

Water Sensitive Urban Design Technical Manual

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Appendix A Baseline Water Quality Data

Glossary

Term	Explanation
Aquifers	Underground sediments or fractured rock that hold water and allow water to flow through them. Aquifers include confined, unconfined and artesian types
Average recurrence interval (ARI)	The average or expected value of the period between exceedances of a given discharge
Bioretention swale	A grassed or landscaped swale promoting infiltration into the underlying medium. A perforated pipe collects the infiltrated water and conveys it downstream. Flows are also conveyed along the surface of the swale prior to being infiltrated
Brownfield sites	Sites where there are opportunities to recycle redundant, surplus and in some cases inappropriately located facilities. Development on sites that have previously been used for urban land uses
Catchment	Area of land that collects rainfall and contributes to surface water (streams, rivers wetlands) or to groundwater
Class 1 buildings	(a) Class 1a - a single dwelling being - (i) a detached house; or (ii) one of a group of two or more attached dwellings, each being a building, separated by a fire-resisting wall, including a row house, terrace house, town house or villa unit; or (b) Class 1b - a boarding house, guest house, hostel or the like - (i) with a total area of all floors not exceeding 300 sqm measured over the enclosing walls of the Class 1b building; and (ii) in which not more than 12 persons would ordinarily be resident
Class 10 buildings	(a) Class 10a - a non habitable building being a private garage, carport, shed, or the like: or (b) Class 10b - a structure being a fence, mast, antennae, retaining or free-standing wall, swimming pool or the like
Commercial	Commercial uses can include, but are not limited to, automotive/equipment showrooms, food outlets, restaurants, hotels, garden centres, motels, offices, supermarkets and shops
Demand management	An approach that is used to reduce the consumption of water (also called water conservation)
Detention	Short term storage of runoff. The objective of a detention facility is to regulate the runoff from a given rainfall event and to control discharge rates to reduce the impact on downstream stormwater systems

Term	Explanation
Development	As defined by the <i>Development Act 1993</i>
Ecological footprint	Ecological footprinting seeks to determine what total area of land and/or water is required, regardless of where that land and/or water is located, to sustain a given population, organisation or activity. When used as a resource accounting tool, ecological footprinting can indicate when human demand for renewable resources exceeds nature's supply on a local, national or global scale
Ecologically sustainable development	Comprises the use, conservation, development and enhancement of natural resources in a way, and at a rate, that should enable people and communities to provide for their economic, social and physical wellbeing while sustaining the potential for natural resources to meet the reasonable foreseeable needs of future generations; safeguarding the life-supporting capacities of natural resources; avoiding, remedying or mitigating any adverse effects of activities on natural resources
Effluent	The outflow of water or wastewater from any water processing system or device
Environmental water requirement	The water regime needed to sustain the ecological values of aquatic ecosystems, including their processes and biological diversity, at a low level of risk. Basically, this means what these ecosystems - including watercourses, riparian zones, wetlands, floodplains, estuaries, cave aquifer ecosystems - need
Eutrophication	The ecological changes that result from excess levels of nutrients in waterways and wetlands, often resulting in prolific aquatic plant growth and algal blooms. These conditions can cause a simplification of an ecosystem and a loss of biodiversity.
Evapotranspiration	Refers to the total loss of moisture from the soil to the atmosphere through the processes of evaporation and transpiration from growing plants
Greenfield sites	Development on broadacre/broadhectare (usually greater than 4000 square metres) land that has not previously been developed for urban land uses
Greywater	Wastewater from the hand basin, shower, bath, spa bath, washing machine, laundry tub, kitchen sink and dishwasher. Water from the kitchen is generally too high in grease and oil to be reused successfully without significant treatment
Groundwater	Water occurring naturally below ground level or water pumped, diverted or released into a well for storage underground

Term	Explanation
ICLEI	International association of local governments and national and regional local government organisations that have made a commitment to sustainable development
Impervious surfaces	Surfaces that do not allow natural infiltration of rainfall to the underlying soil, thereby increasing the volume and peak flow rate of surface runoff
Industrial	Relating to, derived from, or characteristic of industry. Means premises used for the manufacture, production, processing, altering, cleaning or repair of any article, material or thing whether solid, liquid or gaseous
Infill development	Additional development or redevelopment of land within existing urban areas
Macrophyte zone	Corresponds to the wet areas of a wetland that are covered with plants such as reeds and rushes. It is sometimes divided into a submerged macrophyte zone where the plants are fully underwater and usually need to stay underwater and an emergent macrophyte zone where plants, while living in the water, extend out above the water surface. Often also called a reed bed.
Managed aquifer recharge (MAR)	Managed aquifer recharge is the intentional recharge of water to aquifers for subsequent recovery or environmental benefit
Nitrogen	An important nutrient found in high concentrations in recycled waters, originating from human and domestic wastes. A useful plant nutrient that can also cause off-site problems or eutrophication in lakes, rivers and estuaries. It can also contaminate groundwaters
Objectives	Statements of value that are to be pursued in the long term
Peak flow	The estimated maximum flow at a given location in a catchment, for a selected Average Recurrence Interval
Phosphorus	An important nutrient found in high concentrations in recycled waters, originating principally from detergents but also from other domestic wastes. A useful plant nutrient that can also cause off-site problems of eutrophication in water bodies. It may also be harmful to some native species
Pervious pavement	A type of pavement that does not contain fine particles, and which is designed to allow the infiltration of water to an underlying sub-base, thereby producing less runoff than conventional pavements
Potable water	Water suitable on the basis of both health and aesthetic consideration for drinking or culinary purposes (otherwise known as drinking water)

Term	Explanation
Pre-development	Pre-development refers to the situation where there is no development on the site which is considered to constitute the following scenarios: <ol style="list-style-type: none"> 1. If the site is currently developed, then the no development case is where runoff from the site assumes a cleared but grassed state 2. If the site is currently vegetated, then the no development case is where runoff from the site assumes the uncleared vegetated state
Prescription	Establishes a system for water resource planning and the sustainable allocation and management of water
Principles	Rules of conduct that are applied when implementing management actions or making decisions. They provide guidance on how decisions should be made
Retention	Permanent storing of runoff indefinitely. Water is stored until it is lost through percolation, taken in by plants, through evaporation or reuse
Runoff	Occurs as a result of rainfall and includes roof runoff (i.e. rainwater) and stormwater
Sediment	Small-grained material (such as sand, silt and clay) that is carried by water and is deposited on the surface of the land. Sediment is capable of choking and destroying natural aquatic ecosystems
Stormwater	Runoff from an area as a result of rainfall which is discharged to drainage infrastructure
Swale	Vegetated open channels that capture and treat stormwater runoff by means of filtering and conveyance during regular rainfall events with an average recurrence interval in the range of 3 to 6 months
Target	Detailed statements of outcomes against which the success of a plan or strategy can be measured and evaluated. They comprise a quantitative value of some condition or parameter that should be achieved
Treatment train	A series of treatment measures that collectively address all stormwater pollutants. A treatment train employs a range of processes to achieve pollutant reduction targets
Wastewater	Water that has been used for domestic or industrial purposes and is then discharged as waste. The water may be contaminated with solids, chemicals or changes in temperature

Abbreviations

Abbreviation	Meaning
ARI	Average recurrence interval
ASR	Aquifer storage and recovery
BDP	Department of Planning and Local Government's Better Development Plans project
DAC	Development Assessment Commission
DEH	Department for Environment and Heritage
DPA	Development Plan Amendment (previously Plan Amendment Report (PAR))
DTEI	Department for Transport, Energy and Infrastructure
DWLBC	Department of Water, Land and Biodiversity Conservation
EDALA	Electronic land division lodgement
EPA	Environment Protection Authority
EPPs	Environment Protection Policies
ESD	Ecologically sustainable development
ICLEI	See Glossary
MAR	Managed aquifer recovery
MUSIC	Model for Urban Stormwater Improvement Conceptualisation
NRM	Natural Resources Management
PAR	Plan Amendment Report (now referred to as DPA)
PIRSA	Primary Industries and Resources South Australia
SA Water	SA Water Corporation
TN	Total nitrogen
TP	Total phosphorus
TSS	Total suspended solids
WSUD	Water Sensitive Urban Design
WTP	Water treatment plant
WWTP	Wastewater treatment plant