

MEMORANDUM

Afuera de Chorro Mutual Water Company Water System Reserve Analysis Support



Date: May 6, 2024

To: Board of Directors
Afuera de Chorro Mutual Water Company

From: Bettina Mayer, PE
Kari Wagner, PE

Subject: Updated Water System Reserve Analysis

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WATER RESOURCES

Wallace Group has been retained by the Afuera de Chorro Mutual Water Company (Company) to provide an update to the 2022 Water System Reserve Analysis and to provide recommended water rates that should be associated with building up a Reserve Account over time. The purpose of this memorandum is to update and expand the Water System Reserve Analysis Summary prepared in 2022 and provide additional detail for reserve planning.

An informal survey of local mutual water companies of similar size confirmed that small rural water companies generally have a higher per parcel annual reserve requirement due in part to the larger parcel sizes and greater length of service lines and water infrastructure required. The reserve account fund ideally consists of two parts: three to six months of operating costs, and an adequate reserve for necessary capital improvement projects over time. For reserve budget planning, it is important to continually update the Capital Improvements Program as well as to identify those items better classified as annual operations and maintenance, and at a minimum, at least every 3 years. Given the relatively small number of parcels, it may be necessary to build up these reserves over time. The first priority is to ensure that the water company has adequate funding to operate and maintain the system.

As part of the analysis, components were categorized into short term and long term assets. Short term assets have a useful life that is relatively well established in the industry, and for the purpose of this analysis, generally less than 30 years. Typical short term assets include pumps, motors, control systems, valves, water meters, storage tank coating systems. Long term assets typically include the water storage tanks themselves, redrilling of wells, and replacement of PVC supply and distribution pipelines. Within the Afuera de Chorro system, the distribution water pipeline consists of asphalt cement pipe (ACP), which has an increased risk of failure over time. For this reason, it is recommended for replacement within the next 20 years, and categorized as a short term asset.

Each of the short term and long term assets are included in the water system reserve analysis summary. The summary lists the assets of the MWC in terms of replacement value and estimated life span for the purpose of calculating an annual reserve per

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water meter. The MWC's infrastructure has a total replacement value of approximately \$2.25 million, or \$80,000 per active metered connection. This high value is not uncommon for rural systems with large lots, leading to relatively large reserve requirements in comparison with compact, urban systems.

The attached table has been updated for 2024 including the following changes:

- Each water system component has been assigned an asset class: either short or long term for the purpose of evaluating the reserve budget alternatives.
- Unit prices have been updated and reviewed by our in-house Construction Management team and compared to similar local water company estimates.
- Wells and storage tanks have been added to the table as long term assets.
- Most of the components in the table the "remaining life" column has been maintained with the same values from 2022. These values are recommended to be updated every 3 years.
- The current budget includes upgrading the last 4 older meters to Neptune meters capable of upgrading to Automated Meter Reading (AMR) technology. AMR technology has been added to 7 of the water meters and if they work well, it will be added to all meters at a cost of approximately \$500 per meter.
- The existing distribution system consists primarily of 6" and 8" asphalt cement (ACP) waterlines. This pipe material is now known to leach asbestos fiber into the water, creating increased health risks. These pipes are also prone to an increasing risk of leaks and failure, and it is recommended that these pipelines be replaced over the next 20 years.
- The Annual Operations and Administrative costs for 2023-24 are budgeted at \$49,850. (This budget does not include any capital improvements expenditures.) Though not included in the attached calculations, it is recommended that 3 to 6 months of operations budget be added to the reserve funding recommendation.

Several options are presented for your consideration in the summary table below. The complete Water System Reserve Analysis Summary, attached, provides additional detail. Alternative A includes all short and long term assets and would provide a fully funded reserve. Alternative B includes all short term water assets, including the ACP waterline replacement, and one long term asset: redrilling of the oldest water producing well 3. Alternative C would fully fund the short term assets, including the ACP waterline replacement.

Ideally, we recommend that the Board consider the fully funded Alternative A as the appropriately funded reserve.



Water System Reserve Funding Summary

	Funding Alternative Description	Annual Replacement Cost	Cost per month meter ^{1, 2}
A	Fully Fund All System Assets	\$239,495	\$712.78
B	Hybrid Funding Select System Assets		
	1) Fully Fund Short Term Assets;	\$63,123	\$187.87
	2) ACP waterline replacement; and	\$67,439	\$200.71
	3) Fund reserves for one long term well assets: Oldest well 3 as placeholder	\$ 8,032	\$23.90
		\$138,594	\$412.48
C	Fully Fund All Short Term Assets, incl. ACP waterlines	\$130,562	\$388.58

¹The annual reserve costs are considered to be spread over 28 active meters in the service area. In addition to the active meters, there are an additional 7 inactive service lines that are installed. At build-out, it is anticipated that the water system will serve 40 parcels.

² The cost per month per meter does not include the monthly operation and administrative costs, which should be added to this monthly cost. Also, as noted previously, the reserve account should also include 3-6 months of operation and administrative costs or approximately \$25,000.