

What is Sewage?

Once we have used water we pull the plug from the sink, flush the toilet or pour it down the drain where it enters the sewerage system. Sewage is the water found in sewers. It can be a mixture of water which has been used for a variety of purposes in the home, at work or in leisure activities, and water used for business and industrial purposes.

Sewage contains a wide range of waste products. It contains

- solids suspended in the water
- things dissolved in the water
- bacteria and other sewage micro-organisms living in the water.

On average each of us generates 275 litres of sewage a day with over 99.9% being liquid and less than 0.1% solid.

The Sewerage System

The sewerage system is the network of sewers, pipes and pumps that lie unseen beneath virtually every road and street that carry sewage from where it is produced to the sewage treatment works to be treated and cleaned.

There are two types of sewerage systems:

- **Combined sewers** – carry both sewage and rainwater in a single pipe.
- **Separate sewers** – use two pipes. One (called the **Foul Sewer**) takes sewage to a sewage treatment works and the second (called the **Stormwater Sewer**) carries rainwater straight to a nearby wadi or the sea, as rainwater does not require treatment.
- **Abu Dhabi** - we have **separate sewers**. ADSSC owns and manages the **foul sewers** (carrying sewage) and the Municipalities own and manage the **stormwater sewers** (carrying rainwater).

Why is sewage cleaned?

Sewage treatment works remove things from sewage that could harm the environment, so that the water can be reused for irrigation purposes, or returned to a wadi or the sea. If they weren't removed then the water could not be used for irrigation and would pollute the wadi or sea, reducing oxygen levels which are vital for the health of the wadis and sea.

There are six stages in sewage treatment:

- Preliminary: this removes large floating and suspended solids, sand and grit
- First settlement: this removes small suspended solids (called primary sludge)
- Biological treatment: removes dissolved items through the action of micro-organisms
- Second settlement: removes small suspended solids (micro-organisms) (secondary sludge) some of which are returned to the biological phase
- Tertiary treatment: removes very fine solids and disinfects the water so it is fit for reuse by irrigation.
- Sludge treatment: treats the sludge produced by treatment stages so it can be recycled

Tested

At all points along the way the water is continuously tested and monitored to ensure the right amount of chemicals are being added and that the sewage is being treated so that it is clean enough to be returned to the environment for reuse.