

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK CITY OF PORTLAND

BUILDING INSPECTION PERMIT

Permit Number: 100311

Please Read
Application And
Notes. If Any,
Attached

This is to certify that SHAILER EMERSON ASSOCIATES / Eastern Fire Protection Co.
has permission to install a Fire Sprinkler system
AT 58 NORTH ST CBL 013 K001001

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.

PERMIT ISSUED

APR 7 2010

OTHER REQUIRED APPROVALS

Fire Dept. CAPT. R. Southworth
Health Dept. City of Portland
Appeal Board _____
Other _____
Department Name _____

[Signature]
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: 10-0311	Issue Date:	CBL: 013 K001001
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Location of Construction: 58 NORTH ST	Owner Name: SHAILER EMERSON ASSOCIAT	Owner Address: 307 CUMBERLAND AVE	Phone:
Business Name:	Contractor Name: Eastern Fire Protection Co., Inc.	Contractor Address: 170 Kittyhawk Ave., PO Box 1390 Au	Phone 2077841507
Lessee/Buyer's Name	Phone:	Permit Type: Fire Alarm System	Zone: R-6

Past Use: Multi-Family - 17 Unit Residential	Proposed Use: Multi-Family - 17 Unit Residential - install a Fire Sprinkler system	Permit Fee: \$380.00	Cost of Work: \$36,000.00	CEO District: 1
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Proposed Project Description: install a Fire Sprinkler system	FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied <i>* See Conditions</i>	INSPECTION: Use Group: <i>OR2</i> Type: <i>Sprinkler</i>
	Signature: <i>(Signature)</i>	Signature: <i>(Signature)</i>

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)		
Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied	Signature: _____ Date: _____	

Permit Taken By: ldobson	Date Applied For: 03/31/2010	Zoning Approval	
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<p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building permits do not include plumbing, septic or electrical work.</p> <p>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..</p>	<p>Special Zone or Reviews</p> <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> Date: <i>3/31/10</i>	<p>Zoning Appeal</p> <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date: _____	<p>Historic Preservation</p> <input checked="" type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date: _____
	<p>PERMIT ISSUED</p> <p>APR 7 2010</p> <p>City of Portland</p>		

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: 10-0311	Date Applied For: 03/31/2010	CBL: 013 K001001
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Location of Construction: 58 NORTH ST	Owner Name: SHAILER EMERSON ASSOCIAT	Owner Address: 307 CUMBERLAND AVE	Phone:
Business Name:	Contractor Name: Eastern Fire Protection Co., Inc.	Contractor Address: 170 Kittyhawk Ave., PO Box 1390 Au	Phone: (207) 784-1507
Lessee/Buyer's Name	Phone:	Permit Type: Fire Alarm System	

Proposed Use: Multi-Family - 17 Unit Residential - install a Fire Sprinkler system	Proposed Project Description: install a Fire Sprinkler system
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Dept: Zoning Status: Approved Reviewer: Marge Schmuckal Approval Date: 03/31/2010
 Note: Ok to Issue: ✓

Dept: Building Status: Approved Reviewer: Approval Date:
 Note: Ok to Issue:

Dept: Fire Status: Approved with Conditions Reviewer: Capt Keith Gaureau Approval Date: 04/07/2010
 Note: Ok to Issue: ✓

- 1) 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.
- 2) The Fire alarm and Sprinkler systems shall be reviewed by a licensed contractor[s] for code compliance.
Compliance letters are required.
- 3) Fire department connection type and location shall be approved in writing by fire prevention bureau.
- 4) System acceptance and commissioning must be co-ordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.
- 5) The sprinkler system shall be installed in accordance with NFPA 13R.

PERMIT ISSUED

APR 7 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 installation and test report shall be submitted upon completion with a separate compliance letter.

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

APR 7 2010

City of Portland



PORTLAND FIRE DEPARTMENT Sprinkler Plan Review Request Form

CBL#: 13-12-1 Date: 3.31.10

Proj # 4521(AU)
\$380.00 Fee

Fire Marshal's Permit No: _____

Address of Property where Alarm System will be Installed: Shailer School, North Street

Property Owner: Avesta, Munjoy Commons Phone No: (207) 553-7780

Owner's Address: 307 Cumberland Ave Fax No: _____

Portland, ME 04101 Email: _____

Contractor Name: Eastern Fire Protection Phone: (207) 784-1507

Address: 170 Kittyhawk Ave Fax No: _____

Auburn, ME 04210 Email: _____

Type of System: 13 13D 13R Life Safety

System Design: Wet Dry Pre-Action Deluge

Number and Location of Zones: One Tenant Fit-Up

System Monitoring: Water Flow Tamper Low Air

All sprinkler plans must be reviewed and approved by the State Fire Marshal prior to submission to the Portland Fire Department.
All sprinkler systems must meet or exceed the requirements of NFPA and the Portland Fire Department Sprinkler Ordinance, Chapter 305.

Sprinkler plans, including all applicable hydraulic calculations, must be submitted 10 days prior to scheduled meeting.

Fire Department Use Only

Applicant: _____ Date: _____

Fire Chief: _____ Date: _____

FD HTE #: _____



EASTERN FIRE PROTECTION

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

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

LETTER OF TRANSMITTAL

DATE	3-30-10	JOB NO.	AU 4521
ATTENTION	Plans Review		
RE:	Shailer School Apartments		

TO Building Inspections, Portland City Hall
3rd Floor, 389 Congress Street
Portland, Maine 04101

WE ARE SENDING YOU Attached Under separate cover via _____ the following items:

- Shop drawings
- Descriptive data
- Hydraulic calculations
- Copy of letter
- Literature
- check & Permit App.

QUANTITY	DRAWING NO.	DATE	DESCRIPTION	STATUS
1	1 of 2	3-29-10	Shop Drawing	C/E
1	2 of 2	3-29-10	Shop Drawing	C/E
1			Hydraulic Calculations (2)	C/E
1			Permit App	E
1			check #380.00 #106535	E

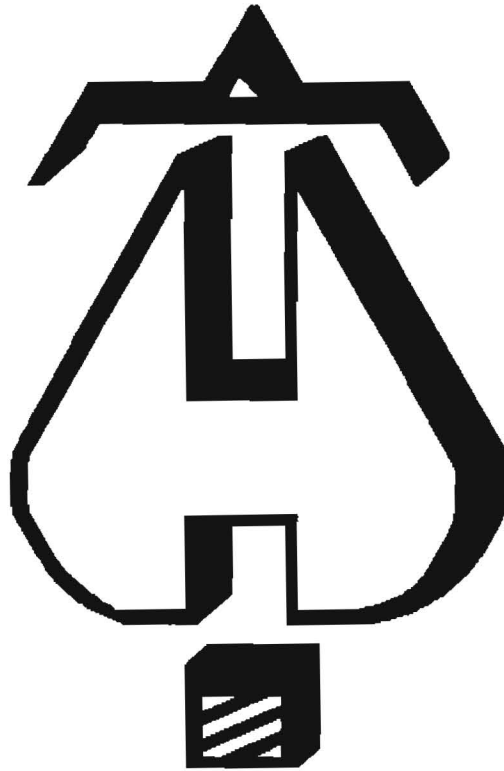
- Status code
- A. Approved
 - B. Approved as noted
 - C. Submitted for approval
 - D. Corrected & resubmitted
 - E. For your files
 - F. Refer to remarks

Please return written not.ification ~~copies each~~ indicating your approval and/or comments.

REMARKS _____

COPY TO State Fire Marshal, Allied Cook, Fib

SIGNED Daniel R. St Pierre



... Fire Protection by Computer Design

EASTERN FIRE PROTECTION
170 KITTYHAWK AVE.
AUBURN, MAINE 04210
207-784-1507

Job Name : MUNJOY COMMONS - SHAILER FOURTH FLOOR REMOTE
Drawing : WOOD, BRICK
Location : NORTH STREET, PORTLAND, MAINE
Remote Area : WET
Contract : AU-4521-10
Data File : 4521MUNJOYSHAILER4THFLR.WXF

HYDRAULIC DESIGN INFORMATION SHEET

Name - MUNJOY COMMONS - SHAILER SCHOOL 4TH FLOOR REMOTE Date - 3/29/10
Location - NORTH STREET, PORTLAND, MAINE
Building - WOOD, BRICK System No. - WET
Contractor - EASTERN FIRE PROTECTION Contract No. - AU-4521-10
Calculated By - DRS Drawing No. - 2 OF 2
Construction: (X) Combustible () Non-Combustible Ceiling Height 8'-0"
OCCUPANCY - RESIDENTIAL

S Type of Calculation: ()NFPA 13 Residential (X)NFPA 13R ()NFPA 13D
Y Number of Sprinklers Flowing: ()1 ()2 (X)4 ()
S ()Other
T ()Specific Ruling Made by Date
E
M Listed Flow at Start Point - 13 Gpm System Type
Listed Pres. at Start Point - 7 Psi (X) Wet () Dry
D MAXIMUM LISTED SPACING 16 x 16 () Deluge () PreAction
E Domestic Flow Added - Gpm Sprinkler or Nozzle
S Additional Flow Added - Gpm Make TYCO Model LF-II
I Elevation at Highest Outlet - 147.25Feet Size 1/2 K-Factor 4.9
G Note: Temperature Rating 155
N

Calculation Summary Gpm Required 52.5 C-Factor Used: Psi Required 36.1 Overhead 120 At Test Underground 140

W Water Flow Test: Pump Data: Tank or Reservoir:
A Date of Test - 3/27/06 Rated Cap. Cap.
T Time of Test - @ Psi Elev.
E Static (Psi) - 44 Elev.
R Residual (Psi) - 37 Other Well
Flow (Gpm) - 1518 Proof Flow Gpm
S Elevation - 95

P Location: TEST HYDRANT OPPOSITE QUEBEC STREET ON NORTH STREET

L Source of Information: PORTLAND WATER DISTRICT
Y

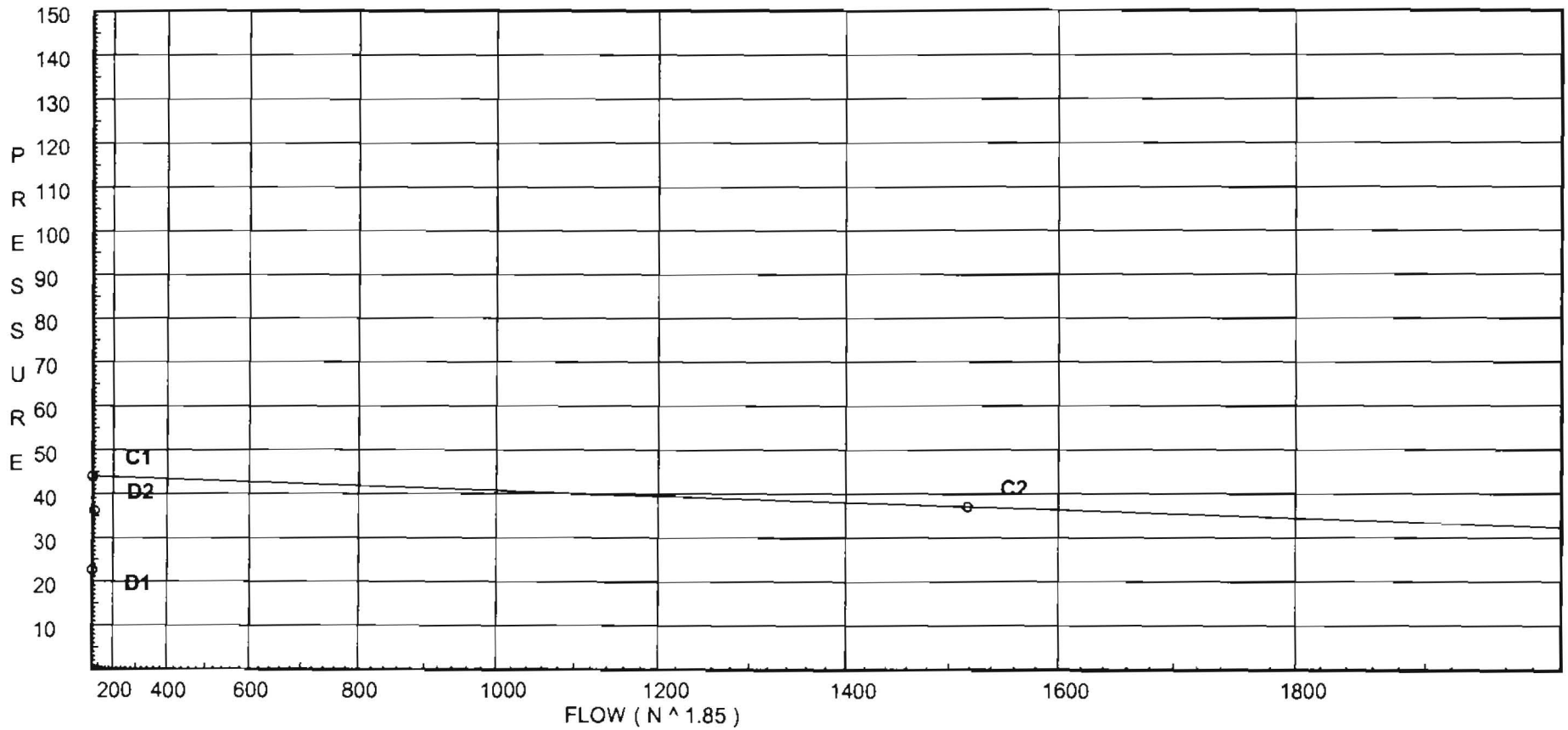
Water Supply Curve (C)

EASTERN FIRE PROTECTION
MUNJOY COMMONS - SHAILER FOURTH FLOOR REMOTE

Page 2
Date

City Water Supply:
C1 - Static Pressure : 44
C2 - Residual Pressure: 37
C2 - Residual Flow : 1518

Demand:
D1 - Elevation : 22.629
D2 - System Flow : 52.4986
D2 - System Pressure : 36.164
Hose (Adj City) : _____
Hose (Demand) : _____
D3 - System Demand : 52.4986
Safety Margin : 7.823



Fittings Used Summary

EASTERN FIRE PROTECTION
MUNJOY COMMONS - SHAILER FOURTH FLOOR REMOTE

Page 3
Date

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	
Aty	Alarm Tyco AV-1							14			23		24	23								
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	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	
F	NFPA 13 45' Elbow	1	1	1	1	2	2	3	3	3	4	5	7	9	11	13	17	19	21	24	28	
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	
L	NFPA 13 Long Turn Elbow	0.5	1	2	2	2	3	4	5	5	6	8	9	13	16	18	24	27	30	34	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

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>
MAIN	44.0	37	1518.0	43.986	52.5	36.164

NODE ANALYSIS

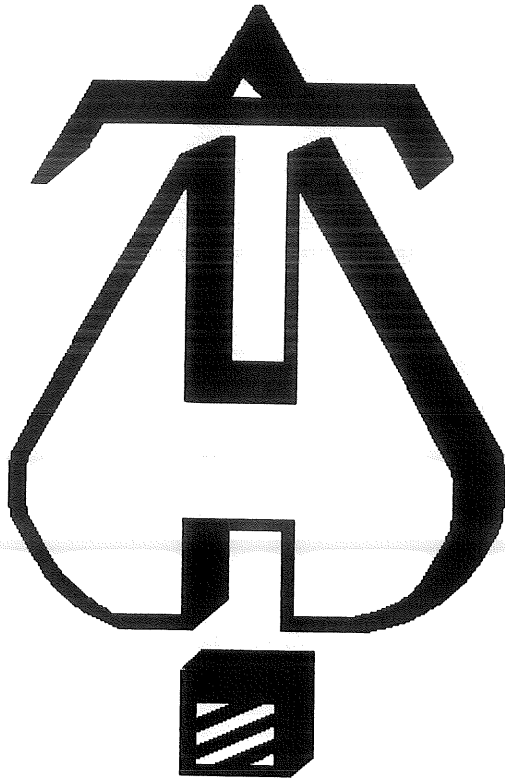
<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>	<i>Notes</i>
DRP1	0.0	4.9	7.0	12.96	
1	147.25	4.77	7.38	12.96	K=K @ LIN1
2	147.25	4.77	7.89	13.41	K=K @ LIN1
2A	148.67		7.88		
AA	148.67		8.81		
A	148.25		9.22		
3	147.25	4.77	8.54	13.95	K=K @ LIN1
3A	148.67		8.65		
3B	148.67		8.83		
BB	148.67		9.03		
B	148.25		9.29		
4	146.67	4.2	8.41	12.18	
4A	148.67		8.75		
4B	148.67		9.04		
CC	148.67		9.19		
C	148.25		9.43		
D	148.25		9.73		
E	137.83		14.58		
F	137.83		16.62		
G	123.75		22.84		
H	109.58		29.1		
I	97.79		34.39		
J	97.79		34.56		
K	97.79		34.77		
L	98.08		34.73		
TOR	98.08		34.79		
ALV	93.58		36.74		
BASE	91.08		37.85		
MAIN	95.0		36.16		

EASTERN FIRE PROTECTION
MUNJOY COMMONS - SHAILER FOURTH FLOOR REMOTE

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	*****
DRP1 to LIN1	0 0	4.90	12.96 12.96	1 1.049	1T	5.0 0.0	1.500 5.000 6.500	120 0.0583	7.000 0.0 0.379			Vel = 4.81
LIN1			0.0 12.96						7.379			K Factor = 4.77
1 to 2	147.250 147.250	4.77	12.96 12.96	1 1.049	1E	2.0 0.0	6.790 2.000 8.790	120 0.0584	7.379 0.0 0.513			K = K @ LIN1 Vel = 4.81
2 to 2A	147.250 148.670	4.77	13.41 26.37	1.25 1.38		0.0 0.0	10.625 0.0 10.625	120 0.0571	7.892 -0.615 0.607			K = K @ LIN1 Vel = 5.66
2A to AA	148.670 148.670		0.0 26.37	1.5 1.61	1T	8.0 0.0	26.540 8.000 34.540	120 0.0269	7.884 0.0 0.930			Vel = 4.16
AA to A	148.670 148.250		0.0 26.37	1.5 1.61	1T	8.0 0.0	0.420 8.000 8.420	120 0.0270	8.814 0.182 0.227			Vel = 4.16
A to B	148.250 148.250		0.0 26.37	2 2.157		0.0 0.0	9.710 0.0 9.710	120 0.0065	9.223 0.0 0.063			Vel = 2.32
B			0.0 26.37						9.286			K Factor = 8.65
3 to 3A	147.250 148.670	4.77	13.95 13.95	1 1.049		0.0 0.0	10.830 0.0 10.830	120 0.0668	8.540 -0.615 0.723			K = K @ LIN1 Vel = 5.18
3A to 3B	148.670 148.670		0.0 13.95	1.25 1.38		0.0 0.0	10.580 0.0 10.580	120 0.0176	8.648 0.0 0.186			Vel = 2.99
3B to BB	148.670 148.670		0.0 13.95	1.5 1.61	1T	8.0 0.0	16.170 8.000 24.170	120 0.0083	8.834 0.0 0.201			Vel = 2.20
BB to B	148.670 148.250		0.0 13.95	1.5 1.61	1T	8.0 0.0	0.420 8.000 8.420	120 0.0082	9.035 0.182 0.069			Vel = 2.20
B to C	148.250 148.250		26.37 40.32	2 2.157		0.0 0.0	10.125 0.0 10.125	120 0.0142	9.286 0.0 0.144			Vel = 3.54
C			0.0 40.32						9.430			K Factor = 13.13
4 to 4A	146.670 148.670	4.20	12.18 12.18	1 1.049	2E 1T	4.0 5.0	14.080 9.000 23.080	120 0.0520	8.411 -0.866 1.200			Vel = 4.52
4A to 4B	148.670 148.670		0.0 12.18	1.25 1.38		0.0 0.0	21.420 0.0 21.420	120 0.0137	8.745 0.0 0.293			Vel = 2.61
4B to CC	148.670 148.670		0.0 12.18	1.5 1.61	1T	8.0 0.0	16.170 8.000 24.170	120 0.0065	9.038 0.0 0.156			Vel = 1.92

EASTERN FIRE PROTECTION
MUNJOY COMMONS - SHAILER FOURTH FLOOR REMOTE

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	*****
CC to C	148.670 148.250		0.0 12.18	1.5 1.61	1T	8.0 0.0	0.420 8.000	120	9.194 0.182			
						0.0	8.420	0.0064	0.054	Vel =	1.92	
C to D	148.250 148.250		40.32 52.5	2 2.157	1T	12.307 0.0	0.580 12.307	120	9.430 0.0			
						0.0	12.887	0.0232	0.299	Vel =	4.61	
D to E	148.250 137.830		0.0 52.5	2 2.157	1I	4.307 0.0	10.420 4.307	120	9.729 4.513			
						0.0	14.727	0.0232	0.341	Vel =	4.61	
E to F	137.830 137.830		0.0 52.5	2 2.157	4T 1B 1S 3I	49.227 7.384 13.537 12.922	4.920 83.070 87.990	120	14.583 0.0			
						0.0	12.922	0.0232	2.040	Vel =	4.61	
F to G	137.830 123.750		0.0 52.5	2.5 2.635		0.0 0.0	14.080 0.0	120	16.623 6.098			
						0.0	14.080	0.0087	0.123	Vel =	3.09	
G to H	123.750 109.580		0.0 52.5	2.5 2.635		0.0 0.0	14.170 0.0	120	22.844 6.137			
						0.0	14.170	0.0088	0.124	Vel =	3.09	
H to I	109.580 97.790		0.0 52.5	2.5 2.635	1I	8.237 0.0	11.790 8.237	120	29.105 5.106			
						0.0	20.027	0.0087	0.175	Vel =	3.09	
I to J	97.790 97.790		0.0 52.5	2.5 2.635	1T	16.474 0.0	3.460 16.474	120	34.386 0.0			
						0.0	19.934	0.0087	0.174	Vel =	3.09	
J to K	97.790 97.790		0.0 52.5	2.5 2.635	1T	16.474 0.0	8.040 16.474	120	34.560 0.0			
						0.0	24.514	0.0088	0.215	Vel =	3.09	
K to L	97.790 98.080		0.0 52.5	3 3.26	2F	8.064 0.0	18.080 8.064	120	34.775 -0.126			
						0.0	26.144	0.0031	0.081	Vel =	2.02	
L to TOR	98.080 98.080		0.0 52.5	4 4.26	1T 1I	26.334 9.217	32.420 35.551	120	34.730 0.0			
						0.0	67.971	0.0009	0.058	Vel =	1.18	
TOR to ALV	98.080 93.580		0.0 52.5	4 4.26		0.0 0.0	4.500 0.0	120	34.788 1.949			
						0.0	4.500	0.0007	0.003	Vel =	1.18	
ALV to BASE	93.580 91.080		0.0 52.5	4 4.26	1Aty 1G	30.284 2.633	2.500 32.917	120	36.740 1.083			
						0.0	35.417	0.0008	0.030	Vel =	1.18	
BASE to MAIN	91.080 95		0.0 52.5	6 6.16	1L 1G 1T	12.911 4.304 43.037	20.000 60.252 80.252	140	37.853 -1.698			
						0.0	80.252	0.0001	0.009	Vel =	0.57	
MAIN			0.0 52.50						36.164	K Factor =	8.73	



... Fire Protection by Computer Design

EASTERN FIRE PROTECTION
170 KITTYHAWK AVE.
AUBURN, MAINE 04210
207-784-1507

Job Name : MUNJOY COMMONS - SHAILER BASEMENT PROOF
Drawing : 2 OF 2
Location : NORTH STREET, PORTLAND, MAINE
Remote Area :
Contract : AU-4521-10
Data File : 4521MUNJOYSHAILERBASEMENTPROOF.WXF

HYDRAULIC CALCULATIONS
for

Project name: MUNJOY COMMONS - SHAILER BASEMENT PROOF
Location: NORTH STREET, PORTLAND, MAINE
Drawing no: 2 OF 2
Date: 3/29/10

Design

Remote area number:
Remote area location: BASEMENT BIKE STORAGE
Occupancy classification: ORDINARY HAZARD I
Density: .15 - Gpm/SqFt
Area of application: 912.6 - SqFt
Coverage per sprinkler: 120 - SqFt
Type of sprinklers calculated: TYCO, TY-FRB, UPRIGHT, 1/2", 5.6K
No. of sprinklers calculated: 10
In-rack demand: - GPM
Hose streams: 250 - GPM
Total water required (including hose streams): 464.4 - GPM @ 30.0 - Psi
Type of system: WET
Volume of dry or preaction system: - Gal

Water supply information

Date: 3/27/06
Location: HYDRANT ON NORTH STREET AT QUEBEC STREET
Source: PORTLAND WATER DISTRICT

Name of contractor: EASTERN FIRE PROTECTION
Address: 170 KITTYHAWK AVE. / / AUBURN, MAINE 04210
Phone number: 207-784-1507
Name of designer: DRS
Authority having jurisdiction: PORTLAND FIRE DEPARTMENT
Notes: (Include peaking information or gridded systems here.) REMOTE AREA REDUCED PER NFPA#13, 2007 ED., SECTION 11.2.3.2.3.1

Water Supply Curve (C)

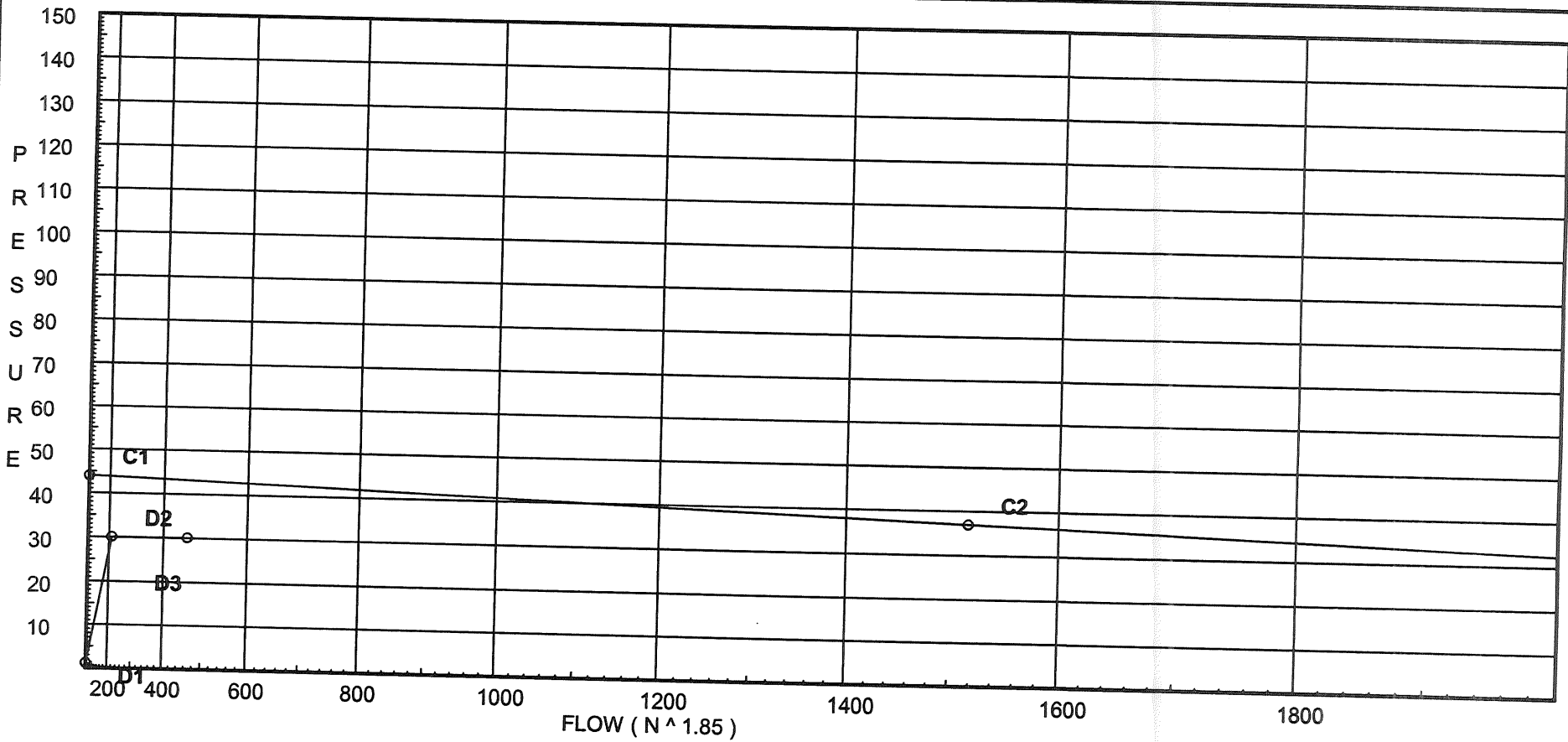
EASTERN FIRE PROTECTION
MUNJOY COMMONS - SHAILER BASEMENT PROOF

City Water Supply:

C1 - Static Pressure : 44
C2 - Residual Pressure: 37
C2 - Residual Flow : 1518

Demand:

D1 - Elevation : 1.208
D2 - System Flow : 214.435
D2 - System Pressure : 30.038
Hose (Adj City) :
Hose (Demand) : 250
D3 - System Demand : 464.435
Safety Margin : 13.179



Fittings Used Summary

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Fitting Legend																						
Abbrev.	Name	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6	8	10	12	14	16	18	20	24	
Aty	Alarm Tyco AV-1							14														
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	
F	NFPA 13 45° Elbow	1	1	1	1	2	2	3	3	3	4	5	7	9	11	13	17	19	21	24	28	
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	
L	NFPA 13 Long Turn Elbow	0.5	1	2	2	2	3	4	5	5	6	8	9	13	16	18	24	27	30	34	40	
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

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>
MAIN	44.0	37	1518.0	43.217	464.44	30.038

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>
DRP1	0.0	5.6	7.0	14.82	
1	97.79	5.6	10.33	18.0	
2	97.79	5.6	11.25	18.78	
3	97.79	5.6	14.7	21.47	
4	97.79	5.6	16.82	22.97	
5	92.46	5.6	18.7	24.22	
A	97.79		19.3		
6	97.79	5.44	11.01	18.05	
7	97.79	5.6	12.2	19.56	K=K @ LIN1
8	97.79	5.6	16.8	22.95	
9	96.79	5.6	18.66	24.19	
B	97.79		20.32		
10	97.79	5.44	19.89	24.25	K=K @ LIN1
C	97.79		21.61		
J	97.79		23.13		
K	97.79		26.03		
L	98.08		27.0		
TOR	98.08		27.77		
ALV	93.58		29.77		
BASE	91.08		31.26	250.0	
MAIN	95.0		30.04		

EASTERN FIRE PROTECTION
MUNJOY COMMONS - SHAILER BASEMENT PROOF

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	*****
DRP1 to LIN1	0 0	5.60	14.82 14.82	1 1.049	1T 0.0 0.0	5.0 0.0 5.670	120 0.0748	7.000 0.0 0.424			Vel = 5.50
LIN1			0.0 14.82					7.424		K Factor = 5.44	
1 to 2	97.790 97.790	5.60	18.00 18.0	1 1.049	0.0 0.0 0.0	8.580 0.0 8.580	120 0.1070	10.332 0.0 0.918			Vel = 6.68
2 to 3	97.790 97.790	5.60	18.78 36.78	1 1.049	0.0 0.0 0.0	8.580 0.0 8.580	120 0.4017	11.250 0.0 3.447			Vel = 13.65
3 to 4	97.790 97.790	5.60	21.47 58.25	1.25 1.38	0.0 0.0 0.0	8.580 0.0 8.580	120 0.2473	14.697 0.0 2.122			Vel = 12.49
4 to A	97.790 97.790	5.60	22.97 81.22	1.5 1.61	1T 0.0 0.0	8.0 0.0 11.500	120 0.2159	16.819 0.0 2.483			Vel = 12.80
A			0.0 81.22					19.302		K Factor = 18.49	
5 to A	92.460 97.790	5.60	24.22 24.22	1 1.049	2E 1T 0.0	4.0 5.0 15.670	120 0.1854	18.705 -2.308 2.905			Vel = 8.99
A to B	97.790 97.790		81.22 105.44	2 2.067	0.0 0.0 0.0	9.830 0.0 9.830	120 0.1037	19.302 0.0 1.019			Vel = 10.08
B			0.0 105.44					20.321		K Factor = 23.39	
6 to 7	97.790 97.790	5.44	18.05 18.05	1 1.049	0.0 0.0 0.0	11.000 0.0 11.000	120 0.1076	11.013 0.0 1.184			Vel = 6.70
7 to 8	97.790 97.790	5.60	19.55 37.6	1 1.049	0.0 0.0 0.0	11.000 0.0 11.000	120 0.4185	12.197 0.0 4.603			Vel = 13.96
8 to B	97.790 97.790	5.60	22.96 60.56	1.25 1.38	1T 6.0 0.0 0.0	7.250 7.250 6.000 13.250	120 0.2657	16.800 0.0 3.521			Vel = 12.99
B			0.0 60.56					20.321		K Factor = 13.43	
9 to B	96.790 97.790	5.60	24.19 24.19	1 1.049	2E 1T 0.0	4.0 5.0 11.330	120 0.1850	18.658 -0.433 2.096			Vel = 8.98
B to C	97.790 97.790		165.99 190.18	2 2.067	0.0 0.0 0.0	4.170 0.0 4.170	120 0.3086	20.321 0.0 1.287			Vel = 18.18
C			0.0 190.18					21.608		K Factor = 40.91	
10 to C	97.790 97.790	5.44	24.25 24.25	1 1.049	1T 5.0 0.0 0.0	4.250 4.250 5.000 9.250	120 0.1859	19.888 0.0 1.720			Vel = 9.00

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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	*****
C to J	97.790		190.19	2		0.0 0.0 4.875	120	21.608 0.0			
J to K	97.790		214.44	2.157		0.0 0.0 4.875	0.3130	1.526	Vel = 18.83		
K to L	97.790		0.0	2.5	1T	16.474 0.0 16.474	120	23.134 0.0			
L to TOR	97.790		214.44	2.635		0.0 0.0 24.514	0.1181	2.896	Vel = 12.62		
TOR to ALV	97.790		0.0	3	2F	8.064 0.0 8.064	120	26.030 -0.126			
ALV to BASE	98.080		214.44	3.26		0.0 0.0 26.144	0.0419	1.096	Vel = 8.24		
BASE to MAIN	98.080		0.0	4	1I 1T	9.217 26.334 32.420	120	27.000 0.0			
MAIN	98.080		214.44	4.26		0.0 0.0 67.971	0.0114	0.774	Vel = 4.83		
MAIN	98.080		0.0	4		0.0 0.0 4.500	120	27.774 1.949			
MAIN	93.580		214.44	4.26		0.0 0.0 4.500	0.0113	0.051	Vel = 4.83		
MAIN	93.580		0.0	4	1Aty 1G	30.284 2.633 32.917	120	29.774 1.083			
MAIN	91.080		214.44	4.26		0.0 0.0 35.417	0.0114	0.403	Vel = 4.83		
MAIN	91.080	H250	250.00	6	1L 1G	12.911 4.304 20.000	140	31.260 -1.698			
MAIN	95		464.44	6.16	1T	43.037 80.252	0.0059	0.476	Vel = 5.00		
MAIN			0.0								
MAIN			464.44					30.038	K Factor = 84.74		