

## **6.0 SUMMARY**

This Water Service Impact Study presents the proposed water system connections, and an overview of existing infrastructure surrounding the project site. The following summarizes CVL's findings of the proposed water system to serve Paradise Hills Lots 143 & 144.

- The water service connections will be made to the existing EPCOR Water system.
- Existing adjacent lines to Paradise Hills Lots 143 & 144 consist of 4" and 6" waterlines.
- Pressures at the property line within the proposed development are approximately 86 psi for all domestic demand scenarios which exceeds the Town of Paradise Valley's minimum requirement of 20 psi. An individual pressure reducing valve will be required at each proposed service.
- Fire flows of approximately 616 gpm at Node J-6 result in pressures of 20 psi north of the project site.
- Velocities in the existing system are greater than the 10 fps maximum requirement. The maximum velocity that occurs when a fire flow of 616 gpm is modeled at the site is 15.75 fps. This velocity occurs in an existing 4" waterline.
- The nearest fire hydrant to the proposed lots is directly north of Lot 143.
- The existing water infrastructure is not adequate to supply Lot 143 & 144 with the required fire flow protection per Town Code 13.1.6 (1,500 gpm at 20 psi). Therefore the proposed residences on lots 143 & 144 will be required to provide a separate water storage tank and pump or equivalent alternative that is compliant with the National Fire Protection Association (NFPA) and deemed appropriate by the Town Fire Marshal. This may be required for the fire sprinkler system prior to the issuance of a Certificate of occupancy for Lots 143 & 144.