



Wetland Design Features



Within the City of Salisbury, a series of more than 50 constructed wetlands allow stormwater to be treated and cleansed prior to use in Council operations. These wetlands cover more than 300 hectares, enhancing the landscape and providing a range of habitats for animals and plants.



Top The larger the area of shoreline in a constructed wetland, the more capacity there is for pollutants to be removed from the water through natural processes.
Photo: Luke Simon

Above Gross pollutant racks ensure that litter and floating debris do not make their way into the wetland filtration systems.
Photo: Luke Simon

Salisbury's constructed wetlands are designed to cleanse stormwater runoff from urban areas to reduce the pollutant impact on the sensitive marine ecosystem of Barker Inlet and Gulf St. Vincent.

Many of the wetlands, such as Kaurna Park, Greenfields, the Paddocks and Unity Park, are now used to harvest the cleansed stormwater. This harvested water is usually stored in the natural underground aquifers so that it can be recovered in summer for use in irrigating ovals, parks and the City's trees.

Certain processes need to occur within the constructed wetland to make sure that the water that leaves it is fit for use.

Constructed wetlands are designed and built in such a way that the water that enters them is subjected to these natural processes. Depending on the wetland's purpose and the space available, these built elements include:

- trash racks, which collect large floating pieces of litter and debris
- gross pollutant traps, which combine a trash rack with a sedimentation basin to allow solids suspended in the water to settle out
- sedimentation or detention ponds, in which the water slows down so that mud and fine sediments can settle out
- reed beds, which help to filter the slow-moving water



- weirs, which control the level of water in different parts of the wetland
- flow or diversion structures, which can be used to regulate inflows to the wetlands and ensure that very high flows are diverted away from sensitive areas, thus avoiding damage.

In addition, constructed wetlands usually have shorelines, where pollutants can attach themselves to the soil particles in the shallows, resulting in cleaner water. They also have:

- areas of open water, where sunlight can penetrate into the water and help to break down more complex pollutant molecules
- islands, which provide habitat areas, increase the shoreline and allow quiet sheltered areas of water to form where more sedimentation can occur.

Trash racks are emptied and cleaned after rainfall events, and repaired when required.

Learn more

For more information on related topics, see the other fact sheets in the Wetlands series. You may also like to visit the following website for more information:

Waterwatch

www.waterwatchadelaide.net.au



Top Intensively planted reed beds slow and distribute the water, allowing fine solids and attached heavy metals to settle.

Photo: Nicole Aspinall

Above Sedges and reeds also help stabilise the edges of water bodies, provide critical habitat and help to filter pollutants from the wetland system.

Photo: Luke Simon

Contact the Watershed

Salisbury Highway, Mawson Lakes SA 5095

Telephone 08 8258 0862 Email watershed@salisbury.sa.gov.au

Salisbury, Sustaining Our **Environment**



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