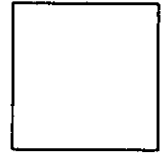


B

Type



Plans

BLD08-1877

Permit Number

168

Street Number



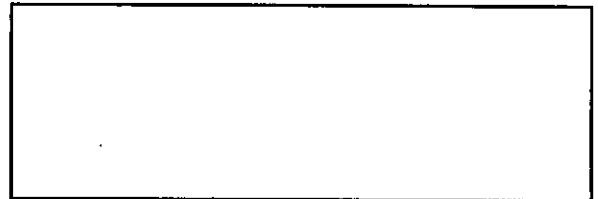
Street Direction

BILL FERGUSON RD

Street Name

GEY

Community Code



Street Fraction (if any)

140-050-002

APN

PRMD County of Sonoma

ALPHA FIRE SUPPRESSION SYSTEMS, INC.
2391 CIRCAPIAN WAY
SANTA ROSA, CA 95407

HYDRAULIC CALCULATIONS

FOR

VIMARK VINEYARD
168 BILL FERGUSON RD.
GEYSERVILLE, CA

FILE NUMBER: 08-1512
DATE: MAY 8, 2008

-DESIGN DATA-

OCCUPANCY CLASSIFICATION:	13D
DENSITY:	.05 gpm/sq. ft.
AREA OF APPLICATION:	BEDROOM 2 & 3
COVERAGE PER SPRINKLER:	256 sq. ft.
NUMBER OF SPRINKLERS CALCULATED:	2 sprinklers
TOTAL SPRINKLER WATER FLOW REQUIRED:	28.8 gpm
TOTAL WATER REQUIRED (including hose):	28.8 gpm
FLOW AND PRESSURE (@ BOR):	28.8 gpm @ 23.4 psi
SPRINKLER ORIFICE SIZE:	1/2 inch
NAME OF CONTRACTOR:	VIMARK VINEYARDS
DESIGN/LAYOUT BY:	KORTNEY GIOMETTI
AUTHORITY HAVING JURISDICTION:	SONOMA COUNTY FIRE DEPT.
CONTRACTOR CERTIFICATION NUMBER:	CA LIC. 670313

CALCULATIONS BY HASS COMPUTER PROGRAM (LICENSE # 27011210)
HRS SYSTEMS, INC.
TUCKER, GA 30084
TUCKER, GA 30084



SPRINKLER SYSTEM HYDRAULIC ANALYSIS

DATE: 5/8/2008

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JOB TITLE: VIMARK VINEYARD

WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	FLOW @ (GPM)	AVAIL. PRESS. (PSI)	TOTAL @ DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	40.0	35.0	30.0	35.4	28.8	28.1

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	28.8 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	0.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	28.8 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)
S1	8.0	K= 4.90	8.2	14.0
S2	8.0	K= 4.90	9.1	14.8
1	8.0	- - - -	11.4	- - -
2	10.0	- - - -	12.3	- - -
3	8.0	- - - -	15.9	- - -
TOR	8.0	- - - -	18.3	- - -
BOR	2.0	- - - -	23.4	- - -
DOM	2.0	- - - -	24.5	- - -
U1	-2.0	- - - -	27.4	- - -
U2	-2.0	- - - -	28.3	- - -
SOURCE	2.0	SOURCE	28.1	28.8

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

DATE: 5/8/2008

C:\HASS78\VIMARK VINEYARD.SDF

JOB TITLE: VIMARK VINEYARD

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.	
							FL/FT		(PSI)	
Pipe: 1										
S1		8.0	4.9	8.2	14.0	-14.0	1.101 PL	14.08	PF	0.9
S2		8.0	4.9	9.1	14.8	4.7	150 FTG	ET	PE	0.0
							0.035 TL	26.08	PV	
Pipe: 2										
S2		8.0	4.9	9.1	14.8	-28.8	1.101 PL	12.67	PF	2.4
1		8.0	0.0	11.4	0.0	9.7	150 FTG	T	PE	0.0
							0.133 TL	17.67	PV	
Pipe: 3										
1		8.0	0.0	11.4	0.0	-28.8	1.101 PL	7.17	PF	1.8
2		10.0	0.0	12.3	0.0	9.7	150 FTG	TR	PE	-0.9
							0.133 TL	13.17	PV	
Pipe: 4										
2		10.0	0.0	12.3	0.0	-28.8	1.101 PL	14.58	PF	2.7
3		8.0	0.0	15.9	0.0	9.7	150 FTG	TR	PE	0.9
							0.133 TL	20.58	PV	
Pipe: 5										
3		8.0	0.0	15.9	0.0	-28.8	1.101 PL	15.58	PF	2.3
TOR		8.0	0.0	18.3	0.0	9.7	150 FTG	2R	PE	0.0
							0.133 TL	17.58	PV	
Pipe: 6										
TOR		8.0	0.0	18.3	0.0	-28.8	1.055 PL	6.00	PF	2.5
BOR		2.0	0.0	23.4	0.0	10.6	150 FTG	S2E	PE	2.6
							0.164 TL	15.50	PV	
Pipe: 7										
BOR		2.0	0.0	23.4	0.0	-28.8	1.055 PL	2.00	PF	1.1
DOM		2.0	0.0	24.5	0.0	10.6	150 FTG	T	PE	0.0
							0.164 TL	6.50	PV	
Pipe: 8										
DOM		2.0	0.0	24.5	0.0	-28.8	1.055 PL	4.00	PF	1.2
U1		-2.0	0.0	27.4	0.0	10.6	150 FTG	EG	PE	1.7
							0.164 TL	7.50	PV	
Pipe: 9										
U1		-2.0	0.0	27.4	0.0	-28.8	2.003 PL	80.00	PF	0.9
U2		-2.0	0.0	28.3	0.0	2.9	150 FTG	4E	PE	0.0
							0.007 TL	124.00	PV	
Pipe: 10										
U2		-2.0	0.0	28.3	0.0	-28.8	1.055 PL	4.00	PF	1.5
SOURCE		2.0	SRCE	28.1	(N/A)	10.6	150 FTG	2E	PE	-1.7
							0.164 TL	9.00	PV	

NOTES (HASS):

(1) Calculations were performed by the HASS 7.9 computer program under license no. 27011210 granted by HRS Systems, Inc. 4792 LaVista Road Tucker, GA 30084

DATE: 5/8/2008

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JOB TITLE: VIMARK VINEYARD

- (2) The system has been calculated to provide an average imbalance at each node of 0.013 gpm and a maximum imbalance at any node of 0.131 gpm.
- (3) Total pressure at each node is used in balancing the system. Maximum water velocity is 10.6 ft/sec at pipe 10.

(4) PIPE FITTINGS TABLE

Pipe Table Name: ALPHA.PIP

PAGE: M MATERIAL: CT-M HWC: 150

Diameter (in)	Equivalent Fitting Lengths in Feet							
	E	T	F	R	C	S	G	N
	Ell	BR 45-Ell	Tee	Run	Couplg	SwgChk	GatVlv	NP Tee
1.055	2.50	4.50	1.00	0.50	0.50	4.50	1.00	4.50

PAGE: P MATERIAL: CPVC HWC: 150

Diameter (in)	Equivalent Fitting Lengths in Feet						
	F	E	T	R	C	H	G
	45	90	Branch	Run	Coup.	22.5	GATE
1.101	1.00	7.00	5.00	1.00	1.00	1.00	4.00
2.003	2.00	11.00	10.00	1.00	1.00	2.00	4.00