

**City of Portland, Maine – Building or Use Permit Application** 389 Congress Street, 04101, Tel: (207) 874-8703, FAX: 874-8716

Location of Construction: 65 India Street 04101		Owner: Catholic Charities of Maine		Phone: 781-8550		Permit No: <b>991285</b>
Owner Address: 356 Route 1, falmouth, ME 04105		Lessee/Buyer's Name: N/A		Phone: N/A		
Contractor Name: ** Grinnell Fire Protection Systems		Address: 20 Thomas Drive Westbrook, ME 04092		Phone: Not Given		Permit Issued: Zone: CBL: 020-E-020 Zoning Approval: <i>S-174</i> <b>Special Zone or Reviews:</b> <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"/>
Past Use: Office		Proposed Use: Same		COST OF WORK: \$ <i>1,000.00</i> PERMIT FEE: \$ <i>400</i> FIRE DEPT. <input type="checkbox"/> Approved <input type="checkbox"/> Denied INSPECTION: Use Group: Type: Signature: <i>[Signature]</i> Signature: <i>[Signature]</i>		
Proposed Project Description: NFPA 13 R Sprinkler System for existing building.						<b>Zoning Appeal</b> <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  <b>Historic Preservation</b> <input type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review  <b>Action:</b> <input type="checkbox"/> Approved <input type="checkbox"/> Approved with Conditions <input type="checkbox"/> Denied Date: _____
Permit Taken By: GD		Date Applied For: 11-17-99				

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

**\*\* Please Send To: Grinnell Fire Protection Systems  
20 Thomas Drive  
Westbrook, ME 04092**

**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 provisions of the code(s) applicable to such permit

11-17-99

SIGNATURE OF APPLICANT	ADDRESS:	DATE:	PHONE:
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE			PHONE:

**PERMIT ISSUED WITH REQUIREMENTS<sup>1</sup> CEO DISTRICT**

# PORTLAND FIRE DEPARTMENT

Review Date: 11/18/99 Contractor: Grinnell

Address: 65 Indis St CBL: 020-E-020

## Please note marked Conditions of Approval

- \* The boiler or furnace shall be protected by enclosing with one hour fire rated construction including fire doors and ceiling or by providing automatic extinguishment and smoke protected enclosure. Sprinkler piping serving not more than six sprinklers may be connected to a domestic water supply system having a capacity sufficient to provide a 0.15 gpm per sq ft of floor throughout the entire area. An indicating shut-off valve shall be installed in an accessible location between the sprinkler and the connection to the domestic water supply. Minimum pipe size shall be 3/4" copper or 1" steel. Maximum coverage area of a residential sprinkler in 144 sq ft per sprinkler.
- \* All required fire alarm systems shall have the capacity of zone disconnect via switches or key pad program provided the method is approved by the Fire Prevention Bureau.
- \* All remote annunciators shall have a visible trouble indicator along with the fire alarm zone indicators.
- \* Any master box connected to the municipal fire alarm system shall have a supervised municipal disconnect switch.
- \* All master box locations shall be approved by the Fire Dept. Director of Communications.
- \* A master box shall be located so that the center of the box is five feet above finished floor.
- \* All master box locations are required to have a Knox box.
- \* A fire alarm acceptance report shall be submitted to the Portland Fire Department.
- \* All underground tank removal(s) and/or installation(s) shall be done in accordance with the Department of Environmental Protection and Regulation (Chapter 691).
- \* No cutting of tanks on site. Cutting of tanks to be done at an approved disposal site.
- \* The fire dispatcher must be notified at least 48 hrs in advance of removal or transportation of tanks.
- \* All above ground L/P tanks shall be located in accordance with NFPA 58 standards.
- \* Any tank located near the path of vehicle movement shall be protected.
- \* All piping shall be protected from possible mechanical damage and vandalism.
- \* A 4" storz fire department connection is required.
- \* Any renovation of sprinkler system over 20 heads must have State Fire Marshall approval.
- \* A sprinkler performance test shall be submitted to the P.F.D. after completion of work.
- \* State Fire Marshall approval is required for this project.

  
Lt. Gaylen Mc Dougall  
Portland Fire Prevention Bureau

BUILDING PERMIT REPORT

DATE: 18 November 99 ADDRESS: 65 India St. CBL: 020-E-020

REASON FOR PERMIT: Sprinkler System

BUILDING OWNER: Catholic Charities of ME.

PERMIT APPLICANT: CONTRACTOR: Grinnell Fire Prot. Syst.

USE GROUP: R-2 CONSTRUCTION TYPE: 3B CONSTRUCTION COST: 29000.00 PERMIT FEES: 84.00

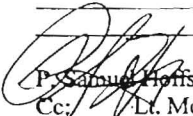
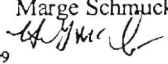
The City's Adopted Building Code (The BOCA National Building code/1996 with City Amendments)
The City's Adopted Mechanical Code (The BOCA National Mechanical Code/1993)

CONDITION(S) OF APPROVAL

This permit is being issued with the understanding that the following conditions are met: \*1, \*22 \*27 \*32

- 1. This permit does not excuse the applicant from meeting applicable State and Federal rules and laws.
2. Before concrete for foundation is placed, approvals from the Development Review Coordinator and Inspection Services must be obtained.
3. Foundation drain shall be placed around the perimeter of a foundation that consists of gravel or crushed stone containing not more than 10 percent material that passes through a No. 4 sieve.
4. Foundations anchors shall be a minimum of 1/2" in diameter, 7" into the foundation wall, minimum of 12" from corners of foundation and a maximum 6' O.C. between bolts.
5. Waterproofing and damp proofing shall be done in accordance with Section 1813.0 of the building code.
6. Precaution must be taken to protect concrete from freezing. Section 1908.0
7. It is strongly recommended that a registered land surveyor check all foundation forms before concrete is placed.
8. Private garages located beneath habitable rooms in occupancies in Use Group R-1, R-2, R-3 or I-1 shall be separated from adjacent interior spaces by fire partitions and floor/ceiling assembly which are constructed with not less than 1-hour fire resisting rating.
9. All chimneys and vents shall be installed and maintained as per Chapter 12 of the City's Mechanical Code.
10. Sound transmission control in residential building shall be done in accordance with Chapter 12, Section 1214.0 of the City's Building Code.
11. Guardrails & Handrails: A guardrail system is a system of building components located near the open sides of elevated walking surfaces for the purpose of minimizing the possibility of an accidental fall from the walking surface to the lower level.
12. Headroom in habitable space is a minimum of 7'6".
13. Stair construction in Use Group R-3 & R-4 is a minimum of 10" tread and 7 1/2" maximum rise.
14. The minimum headroom in all parts of a stairway shall not be less than 80 inches.
15. Every sleeping room below the fourth story in buildings of Use Groups R and I-1 shall have at least one operable window or exterior door approved for emergency egress or rescue.
16. Each apartment shall have access to two (2) separate, remote and approved means of egress.
17. All vertical openings shall be enclosed with construction having a fire rating of at least one (1) hour, including fire doors with self closer's.
18. The boiler shall be protected by enclosing with (1) hour fire rated construction including fire doors and ceiling, or by providing automatic extinguishment.

19. All single and multiple station smoke detectors shall be of an approved type and shall be installed in accordance with the provisions of the City's Building Code Chapter 9, Section 920.3.2 (BOCA National Building Code/1996), and NFPA 101 Chapter 18 & 19. (Smoke detectors shall be installed and maintained at the following locations):
  - In the immediate vicinity of bedrooms
  - In all bedrooms
  - In each story within a dwelling unit, including basements
20. A portable fire extinguisher shall be located as per NFPA #10. They shall bear the label of an approved agency and be of an approved type. (Section 921.0)
21. The Fire Alarm System shall maintained to NFPA #72 Standard.
- \* 22. The Sprinkler System shall maintained to NFPA #13 Standard. → 13R
23. All exit signs, lights and means of egress lighting shall be done in accordance with Chapter 10 Section & Subsections 1023.0 & 1024.0 of the City's Building Code. (The BOCA National Building Code/1996)
24. Section 25 – 135 of the Municipal Code for the City of Portland states, "No person or utility shall be granted a permit to excavate or open any street or sidewalk from the time of November 15 of each year to April 15 of the following year".
25. The builder of a facility to which Section 4594-C of the Maine State Human Rights Act Title 5 MRSA refers, shall obtain a certification from a design professional that the plans commencing construction of the facility, the builder shall submit the certification the Division of Inspection Services.
26. Ventilation shall meet the requirements of Chapter 12 Sections 1210.0 of the City's Building Code. (Crawl spaces & attics).
- \* 27. All electrical, plumbing and HVAC permits must be obtained by a Master Licensed holders of their trade. No closing in of walls until all electrical (min. 72 hours notice) and plumbing inspections have been done.
28. All requirements must be met before a final Certificate of Occupancy is issued.
29. All building elements shall meet the fastening schedule as per Table 2305.2 of the City's Building Code (The BOCA National Building Code/1996).
30. Ventilation of spaces within a building shall be done in accordance with the City's Mechanical code (The BOCA National Mechanical Code/1993). (Chapter M-16)
31. Please read and implement the attached Land Use Zoning report requirements.
- \* 32. Boring, cutting and notching shall be done in accordance with Sections 2305.3, 2305.3.1, 2305.4.4 and 2305.5.1 of the City's Building Code.
33. Bridging shall comply with Section 2305.16.
34. Glass and glazing shall meet the requirements of Chapter 24 of the building code. (Safety Glazing Section 2405.0)
35. All signage, shall be done in accordance with Section 3102.0 signs of the City's Building Code, (The BOCA National Building Code/1996).

  
 P. Samuel Hoffses, Building Inspector  
 Cc: Lt. McDougall, PFD  
 Marge Schmuckal, Zoning Administrator  


PSH 10/25/99

**\*\*On the basis of plans submitted and conditions placed on these plans any deviations shall require a separate approval.**

Inspection Services  
Michael J. Nugent  
Manager



Department of Urban Development  
Joseph E. Gray, Jr.  
Director

**CITY OF PORTLAND**

congratulations !!!!!

**Building or Use Permit Application  
Attached Single Family Dwellings/Two-Family Dwelling  
Multi-Family or Commercial Structures and Additions Thereto**

As an applicant for a building permit, you are about to enter into a relationship with our Office. We welcome any questions, comments or suggestions that will make the process more efficient. Attached you will find an application and some samples of the submissions you will provide at application time. Please read ***ALL*** of the information and if you need any further assistance please call 874-8703 or 874-8693.

**Minor or Major site plan review will be required for the most of the above proposed projects.**

**THIS IS NOT A PERMIT/CONSTRUCTION CANNOT COMMENCE UNTIL THE PERMIT IS ISSUED**

**Building or Use Permit Pre-Application  
Attached Single Family Dwellings/Two-Family Dwelling  
Multi-Family or Commercial Structures and Additions Thereto**

In the interest of processing your application in the quickest possible manner, please complete the Information below for a Building or Use Permit.

**NOTE\*\*If you or the property owner owes real estate or personal property taxes or user charges on ANY PROPERTY within the City, payment arrangements must be made before permits of any kind are accepted.**

Location/Address of Construction (include Portion of Building): <b>65 INDIA ST. 04101</b>			
Total Square Footage of Proposed Structure <b>5200</b>		Square Footage of Lot	
Tax Assessor's Chart, Block & Lot Number Chart# <b>020</b> Block# <b>E</b> Lot# <b>020</b>		Owner: <b>CATHOLIC CHARITIES OF MAINE</b>	Telephone#: <b>781-9550</b>
Owner's Address: <b>356 ROUTE 1 FALMOUTH ME 04105</b>		Lessee/Buyer's Name (If Applicable)	Cost Of Work: <b>\$ 9,000</b> Fee <b>\$ 84.00</b>
Proposed Project Description:(Please be as specific as possible) <b>FIRE PROTECTION NFPA 13R SPRINKLER SYSTEM FOR EXISTING BLDG.</b>			
Contractor's Name, Address & Telephone <b>* GRIMMELL FRS 20 THOMAS DR. WESTBROOK ME 04092</b>			Rec'd By <b>GD</b>
Current Use: <b>office</b>		Proposed Use: <b>SAMU</b>	

Separate permits are required for Internal & External Plumbing, HVAC and Electrical installation.

- All construction must be conducted in compliance with the 1996 B.O.C.A. Building Code as amended by Section 6-Art II.
- All plumbing must be conducted in compliance with the State of Maine Plumbing Code.
- All Electrical Installation must comply with the 1996 National Electrical Code as amended by Section 6-Art III.
- HVAC(Heating, Ventilation and Air Conditioning) installation must comply with the 1993 BOCA Mechanical Code.

You must Include the following with you application:

- 1) A Copy of Your Deed or Purchase and Sale Agreement
- 2) A Copy of your Construction Contract, if available
- 3) A Plot Plan/Site Plan

Minor or Major site plan review will be required for the above proposed projects. The attached checklist outlines the minimum standards for a site plan.

**4) Building Plans**

**Unless exempted by State Law, construction documents must be designed by a registered design professional.**

A complete set of construction drawings showing all of the following elements of construction:

- Cross Sections w/Framing details (including porches, decks w/ railings, and accessory structures)
- Floor Plans & Elevations
- Window and door schedules
- Foundation plans with required drainage and dampproofing
- Electrical and plumbing layout. Mechanical drawings for any specialized equipment such as furnaces, chimneys, gas equipment, HVAC equipment (air handling) or other types of work that may require special review must be included.

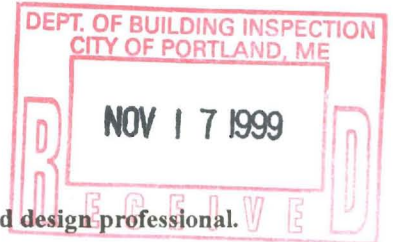
**Certification**

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/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature of applicant: <i>[Signature]</i>	Date: <b>11-16-99</b>
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Building Permit Fee: \$30.00 for the 1st \$1000.cost plus \$6.00 per \$1,000.00 construction cost thereafter.

Additional Site review and related fees are attached on a separate addendum





State of Maine  
Department of Public Safety



Fire Sprinkler System Permit

# 2501

Arnie Hansen Center

Located at: 65 India Street  
In the Town of: Portland  
Occupancy/Use: Shelter  
Type of System: NFPA 13R

Permission is hereby given to:

Grinnell Fire Protection Systems

78 Pleasant Avenue  
South Portland, ME 04106  
Contractor License # 24

according to application form/plans that have been filed with the State Fire Marshal's Office and are now approved. This application form/plans are filed under log # 98087, and no departure from application form/plans shall be made without prior approval in writing. This permit is issued under the provisions of Title 32, Chapter 20, Section 12004-I. Nothing herein shall excuse the holder of this permit for failure to comply with local ordinances, zoning laws, or other pertinent legal restrictions. Each permit issued shall be displayed/available at the site of construction.

This permit was issued on 3/25/98 for a fee paid of \$115.00

This permit will expire at midnight on Monday, September 21, 1998

Commissioner

Fire Department Connection Location/Type per Local Fire Department

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

Job completed, tested and verified on date of \_\_\_\_\_, 1997

RMS for this job Theodore E. Clarke

RMS Signature: \_\_\_\_\_

GRINNELL FIRE PROTECTION  
78 PLEASANT AVENUE  
S. PORTLAND, ME 04106

HYDRAULIC CALCULATIONS

FOR  
NAME: ARNIE HANSEN CENTER  
LOCATION: PORTLAND, MAINE  
DATE: 3-23-98  
CONTRACT NUMBER: 84-331984  
CONTRACT WITH: CATHOLIC CHARITY

AREA CALCULATED: UPPER LEVEL-HALLWAY

\* DESIGN DATA \*

OCCUPANCY CLASSIFICATION: NFPA 13R  
DENSITY: N/A  
AREA OF APPLICATION: 4 HEADS  
REMOTE AREA MULTIPLIER: N/A  
SYSTEM TYPE @ C-FACTOR: WET C=120  
UNDERGROUND C-FACTOR: C=150  
COVERAGE PER SPRINKLER: 324 SQ. FT.  
SPRINKLER SIZE AND K-FACTOR: 7/16" K=4.3  
NUMBER OF SPRINKLERS CALCULATED: 4  
SYSTEM DEMAND AT BASE OF RISER (BOR): 58 GPM @ 48.3 PSI  
HOSE ALLOWANCE: 0 GPM FOR HOSE  
TOTAL DEMAND AT TEST: 58 GPM @ 54.9 PSI  
CALCULATED BY: CLARKE  
AUTHORITY HAVING JURISDICTION: MAINE STATE FIRE MARSHAL'S OFFICE  
NOTES: NFPA 13R SYSTEM--FOUR HEAD CALC

CALCULATIONS BY HASS COMPUTER PROGRAM (LICENSE # 8422C1324K)  
HRS SYSTEMS, INC.  
ATLANTA, GEORGIA



GRAPH SHEET FOR HYDRAULIC CALCULATIONS -

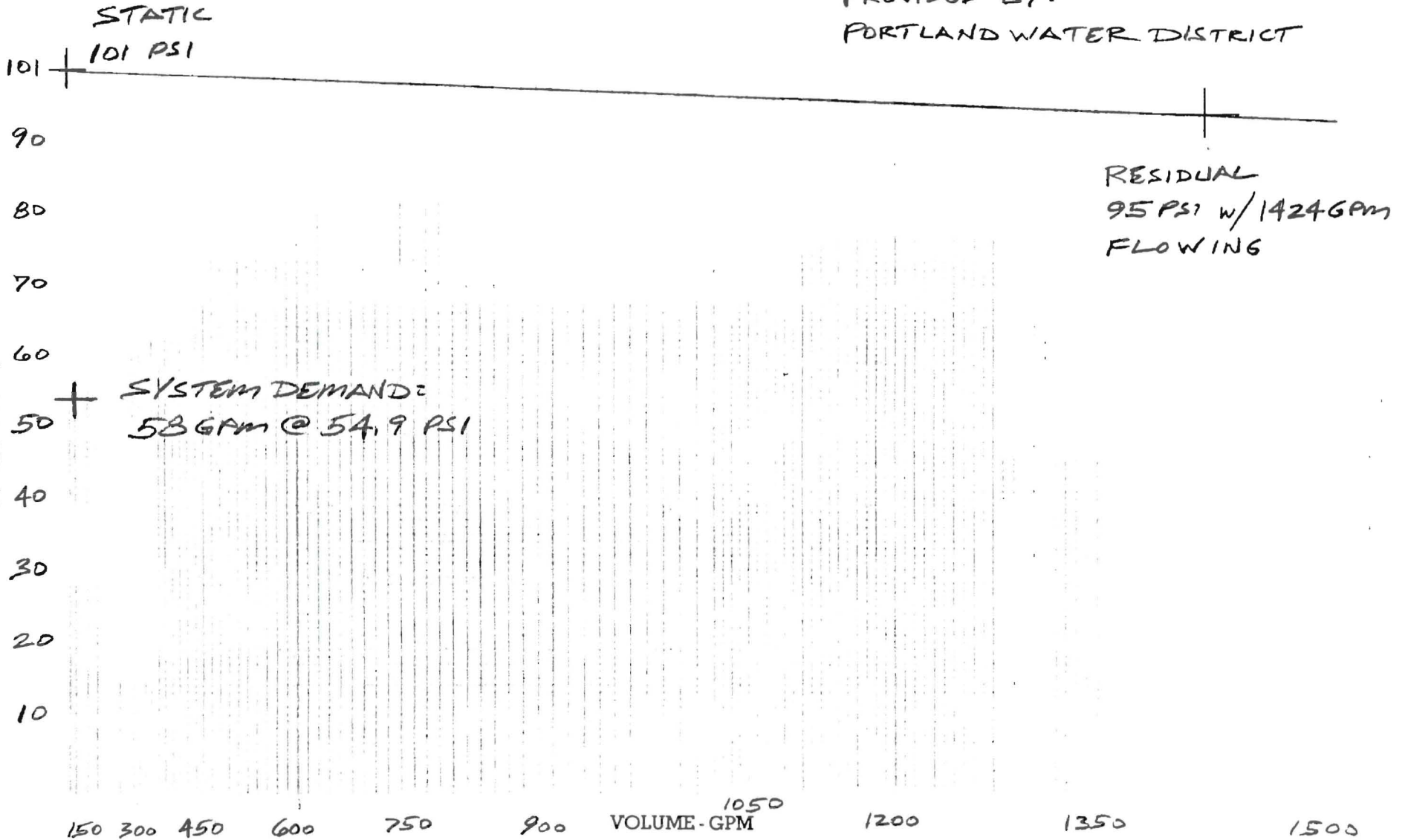
Name-Address of Property **ARNIE HANSEN CENTER**

**65 INDIA STREET PORTLAND, MAINE**

Drawn by **T. CLARKE** Date **3-23-98**

WATER PRESSURE INFO  
PROVIDED BY:  
PORTLAND WATER DISTRICT

PRESSURE - PSI



CONTRACT NO. 84-331984

System No. HANSEN 4 Sheet

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

Date: 03/23/1998

JOB TITLE: ARNIE HANSEN CENTER--FOUR HEAD CALC

WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	FLOW @ (GPM)	AVAIL. PRESS. @ (PSI)	TOTAL DEMAND (GPM)	REQ'D PRESS. (PSI)
TEST	101.0	95.0	1424.0	101.0	58.0	54.9

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	58.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	0.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	58.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)
TEST	-10.0	SOURCE	54.9	58.0
1	21.5	- - - -	16.7	- - -
2	21.5	K= 4.30	9.1	13.0
3	21.5	K= 4.30	10.0	13.6
4	21.5	K= 4.30	13.3	15.7
5	21.5	K= 4.30	13.2	15.6
AT	21.0	- - - -	16.9	- - -
BT	21.0	- - - -	15.3	- - -
A	20.5	- - - -	17.1	- - -
B	20.5	- - - -	17.1	- - -
C	20.5	- - - -	18.5	- - -
D	8.0	- - - -	29.7	- - -
E	9.5	- - - -	32.6	- - -
F	8.5	- - - -	37.6	- - -
G	8.5	- - - -	38.8	- - -
H	8.5	- - - -	39.0	- - -
I	8.5	- - - -	40.2	- - -
TR	8.5	- - - -	43.0	- - -
FF	1.0	- - - -	48.3	- - -
X	-5.0	- - - -	52.7	- - -

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

Date: 03/23/1998

JOB TITLE: ARNIE HANSEN CENTER--FOUR HEAD CALC

PIPE DATA

PIPE TAG	END	ELEV.	NOZ.	PT	DISC.	Q(GPM)	DIA(IN)	LENGTH	PRESS.
	NODES	(FT)	(K)	(PSI)	(GPM)	VEL(FPS)	HW(C)	(FT)	SUM.
							F.L./FT		(PSI)
	Pipe: 1					58.0	8.265	PL 200.00	PF 0.0
TEST		-10.0	SRCE	54.9	(N/A)	0.3	140	FTG ----	PE -2.2
X		-5.0	0.0	52.7	0.0		0.000	TL 200.00	PV 0.0
	Pipe: 2					57.9	1.959	PL 50.00	PF 1.8
X		-5.0	0.0	52.7	0.0	6.2	150	FTG TG	PE -2.6
FF		1.0	0.0	48.3	0.0		0.029	TL 59.50	PV 0.3
	Pipe: 3					57.9	1.610	PL 7.50	PF 2.1
FF		1.0	0.0	48.3	0.0	9.1	120	FTG GA	PE -3.2
TR		8.5	0.0	43.0	0.0		0.116	TL 18.50	PV 0.6
	Pipe: 4					57.9	1.610	PL 16.00	PF 2.8
TR		8.5	0.0	43.0	0.0	9.1	120	FTG 2E	PE 0.0
I		8.5	0.0	40.2	0.0		0.116	TL 24.00	PV 0.6
	Pipe: 5					57.9	1.610	PL 10.00	PF 1.2
I		8.5	0.0	40.2	0.0	9.1	120	FTG ----	PE 0.0
H		8.5	0.0	39.0	0.0		0.116	TL 10.00	PV 0.6
	Pipe: 6					57.9	1.610	PL 2.00	PF 0.2
H		8.5	0.0	39.0	0.0	9.1	120	FTG ----	PE 0.0
G		8.5	0.0	38.8	0.0		0.116	TL 2.00	PV 0.6
	Pipe: 7					57.9	1.610	PL 6.00	PF 1.2
G		8.5	0.0	38.8	0.0	9.1	120	FTG E	PE 0.0
F		8.5	0.0	37.6	0.0		0.116	TL 10.00	PV 0.6
	Pipe: 8					57.9	1.610	PL 24.00	PF 4.6
F		8.5	0.0	37.6	0.0	9.1	120	FTG 4E	PE -0.4
E		9.5	0.0	32.6	0.0		0.116	TL 40.00	PV 0.6
	Pipe: 9					57.9	1.610	PL 22.50	PF 3.5
E		9.5	0.0	32.6	0.0	9.1	120	FTG 2E	PE 0.6
D		8.0	0.0	29.7	0.0		0.116	TL 30.50	PV 0.6
	Pipe: 10					57.9	1.610	PL 26.00	PF 5.8
D		8.0	0.0	29.7	0.0	9.1	120	FTG 4ET	PE -5.4
C		20.5	0.0	18.5	0.0		0.116	TL 50.00	PV 0.6
	Pipe: 11					57.9	1.610	PL 8.00	PF 1.4
C		20.5	0.0	18.5	0.0	9.1	120	FTG E	PE 0.0
B		20.5	0.0	17.1	0.0		0.116	TL 12.00	PV 0.6
	Pipe: 12					0.0	1.610	PL 10.50	PF 0.0
B		20.5	0.0	17.1	0.0	0.0	120	FTG ----	PE 0.0
A		20.5	0.0	17.1	0.0		0.000	TL 10.50	PV 0.0
	Pipe: 13					0.0	1.380	PL 0.50	PF 0.0
A		20.5	0.0	17.1	0.0	0.0	120	FTG T	PE -0.2
AT		21.0	0.0	16.9	0.0		0.000	TL 6.50	PV 0.0

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

Date: 03/23/1998

JOB TITLE: ARNIE HANSEN CENTER--FOUR HEAD CALC

PIPE DATA (cont.)

PIPE TAG	END	ELEV.	NOZ.	PT	DISC.	Q(GPM)	DIA(IN)	LENGTH	PRESS.
	NODES	(FT)	(K)	(PSI)	(GPM)	VEL(FPS)	HW(C)	(FT)	SUM.
							F.L./FT		(PSI)
	Pipe: 14					0.0	1.049	PL 41.00	PF 0.0
AT		21.0	0.0	16.9	0.0	0.0	120	FTG 3ET	PE -0.2
1		21.5	0.0	16.7	0.0		0.000	TL 52.00	PV 0.0
	Pipe: 15					57.9	1.380	PL 0.50	PF 1.6
B		20.5	0.0	17.1	0.0	12.4	120	FTG T	PE -0.2
BT		21.0	0.0	15.3	0.0		0.245	TL 6.50	PV 1.0
	Pipe: 16					42.3	1.380	PL 7.00	PF 1.8
BT		21.0	0.0	15.3	0.0	9.1	120	FTG T	PE -0.2
4		21.5	4.3	13.3	15.7		0.137	TL 13.00	PV 0.6
	Pipe: 17					26.6	1.049	PL 15.00	PF 3.3
4		21.5	4.3	13.3	15.7	9.9	120	FTG ----	PE 0.0
3		21.5	4.3	10.0	13.6		0.221	TL 15.00	PV 0.7
	Pipe: 18					13.0	1.049	PL 15.00	PF 0.9
3		21.5	4.3	10.0	13.6	4.8	120	FTG ----	PE 0.0
2		21.5	4.3	9.1	13.0		0.059	TL 15.00	PV 0.2
	Pipe: 19					15.6	1.049	PL 9.00	PF 1.9
BT		21.0	0.0	15.3	0.0	5.8	120	FTG 2E2T	PE -0.2
5		21.5	4.3	13.2	15.6		0.082	TL 23.00	PV 0.2

NOTES:

- (1) Calculations were performed by the HASS 6.2.0 computer program under license no. 8422C1324K granted by  
HRS Systems, Inc.  
2193 Ranchwood Dr., N.E.  
Atlanta, GA 30345
- (2) The system has been balanced to provide an average imbalance at each node of 0.007 gpm and a maximum imbalance at any node of 0.124 gpm.
- (3) Velocity pressures are printed for information only, and are not used in balancing the system. Maximum water velocity is 12.4 ft/sec at pipe 15.

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

Date: 03/23/1998

JOB TITLE: ARNIE HANSEN CENTER--FOUR HEAD CALC

(4) PIPE FITTINGS TABLE

Pipe Table Name: STANDARD.PIP

PAGE: A MATERIAL: S40 HWC: 120

Diameter (in)	Equivalent Fitting Lengths in Feet							
	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv
	-----							
	N NP Tee							
1.049	2.00	5.00	2.00	5.00	6.00	1.00	10.00	10.00
	5.00							
1.380	3.00	6.00	2.00	7.00	6.00	1.00	10.00	10.00
	6.00							
1.610	4.00	8.00	2.00	9.00	6.00	1.00	10.00	10.00
	8.00							

PAGE: K MATERIAL: CT-K HWC: 150

Diameter (in)	Equivalent Fitting Lengths in Feet							
	E Ell	T Tee	F 45-Ell	R TeeRun	C Couplg	S SwgChk	G GatVlv	N NP Tee
1.959	5.50	9.00	2.00	0.50	0.50	9.00	0.50	9.00

PAGE: \* MATERIAL: S40 HWC: 120

Diameter (in)	Equivalent Fitting Lengths in Feet							
	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv
	-----							
	N NP Tee							
8.265	20.21	39.29	14.59	50.52	13.47	4.49	39.29	30.31
	39.29							

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

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WATER SUPPLY CURVE

