

Development Services

From Concept to Construction

Phone: 503-823-7300 Email: bds@portlandoregon.gov 1900 SW 4th Ave, Portland, OR 97201
More Contact Info (<http://www.portlandoregon.gov/bds/article/519984>)



APPEAL SUMMARY

Status: Decision Rendered

Appeal ID: 23796	Project Address: 303 SE 126th Ave
Hearing Date: 6/10/20	Appellant Name: Joseph Durbin
Case No.: B-007	Appellant Phone: 5033581034
Appeal Type: Building	Plans Examiner/Inspector: Michael Sylva
Project Type: commercial	Stories: 1 Occupancy: Residential Construction Type: Type 4
Building/Business Name: Star Crest Apartments	Fire Sprinklers: Yes -
Appeal Involves:	LUR or Permit Application No.: 19-120148-FS
Plan Submitted Option: pdf [File 1] [File 2] [File 3]	Proposed use: Commercial

APPEAL INFORMATION SHEET

Appeal item 1

Code Section	NFPA 13R 9.4
Requires	Where a fire pump is installed, the fire pump shall be installed in accordance with NFPA 20.
Code Modification or Alternate Requested	Installation of a fire pump and tank typically used in 13D applications to be used in a 13R space.
Proposed Design	Installation of a Talco Home Hydrant HH3 pump and tank self contained unit to supply the fire sprinkler system in a single 1 bedroom apartment with 4 sprinkler heads. (No room with more than one head)
Reason for alternative	The water supply from the street for the sprinkler system falls just short of the demand needed. We are proposing to install a Home Hydrant fire pump and tank that meets or exceeds the volume and pressure needed for the system to perform correctly.

APPEAL DECISION

Installation of a fire pump and tank typically used in 13D applications to be used where 13R is required: Granted as proposed.

The Administrative Appeal Board finds that the information submitted by the appellant demonstrates that the approved modifications or alternate methods are consistent with the intent of the code; do not lessen health, safety, accessibility, life, fire safety or structural requirements; and that special conditions unique to this project make strict application of those code sections impractical.

Pursuant to City Code Chapter 24.10, you may appeal this decision to the Building Code Board of Appeal within 90 calendar days of the date this decision is published. For information on the appeals process, go to www.portlandoregon.gov/bds/appealsinfo, call (503) 823-7300 or come in to the Development Services Center.

HYDRONICS: FIRE SPRINKLER HYDRAULICS 4.4- SUBMITTAL.

TECHNICIAN: COLBY STATCHNICK (971) 328-0737
ADDRESS: 1258 NE UPPER DRIVE, MADRAS OR 97741

LICENSE : 124300
DESIGNER : PARKER FIRE PROTECTION, INC.
DATE : 06-02-2020

FILE : BLDG_A
JOB NAME : STAR CREST APARTMENTS
LOCATION : 303 SE 126TH, PORTLAND, OR. 97233

DESIGN DATA.

HAZARD : RESIDENTIAL (NFPA 13R)
DENSITY : .05 Sq Ft
AREA PER SPRINKLER : 400 Sq Ft
TOTAL CALCULATED AREA : 400 Sq Ft
TOTAL SPRINKLERS CALCULATED : 1 Heads

FLOW DATA.

TOTAL SPRINKLER FLOW : 20.0 Gpm
TOTAL HOSE STREAM : .0 Gpm
TOTAL WATER REQUIRED : 20.0 Gpm
BASE OF RISER NODE: BOR
FLOW : 20.0 Gpm PRESSURE : 22.9 Psi

AUTHORITY HAVING JURISDICTION : PORTLAND FIRE AND RESCUE
PHONE :

TECHNICIAN: COLBY STATCHWICK (971) 328-0737

ADDRESS: 1258 NE UPPER DRIVE, MADRAS OR 97741

Date: 06-02-2020 File: C:\CALCS\2019\PARKER\190085~1\BLDG_A.HYD

JOB : STAR CREST APARTMENTS

PUMP 1 STATIC : 48 Psi RESIDUAL : 26

Psi FLOW : 60 Gpm

PUMP RATED 1 40Psi at 40 Gpm

NODE NO.	ELEVATION Feet	K- FACTOR	PRESSURE Psi	DISCHARGE Gpm
S1	10.0	4.9	16.7	20.0
TOR	10.0		18.5	
BOR	3.0		22.9	
SOURCE	3.0	SOURCE	23.0	20.0

SPRINKLERS FLOWING : 1 Heads

AREA PER SPRINKLER :

400 Sq Ft

MIN SPRINKLER FLOW : 20 Gpm

REQUIRED DENSITY : .05 Gpm/Sq Ft

COMPUTED DENSITY : .05 Gpm/Sq Ft

TOTAL SPRINKLER FLOW : 20.0 Gpm

INSIDE HOSE STREAM : Gpm

OUTSIDE HOSE STREAM : Gpm

TOTAL WATER REQUIRED : 20.0 Gpm

TOTAL SPRINKLER PRESS : 23.0 Psi

VALVE FIXED LOSS : Psi

Copyright(2005)

SUPPLY PRESS AVAILABLE : 45.1 Psi

by

DEMAND PRESS REQUIRED : 23.0 Psi

PRESSURE CUSHION : 22.1 Psi

MAXIMUM VELOCITY : 6.7 F/S

Hydronics Engineering
 34119 Fremont Bl, Suite 609
 Fremont, Ca., 94555
 (800) 845-9819

TECHNICIAN: COLBY STATCHWICK (971) 328-0737

ADDRESS: 1258 NE UPPER DRIVE, MADRAS OR 97141

Date: 06-02-2020 File: C:\CALCS\2019\PARKER\190085~1\BLDG_A.HYD

JOB : STAR CREST APARTMENTS

PIPE NO.	BEG END	FLOW Gpm	K-FACTOR FITTING TYPE DIAMETER	LENGTH FTG FR- LOSS TOTAL (Psi/Ft)	C-FACTOR	PRESSURE Psi
1	S1	q= 20.0	K=4.9	L= 13.7		Pt 16.7 Pt16.7
		Q= 20.0	F= 2E	F= 14.0	C=150	Pe .0 Pv -.3
		Vel= 6.7	D=1.101	TL= 27.7	.068	Pf 1.9 Pn16.3
	TOR					Pt 18.5
2	TOR	q= .0	K= .0	L= 7.0		Pt 18.5 Pt18.5
		Q= 20.0	F= BE	F= 13.0	C=150	Pe 3.0 Pv -.3
		Vel= 6.7	D=1.101	TL= 20.0	.068	Pf 1.4 Pn18.2
	BOR					Pt 22.9
3	BOR	q= .0	K= .0	L= 1.0		Pt 22.9 Pt22.9
		Q= 20.0	F=	F= .0	C=150	Pe .0 Pv -.3
		Vel= 6.7	D=1.101	TL= 1.0	.068	Pf .1 Pn22.6
	SOURCE					Pt 23.0

SOURCE		Q= 20.0	<<< SOURCE >>>			Pt 23.0

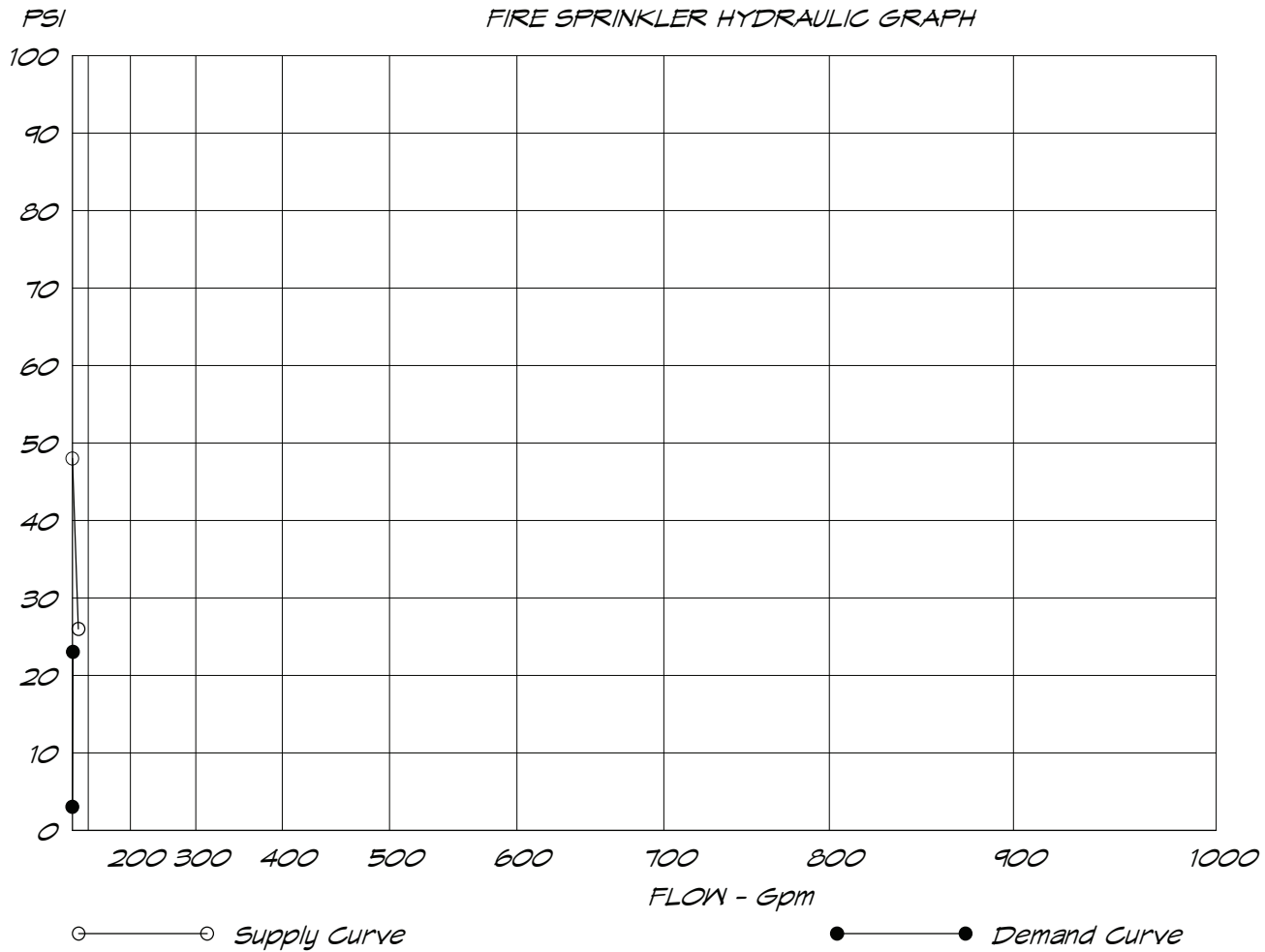
E=>90-Elb T=>Tee Bch L=>Lt-Elb C=>ChkVlv B=>BfyVlv G=>GatVlv A=>AlmChk

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DATE : 06-02-2020 FILE : C:\CALCS\2019\PARKER\190085~1\BLDG_A.HYD

JOB : STAR CREST APARTMENTS



Static : 48.0

Resid : 26.0

Flow : 60.0

Source Pump Rated 40 Psi @ 40 Gpm

Avl Pr : 45.1 @ 19

Req Pr : 23.0 @ 19

Pr Cush : 22.1

Copyright: Hydronics Engineering, 2005.

34119 Fremont Bl, Suite 609,

Fremont, CA. 94555.

(800) 845-9819.

HYDRONICS: FIRE SPRINKLER HYDRAULICS 4.4- SUBMITTAL.

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DATE : 06-02-2020

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PUMP RATED 1 40Psi at 40 Gpm

NODE NO.	ELEVATION Feet	K- FACTOR	PRESSURE Psi	DISCHARGE Gpm
S1	10.0	4.9	16.6	20.0
TOR	10.0		18.6	
BOR	3.0		23.0	
SOURCE	3.0	SOURCE	23.0	20.0

SPRINKLERS FLOWING : 1 Heads

AREA PER SPRINKLER :

400 Sq Ft

MIN SPRINKLER FLOW : 20 Gpm

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JOB : STAR CREST APARTMENTS - BLDG B

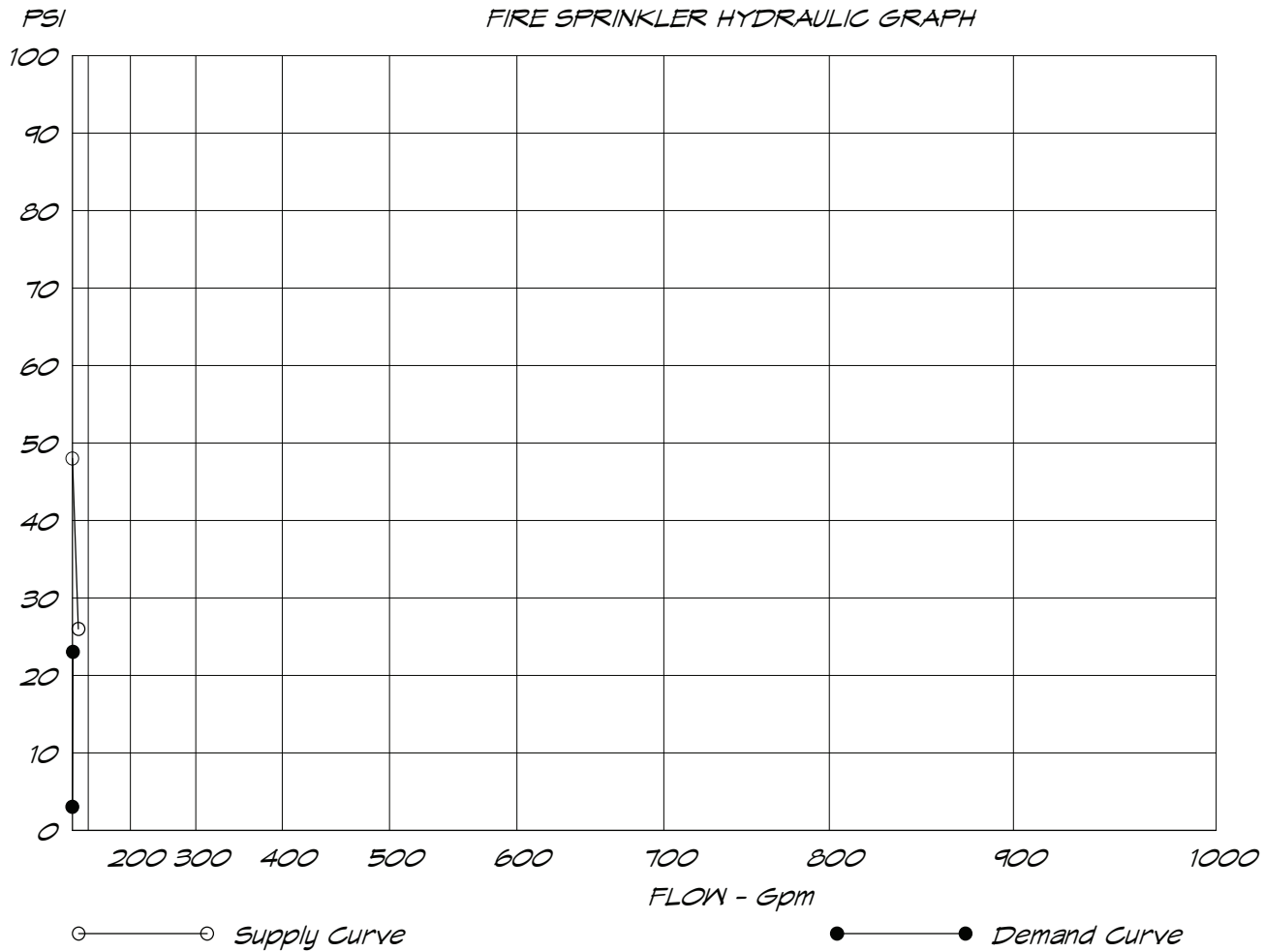
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1	S1	q= 20.0	K=4.9	L= 14.8		Pt 16.6 Pt16.6
		Q= 20.0	F= 2E	F= 14.0	C=150	Pe .0 Pv -.3
		Vel= 6.7	D=1.101	TL= 28.8	.068	Pf 2.0 Pn16.3
	TOR					Pt 18.6
2	TOR	q= .0	K= .0	L= 7.0		Pt 18.6 Pt18.6
		Q= 20.0	F= BE	F= 13.0	C=150	Pe 3.0 Pv -.3
		Vel= 6.7	D=1.101	TL= 20.0	.068	Pf 1.4 Pn18.3
	BOR					Pt 23.0
3	BOR	q= .0	K= .0	L= 1.0		Pt 23.0 Pt23.0
		Q= 20.0	F=	F= .0	C=150	Pe .0 Pv -.1
		Vel= 3.2	D=1.598	TL= 1.0	.0111	Pf .0 Pn22.9
	SOURCE					Pt 23.0

SOURCE		Q= 20.0	<<< SOURCE >>>			Pt 23.0

E=>90-Elb T=>Tee Bch L=>Lt-Elb C=>ChkVlv B=>BfyVlv G=>GatVlv A=>AlmChk

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Flow : 60.0
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Avl Pr : 45.1 @ 19
Req Pr : 23.0 @ 19
Pr Cush : 22.1



MAXIMUM DISTANCE BETWEEN HANGERS								
NOMINAL PIPE SIZE (IN.)	1"	1½"	1½"	2"	2½"	3"	4"	6"
COPPER TUBE	8-0	10-0	10-0	12-0	12-0	12-0	15-0	15-0
CPVC	6-0	6-6	7-0	8-0	9-0	12-0	N/A	N/A
STEEL PIPE EXCEPT THREADED LIGHT WALL	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0



BUILDING A - FIRE SPRINKLER LAYOUT

SCALE: 1/4" = 1'

PLAN = 612 SQ. FT.

SYMBOL	MANUFACTURER	SIN/MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	ORIFICE	FINISH	TEMP.	SPACING
	VICTAULIC	V2740	5	4.9	RECESSED PENDENT	1/2 IN.	1/2 IN.	WHITE	155	20X20

HOME HYDRANT BRAND FIRE PUMP SYSTEM

NFPA-13D Packaged Residential Fire Pump & Tank

U.S. Patents #8,678,032 & 8,905,069

HH3-150C

40GPM @ 40PSI

350 Gallon Water Tank

- ① Tank Drain ½"(GHT)
- ② Overflow Fitting 1"(NPT)
- ③ Auto-Fill Valve ¾"(NPT)

1.5HP Electric Motor

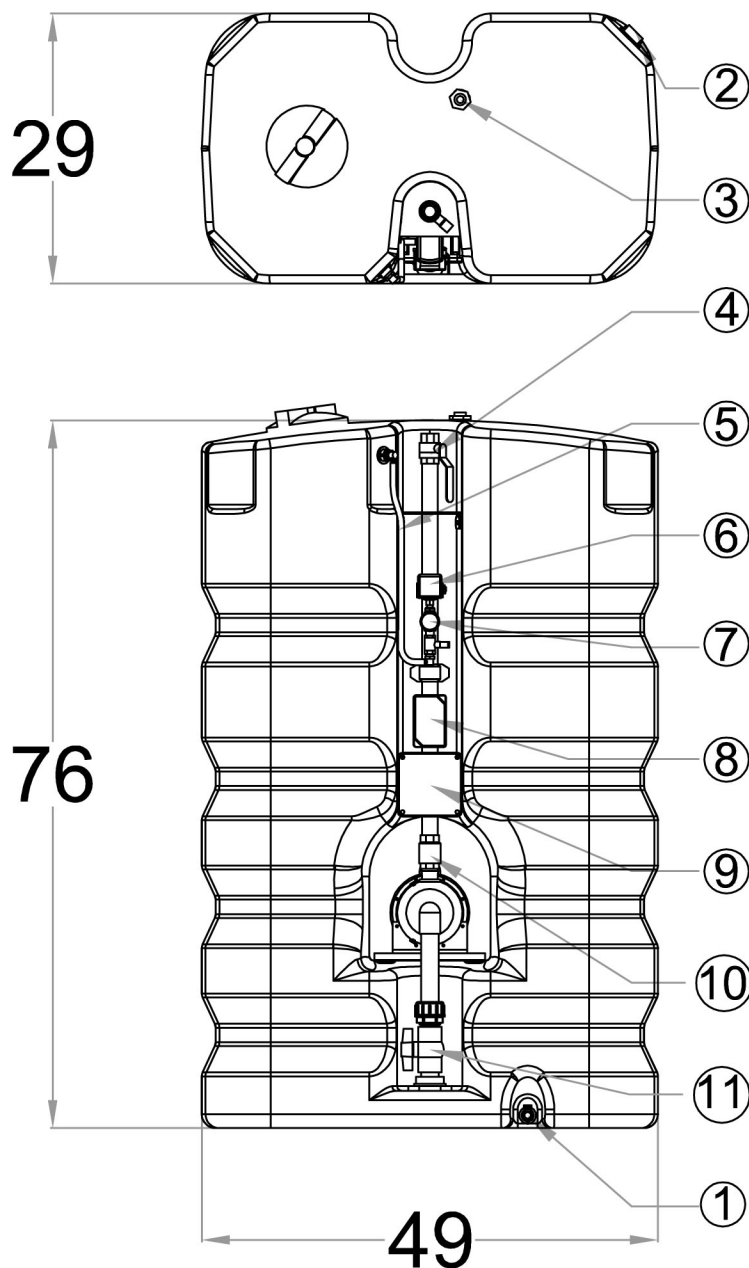
240 Volt Single-Phase

8.1 Amp (Full Load)

1 ¼" Discharge (NPT)

Smart Riser Control System

- ④ Isolation Ball Valve
- ⑤ Test Line/System Drain
- ⑥ 30-50 Pressure Switch
- ⑦ Pressure Gauge
- ⑧ Flow Switch
- ⑨ Run-Time Controller
- ⑩ Discharge Check Valve
- ⑪ Suction Shut-off Valve



Performance

Performance values based on multiple pump tests. Not for certification purposes.

GPM	0	20	25	30	35	40	45
PSI	47	45	44	43	41	40	39