



Mains water pressure is shown for the locations where the OS 10 m elevation contours intersect with the principal roads. The contour lines are therefore lines of constant water pressure and elevation and pressures at individual properties can be estimated by interpolating between the nearest contour lines.

A column of water loses 1 atm (atmosphere) of pressure for each 10.33 m increase in vertical height, regardless of the pipe diameter, inclination, shape or flow rate.

In Beech, water is delivered by a 100 mm diameter pipe running under Medstead Road and Kings Hill, and smaller pipes, often 25 mm diameter, branching off to individual houses or sometimes groups of properties.

The water enters at the pumping station near the A339 junction and, to ensure a satisfactory supply to the houses at the top of Kings Hill, is pressurised to 13.5 bar at the bottom end. By the time it reaches Alton Abbey the pressure will have dropped to 3.8 bar.

The pressures shown in the accompanying maps were calculated using the above relationship between vertical lift and pressure loss and the average daytime pressure measured at just one point in the system (and verified at another location at the same elevation in a different part of the village). This gives an accurate projection of the static water pressures at all locations in the village.

In such a system, water is supplied via a large pump, with sufficient capacity to maintain the pressure, and therefore the flow rates, throughout the system, up to the limit of the maximum anticipated demand and to compensate for some loss of pressure due to friction within the walls of the pipes. In a well-designed system friction effects will be minimal but may cause some pressure loss at times of high demand, especially for outlying properties with small and, by modern standards, underspecified supply pipes.

