

11 North 300 West, Washington, Utah 84780 **TEL** 435.652.8450 | **FAX** 435.652.8416 | sunrise-eng.com

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.

<u>Lastly</u>, 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

					COLUMN TOWNS TO SERVICE AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE	ACCORDING TO THE REAL PROPERTY.			****		2022	2023	2024	2025	2026	2027	2028
Fiscal Year Beginning July 1 Ending June 30	2012	2013	2014	2015	2016 2017	2017	2018	2019	2020	2021	2022	2024	2025	2026	2027	2028	2029
Include Growth Rate? (yes/no) yes	1013	2027				A Mariante Co											
Include Renewal and Replacement? (yes/no)																	
Include Impact Fee? (yes/no)					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%
Annual Population Growth Rate varies								50	50	50	50	50	50	50	50	50	50
Assumed System Life (years) 50					50	50	50						\$0.98	\$1.00	\$1.02	\$1.04	\$1.06
Rate Increase (\$ / ERU / mo) varies							\$14.00	\$0.89	\$0.91	\$0.93	\$0.94	50,96			- August		2.00%
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%	3.00%
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%
WATER SYSTEM DATA	SECTION SHOWS	Changas Changas	27年提供加州社会29年		AND DESCRIPTION OF THE PERSON NAMED IN	THE STATE OF THE S											
	\$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
Average User Rate per ERU	\$375	\$375	\$375	\$375	5386	5398	\$410	\$422	\$435	\$448	\$461	5475	5489	\$504	\$519	5535	\$551
Connection Fee per Connection				\$1,478	\$1,572	\$1,572	\$1,572	51,572	51,572	\$1,572	51,572	51,572	51,572	\$1,572	\$1,572	\$1,572	\$1,572
Impact fee (5/8" meter)	\$1,478	\$1,478	\$1,478							1,870	1,922	1,975	2,029	2,090	2,153	2,217	2,284
Total Existing ERUs	1,535	1,679	1,618	1,653	1,670	1,686	1,728	1,772	1,820				54	61	63	65	67
New ERUs:		144	-61	35	17	17	42	43	49	50	51	53	54	61	63	63	0,
Estimated Water System Replacement Cost				SE START OF SELECTION			\$16,900,000										
WATER SYSTEM REVENUES	是是是是我们多公		THE PARTY OF THE P							un							
User Fees (Water Sales)	\$582,188	\$593,829	\$606,481	5604,577	5613,645.66	\$619,782.11	\$933,765	5976,252	\$1,024,360	\$1,073,581	51,125,166	\$1,179,231	51,235,893	\$1,299,942	\$1,365,719	\$1,434,825	51,507,42
Connection Fees	\$3,240	\$1,200	\$1,675	\$1,275	\$6,385	\$6,642	\$17,274.22	518,237	521,179	522,415	\$23,722	\$25,106	\$26,570	\$30,676	\$32,544	\$34,526	\$36,62
	\$3,240 \$52,828	\$51,130	\$43,796	\$26,916	\$27,723	\$28,555	\$29,412	530,294	531,203	532,139	\$33,103	534,096	\$35,119	\$36,173	\$37,258	\$38,376	\$39,52
Other Operating Income							566.267	567,924	576,584	578,690	580,854	\$83,078	\$85,362	\$95.683	598.554	\$101,510	\$104,55
Impact Fees	\$22,643	\$18,813	\$25,126	\$37,305	\$25,985	\$26,245						\$1,321,511	\$1,382,944	\$1,462,474	\$1,534,075	\$1,609,736	\$1,688,1
TOTAL REVENUE:	\$660,899	\$664,972	\$677,078	\$670,073	\$673,739	\$681,224	\$1,046,718	\$1,092,707	\$1,153,327	\$1,206,825	\$1,262,846	31,321,511	21,382,944	31,402,474	\$1,334,013	31,000,130	41,000,1
WATER SYSTEM OBM EXPENSES																	
Personnel Services	\$289,518	\$229,644	\$231,760	\$257,817	\$268,129	\$278,854	5294,191	\$310,372	\$328,218	5347,091	5367,049	\$388,154	\$410,473	5435,101	\$461,207	\$488,880	\$518,21
Operation & Maintenance	\$163,538	\$183,188	\$159,750	\$173,890	\$180,846	\$188,080	\$198,424	5209,337	\$221,374	\$234,103	\$247,564	5261,799	\$276,852	5293,464	\$311,071	\$329,736	\$349,52
Insurance	1103,230	\$15,926	\$7,119	\$11,868	\$12,343	\$12,837	513,543	\$14,287	\$15,109	\$15,978	\$16,896	\$17,868	\$18,895	\$20,029	521,231	\$22,505	\$23,85
	543,395	526,741	\$25,797	\$32,937	\$34,254	\$35,625	\$37,584	539,651	\$41,931	\$44,342	\$46,892	\$49,588	\$52,439	\$55,586	558,921	562,456	\$66,203
Other Supplies & Expenses	343,375	320,741	-\$23,870	-\$23,871	-\$24,826	-\$25,819	-527,239	-528,737	-\$30,389	-532,137	-533,985	-\$35,939	-\$38,005	-540,286	-\$42,703	-\$45,265	-\$47,981
Benefit Expense - GASB 68										579,168	579,168	579,168	\$79,168	\$79,168	\$79,168	\$79,168	\$79,168
Pension Expense - GASB 68			524,252	\$73,195	\$76,123	\$79,168	\$79,168	579,168	579,168				\$6,653	\$6,985	\$7,335	\$7,701	\$8,086
Anticipated Cottam Well Water Purchase							\$5,000	\$5,275	\$5,526	\$5,788	56,063	56,351				\$24,927	
HB 303 Compliance							515,000	515,825	\$16,735	517,697	518,715	\$19,791	\$20,929	\$22,185	523,516		\$26,422
Sub-Total Operation & Maintainance	\$496,451	\$455,499	\$424,808	\$525,836	\$546,869	\$568,744	\$615,671	\$645,178	\$677,671	\$712,030	\$748,362	\$786,780	\$827,404	5872,231	5919,745	\$970,107	51,023,4
WATER SYSTEM EXISTING DEBT SERVICE																	
1999 Water Revenue (Estimated)	\$31,560	\$31,280	\$32,000	\$32,000	\$31,710	\$32,420	\$32,120	\$31,820	\$31,520	531,220	\$30,920	\$31,620	\$31,310	SO	\$0	50	so
2010 Water Revenue (Estimated)	548,285	\$47,444	\$47,603	\$47,603	\$47,733	\$47,834	\$47,906	547,949	547,963	\$47,948	\$47,904	\$47,831	548,729	\$48,569	\$48,380	\$48,162	\$47,91
	548,283	247,444	\$0	\$0	\$15,930	\$15,750	\$15,570	516,390	\$16,195	\$16,000	515,805	\$15,610	\$16,415	516,205	\$15,995	\$15,785	\$15,575
2014 Silver Acres (Estimated)							\$95,596	\$96,159	595,678	\$95,168	\$94,629	\$95,061	\$96,454	\$64,774	\$64,375	\$63,947	\$63,490
Sub-Total Existing Debt Service WATER SYSTEM NEW DEBT SERVICE	\$79,845	\$78,724	\$95,713	\$79,603	\$95,373	\$96,004	595,596	296,129	393,678	393,100	394,629	373,001	370,434	3,2,774	304,273	300,541	
New Water Improvements Loan (Bond A)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	ŝo	50	50	so	so	so	So	\$a	50	50
Loan Reserve (Payment/10)	50	\$0	\$0	\$0	\$0	\$0	50	50	50	50	50	SO	\$0	\$0	\$0	\$0	50
Sub-Total New Debt Service	\$0	\$0	\$0	\$0	\$0	50	SO	\$0	SO	\$0	50	so	\$0	SO	so	50	So
WATER SYSTEM OTHER EXPENSES							200	200	3570	25-5							
Renewal and Replacement Projects	50	\$0	50	50	\$0	\$0	\$338,000	\$348,140	\$358,584	\$369,342	\$380,422	\$391,835	\$403,590	\$415,697	5428,168	\$441,013	\$454,24
WATER SYSTEM EXPENSES SUMMARY																	
	CANC AEA	F455 400	Carra non	(124.834	\$\$46,869	\$568,744	5615,671	\$645,178	\$677,671	5712,030	5748,362	5786,780	\$827,404	5872,231	5919,745	\$970,107	51,023,4
WATER SYSTEM ORM EXPENSES	\$496,451	\$455,499	\$424,808	\$525,836							\$94,629	\$95,061	\$96,454	\$64,774	\$64,375	563,947	\$63,49
WATER SYSTEM EXISTING DEBT SERVICE	\$79,845	\$78,724	\$95,713	\$79,603	\$95,373	\$96,004	\$95,596	596,159	\$95,678	\$95,168					564,375 S0	563,947 SD	503,49
WATER SYSTEM NEW DEBT SERVICE	50	\$0	\$0	50	\$0	50	50	50	so	SO	SO	so	50	So			
RENEWAL & REPLACEMENT EXPENSES	\$0	\$0	\$0	\$0	\$0	\$0	\$338,000	\$348,140	\$358,584	\$369,342	\$380,422	\$391,835	\$403,590	\$415,697	\$428,168	\$441,013	\$454,2
TOTAL EXPENSES:	\$576,296	\$534,223	\$520,521	\$605,439	5642,242	\$664,748	\$1,049,267	\$1,089,477	\$1,131,933	\$1,176,540	\$1,223,413	\$1,273,675	51,327,448	\$1,352,703	51,412,289	\$1,475,067	\$1,541,
Total Expenses Payable by Impact Fees	\$31,560	531,280	532,000	\$32,000	\$31,710	\$32,420	532,120	531,820	\$31,520	\$31,220	530,920	531,620	531,310	50	\$0	SD	50
Total Expenses Payable by User Rates	\$544,736	\$502,943	\$488,521	\$573,439	\$610,532	\$632,328	\$1,017,147	\$1,057,657	\$1,100,413	\$1,145,320	51,192,493	\$1,242,055	\$1,296,138	\$1,352,703	\$1,412,289	\$1,475,067	\$1,541,
total caperises rayane by user nases	3344,736	3302,343	p==0,321	23/3,439	po2U,332	Post,326	32,027,147	22,037,037	32,230,423	22,243,320	*********	+-1-14,033	,	2-1,5041-05			
		THE RESERVE		A STATE OF THE PARTY	College College	A CHARLES THE REAL PROPERTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE				20000			200	\$109,771	\$121,787	\$134,169	\$146,91
NET CASH FLOW:	593,520	\$143,216	\$163,431	\$59,329	\$37,222	\$22,651	(\$2,548)	\$3,230	\$21,393	\$30,285	\$39,433	\$47,835	\$55,496	\$109,771	\$121,787	2134'Yea	2146,93

CASH FLOW ANALYSIS CULINARY WATER MASTER PLAN

Fiscal Year Beginning July 1	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Ending June 30	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Include Growth Rate? (yes/no) yes					66 (A)												
Include Renewal and Replacement? (yes/no) yes																	
Include Impact Fee? (yes/no) yes																	
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%
Assumed System Life (years) 50					50	50	50	50	50	50	50	50	50	50	50	50	50
Rate increase (\$ / ERU / mo) varies							\$14.00	\$0.89	50.91	\$0.93	\$0.94	\$0.96	\$0.98	\$1.00	\$1.02	\$1.04	\$1.06
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%
Annual Rate of Inflation 3.00%			SELECTION SAFE		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%
WATER SYSTEM DATA	医高温度等等	(NEW YORK STATE)				Control Editor Addition	3										
Average User Rate per ERU	\$31.61	529.47	\$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
Connection Fee per Connection	\$375	\$375	\$375	\$375	5386	5398	\$410	\$422	\$435	\$448	\$461	\$475	\$489	\$504	\$519	\$535	\$551
Impact fee (5/8" meter)	51,478	\$1,478	\$1,478	\$1,478	\$1,572	\$1,572	\$1,572	51,572	51,572	51,572	\$1,572	51,572	51,572	\$1,572	\$1,572	\$1,572	\$1,572
Total Existing ERUs	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	2,153	2,217	2,284
New ERUs:		144	-61	35	17	17	42	43	49	50	51	53	54	61	63	65	67
Estimated Water System Replacement Cost							\$16,900,000										
	STATE OF STATE OF	ALTO MOVE CONTRACT		The section													
IMPACT FEE FUND BALANCE										There are the second as a second							
Impact Fee Revenue	522,643	\$18,813	\$25,126	\$37,305	\$64,962	\$66,586	\$66,267	567,924	\$76,584	\$78,690	\$80,854	\$83,078	\$85,362	595,683	\$98,554	\$101,510	\$104,556
Impact Fees Covering 1999 Revenue Bond	\$31,560	\$31,280	\$32,000	\$32,000	531,710	\$32,420	532,120	531,820	\$31,520	\$31,220	\$30,920	\$31,620	\$31,310	50	so	50	\$0
Impact Fees Covering Bond A	50	\$0	\$0	\$0	\$0	50	SO	so	SD	SO	so	sa	so	so	sa	so	50
Bond A Reserve Payments	50	50	\$0	\$0	\$0	SO	SO	50	SO	sa	SO	SO	so	\$0	sa	so	\$0
Impact Fees Spent for Single Payment Projects or Self Help	50	50	\$0	50	\$0	50	50	\$0	50	\$46,400	50	585,000	\$0	50	\$53,800	50	\$0
Impact Fee Fund Balance	\$0	\$0	50	\$5,305	\$33,252	\$34,166	\$68,313	\$104,417	\$149,481	\$150,551	\$200,485	\$166,943	\$220,995	\$316,678	\$361,432	\$462,942	\$567,498
OPERATING & CAPITAL PROJECTS FUND BALANCE							1										
Operating & Capital Projects Account Balance:	\$0	\$0	50	\$0	\$0	50	\$335,452	\$351,370	\$379,978	5399,627	\$419,855	\$439,670	\$459,086	\$525,468	\$549,955	\$575,183	\$601,162
Renewal and Replacement Expenses	50	\$0	\$0	50	\$0	50	\$483,000	5372,000	\$200,000	\$270,000	\$327,000	\$149,000	Şa	SO	SO	50	\$0
Operating & Capital Projects Fund Balance	50	\$0	50	\$0	\$0	\$0	(5147,548)	(\$168,178)	\$11,799	\$141,426	\$234,281	\$524,951	\$984,037	\$1,509,505	\$2,059,460	\$2,634,643	\$3,235,805
Operating a Capital Projects ruliu Bullince	Marking Control	nestamenta in the l	STATISTICS OF STREET		SHOW AND ADDRESS OF			The state of the s	THE RESERVE AND ADDRESS OF THE PARTY OF THE	this percent of the desir	The state of the s		99%				
PROJECT IMPLEMENTATION SCHEDULE	PRIORITY																
2018 Meter Replacement Project	100000000000000000000000000000000000000			The state of the s		A STATE OF THE PARTY OF	\$149,000,00										
SR-17 12* Pipeline Replacement							\$334,000.00										
							200-00-00-00-00-00-00-00-00-00-00-00-00-	\$238,000.00									
Pipeline Across SR-9 (impact Fee Eligible)	WEST STREET							\$134,000.00									
330 North Pipeline Improvements								313-1,000.00	\$84,000.00								
500 West Pipeline Improvements (Impact Fee Eligible)									5116,000.00								
Lower Tank Site Improvements									3110,000.00	\$145,000.00							
2020 Fire Hydrant Upgrade/Replacement Project										\$125,000.00							
2019 Water Valve Upgrade/Replacement Project										5125,000.00	********						
Webb Street Pipeline Improvements											\$56,000.00						
SR 17 & 500 N. Pipeline Improvements	10										5271,000.00						
Bringhurst Rd. Pipeline Improvements	11											\$149,000.00					
Wilson Lane Pipeline Improvements (Impact Fee Eligible)	12											\$85,000.00					
										546,400,DD							
2022 Impact Fee Analysis Update (Impact Fee Eligible)																	
2022 Impact Fee Analysis Update (Impact Fee Eligible) 2027 Impact Fee Analysis Update (Impact Fee Eligible)							Ē.				\$327,000.00	\$234,000.00	\$0.00	\$0.00	\$53,800.00 \$53,800.00	\$0.00	\$0.00