

EXISTING BMMD INFRASTRUCTURE

WATER

The District is 96% built out with 2692 equivalent residential units (EQRs) of 2792 EQRs built. Development of the final EQRs is likely to occur slowly over the next 20 years. The District water system demands are not anticipated to increase significantly from the current condition since the District is near full build out.

The existing water distribution system includes a water treatment plant, 4 ground water wells, 4 pump stations, 6 water storage reservoirs and distribution piping that serve 5 pressure zones. The 5 pressure zones each supply water to the District customers from a reservoir or reservoirs located within the pressure zone. Reservoir 2 serves the lowest pressure zone and Reservoirs 6a and 6b serve the highest pressure zone.

RESERVOIR INFORMATION				
Reservoir/Pump Station	Storage Capacity (Gal)	Pressure Zone	# of Pumps & Motor Size Horse Power (HP)	Individual Pump Capacity Gallons Per Minute (GPM)
WTP	30,000 clear well	Intake	2 – 150 HP	900
2	150,000	1	2 – 30 HP	500
New 2B*	250,000	1	2 – 50HP 2 – 200 HP	700
3	150,000	2	2 – 40 HP	600
4	100,000	3	2 – 25HP	500
5	150,000	4	2 – 25HP	500
6 a	200,000	5	No pump, top of system	
6 b	300,000	5	No pump, top of system	

*Will soon replace existing tank 2.

The distribution system includes over 9 miles of water piping that provides the water distribution to BMMD's customers. Pipe ranges in size from 6-inch to 12-inch diameter ductile iron. The 6 inch diameter pipes are private water lines that are not maintained by the District. Water is supplied by 4 shallow ground water wells that provide the water treatment plant (WTP) with raw water. The WTP provides disinfection for the ground water, which consists of a Mixed Oxidant (MIOX) chlorine disinfection system. After disinfection, the treated water is stored in the 30,000 gallon clear well located under the WTP building.

Treated water is conveyed from the WTP clearwell to Reservoir 2 by two high service pumps. A pump station is located adjacent to each reservoir. The majority of the pump stations contain pumps to convey the treated water to the next higher pressure zone. Reservoirs 6a and 6b do not have a pump station because they provide water to the highest pressure zone but there is a valve house to shelter the valves.

The pump stations also include mechanically actuated butterfly valves and restrictor plates that allow water to be conveyed from a higher zone into a lower zone. The system design was intended for the actuated butterfly valves to be controlled based on reservoir level. BMMD has installed the first of four planned underground automated Pressure Reducing Valve (PRV) vaults in pressure zone 1. In all other pressure zones, the butterfly valves are closed due to operations staff concerns about the volatility of the piping when the butterfly valves are opened. These valves are manually opened, by District staff, during a fire flow event or if water is required to be conveyed from an upper to lower zone. This operational function will change to automatic once the other planned PRV's are installed.

Throughout the system most buildings are individually metered, with some multiple unit buildings sharing one master meter. The meters are read through an Automated Meter Reading (AMR) system operated by BMMD staff. Tap sizes range from 3/4-inch to 2-inch depending on the size/demand of the building. Water service to Mesa Cortina is provided from zone 4 or Reservoir 5. A 2" master meter located at Cutty Sark Ct. meters the water provided to Mesa Cortina for normal daily usage. The connection to Mesa Cortina also includes a 6" bypass line to supply fire flow in the event of a fire, the bypass line is manually operated and is not metered.

The water system has approximately 82 valves and 40 fire hydrants.

WASTEWATER

The BMMD wastewater infrastructure system consists of collection system piping, manholes, a lift station and associated forcemain. BMMD conveys the collected wastewater to the Blue River Wastewater Treatment Plant for treatment. The Blue River Wastewater Treatment Plant is operated by Silverthorne/Dillon Joint Sewer Authority and provides wastewater treatment for the Dillon/Silverthorne area.

BMMD's collection system includes approximately 9 miles of pipe and 200 manholes. The pipe is 8-inch diameter VCP and the majority of the manholes are concrete and 4-feet in diameter. The BMMD Cortina Ridge lift station is located at Buffalo Mountain Dr. and Lake View Dr. in the Northeast area of the District. The lift station collects the wastewater for the homes located on Cortina Ridge. The lift station discharges to the gravity collection system at a manhole on Kings Ct.

ASSET MANAGEMENT

BMMD completed an operations and maintenance database using Microsoft Access. For each of the BMMD facilities in the water and sewer infrastructure systems, the specific equipment has been input into the database. The information for each piece of equipment includes type, name, manufacturer, model number, serial number, size and any additional pertinent information related to the equipment. This will allow operations staff to have one location where all the known information about the equipment can be easily located and referenced.