



## TECHNICAL MEMORANDUM

**By:** Chris N. Facque  
**To:** Matt Martensen  
General Manager  
Silver Springs Mutual Water Company  
**Date:** September 15, 2025  
**Subject:** Lyon County School District Water Use

### 1.0 Background

On February 11, 2022, a memo was prepared that summarized water use from Lyon County School District (LCSD) meters from 2017 – 2021. The five (5) year meter audit was completed when an additional office was proposed to be added to school district facilities, which required additional water rights to be dedicated to Silver Springs Mutual Water Company (SSMWC). Five years between 2020-2024 is utilized for this analysis.

The 2022 summary included an analysis of water right permits owned by LCSD that could be utilized to support water right dedication. An update of this analysis was completed. Current water use data is taken from Churchill Valley hydrographic basin pumpage inventory completed by the Nevada State Engineer.

This memo summarizes max water use at LCSD properties and indicates the deficit of use against the amount of water rights dedicated for service.

### 2.0 LCSD Water Use Totals 2020-2024

Table 1 show water use from ten (10) meter accounts, leaving out the meter locations 11 and 12 (Meter ID 01014100 and 0101200). Meter locations 11 and 12 were recently dedicated water and less than five (5) years of delivery data is available.

Water use totals from 2020 – 2024 were compiled for this summary. The 2025 water year is incomplete as of the date of this memo but can be included later if needed.

Peak water use was 91.14 acre-feet annually (AFA) in 2021. The second highest usage occurred in 2024 with 90.49 AFA. Average water use over this period is 84.50 AFA. Lowest water use occurred in 2023 likely because of truncated irrigation due to the extreme amount of precipitation and/or cooler than average temperatures and reduced evaporative cooling system demand. For the purposes of this analysis the highest water use will be utilized.

Reviewing the 2022 memo shows that water use has reduced from maximum demand of 104.041 AFA. This figure was the complication of the highest demand from each of the existing meter sets from 2017 – 2021. Annual water demand has not changed significantly.

**Table 1. LCSD Water Use Audit Totals**

Meter ID	Year				
	2020	2021	2022	2023	2024
<b>018-356-06 #1</b>	320,000	47,000	52,000	27,000	33,000
<b>018-356-06 #2</b>	416,000	380,000	522,000	875,000	1,399,000
<b>018-356-05 #3</b>	326,000	437,000	676,000	130,000	638,000
<b>018-356-07 #4</b>	4,893,000	3,889,000	5,810,000	3,143,000	5,460,000
<b>018-356-04 #5</b>	107,000	119,000	127,000	136,000	155,000
<b>018-356-02 #6</b>	908,000	751,000	1,651,000	1,416,000	932,000
<b>015-131-26 #7</b>	2,630,000	1,355,000	1,438,000	1,818,000	1,276,000
<b>015-131-26 #8</b>	19,367,000	22,313,000	15,602,000	14,773,000	19,311,000
<b>018-356-07 #9</b>	238,000	394,000	590,000	433,000	262,000
<b>018-356-05 #10</b>	14,000	14,000	23,000	23,000	21,000
<b>Annual gallons</b>	<b>29,219,000</b>	<b>29,699,000</b>	<b>26,491,000</b>	<b>22,774,000</b>	<b>29,487,000</b>

  

<b>Annual AFA</b>	<b>89.67</b>	<b>91.14</b>	<b>81.30</b>	<b>69.89</b>	<b>90.49</b>
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## 2.1 LCSD Permitted Water Use

Lyon County owns water right permit 63258 permitted for Quasi-Municipal Purposes with a total of 46.93 AFA remaining. This permit is located in a well on school district property and assumed to service the football field and potentially landscaping and outside water use. Metered water use data is not available; however, the Nevada State Engineer compiles a pumpage inventory of Churchill Vally Hydrographic Basin (or at least had completed this until 2023). Table 2 indicates water use from 2019 – 2023, covering as much of the same period as possible. Peak water use over this period was 13.97 AFA in 2022. Average water use is approximately 12.5 AFA. The delta between water pumped under this well is notable from a water right management standpoint and will be discussed briefly in the conclusion section of this memo.

**Table 2: LCSD Well Usage**

Permit	2019	2020	2021	2022	2023
63258	10.73	12.58	12.69	13.97	12.6

  

<b>Permit Total (AFA)</b>	46.93
<b>Average Use (AFA)</b>	12.514

### 3.0 LCSD Water Right Demand Balance

LCSD Dedicated 15.99 AFA under Permit No. 66172 to support school district facilities. SSMWC Certificated this permit on January 2, 2020. SSMWC continues to supply LCSD facilities. After the discussions in 2022 regarding water dedication deficiency, there has been limited interaction with LCSD staff to review and discuss water use at school district facilities. As such, this table is a proposal to demonstrate how water right dedication of existing water rights could be utilized to bring water use and dedicated totals closer to balance.

Table 3 is an example of a water balance that utilizes the existing dedicated water rights, includes remaining Lyon County water right permits, and estimates a total volume to dedicate to SSMWC.

**Table 3: Water Right Dedication Balance**

Lyon County Dedicated Water Rights	AFA	Notes
Permit 66172 (SSMWC)	15.99	Dedicated to SSMWC
<b>Total</b>	<b>15.99</b>	

Lyon County Owned Water Rights	AFA	Notes
Permit 63258	46.93	LCSD Well

Usage	2020-2024 Avg.	2020-2024 Max.
LCSD Meters	84.5	91.14
Football Field*	12.51	13.97
<b>Total</b>	<b>97.01</b>	<b>105.11</b>
<b>Available Water Rights</b>	<b>62.92</b>	<b>62.92</b>
<b>Balance</b>	<b>-34.09</b>	<b>-42.19</b>

\*Permit 63258 average use from 2019-2023

### 4.0 4.0 Conclusions and Recommendations

Considering peak water use or demands, there is a deficit of 75.15 AFA from LCSD committed water rights and dedicated water rights. This can be offset in part by dedicating Permit No. 63258 to SSMWC. This would leave a balance of **42.19 AFA** to offset current service demands. Requiring additional water rights to better balance current demands is recommended. This process is likely to take some time to complete but it is in the long-term interest of the water company and members and is required by Nevada Public Utilities Commission Tariff rules.

Permit No. 63258 is not certificated and only a portion of these water rights are put to beneficial use on an annual basis. Application for extension of time is coming due for Proof of Beneficial Use this



October 18, 2025. Dedication of this water right would put this water to beneficial use and keep the water right in good standing.

There are several water right owners who may allow for temporary use of (via water right lease or use agreement) or be willing to sell existing water rights to LCSD. Several of these owners previously had water rights banked with the utility. In addition, SSMWC owns some volume of water that can be applied to LCSD service upon board approval of a sale.

Finally, if LCSD is not able to acquire additional water rights to offset current service demands, updates and upgrades to facilities may be necessary to reduce water consumption. LCSD would be more knowledgeable about these options, but this may include upgrades to irrigation systems, removing or replacing grass with artificial turf, or upgrades to evaporative cooling systems.