

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

Location of Construction: 484 Stevens Avenue		Owner: Jamie Vacciano		Phone:		Permit No: 970719
Owner Address:		Lessee/Buyer's Name: Pat's Meat Market		Phone:		
Contractor Name: Sprinkler Services		Address: POBox 809, 5 Lamb St., Windham 04062		Phone: 1-800-400-1415		Zone: <u>B1B</u> CBL: <u>135-E-011</u> Zoning Approval: <u>[Signature]</u> <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: Meat Mkt/Grocery/Restaurant		Proposed Use: Same w/sprinkler System		COST OF WORK: \$ 10,000.00 PERMIT FEE: \$70.00 FIRE DEPT. <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied INSPECTION: Use Group: Type: Signature: <u>[Signature]</u> Signature: <u>[Signature]</u>		
Proposed Project Description: Install sprinkler system as per plans				PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.) Action: Approved <input type="checkbox"/> Approved with Conditions: <input type="checkbox"/> Denied <input type="checkbox"/> Signature: _____ Date: _____		<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 checked="" type="checkbox"/> Not in District or Landmark <input checked="" 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: <u>7/9/97</u> <u>[Signature]</u> CEO DISTRICT <u>[Signature]</u>
Permit Taken By: Vicki Dover		Date Applied For: 7/8/97				

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..

Mail to contractor

**CERTIFICATION**

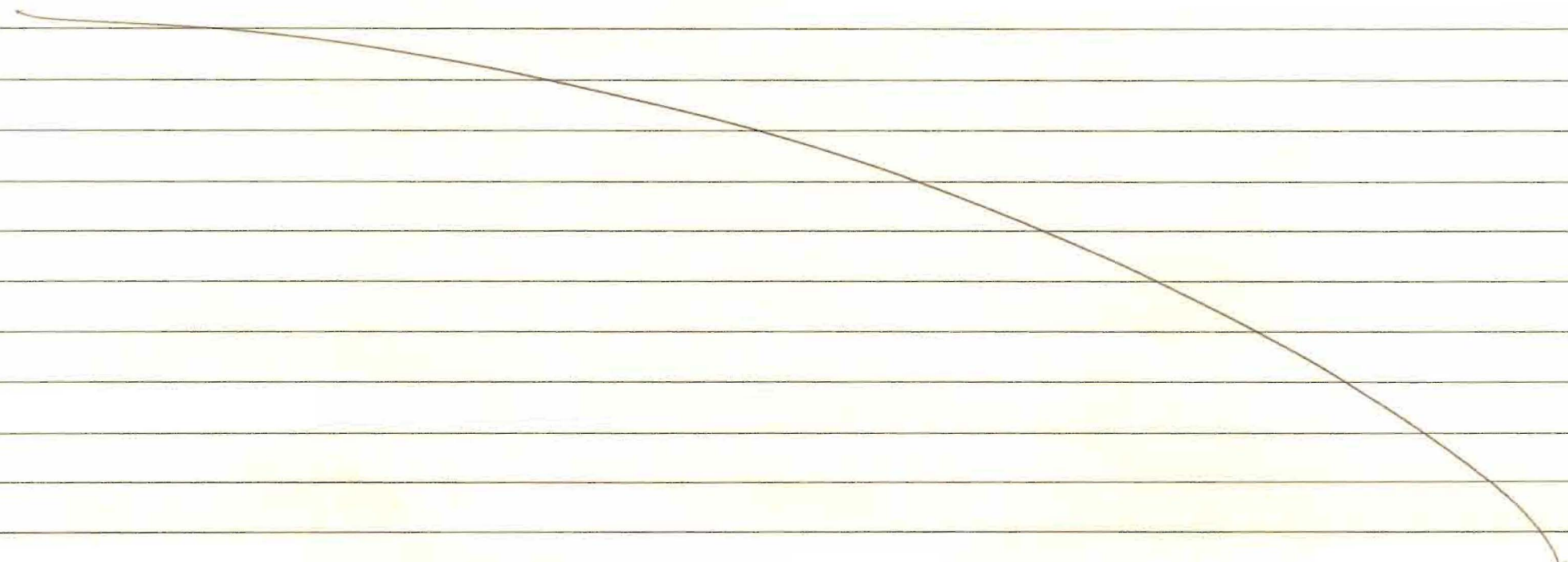
I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, 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

SIGNATURE OF APPLICANT <u>[Signature]</u> Scott Garland Sprinkler Services		ADDRESS: POBox 809, 5 Lamb St., Windham 04062	DATE: 7/8/97	PHONE: 892-1415
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		PHONE:		

**COMMENTS.**

11-21-97 sprinkler system installed. Inspected by the Lt. (MacDougal) needs to receive the test reports.

12-10-97 OK to close permits out. per Lt. MacDougal.



Type	Inspection Record	Date
Foundation:	_____	_____
Framing:	_____	_____
Plumbing:	_____	_____
Final:	_____	_____
Other:	_____	_____

REVIEWED FOR  
BARRIER FREE  
COMPLIANCE

**STATE OF MAINE**  
DEPARTMENT OF PUBLIC SAFETY  
OFFICE OF STATE FIRE MARSHAL  
AUGUSTA  
**CONSTRUCTION PERMIT**



Permit Nº 8618

PERMISSION IS HEREBY GIVEN TO:  
Jaime Vacchiano  
484 Stevens Ave.  
Portland, ME 04103

Location of project:  
484 Stevens Ave.  
Portland, ME

PROJECT TITLE:  
Pat's Meat Mart  
OCCUPANCY CLASSIFICATION:  
Assembly Class "C"

*To construct or alter the afore referenced building according to the plans hitherto filed with the Commissioner and now approved. No departure from such plans shall be made without prior approval in writing.*

*This permit will expire at midnight on December 2, 19 97.*

*This permit is issued under the provisions of Title 25, Chapter 317, Section 2448*

*Nothing herein shall excuse the holder of this permit for the failure to comply with local ordinances, zoning laws, or other pertinent legal restrictions.*

Dated the 3rd day of June A.D. 19 97

FEE \$ 50.00

SPRINKLED

  
Commissioner - Public Safety



# SPRINKLER SERVICES

P.O. BOX 809 • 5 LAMB STREET  
 WINDHAM, ME 04062  
 1-207-892-1415 • 1-800-400-1415  
 FAX 1-207-892-2707

## HYDRAULIC DESIGN INFORMATION SHEET

NAME PAT'S MEAT MARKET DATE 6-30-97  
 LOCATION 484 STEVENS AVE, PORTLAND, ME 04103  
 BUILDING — SYSTEM NO. —  
 CONTRACTOR JAMIE VACCHIANO (OWNER) CONTRACT NO. 9717  
 CALCULATED BY SWT E GALLAND DRAWING NO. 1 OF 1  
 CONSTRUCTION:  COMBUSTIBLE  NON-COMBUSTIBLE CEILING HEIGHT VARIES FT.  
 OCCUPANCY MERCANTILE - MEAT MARKET, RESTAURANT

SYSTEM DESIGN

NFPA 13:  LT. HAZ. ORD. HAZ. GP.  1  2  3  EX. HAZ.  
 NFPA 231  NFPA 231C: FIGURE \_\_\_\_\_; CURVE \_\_\_\_\_  
 OTHER (Specify) STATE OF MAINE Hydro-Pro  
 SPECIFIC RULING \_\_\_\_\_ MADE BY \_\_\_\_\_ DATE \_\_\_\_\_

AREA OF SPRINKLER OPERATION A HEADS FLOW  
 DENSITY —  
 AREA PER SPRINKLER 130 SF MAX  
 HOSE ALLOWANCE GPM: INSIDE —  
 HOSE ALLOWANCE GPM: OUTSIDE —  
 RACK SPRINKLER ALLOWANCE —

SYSTEM TYPE  
 WET  DRY  DELUGE  PRE-ACTION  
 SPRINKLER OR NOZZLE  
 MAKE RELIABLE MODEL F1F2  
 SIZE 1/2" x 1/2" K-FACTOR 5.62  
 TEMPERATURE RATING 200° 155°

CALCULATION SUMMARY

GPM REQUIRED 82.72 PSI REQUIRED 50.03 AT BASE OF RISER  
 "C" FACTOR USED: OVERHEAD 120 UNDERGROUND 150, 140

WATER SUPPLY

WATER FLOW TEST  
 DATE & TIME 4/12/95  
 STATIC PSI 62  
 RESIDUAL PSI 59  
 GPM FLOWING 1021  
 ELEVATION 2

PUMP DATA  
 RATED CAPACITY \_\_\_\_\_  
 AT PSI \_\_\_\_\_  
 ELEVATION \_\_\_\_\_

TANK OR RESERVOIR  
 CAPACITY \_\_\_\_\_  
 ELEVATION \_\_\_\_\_  
WELL  
 PROOF FLOW \_\_\_\_\_ GPM

LOCATION ON STEVENS AVE & HARTLET / CROSSY  
 SOURCE OF INFORMATION PORTLAND WATER DISTRICT

COMMODITY STORAGE

COMMODITY \_\_\_\_\_ CLASS \_\_\_\_\_ LOCATION \_\_\_\_\_  
 STORAGE HEIGHT \_\_\_\_\_ AREA \_\_\_\_\_ AISLE WIDTH \_\_\_\_\_  
 STORAGE METHOD: SOLID PILED \_\_\_\_\_ % PALLETIZED \_\_\_\_\_ % RACK \_\_\_\_\_ %

SINGLE ROW  CONVENTIONAL PALLET  AUTOMATIC STORAGE  ENCAPSULATED  
 DOUBLE ROW  SLAVE PALLET  SOLID SHELVING  NON-ENCAPSULATED  
 MULTIPLE ROW  OPEN

FLUE SPACING IN INCHES  
 LONGITUDINAL \_\_\_\_\_ TRANSVERSE \_\_\_\_\_  
 CLEARANCE FROM TOP OF STORAGE TO CEILING \_\_\_\_\_ FT. \_\_\_\_\_ IN.

HORIZONTAL BARRIERS PROVIDED \_\_\_\_\_

SPRINKLER SERVICES  
HYDRAULIC CALCULATIONS

6-30-97, PAT'S MEAT MARKET, 97117, C= 120

PAGE NUMBER 2

REF PT#	K	GPM	TOTAL GPM	PIPE I.D.	PIPE LTH	EQUIV FTGS	LOSS /FT	TOTAL LOSS	TOTAL PSI	JCT PT#
===	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
									12.66	
1	5.62	20.00	20.00	1.049	0.000	0.00	0.1301	0.00	12.66	1
1	0.00	0.00	20.00	1.610	13.083	20.00	0.0162	0.53	13.20	A
	ELEVATION =		.417 FEET					0.18	13.38	
	K =		5.4678							
									7.00	
2	5.62	14.87	14.87	1.049	3.625	2.00	0.0752	0.42	7.42	A
	K =		5.4575 >	19.96					13.38	
A	5.47	20.00	39.96	1.610	4.709	0.00	0.0581	0.27	13.65	3
	K =		10.8152							
									8.11	
3	5.62	16.00	16.00	1.049	0.000	0.00	0.0861	0.00	8.11	3
	K =		5.6200 >	20.77					13.65	
3	10.82	39.96	60.73	1.610	1.125	0.00	0.1261	0.14	13.80	B
B	0.00	0.00	60.73	1.610	10.667	16.00	0.1261	3.36	17.16	C
	K =		14.6610							
									12.66	
4	5.62	20.00	20.00	1.049	4.917	7.00	0.1301	1.55	14.22	C
	K =		5.3046 >	21.97					17.16	
C	14.66	60.73	82.70	1.610	3.208	4.00	0.2233	1.61	18.77	8
	ELEVATION =		-.917 FEET					-0.40	18.37	
8	0.00	0.00	82.70	1.610	3.292	8.00	0.2233	2.52	20.89	DT
DT	0.00	0.00	82.70	1.610	0.542	6.00	0.2233	1.46	22.35	D
	ELEVATION =		.542 FEET					0.23	22.59	
D	0.00	0.00	82.70	1.610	7.000	0.00	0.2233	1.56	24.15	E
E	0.00	0.00	82.70	1.610	6.417	8.00	0.2233	3.22	27.37	F
F	0.00	0.00	82.70	2.067	11.042	25.00	0.0661	2.38	29.75	G
G	0.00	0.00	82.70	2.067	16.500	30.00	0.0661	3.07	32.83	K
K	0.00	0.00	82.70	2.067	12.083	20.00	0.0661	2.12	34.95	L
L	0.00	0.00	82.70	2.067	12.417	0.00	0.0661	0.82	35.77	M
M	0.00	0.00	82.70	2.067	9.833	10.00	0.0661	1.31	37.08	RT
RT	0.00	0.00	82.70	2.067	5.833	46.00	0.0661	3.43	40.51	RB
	ELEVATION =		22 FEET					9.53	50.03	
	K =		11.6919							

DESIGN AREA #1 - KITCHEN, 2<sup>ND</sup> FLOOR (HYDRAULICALLY MOST REMOTE)

									7.00	
5	5.62	14.87	14.87	1.049	8.000	2.00	0.0752	0.75	7.75	6
	K =		5.3405							
									7.00	
6	5.62	14.87	14.87	1.049	0.792	5.00	0.0752	0.44	7.44	6
	K =		5.4529 >	15.18					7.75	
6	5.34	14.87	30.05	1.049	7.958	6.00	0.2764	3.86	11.61	7
	ELEVATION =		-.917 FEET					-0.40	11.21	
	K =		8.9744							
									7.00	
7	5.62	14.87	14.87	1.049	0.333	5.00	0.0752	0.40	7.40	7
	ELEVATION =		-.333 FEET					-0.14	7.26	
	K =		5.5196 >	18.48					11.21	



# SPRINKLER SERVICES

P.O. BOX 809 • 5 LAMB STREET  
WINDHAM, ME 04062  
1-207-892-1415 • 1-800-400-1415  
FAX 1-207-892-2707

TRANSMITTAL RECORD

Date 7/2/97

Job No. 97117

Job PAT'S MEAT MARKET  
PORTLAND, ME

To: CITY OF PORTLAND  
RM 315, CITY HALL  
PORTLAND, ME 04101

Attention: \_\_\_\_\_

Gentlemen:

- 2 copies of SPRINKLER SHOP DRAWINGS (1 OF 1, DATED 6/30/97)
- 2 copies of HYDRAULIC CALCULATIONS PACKAGE (6 PGS, DATED 6/30/97)
- 1 copies of CHECK # 3904 FOR \$70 PERMIT FEE
- \_\_\_\_\_ copies of \_\_\_\_\_
- \_\_\_\_\_ copies of \_\_\_\_\_
- \_\_\_\_\_ copies of \_\_\_\_\_
- \_\_\_\_\_ copies of \_\_\_\_\_
- \_\_\_\_\_ copies of \_\_\_\_\_

- are enclosed herewith
- approved .....
  - approved except as noted .....
  - approved as noted, resubmit .....
  - disapproved (see remarks) .....
  - for your approval or comments .....
  - for your information and use .....
  - for your files .....
  - per your request .....

Remarks: PLEASE FORWARD 1 SET OF PLANS & CALCS TO FIRE DEPARTMENT.  
THANK YOU.

Very truly yours,

Scott E. Garland  
By SCOTT E. GARLAND, SET, RMS  
DESIGN MANAGER

125-E-011



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## HYDRAULIC DESIGN INFORMATION SHEET

NAME PAT'S MEAT MARKET DATE 6-30-97  
 LOCATION 484 STEVENS AVE, PORTLAND, ME 04103  
 BUILDING — SYSTEM NO. —  
 CONTRACTOR JAMIE VACCHIANO (OWNER) CONTRACT NO. 97117  
 CALCULATED BY SWT E GALLAND DRAWING NO. 1 OF 1  
 CONSTRUCTION:  COMBUSTIBLE  NON-COMBUSTIBLE CEILING HEIGHT VARIES FT.  
 OCCUPANCY MERCANTILE - MEAT MARKET, RESTAURANT

SYSTEM DESIGN

NFPA 13:  LT. HAZ. ORD. HAZ. GP.  1  2  3  EX. HAZ.  
 NFPA 231  NFPA 231C: FIGURE \_\_\_\_\_; CURVE \_\_\_\_\_  
 OTHER (Specify) STATE OF MAINE HYDRO-PAD  
 SPECIFIC RULING \_\_\_\_\_ MADE BY \_\_\_\_\_ DATE \_\_\_\_\_

AREA OF SPRINKLER OPERATION 4 HEADS FLOW  
 DENSITY —  
 AREA PER SPRINKLER 130 SF MAX  
 HOSE ALLOWANCE GPM: INSIDE —  
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SYSTEM TYPE  
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 SPRINKLER OR NOZZLE  
 MAKE RELIABLE MODEL FIFA  
 SIZE 1/2" x 1/2" K-FACTOR 5.62  
 TEMPERATURE RATING 200° 155°

CALCULATION SUMMARY  
 GPM REQUIRED 82.72 PSI REQUIRED 50.03 AT BASE OF RISER.  
 "C" FACTOR USED: OVERHEAD 120 UNDERGROUND 150, 140

WATER SUPPLY

WATER FLOW TEST  
 DATE & TIME 4/10/95  
 STATIC PSI 62  
 RESIDUAL PSI 59  
 GPM FLOWING 1021  
 ELEVATION 2

PUMP DATA  
 RATED CAPACITY \_\_\_\_\_  
 AT PSI \_\_\_\_\_  
 ELEVATION \_\_\_\_\_

TANK OR RESERVOIR  
 CAPACITY \_\_\_\_\_  
 ELEVATION \_\_\_\_\_  
 WELL  
 PROOF FLOW \_\_\_\_\_ GPM

LOCATION ON STEVENS AVE & HARTLET / CROSSBY  
 SOURCE OF INFORMATION PORTLAND WATER DISTRICT

COMMODITY STORAGE

COMMODITY \_\_\_\_\_ CLASS \_\_\_\_\_ LOCATION \_\_\_\_\_  
 STORAGE HEIGHT \_\_\_\_\_ AREA \_\_\_\_\_ AISLE WIDTH \_\_\_\_\_  
 STORAGE METHOD: SOLID PILED \_\_\_\_\_ % PALLETIZED \_\_\_\_\_ % RACK \_\_\_\_\_ %

SINGLE ROW  CONVENTIONAL PALLET  AUTOMATIC STORAGE  ENCAPSULATED  
 DOUBLE ROW  SLAVE PALLET  SOLID SHELVING  NON-  
 MULTIPLE ROW  OPEN  ENCAPSULATED

FLUE SPACING IN INCHES  
 LONGITUDINAL \_\_\_\_\_ TRANSVERSE \_\_\_\_\_  
 CLEARANCE FROM TOP OF STORAGE TO CEILING  
 \_\_\_\_\_ FT. \_\_\_\_\_ IN.

HORIZONTAL BARRIERS PROVIDED \_\_\_\_\_

SPRINKLER SERVICES  
HYDRAULIC CALCULATIONS

6-30-97, PAT'S MEAT MARKET, 97117, C= 120

PAGE NUMBER 2

REF PT#	K	GPM	TOTAL GPM	PIPE I.D.	PIPE LTH	EQUIV FTGS	LOSS /FT	TOTAL LOSS	TOTAL PSI	JCT PT#	
===	=====	=====	=====	=====	=====	=====	=====	=====	=====	===	
									12.66		
1	5.62	20.00	20.00	1.049	0.000	0.00	0.1301	0.00	12.66	1	
1	0.00	0.00	20.00	1.610	13.083	20.00	0.0162	0.53	13.20	A	
	ELEVATION =		.417 FEET					0.18	13.38		
	K =		5.4678								
									7.00		
2	5.62	14.87	14.87	1.049	3.625	2.00	0.0752	0.42	7.42	A	
	K =		5.4575 >	19.96					13.38		
A	5.47	20.00	39.96	1.610	4.709	0.00	0.0581	0.27	13.65	3	
	K =		10.8152								
									8.11		
3	5.62	16.00	16.00	1.049	0.000	0.00	0.0861	0.00	8.11	3	
	K =		5.6200 >	20.77					13.65		
3	10.82	39.96	60.73	1.610	1.125	0.00	0.1261	0.14	13.80	B	
B	0.00	0.00	60.73	1.610	10.667	16.00	0.1261	3.36	17.16	C	
	K =		14.6610								
									12.66		
4	5.62	20.00	20.00	1.049	4.917	7.00	0.1301	1.55	14.22	C	
	K =		5.3046 >	21.97					17.16		
C	14.66	60.73	82.70	1.610	3.208	4.00	0.2233	1.61	18.77	8	
	ELEVATION =		-.917 FEET					-0.40	18.37		
8	0.00	0.00	82.70	1.610	3.292	8.00	0.2233	2.52	20.89	DT	
DT	0.00	0.00	82.70	1.610	0.542	6.00	0.2233	1.46	22.35	D	
	ELEVATION =		.542 FEET					0.23	22.59		
D	0.00	0.00	82.70	1.610	7.000	0.00	0.2233	1.56	24.15	E	
E	0.00	0.00	82.70	1.610	6.417	8.00	0.2233	3.22	27.37	F	
F	0.00	0.00	82.70	2.067	11.042	25.00	0.0661	2.38	29.75	G	
G	0.00	0.00	82.70	2.067	16.500	30.00	0.0661	3.07	32.83	K	
K	0.00	0.00	82.70	2.067	12.083	20.00	0.0661	2.12	34.95	L	
L	0.00	0.00	82.70	2.067	12.417	0.00	0.0661	0.82	35.77	M	
M	0.00	0.00	82.70	2.067	9.833	10.00	0.0661	1.31	37.08	RT	
RT	0.00	0.00	82.70	2.067	5.833	46.00	0.0661	3.43	40.51	RB	
	ELEVATION =		22 FEET					9.53	50.03		
	K =		11.6919	DESIGN AREA *1 - KITCHEN, 2 <sup>ND</sup> FLOOR (HYDRAULICALLY MOST REMOTE)							
									7.00		
5	5.62	14.87	14.87	1.049	8.000	2.00	0.0752	0.75	7.75	6	
	K =		5.3405								
									7.00		
6	5.62	14.87	14.87	1.049	0.792	5.00	0.0752	0.44	7.44	6	
	K =		5.4529 >	15.18					7.75		
6	5.34	14.87	30.05	1.049	7.958	6.00	0.2764	3.86	11.61	7	
	ELEVATION =		-.917 FEET					-0.40	11.21		
	K =		8.9744								
									7.00		
7	5.62	14.87	14.87	1.049	0.333	5.00	0.0752	0.40	7.40	7	
	ELEVATION =		-.333 FEET					-0.14	7.26		
	K =		5.5196 >	18.48					11.21		



SPRINKLER SERVICES  
HYDRAULIC CALCULATIONS

6-30-97, PAT'S MEAT MARKET, 97117, C= 120

PAGE NUMBER 3

REF PT#	K	GPM	TOTAL GPM	PIPE I.D.	PIPE LTH	EQUIV FTGS	LOSS /FT	TOTAL LOSS	TOTAL PSI	JCT PT#
7	8.97	30.05	48.54	1.380	8.500	6.00	0.1765	2.56	13.77	DT
K = 13.0785										
8	5.52	14.87	14.87	1.610	3.292	8.00	0.0093	0.11	7.26	DT
K = 5.4800 > 20.34										
DT	13.08	48.54	68.87	1.610	0.542	6.00	0.1592	1.04	13.77	D
ELEVATION = .542 FEET										
D	0.00	0.00	68.87	1.610	7.000	0.00	0.1592	1.11	15.05	E
E	0.00	0.00	68.87	1.610	6.417	8.00	0.1592	2.29	16.16	F
F	0.00	0.00	68.87	2.067	11.042	25.00	0.0471	1.70	18.46	G
G	0.00	0.00	68.87	2.067	16.500	30.00	0.0471	2.19	20.16	K
K	0.00	0.00	68.87	2.067	12.083	20.00	0.0471	1.51	23.86	L
L	0.00	0.00	68.87	2.067	12.417	0.00	0.0471	0.59	24.45	M
M	0.00	0.00	68.87	2.067	9.833	10.00	0.0471	0.93	25.38	RT
RT	0.00	0.00	68.87	2.067	5.833	64.00	0.0471	3.29	28.67	RB
ELEVATION = 22 FEET										
K = 11.1439 DESIGN AREA #2 - LOUNGE, 2ND FLOOR (NOT MOST REMOTE)										

9	5.62	20.00	20.00	1.049	0.000	0.00	0.1301	0.00	12.66	9
9	0.00	0.00	20.00	1.049	10.000	0.00	0.1301	1.30	12.66	10
10	5.62	21.00	41.00	1.380	10.000	0.00	0.1292	1.29	13.97	11
11	5.62	21.95	62.95	1.610	10.000	0.00	0.1348	1.35	15.26	12
12	5.62	22.90	85.86	1.610	24.000	24.00	0.2393	11.48	16.61	N
N	0.00	0.00	85.86	2.067	12.792	20.00	0.0709	2.32	28.09	Q
Q	0.00	0.00	85.86	2.067	21.750	30.00	0.0709	3.67	30.41	S
S	0.00	0.00	85.86	2.067	14.167	20.00	0.0709	2.42	34.08	T
T	0.00	0.00	85.86	2.067	14.375	0.00	0.0709	1.02	36.50	L
L	0.00	0.00	85.86	2.067	12.417	0.00	0.0709	0.88	37.52	M
M	0.00	0.00	85.86	2.067	9.833	10.00	0.0709	1.41	38.40	RT
RT	0.00	0.00	85.86	2.067	5.833	42.00	0.0709	3.39	39.81	RB
ELEVATION = 12.083 FEET										
K = 12.3374										
DESIGN AREA #3 - RETAIL, 1ST FLOOR (NOT MOST REMOTE)										

13	5.62	17.60	17.60	1.049	0.000	0.00	0.1027	0.00	9.81	13
13	0.00	0.00	17.60	1.049	6.000	0.00	0.1027	0.62	9.81	14
14	5.62	18.14	35.74	1.049	6.000	0.00	0.3810	2.29	10.42	15
15	5.62	20.04	55.78	1.380	4.500	12.00	0.2283	3.77	12.71	P
ELEVATION = -.917 FEET										
K = 13.9108										

16	5.62	14.87	14.87	1.049	1.250	0.00	0.0752	0.09	7.00	P
K = 5.5826 > 22.39										
P	13.91	55.78	78.17	1.380	2.333	0.00	0.4261	0.99	7.09	N
N	0.00	0.00	78.17	2.067	12.792	20.00	0.0596	1.95	17.07	Q
Q	0.00	0.00	78.17	2.067	21.750	30.00	0.0596	3.08	19.03	S
S	0.00	0.00	78.17	2.067	14.167	20.00	0.0596	2.04	22.11	T
T	0.00	0.00	78.17	2.067	14.375	0.00	0.0596	0.86	24.14	L
L	0.00	0.00	78.17	2.067	12.417	0.00	0.0596	0.74	25.00	M
ELEVATION = 25.74 FEET										

SPRINKLER SERVICES  
HYDRAULIC CALCULATIONS

6-30-97, PAT'S MEAT MARKET, 97117, C= 120

PAGE NUMBER 4

REF PT#	K	GPM	TOTAL GPM	PIPE I.D.	PIPE LTH	EQUIV FTGS	LOSS /FT	TOTAL LOSS	TOTAL PSI	JCT PT#
M	0.00	0.00	78.17	2.067	9.833	10.00	0.0596	1.18	26.92	RT
RT	0.00	0.00	78.17	2.067	5.833	51.00	0.0596	3.39	30.31	RB
ELEVATION = 12.083 FEET								5.23	35.54	
K = 13.1118										

DESIGN AREA \*4 - COOLER, 1<sup>ST</sup> FLOOR (NOT MOST REMOTE)

17	5.62	23.40	23.40	1.049	0.333	5.00	0.1740	0.93	17.34	17
ELEVATION = -.333 FEET								-0.14	18.12	
17	0.00	0.00	23.40	1.049	9.000	0.00	0.1740	1.57	19.69	18
18	5.50	24.39	47.79	1.049	5.917	0.00	0.6520	3.86	23.54	S
K = 9.8491										

19	5.62	14.87	14.87	1.049	1.000	5.00	0.0752	0.45	7.00	19
ELEVATION = 1 FEET								0.43	7.89	
19	0.00	0.00	14.87	2.067	7.167	20.00	0.0028	0.08	7.96	S
ELEVATION = -.875 FEET								-0.38	7.58	
K = 5.4006 > 26.20										
S	9.85	47.79	73.99	2.067	0.709	0.00	0.0538	0.04	23.54	20
20	5.50	26.69	100.69	2.067	13.417	20.00	0.0952	3.18	23.58	T
T	0.00	0.00	100.69	2.067	14.375	0.00	0.0952	1.37	26.76	L
L	0.00	0.00	100.69	2.067	12.417	0.00	0.0952	1.18	28.13	M
M	0.00	0.00	100.69	2.067	9.833	10.00	0.0952	1.89	29.31	RT
RT	0.00	0.00	100.69	2.067	5.833	37.00	0.0952	4.08	31.20	RB
ELEVATION = 1.875 FEET								0.81	35.28	
K = 16.7613										

DESIGN AREA \*5 - BSMT (NOT MOST REMOTE)

CONTRACT NO. 97117

LOSS TRU U.G.

SHEET NO 5 OF 6

NAME PAT'S MEAT MARKET

DATE 6-30-97

LOCATION 484 STEVENS AVE, PORTLAND ME

NOZZLE TYPE & LOCATION	FLOW IN G.P.M.	PIPE SIZE	FITTING & DEVICES	PIPE EQUIV. LENGTH	FRICITION LOSS P.S.I./FT	REQUIRED P.S.I.	HYD. REF. PT	ELEV.	NOTES
C-150	0 -	2"		LGTH. 750		PT 50.03	RB		
X1	Q 32.72	CU (L)	2L.T.W	FTG. 320	.0533	PF 5.72			
				TOT. 1070		PE -			
C-140	0 -	12"		LGTH. 265'		PT 55.72	X1		
X2	Q 32.72	CLGT		FTG. -	.00003	PF .01			
				TOT. 2650		PE -			
	0			LGTH.		PT 55.72	X2		
	0			FTG.		PF			
	0			TOT.		PE			
	0			LGTH.		PT			Partial c q = 32.72
	0			FTG.		PF			= 61.92
	0			TOT.		PE			
	0			LGTH.		PT			Pres c q = 32.72
	0			FTG.		PF			= 55.72
	0			TOT.		PE			
	0			LGTH.		PT			Pressure
	0			FTG.		PF			= 6.23 psi.
	0			TOT.		PE			
	0			LGTH.		PT			
	0			FTG.		PF			
	0			TOT.		PE			
	0			LGTH.		PT			
	0			FTG.		PF			
	0			TOT.		PE			
	0			LGTH.		PT			
	0			FTG.		PF			
	0			TOT.		PE			
	0			LGTH.		PT			
	0			FTG.		PF			
	0			TOT.		PE			
	0			LGTH.		PT			
	0			FTG.		PF			
	0			TOT.		PE			
	0			LGTH.		PT			
	0			FTG.		PF			
	0			TOT.		PE			
	0			LGTH.		PT			
	0			FTG.		PF			
	0			TOT.		PE			

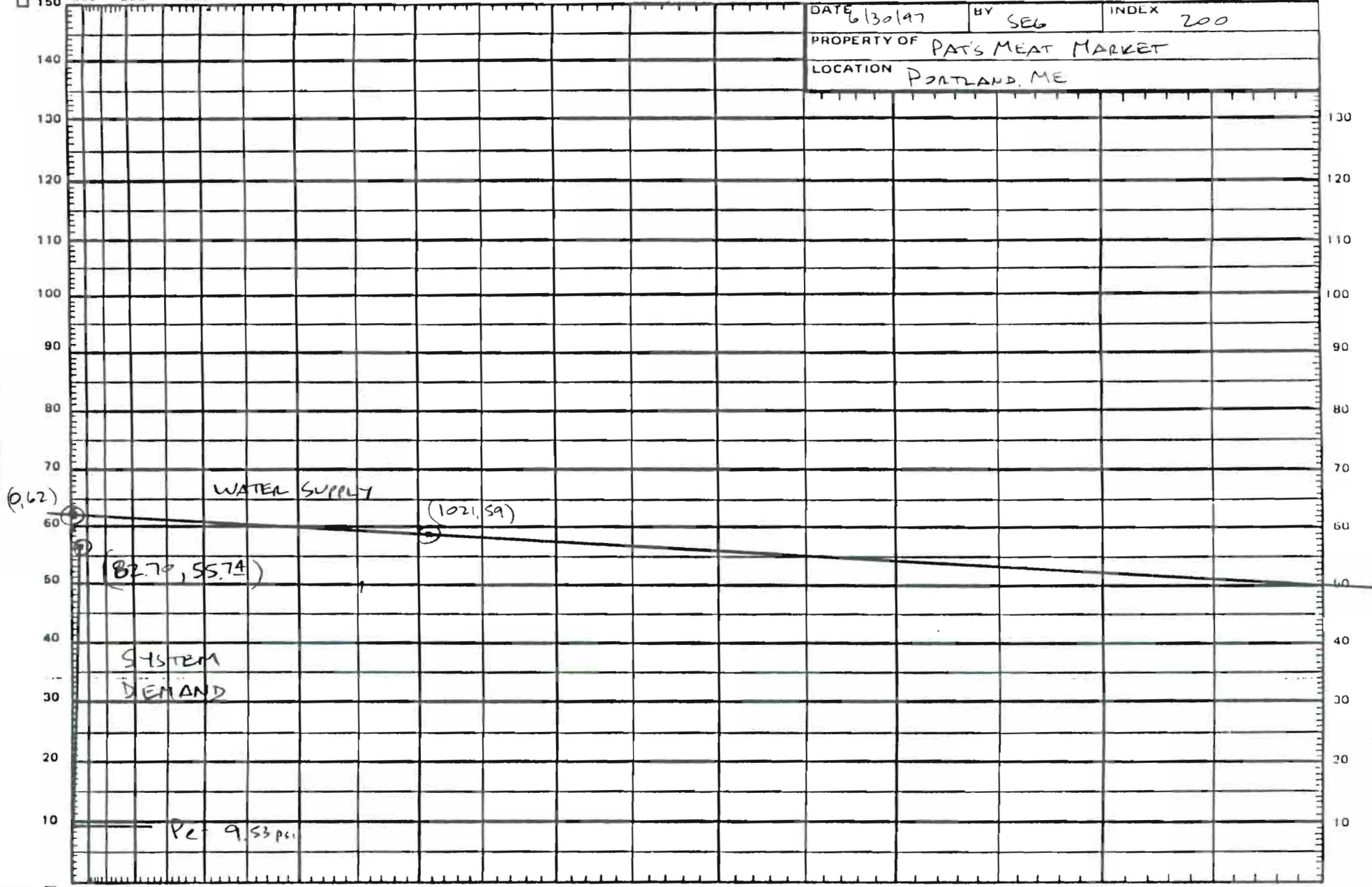
# WATER SUPPLY GRAPH NO. N<sup>1.85</sup>



100	200	300	400	500	600	700	800	900	1000
200	400	600	800	1000	1200	1400	1600	1800	2000
300	600	900	1200	1500	1800	2100	2400	2700	3000

DATE 6/30/47 BY SEG INDEX 200  
 PROPERTY OF PAT'S MEAT MARKET  
 LOCATION PORTLAND, ME

PRESSURE - P.S.I.



CHECK SCALE USED

100	200	300	400	500	600	700	800	900	1000
200	400	600	800	1000	1200	1400	1600	1800	2000

PL 6 of 6



## Model 805Y (3/4" through 2") Double Check Backflow Preventer For Non-Toxic Service

### Features

- Low head loss.
- Spring loaded "Y" type check valves.
- Flow curve generated by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.
- Simple service procedures. All internal parts are serviceable inline.
- Meets all specifications of AWWA and ASSE. Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.
- Bronze bodies, caps, shut-off valves and test cocks.

### Operation

In a nonflow condition the check valves hold 1 PSI minimum in the direction of flow. In a flow condition the check valves are open, proportional to the flow demand. In a backflow condition both checks will close until the resumption of normal flow.

### Typical Specifications

The Double Check Valve assembly 3/4" through 2" shall consist of a bronze body with bronze caps. The body shall be a "Y" pattern design incorporating two spring loaded, center guided check assemblies. The assembly shall include threaded inlet and outlet, full port ball valve shut-off valves and four ball valve test cocks. All internal parts shall be of corrosion resistant materials.

All Double Check Valves shall be constructed so all internal parts can be serviced without removing the assembly from the line. Seat discs shall be reversible. The assembly shall operate when installed in any position. Double Check Valves shall be rated to 175 PSI water working pressure and water temperature from 32°F to 140°F.

The assembly shall meet the requirements of ASSE Standard 1015, AWWA Standard C506-78, and USC Foundation for Cross Connection Control and Hydraulic Research, Sixth Edition.

### Typical Applications

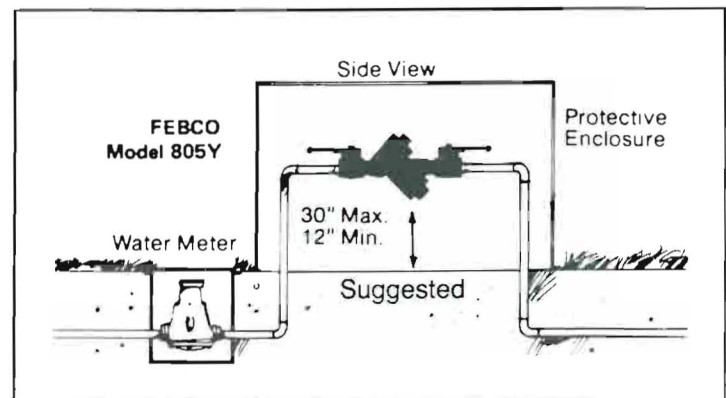
Double Check assemblies are used to prevent backflow of pollutants that are objectionable but not toxic. Double checks may be installed under continuous pressure service



and may be subjected to backpressure. Double Checks can be used in sprinkler irrigation systems, fire protection without chemical additives, protection of industrial plants, industrial in-plant plumbing systems and other systems requiring protection. Local codes may vary; consult authorities for specific approved applications.

### Installation

Model 805Y Double Check Backflow Preventers should be installed with adequate clearance and easy accessibility for testing and maintenance and must be protected from freezing. The assembly may be installed horizontally or vertically with flow up. Refer to local codes for specific installation requirements. Some codes may prohibit vertical installation. Thermal water expansion and/or water hammer downstream of the backflow preventer can cause excessive pressure. Excessive pressure situations should be eliminated to avoid possible damage to the system and assembly.



### Characteristics and Materials

Maximum working pressure	175 PSI
Hydrostatic test pressure	350 PSI
Temperature Range	32°F to 140°F
Fluid	Water
End Detail	Threaded ANSI B2.1
Main Valve Body	Bronze ASTM B584-78
Elastomers	Nitrile ASTM D-2000 seat discs†
Springs	Stainless steel, 300 series

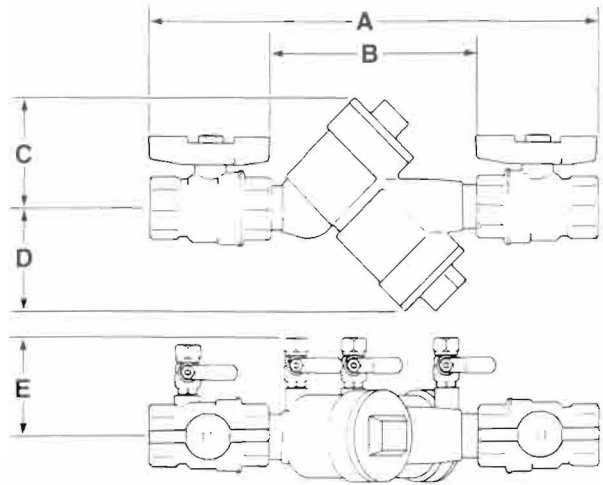
# Dimensions and Weights(U.S.-inches)

SIZE	A	B	C	D	E	NET WT.(Lbs.)
3/4"	11 3/8	6 7/8	3 3/4	3 3/4	2 1/2	7
1"	12 7/8	6 7/8	3 3/4	3 3/4	2 1/2	7 1/2
1 1/2"	17 7/8	10 1/4	5 1/8	4 7/8	3 3/8	17 1/2
2"	18 5/8	10 1/4	5 1/8	4 7/8	3 3/8	20

## Metric (mm.)

SIZE	A	B	C	D	E	NET WT.(Kgs.)
20	288.9	174.6	95.3	95.3	63.5	3.2
25	327.0	174.6	95.3	95.3	63.5	3.4
30	454.0	260.4	130.2	123.8	85.7	7.9
40	473.1	260.4	130.2	123.8	85.7	9.1

Dimensions shown are nominal. Allowances must be made for normal manufacturing tolerances



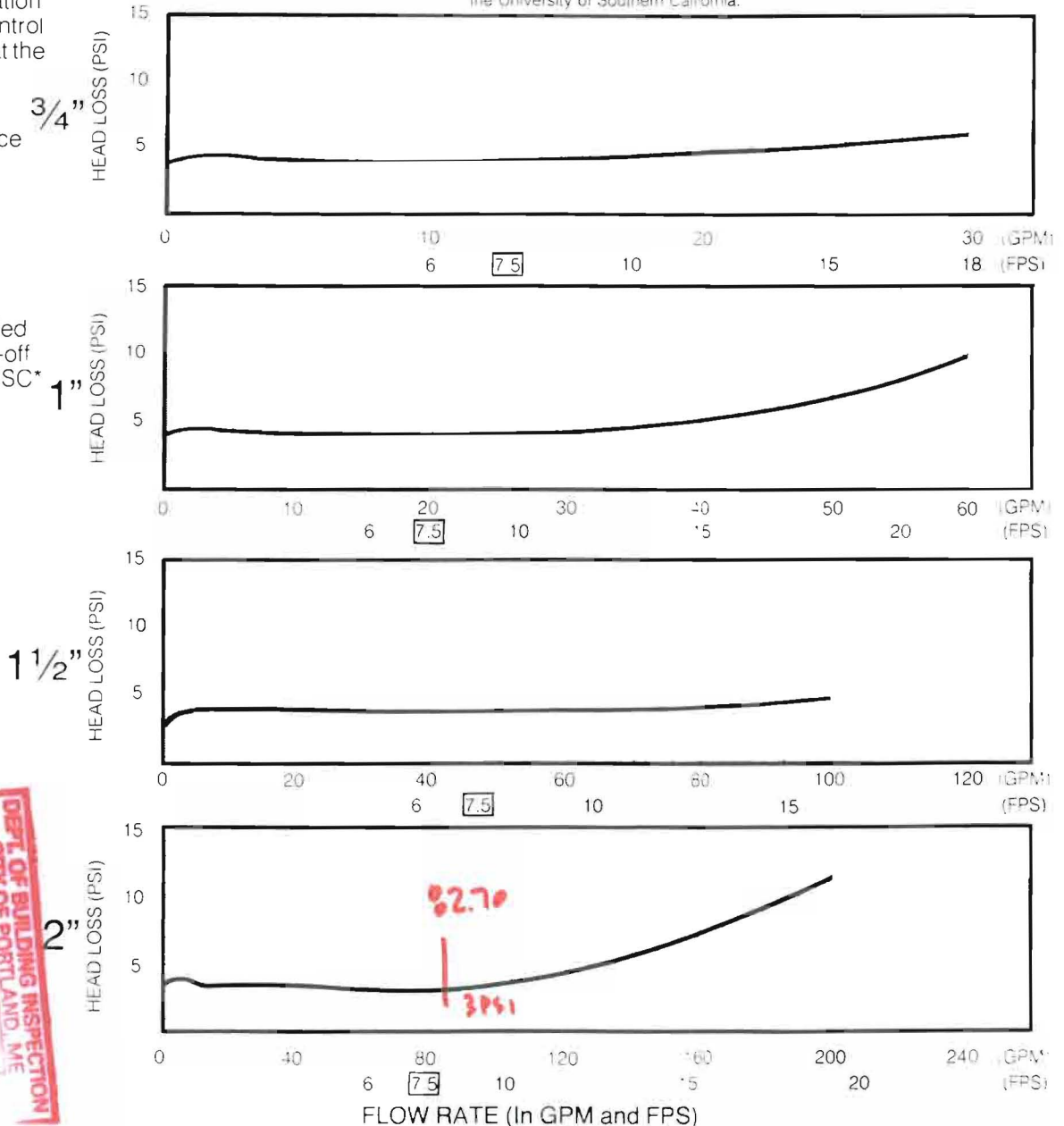
\* Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. ①

AWWA C506 Conformance  
ASSE Listed 1015  
CSA B-64.5 Certified

① Valves must be supplied with resilient seated shut-off valves and testcocks for USC\* approval to be in effect.

## Model 805Y FLOW CURVES

Flow curve generated by the Foundation for Cross-Connection and Hydraulic Research at the University of Southern California.



NOTES 1 Velocities are calculated for flows in Schedule 40 steel pipe  
2 Typical water system flow velocities of 0 to 7.5 FPS should be used for head loss efficiency comparisons

