

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK



CITY OF PORTLAND

BUILDING PERMIT

This is to certify that EASTERN FIRE PROTECTION CO.
of 170 Kittyhawk Ave, Auburn, ME 04211

For installation at 390 CONGRESS ST

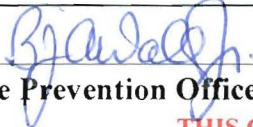
Job ID: 2011-07-1586-FAFS

CBL: 032 - - C - 001 - 001 - - - -

has permission to install an NFPA 13 automatic sprinkler and NFPA 14 Class 1 manual wet standpipes 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 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


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

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.**

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: 2011-07-1586-FAFS
Installation of an NFPA 13 automatic
sprinkler and NFPA 14 Class 1 manual
wet standpipes

For installation at:
390 CONGRESS ST

CBL: 032 - - C - 001 - 001 - - - -

Conditions of Approval:

Zoning

This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.

ANY exterior work requires a separate review and approval thru Historic Preservation. This property is located within an Historic District.

This property shall remain storage in the basement, retail on the first floor (PAD District) with offices above. Any change of use shall require a separate permit for review and approval.

Separate permits shall be required for separate, specific tenant fit-up.

Fire

The sprinkler system shall be installed in accordance with NFPA 13 and supervised by the fire alarm system in accordance with NFPA 72 by floor.

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 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.

Installation of a sprinkler or fire alarm system requires a Knox Box to be installed per city ordinance.

The Standpipe system shall be installed in accordance with NFPA 14. Signage complying with section 5.4.2 of NFPA 14 shall be provided at each hose connection.

A signed compliance letter will be required.

Any cutting and welding done will require a Hot Work Permit from Fire Department.

City of Portland, Maine - Building or Use Permit Application

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

Job No: 2011-07-1586-FAFS	Date Applied: 6/27/2011	CBL: 032 - - C - 001 - 001 - - - -	
Location of Construction: 390 CONGRESS ST	Owner Name: METRO MEDIA PROPERTIES LLC	Owner Address: 25 SOUTH SERVICE RD STE 300 JERICHO, NY 11753	Phone:
Business Name:	Contractor Name: Eastern Fire Protection	Contractor Address: PO Box 1390, Kittyhawk Ave., Auburn, ME 04210	Phone: 207-784-1507
Lessee/Buyer's Name:	Phone:	Permit Type: FIRE SYS WB - Fire Suppression Water Based	Zone: B-3
Past Use: Portland Press Herald building	Proposed Use: Mixed Use – storage basement, 1st floor retail, offices above – install water based fire suppression system	Cost of Work: 80000.00	CEO District:
		Fire Dept: ☒ Approved <i>w/ conditions</i> ☐ Denied ☐ N/A	Inspection: Use Group: Type:
		Signature: <i>[Signature]</i> (58)	Signature
Proposed Project Description: Water-based fire suppression system		Pedestrian Activities District (P.A.D.)	
Permit Taken By:		Zoning Approval	

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 informatin may invalidate a building permit and stop all work.

Special Zone or Reviews

☐ Shoreland
☐ Wetlands
☐ Flood Zone
☐ Subdivision
☐ Site Plan
☐ Maj ☐ Min ☐ MM

Date: *ok w/ conditions*

7/5/11 ASH

CERTIFICATION

Zoning Appeal

☐ Variance
☐ Miscellaneous
☐ Conditional Use
☐ Interpretation
☐ Approved
☐ Denied

Date:

Historic Preservation

☐ Not in Dist or Landmark
☐ Does not Require Review
☐ Requires Review
☐ Approved
☐ Approved w/Conditions
☐ Denied

Date: *Any exterior work requires a separate review*

I approve this historic preservation

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

PHON



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.

2011 07 15 86 032 C 001 B3
7/1/11 68
h1212

Installation address: 390 CONGRESS ST. CBL: _____
Exact location: (within structure) ENTIRE BLDG
Type of occupancy(s) (NFPA & ICC): RETAIL / OFFICE NFPA 13
Building owner: JOHN CACOUKIDIS
Managing Supervisor (RMS): WILLIAM FLYNT License No: 368
Supervisor phone: (207) 784-1507 E-mail: FLYNT.WA@TEAMEASTERN.COM
Installing contractor: EASTERN FIRE PROT. License No: 101
Contractor phone: (207) 784-1507 E-mail: _____
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.

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: \$80,000
PERMIT FEE: \$830.00
(\$10 PER \$1,000 + \$30 FOR THE FIRST \$1,000)

RECEIVED

JUN 27 2011

Dept. of Building Inspections
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: [Signature] Date: 6/23/11



EASTERN FIRE PROTECTION

P.O. Box 1390
Kittyhawk Ave.
Auburn, ME 04210

PH # (207) 784-1507
FAX # (207) 782-0566

LETTER OF TRANSMITTAL

DATE	6/23/11	JOB NO.	AN-4726-11
ATTENTION	LANNIE DOBSON		
RE:	390 CONGRESS ST.		

TO CITY OF PORTLAND
BLDG INSPECTION DEPT
389 CONGRESS ST. PORTLAND, ME
04101

WE ARE SENDING YOU ☒ Attached ☒ Under separate cover via E-MAIL the following items:

☒ Shop drawings ☐ Descriptive data ☒ Hydraulic calculations
☒ Copy of letter ☐ Literature

QUANTITY	DRAWING NO.	DATE	DESCRIPTION	STATUS
1	1 OF 6 THRU 6 OF 6	6/2/11	FIRE SPRINKLER SYSTEM PLAN 30x42 " " " 11x17	C
1		6/1/11	HYDRAULIC CALCS	C
1		6/23/11	PERMIT APPLICATION	
1		6/23/11	CHECK \$830.00 PERMIT FEE	

Status code

- A. Approved
B. Approved as noted
C. Submitted for approval
D. Corrected & resubmitted
E. For your files
F. Refer to remarks

Please return 1 copies each indicating your approval and/or comments.

PERMIT

REMARKS

COPY TO

SIGNED

[Signature]



... Fire Protection by Computer Design

EASTERN FIRE PROTECTION
170 KITTY HAWK AVE
AUBURN, ME 04210
207-784-1507

Job Name : 390 CONGRESS ST PORTLAND
Drawing : 3 OF 6
Location : PORTLAND, ME
Remote Area : AREA#1
Contract : AU-4726-11
Data File : AREA#1 1ST FLOOR.WXF

HYDRAULIC CALCULATIONS
for

Project name: 390 CONGRESS ST
Location: PORTLAND, ME
Drawing no: 3 OF 6
Date: 6-1-11

Design

Remote area number: AREA#1
Remote area location: 1ST FLOOR
Occupancy classification: ORDINARY HAZARD GROUP II
Density: .2 - Gpm/SqFt
Area of application: 983 - SqFt
Coverage per sprinkler: 120 - SqFt
Type of sprinklers calculated: TYCO TY-FRB PENDENT 1/2" K5.6
No. of sprinklers calculated: 10
In-rack demand: - GPM
Hose streams: 250 - GPM
Total water required (including hose streams): 504.646 - GPM @ 76.034 - Psi
Type of system: WET
Volume of dry or preaction system: - Gal

Water supply information

Date: 6-24-08
Location: SEE PLOT PLAN SHEET 1 OF 6
Source: PORTLAND WATER DISTRICT

Name of contractor: EASTERN FIRE PROTECTION
Address: 170 KITTY HAWK AVE / / AUBURN, ME 04210
Phone number: 207-784-1507
Name of designer: GRD
Authority having jurisdiction: MAINE STATE FIRE MARSHAL
Notes: (Include peaking information or gridded systems here.)

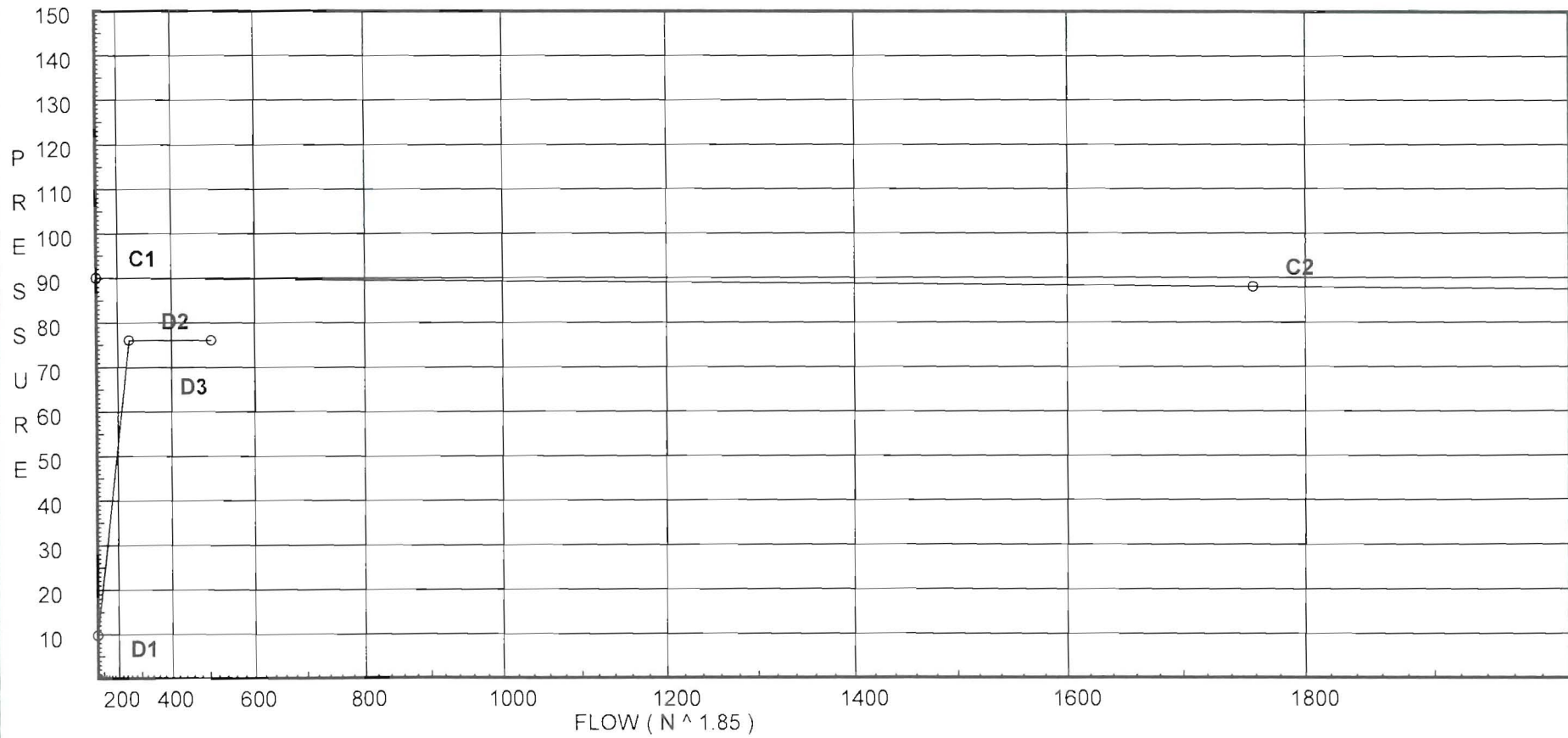
Water Supply Curve (C)

EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

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Date 4-27-11

City Water Supply:
C1 - Static Pressure . 90
C2 - Residual Pressure: 88
C2 - Residual Flow 1758

Demand:
D1 - Elevation 9.745
D2 - System Flow 254.646
D2 - System Pressure . 76.034
Hose (Demand) 250
D3 - System Demand . 504.646
Safety Margin 13.767



Fittings Used Summary

EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

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Date 4-27-11

Fitting Legend																					
Abbrev.	Name	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8	10	12	14	16	18	20	24
A	Alarm Rel E1 & E3							7.7	21.5		17		27	29							
B	NFPA 13 Butterfly Valve	0	0	0	0	0	6	7	10	0	12	9	10	12	19	21	0	0	0	0	0
E	NFPA 13 90' Standard Elbow	1	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61
Fsp	Flow Switch Potter VSR	Fitting generates a Fixed Loss Based on Flow																			
G	NFPA 13 Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
I	90' Grvd-Vic Elbow #10	0	0	2	3	4	3.5	6	5	8	7	8.5	10	13	17	20	23	25	33	36	40
S	NFPA 13 Swing Check Valve	4	5	5	7	9	11	14	16	19	22	27	32	45	55	65	76	87	98	109	130
T	NFPA 13 90' Flow thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121

Units Summary

Diameter Units	Inches
Length Units	Feet
Flow Units	US Gallons per Minute
Pressure Units	Pounds per Square Inch

Note: Fitting Legend provides equivalent pipe lengths for fittings types of various diameters. Equivalent lengths shown are standard for actual diameters of Sched 40 pipe and CFactors of 120 except as noted with *. The fittings marked with a * show equivalent lengths values supplied by manufacturers based on specific pipe diameters and CFactors and they require no adjustment. All values for fittings not marked with a * will be adjusted in the calculation for CFactors of other than 120 and diameters other than Sched 40 per NFPA.

SUPPLY ANALYSIS

<i>Node at Source</i>	<i>Static Pressure</i>	<i>Residual Pressure</i>	<i>Flow</i>	<i>Available Pressure</i>	<i>Total Demand</i>	<i>Required Pressure</i>
TEST	90.0	88	1758.0	89.801	504.65	76.034

NODE ANALYSIS

<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>	<i>Notes</i>
DP01	0.0	5.6	18.37	24.0	
150	72.5	5.31	21.63	24.68	K=K @ EQ01
151	72.5	5.31	21.81	24.78	K=K @ EQ01
152	72.5	5.31	22.51	25.17	K=K @ EQ01
153	72.5	5.31	24.0	25.99	K=K @ EQ01
155	72.5	5.31	20.46	24.0	K=K @ EQ01
156	72.5	5.6	18.51	24.09	
157	72.5		20.58		
158	72.5	5.31	20.73	24.16	K=K @ EQ01
159	72.5	5.31	21.85	24.8	K=K @ EQ01
160	72.5	5.31	24.28	26.14	K=K @ EQ01
162	72.5	5.31	33.78	30.84	K=K @ EQ01
154	72.5		32.64		
161	72.5		32.92		
163	72.5		34.45		
164	72.5		37.37		
115	72.5		42.15		
FV1	72.5		50.01		
B1	60.0		56.5		
B2	56.0		68.06		
TOR	56.0		68.31		
BASE	50.0		75.9		
TEST	50.0		76.03	250.0	

Final Calculations - Hazen-Williams - 2007

EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqv	Ln.	Pipe Ftng's Total	CFact Pf/Ft	Pt Pe Pf	***** Notes *****
DP01 to EQ01	0 0	5.60	24.00 24.0	1 1.049	2E 1T	4.0 5.0 0.0	2.500 9.000 11.500	120 0.1823	18.367 0.0 2.097	Vel = 8.91
EQ01			0.0 24.00						20.464	K Factor = 5.31
150 to 151	72.500 72.500	5.31	24.68	1.5		0.0 0.0 0.0	9.500 0.0 9.500	120 0.0192	21.632 0.0 0.182	K = K @ EQ01 Vel = 3.56
151 to 152	72.500 72.500	5.31	24.77	1.5		0.0 0.0 0.0	10.000 0.0 10.000	120 0.0697	21.814 0.0 0.697	K = K @ EQ01 Vel = 7.14
152 to 153	72.500 72.500	5.31	25.18	1.5		0.0 0.0 0.0	10.000 0.0 10.000	120 0.1492	22.511 0.0 1.492	K = K @ EQ01 Vel = 10.78
153 to 154	72.500 72.500	5.31	25.99	1.5	2T	19.799 0.0 0.0	13.500 19.799 33.299	120 0.2593	24.003 0.0 8.635	K = K @ EQ01 Vel = 14.53
154			0.0 100.62						32.638	K Factor = 17.61
155 to 157	72.500 72.500	5.31	24.00	1.5		0.0 0.0 0.0	6.083 0.0 6.083	120 0.0184	20.464 0.0 0.112	K = K @ EQ01 Vel = 3.47
157			0.0 24.00						20.576	K Factor = 5.29
156 to 157	72.500 72.500	5.60	24.09	1	1T	5.0 0.0 0.0	6.250 5.000 11.250	120 0.1836	18.510 0.0 2.066	Vel = 8.94
157 to 158	72.500 72.500		24.00	1.5		0.0 0.0 0.0	2.333 0.0 2.333	120 0.0660	20.576 0.0 0.154	Vel = 6.94
158 to 159	72.500 72.500	5.31	24.16	1.5		0.0 0.0 0.0	8.000 0.0 8.000	120 0.1405	20.730 0.0 1.124	K = K @ EQ01 Vel = 10.43
159 to 160	72.500 72.500	5.31	24.80	1.5		0.0 0.0 0.0	10.000 0.0 10.000	120 0.2426	21.854 0.0 2.426	K = K @ EQ01 Vel = 14.01
160 to 161	72.500 72.500	5.31	26.14	1.5	1T	9.9 0.0 0.0	13.000 9.900 22.900	120 0.3771	24.280 0.0 8.635	K = K @ EQ01 Vel = 17.79
161			0.0 123.19						32.915	K Factor = 21.47
162 to 163	72.500 72.500	5.31	30.84	1.5	1T	9.9 0.0 0.0	13.000 9.900 22.900	120 0.0291	33.783 0.0 0.666	K = K @ EQ01 Vel = 4.45
163			0.0 30.84						34.449	K Factor = 5.25
154 to 161	72.500 72.500		100.62	2.5		0.0 0.0 0.0	9.500 0.0 9.500	120 0.0292	32.638 0.0 0.277	Vel = 5.92

Final Calculations - Hazen-Williams - 2007

EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

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Date 4-27-11

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqv	Ln.	Pipe Ftng's Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
161 to 163	72.500 72.500		123.19 223.81	2.5 2.635		0.0 0.0	12.000 0.0	120 0.1278	32.915 0.0			
163 to 164	72.500 72.500		30.84 254.65	2.5 2.635	1T	16.474 0.0	1.500 16.474	120 0.1623	34.449 0.0		Vel = 13.17	
164 to 115	72.500 72.5		0.0 254.65	3 3.26	1T	20.159 0.0	62.833 20.159	120 0.0576	37.367 0.0		Vel = 14.98	
115 to FV1	72.5 72.500		0.0 254.65	3 3.26	1Fsp 1B 1S 1T 1E	0.0 13.44 21.503 20.159 9.408	20.000 64.510 84.510	120 0.0576	42.146 3.000 4.866		* Fixed loss = 3 Vel = 9.79	
FV1 to B1	72.500 60		0.0 254.65	3 3.26	1I	6.72 0.0	12.000 6.720	120 0.0576	50.012 5.414		Vel = 9.79	
B1 to B2	60 56		0.0 254.65	3 3.26	5I 1T	33.599 20.159	116.833 53.758	120 0.0576	56.504 1.732		Vel = 9.79	
B2 to TOR	56 56		0.0 254.65	4 4.026	1E	10.0 0.0	2.000 10.000	120 0.0206	68.059 0.0		Vel = 9.79	
TOR to BASE	56 50		0.0 254.65	4 4.026	7E 1A 1G	70.0 17.0 2.0	8.000 89.000 97.000	120 0.0206	68.306 5.599 1.998		* Fixed loss = 3 Vel = 6.42	
BASE to TEST	50 50		0.0 254.65	6 6.16	1T 1G	43.037 4.304	20.000 47.341	140 0.0019	75.903 0.0		Vel = 2.74	
TEST			250.00 504.65						76.034		Qa = 250.00 K Factor = 57.87	



... Fire Protection by Computer Design

EASTERN FIRE PROTECTION
170 KITTY HAWK AVE
AUBURN, ME 04210
207-784-1507

Job Name	390 CONGRESS ST PORTLAND
Drawing	5 OF 6
Location	PORTLAND, ME
Remote Area	AREA#5a
Contract	AU-4726-11
Data File	AREA#5a - 5TH FLOOR.WXF

HYDRAULIC CALCULATIONS
for

Project name: 390 CONGRESS ST
Location: PORTLAND, ME
Drawing no: 5 OF 6
Date: 6-1-11

Design

Remote area number: AREA#5a
Remote area location: 5TH FLOOR
Occupancy classification: LIGHT HAZARD
Density: .1 - Gpm/SqFt
Area of application: 998 - SqFt
Coverage per sprinkler: 120 - SqFt
Type of sprinklers calculated: TYCO TY-FRB PENDENT 1/2" K5.6
No. of sprinklers calculated: 11
In-rack demand: - GPM
Hose streams: 100 - GPM
Total water required (including hose streams): 298.828 - GPM @ 82.534 - Psi
Type of system: WET
Volume of dry or preaction system: - Gal

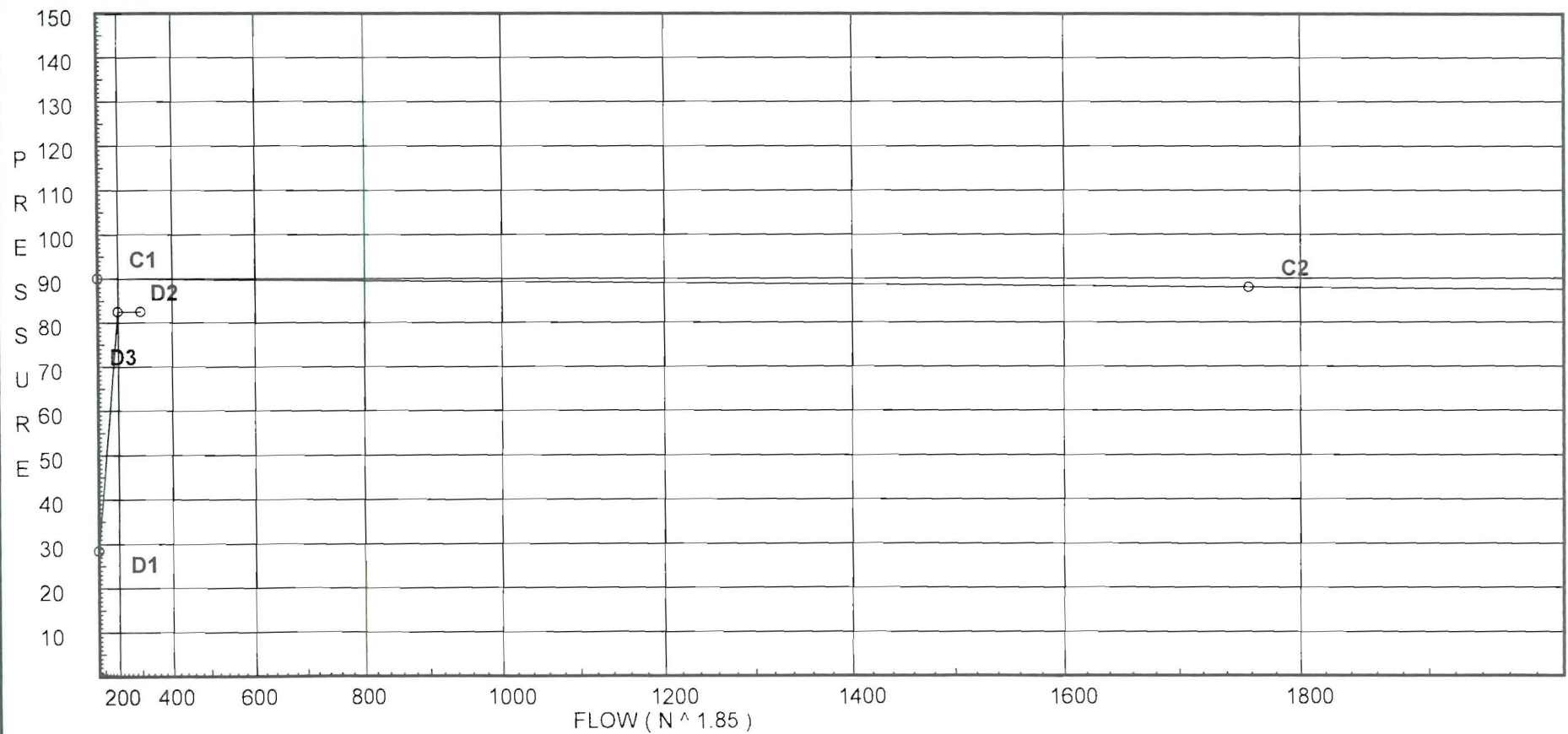
Water supply information

Date: 6-24-08
Location: SEE PLOT PLAN SHEET 1 OF 6
Source: PORTLAND WATER DISTRICT

Name of contractor: EASTERN FIRE PROTECTION
Address: 170 KITTY HAWK AVE / / AUBURN, ME 04210
Phone number: 207-784-1507
Name of designer: GRD
Authority having jurisdiction: MAINE STATE FIRE MARSHAL
Notes: (Include peaking information or gridded systems here.)

City Water Supply:
C1 - Static Pressure 90
C2 - Residual Pressure: 88
C2 - Residual Flow 1758

Demand:
D1 - Elevation 28.368
D2 - System Flow 198.828
D2 - System Pressure 82.534
Hose (Demand) 100
D3 - System Demand 298.828
Safety Margin 7.390



Fittings Used Summary

EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

Page 3
Date 4-27-11

Fitting Legend		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8	10	12	14	16	18	20	24
Abbrev.	Name																				
A	Alarm Rel E1 & E3							7.7	21.5		17		27	29							
B	NFPA 13 Butterfly Valve	0	0	0	0	0	6	7	10	0	12	9	10	12	19	21	0	0	0	0	0
E	NFPA 13 90' Standard Elbow	1	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61
Fsp	Flow Switch Potter VSR	Fitting generates a Fixed Loss Based on Flow																			
G	NFPA 13 Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
I	90' Grvd-Vic Elbow #10	0	0	2	3	4	3.5	6	5	8	7	8.5	10	13	17	20	23	25	33	36	40
S	NFPA 13 Swing Check Valve	4	5	5	7	9	11	14	16	19	22	27	32	45	55	65	76	87	98	109	130
T	NFPA 13 90' Flow thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
Zib	Wilkins 350A	Fitting generates a Fixed Loss Based on Flow																			

Units Summary

Diameter Units	Inches
Length Units	Feet
Flow Units	US Gallons per Minute
Pressure Units	Pounds per Square Inch

Note: Fitting Legend provides equivalent pipe lengths for fittings types of various diameters. Equivalent lengths shown are standard for actual diameters of Sched 40 pipe and CFactors of 120 except as noted with *. The fittings marked with a * show equivalent lengths values supplied by manufacturers based on specific pipe diameters and CFactors and they require no adjustment. All values for fittings not marked with a * will be adjusted in the calculation for CFactors of other than 120 and diameters other than Sched 40 per NFPA.

Flow Summary - NFPA 2007

EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

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Date 4-27-11

SUPPLY ANALYSIS

<i>Node at Source</i>	<i>Static Pressure</i>	<i>Residual Pressure</i>	<i>Flow</i>	<i>Available Pressure</i>	<i>Total Demand</i>	<i>Required Pressure</i>
TEST	90.0	88	1758.0	89.925	298.83	82.534

NODE ANALYSIS

<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>	<i>Notes</i>
DP01	0.0	5.6	7.0	14.82	
500	115.5	5.6	7.12	14.94	
501	115.5		8.0		
502	115.5	5.29	8.11	15.05	K=K @ EQ01
503	115.5	5.6	7.0	14.82	
504	115.5		8.22		
505	115.5	5.6	7.63	15.47	
506	115.5	5.29	8.52	15.42	K=K @ EQ01
507	115.5		9.28		
508	115.5	5.29	9.4	16.21	K=K @ EQ01
509	115.5	5.29	14.05	19.81	K=K @ EQ01
511	115.5	5.29	15.61	20.88	K=K @ EQ01
512	115.5	5.29	15.83	21.03	K=K @ EQ01
513	115.5	5.29	17.13	21.88	K=K @ EQ01
514	115.5	5.29	19.49	23.34	K=K @ EQ01
510	115.5		27.96		
515	115.5		28.28		
516	115.5		35.11		
FV5	115.5		40.9		
B1	60.0		67.2		
B2	56.0		75.15		
TOR	56.0		75.3		
BASE	50.0		82.45		
TEST	50.0		82.53	100.0	

Final Calculations - Hazen-Williams - 2007

EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqv.	Ln.	Pipe Ftng's Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
DP01 to EQ01	0 0	5.60	14.82 14.82	1 1.049	2E 1T	4.0 5.0 0.0	2.500 9.000 11.500	120 0.0747	7.000 0.0 0.859		Vel = 5.50	
EQ01			0.0 14.82						7.859		K Factor = 5.29	
500 to 501	115.500 115.500	5.60	14.94 14.94	1 1.049	1E 1T	2.0 5.0 0.0	4.625 7.000 11.625	120 0.0759	7.116 0.0 0.882		Vel = 5.55	
501 to 502	115.500 115.500		0.0 14.94	1.25 1.442		0.0 0.0 0.0	6.750 0.0 6.750	120 0.0160	7.998 0.0 0.108		Vel = 2.94	
502 to 504	115.500 115.500	5.29	15.05 29.99	1.25 1.442		0.0 0.0 0.0	2.000 0.0 2.000	120 0.0585	8.106 0.0 0.117		K = K @ EQ01 Vel = 5.89	
504			0.0 29.99						8.223		K Factor = 10.46	
503 to 504	115.500 115.500	5.60	14.82 14.82	1 1.049	1E 1T	2.0 5.0 0.0	9.375 7.000 16.375	120 0.0747	7.000 0.0 1.223		Vel = 5.50	
504 to 507	115.500 115.500		29.98 44.8	1.25 1.442		0.0 0.0 0.0	8.625 0.0 8.625	120 0.1229	8.223 0.0 1.060		Vel = 8.80	
507			0.0 44.80						9.283		K Factor = 14.70	
505 to 506	115.500 115.500	5.60	15.47 15.47	1 1.049	1E	2.0 0.0 0.0	9.000 2.000 11.000	120 0.0809	7.628 0.0 0.890		Vel = 5.74	
506 to 507	115.500 115.500	5.29	15.42 30.89	1.25 1.38	1T	6.0 0.0 0.0	4.000 6.000 10.000	120 0.0765	8.518 0.0 0.765		K = K @ EQ01 Vel = 6.63	
507 to 508	115.500 115.500		44.80 75.69	1.25 1.442		0.0 0.0 0.0	0.375 0.0 0.375	120 0.3227	9.283 0.0 0.121		Vel = 14.87	
508 to 509	115.500 115.500	5.29	16.21 91.9	1.25 1.442		0.0 0.0 0.0	10.000 0.0 10.000	120 0.4642	9.404 0.0 4.642		K = K @ EQ01 Vel = 18.05	
509 to 510	115.500 115.500	5.29	19.81 111.71	1.25 1.442	1E 1T	3.716 7.432 0.0	9.750 11.148 20.898	120 0.6659	14.046 0.0 13.917		K = K @ EQ01 Vel = 21.95	
510			0.0 111.71						27.963		K Factor = 21.13	
511 to 512	115.500 115.500	5.29	20.88 20.88	1.25 1.442		0.0 0.0 0.0	7.375 0.0 7.375	120 0.0298	15.610 0.0 0.220		K = K @ EQ01 Vel = 4.10	
512 to 513	115.500 115.500	5.29	21.03 41.91	1.25 1.442		0.0 0.0 0.0	12.000 0.0 12.000	120 0.1086	15.830 0.0 1.303		K = K @ EQ01 Vel = 8.23	

Final Calculations - Hazen-Williams - 2007

EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

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Date 4-27-11

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqv.	Ln.	Pipe Ftng's Total	CFact Pf/Ft	Pt Pe Pf	***** Notes *****
513 to 514	115.500 115.500	5.29	21.87 63.78	1.25 1.442		0.0 0.0	10.000 0.0	120	17.133 0.0	K = K @ EQ01
514 to 515	115.500 115.500	5.29	23.34 87.12	1.25 1.442	1E 1T	3.716 7.432	9.750 11.148	120	19.495 0.0	K = K @ EQ01
515			0.0 87.12				20.898	0.4204	8.786	Vel = 17.11
515									28.281	K Factor = 16.38
510 to 515	115.500 115.500		111.71 111.71	2.5 2.635		0.0 0.0	9.000 0.0	120	27.963 0.0	
515 to 516	115.500 115.500		87.12 198.83	2.5 2.635	1T	16.474 0.0	50.000 16.474	120	28.281 0.0	Vel = 6.57
516 to FV5	115.500 115.500		0.0 198.83	3 3.26	1Fsp 1B 1S 1T 1E	0.0 13.44 21.503 20.159 9.408	12.000 64.510 76.510	120	35.109 3.000 2.787	* Fixed loss = 3 Vel = 7.64
FV5 to B1	115.500 60		0.0 198.83	3 3.26	1I	6.72 0.0	55.500 6.720	120	40.896 24.037	
B1 to B2	60 56		0.0 198.83	3 3.26	5I 1T	33.599 20.159	116.833 53.758	120	67.200 1.732	Vel = 7.64
B2 to TOR	56 56		0.0 198.83	4 4.026	1E	10.0 0.0	2.000 10.000	120	75.147 0.0	
TOR to BASE	56 50		0.0 198.83	4 4.026	7E 1A 1G 1Zib	70.0 17.0 2.0 0.0	8.000 89.000 97.000	120	75.304 5.883 1.264	* Fixed loss = 3.285 Vel = 5.01
BASE to TEST	50 50		0.0 198.83	6 6.16	1T 1G	43.037 4.304	20.000 47.341	140	82.451 0.0	
TEST			100.00 298.83			0.0	67.341	0.0012	0.083	Vel = 2.14
									82.534	Qa = 100.00 K Factor = 32.89



... Fire Protection by Computer Design

EASTERN FIRE PROTECTION
170 KITTY HAWK AVE
AUBURN, ME 04210
207-784-1507

Job Name	390 CONGRESS ST PORTLAND
Drawing	6 OF 6
Location	PORTLAND, ME
Remote Area	AREA#7
Contract	AU-4726-11
Data File	AREA#7 - 7TH FLOOR.WXF

HYDRAULIC CALCULATIONS
for

Project name: 390 CONGRESS ST
Location: PORTLAND, ME
Drawing no: 6 OF 6
Date: 6-1-11

Design

Remote area number: AREA#7
Remote area location: 7TH FLOOR
Occupancy classification: LIGHT HAZARD
Density: .1 - Gpm/SqFt
Area of application: 974 - SqFt
Coverage per sprinkler: 120 - SqFt
Type of sprinklers calculated: TYCO TY-FRB PENDENT 1/2" K5.6
No. of sprinklers calculated: 10
In-rack demand: - GPM
Hose streams: 100 - GPM
Total water required (including hose streams): 260.10 - GPM @ 83.092 - Psi
Type of system: WET
Volume of dry or preaction system: - Gal

Water supply information

Date: 6-24-08
Location: SEE PLOT PLAN SHEET 1 OF 6
Source: PORTLAND WATER DISTRICT

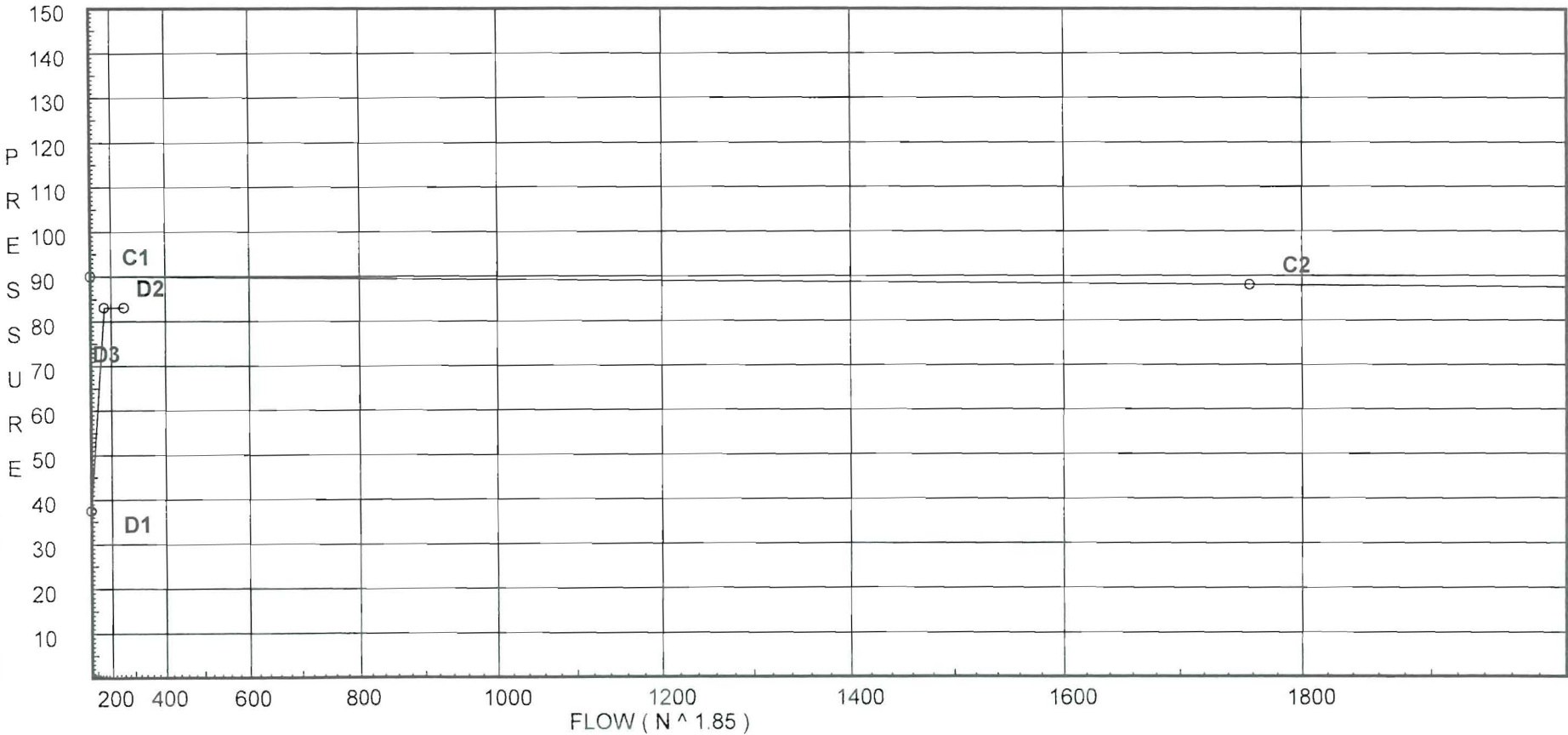
Name of contractor: EASTERN FIRE PROTECTION
Address: 170 KITTY HAWK AVE / / AUBURN, ME 04210
Phone number: 207-784-1507
Name of designer: GRD
Authority having jurisdiction: MAINE STATE FIRE MARSHAL
Notes: (Include peaking information or gridded systems here.)

Water Supply Curve (C)

EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

City Water Supply:
C1 - Static Pressure 90
C2 - Residual Pressure: 88
C2 - Residual Flow 1758

Demand:
D1 - Elevation : 37.463
D2 - System Flow : 160.1
D2 - System Pressure : 83.092
Hose (Demand) : 100
D3 - System Demand : 260.1
Safety Margin : 6.849



Fittings Used Summary

EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

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Date 4-27-11

Fitting Legend		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8	10	12	14	16	18	20	24
Abbrev.	Name																				
A	Alarm Rel E1 & E3							7.7	21.5		17		27	29							
B	NFPA 13 Butterfly Valve	0	0	0	0	0	6	7	10	0	12	9	10	12	19	21	0	0	0	0	0
E	NFPA 13 90° Standard Elbow	1	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61
Fsp	Flow Switch Potter VSR	Fitting generates a Fixed Loss Based on Flow																			
G	NFPA 13 Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
I	90° Grnd-Vic Elbow #10	0	0	2	3	4	3.5	6	5	8	7	8.5	10	13	17	20	23	25	33	36	40
S	NFPA 13 Swing Check Valve	4	5	5	7	9	11	14	16	19	22	27	32	45	55	65	76	87	98	109	130
T	NFPA 13 90° Flow thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
Zib	Wilkins 350A	Fitting generates a Fixed Loss Based on Flow																			

Units Summary

Diameter Units	Inches
Length Units	Feet
Flow Units	US Gallons per Minute
Pressure Units	Pounds per Square Inch

Note: Fitting Legend provides equivalent pipe lengths for fittings types of various diameters. Equivalent lengths shown are standard for actual diameters of Sched 40 pipe and CFactors of 120 except as noted with *. The fittings marked with a * show equivalent lengths values supplied by manufacturers based on specific pipe diameters and CFactors and they require no adjustment. All values for fittings not marked with a * will be adjusted in the calculation for CFactors of other than 120 and diameters other than Sched 40 per NFPA.

Flow Summary - NFPA 2007

EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

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Date 4-27-11

SUPPLY ANALYSIS

<i>Node at Source</i>	<i>Static Pressure</i>	<i>Residual Pressure</i>	<i>Flow</i>	<i>Available Pressure</i>	<i>Total Demand</i>	<i>Required Pressure</i>
TEST	90.0	88	1758.0	89.942	260.1	83.092

NODE ANALYSIS

<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>	<i>Notes</i>
DP01	0.0	5.6	7.0	14.82	
700	136.5	5.29	7.86	14.82	K=K @ EQ01
701	136.5	5.29	7.99	14.94	K=K @ EQ01
702	136.5	5.29	8.45	15.36	K=K @ EQ01
703	136.5	5.29	9.69	16.45	K=K @ EQ01
703A	136.5	5.29	11.9	18.23	K=K @ EQ01
705	136.5	5.29	7.98	14.93	K=K @ EQ01
706	136.5	5.29	8.08	15.02	K=K @ EQ01
707	136.5	5.29	8.55	15.45	K=K @ EQ01
708	136.5	5.29	9.81	16.55	K=K @ EQ01
708A	136.5	5.29	12.04	18.34	K=K @ EQ01
704	136.5		16.79		
709	136.5		16.99		
712	136.5		19.34		
713	136.5		23.77		
FV7	136.5		30.02		
FV6	125.5		40.32		
FV5	115.5		44.9		
B1	60.0		70.45		
B2	56.0		76.35		
TOR	56.0		76.45		
BASE	50.0		83.04		
TEST	50.0		83.09	100.0	

Final Calculations - Hazen-Williams - 2007

EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

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Date 4-27-11

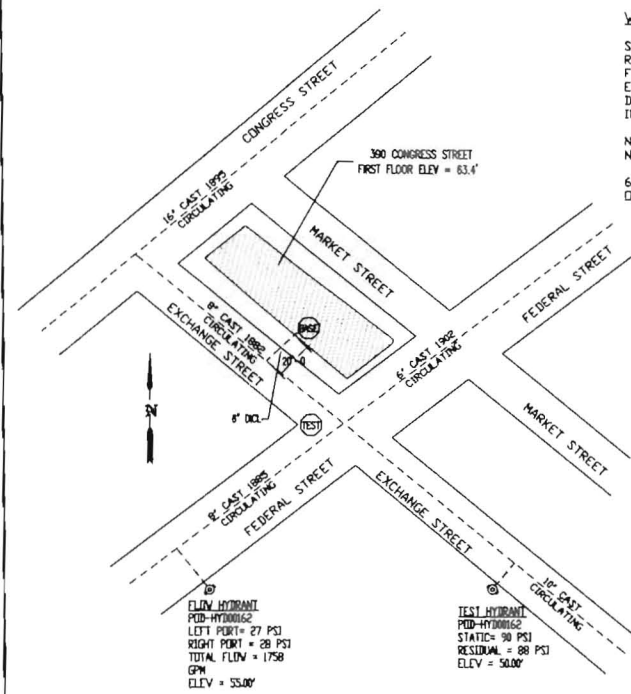
Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqv.	Ln.	Pipe Ftng's Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
DP01 to EQ01	0 0	5.60	14.82 14.82	1 1.049	2E 1T	4.0 5.0 0.0	2.500 9.000 11.500	120 0.0747	7.000 0.0 0.859		Vel = 5.50	
EQ01			0.0 14.82						7.859		K Factor = 5.29	
700 to 701	136.500 136.500	5.29	14.82	1.25		0.0 0.0 0.0	8.000 0.0 8.000	120 0.0159	7.859 0.0 0.127		K = K @ EQ01 Vel = 2.91	
701 to 702	136.500 136.500	5.29	14.93	1.25		0.0 0.0 0.0	8.000 0.0 8.000	120 0.0576	7.986 0.0 0.461		K = K @ EQ01 Vel = 5.84	
702 to 703	136.500 136.500	5.29	15.36	1.25		0.0 0.0 0.0	10.000 0.0 10.000	120 0.1244	8.447 0.0 1.244		K = K @ EQ01 Vel = 8.86	
703 to 703A	136.500 136.500	5.29	16.45	1.25		0.0 0.0 0.0	10.000 0.0 10.000	120 0.2212	9.691 0.0 2.212		K = K @ EQ01 Vel = 12.09	
703A to 704	136.500 136.500	5.29	18.24	1.25	1T	7.432 0.0 0.0	6.250 7.432 13.682	120 0.3574	11.903 0.0 4.890		K = K @ EQ01 Vel = 15.68	
704			0.0 79.80						16.793		K Factor = 19.47	
705 to 706	136.500 136.500	5.29	14.93	1.25		0.0 0.0 0.0	6.000 0.0 6.000	120 0.0162	7.984 0.0 0.097		K = K @ EQ01 Vel = 2.93	
706 to 707	136.500 136.500	5.29	15.03	1.25		0.0 0.0 0.0	8.000 0.0 8.000	120 0.0582	8.081 0.0 0.466		K = K @ EQ01 Vel = 5.89	
707 to 708	136.500 136.500	5.29	15.45	1.25		0.0 0.0 0.0	10.000 0.0 10.000	120 0.1260	8.547 0.0 1.260		K = K @ EQ01 Vel = 8.92	
708 to 708A	136.500 136.500	5.29	16.55	1.25		0.0 0.0 0.0	10.000 0.0 10.000	120 0.2238	9.807 0.0 2.238		K = K @ EQ01 Vel = 12.17	
708A to 709	136.500 136.500	5.29	18.34	1.25	1T	7.432 0.0 0.0	6.250 7.432 13.682	120 0.3616	12.045 0.0 4.947		K = K @ EQ01 Vel = 15.78	
709			0.0 80.30						16.992		K Factor = 19.48	
704 to 709	136.500 136.500		79.80	2.5		0.0 0.0 0.0	10.500 0.0 10.500	120 0.0190	16.793 0.0 0.199		Vel = 4.69	
709 to 712	136.500 136.500		80.30	2.5	1T	16.474 0.0 0.0	17.667 16.474 34.141	120 0.0688	16.992 0.0 2.349		Vel = 9.42	
712 to 713	136.500 136.500		0.0	2.5	1T	16.474 0.0 0.0	47.875 16.474 64.349	120 0.0688	19.341 0.0 4.427		Vel = 9.42	

Final Calculations - Hazen-Williams - 2007

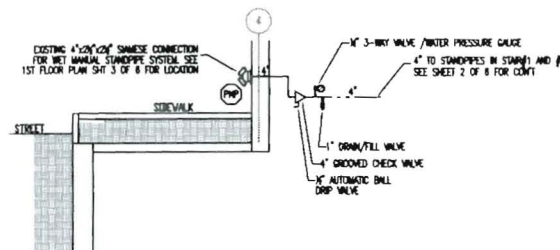
EASTERN FIRE PROTECTION
390 CONGRESS ST PORTLAND

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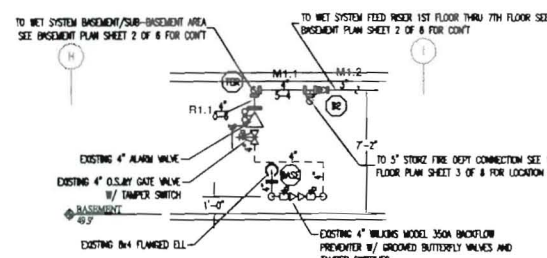
Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqv. Ln.	Pipe Ftng's Total	CFact Pf/Ft	Pt Pe Pf	***** Notes *****
713 to FV7	136.500 136.500		0.0 160.1	2.5 2.635	1I 1Fsp 1S 1B	8.237 0.0 19.22 9.61	10.250 37.067 47.317	120 3.000 3.256	* Fixed loss = 3 Vel = 9.42
FV7 to FV6	136.500 125.500		0.0 160.1	2.5 2.635	4I 1T	32.948 16.474 0.0	31.000 49.422 80.422	120 4.764 5.533	Vel = 9.42
FV6 to FV5	125.500 115.500		0.0 160.1	3 3.26		0.0 0.0 0.0	10.000 0.0 10.000	120 4.331 0.244	Vel = 6.15
FV5 to B1	115.500 60		0.0 160.1	3 3.26	1I	6.72 0.0 0.0	55.500 6.720 62.220	120 44.896 24.037 1.518	Vel = 6.15
B1 to B2	60 56		0.0 160.1	3 3.26	5I 1T	33.599 20.159 0.0	116.833 53.758 170.591	120 70.451 1.732 4.163	Vel = 6.15
B2 to TOR	56 56		0.0 160.1	4 4.026	1E	10.0 0.0 0.0	2.000 10.000 12.000	120 76.346 0.0 0.105	Vel = 4.03
TOR to BASE	56 50		0.0 160.1	4 4.026	7E 1A 1G 1Zib	70.0 17.0 2.0 0.0	8.000 89.000 97.000	120 76.451 5.739 0.847	* Fixed loss = 3.141 Vel = 4.03
BASE to TEST	50 50		0.0 160.1	6 6.16	1T 1G	43.037 4.304 0.0	20.000 47.341 67.341	140 83.037 0.0 0.055	Vel = 1.72
TEST			100.00 260.10					83.092	Qa = 100.00 K Factor = 28.53



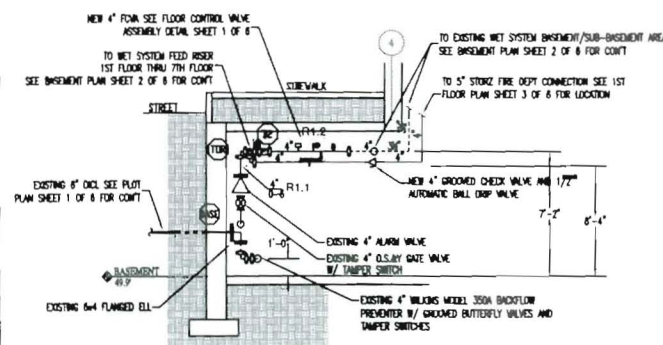
PLOT PLAN
NOT TO SCALE



STANDPIPE DETAIL "S"
NOT TO SCALE



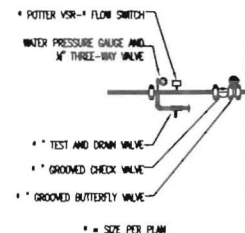
SPRINKLER SYSTEM ENTRANCE SECTION "B2"
NOT TO SCALE



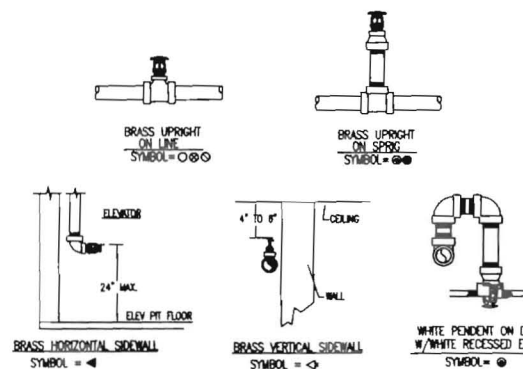
SPRINKLER SYSTEM ENTRANCE SECTION "B1"
NOT TO SCALE

WATER FLOW TEST

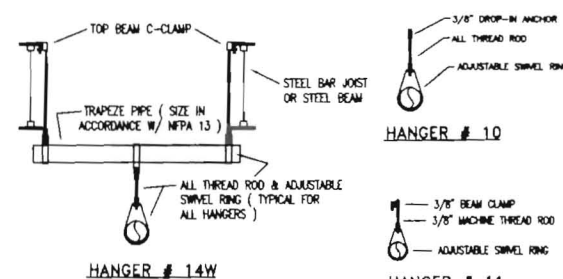
STATIC: 90 PSI
RESIDUAL: 88 PSI
FLOW: 1758 GPM
ELEVATION: 50.00'
DATE OF TEST: 6/24/2008
INFORMATION PROVIDED BY PORTLAND WATER DISTRICT.
NOTE: EASTERN FIRE PROTECTION CO. TO START WORK AT NEW 6" UNIFLANGE INSIDE THE BUILDING.
6" DIOL PIPE IS EXISTING, PREVIOUSLY INSTALLED BY OTHERS.



TYPICAL FLOOR CONTROL VALVE ASSEMBLY
N.T.S.

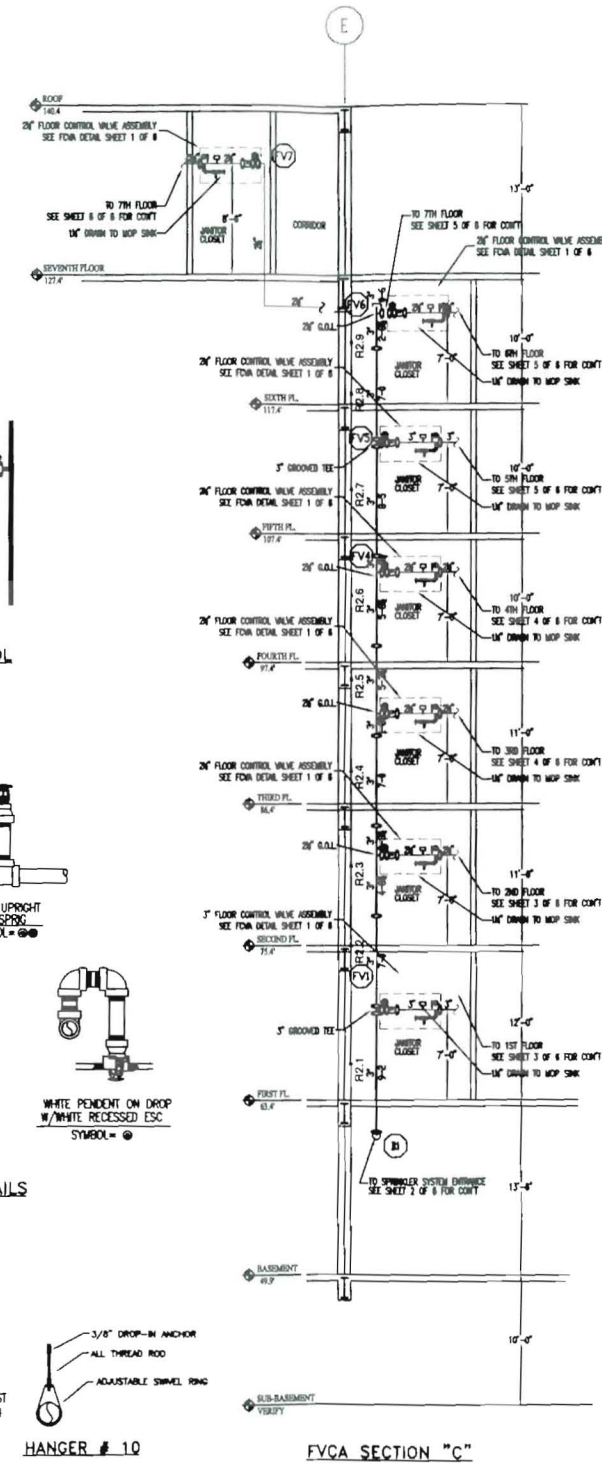


SPRINKLER HEAD DETAILS
NOT TO SCALE

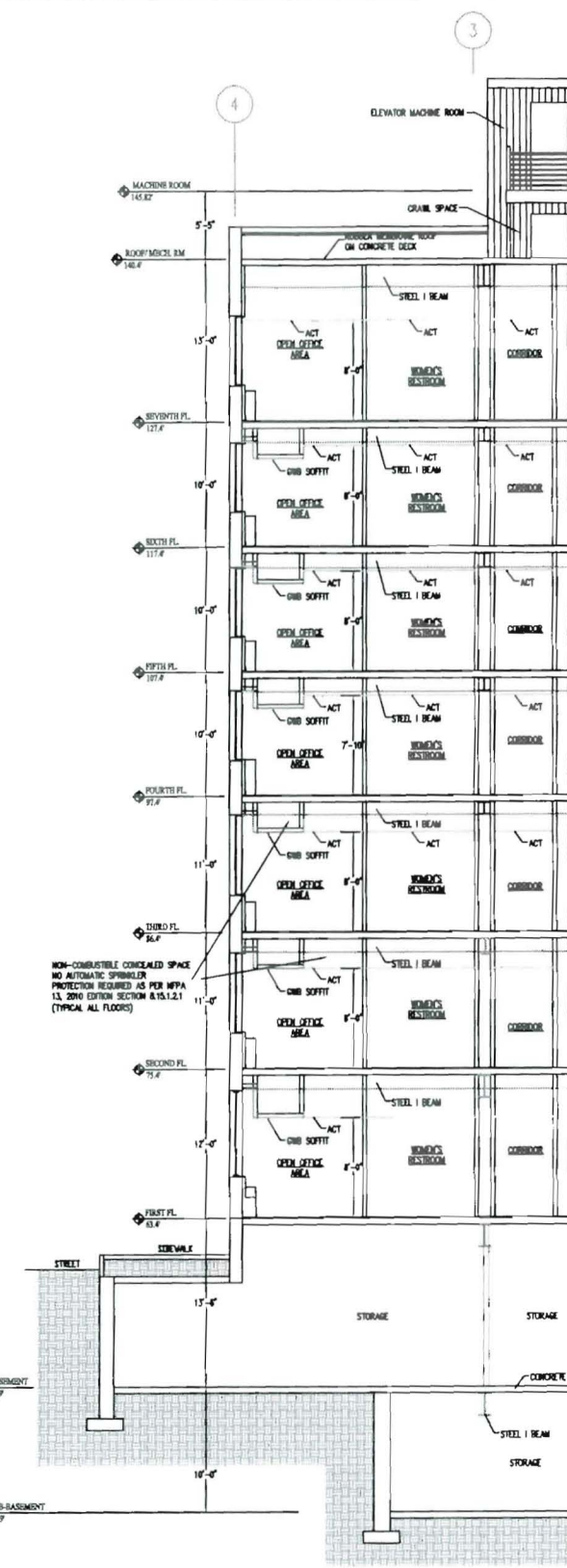


HANGER DETAILS
NOT TO SCALE

ALL HANGERS TO BE PROVIDED AND INSTALLED AS PER NFPA 13, 3/8" ROD FOR 1" TO 4" PIPE



FVCA SECTION "C"
N.T.S.



BUILDING SECTION "A"
N.T.S.

GENERAL NOTES

SPRINKLER SYSTEM INSTALLATION TO COMPLY WITH NFPA PAMPHLET #13, 2010 EDITION.

OCCUPANCY DESCRIPTION AND CLASSIFICATION:
LIGHT HAZARD = OFFICE, BATH ROOMS, CORRIDORS.

ORDINARY HAZARD GROUP I = MECH ROOMS, ELECTRIC RM AND STORAGE AREAS.

ORDINARY HAZARD GROUP II = 1ST FLOOR SALES AREA

SCOPE OF WORK:
INSTALL NEW WET SPRINKLER SYSTEM WITH FLOOR CONTROL VALVE ASSEMBLIES FOR EACH FLOOR 1ST FLOOR THRU 7TH FLOOR AND REWORK EXISTING WET SPRINKLER SYSTEM IN THE BASEMENT AND SUB-BASEMENT AREAS WHICH WILL BE IN COMPLIANCE WITH NFPA PAMPHLET #13, 2010 EDITION THROUGHOUT THE ENTIRE BUILDING.
INSTALL NEW WET MANUAL CLASS I STANDPIPE SYSTEM FOR STAIRS AND STAIRS IN COMPLIANCE WITH NFPA PAMPHLET #14, 2010 EDITION.

ALL DIMENSIONS ARE SHOWN FOR GENERAL LOCATION OF SPRINKLER HEADS; PIPING MAY VARY TO SUIT ACTUAL FIELD CONDITIONS.

SPRINKLER HEADS SHALL BE LOCATED IN THE CENTERLINE OF CEILING TILES.

ACOUSTICAL CEILING TILE (ACT) TO BE LISTED NON-COMBUSTIBLE WITH UL FLAME SPREAD OF LESS THAN 25.

STORAGE OF MATERIAL SHALL NOT EXCEED 8'-0" IN HEIGHT.

ALL WIRING TO BE DONE BY OTHERS.

--- = EXISTING WET SPRINKLER SYSTEM

--- = NEW WET SPRINKLER SYSTEM

--- = NEW WET MANUAL STANDPIPE SYSTEM

○ = HYDRAULIC REFERENCE POINTS.

FF CL = FINISH FLOOR UP TO CENTERLINE OF PIPE.

BD CL = DECK DOWN TO CENTERLINE OF PIPE.

BU CL = BOTTOM OF JUIST DOWN TO CENTERLINE OF PIPE.

FVCA = FLOOR CONTROL VALVE ASSEMBLY

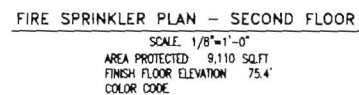
MANUAL-WET CLASS I STANDPIPE SYSTEM

THE DESIGN OF THIS STANDPIPE SYSTEM IS BASED ON THE CRITERIA OF NFPA 14. THE REQUIREMENT FOR A CLASS I SYSTEM IS 500 GPM AT THE MOST REMOTE RISER (250 GPM AT THE TWO HYDRAULICALLY MOST REMOTE HOSE CONNECTIONS WITH A MINIMUM PRESSURE OF 65 PSI AT THE HIGHEST POINT) AND 250 GPM AT A MINIMUM PRESSURE OF 65 PSI AT THE HIGHEST OUTLET ON EACH OTHER RISER TO A MAXIMUM OF 1000 GPM FOR THE COMPLETE SYSTEM.

A 4"x2 1/2" SWAMISE F.D. CONNECTION TO BE MOUNTED ON THE SOUTH SIDE OF THE BUILDING ADJACENT TO SPRINKLER SYSTEM RISER. PORTLAND FIRE DEPARTMENT PUMPER TO BE THE SOLE SUPPLIER FOR THE STANDPIPE SYSTEM WHICH IS CAPABLE OF PRODUCING 1500 GPM @ 150 PSI.

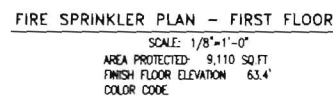
GENERAL NOTES	DATE	REVISIONS	REQUIRED APPROVALS	390 CONGRESS STREET PORTLAND, MAINE	FIRE SPRINKLER PLANS & DETAILS
SPRINKLER SYSTEM INSTALLATION TO COMPLY WITH NFPA PAMPHLET #13 2010 EDITION.			OWNER / ARCHITECT STATE FIRE MARSHAL PORTLAND FIRE DEPARTMENT PORTLAND CODE ENFORCEMENT		DWG. NO. 1 OF 6
BRANCH LINE PIPING 1" TO BE BLACK STEEL SCHD 40 JOINED BY THREADED DUCTILE IRON FITTINGS.			DRAWN BY: GRD CHECKED BY: MAF CONTRACTOR LICENSE # 101	CONTRACT WITH: OWNER	JOB NUMBER AN-4728-11
MAIN/BRANCH LINE PIPING 1 1/2" AND LARGER TO BE BLACK STL SCHD 40 W/GROOVED ENDS & WELDED OUTLETS JOINED BY MECH COUPLERS.			CONTRACTOR RING # 368	EASTERN FIRE PROTECTION AUBURN/LEWISTON INDUSTRIAL AIRPARK, AUBURN, MAINE 04210	SCALE AS NOTED
OWNER TO PROVIDE SUFFICIENT HEAT THROUGHOUT BUILDING TO PREVENT FREEZING OF WATER FILLED SPRINKLER PIPING AND EQUIPMENT. (40° F.)					DATE 6/2/11

GENERAL NOTES	DATE	REVISIONS	REQUIRED APPROVALS	390 CONGRESS STREET PORTLAND, MAINE	FIRE SPRINKLER PLANS & DETAILS
SPRINKLER SYSTEM INSTALLATION TO COMPLY WITH NFPA FAMPHLET # 13 2010 EDITION.			OWNER / ARCHITECT STATE FIRE MARSHAL PORTLAND FIRE DEPARTMENT PORTLAND CODE ENFORCEMENT		DWG. NO 2 OF 6
BRANCH LINE PIPING 1" TO BE BLACK STEEL SCH40 JOINED BY THREADED DUCTILE IRON FITTINGS.				CONTRACT WITH: OWNER	JOB NUMBER AN-4726-11
MAIN/BRANCH LINE PIPING 1 1/2" AND LARGER TO BE BLACK STL SCH40 W/ GROOVED ENDS & WELDED OUTLETS JOINED BY WELD FLANS.			DRAWN BY: GFD CHECKED BY: NAJ CONTRACTOR LICENSE # 101	 EASTERN FIRE PROTECTION AUBURN LEWISTON INDUSTRIAL PARK AUBURN, MAINE 04210	SCALE AS NOTED
OWNER TO PROVIDE SUFFICIENT HEAT THROUGH BUILDING TO PREVENT FREEZING OF WATER FILLED SPRINKLER PIPING AND EQUIPMENT. (SEE P. 2)			CONTRACTOR REV. # 368		DATE 6/2/11



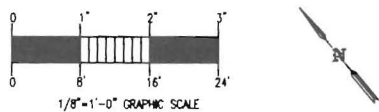
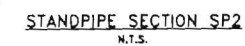
Symbol	Count	Thread	K-Factor	Description	Note
⊙	86	1/2"	5.8	TY-FRB WHITE PENDANT 150° W/ REDUCED IRC TY-3231	ON DROP
○	1	1/2"	5.8	TY-FRB UPRIGHT 150° TY-3131	ON LINE
⊙	3	1/2"	5.8	TY-FRB UPRIGHT 150° TY-3131	ON SPRIG

Σ = Total Number of Heads 2ND FLOOR

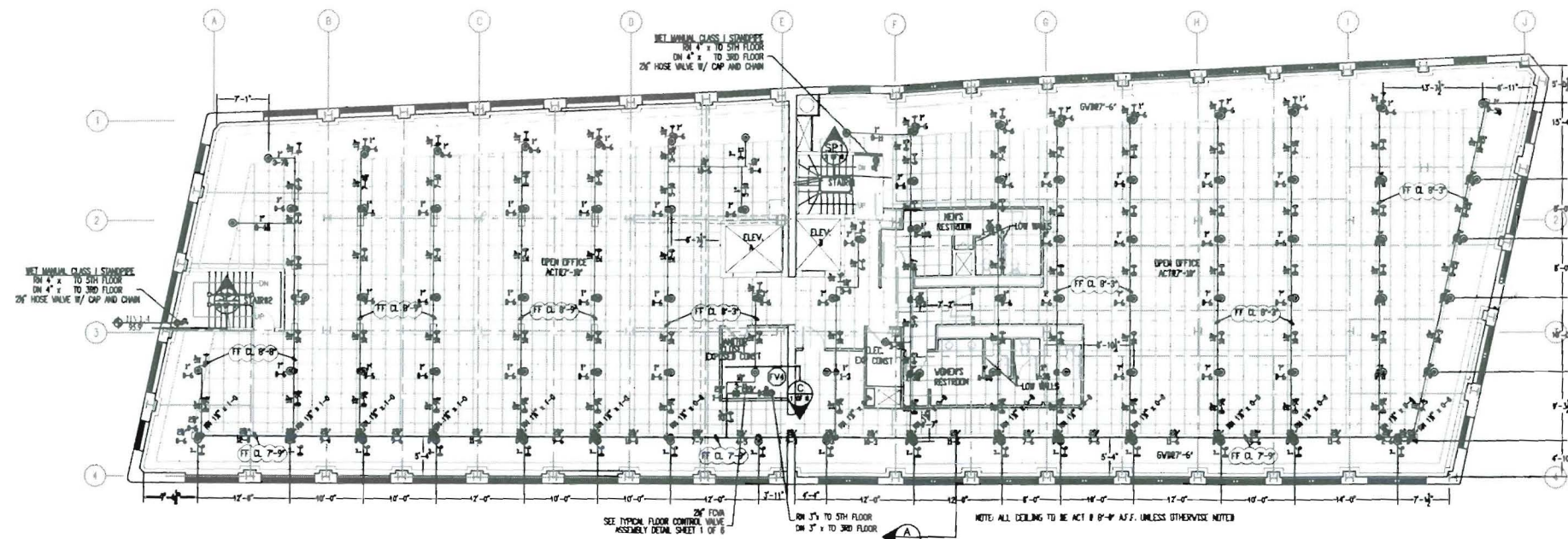


Symbol	Count	Thread	K-Factor	Description	Note
⊙	82	1/2"	5.8	TY-FIRE WHITE PENDENT 155' W/ RECESSED E3C TY-3231	ON DROP
⊙	9	1/2"	5.8	TY-FIRE UPRIGHT 155' TY-3131	ON SPRING

91 = Total Number of Heads 1ST FLOOR



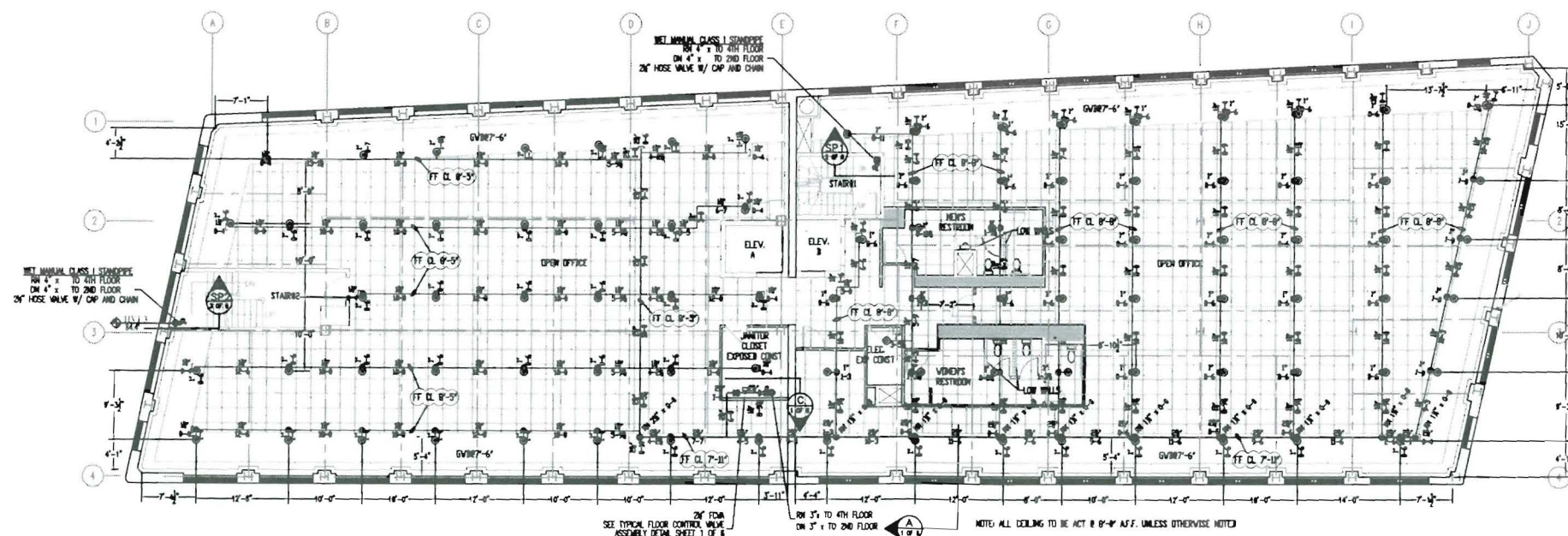
GENERAL NOTES	DATE	REVISIONS	REQUIRED APPROVALS	390 CONGRESS STREET PORTLAND, MAINE	FIRE SPRINKLER PLANS & DETAILS
SPRINKLER SYSTEM INSTALLATION TO COMPLY WITH NFPA PAMPHLET # 13 2010 EDITION.			OWNER / ARCHITECT STATE FIRE MARSHAL PORTLAND FIRE DEPARTMENT PORTLAND CODE ENFORCEMENT		DWG. NO. 3 OF 6
BRANCH LINE PIPING 1" TO BE BLACK STEEL SCHD 40 JOINED BY THREADED DUCTILE IRON FITTINGS.			DRAWN BY MSET LEVEL ■ GRD CERT # 090308	CONTRACT WITH: OWNER	JOB NUMBER AM-4726-11
MAIN/BRANCH LINE PIPING 1 1/2" AND LARGER TO BE BLACK STL SCHD 40 W/GROOVED ENDS & WELDED OUTLETS JOINED BY MECH CPLGS.			CHECKED BY MSET LEVEL ■ WAF CERT # 085574	 EASTERN FIRE PROTECTION	SCALE AS NOTED
OWNER TO PROVIDE SUFFICIENT HEAT THROUGHOUT BUILDING TO PREVENT FREEZING OF WATER FILLED SPRINKLER PIPING AND EQUIPMENT (40° F)			CONTRACTOR LICENSE # 101 CONTRACTOR TWS ■ 358	AUBURN/LEWISTON INDUSTRIAL AIRBURK, AUBURN, MAINE 04210	DATE 6/2/11



FIRE SPRINKLER PLAN - FOURTH FLOOR

SCALE: 1/8"=1'-0"
AREA PROTECTED: 9,110 SQ. FT.
FINISH FLOOR ELEVATION: 97.4'
COLOR CODE:

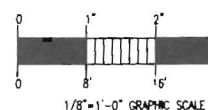
Sprinkler Head Schedule				
Symbol	Count	Thread	K-Factor	Description
●	88	1/2"	5.8	TY-FIB WHITE PENDENT 150" W/ RECESSED ESC TY-3231
●	2	1/2"	5.8	TY-FIB UPRIGHT 150" TY-3131
81 = Total Number of Heads 4TH FLOOR				



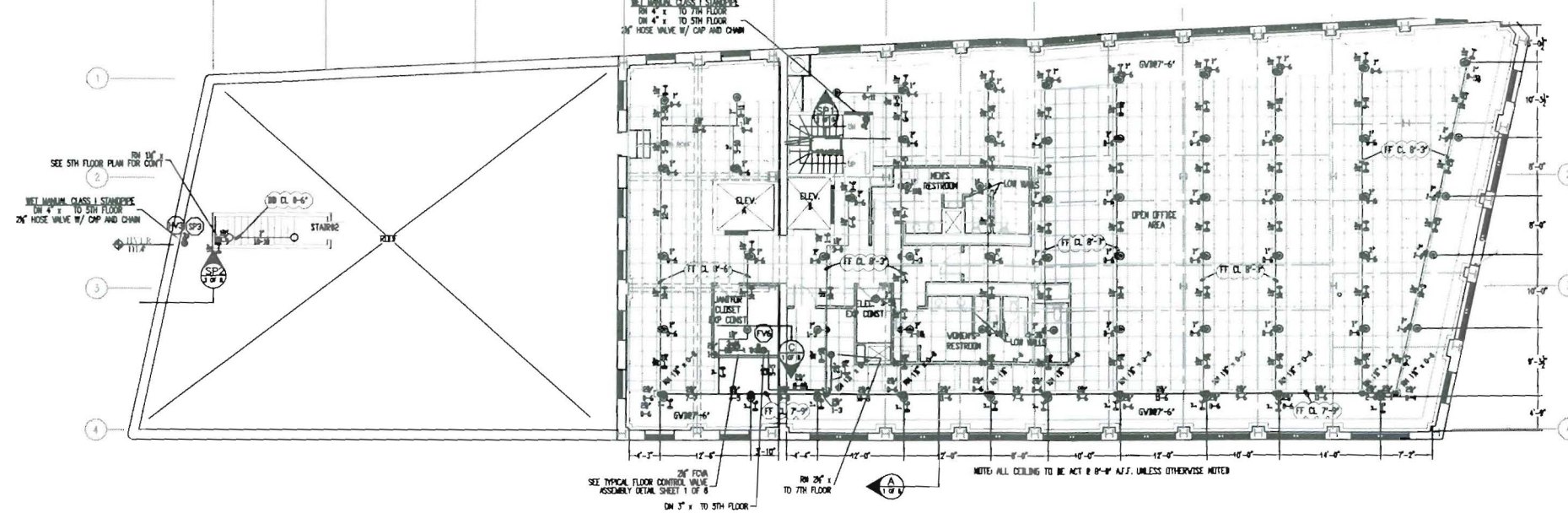
FIRE SPRINKLER PLAN - THIRD FLOOR

SCALE: 1/8"=1'-0"
AREA PROTECTED: 9,110 SQ. FT.
FINISH FLOOR ELEVATION: 88.4'
COLOR CODE:

Sprinkler Head Schedule				
Symbol	Count	Thread	K-Factor	Description
●	88	1/2"	5.8	TY-FIB WHITE PENDENT 150" W/ RECESSED ESC TY-3231
●	2	1/2"	5.8	TY-FIB UPRIGHT 150" TY-3131
90 = Total Number of Heads 3RD FLOOR				



GENERAL NOTES		DATE	REVISIONS	REQUIRED APPROVALS	390 CONGRESS STREET PORTLAND, MAINE	FIRE SPRINKLER PLANS & DETAILS
SPRINKLER SYSTEM INSTALLATION TO COMPLY WITH NFPA PAMPHLET # 13 2010 EDITION.				OWNER / ARCHITECT STATE FIRE MARSHAL PORTLAND FIRE DEPARTMENT PORTLAND CODE ENFORCEMENT		DWG. NO. 4 OF 6
BRANCH LINE PIPING 1" TO BE BLACK STEEL SCHD 40 JOINED BY THREADED DUCTILE IRON FITTINGS.				DRAWN BY: GRD INSET LMDL: CDR/ 090388	CONTRACT WITH: OWNER	JOB NUMBER AN-4726-11
MAIN/BRANCH LINE PIPING 1 1/2" AND LARGER TO BE BLACK STL SCHD 40 W/ GROOVED ENDS & WELDED OUTLETS JOINED BY WCH CPLGS.				CHECKED BY: WAF INSET LMDL: CDR/ 085574	EASTERN FIRE PROTECTION AUBURN/LEWISTON INDUSTRIAL AIRPARK, AUBURN, MAINE 04210	SCALE AS NOTED
OWNER TO PROVIDE SUFFICIENT HEAT THROUGHOUT BUILDING TO PREVENT FREEZING OF WATER FILLED SPRINKLER PIPING AND EQUIPMENT. (40° F)				CONTRACTOR LICENSE # 101 CONTRACTOR REG # 308		DATE 6/2/11

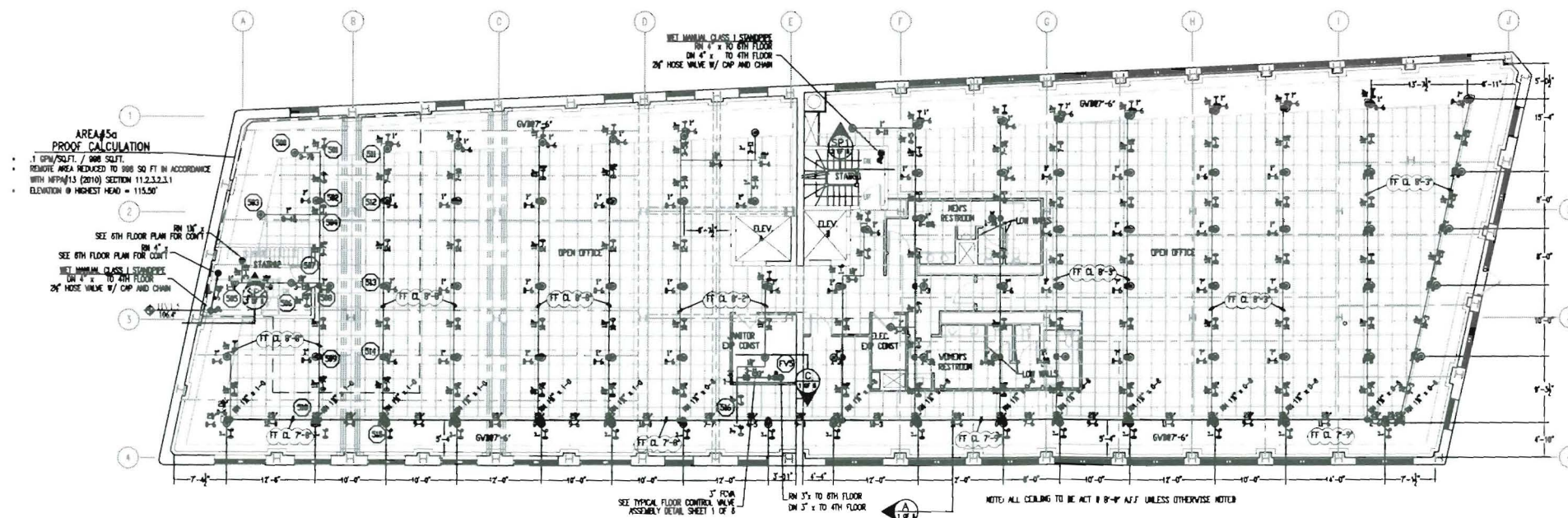


FIRE SPRINKLER PLAN - SIXTH FLOOR

SCALE: 1/8"=1'-0"
AREA PROTECTED: 6,218 SQ. FT.
FINISH FLOOR ELEVATION: 117.4'
COLOR CODE:

Sprinkler Head Schedule					
Symbol	Count	Thread	K-Factor	Description	Note
●	61	1/2"	5.6	TY-FIB WHITE PENDENT 150" W/ RECESSED ESC TY-3131	ON DROP
⊙	2	1/2"	5.6	TY-FIB UPRIGHT 150" TY-3131	ON SPRIG
○	2	1/2"	5.6	TY-FIB UPRIGHT 150" TY-3131	ON LINE

65 = Total Number of Heads 6TH FLOOR

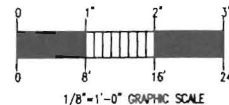


FIRE SPRINKLER PLAN - FIFTH FLOOR

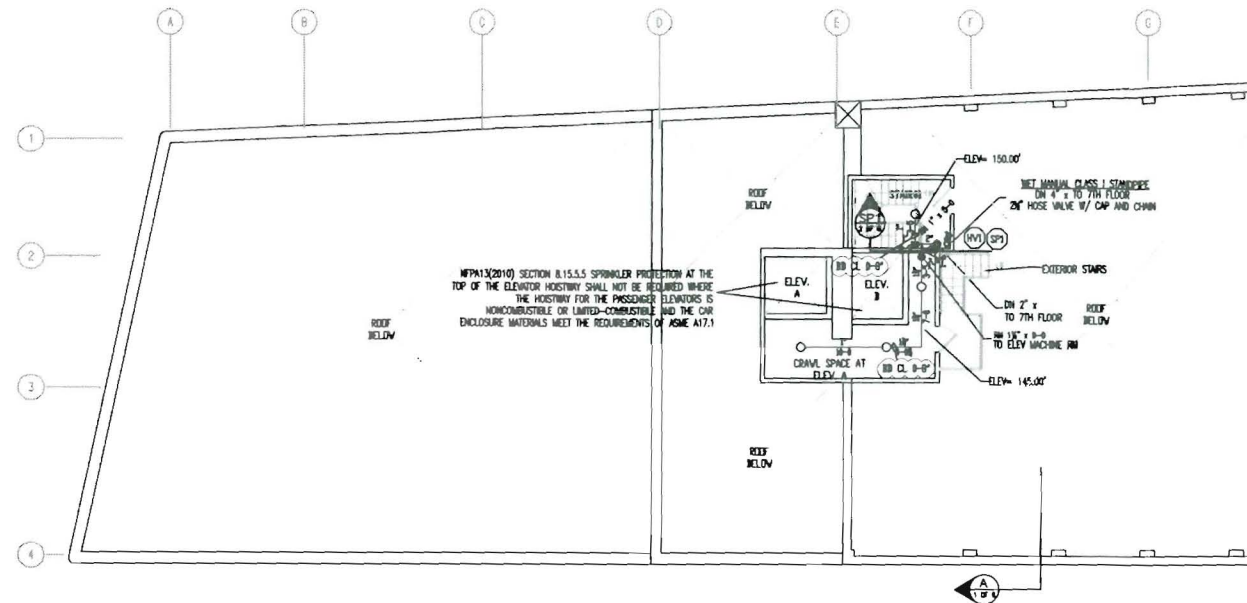
SCALE: 1/8"=1'-0"
AREA PROTECTED: 9,110 SQ. FT.
FINISH FLOOR ELEVATION: 107.4'
COLOR CODE:

Sprinkler Head Schedule					
Symbol	Count	Thread	K-Factor	Description	Note
●	80	1/2"	5.6	TY-FIB WHITE PENDENT 150" W/ RECESSED ESC TY-3131	ON DROP
⊙	4	1/2"	5.6	TY-FIB UPRIGHT 150" TY-3131	ON SPRIG

83 = Total Number of Heads 5TH FLOOR



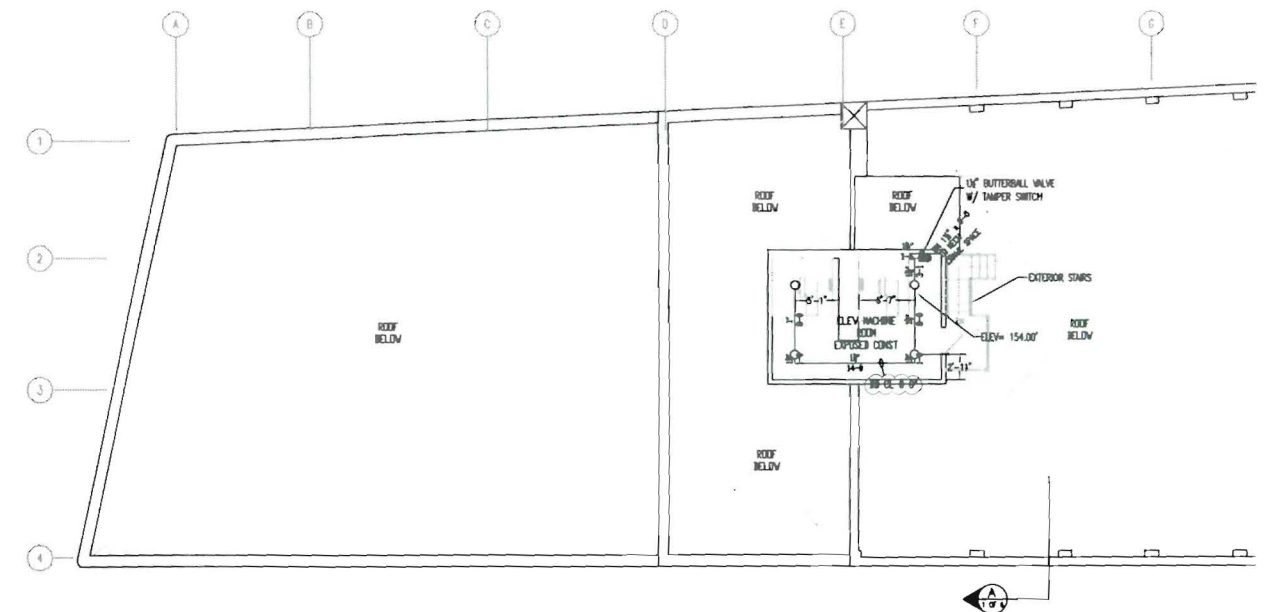
GENERAL NOTES		DATE	REVISIONS	REQUIRED APPROVALS	390 CONGRESS STREET PORTLAND, MAINE	FIRE SPRINKLER PLANS & DETAILS
SPRINKLER SYSTEM INSTALLATION TO COMPLY WITH NFPA PAMPHLET # 13 2010 EDITION. BRANCH LINE PIPING 1" TO BE BLACK STEEL SCHD 40 JOINED BY THREADED DUCTILE IRON FITTINGS. MAIN/BRANCH LINE PIPING 1 1/2" AND LARGER TO BE BLACK STL SCHD 10 W/ GROOVED ENDS & WELDED OUTLETS JOINED BY MECH CPLGS. OWNER TO PROVIDE SUFFICIENT HEAT THROUGHOUT BUILDING TO PREVENT FREEZING OF WATER FILLED SPRINKLER PIPING AND EQUIPMENT. (40° F)				OWNER / ARCHITECT STATE FIRE MARSHAL PORTLAND FIRE DEPARTMENT PORTLAND CODE ENFORCEMENT DRAWN BY: GRD CHECKED BY: WAF CONTRACTOR LICENSE: 101 CONTRACTOR INS: 368		
					CONTRACT WITH: OWNER	JOB NUMBER: AN-4726-11
					EASTERN FIRE PROTECTION AUBURN/LEWISTON INDUSTRIAL AIRPARK, AUBURN, MAINE 04210	SCALE: AS NOTED
						DATE: 6/2/11



FIRE SPRINKLER PLAN - ROOF/ MECH ROOM

SCALE: 1/8"=1'-0"
AREA PROTECTED: 347 SQ.FT.
FINISH FLOOR ELEVATION: 140.4'
COLOR CODE:

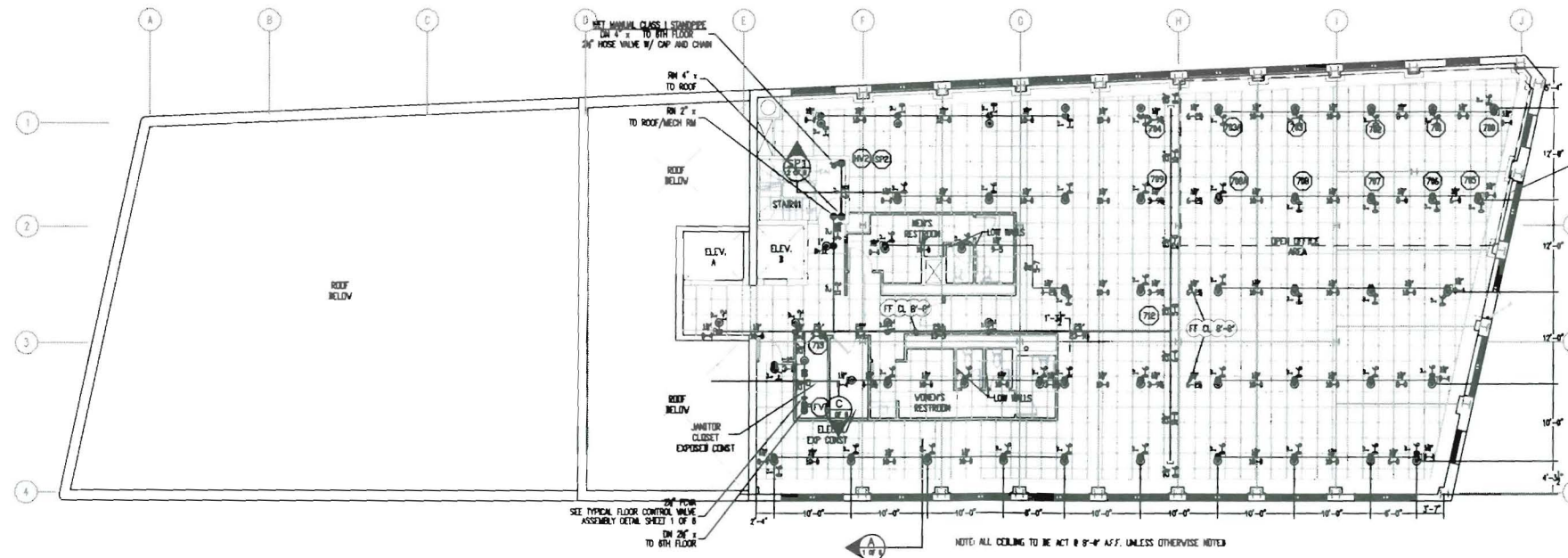
Sprinkler Head Schedule				
Symbol	Count	Thread	K-Factor	Description
○	4	1/2"	5.6	TY-FIB UPRIGHT 150' TY-3131 ON LINE
4 = Total Number of Heads ROOF/MECH RM				



FIRE SPRINKLER PLAN - ELEVATOR MACHINE ROOM

SCALE: 1/8"=1'-0"
AREA PROTECTED: 256 SQ.FT.
FINISH FLOOR ELEVATION: 145.75'
COLOR CODE:

Sprinkler Head Schedule				
Symbol	Count	Thread	K-Factor	Description
○	4	1/2"	5.6	TY-FIB UPRIGHT 150' TY-3131 ON LINE
4 = Total Number of Heads ELEVATOR MACHINE ROOM				



FIRE SPRINKLER PLAN - SEVENTH FLOOR

SCALE: 1/8"=1'-0"
AREA PROTECTED: 5,207 SQ.FT.
FINISH FLOOR ELEVATION: 127.4'
COLOR CODE:

Sprinkler Head Schedule				
Symbol	Count	Thread	K-Factor	Description
●	52	1/2"	5.6	TY-FIB WHITE PENDENT 150' W/ RECESSED CDS TY-3231 ON DROP
●	2	1/2"	5.6	TY-FIB UPRIGHT 150' TY-3131 ON SPRIG
54 = Total Number of Heads 7TH FLOOR				

AREA 7
HYDRAULICALLY REMOTE AREA
1.1 GPM/SQ.FT. / 874 SQ.FT.
REMOTE AREA REDUCED TO 874 SQ.FT. IN ACCORDANCE WITH NFPA 13 (2010) SECTION 11.2.3.2.1
ELEVATION @ HIGHEST HEAD = 136.5'

HYDRAULIC-SYSTEM
THIS BUILDING IS PROTECTED BY A HYDRAULICALLY DESIGNED AUTOMATIC SPRINKLER SYSTEM
LOCATION: AREA 7 7TH FLOOR
No. OF SPRINKLERS (CALCULATED) 10
BASIS OF DESIGN:
1. DENSITY (GPM/SQ.FT.) 1.1
2. DESIGN AREA OF DISCHARGE (SQ.FT.) 874
SYSTEM DEMAND:
1. WORK FLOW RATE 180.10 GPM
2. RESIDUAL PRESSURE AT THE INLET OF THE PUMP 85.04 PSI

HYDRAULIC DATA NAMEPLATE
TO BE INSTALLED AT SYSTEM RISER

GENERAL NOTES	DATE	REVISIONS	REQUIRED APPROVALS	390 CONGRESS STREET PORTLAND, MAINE	FIRE SPRINKLER PLANS & DETAILS
SPRINKLER SYSTEM INSTALLATION TO COMPLY WITH NFPA PAMPHLET # 13 2010 EDITION.			OWNER / ARCHITECT STATE FIRE MARSHAL PORTLAND FIRE DEPARTMENT PORTLAND CODE ENFORCEMENT		DWG. NO 6 OF 6
BRANCH LINE PIPING 1" TO BE BLACK STEEL SCHD 40 JOINED BY THREADED DUCTILE IRON FITTINGS.			DRAWN BY MISTY LEVEL MISTY LEVEL		JOB NUMBER AM-4726-11
MAIN/BRANCH LINE PIPING 1" AND LARGER TO BE BLACK STL SCHD 40 W/ GROOVED ENDS & WELDED OUTLETS JOINED BY MECH CPLGS.			CERT # 080308 WAF CERT # 060574		SCALE AS NOTED
OWNER TO PROVIDE SUFFICIENT HEAT THROUGHOUT BUILDING TO PREVENT FREEZING OF WATER FILLED SPRINKLER PIPING AND EQUIPMENT. (40° F)			CONTRACTOR LICENSE # 101 CONTRACTOR INS # 368		DATE 6/2/11
				CONTRACT WITH: OWNER EASTERN FIRE PROTECTION AUBURN/LEWISTON INDUSTRIAL AIRPARK, AUBURN, MAINE 04210	