

1. Water account balances

- Operating budget: \$ 8,965
- Emergency repairs reserve: \$ 8,602
- Capital reserve: \$16,760
- Water account total: \$34,327 Based on approved budget minus expenses.

Note: The \$33,025 balance in the Treasurer’s report is correct and is based on income minus expenses.

Operating budget

Balance on 3-31-2019	\$ 1,486
2019-20 remaining	+ <u>\$ 7,479</u> (line 12 in table below: \$15,380 minus \$7,901)
Subtotal	\$ 8,965

Emergency repair reserve

Balance on 3-31-2019	\$ 5,592
2019-20 contribution	+ <u>\$ 3,010</u> (\$2,060 + \$950)
Subtotal	\$ 8,602

Capital reserve

Balance on 3-31-2019	\$ 7,490
2019-20 contribution	+ <u>\$ 9,270</u>
Subtotal	\$16,760

2. Operating budget line-item report

Lines 1-8 are planned projects.

Line item	Approved	Cost to date	Status
1. Replace and upgrade telemetry system logic controller and display	\$ 2,500	\$	Completed; awaiting invoice.
2. Meter-setters for eight lots converting to meters with above-ground readout	\$ 2,000	\$ 1,882	All owners with old meters must convert. Water account pays only for meter-setter purchase; owner pays for meter, labor, and other materials.
3. Redeploy well’s water level sensor to correct depth	\$ 800	\$ 565	Completed
4. Install bypass, meter, & setter at reservoir main	\$ 2,500	\$	Contractor hasn’t done work yet.
5. Install pump kill switch	\$ 400	\$	Completed; awaiting invoice.
6. Contract with professional water operator	\$ 1,000	\$ 0	Two more water operators contacted – neither was interested. Volunteers find this year manageable ... so far. See how it goes the rest of the water year. Recent infrastructure investments might allow us to defer a contract for several more years.
7. Repair well house roof	\$ 0	\$ 59	Completed
8. Attach permanent ladder to inside of reservoir (for safety)	\$ 0	\$ 0	A number of issues arose, resulting in an estimate being obtained for fabrication using potable water-grade stainless steel. Estimate was higher than expected.

			Committee will reconsider alternative solutions.
9. Base operations	\$ 2,060	\$ 537	
10. Unanticipated repairs	\$ 2,060	\$ 935	Completed repair of temporarily capped-off leak of February 2019.
11. Emergency repair reserve contribution	\$ 2,060	\$ 2,060	Funds transferred to emergency repair reserve.
12. Total	\$15,380	\$ 7,901 * through 10/9/2019	* Includes a \$1,863 expense incurred for purchase of meter replacements. The water account should receive an offsetting reimbursement income of \$1,863 by the end of the water year.

3. Leak status

- One leak of 171,000 gallons in the second week of July occurred on a private service line; no cost to HLOA.

4. Well status

- Current conditions: Mid-August to the present has displayed the lowest water levels since data collection began. Water level during pumping drops to only about 10 (ten) feet above the pump, and the pump is at the bottom of the well.
- Production rate: The high temporal resolution data from the water level sensor allows calculation of the production rate of the well. Under current conditions the production rate (flow rate from the bedrock fractures into the well bore) is 12 - 13 gallons per minute. The data indicates our well's production rate under current conditions results from a high pressure head of about 85 psi (good) on the deeper of the two water sources, which forces water through small-diameter (not so good) fractures. This production rate is not a problem at our current amount of summer water use assuming there are no ongoing leaks.
- Stress test: To probe whether the production rate will become an issue in the future, water was pumped for two days near the end of August at 3 times the rate of peak summer use in the past. The production rate declined by 10% and the rebound in the water level after cessation of pumping declined by 15%. Results from this two-day test indicate a partial temporary depletion of water in the portion of the fractured bedrock aquifer near the well bore.
- Conclusion: Water shortage in the late summer may become a problem in the future. Uncertainty exists due to the shortness of the stress test, the severity and frequency of droughty years is unknown (we have just 3 years of data and only the last 6 months of data is high-resolution), and the volume of water stored in the fractured bedrock aquifer cannot be estimated from the current data. If shortages were to occur, options to consider before drilling a second well are reducing late summer water use and deepening of the well.