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September 5, 2018

Mr. Derek Imlay
Public Works Director
435 N. Main Street
LaVerkin, UT 84745

RE: Supplement to Culinary Water Master Plan

Dear Mr. Imlay,

Sunrise Engineering, Inc. (Sunrise) completed a Culinary Water Master Plan for LaVerkin City (the City) in September, 2017. The Master Plan represented a collaborative effort between the City and Sunrise to analyze the City's culinary water system against current applicable governing law and operational realities, and to recommend improvements, where necessary, to support the City's desire to maintain a viable utility in the long term.

Among other recommendations, the Master Plan noted, "It is recommended that, if in a given year there are excess funds generated by the existing rate, these funds be saved in an interest bearing renewal and replacement account for expenditures on future projects." This approach was consistent with the City's approach in years prior, and while fiscally inadequate, highlighted the need to be aware of system service life and to prepare financially to replace the water system on an ongoing basis as elements in the system reach their functional life.

During and subsequent to completion of the Master Plan, the City has experienced rising costs of operation and maintenance of its water system, especially due to breaks in water lines which have quickly and repeatedly absorbed annual system repair budgets. Other incidental system costs are also rising and projected to rise, including additional operational efforts due to rising populations, legislative mandates, and development of water sources. These factors have caused the City Council and staff to look closely at the need for a rate increase to: 1) partially correct suppressed water rates resulting from approximately 18 years without a rate increase, 2) address growing operational and maintenance costs, and 3) more aggressively fund renewal and replacement projects on the aging system.

Based on the factors summarized above, and subsequent to delivery of the Master Plan report, the City directed Sunrise to update the Cash Flow Analysis (given in Appendix E of the Master Plan) with the specific directive to include funding for more aggressive renewal and replacement of the water system. Sunrise acted on the City's directive, producing an expanded Cash Flow Analysis which is attached to this letter. Notably, among other things, the analysis assumes, calculates, or concludes:

1. The City's population and system demands will continue to grow.
2. The culinary water system and its components have a functional service life of 50 years, consistent with industry-standard assumptions.
3. The replacement cost of the entire system in today's dollars is estimated at \$16,900,000.
4. Economic inflation and the cost of goods and services will increase at an annual rate of 3.0%.

5. The City Council will consider an annual rate increase of 2.0% on average, or as needed to maintain the financial viability of the culinary water utility.
6. The connection data, meter data, audit information, and other system information used to form the basis of the Cash Flow Analysis is reasonably accurate and sufficiently sound, providing a reliable picture of system operations in recent prior years.
7. High-priority system improvement or renewal and replacement projects will be completed within the next six years (the high-priority improvement projects are listed in the attached Cash Flow Analysis).

Of note, the Cash Flow Analysis suggests that a \$14/ERU/month rate increase (the equivalent of \$14 per month for a single family household) should be implemented if the City desires to operate the system in a financially viable manner under the assumptions given.

It should be noted that a Cash Flow Analysis represents a best estimation, based on prior system performance, of what a utility will experience in the future; however, it is not a guarantee of future financial performance. It is recommended that the City review system finances annually, making rate adjustment decisions based on recent years' performance.

Lastly, whereas the Culinary Water Master Plan has not yet been formally adopted by the City, it is recommended that this explanatory letter and updated Cash Flow Analysis be adopted as a supplement to the Master Plan when it is adopted.

Please call me at (435) 652-8450 with any questions.

Sincerely,



Joseph K. Phillips, P.E.
Principal / Project Engineer

attachment

**CASH FLOW ANALYSIS
CULINARY WATER MASTER PLAN**

1	Fiscal Year Beginning July 1	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2	Ending June 30	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
3	Include Growth Rate? (yes/no)	yes																
4	Include Renewal and Replacement? (yes/no)	yes																
5	Include Impact Fee? (yes/no)	yes																
6	Annual Population Growth Rate	varies				1.00%	1.00%	2.50%	2.50%	2.75%	2.75%	2.75%	2.75%	2.75%	3.00%	3.00%	3.00%	3.00%
7	Assumed System Life (years)	50				50	50	50	50	50	50	50	50	50	50	50	50	50
8	Rate Increase (\$ / ERU / mi)	varies						\$14.00	\$0.89	\$0.91	\$0.91	\$0.94	\$0.96	\$0.98	\$1.00	\$1.02	\$1.04	\$1.06
9	Annual Rate Increase (%)	2.00%						2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
10	Annual Rate of Inflation	3.00%				3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
11	WATER SYSTEM DATA																	
12	Average User Rate per ERU	\$31.61	\$29.47	\$31.24	\$30.48	\$30.48	\$30.48	\$44.48	\$45.37	\$46.28	\$47.20	\$48.15	\$49.11	\$50.09	\$51.09	\$52.11	\$53.16	\$54.22
13	Connection Fee per Connection	\$375	\$375	\$375	\$375	\$386	\$386	\$410	\$422	\$435	\$448	\$461	\$475	\$489	\$504	\$519	\$535	\$551
14	Impact fee (\$/ft ³ meter)	\$1,478	\$1,478	\$1,478	\$1,478	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572
15	Total Existing ERUs	1,335	1,679	1,618	1,651	1,670	1,686	1,728	1,772	1,820	1,870	1,922	1,975	2,029	2,080	2,133	2,177	2,284
16	New ERUs:	144		-61	35	17	17	42	43	49	50	51	53	54	61	63	65	67
17	Estimated Water System Replacement Cost							\$16,600,000										
18	WATER SYSTEM REVENUES																	
19	User Fees (Water Sales)	\$582,188	\$593,829	\$606,481	\$604,577	\$613,645.06	\$619,782.11	\$918,765	\$976,252	\$1,024,360	\$1,073,581	\$1,125,166	\$1,179,331	\$1,235,893	\$1,295,942	\$1,365,719	\$1,434,825	\$1,507,427
20	Connection Fees	\$1,240	\$1,200	\$1,675	\$1,275	\$6,385	\$6,642	\$17,274.22	\$18,337	\$21,179	\$22,415	\$23,722	\$25,106	\$26,570	\$30,476	\$32,544	\$34,526	\$36,520
21	Other Operating Income	\$50,288	\$51,130	\$43,796	\$26,916	\$27,723	\$28,555	\$29,412	\$30,294	\$31,203	\$32,139	\$33,103	\$34,096	\$35,119	\$36,173	\$37,258	\$38,376	\$39,527
22	Impact Fees	\$12,649	\$18,813	\$25,126	\$31,305	\$25,985	\$26,245	\$66,267	\$67,924	\$76,584	\$78,690	\$80,854	\$83,078	\$85,362	\$95,683	\$98,554	\$201,510	\$104,556
23	TOTAL REVENUE:	\$660,899	\$664,972	\$677,078	\$670,073	\$673,739	\$681,224	\$1,046,718	\$1,092,797	\$1,153,327	\$1,206,825	\$1,262,846	\$1,321,511	\$1,382,944	\$1,462,474	\$1,534,075	\$1,609,736	\$1,688,133
24	WATER SYSTEM O&M EXPENSES																	
25	Personnel Services	\$289,518	\$279,644	\$281,760	\$257,817	\$268,129	\$278,854	\$294,191	\$310,372	\$328,218	\$347,091	\$367,049	\$388,154	\$410,473	\$435,101	\$461,207	\$488,880	\$518,212
26	Operation & Maintenance	\$163,538	\$183,188	\$159,750	\$173,890	\$180,846	\$188,080	\$198,424	\$209,337	\$221,374	\$234,103	\$247,564	\$261,799	\$276,852	\$293,464	\$311,071	\$329,736	\$349,520
27	Insurance	\$15,926	\$7,119	\$11,868	\$12,343	\$12,837	\$13,543	\$14,287	\$15,109	\$15,978	\$16,896	\$17,868	\$18,899	\$20,029	\$21,231	\$22,505	\$23,855	\$25,285
28	Other Supplies & Expenses	\$43,395	\$26,741	\$25,797	\$32,937	\$34,254	\$35,625	\$37,584	\$39,651	\$41,931	\$44,342	\$46,892	\$49,588	\$52,439	\$55,546	\$58,921	\$62,566	\$66,401
29	Benefit Expense - GASB 68			\$23,870	\$23,870	\$24,826	\$25,819	\$27,239	\$28,737	\$30,389	\$32,137	\$33,985	\$35,939	\$38,005	\$40,286	\$42,791	\$45,526	\$48,491
30	Pension Expense - GASB 68			\$78,168	\$78,168	\$78,168	\$78,168	\$78,168	\$78,168	\$78,168	\$78,168	\$78,168	\$78,168	\$78,168	\$78,168	\$78,168	\$78,168	\$78,168
31	Anticipated Contaminant Well Water Purchase			\$24,252	\$78,195	\$76,123	\$79,168	\$5,000	\$5,275	\$5,526	\$5,788	\$6,063	\$6,351	\$6,653	\$6,965	\$7,285	\$7,611	\$7,951
32	Hill 303 Compliance							\$15,000	\$15,825	\$16,735	\$17,687	\$18,675	\$19,791	\$20,939	\$22,185	\$23,516	\$24,937	\$26,422
33	Sub-Total Operation & Maintenance	\$496,451	\$455,499	\$424,808	\$525,836	\$546,869	\$568,744	\$615,871	\$645,178	\$677,671	\$712,030	\$748,362	\$786,780	\$827,404	\$872,231	\$919,745	\$970,107	\$1,023,486
34	WATER SYSTEM EXISTING DEBT SERVICE																	
35	1999 Water Revenue (Estimated)	\$31,580	\$31,280	\$31,000	\$32,000	\$31,710	\$32,420	\$32,320	\$33,830	\$31,520	\$31,220	\$30,920	\$31,620	\$31,310	\$0	\$0	\$0	\$0
36	2010 Water Revenue (Estimated)	\$48,285	\$47,444	\$47,603	\$47,603	\$47,723	\$47,834	\$47,906	\$47,949	\$47,963	\$47,948	\$47,904	\$47,831	\$47,729	\$48,569	\$48,380	\$48,162	\$47,915
37	2014 Silver Acres (Estimated)		\$0	\$0	\$0	\$15,380	\$15,750	\$15,520	\$16,390	\$16,195	\$16,000	\$15,805	\$15,630	\$16,415	\$16,205	\$15,995	\$15,785	\$15,575
38	Sub-Total Existing Debt Service	\$79,865	\$78,724	\$78,603	\$79,603	\$79,433	\$79,004	\$79,596	\$79,159	\$78,678	\$78,168	\$77,629	\$77,061	\$76,454	\$64,774	\$64,375	\$63,947	\$63,490
39	WATER SYSTEM NEW DEBT SERVICE																	
40	New Water Improvements Loan (Bond A)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
41	Loan Reserve (Payment/10)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
42	Sub-Total New Debt Service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
43	WATER SYSTEM OTHER EXPENSES																	
44	Renewal and Replacement Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$38,000	\$46,140	\$38,584	\$39,342	\$38,422	\$39,135	\$40,590	\$41,597	\$42,848	\$44,103	\$45,444
45	WATER SYSTEM EXPENSES SUMMARY																	
46	WATER SYSTEM O&M EXPENSES	\$496,451	\$455,499	\$424,808	\$525,836	\$546,869	\$568,744	\$615,871	\$645,178	\$677,671	\$712,030	\$748,362	\$786,780	\$827,404	\$872,231	\$919,745	\$970,107	\$1,023,486
47	WATER SYSTEM EXISTING DEBT SERVICE	\$79,865	\$78,724	\$78,603	\$79,603	\$79,433	\$79,004	\$79,596	\$79,159	\$78,678	\$78,168	\$77,629	\$77,061	\$76,454	\$64,774	\$64,375	\$63,947	\$63,490
48	WATER SYSTEM NEW DEBT SERVICE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
49	RENEWAL & REPLACEMENT EXPENSES	\$0	\$0	\$0	\$0	\$0	\$0	\$38,000	\$46,140	\$38,584	\$39,342	\$38,422	\$39,135	\$40,590	\$41,597	\$42,848	\$44,103	\$45,444
50	TOTAL EXPENSES:	\$576,296	\$534,223	\$503,411	\$605,439	\$626,242	\$647,748	\$1,093,267	\$1,090,477	\$1,133,933	\$1,176,540	\$1,223,619	\$1,273,675	\$1,327,448	\$1,392,703	\$1,452,289	\$1,475,067	\$1,541,220
51	TOTAL EXPENSES PAYABLE BY IMPACT FEES																	
52	Total Expenses Payable by Impact Fees	\$31,580	\$31,280	\$32,000	\$32,000	\$32,710	\$33,420	\$32,320	\$33,830	\$31,520	\$31,220	\$30,920	\$31,620	\$31,310	\$0	\$0	\$0	\$0
53	Total Expenses Payable by User Rates	\$544,716	\$502,943	\$471,411	\$573,439	\$593,532	\$614,328	\$1,017,147	\$1,056,647	\$1,102,413	\$1,145,320	\$1,192,493	\$1,242,055	\$1,291,128	\$1,352,703	\$1,412,289	\$1,475,067	\$1,541,220
54	NET CASH FLOW:	\$99,330	\$343,218	\$163,667	\$68,299	\$126,497	\$213,480	\$22,441	\$1,002,320	\$21,914	\$38,657	\$49,191	\$45,721	\$50,994	\$57,971	\$62,330	\$65,789	\$64,643

**CASH FLOW ANALYSIS
CULINARY WATER MASTER PLAN**

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3	Include Growth Rate? (yes/no)	yes																
4	Include Renewal and Replacement? (yes/no)	yes																
5	Include Impact Fee? (yes/no)	yes																
6	Annual Population Growth Rate	varies				1.00%	1.00%	2.50%	2.50%	2.75%	2.75%	2.75%	2.75%	2.75%	3.00%	3.00%	3.00%	3.00%
7	Assumed System Life (years)	50				50	50	50	50	50	50	50	50	50	50	50	50	50
8	Rate Increase (\$ / ECU / mi)	varies						\$14.00	\$0.89	\$0.91	\$0.93	\$0.94	\$0.96	\$0.98	\$1.00	\$1.02	\$1.04	\$1.06
9	Annual Rate Increase (%)	2.00%						2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
10	Annual Rate of Inflation	3.00%				3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
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13	Connection Fee per Connection	\$375	\$375	\$375	\$375	\$386	\$398	\$410	\$422	\$435	\$448	\$461	\$475	\$489	\$504	\$519	\$535	\$551
14	Impact fee (\$/ft ³ meter)	\$1,478	\$1,478	\$1,478	\$1,478	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572	\$1,572
15	Total Existing ECU's	1,535	1,679	1,618	1,653	1,670	1,686	1,728	1,772	1,820	1,870	1,922	1,975	2,029	2,090	2,151	2,217	2,284
16	New ECU's:	144		-61	35	17	17	42	43	49	50	51	53	54	61	63	65	67
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