

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK



CITY OF PORTLAND BUILDING PERMIT

This is to certify that
SPRINKLER SYSTEMS, INC.
PO BOX 1285
LEWISTON, ME 04243

For installation at
24 TORREY ST
SINGLE-FAMILY HOME

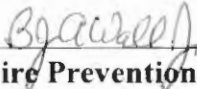
Job ID: 2012-01-3084-FAFS

CBL: 156- C-004-001

has permission install to install an NFPA 13D sprinkler system
provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

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

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


Fire Prevention Officer

(58)

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.**

Final Fire

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

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



PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • www.portlandmaine.gov

Director of Planning and Urban Development
Penny St. Louis

Job ID: 2012-01-3084-FAFS
install an NFPA 13D sprinkler system

For installation at:
24 TORREY ST
SINGLE-FAMILY HOME

CBL: 156- C-004-001

Conditions of Approval:

Fire

The sprinkler system shall be installed in accordance with NFPA 13D. A compliance letter is required. All control valves shall be supervised in accordance with NFPA 13D. Pad locks shall only be installed on valves designed to be secured in the open position by pad lock.

R-3 new single family
2011-07-1749

2012 01 3084

60



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: 23 Bay Street / 24 Tower CBL: 156 (004)

Exact location: (within structure) Entire

Type of occupancy(s) (NFPA & ICC): Residential - Single family dwelling

Building owner: Angus King III

Managing Supervisor (RMS): Scott E. Garland License No: 278

Supervisor phone: 207-775-1521 E-mail: scottg@sprinklersystemsinc.com

Installing contractor: Sprinkler Systems Inc. License No: 093

Contractor phone: 207-782-0104 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-D 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: <u>\$2,000.00</u> |
| PERMIT FEE: <u>\$40.00</u> |
| (\$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: [Signature] Date: 1-10-2012

RECEIVED

JAN 11 2012

Dept. of Building Inspections
City of Portland Maine

Sprinkler Systems, Inc.

P.O. Box 1285

Lewiston, ME 04243-1285

Letter of Transmittal

| | | | |
|------------|---|-------|-------|
| DATE | 12-9-11 | JOB # | 11083 |
| ATTENTION: | INSPECTIONS | | |
| RE: | KINE RESIDENCE 23 BOY STREET PORTLAND, ME | | |

TO: CITY OF PORTLAND
INSPECTIONS RM 315
390 LEWIS ST.
PORTLAND, ME 04101

WE ARE SENDING YOU:

- Attached Under separate cover via _____ the following items:
 Shop drawings Prints Plans Samples Specifications Wavier or Liens
 Copy of letter Change order Signed Contracts See Below

| COPIES | DATE | NO. | DESCRIPTION |
|--------|----------|------|---------------------------------|
| 1c | 12-9-11 | 1361 | SPRINKLER SHOP DRAWING |
| 1c | 12-9-11 | 1363 | HYDRAULIC CALCULATIONS PACKAGE |
| 1c | 12-16-11 | 9790 | STATE OF MAINE SPRINKLER PERMIT |
| 1c | 1-10-12 | - | PORTLAND PERMIT APPLICATION |
| 1c | 11-30-11 | - | FLOW TEST MAP |
| 1c | 11-4-12 | 2640 | \$ 40.00 PORTLAND PERMIT CHECK |
| 1c | 12-9-11 | 1361 | 11x17 SPRINKLER DRAW |

THESE ARE TRANSMITTED as checked below:

- For your approval Approved as submitted Resubmit _____ copies for approval
 For your use Approved as noted Submit _____ copies for distribution

REMARKS:

PLANS & CALLS HAVE BEEN SUBMITTED TO STATE FIRE MARSHAL & CITY OF PORTLAND FOR APPROVALS / PERMITS

Thank You,
SWEET E. GARLAND SET, PMS

SIGNED: _____

PMS. M.L.



State of Maine
Department of Public Safety
Fire Sprinkler System Permit



9790

King Residence

Located at: 23 Bay Street
 In the Town of: Portland
 Occupancy/Use: Single Family Residence
 Type of System: NFPA 13D

Permission is hereby given to:

Sprinkler Systems, Inc.

PO Box 1285
 Lewiston, ME 042431285
 Contractor License # 93

to begin installation according to plans submittal approved by the Office of State Fire Marshal. The submittal is filed under log # **2111454**, and no departure from the application submittal shall be made without prior approval in writing. This permit is issued under the provisions of Title 32, Chapter 20, Section 12004-I. Nothing herein shall excuse the holder of this permit from failure to comply with local ordinances, zoning laws, or other pertinent legal restrictions. This permit shall be displayed at the construction site or be made readily available.

This permit was issued on **12/16/2011** for a fee paid of **\$25.00**

*This permit will expire at midnight on **Wednesday, June 13, 2012***

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

John E. Morris
 Commissioner

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

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

Job completed, tested and verified by date of _____

RMS for this job: Garland Scott E.

RMS Signature: _____



CITY OF PORTLAND, MAINE
 Department of Building Inspections

Original Receipt

Jan 11 2012

Received from 27640

Location of Work 27 Torrey St / 93 Bay St

Cost of Construction \$ _____ Building Fee: _____

Permit Fee \$ _____ Site Fee: _____

Certificate of Occupancy Fee: _____

Total: _____

Building (1L) Plumbing (15) _____ Electrical (12) _____ Site Plan (U2) _____

Other Plumbing repair

CBL: 156 0004

Check #: 27640 Total Collected \$ 40.00

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

Taken by: [Signature]

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



... Fire Protection by Computer Design

Sprinkler Systems, Inc.
2-4 Avon Street
P.O. Box 1285
Lewiston, Maine 04240
207-782-0104

Job Name : KING RESIDENCE
Building :
Location : 23 BAY STREET, PORTLAND, MAINE 04103
System : 1 OF 1
Contract : 11083
Data File : KINGRES111083.wxf

Fittings Used Summary

Sprinkler Systems, Inc.
KING RESIDENCE

Page 3
Date 12-9-2011

| 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 | | | | | | | | | | | | | | | | | | | | | |
| E | 90' Standard Elbow | 2 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 12 | 14 | 18 | 22 | 27 | 35 | 40 | 45 | 50 | 61 | |
| T | 90' Flow Thru Tee | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 15 | 17 | 20 | 25 | 30 | 35 | 50 | 60 | 71 | 81 | 91 | 101 | 121 | |
| Z | Generic Flow Switch | 2 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 12 | 14 | 18 | 22 | 27 | 35 | 40 | 45 | 50 | 61 | |

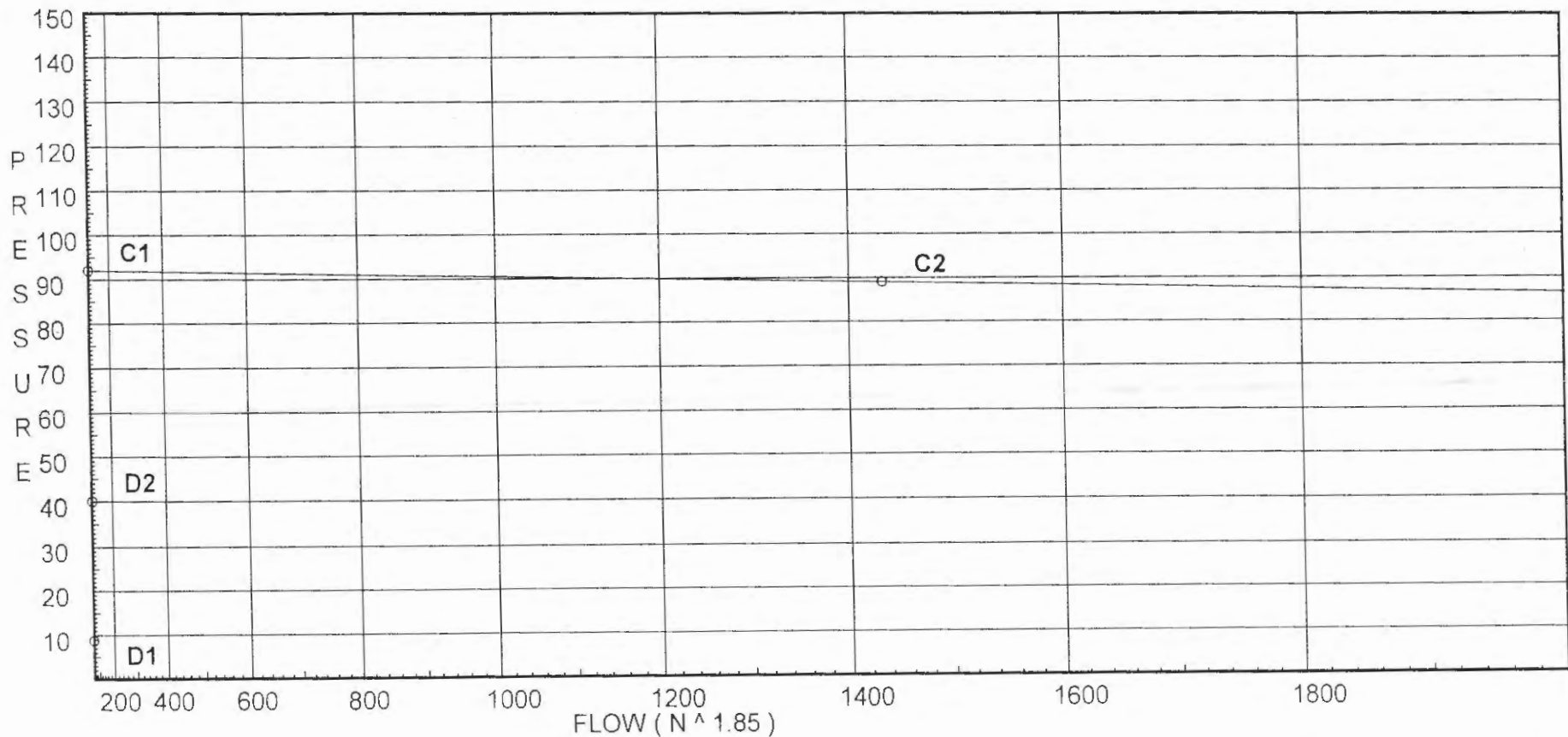
Units Summary

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

| Hyd. Ref. Point | Qa Qt | Dia. "C" Pf/Ft | Fitting or Eqv. Ln. | Pipe Ftng's Total | Pt Pe Pf | Pt Pv Pn | ***** Notes ***** |
|-----------------|----------|-------------------|---------------------|----------------------|-------------|-------------|----------------------|
| TYP | 13.00 | 1.101 | 1T 9.563 | 0.500 | 7.039 | | K Factor = 4.90 |
| to | | 150 | 0.0 | 9.562 | 0.0 | | |
| DROP | 13.0 | 0.0306 | 0.0 | 10.062 | 0.308 | | Vel = 4.38 |
| | 0.0 | | | | | | |
| | 13.00 | | | | 7.347 | | K Factor = 4.80 |
| 1 | 13.00 | 1.101 | 0.0 | 5.000 | 7.347 | | K Factor @ node DROP |
| to | | 150 | 0.0 | 0.0 | 0.0 | | |
| 2 | 13.0 | 0.0308 | 0.0 | 5.000 | 0.154 | | Vel = 4.38 |
| 2 | 13.13 | 1.101 | 1T 9.563 | 4.000 | 7.501 | | K Factor @ node DROP |
| to | | 150 | 0.0 | 9.562 | 0.0 | | |
| A | 26.13 | 0.1116 | 0.0 | 13.562 | 1.513 | | Vel = 8.81 |
| A | 0.0 | 1.101 | 1E 3.825 | 14.250 | 9.014 | | |
| to | | 150 | 1T 9.563 | 13.387 | 4.620 | | |
| B | 26.13 | 0.1116 | 0.0 | 27.637 | 3.085 | | Vel = 8.81 |
| B | 0.0 | 1.101 | 1T 9.563 | 8.083 | 16.719 | | |
| to | | 150 | 0.0 | 9.562 | 0.0 | | |
| C | 26.13 | 0.1116 | 0.0 | 17.645 | 1.969 | | Vel = 8.81 |
| C | 0.0 | 1.101 | 1E 3.825 | 24.250 | 18.688 | | |
| to | | 150 | 1T 9.563 | 13.387 | 0.0 | | |
| D | 26.13 | 0.1116 | 0.0 | 37.637 | 4.201 | | Vel = 8.81 |
| D | 0.0 | 1.101 | 1E 3.825 | 20.583 | 22.889 | | |
| to | | 150 | 0.0 | 3.825 | 0.0 | | |
| E | 26.13 | 0.1116 | 0.0 | 24.408 | 2.725 | | Vel = 8.81 |
| E | 0.0 | 1.101 | 1E 3.825 | 1.417 | 25.614 | | |
| to | | 150 | 0.0 | 3.825 | 0.0 | | |
| RT | 26.13 | 0.1116 | 0.0 | 5.242 | 0.585 | | Vel = 8.81 |
| RT | 0.0 | 1.38 | 1Z 3.0 | 8.500 | 26.199 | | |
| to | | 120 | 0.0 | 3.000 | 8.681 | | * Fixed loss = 5 |
| RB | 26.13 | 0.0562 | 0.0 | 11.500 | 0.646 | | Vel = 5.60 |
| RB | 0.0 | 1.314 | 1E 2.247 | 80.000 | 35.526 | | |
| to | | 150 | 1T 4.495 | 6.742 | 0.0 | | |
| X | 26.13 | 0.0472 | 0.0 | 86.742 | 4.091 | | Vel = 6.18 |
| X | 0.0 | 6.16 | 1T 43.037 | 360.000 | 39.617 | | |
| to | | 140 | 0.0 | 43.037 | 0.0 | | |
| X1 | 26.13 | 0.0 | 0.0 | 403.037 | 0.012 | | Vel = 0.28 |
| X1 | 0.0 | 12.34 | 1T 93.767 | 390.000 | 39.629 | | |
| to | | 140 | 0.0 | 93.767 | 0.0 | | |
| X2 | 26.13 | 0.0 | 0.0 | 483.767 | 0.001 | | Vel = 0.07 |
| X2 | 0.0 | 6.16 | 0.0 | 30.000 | 39.630 | | |
| to | | 140 | 0.0 | 0.0 | 0.433 | | |
| TEST | 26.13 | 0.0 | 0.0 | 30.000 | 0.001 | | Vel = 0.28 |
| | 0.0 | | | | | | |

City Water Supply:
 C1 - Static Pressure : 92
 C2 - Residual Pressure: 89
 C2 - Residual Flow : 1433

Demand:
 D1 - Elevation : 8.734
 D2 - System Flow : 26.1349
 D2 - System Pressure : 40.064
 Hose (Adj City) : _____
 Hose (Demand) : _____
 D3 - System Demand : 26.1349
 Safety Margin : 51.935



HYDRAULIC DESIGN INFORMATION SHEET

Name - KING RESIDENCE Date - 12-9-2011
Location - 23 BAY STREET, PORTLAND, MAINE 04103
Building -
Contractor - REDFERN PROPERTIES System No. - 1 OF 1
Contract No. - 11083
Calculated By - SCOTT E. GARLAND Drawing No. - 1 OF 1
Construction: (X) Combustible () Non-Combustible Ceiling Height 7-6
OCCUPANCY - RESIDENTIAL - SINGLE FAMILY DWELLING

S Type of Calculation: ()NFPA 13 Residential ()NFPA 13R (X)NFPA 13D
Y Number of Sprinklers Flowing: ()1 (X)2 ()4 ()
S ()Other
T ()Specific Ruling Made by Date
E
M Listed Flow at Start Point - 20.0 Gpm System Type
Listed Pres. at Start Point - 16.7 Psi (X) Wet () Dry
D MAXIMUM LISTED SPACING 20 x 20 () Deluge () PreAction
E Domestic Flow Added - Gpm Sprinkler or Nozzle
S Additional Flow Added - Gpm Make RELIABLE Model RFC49
I Elevation at Highest Outlet - 68.167Feet Size 1/2 X 1/2 K-Factor 4.9
G Note: Temperature Rating 165 DEG
N DESIGN AREA #2 - 2ND FLOOR STORAGE AREA

Calculation Gpm Required 40.514 Psi Required 47.230 AT BASE OF RISER
Summary C-Factor Used: Overhead 150 Underground 140

W Water Flow Test: Pump Data: Tank or Reservoir:
A Date of Test - 7-28-2004 Rated Cap. Cap.
T Time of Test - @ Psi Elev.
E Static (Psi) - 92 Elev.
R Residual (Psi) - 89 Other Well
Flow (Gpm) - 1433 Proof Flow Gpm
S Elevation - 50.0

P Location: ON OCEAN AVENUE AT READ STREET, 390-0 FROM BAY STREET

L Source of Information: PORTLAND WATER DISTRICT
Y

| Hyd. Ref. Point | Qa Qt | Dia. "C" Pf/Ft | Fitting or Eqv. Ln. | Pipe Ftng's Total | Pt Pe Pf | Pt Pv Pn | ***** Notes ***** |
|-----------------|--------------|------------------------|---------------------|--------------------------|------------------------------|--------------------------|-------------------------------------|
| TYP to DROP | 20.02 | 1.101 150 | 1T 0.0 | 9.563 9.562 | 0.500 0.0 | 16.700 0.0 | K Factor = 4.90 Vel = 6.75 |
| | 0.0 20.02 | | | | | 17.386 | K Factor = 4.80 |
| 3 to 4 | 20.02 | 1.101 150 | 0.0 0.0 | 12.000 0.0 | 17.386 0.0 | | K Factor @ node DROP Vel = 6.75 |
| 4 to F | 20.49 | 1.101 150 | 0.0 0.0 | 6.000 0.0 | 18.204 0.0 | | K Factor @ node DROP Vel = 13.65 |
| F to E | 40.51 | 0.2512 1.101 150 | 0.0 4E 1T | 6.000 15.3 9.563 | 6.000 24.167 24.863 | 1.507 19.711 3.754 | Vel = 13.65 |
| E to RT | 0.0 | 1.101 150 | 1E 0.0 | 3.825 0.0 | 1.417 3.825 | 35.779 0.0 | Vel = 13.65 |
| RT to RB | 40.51 | 0.2512 1.38 120 | 0.0 1Z 0.0 | 5.242 3.0 0.0 | 1.317 8.500 3.000 | | * Fixed loss = 5 Vel = 8.69 |
| RB to X | 40.51 | 0.1263 1.314 150 | 0.0 1E 1T | 11.500 2.247 4.495 | 11.500 80.000 6.742 | 1.453 47.230 0.0 | Vel = 9.58 |
| X to X1 | 0.0 | 6.16 140 | 1T 0.0 | 43.037 0.0 | 360.000 43.037 | 56.437 0.0 | Vel = 0.44 |
| X1 to X2 | 40.51 | 0.0001 12.34 140 | 0.0 1T 0.0 | 403.037 93.767 0.0 | 403.037 390.000 93.767 | 0.026 56.463 0.0 | Vel = 0.11 |
| X2 to TEST | 0.0 | 0.0 6.16 140 | 0.0 0.0 | 0.0 0.0 | 30.000 0.0 | 56.464 0.433 | Vel = 0.44 |
| | 40.51 | 0.0001 0.0 40.51 | 0.0 | 30.000 | 30.000 | 0.002 | Vel = 0.44 K Factor = 5.37 |



0 140 280 560 840 1,120 Feet 1 inch = 200 feet



PORTLAND WATER DISTRICT
 100 Douglas Street
 Portland, ME 04104

Asset Management and Planning Dept.

Drawn By: SBM
 Date: 11-30-11
 Prepped by: [Redacted]
 Sprinkler systems Inc.

This map depicts flow testing data for the selected hydrants from PWD's asset management system. A hydrant with a flow rate of 0 GPM and a static pressure of 110 PSI depicts a single-hydrant static pressure only test.

Hydrant Flow Testing Data

Date: 2010-01-08
Static PSI: 90
Residual PSI: 0
Test Flow (GPM): 0
Flow Hydrant:
Flow at 20 PSI (GPM):

Residual PSI: 0
Test Flow (GPM): 1162
Flow Hydrant: POD-HYD01528
Flow at 20 PSI (GPM): 0

POD-HYD11861 (WS003625)

Date: 2010-01-08
Static PSI: 90
Residual PSI: 0
Test Flow (GPM): 0
Flow Hydrant:
Flow at 20 PSI (GPM):

D-HYD11881 (WS003838)

Date: 2010-09-07
Static PSI: 84
Residual PSI: 0
Test Flow (GPM): 0
Flow Hydrant:
Flow at 20 PSI (GPM):

POD-HYD01449 (WS002094)

Date: 1993-08-12
Static PSI: 77
Residual PSI: 0
Test Flow (GPM): 1075
Flow Hydrant: POD-HYD01449
Flow at 20 PSI (GPM): 0

Date: 1988-07-11
Static PSI: 80
Residual PSI: 0
Test Flow (GPM): 1277
Flow Hydrant: POD-HYD01449
Flow at 20 PSI (GPM): 0

POD-HYD11879 (WS002812)

Date: 2010-08-23
Static PSI: 85
Residual PSI: 0
Test Flow (GPM): 0
Flow Hydrant:
Flow at 20 PSI (GPM):

POD-HYD01447 (WS003158)

Date: 1993-08-12
Static PSI: 74
Residual PSI: 0
Test Flow (GPM): 1000
Flow Hydrant: POD-HYD01447
Flow at 20 PSI (GPM): 0

Date: 1988-07-11
Static PSI: 80
Residual PSI: 0
Test Flow (GPM): 1233
Flow Hydrant: POD-HYD01447
Flow at 20 PSI (GPM): 0

POD-HYD11862 (WS001115)

Date: 2010-01-08
Static PSI: 90
Residual PSI: 0
Test Flow (GPM): 0
Flow Hydrant:
Flow at 20 PSI (GPM):

POD-HYD01220 (WS003536)

Date: 2004-07-28
Static PSI: 93
Residual PSI: 0
Test Flow (GPM): 1433
Flow Hydrant: POD-HYD01220
Flow at 20 PSI (GPM): 0

Date: 1993-08-12
Static PSI: 74
Residual PSI: 0
Test Flow (GPM): 1288
Flow Hydrant: POD-HYD01220
Flow at 20 PSI (GPM): 0

Date: 1988-07-07
Static PSI: 78

POD-HYD012

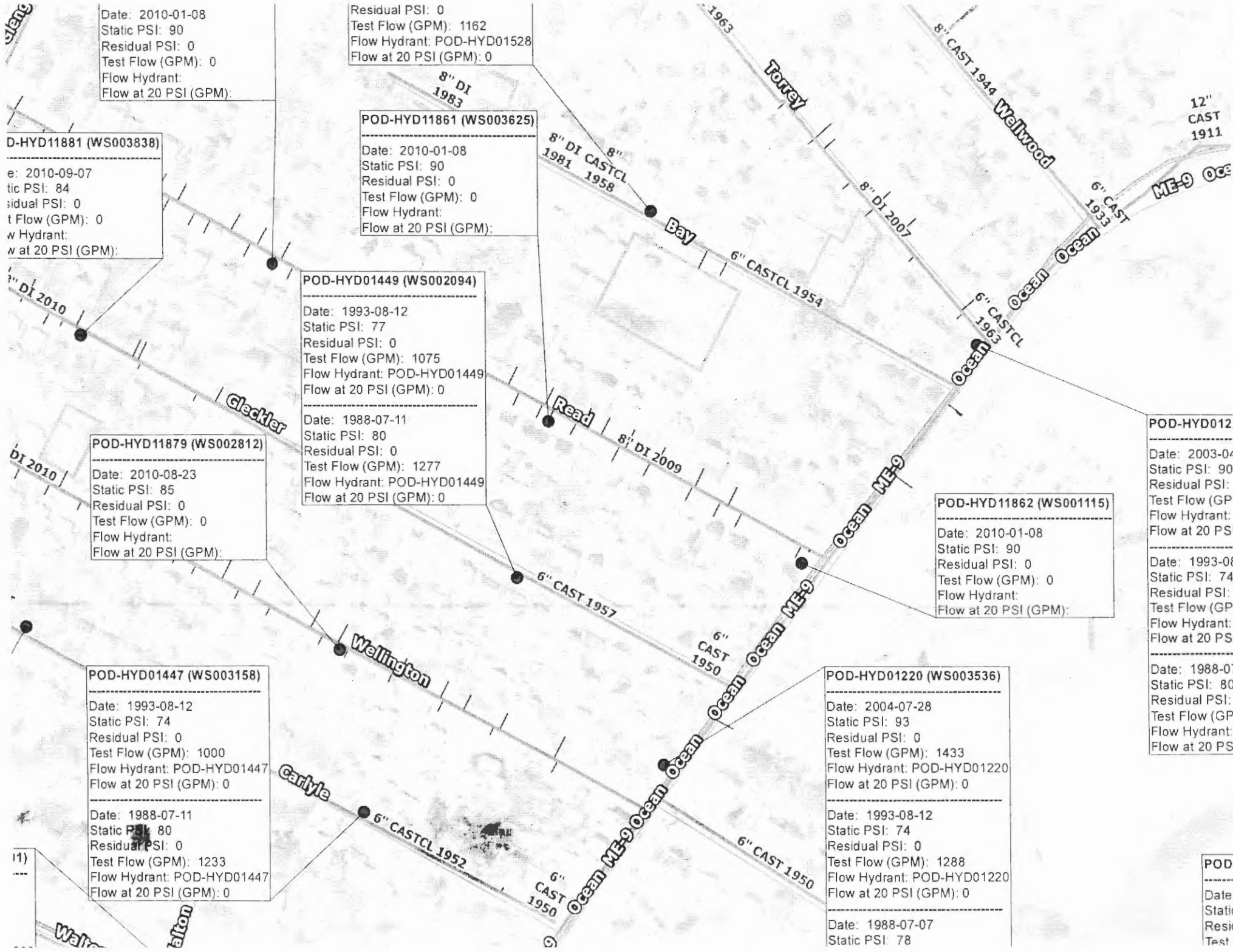
Date: 2003-04
Static PSI: 90
Residual PSI:
Test Flow (GPM):
Flow Hydrant:
Flow at 20 PSI (GPM):

Date: 1993-08
Static PSI: 74
Residual PSI:
Test Flow (GPM):
Flow Hydrant:
Flow at 20 PSI (GPM):

Date: 1988-07
Static PSI: 80
Residual PSI:
Test Flow (GPM):
Flow Hydrant:
Flow at 20 PSI (GPM):

POD-

Date:
Static
Resid
Test F



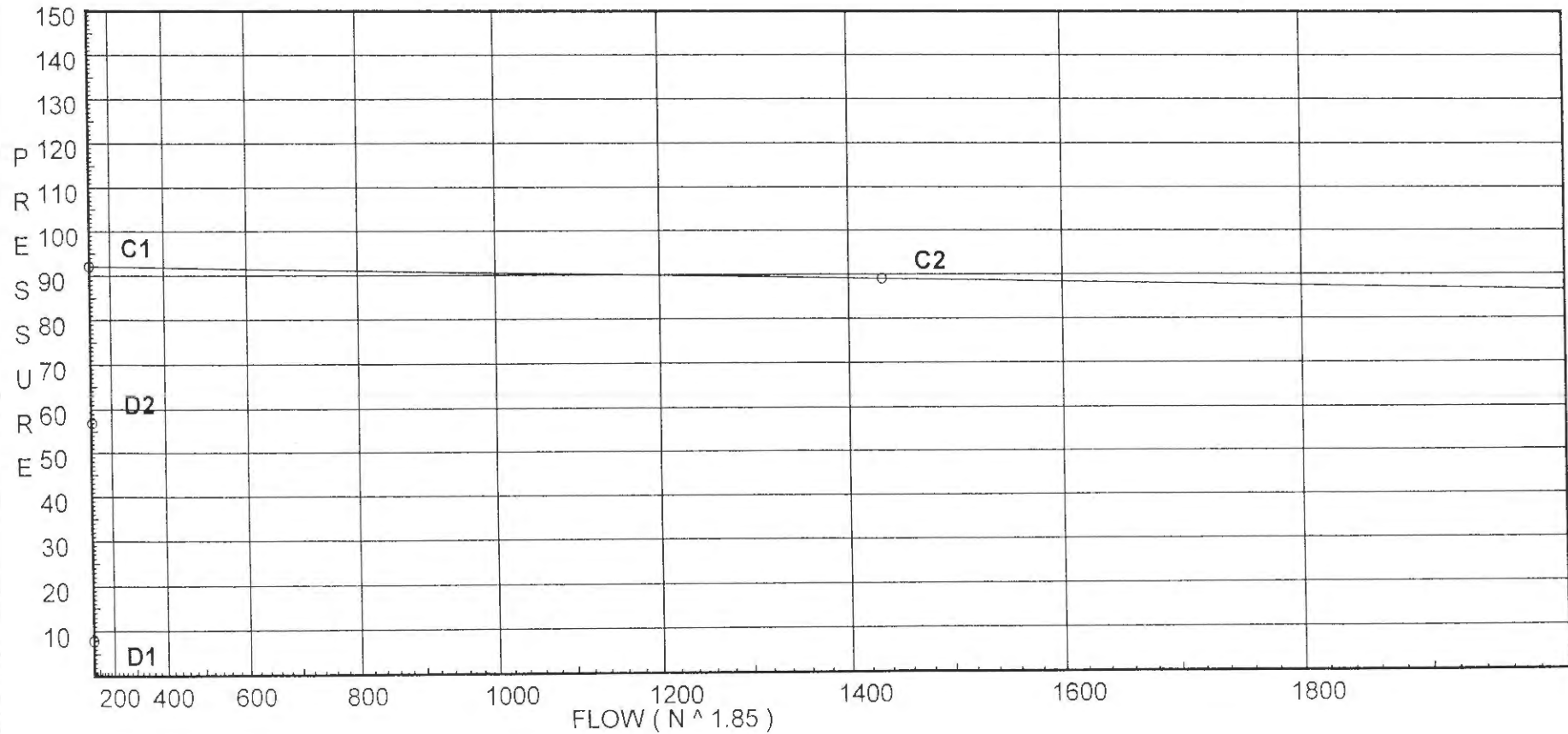
Water Supply Curve (C)

Sprinkler Systems, Inc.
KING RESIDENCE

Page 12
Date 12-9-2011

City Water Supply:
C1 - Static Pressure : 92
C2 - Residual Pressure: 89
C2 - Residual Flow : 1433

Demand:
D1 - Elevation : 7.868
D2 - System Flow : 40.5141
D2 - System Pressure : 56.899
Hose (Adj City) : _____
Hose (Demand) : _____
D3 - System Demand : 40.5141
Safety Margin : 35.097



Pressure / Flow Summary - STANDARD

Sprinkler Systems, Inc.
KING RESIDENCE

Page 10
Date 12-9-2011

| Node No. | Elevation | K-Fact | Pt Actual | Pn | Flow Actual | Density | Area | Press Req. |
|----------|-----------|--------------|-----------|----|-------------|---------|------|------------|
| TYP | 0.0 | 4.9 | 16.7 | na | 20.02 | 0.05 | 400 | 16.7 |
| 3 | 68.167 | K = K @ DROP | 17.39 | na | 20.02 | | | |
| 4 | 68.167 | K = K @ DROP | 18.2 | na | 20.49 | | | |
| F | 68.167 | | 19.71 | na | | | | |
| E | 59.5 | | 35.78 | na | | | | |
| RT | 59.5 | | 37.1 | na | | | | |
| RB | 51.0 | | 47.23 | na | | | | |
| X | 51.0 | | 56.44 | na | | | | |
| X1 | 51.0 | | 56.46 | na | | | | |
| X2 | 51.0 | | 56.46 | na | | | | |
| TEST | 50.0 | | 56.9 | na | | | | |

The maximum velocity is 13.65 and it occurs in the pipe between nodes 4 and F



... Fire Protection by Computer Design

Sprinkler Systems, Inc.
2-4 Avon Street
P.O. Box 1285
Lewiston, Maine 04240
207-782-0104

Job Name : KING RESIDENCE
Building :
Location : 23 BAY STREET, PORTLAND, MAINE 04103
System : 1 OF 1
Contract : 11083
Data File : KINGRES211083.wxf

| Hyd. Ref. Point | Qa Qt | Dia. "C" Pf/Ft | Fitting or Eqv. Ln. | Pipe Ftng's Total | Pt Pe Pf | Pt Pv Pn | ***** | Notes | ***** |
|-----------------------|--------------|----------------------|---------------------------|-------------------------|----------------|----------------|-------|-------|-------|
|-----------------------|--------------|----------------------|---------------------------|-------------------------|----------------|----------------|-------|-------|-------|

26.13

40.064

K Factor = 4.13

Pressure / Flow Summary - STANDARD

Sprinkler Systems, Inc.
KING RESIDENCE

Page 4
Date 12-9-2011

| Node No. | Elevation | K-Fact | Pt Actual | Pn | Flow Actual | Density | Area | Press Req. |
|----------|-----------|--------------|-----------|----|-------------|---------|------|------------|
| TYP | 0.0 | 4.9 | 7.04 | na | 13.0 | 0.05 | 260 | 7.0 |
| 1 | 70.167 | K = K @ DROP | 7.35 | na | 13.0 | | | |
| 2 | 70.167 | K = K @ DROP | 7.5 | na | 13.13 | | | |
| A | 70.167 | | 9.01 | na | | | | |
| B | 59.5 | | 16.72 | na | | | | |
| C | 59.5 | | 18.69 | na | | | | |
| D | 59.5 | | 22.89 | na | | | | |
| E | 59.5 | | 25.61 | na | | | | |
| RT | 59.5 | | 26.2 | na | | | | |
| RB | 51.0 | | 35.53 | na | | | | |
| X | 51.0 | | 39.62 | na | | | | |
| X1 | 51.0 | | 39.63 | na | | | | |
| X2 | 51.0 | | 39.63 | na | | | | |
| TEST | 50.0 | | 40.06 | na | | | | |

The maximum velocity is 8.81 and it occurs in the pipe between nodes 2 and A

HYDRAULIC DESIGN INFORMATION SHEET

Name - KING RESIDENCE Date - 12-9-2011
Location - 23 BAY STREET, PORTLAND, MAINE 04103
Building - System No. - 1 OF 1
Contractor - REDFERN PROPERTIES Contract No. - 11083
Calculated By - SCOTT E. GARLAND Drawing No. - 1 OF 1
Construction: (X) Combustible () Non-Combustible Ceiling Height 9-8
OCCUPANCY - RESIDENTIAL - SINGLE FAMILY DWELLING

S Type of Calculation: ()NFPA 13 Residential ()NFPA 13R (X)NFPA 13D
Y Number of Sprinklers Flowing: ()1 (X)2 ()4 ()
S ()Other
T ()Specific Ruling Made by Date
E
M Listed Flow at Start Point - 13.0 Gpm System Type
Listed Pres. at Start Point - 7.0 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 RELIABLE Model RFC49
I Elevation at Highest Outlet - 70.167Feet Size 1/2 X 1/2 K-Factor 4.9
G Note: Temperature Rating 165 DEG
N DESIGN AREA #1 - 2ND FLOOR BATHROOM & STAIRS

Calculation Gpm Required 26.135 Psi Required 35.526 AT BASE OF RISER
Summary C-Factor Used: Overhead 150 Underground 140

W Water Flow Test: Pump Data: Tank or Reservoir:
A Date of Test - 7-28-2004 Rated Cap. Cap.
T Time of Test - @ Psi Elev.
E Static (Psi) - 92 Elev.
R Residual (Psi) - 89 Other Well
Flow (Gpm) - 1433 Proof Flow Gpm
S Elevation - 50.0

P Location: ON OCEAN AVENUE AT READ STREET, 390-0 FROM BAY STREET

L Source of Information: PORTLAND WATER DISTRICT
Y