

Fire Flow Study
For
Valentine Avenue Development
8100 Valentine Avenue
Sebastopol, California
APN 004-510-054

JN 25213
April 15, 2026

Prepared for:
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Fire Flow Study Narrative

1 Project Description

This project is located at 8100 Valentine Avenue in Sebastopol, California. The overall project site is approximately 2.98 acres. The existing site contains an existing building, AC driveway, parking, and associated hardscaping and landscaping. This project proposes 39 new residential buildings, AC driveway, parking, and associated hardscaping and landscaping. A new 6" public water main is proposed to service the site and will connect to the existing 6" water main underneath Valentine Avenue. Four hydrants are proposed with 6" laterals. This study will assess the proposed fire hydrants and system for adequate capacity to meet the fire flow requirements per the 2022 California Fire Code (CFC).

2 Water Use Study

2.1 Existing Water System

Water supply is provided by the City of Sebastopol distribution system. There is an existing 6" water main running along Valentine Avenue which this project will connect to, see **Fire Flow Exhibit in Appendix I**.

A recent fire flow test was conducted by the City of Sebastopol for existing hydrants #06-30 tested 05/09/2024, see attached **Hydrant Flow Test**. The measured static pressure was 65 pounds per square inch (psi), with a residual pressure of 56 psi at a test flow of 1,256 gallons per minute (gpm).

2.2 Proposed Water System

This project proposes to construct four new fire hydrants located on site to be serviced by a 6" water main and 6" fire laterals. The specifications of the pipe network used in the model are found on **Table 1: Equivalent Pipe Length**.

Table 1: Equivalent Pipe Length

Label	Diameter (in)	Length (User Defined) (ft)	Minor Loss Equivalent Length (ft)	Total Length (ft)	Material	Hazen- Williams (C)
Ex Pipe-1	6	83	0	83	PVC C900	150
Ex Pipe-2	6	126	18	144	PVC C900	150
Ex Pipe-3	6	31	0	31	PVC C900	150
Ex Pipe-4	6	21	19	40	PVC C900	150
Ex Pipe-5	6	37	19	56	PVC C900	150
Pipe-1	6	30	19	49	PVC C900	150
Pipe-2	6	158	10	168	PVC C900	150
Pipe-3	6	21	34	55	PVC C900	150
Pipe-4	6	184	28	212	PVC C900	150
Pipe-5	6	11	19	30	PVC C900	150
Pipe-6	6	209	51	260	PVC C900	150
Pipe-7	6	25	34	59	PVC C900	150
Pipe-8	6	266	20	286	PVC C900	150

2.3 Fire Protection

According to the 2022 CFC, Appendix B Table B105-1, this project will require a total fire flow of 1,500 gpm at a residential pressure of 20 psi at the proposed hydrant. Modeling of the proposed fire water system was performed using public domain pipe distribution system modeling software (EPANET 2.2). The proposed pipe network is shown in **Appendix I: Fire Flow Exhibits**. The model calibration and fire flow scenario is described below.

Model Calibration – Existing test flow rate of Fire Hydrant “3412”

The flow rate measured in the existing hydrants near the project site, given by the City of Sebastopol, were modeled and run independently to mimic existing conditions for accuracy. Residual pressures in the model were representative of the hydrant flow test.

Fire Flow Scenario – Required flow rate to meet 2022 CFC standards

Proposed fire hydrants were analyzed with the required total flow rate of 1,500 gpm to determine the residual pressure and maximum velocity within the model.

3 Results

The demand, static pressure, residual pressure, and maximum velocity are shown in **Table 2: Water Demand Nodes**. The proposed fire hydrants are shown to have sufficient residual pressure.

Table 2: Water demand nodes, Residual Pressures, and Velocities from the Fire Flow Scenarios.

Water Demand Nodes						
Label	Elevation	Demand	Static System Pressure	Residual Pressure	Maximum System Velocity	Satisfies Fire Flow Constraints?
	(ft)	(gpm)	(psi)	(psi)	(ft/s)	
#06-30	194	1,256	65	58	-	-
FH-1	195	1,500	65	53	10.28	TRUE
FH-2	197	1,500	64	50	11.39	TRUE
FH-3	199	1,500	63	49	9.23	TRUE
FH-4	199	1,500	63	48	10.23	TRUE

4 Conclusion

The proposed fire hydrants have been designed to meet the 2022 CFC. The onsite fire protection system, as designed, will provide the required fire flow at required residual pressures.

Appendix I

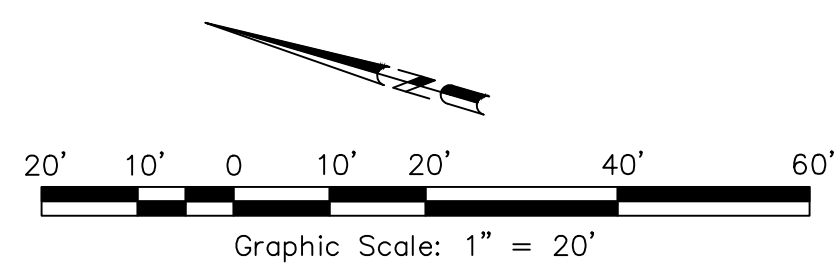
Fire Flow Exhibit

T:\2025 PROJECTS\25213\dwg\Adobe-Design\Constr\Draw\Exhibits\25213-Fire Exhibit.dwg, Kai Murata, 4/14/2026 3:45:17 PM



LEGEND:

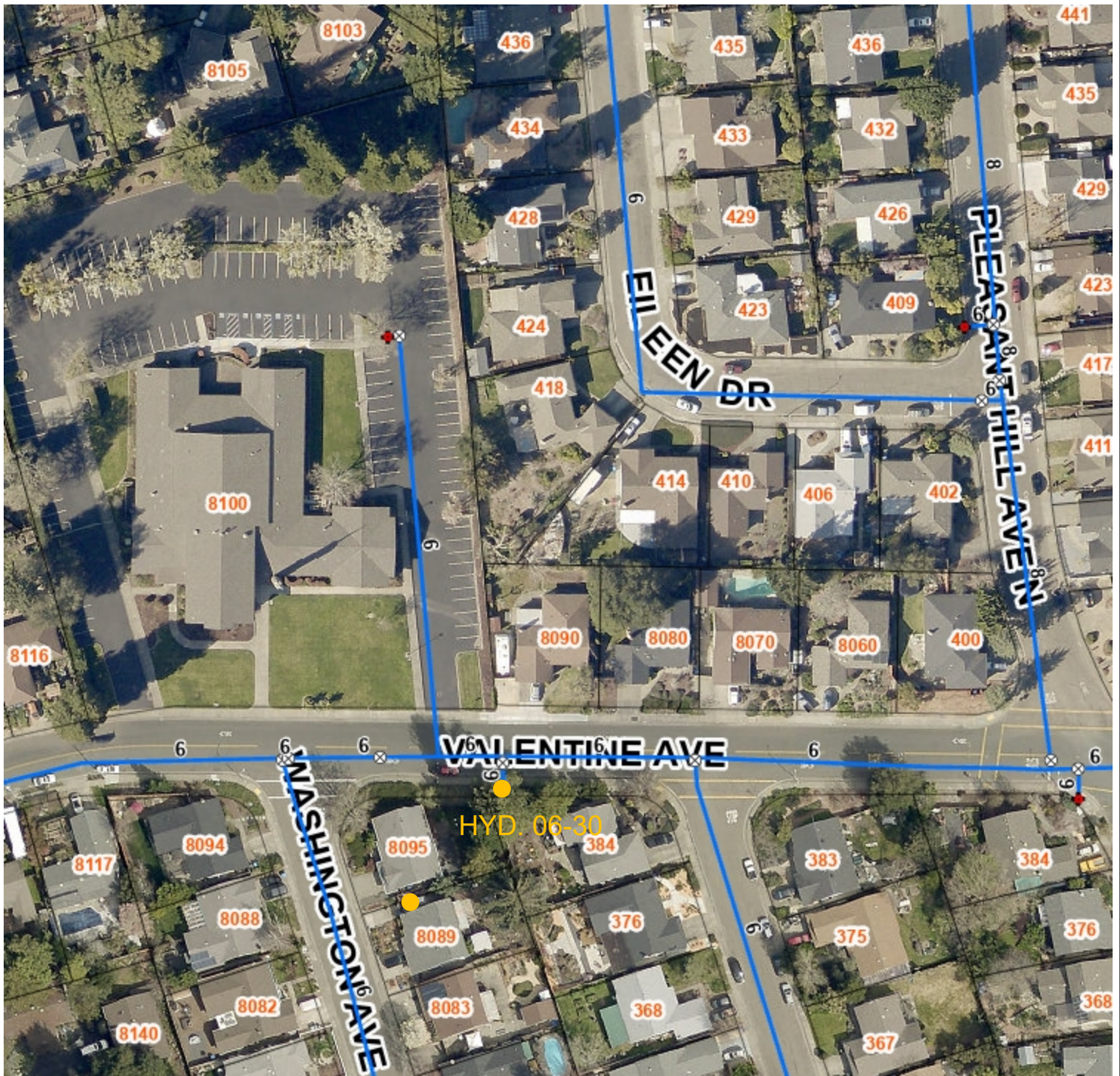
- JUNCTION NODE
- FIRE HYDRANT NODE
- 6" PROPOSED WATER PIPE
- 6" EX WATER PIPE



FIRE FLOW EXHIBIT	
VESTING TENTATIVE MAP VALENTINE AVENUE 8100 Valentine Avenue, Sebastopol, CA APN 004-510-054	
adobe associates, inc. civil engineering land surveying wastewater 1220 N. Dutton Ave., Santa Rosa, CA 95401 P: (707) 541-2300 F: (707) 541-2301 Website: www.adobeinc.com *A Service You Can Count On!	

April 14, 2026

8100 Valentine Ave - Hyd. 06-30 Hyd. Flow Test



Hyd. - (06-30) Tested- 5/9/24

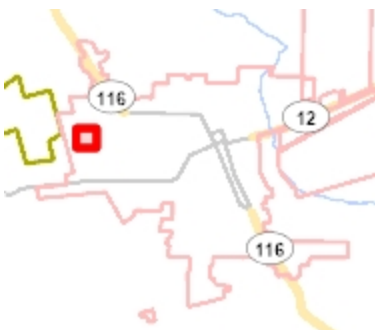
Static Pressure - 65 psi

Residual Pressure - 58 psi

Flow Pressure - 56 psi

Test Outlet Flow - 1256 gpm

Available Hyd. Flow - 3430 gpm



11/5/2025

Scale 1: 1,200

0 Miles 0.02