

Bulk Water Connection Policy and Resolution

Background and Challenges

General Phasing Challenges

The upper zone system will be developed over a 10 plus year timeframe but the final capacity is not needed for many years. This presents several engineering and operational challenges for operating in step increments of demand.

Keeping water fresh in the tank

We know the total demand of the expected development and can size the tank correctly. Our tank is currently sized around 380,000 gallons of which 300,000 gallons is dedicated to firewater storage. When the tank first comes on line it will only have a few users so the flow through the tank will be minimal. Stagnant water could be an issue. Operators can cycle the level of the tank by 70,000 gallons or so and mixers can be installed but higher flows of fresh water through the tank is better.

Well pump and pump station operation

Pumps can only operate within a certain RPM range. They can't be turned down too low. If storage is full the pumps have to be turned off completely. Turning pumps on and off is bad for the equipment and can increase electrical costs.

MCCWDG is looking to develop a well around 200 GPM. At maximum development the culinary portion of the upper zone needs is only 78 GPM and initial needs will be closer to 20 GPM. This is beyond the variance for healthy pump operation.

We are aware that CMWC well xx produces alkaline or sulfur infused water which doesn't taste good. This well water is currently blended with the other wells that produce good tasting water so CWMC residents currently get a blend of good and bad tasting water.

In the 10-year period when the upper Cottonwoods are being developed it might make sense from an operational perspective to idle well XX and supply the water through the MCCWDG developed well. Towards the end of the build out this well can be brought back online and it can be blended with a higher overall volume.

These strategies and increasing the flow through the upper zone tank can make this transitional period better.

Weber Basin Water Conservancy District (WBWCD) lease Water

Like previous developments the upper zone owners intend to initiate a lease of WBWCD water to cover the culinary water needs for their homesites. The new rules with Weber Basin permit up to .65 Acre-feet per year per homesite. WBWCD doesn't want to limit growth by not having enough culinary water. They assume .45 Acre-feet for Culinary and .20 Acre-feet per year for yard irrigation which is the equivalent of irrigating 2000 SF of turf. The level of service data from CMWC indicates that CMWC users average .35 Acre-feet per customer for culinary uses. So up to .30 Acre-feet per connection

would be available to supplement secondary landscape irrigation. This adds up to a real opportunity for the Mountain Green Community to supplement irrigation water using WBWCD lease water.

Limited Secondary Surface Water

The secondary water that the community water companies use is limited to what can be physically stored or legally stored during the spring run off for the entire irrigation season. While there are plans to maximize this storage, the ability to supplement this stored runoff water with pump well water would benefit all secondary water users, especially during the period that the secondary water system is being expanded.

Conclusion

All these problems and opportunities can be improved or mitigated with the adoption of a Bulk Service Connection Policy

The board of CMWC is hereby resolved to direct staff to develop a bulk water connection policy for flexibility in system design and operation. Gardner Engineering is to be consulted to verify that this policy does not harm existing shareholders of CMWC. This new policy is to be formally adopted in a future resolution substantially as follows:

- 1.) Allow bulk metered connection/s from the CMWC distribution system to the secondary water storage systems for Durst Water Company and or MGSWC.
- 2.) Each bulk service connection will be equipped with an air gap or double backflow prevention device.
- 3.) Each Bulk Service connection may have remotely operated valves which can be modulated from the CMWC control system.
- 4.) Each bulk water connection will have associated and dedicated well pumping capacity and water leases or water rights which will be turned over to CMWC.
- 5.) Lower elevation bulk water connections shall not affect upper zone bulk water connections under normal system operation.
- 6.) In the case of Durst Water Company any excess water capacity that is delivered to the upper zone tank that would otherwise overflow the tank or require the pumps to be turned off, could be delivered to Durst Water Company regulating reservoir located slightly downhill and adjacent to the Upper Zone Tank.
- 7.) In the event of extreme drought where culinary water might be limited these bulk connections would be the first to be curtailed.
- 8.) In the case of operational issues these bulk service connections would be closed to conserve stored water.
- 9.) In the case of a fire flow event these bulk connections could be closed automatically.
- 10.) The rate structures for these metered bulk service connections could be an average rate build up or calculated per connection. There will only be a couple of these. The cost per delivered gallon will include the electricity to pump the water to the elevation of the bulk metered connection, a prorated share of maintenance cost to pump the water to that elevation, a prorated share of the overall distribution system maintenance, a prorated cost of the CMWC

contingency fund, and a prorated share of general administration and system administration and overhead cost and finally the cost to maintain the lease water with WBWCD. These rates will adjust annually so that CMWC is made whole for these connections.