Water Committee report **October 3, 2020 Board meeting**

1. Once a year financial report.
The Water Committee plans to submit a financial report once a year at the spring Board meeting, instead of twice a year. There are two reasons for this change. The water account balance has consistently been in good territory for several years and a framework is now in place (i.e., the 30-Year Plan) to keep it that way. Second, it is normal for a large fraction of the approved projects to not be completed and/or not invoiced and/or not paid by the fall Board meeting, resulting in inflated balances which can be misleading to owners.

2. Options to improve the ability of the water system to supply water in a wildfire.
Background
The 30-Year Plan does not address water supply in a fire because it focused on storage and distribution of water for domestic use. Due to the disbanding of the Fire Preparedness Committee and the intersection of fire preparedness with the HLOA water supply, the Water Committee took up the charge.

The "Fire Preparation and Response" document on the highlostine.com website includes an objective assessment of the position the HLOA is in when a fire occurs. *With respect to a wildfire,* the main points in the document are:

- USFS and ODF said fire-fighters will not use the High Lostine fire hydrants to attack a wildfire; they will use water delivered via their engines, tankers, and possibly helicopters. (In the last 6 months, this bullet became more extreme than what is currently stated in the document.)
- USFS and ODF said water stored in the HLOA reservoir should be used for wetting-down the perimeter of structures just prior to arrival of a wildfire to reduce the chance of structure ignition.
- Response by fire-fighters may be slow and/or below average, particularly in the early timeframe, for the reasons listed in the document.

Current level of protection

- Water stored in the HLOA reservoir in wildfire season provides 2 to 3 hours of wet-down for lots with structures (currently 25 lots). This assumes compliance with the HLOA policy of 8 gallons per minute (gpm) per lot containing a structure. [Note: The ODF response includes supplying sprinklers as available, however the 8 gpm limit is equivalent to only two ODF-supplied sprinklers per lot. If ODF deploys more sprinklers or owners use hoses with a spray nozzle or higher volume sprinklers, the hours of wet-down decreases.]
- Owners have the option to purchase and deploy 4-8 sprinklers with an output of 1 to 2 gpm each (8 gpm total). This provides a greater assurance that wet-down occurs prior to arrival of a wildfire, and provides better perimeter coverage.
- Owners also have the option to purchase and place an above-ground (open-top) tank on their lot or (for lots near the river) placing a private pump in the river. This provides a much longer wet-down period for protecting their structure(s).

Options to provide greater protection
Given the above information, should the HLOA consider improved infrastructure to increase water supply for wet-down? The Water Committee has studied four options.

Summary table of options studied by the Water Committee.

Option	**River to reservoir (#1)**	**Stream to pillow tank to distribution system (#2)**	**Stream to distribution system (#3)**	**Well to reservoir using generator (#4)**
Description	For a wildfire, pump river water into HLOA water main for rapid fill/refill of reservoir. Pumping periods must alternate with periods of water use (e.g., pumping occurs at night or during lesser fire activity).	Prior to fire season, open valve at stream to gravity-feed water into a hose or pipe, to fill pillow tank. For a wildfire, pillow tank water will be fed to distribution system. Also allows pillow tank to be refilled simultaneous with water use.	For a wildfire, open valve at stream to gravity-feed water into a hose or pipe, for continuous supply of water to distribution system.	Retain capacity to pump well water to reservoir when electrical power is terminated for a wildfire. Terminating electrical power is typical to protect against electrocution.

Volume	Pump rate at river of 6,000 gallons/hr (estimate; not confirmed with engineering).	30,000 gallons of reserve storage in pillow tank. Plus refill rate of 1,000 - 3,000 gallons/hr during fire season.	Supplies 1,000 - 3,000 gallons/hr during fire season.	Pump rate at well of 850 - 1,200 gallons/hr during fire season. Periodic one hour halts in pumping may be required for well recovery.
Estimated cost	High (poorly understood but probably $30k or more)	Medium-high ($20k - $25k) plus amortized replacement cost of $1 - $1.5k per year	Low ($5k - $10k)	Low (~ $10k)
Engineering to & approval by state	Yes	Yes	Yes	No
Ease of use in a fire	Difficult. Includes several potentially difficult-to-mitigate operating risks.	Easy	Easy	Very easy
Maintenance need	Medium	High	Low	Low
Potential for fouling (ash, mud, sticks) / coliform contamination	Low/low	Yes/yes	Yes/yes	None/none

Water Committee recommendations

1) Consider investing HLOA funds to extend the time that sprinklers can be run before fire-fighters have a complete response in place.
   - With respect to increasing water supply for a wildfire, the committee recommends option #4 as the best option.
   - As option #4 was studied, the committee was reminded that our water system does not have power supply redundancy. Thus, several recent loss-of-power events resulted in a near-miss that nearly emptied the reservoir, or could have resulted in emptying the reservoir if it had co-occurred just prior to loss of power from a major weather event such as wind, ice/heavy snow, or lightening. A benefit that is unique to option #4 is that it also improves overall water system reliability by providing power supply redundancy.
2) Per USFS and ODF, install an access road (including sign) from Lostine River Rd. to the river bank for refilling tankers.
3) Adopt a HLOA policy that reimburses owners for water used to annually fill a storage tank on their lot.
4) Add language to CCRs and website stating the HLOA takes no responsibility for damage or losses due to a fire.