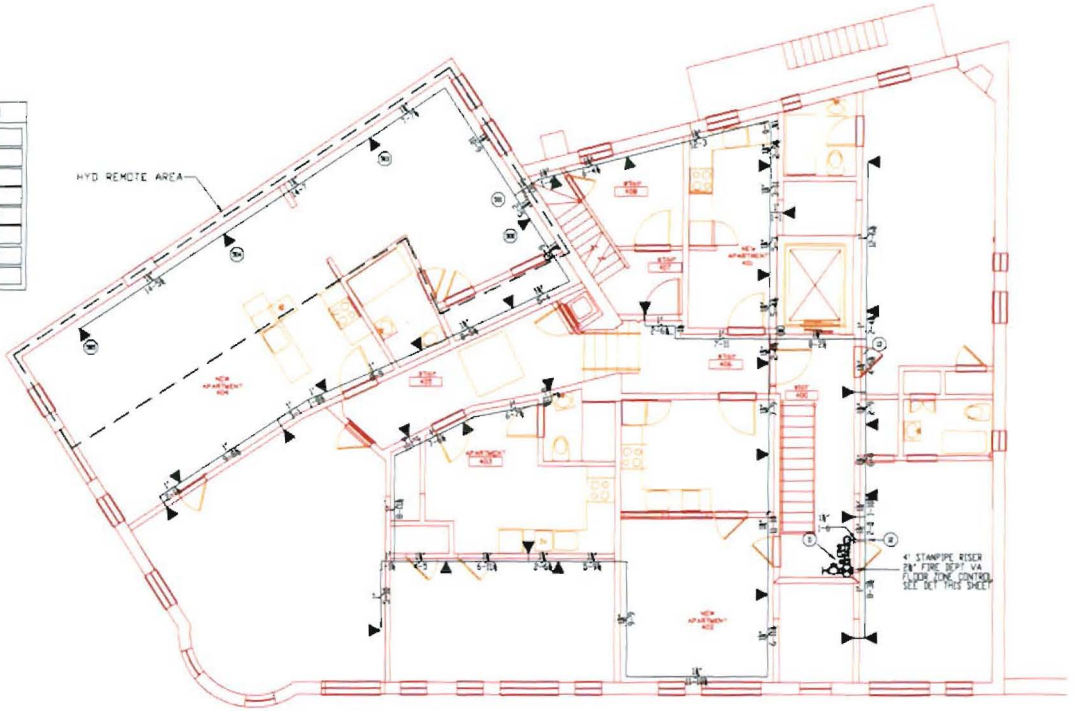
JOB No.	100808
DATE	8-30-10
DRAWN BY	DEP
SCALE	1/4"=1'-0"
SHEET No.	FP-5



Congress Street Elevation

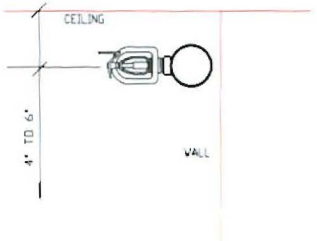
NFPA 13R

HYDRAULIC DESIGN	
SYSTEM WET	AREA 4TH FLOOR
SPRINKLERS CALCULATED	4 HEADS
DENSITY REQUIRED	.05 GPM
AREA OF DISCHARGE	4 HDS
HOSE ALLOWANCE	100 GPM
SPRINKLER SYSTEM DEMAND @ 65.6 PSI	71.2 GPM
RESIDUAL PRESSURE @ 71.2 GPM	65.6 PSI
SAFETY FACTOR @ TEST	5.05 PSI

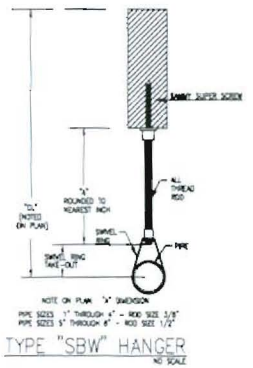


FOURTH FLOOR FIRE SPRINKLER PLAN

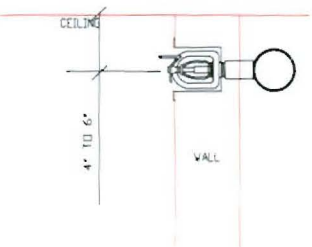
BOTTOM OF WOOD CEILING TRUSSES= 9'-0" AFF
(+10'-0 DENOTES ELEVATION OF PIPING ABOVE FIN FLOOR
(-0'-0") DENOTES DISTANCE FROM BOTTOM OF DECK DOWN TO PIPING
LINE HANGERS= TYPE #SBW (SEE DETAIL)
MAIN HANGERS= TYPE #SBW (SEE DETAIL)
(#) DENOTES HYDRAULIC REFERENCE POINTS



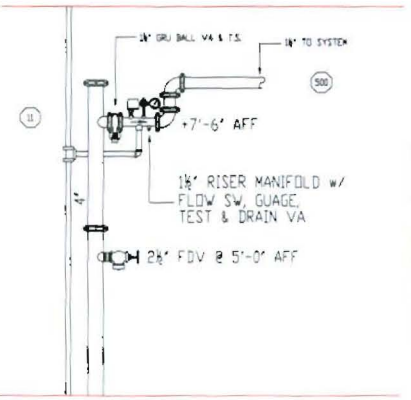
TYPICAL SIDEWALL
EXPOSED



TYPE "SBW" HANGER
NO SCALE



TYPICAL SIDEWALL
SEMI RECESSED



FOURTH FLOOR ZONE CONTROL DETAIL
SCALE:NTS

0 4' 8' 16'

REVISIONS	NOTES	MAX HEAD SPACING
7-27-18		

HEAD COUNT

SPRINKLER TYPE	K	MFR.	ESC. MODEL	FINISH	ORIFICE	TEMP	SYMBOL	QUANT
RES HSW	5.6	TYCO	RSW-RES	CHROME	7/16"	155°	◀	44
TOTAL SPRINKLER THIS DRAWING								44

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/FLOW SWITCH
- RISER W/GUAGE VALVE
- WATER METER (RD)
- ELECTRIC BELL
- FLUSH FIRE DEPT. CONNECTION

INSPECTIONS

SHWARTZ BUILDING
602 CONGRESS STREET
PORTLAND MAINE

4TH FLOOR FIRE SPRINKLER PLAN

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

JOB No.
DATE 8-30-18
DRAWN BY DSP
SCALE 1/4"=1'-0"
SHEET No. FP-6

CITY OF PORTLAND, MAINE
Department of Building Inspections

Original Receipt

6·10 20 10

Received from Federal Fire Protection

Location of Work 600 Congress

Cost of Construction $_____ Building Fee:_____

Permit Fee $_____ Site Fee: _____

Certificate of Occupancy Fee: _____

Total: 500

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

Other Fire Alarm Board

CBL: 38·A·13

Check #: 14967 **Total Collected $** 500

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

Taken by: _____

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

Hydraulics Summary Sheet

FREEDOM FIRE PROTECTION
209 QUAKER RIDGE ROAD
CASCO, MAINE

Designer: DON VESS
Calc By: DON VESS
Date: 7-27-10

Project Information

SHWARTZ BUILDING
602 CONGRESS STREET
PORTLAND, MAINE

Contract No:
Building: EXIST
System ID: BASEMENT HYD REMOTE AREA
Ref. Drawing No: FP-2

Construction: CONC
Occupancy: BASEMENT

Authority: NFPA 13

System Information

Hydraulics Design Criteria

System Type: WET
Density: .15 GPM/SqFt
Remote Area: 1000 SqFt
Sprinkler Coverage: 110 SqFt

Design Standard: NFPA 13
Hazard: ORDINARY GP 1
Figure: 11.2.3.1.1 Curve:

Sprinklers / Nozzles

Manufacturer: TYCO
Model: TYFRB
Size: 1/2
K-Factor: 5.6
Temp. Rating: 155

Hydraulics Information

Demand...

Spr Req'd Pres:	56.78 PSI
Spr Req'd Flow:	238.48 GPM
Add'l Flows:	250.00 GPM
Hose at Srce:	0.00 GPM
Total Flow:	488.48 GPM
Total Pres:	57.61 PSI
Static Elev:	0.00 Ft

Supply...

Water Flow Test

Static:	71.00 PSI
Residual:	62.00 PSI
Qty Flowing:	992.00 GPM
Elevation:	0.00 Ft

Date: Time:
By:

Pump Data

Rated: 0.0 PSI@ 0.0 GPM
Boost Pres: (NA) PSI
Discharge Pres: (NA) PSI
Discharge Flow: (NA) GPM

Combined

Static:	(NA) PSI
Residual:	(NA) PSI
Qty Flowing:	(NA) GPM

Available...

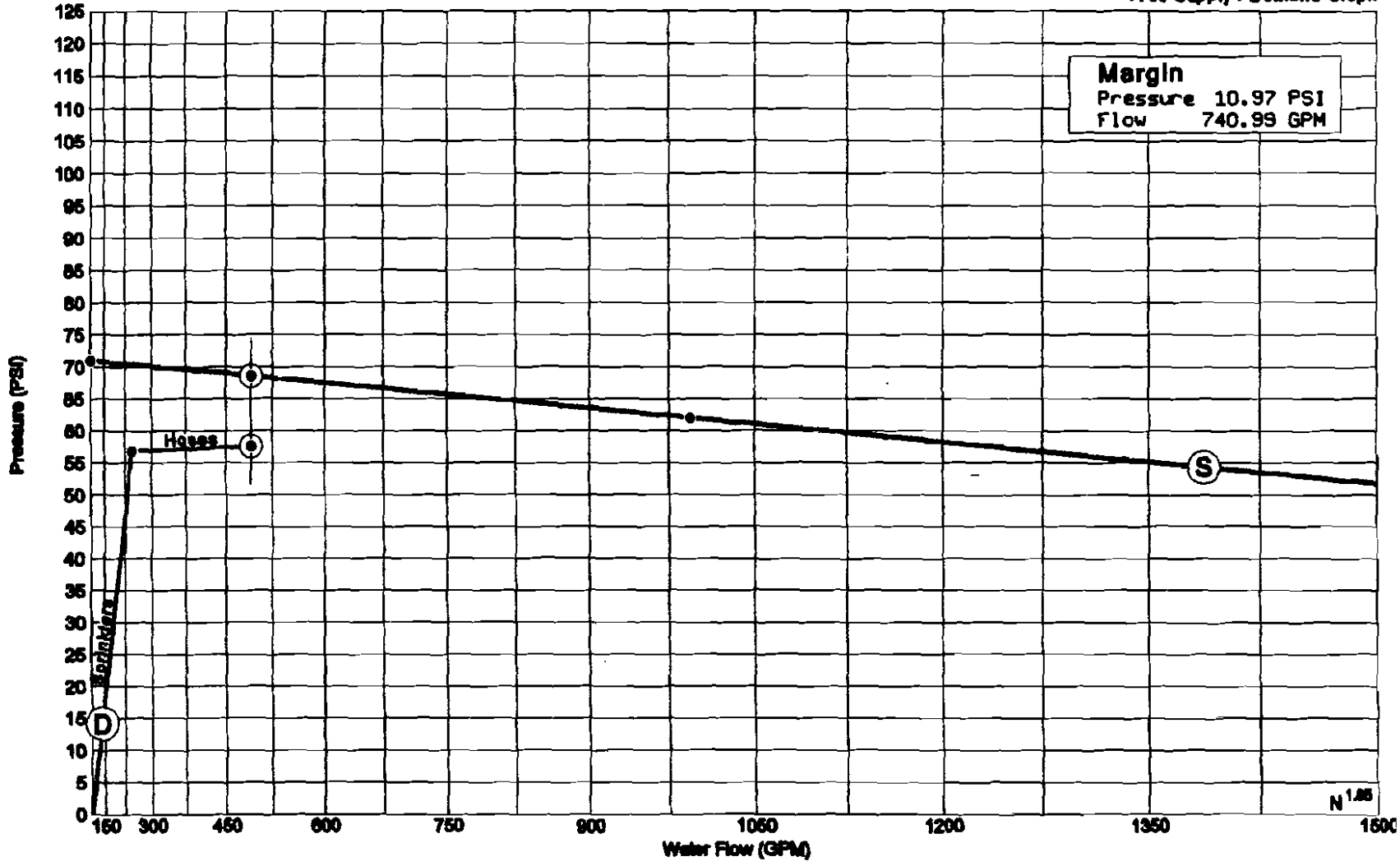
P) 68.57 PSI@ 488.48 GPM
F) 57.61 PSI@ 1229.47 GPM

Margin...

Pressure:	10.97 PSI
Flow:	740.99 GPM

BASEMENT HYD REMOTE AREA

Sigma Dynamics Corporation
7708 Supply / Demand Graph



System Demand..

Sprinkler Demand	56.78 PSI @	238.48 GPM
Additional Flows		250.00 GPM
Hose at Source		0.00 GPM
Total Demand	57.61 PSI @	488.48 GPM

Water Supply..

Static	71.00 PSI	
Residual	62.00 PSI @	992.00 GPM
Elevation	0.00 PSI	

SUBMITTAL SERIAL NO:2933HY2
BASEMENT HYD REMOTE AREA
SHWARTZ BUILDING
.15 GPM OVER 1000 SQ FT
REDUCED AREA FOR QR HDS

Location From To		Flow in GPM	Pipe Size IN	Fittings & Devices		Equiv Length Ft	Friction Loss PSI/Ft		Pressure Summary PSI	
111 112			1.104		L	11.00	C=120	PT	10.43	(112)
	Q	18.09		F=2E	F	4.00		PE	0.00	
			BN		T	15.00	0.0842	PF	1.26	
110 111DQ		19.15	1.452		L	8.50	C=120	PT	11.69	(111)
	Q	37.24		F=0	F	0.00		PE	0.00	
			BN		T	8.50	0.0844	PF	0.72	
101 110DQ		19.73	1.452		L	4.00	C=120	PT	12.41	(110)
	Q	56.96		F=T	F	6.00		PE	0.00	
			BN		T	10.00	0.1852	PF	1.85	
								PT	14.26	(101)
102 103			2.157		L	8.00	C=120	PT	11.79	(103)
	Q	87.73		F=0	F	0.00		PE	0.00	
			FM		T	8.00	0.0599	PF	0.48	
101 102DQ		73.65	2.157		L	9.00	C=120	PT	12.27	(102)
	Q	161.38		F=EE	F	1.80		PE	0.00	
			FM		T	10.80	0.1851	PF	2.00	
100 101DQ		77.10	2.157		L	2.50	C=120	PT	14.27	(101)
	Q	238.48		F=T	F	8.50		PE	0.00	
			FM		T	11.00	0.3811	PF	4.19	
99 100			2.157		L	36.00	C=120	PT	18.46	(100)
	Q	238.48		F=T	F	8.50		PE	0.00	
			FM		T	44.50	0.3811	PF	16.96	
7 99			2.154		L	9.00	C=120	PT	35.42	(99)
	Q	238.48		F=T,BV,2E	F	26.00		PE	0.43	
			FM		T	35.00	0.3837	PF	13.43	
6 7			4.260		L	2.00	C=120	PT	49.28	(7)
	Q	238.48		F=T	F	16.00		PE	-0.87	
			FR		T	18.00	0.0139	PF	0.25	
5 6			4.260		L	28.00	C=120	PT	48.66	(6)
	Q	238.48		F=2E,BV	F	25.60		PE	0.00	
			FM		T	53.60	0.0139	PF	0.75	
4 5			4.260		L	7.00	C=120	PT	49.41	(5)
	Q	238.48		F=CV	F	22.00		PE	2.60	
			FR		T	29.00	0.0139	PF	0.40	

SUBMITTAL SERIAL NO:2933HY2 07-27-2010 PAGE 4
BASEMENT HYD REMOTE AREA
SHWARTZ BUILDING
.15 GPM OVER 1000 SQ FT
REDUCED AREA FOR QR HDS

Location From	To		Flow in GPM	Pipe Size IN	Fittings & Devices		Equiv Length Ft	Friction Loss PSI/Ft		Pressure Summary PSI	
3	4			4.026		L	8.00	C=120	PT	52.41	(4)
		Q	238.48		F=2E,DCA	F	20.00		PE	-1.30	
				FM		T	28.00	0.0182	PF	0.51	
		4" Ames Mod. 2000ss - Double Check Valve Assembly								1.52	
2	3			6.340		L	15.00	C=140	PT	53.13	(3)
		Q	238.48		F=T,GV	F	44.00		PE	0.00	
				UN		T	59.00	0.0015	PF	0.09	
1	2			14.580		L	100.00	C=140	PT	53.22	(2)
		Q	238.48		F=T,EE	F	117.00		PE	0.43	
				UN		T	217.00	0.0000	PF	0.00	
0	1DQ		250.00	8.450		L	750.00	C=140	PT	53.65	(1)
		Q	488.48		F=T,EE	F	58.60		PE	2.82	
				UN		T	808.60	0.0014	PF	1.13	
									PT	57.60	(0)

Hydraulics Summary Sheet

FREEDOM FIRE PROTECTION
209 QUAKER RIDGE ROAD
CASCO, MAINE

Designer: DON VESS
Calc By: DON VESS
Date: 7-27-10

Project Information

SHWARTZ BUILDING
602 CONGRESS STREET
PORTLAND, MAINE

Contract No:
Building: EXIST
System ID: 1ST FLOOR RETAIL REMOTE AREA
Ref. Drawing No: FP-3

Construction: CONC
Occupancy: RETAIL

Authority: NFPA 13

System Information

Hydraulics Design Criteria
System Type: WET
Density: .20 GPM/SqFt
Remote Area: 1000 SqFt
Sprinkler Coverage: 100 SqFt

Design Standard: NFPA 13
Hazard: ORDINARY GP 2
Figure: 11.2.3.1.1 Curve:

Sprinklers / Nozzles
Manufacturer: TYCO
Model: TYFRB
Size: 1/2
K-Factor: 5.6
Temp. Rating: 155

Hydraulics Information

Demand...

Spr Req'd Pres:	63.76 PSI
Spr Req'd Flow:	256.82 GPM
Add'l Flows:	250.00 GPM
Hose at Srce:	0.00 GPM
Total Flow:	506.82 GPM
Total Pres:	64.62 PSI
Static Elev:	0.00 Ft

Supply...

Water Flow Test

Static:	71.00 PSI
Residual:	62.00 PSI
Qty Flowing:	992.00 GPM
Elevation:	0.00 Ft

Date: Time:
By:

Pump Data

Rated:	0.0 PSI@ 0.0 GPM
Boost Pres:	(NA) PSI
Discharge Pres:	(NA) PSI
Discharge Flow:	(NA) GPM

Combined

Static:	(NA) PSI
Residual:	(NA) PSI
Qty Flowing:	(NA) GPM

Available...

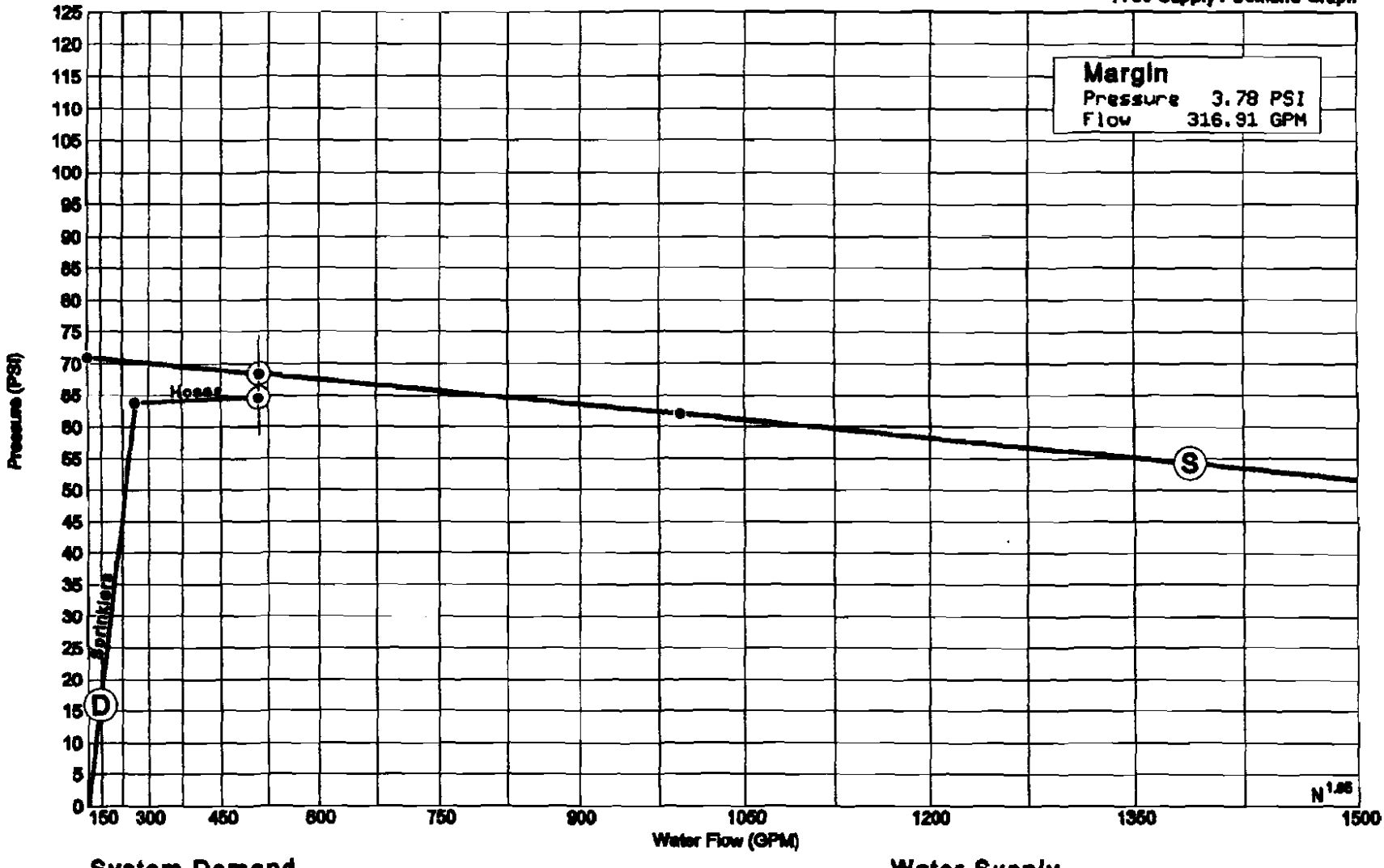
P) 68.40 PSI@ 506.82 GPM
F) 64.62 PSI@ 823.72 GPM

Margin...

Pressure:	3.78 PSI
Flow:	316.91 GPM

1ST FLOOR RETAIL REMOTE AREA

Sigma Dynamics Corporation
7700 Supply / Demand Graph



System Demand..

Sprinkler Demand	63.76 PSI @ 256.82 GPM
Additional Flows	250.00 GPM
Hose at Source	0.00 GPM
Total Demand	64.62 PSI @ 506.82 GPM

Water Supply..

Static	71.00 PSI
Residual	62.00 PSI @ 992.00 GPM
Elevation	0.00 PSI

SUBMITTAL SERIAL NO:2933HY2 07-27-2010 PAGE 1
1ST FLOOR RETAIL REMOTE AREA
SHWARTZ BUILDING
.20 GPM OVER 1000 SQ FT
REDUCED AREA FOR QR HDS

FLOW TEST RESULTS

Water Supply
STATIC 71.00 PSI
RESIDUAL 62.00 PSI @ 992.00 GPM

CITY PRESSURE AVAILABLE AT 506.8 GPM 68.40 PSI

SUMMARY OF SPRINKLER OUTFLOWS

SPR	ACTUAL FLOW	MINIMUM FLOW	K-FACTOR	PRESSURE
210	23.39	20.00	5.60	17.44
211	23.39	20.00	5.60	17.44
212	22.40	20.00	5.60	16.00
213	21.35	20.00	5.60	14.53
214	20.12	20.00	5.60	12.90
215	20.00	20.00	5.60	12.76
216	20.12	20.00	5.60	12.90
217	20.00	20.00	5.60	12.76
218	21.20	20.00	5.60	14.33
219	21.31	20.00	5.60	14.48
220	21.56	20.00	5.60	14.83
221	21.99	20.00	5.60	15.42

TOTAL WATER REQUIRED FOR SYSTEM 256.82 GPM
OUTFLOWS AT 1 250.00 GPM
TOTAL WATER REQUIREMENT 506.82 GPM
PRESSURE REQUIRED AT 0 64.62 PSI

MAXIMUM PRESSURE UNBALANCE IN LOOPS 0.00 PSI
MAXIMUM VELOCITY FROM 8 TO 200 15.11 FPS

Location From To		Flow in GPM	Pipe Size IN	Fittings & Devices		Equiv Length Ft	Friction Loss PSI/Ft	Pressure Summary PSI	
207 217			1.104		L	1.00	C=120	PT 12.76	(217)
	Q	20.00		F=T	F	5.00		PE 0.00	
			BN		T	6.00	0.1015	PF 0.61	
								PT 13.37	(207)
206 216			1.104		L	1.00	C=120	PT 12.90	(216)
	Q	20.12		F=T	F	5.00		PE 0.00	
			BN		T	6.00	0.1025	PF 0.61	
								PT 13.51	(206)
207 215			1.104		L	1.00	C=120	PT 12.76	(215)
	Q	20.00		F=T	F	5.00		PE 0.00	
			BN		T	6.00	0.1015	PF 0.61	
								PT 13.37	(207)
206 214			1.104		L	1.00	C=120	PT 12.90	(214)
	Q	20.12		F=T	F	5.00		PE 0.00	
			BN		T	6.00	0.1025	PF 0.61	
								PT 13.51	(206)
204 211			1.104		L	1.00	C=120	PT 17.44	(211)
	Q	23.39		F=T	F	5.00		PE 0.00	
			BN		T	6.00	0.1355	PF 0.81	
								PT 18.25	(204)
203 210			1.104		L	1.00	C=120	PT 17.44	(210)
	Q	23.39		F=T	F	5.00		PE 0.00	
			BN		T	6.00	0.1355	PF 0.81	
								PT 18.25	(203)
208 204			2.157		L	8.00	C=120	PT 18.26	(204)
	Q	23.03		F=0	F	0.00		PE 0.00	
			CM		T	8.00	0.0050	PF 0.04	
201 208DQ		104.92	2.157		L	23.00	C=120	PT 18.30	(208)
	Q	127.95		F=T,3E	F	19.00		PE 0.00	
			CM		T	42.00	0.1205	PF 5.06	
								PT 23.36	(201)
213 205			2.157		L	9.00	C=120	PT 14.25	(205)
	Q	61.17		F=0	F	0.00		PE 0.00	
			CM		T	9.00	0.0308	PF 0.28	
212 213DQ		21.35	2.157		L	17.00	C=120	PT 14.53	(213)
	Q	82.51		F=3E	F	10.50		PE 0.00	
			CM		T	27.50	0.0535	PF 1.47	

1ST FLOOR RETAIL REMOTE AREA
SHWARTZ BUILDING
.20 GPM OVER 1000 SQ FT
REDUCED AREA FOR QR HDS

Location From To		Flow in GPM	Pipe Size IN	Fittings & Devices		Equiv Length Ft	Friction Loss PSI/Ft	Pressure Summary PSI	
208	212DQ	22.40	2.157		L	12.00	C=120	PT 16.00	(212)
	Q	104.92		F=T,2E	F	15.50		PE 0.00	
			CM		T	27.50	0.0834	PF 2.29	
								PT 18.29	(208)

218	205		2.157		L	17.00	C=120	PT 14.25	(205)
	Q	19.06		F=E	F	3.50		PE 0.00	
			CM		T	20.50	0.0036	PF 0.07	
219	218DQ	21.20	2.157		L	11.00	C=120	PT 14.32	(218)
	Q	40.26		F=0	F	0.00		PE 0.00	
			CM		T	11.00	0.0142	PF 0.16	
220	219DQ	21.31	2.157		L	11.00	C=120	PT 14.48	(219)
	Q	61.57		F=0	F	0.00		PE 0.00	
			CM		T	11.00	0.0311	PF 0.34	
221	220DQ	21.56	2.157		L	11.00	C=120	PT 14.82	(220)
	Q	83.13		F=0	F	0.00		PE 0.00	
			CM		T	11.00	0.0542	PF 0.60	
202	221DQ	21.99	2.157		L	24.00	C=120	PT 15.42	(221)
	Q	105.13		F=T,E	F	12.00		PE 0.00	
			CM		T	36.00	0.0837	PF 3.01	
								PT 18.43	(202)

203	204		2.157		L	10.00	C=120	PT 18.26	(204)
	Q	0.35		F=0	F	0.00		PE 0.00	
			CM		T	10.00	0.0000	PF 0.00	
202	203DQ	23.39	2.157		L	20.00	C=120	PT 18.26	(203)
	Q	23.74		F=T,EE,E	F	13.80		PE 0.00	
			CM		T	33.80	0.0053	PF 0.18	
201	202DQ	105.13	2.157		L	30.00	C=120	PT 18.44	(202)
	Q	128.87		F=T,EE	F	10.30		PE 0.00	
			CM		T	40.30	0.1221	PF 4.92	
200	201DQ	127.95	2.635		L	56.00	C=120	PT 23.36	(201)
	Q	256.82		F=2T,4E	F	38.80		PE 0.00	
			FM		T	94.80	0.1649	PF 15.63	
8	200		2.635		L	30.00	C=120	PT 38.99	(200)
	Q	256.82		F=2T,BV,2E	F	37.20		PE 0.43	
			FM		T	67.20	0.1649	PF 11.08	

SUBMITTAL SERIAL NO:2933HY2 07-27-2010 PAGE 4
1ST FLOOR RETAIL REMOTE AREA
SHWARTZ BUILDING
.20 GPM OVER 1000 SQ FT
REDUCED AREA FOR QR HDS

Location From	To		Flow in GPM	Pipe Size IN	Fittings & Devices		Equiv Length Ft	Friction Loss PSI/Ft		Pressure Summary PSI	
6	8			4.260		L	12.00	C=120	PT	50.50	(8)
		Q	256.82		F=T	F	16.00		PE	4.33	
				FR		T	28.00	0.0159	PF	0.45	
									PT	55.28	(6)
206	207			2.157		L	11.00	C=120	PT	13.36	(207)
		Q	40.00		F=0	F	0.00		PE	0.00	
				FM		T	11.00	0.0140	PF	0.15	
205	206DQ		40.23	2.157		L	6.00	C=120	PT	13.51	(206)
		Q	80.23		F=T	F	8.50		PE	0.00	
				FM		T	14.50	0.0508	PF	0.74	
									PT	14.25	(205)
5	6			4.260		L	28.00	C=120	PT	55.28	(6)
		Q	256.82		F=2E,BV	F	25.60		PE	0.00	
				FM		T	53.60	0.0159	PF	0.85	
4	5			4.260		L	7.00	C=120	PT	56.13	(5)
		Q	256.82		F=CV	F	22.00		PE	2.60	
				FR		T	29.00	0.0159	PF	0.46	
3	4			4.026		L	8.00	C=120	PT	59.19	(4)
		Q	256.82		F=2E,DCA	F	20.00		PE	-1.30	
				FM		T	28.00	0.0209	PF	0.59	
				4" Ames Mod. 2000ss - Double Check Valve Assembly						1.57	
2	3			6.340		L	15.00	C=140	PT	60.05	(3)
		Q	256.82		F=T,GV	F	44.00		PE	0.00	
				UN		T	59.00	0.0017	PF	0.10	
1	2			14.580		L	100.00	C=140	PT	60.15	(2)
		Q	256.82		F=T,EE	F	117.00		PE	0.43	
				UN		T	217.00	0.0000	PF	0.00	
0	1DQ		250.00	8.450		L	750.00	C=140	PT	60.58	(1)
		Q	506.82		F=T,EE	F	58.60		PE	2.82	
				UN		T	808.60	0.0015	PF	1.21	
									PT	64.61	(0)

Hydraulics Summary Sheet

FREEDOM FIRE PROTECTION
209 QUAKER RIDGE ROAD
CASCO, MAINE

Designer: DON VESS
Calc By: DON VESS
Date: 7-27-10

Project Information

SHWARTZ BUILDING
602 CONGRESS STREET
PORTLAND, MAINE

Contract No:
Building: EXIST
System ID: 4TH FLOOR HYD REMOTE AREA
Ref. Drawing No: FP-6

Construction: WOOD TRUSS
Occupancy: RESIDENTIAL

Authority: NFPA 13R

System Information

Hydraulics Design Criteria

System Type: WET
Density: .05 GPM/SqFt
Remote Area: 4HDS SqFt
Sprinkler Coverage: 256 SqFt

Design Standard: NFPA 13R
Hazard: RESIDENTIAL
Figure: Curve:

Sprinklers / Nozzles

Manufacturer: TYCO
Model: RES HSW LF-11
Size: 7/16
K-Factor: 4.2
Temp. Rating: 155

Hydraulics Information

Demand...

Spr Req'd Pres:	65.47 PSI
Spr Req'd Flow:	71.23 GPM
Add'l Flows:	100.00 GPM
Hose at Srce:	0.00 GPM
Total Flow:	171.23 GPM
Total Pres:	65.60 PSI
Static Elev:	0.00 Ft

Supply...

Water Flow Test

Static:	71.00 PSI
Residual:	62.00 PSI
Qty Flowing:	992.00 GPM
Elevation:	0.00 Ft

Date: Time:
By:

Pump Data

Rated:	0.0 PSIe 0.0 GPM
Boost Pres:	(NA) PSI
Discharge Pres:	(NA) PSI
Discharge Flow:	(NA) GPM

Combined

Static:	(NA) PSI
Residual:	(NA) PSI
Qty Flowing:	(NA) GPM

Available...

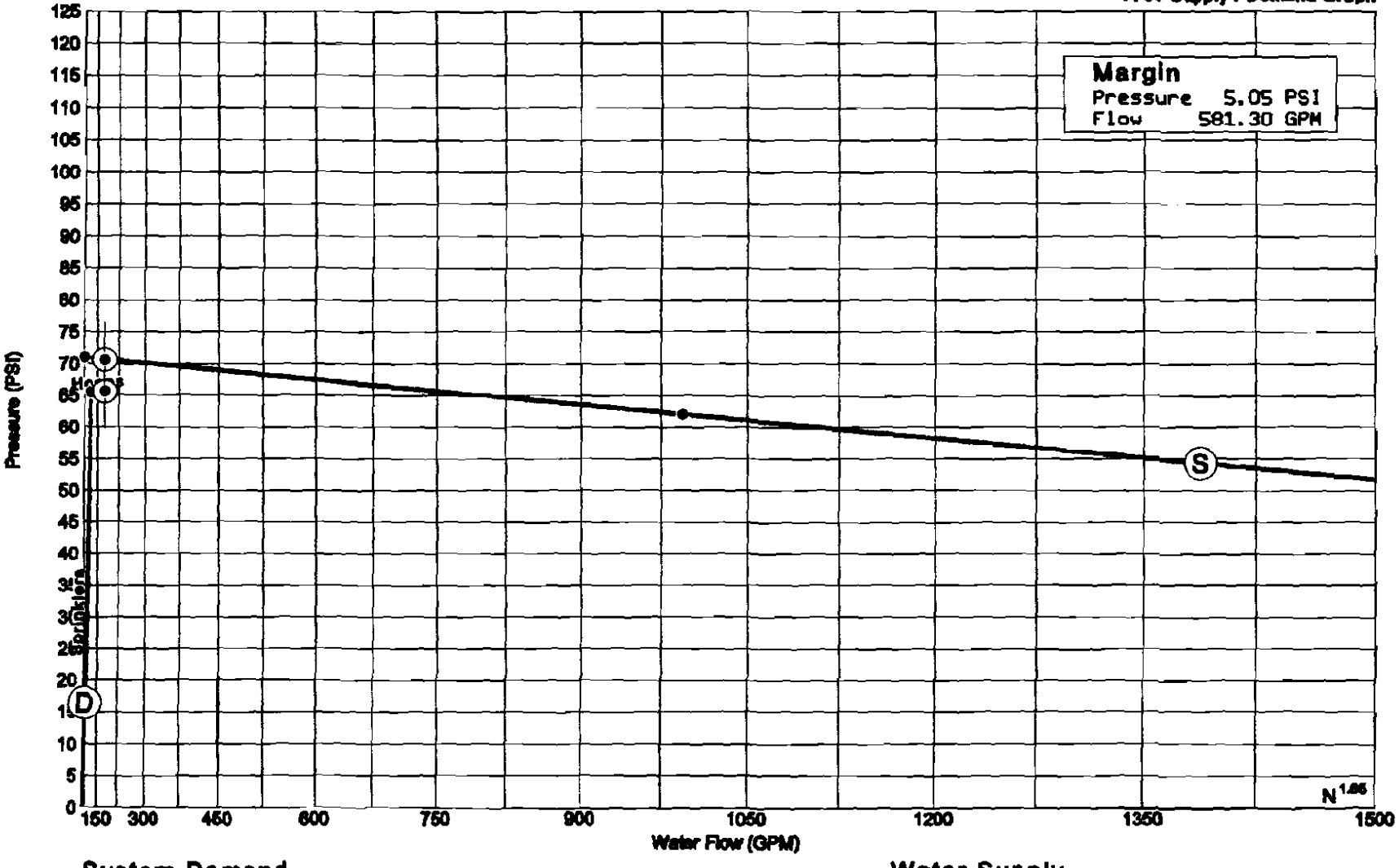
P) 70.65 PSIe 171.23 GPM
F) 65.60 PSIe 752.53 GPM

Margin...

Pressure:	5.05 PSI
Flow:	581.30 GPM

4TH FLOOR HYD REMOTE AREA

Sigma Dynamics Corporation
7700 Supply / Demand Graph



System Demand..

Sprinkler Demand	65.47 PSI @	71.23 GPM
Additional Flows		100.00 GPM
Hose at Source		0.00 GPM
Total Demand	65.60 PSI @	171.23 GPM

Water Supply..

Static	71.00 PSI	
Residual	62.00 PSI @	992.00 GPM
Elevation	0.00 PSI	

SUBMITTAL SERIAL NO:2933HY2 07-27-2010 PAGE 1
4TH FLOOR HYD REMOTE AREA
SHWARTZ BUILDING
NFPA 13R 4 HDS FLOWING
4 HDS FLOWING 16 GPM

FLOW TEST RESULTS

Water Supply
STATIC 71.00 PSI
RESIDUAL 62.00 PSI @ 992.00 GPM

CITY PRESSURE AVAILABLE AT 171.2 GPM 70.65 PSI

SUMMARY OF SPRINKLER OUTFLOWS

SPR	ACTUAL FLOW	MINIMUM FLOW	K-FACTOR	PRESSURE
502	20.25	16.00	4.20	23.24
503	18.43	16.00	4.20	19.27
504	16.55	16.00	4.20	15.52
505	16.00	16.00	4.20	14.51

TOTAL WATER REQUIRED FOR SYSTEM 71.23 GPM
OUTFLOWS AT 1 100.00 GPM
TOTAL WATER REQUIREMENT 171.23 GPM
PRESSURE REQUIRED AT 0 65.60 PSI

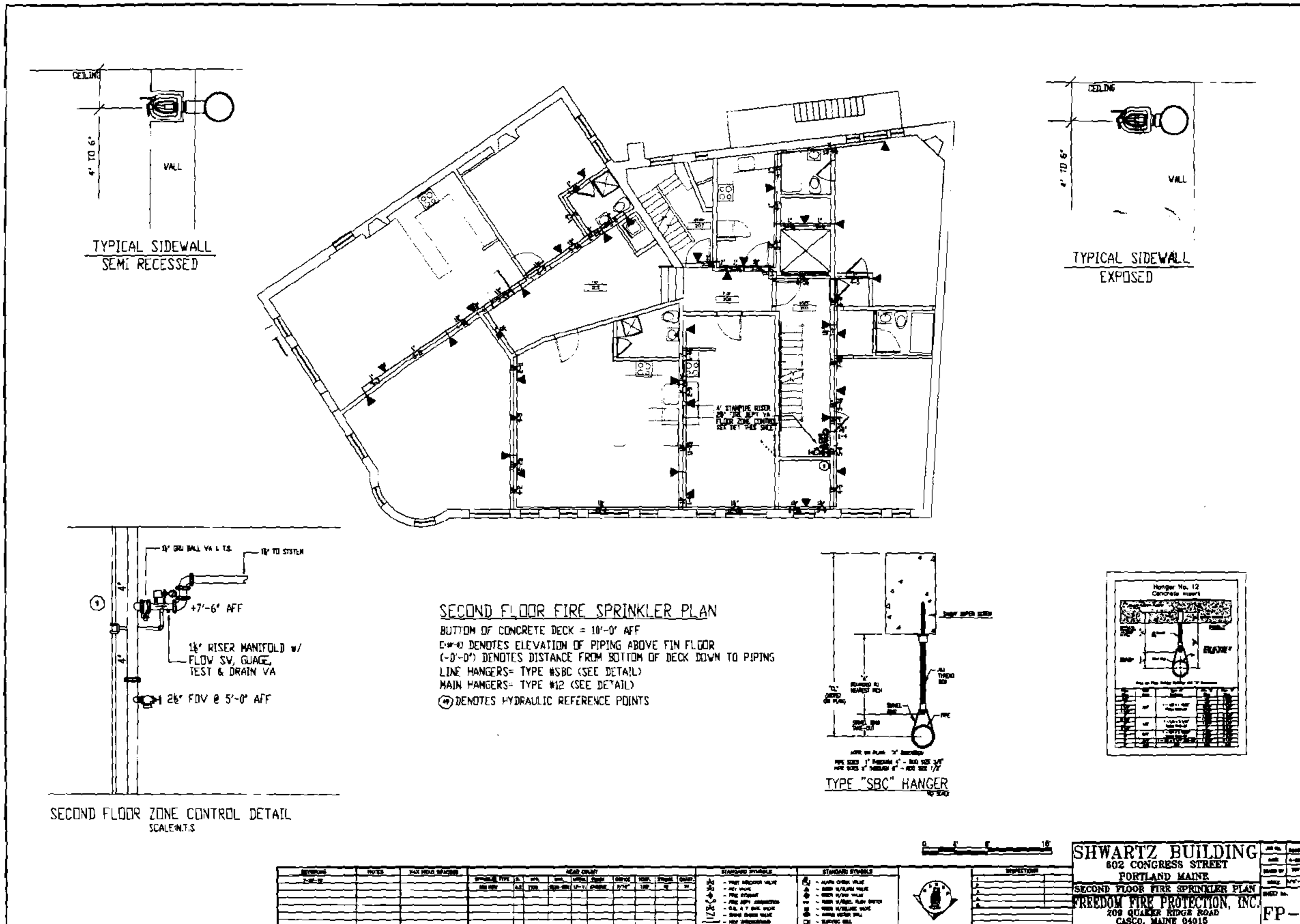
MAXIMUM PRESSURE UNBALANCE IN LOOPS 0.00 PSI
MAXIMUM VELOCITY FROM 500 TO 501 13.80 FPS

4TH FLOOR HYD REMOTE AREA
SHWARTZ BUILDING
NFPA 13R 4 HDS FLOWING
4 HDS FLOWING 16 GPM

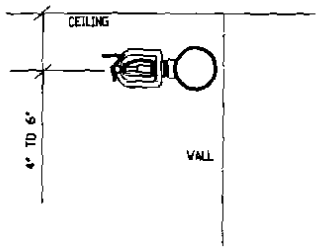
Location From	To		Flow in GPM	Pipe Size IN	Fittings & Devices		Equiv Length Ft	Friction Loss PSI/Ft		Pressure Summary PSI	
504	505			1.104		L	15.00	C=120	PT	14.51	(505)
		Q	16.00		F=0	F	0.00		PE	0.00	
				BN		T	15.00	0.0671	PF	1.01	
503	504DQ		16.55	1.104		L	15.00	C=120	PT	15.52	(504)
		Q	32.55		F=0	F	0.00		PE	0.00	
				BN		T	15.00	0.2498	PF	3.75	
501	503DQ		18.43	1.452		L	19.00	C=120	PT	19.27	(503)
		Q	50.98		F=T,E	F	9.00		PE	0.00	
				BN		T	28.00	0.1509	PF	4.23	
									PT	23.50	(501)
---	---										
501	502			1.452		L	3.00	C=120	PT	23.24	(502)
		Q	20.25		F=T	F	6.00		PE	0.00	
				BN		T	9.00	0.0273	PF	0.25	
500	501DQ		50.98	1.452		L	42.00	C=120	PT	23.49	(501)
		Q	71.23		F=T,3EE	F	9.00		PE	0.00	
				FM		T	51.00	0.2801	PF	14.29	
13	500			1.687		L	9.00	C=120	PT	37.78	(500)
		Q	71.23		F=T	F	8.00		PE	0.00	
				FM		T	17.00	0.1349	PF	2.29	
12	13			1.687		L	17.00	C=120	PT	40.07	(13)
		Q	71.23		F=T	F	8.00		PE	0.00	
				FM		T	25.00	0.1349	PF	3.37	
11	12			1.687		L	6.00	C=120	PT	43.44	(12)
		Q	71.23		F=T,BV,2E	F	16.00		PE	0.43	
				FM		T	22.00	0.1349	PF	2.97	
10	11			4.260		L	8.00	C=120	PT	46.84	(11)
		Q	71.23		F=0	F	0.00		PE	3.03	
				FR		T	8.00	0.0015	PF	0.01	
9	10			4.260		L	9.00	C=120	PT	49.88	(10)
		Q	71.23		F=0	F	0.00		PE	3.47	
				FR		T	9.00	0.0015	PF	0.01	
8	9			4.260		L	10.00	C=120	PT	53.36	(9)
		Q	71.23		F=0	F	0.00		PE	0.00	
				FR		T	10.00	0.0015	PF	0.02	

SUBMITTAL SERIAL NO:2933HY2 07-27-2010 PAGE 3
4TH FLOOR HYD REMOTE AREA
SHWARTZ BUILDING
NFPA 13R 4 HDS FLOWING
4 HDS FLOWING 16 GPM

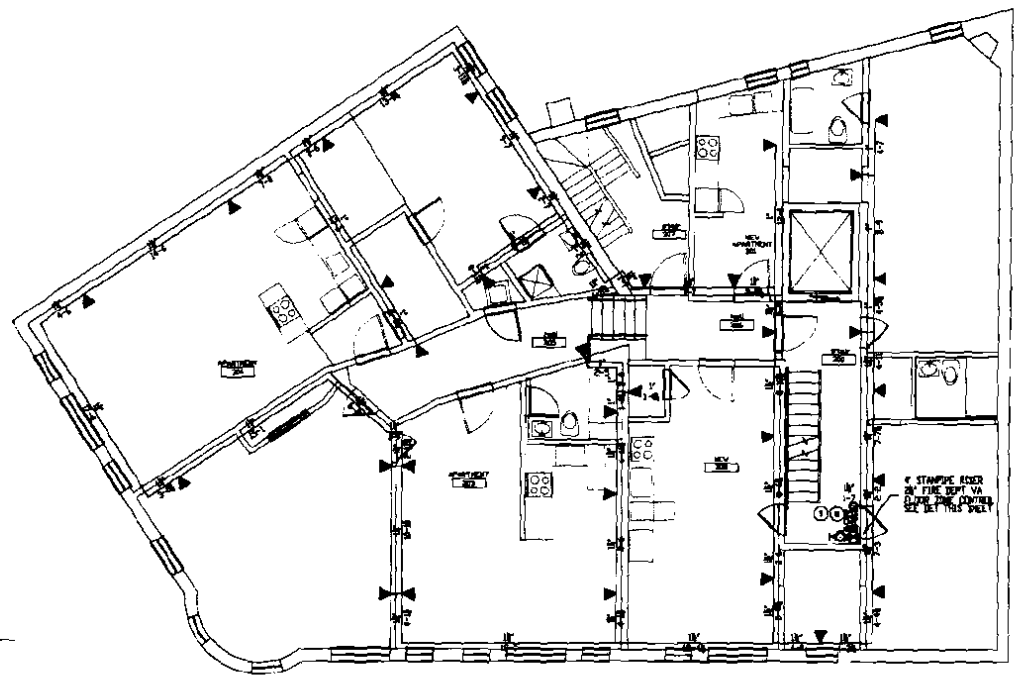
Location From	To		Flow in GPM	Pipe Size IN	Fittings & Devices		Equiv Length Ft	Friction Loss PSI/Ft		Pressure Summary PSI	
6	8			4.260		L	12.00	C=120	PT	53.38	(8)
		Q	71.23		F=T	F	16.00		PE	4.33	
				FR		T	28.00	0.0015	PF	0.04	
5	6			4.260		L	28.00	C=120	PT	57.75	(6)
		Q	71.23		F=2E,BV	F	25.60		PE	0.00	
				FM		T	53.60	0.0015	PF	0.08	
4	5			4.260		L	7.00	C=120	PT	57.83	(5)
		Q	71.23		F=CV	F	22.00		PE	2.60	
				FR		T	29.00	0.0015	PF	0.04	
3	4			4.026		L	8.00	C=120	PT	60.47	(4)
		Q	71.23		F=2E,DCA	F	20.00		PE	-1.30	
				FM		T	28.00	0.0020	PF	0.06	
		4" Ames Mod. 2000ss - Double Check Valve Assembly								2.95	
2	3			6.340		L	15.00	C=140	PT	62.18	(3)
		Q	71.23		F=T,GV	F	44.00		PE	0.00	
				UN		T	59.00	0.0002	PF	0.01	
1	2			14.580		L	100.00	C=140	PT	62.19	(2)
		Q	71.23		F=T,EE	F	117.00		PE	0.43	
				UN		T	217.00	0.0000	PF	0.00	
0	1DQ		100.00	8.450		L	750.00	C=140	PT	62.62	(1)
		Q	171.23		F=T,EE	F	58.60		PE	2.82	
				UN		T	808.60	0.0002	PF	0.16	
									PT	65.60	(0)

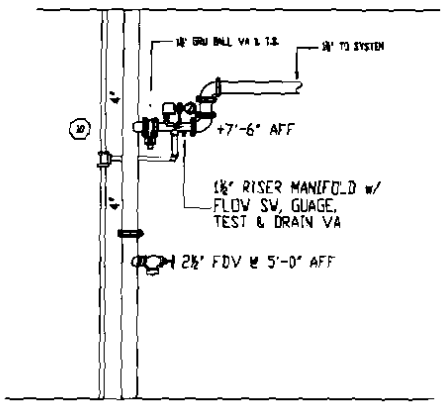


TYPICAL SIDEWALL
SEMI RECESSED
TYPICAL SIDEWALL
EXPOSED
SECOND FLOOR FIRE SPRINKLER PLAN
BOTTOM OF CONCRETE DECK = 10'-0" AFF
DENOTES ELEVATION OF PIPING ABOVE FIN FLOOR
(-0'-0") DENOTES DISTANCE FROM BOTTOM OF DECK DOWN TO PIPING
LINE HANGERS= TYPE #SBC (SEE DETAIL)
MAIN HANGERS= TYPE #12 (SEE DETAIL)
DENOTES HYDRAULIC REFERENCE POINTS
+7'-6" AFF
1½" RISER MANIFOLD w/ FLOW SV, GUAGE, TEST & DRAIN VA
2½" FDV @ 5'-0" AFF
SECOND FLOOR ZONE CONTROL DETAIL
SCALE:N.T.S
TYPE "SBC" HANGER
SHWARTZ BUILDING
602 CONGRESS STREET
PORTLAND MAINE
SECOND FLOOR FIRE SPRINKLER PLAN
FREEDOM FIRE PROTECTION, INC.
209 QUAKER RIDGE ROAD
CASCO, MAINE 04015
(207)627-4109
FP-4

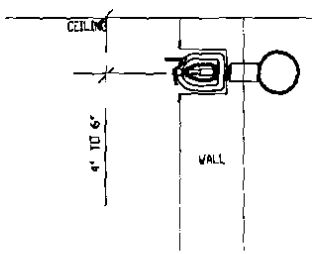


TYPICAL SIDEWALL
EXPOSED





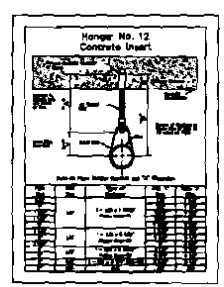
THIRD FLOOR ZONE CONTROL DETAIL
SCALE:NTS

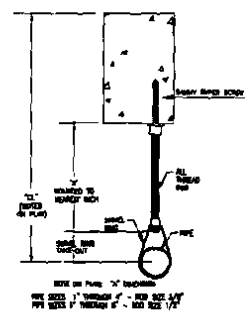


TYPICAL SIDEWALL
SEMI RECESSED

THIRD FLOOR FIRE SPRINKLER PLAN

BOTTOM OF CONCRETE DECK = 9'-5" AFF
(+0'-0") DENOTES ELEVATION OF PIPING ABOVE FIN FLOOR
(-0'-0") DENOTES DISTANCE FROM BOTTOM OF DECK DOWN TO PIPING
LINE HANGERS= TYPE #SBC (SEE DETAIL)
MAIN HANGERS= TYPE #12 (SEE DETAIL)
(10) DENOTES HYDRAULIC REFERENCE POINTS





TYPE "SBC" HANGER

0 4' 8' 16'

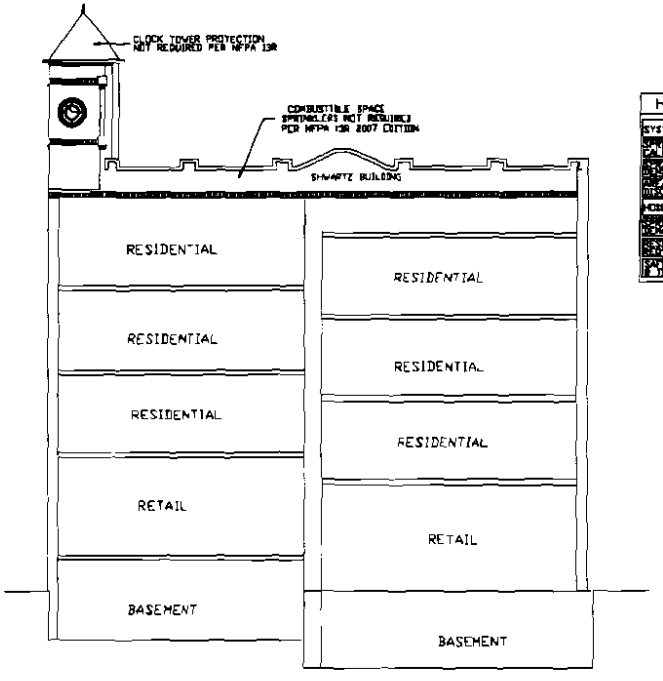
REVISIONS	NOTES	MAX HEAD SPACING	HEAD COUNT	STANDARD SYMBOLS	STANDARD SYMBOLS	INSPECTIONS
2-22-16						

SHWARTZ BUILDING
602 CONGRESS STREET
PORTLAND MAINE

3RD FLOOR FIRE SPRINKLER PLAN

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

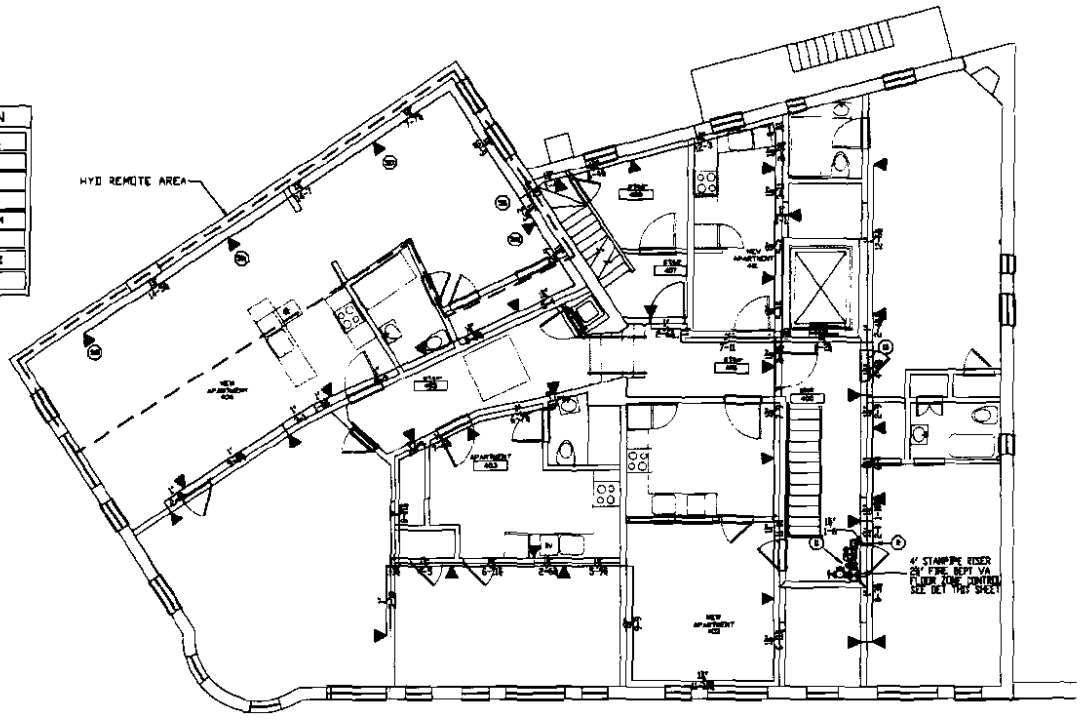
DATE: 2-22-16
DRAWN BY: JRF
SCALE: 1/4"=1'-0"
SHEET No.
FP-5



Congress Street Elevation

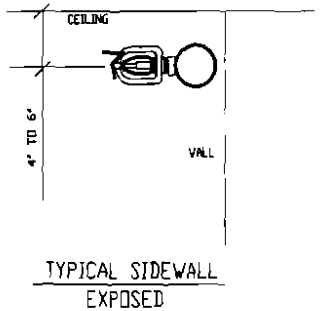
NFPA 13R

HYDRAULIC DESIGN	
SYSTEM	WET
AREA 4TH FLOOR	
SPRINKLERS CALCULATED	4 HEADS
DENSITY REQ'D	.15 GPM
HOSE DISCHARGE	4 KDS
HOSE ALLOWANCE	100 GPM
SPRINKLER SYSTEM DEMAND @ (0.15 PSI)	7.2 GPM
RESIDUAL PRESSURE REQUIRED TEST PT.	65.6 PSI
SAFETY FACTOR @ 10 PSI	325 PSI

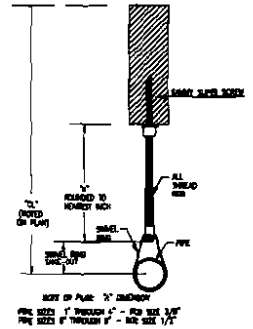


FOURTH FLOOR FIRE SPRINKLER PLAN

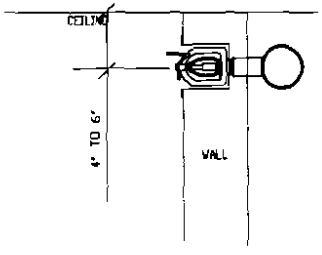
BOTTOM OF WOOD CEILING TRUSSES= 9'-0" AFF
0'-0" DENOTES ELEVATION OF PIPING ABOVE FIN FLOOR
(-0'-0") DENOTES DISTANCE FROM BOTTOM OF DECK DOWN TO PIPING
LINE HANGERS= TYPE #SBW (SEE DETAIL)
MAIN HANGERS= TYPE #SBW (SEE DETAIL)
(H) DENOTES HYDRAULIC REFERENCE POINTS



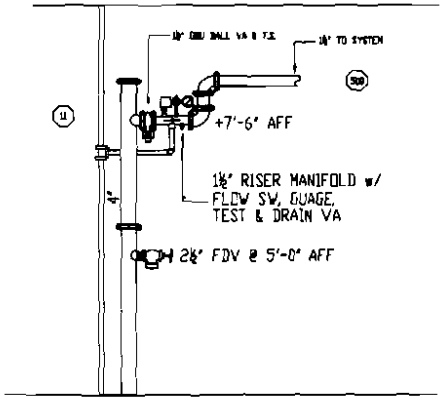
TYPICAL SIDEWALL
EXPOSED



TYPE "SBW" HANGER
NO SCALE



TYPICAL SIDEWALL
SEMI RECESSED



FOURTH FLOOR ZONE CONTROL DETAIL
SCALE:N.T.S

REVISIONS	NOTES	MAX HEAD SPACING	HEAD COUNT	STANDARD SYMBOLS	STANDARD SYMBOLS	INSPECTIONS
7-27-10						

SHWARTZ BUILDING
602 CONGRESS STREET
PORTLAND MAINE
4TH FLOOR FIRE SPRINKLER PLAN

FREEDOM FIRE PROTECTION, INC
209 QUAKER RIDGE ROAD
CASCO, MAINE 04015
(207)627-9109

FP-6