SPECIAL NEWSLETTER FROM THE BLUE MOUNTAIN WATER DISTRICT

RE: WATER USAGE AND WATER RATES

DEAR RESIDENTS:

The Blue Mountain Water District (BMWD) has been in existence for 40 years and has been providing high quality water to residents on a reliable basis. The Board of Directors are non-paid volunteers and are very frugal with the District's financial resources. The Board has also attempted to be just as frugal with our limited water resource through conservation; by utilizing methods and policies such as inverse rate structures (the more you use, the higher you pay per gallon), newsletters on water conservation tips, verbal requests at community meetings and placing restrictions on outside water use in the District's official Rules and Regulations. Also, the Board has recently changed the billing from quarterly to three times a year to allow for measurement of the irrigation season outside use (June, July, August and September). For the most part, BMWD residents comply with the Board's conservation requests, but to be consistently successful, the Board must have the cooperation of **ALL** residents when it comes to conserving our limited water supply and use of the physical water system. To that end, the Board is restructuring our water rates in an attempt to get **ALL** residents to cooperate.

HOW LIMITED IS OUR WATER SUPPLY?

BMWD has a ***legal supply*** of water which is governed by an "augmentation plan" which was adjudicated by Colorado's Water Court and is enforced by the State Engineer's Office. This legal supply limits the amount of water the District can supply and use each year. The legal supply is, for the most part, for water use inside the home only and relies on the return flows through the groundwater (recharged via everyone's septic system/leach field) to satisfy downstream owners of water rights. The plan does allow for extremely small amounts of outside water use during June, July, August, and September (several hundreds of gallons—NOT THOUSANDS of gallons). Outside water use does not return the water to the downstream users because it evaporates and therefore is a concern

to the State Engineer's office. BMWD has always discouraged any outside water use and has for years had added restrictions to its rules and regulations which prohibits outside water use such as: car washing, irrigation, large gardens, attachment to sprinkler systems, pools, refilling large hot tubs, water features and large animal watering basins.

BMWD also has a ***physical supply*** of water which is governed by Mother Nature. This physical supply of water is very limited and is an underground natural reservoir in the fractured rock and sandstone in the northeast section of the Eastridge hogback. BMWD has been keeping data on the number of gallons removed from the groundwater reservoir and the water levels in the wells for its 40-year existence to try to determine how much water is available. From this data we have determined that our underground reservoir: 1) is being "mined" since we continually remove water and get essentially no recharge from Coal Creek during normal precipitation events; therefore, well water levels steadily drop; and 2) the reservoir tends to get limited recharge from Coal Creek during significant rainfall events (the September 2013 rains) or snowfall events (1983 record winter snow and March 2003 60"snow storm). In fact, our well water levels were near the level of our well pumps (after 30 years of use) when the 2013 rains gave us a recharge so that the well levels recovered to near the top (in other words, we believe our underground reservoir refilled significantly). Since we now know this information (that after 30 years of use our well levels are close to our pumps), it is **imperative** that we all only use water that is necessary for a comfortable lifestyle and recognize that our supply has absolutely no room for excessive use. BMWD has, over the years, investigated the cost to increase our physical water supply by reaching out to entities with surface water supplies such as the City of Arvada and Denver Water. While these water systems are physically possible to connect to without enormous costs, neither of these physically possible water sources are encouraging options from both a political and economic standpoint when you add in the cost of new water rights, required system upgrades and an uphill political battle. The cost of these alternatives, if it were politically feasible, is in excess of $50,000 per Blue Mountain household. Therefore, our best alternative is to conserve and protect our current supply as long as we can and rely on Mother Nature to bring us "recharge events".

BMWD has a ***physical water system*** of wells, treatment, pumps, pipes and storage tanks that is designed based on the size of our legal and physical water supply. Our wells and treatment plant can treat and deliver about 40 gpm (40,000 gpd). At average use, we have approximately three days of water storage. Excessive use of water puts a strain on the physical system which is limited by its size and the amount of water that can be delivered during peak times. Therefore, when residents use BMWD water for outside uses, such as lawn or garden watering, the treatment plant is stretched to its maximum capacity and cannot keep up with the water demand. This, in turn, causes the storage tanks to be depleted and comes close to draining our reservoirs in the summer when reserve water storage is needed the most. This is the main reason for our desire to severely restrict outside watering in large amounts.

WHAT SHOULD RESIDENTS DO ABOUT THIS?

BMWD recommends that ALL residents need to look hard at your water use and try to make a consistent effort to reduce all water use at all times. Those residents who are interested in outside watering activities such as large gardens, irrigated lawns, water features, pools, large hot tubs, etc. need to install a cistern, pump and pipes and develop their own non-potable system with outside water trucked in. Costs to truck water in range from approximately $65/1000 to $112/1000 gallons. A 2000-gallon cistern with a pump can probably be installed for less than $5000. (Multiple residences already utilize cisterns for various outside water uses) Residents who don't use outside water and who have historically used reasonable amounts of water should continue to do so with an eye on additional conservation measures to continue to reduce the amount of water used.

WATER RATES

The BMWD Board has voted to revise the rate structure, simplify to three rates and utilize the rates to encourage ALL residents to conserve our finite water resource and specifically to avoid stressing the system to problematic levels. There are two components to the water bill, the Base Rate and the Water Use Charge. The Base Rate helps cover the fixed operation and maintenance costs for water supply, treatment and distribution. The previous Base Rate for the new four-month billing cycle was $203.33. The new base rate will be $150 per four-

month billing cycle, an approximate 25% decrease. The Water Use Charges previously had numerous tiers with different rates per 1000 gallons based on how much water was used. The more water used, the higher the rate per 1000 gallons as an incentive to conserve water. The new Water Use Charges will consist of three rates:

1. From 0 to 15,000 gallons -- $8.00/1000 gallons
2. 15,001 to 30,000 gallons -- $20.00/1000 gallons
3. Over 30,000 gallons -- $50.00/1000 gallons in 2019
   $100.00/1000 gallons in 2020 onwards

The base rate was reduced significantly to encourage lower water use and rates for the first tier of water use (up to 15,000 gallons) were set slightly higher than the previous rates for the previous first three tiers. The rates for water use for the second-tier rate (for water usage between 15,000 and 30,000) is set slightly higher than the maximum previous rate, again, to encourage lower water use. The rates for use over 30,000 gallons are set high as a monetary incentive to conserve water to protect our water supply and to stop the overstressing of the physical system we see each summer. This rate is set at the approximate cost of having to haul potable water into the system, since consistent water use over 30,000 gallons per four-month billing cycle will result in the BMWD having to haul in water in to keep our storage tanks full in the summer.

Design values (maximums) for water use in cities without conservation is 50-75 gallons per person per day including **outside** water use. **Indoor** water use requires approximately 35 gallons per person per day if reasonable water conservation measures are taken. For a residence of 4 people, this equates to approximately 17,000 gallons per four-month cycle. The average water treated and produced per household in BMWD over the last seven years in the four winter months (indicating inside water use only) is 164 gallons per day. This level of water usage results in 20,000 gallons for a four-month billing cycle. Based on this analysis, BMWD believes that half of the residents (53% calculated using the last two years records) can achieve the water use numbers required to remain within the lowest tier, and **ALL** reasonable water users can stay within the lowest two tiers. The BMWD Board hopes and believes that **NO** residents should or will be in the upper tier rates.

WATER CONSERVATION TIPS

There are now numerous sources to find water conservation tips on the internet. Some of the successful ones used in Blue Mountain over the years include:

- Monitor toilets for leaks. These can waste up to 4000 gallons a day if they are stuck and run continuously. You can hear the water running with these large leaks. Smaller leaks around the flapper valve can waste hundreds of gallons a day. Use a drop of food coloring in the tank to look for small leaks.
- Install low flow toilets. Many of the newer models only use less than 2 gallons per flush and are better designed to only require one flush. Older models use 3-5 gallons per flush. Consider a “dual flush” toilet where liquids use one push button and solids use two push buttons.
- Don’t flush the toilet unnecessarily or to dispose of tissues, insects, etc.
- Fix dripping faucets. A single drop per second wastes 2700 gallons a year.
- Don’t let faucets flow to cool down or heat up the water. Keep a jug of water in the refrigerator for cold water. When waiting for the sink or shower water to turn warm, collect it in a watering can and use it to water plants or add a hot water recirculation line if possible so water is instantly hot.
- Always listen for water running and find the source. Leaks, large and small can use a lot of water in a short period of time.
- Turn down the supply valves under the sink to limit the flow rate to just what is necessary.
- Run clothes washers and dish washers full and limit the pre-rinsing to only what is necessary. Use the water amount setting on the washing machine, don’t add excess water.
- Take short showers and limit or avoid baths. Use an adjustable flow showerhead and only use the amount of water needed.
- If available, take your showers at a gym, especially if you like long showers.
- Wash cars at commercial establishments.
- Make sure you have a pressure reducing valve (PRV) on your inlet line. Adjust it to the lowest pressure that gives satisfactory results. Your house operating pressure should be around 40 -50 psi max.

- Make sure you have a shut off valve on your inlet line to your house. Turn off your inside water whenever you leave the house for more than two days. Be sure to turn your temperature on your water heater to “low” or “vacation” when you shut off the water. The hot water can raise the pressure in your house over an extended period and cause a leak or your hot water pressure relief valve to open.
- Invest in a soil moisture tester for watering plants so they are not over-watered.
- If you have a water softener (which really isn’t necessary with Blue Mountain water) with an automatic fill valve; make sure it doesn’t stick open since you could be overflowing and wasting water to the drain.
- For regular sized hot tubs, carry in or have water delivered to fill/refill the tub during maintenance periods. If not possible, use best practices to extend tub cleaning and refilling and utilize the spent water for trees or plants.
- OUTSIDE WATER USE:
    - Xeriscaping should be maximized for landscaping
    - Native grasses should be used for ground cover, not Kentucky Blue grass. Only use water to irrigate repair patches, not new lawns or large areas.
    - Plant small trees that use less water to get them established.
    - Collect roof runoff in rain barrels and use for watering outside. The State Engineer allows each residence two 55-gallon barrels of collected rainwater without violating water rights laws.
- OUTSIDE WATER USE RESTRICTIONS RECENTLY ENACTED BY THE DISTRICT
    - Water is for residential use only. Such use is for support of a single residence per tap. Outside use of water is permitted for watering of plants and animals only. Large gardens or lawns should be watered with water hauled in from outside the District.
    - Permanently installed irrigation sprinkler systems may not be connected to the BMWD water system or use any water supplied by the BMWD water system.
    - Fountains, ponds, and water features of any kind may not be filled with water from the BMWD water system.

- Washing of vehicles is not allowed with water from the water system.
- Swimming pools and large hot tubs (more than 1000 gallons capacity) may not be filled with water from the BMWD water system.

The District cannot support flows required for fire suppression systems. Finally, if you rent to someone, make sure they understand our issues regarding water use. They may make assumptions about the water use based on living in urban areas and may not realize the cost of excessive water use and the harm it does to our physical water system and supply. Ultimately, the land/homeowner will be responsible for any charges.

If you have questions or concerns, the Board meets at 7:30 pm on the third Thursday of each month at the Bishop Residence at 9162 Eastridge Road; or you can call Tom Bishop, BMWD President, at 303-328-5369; or Joe Tamburini, BMWD Secretary, at 303-642-7997.

REMEMBER: EVERY GALLON COUNTS

Thank you for your cooperation!