



March 1, 2016

111.62

**SENT BY EMAIL ONLY**

rbryan@mtshastaca.gov

Rod Bryan, Public Works Director  
City of Mt. Shasta  
305 N. Mt. Shasta Blvd  
Mt. Shasta, CA 96067

Dear Rod,

Subject: FIRE FLOW ANALYSIS  
Proposed Mini Storage at Ski Village Drive

Pursuant to your request, we have estimated the available fire flow for the subject project based on information provided by the City and use of the hydraulic model of the existing water system. The existing hydraulic model was developed as part of the 2010 Master Water Plan (MWP). Since 2010, the City has completed several water projects, some of which were in addition to projects outlined in the MWP. The following improvements have been incorporated into hydraulic model as part of this analysis:

- Alma Street Main
- Alma Street Pressure Reducing Station
- McCloud Avenue Supply Line
- McCloud Avenue Pressure Reducing Station
- Quail Hill Tank Altitude Valve
- Quail Hill Parallel Supply Line
- Big Lakes Water Line Replacement Project

The following conditions and/or assumptions were used in the evaluation:

- Simulation Duration: Two hours (spanning the maximum hour demand)
- Minimum Allowable Pressure at Flow Hydrant: 20 PSI
- Minimum Allowable Pressure at Adjacent Services: 20 PSI

A fire flow simulation was performed at the corner of Ski Village Drive and Old Highway 99 at the base of Spring Hill. The existing system hydraulic model estimates an available fire flow of 450 GPM. The planned improvements model estimates an available fire flow of 1,200 GPM. Simulations indicate that the recently installed Alma Street PRV allows approximately 600 GPM to be provided to the Big Lakes area during fire flows. This additional flow was not anticipated by the 2010 MWP.

Sincerely,

Grant A. G. Maxwell, P.E.  
Staff Engineer

PJR/GM

M:\Jobs\0111\0111.62 Misc Engineering\Mini Storage at Ski Village Drive\Fire Flow Analysis.docx