

Design Period(The Design Life)

The complete water supply project includes huge and costly constructions such as dams, reservoirs, treatment works and networks of distribution pipelines. These all works cannot be replaced easily or capacities increased conveniently for future expansions. ▶

While designing and constructing these works , they should have sufficient capacity to meet future demand of the town for number of years. The number of years for which the designs of the water works have been done is known as design period. ▶

Mostly water works are designed for design period of 22 – 30 years, which is fairly good period. ▶

Design periods that are commonly employed in practice and commonly experienced life expectancies are shown in Table below: ▶

Design Period

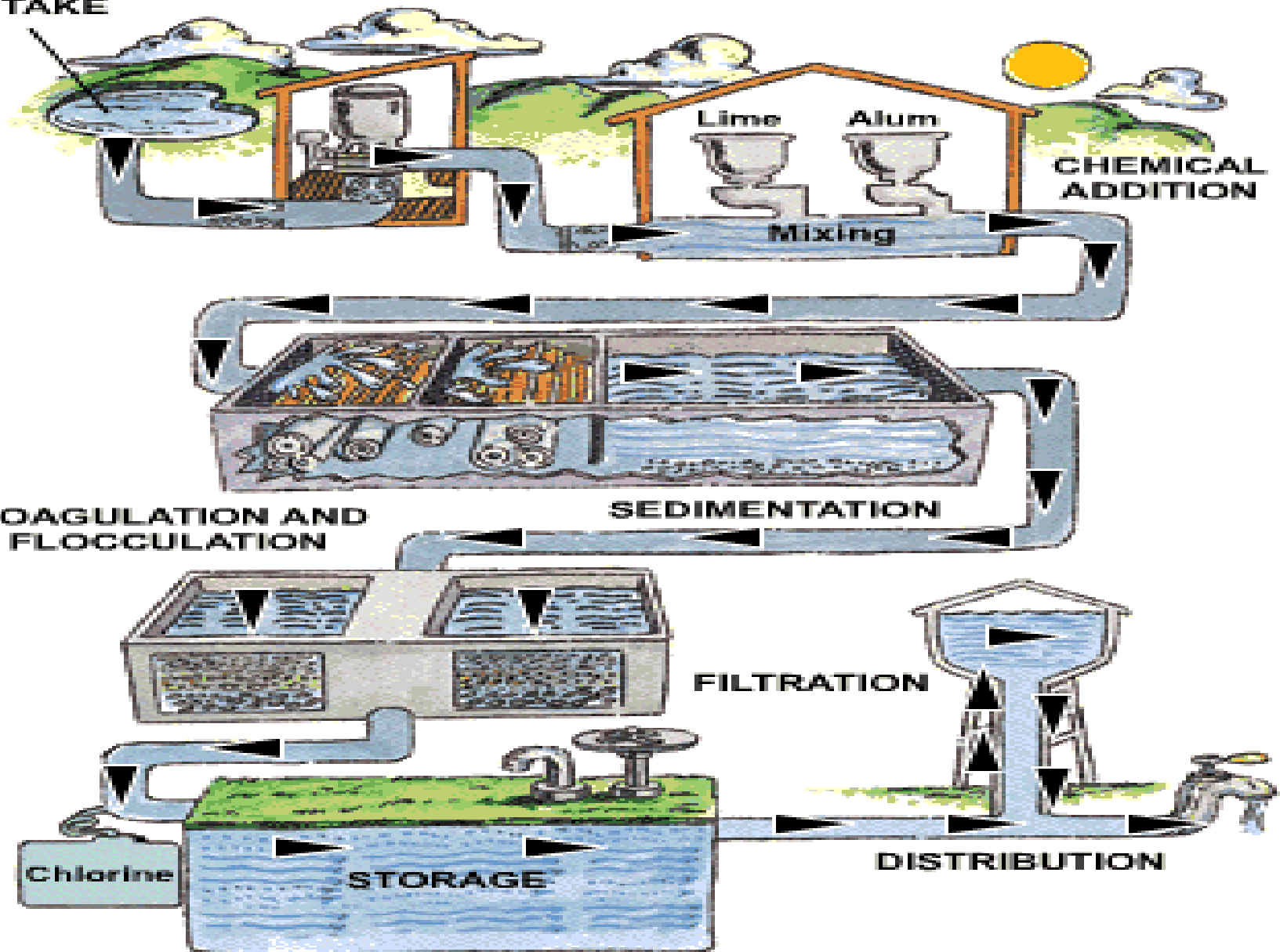
component	Design Period(years)	Design capacity
Sources of supply		
River	indefinite	Maximum daily demand
Wellfield	10– 25	Maximum daily demand
Reservoir	25–50	Average annual demand
Pumps		
Low – lift	10	Maximum daily demand, one reservoir unit
High lift	10	Maximum daily demand, one reservoir unit

Design Period

Water treatment plant	10–15	Maximum daily demand
Service reservoir	20–25	Working storage plus fire demand plus emergency storage
Distribution system:		
Supply pipe or conduit	25–50	Greater(1) maximum daily demand plus fire demand, or(2)maximum hourly demand
Distribution grid	Full development	same as for supply pipes



INTAKE



CHEMICAL ADDITION

Lime

Alum

Mixing

COAGULATION AND FLOCCULATION

SEDIMENTATION

FILTRATION

Chlorine

STORAGE

DISTRIBUTION