

The Baardskeerdersbos water network is divided in a reservoir zone and a pressure reducing valve (PRV) zone.

The Reservoir Zone.

This zone is basically from 3 to 34 Olienhout Street, upstream of the PRV situated at 3 Olienhout Street.

The water from the treatment plant is pumped via a rising main running in Olienhout street to a 0,15 ML reservoir, situated on the top northern corner of 34 Olienhout street.

The rising main has a dual purpose and will supply water to the users in both zones while pumping, and any excess water will end up in the reservoir.

When the reservoir reaches full level, the plant will shut down and the reservoir will then feed the reservoir zone and the PRV zone via the same rising main.

The plant operates in auto on a setpoint from the reservoir stop and start levels.

The static pressure at the municipal connection points in the reservoir zone should be around 7 to 8 bar in the lower areas of 5 Olienhout to plant, 4.5 bar at 22 Olienhout and 3 bar at 32 Olienhout Street.

Note that houses built higher uphill of the municipal connection can differ a lot especially at the top of Olienhout street.

The Pressure Reducing Valve (PRV) Zone

The zone is below 3 Olienhout Street down to Main Road and beyond.

The supply is either direct from pumping from the plant or gravity fed from the reservoir.

The pressure at the PRV is reduced from 8 to 5 bars and the downstream pressure is not affected by operations upstream of the PRV during normal conditions.

The pressure in the higher lying sites in the PRV zone above Church Street should be around 5 bar and increasing to Main Road to as much as 8 bar.

See the map below.



Network pipe bursts are limited in Baardskeerdersbos due to mainly PVC reticulation pipes being installed.

It must be stated that further pressure management in Baardskeerdersbos will be very difficult to install due to its steep topographic layout and the small extent of the village and the reticulation network. The elevation difference from top to bottom drops evenly to over 11 bars. Numerous pressure zones will be required to maintain a pressure below 6 bar in all zones.

The network pipe size is mainly 75 mm in diameter, therefore a quick drop in pressure is caused by abstraction in lower parts pending the usage volume.

Therefore a fairly high pressure is required in the higher lying areas of the network to accommodate for pressure drop due to the network pipe size and usage in the lower areas.

Unfortunately, this causes these high pressures in the lower areas, such as in Main Road.