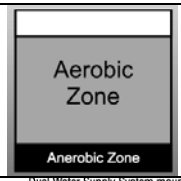
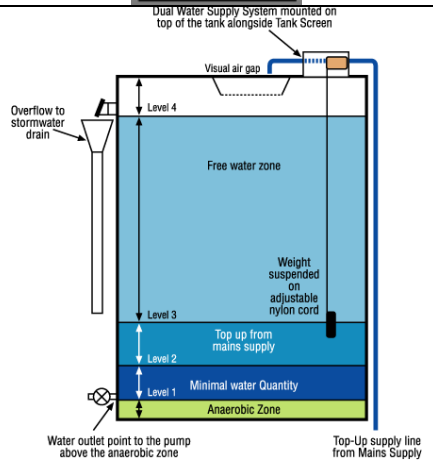
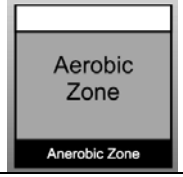
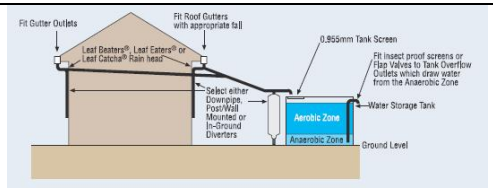
Term	*Description*	*Picture*
aboveground rainwater tanks	A tank collecting roofwater which is either: • fully above ground or • at least half the tank is above ground and the view of and access to the inlet pipe, air gap and overflow pipe are unobstructed. Aboveground rainwater tanks are installed inside or outside a building, usually on reinforced surfaces. Metal, poly/plastic, fibreglass or concrete tanks are typically installed aboveground.	
absorption	The process of a substance actually penetrating into the structure of another substance.	
absorption pit (also called a soakaway)	A pit, trench or well dug into permeable ground, filled with broken stone, bricks or large granular material and usually covered with earth, where liquid may soak away into the ground.	
acidic	The condition of water or soil which contains a sufficient amount of acid substances to lower the pH below 7.0	
activated carbon	A water treatment medium found in block, granulated or powered form which is produced by heating carbonaceous substances, bituminous coal or cellulose based substances such as wood or coconut shell. Activated carbon is commonly used for dechlorination and for reducing trace and soluble materials such as organic chemicals and radon from water.	
aerobic	A state where molecular oxygen is present	
aerobic zone	The section of the rainwater tank above the anaerobic zone, where molecular oxygen is present to help ensure rainwater quality. The best rainwater tank system has two outtake points – one 100-300mm or up to 1/3 the way up the tank for use inside the home, and the other at the bottom of the tank (in the anaerobic zone) for use outside the home.	
air gap *see* visible air gap	(a) *Water supply system* The unobstructed vertical distance through the free atmosphere between the lowest opening of a water service pipe or fixed outlet supplying water to a fixture or receptacle and the highest possible water level of such fixture or receptacle (b) *Rainwater tank top up systems* Local authorities may require a visible air gap of 40-100mm between the top of the tank and the outlet of the mains water top up outlet to prevent contamination that could theoretically be caused due to backflow of rainwater in the tank (due to failure of the top up system valve) into the mains supply network. Many authorities require the installation of dual check water valves at the property boundary to prevent potential backflow.	
algae	A diverse group of aquatic plants containing chlorophyll and other photosynthetic pigments. Many are microscopic (often being single cells) but some can be large, including the large seaweeds. They grow as single cells or aggregations of cells (colonies) (see Phytoplankton and Macroalgae).	
algal bloom	The rapid excessive growth of algae, generally caused by high nutrient levels and favourable	

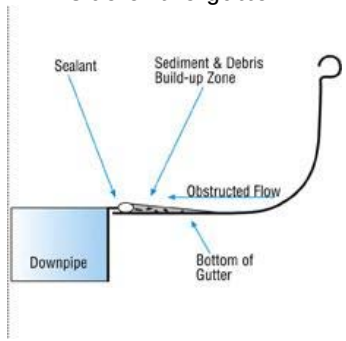
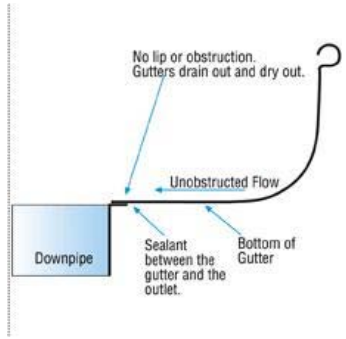
Term	*Description*	*Picture*
	conditions. Can result in deoxygenation of the water mass when the algae die, leading to the death of aquatic flora and fauna.	
alkaline	The condition of water or soil which contains a sufficient amount of alkali substances to raise the pH above 7.0	
anaerobic zone	A state where molecular oxygen is not present ie. not using oxygen from the air.	
average recurrence interval	The average or expected interval between events of a given rainfall intensity being exceeded.	
backflow	(a) Flow in a direction contrary to the normal or intended direction of flow; or (b) the unintended flow of water from a potentially polluted source into a potable water supply.	
backflow condition	Any arrangement whereby backflow may occur.	
backflow prevention device *atmospheric vacuum breaker* *double check valve* *dual check valve with atmospheric port* *hose connection vacuum breaker* *pressure type vacuum breaker* *reduced pressure zone device (rpz)*	A device to prevent the reverse flow of water from a potentially polluted source into a potable water supply system. A device to prevent backflow caused by back siphonage, which incorporates a ventilation valve, and operates automatically to admit air into the downstream chamber of the valve whenever the pressure in the chamber reduces to or falls below atmospheric pressure. A device to prevent backflow caused by backpressure, and which has two independently operation force loaded nonreturn valves and incorporates specific test points for inservice testing. A device to prevent backflow caused by back-siphonage or backpressure, which incorporates a ventilation port and two independently operating force loaded non-return valves which prevent backpressure when operative, and which automatically admits air to the chamber between the non-return valves, when the upstream non-return valve becomes inoperative. A device fitted to a hose-tap to prevent backflow in a water reticulation system caused by either back-siphonage or backpressure, which operates automatically to admit air into the system under backsiphonage conditions and vents the system to atmosphere under backpressure conditions. A device to prevent backflow caused by back-siphonage, which incorporates a force loaded ventilation valve, and operates automatically to admit air into the downstream chamber of the valve whenever the pressure in the chamber reduces to 7 kPa. A device to prevent backflow caused by either back siphonage or backpressure in a water reticulation system, which incorporates two independently operating force loaded non-return valves and which automatically drains to waste, whenever the pressure in the system between the upstream and downstream non-return valves reduces to a pressure not less than 14 kPa below the pressure at the inlet to the upstream non-return valve.	

Term	*Description*	*Picture*
bacteria	Single celled organism. Bacteria may be free living organisms or parasites. Cells range from about 1-10 microns in length and from 0.2 to 1 micron in width. Some bacteria are helpful to man, others harmful	
below ground rainwater tank	A tank collecting roof water which is either: • fully or mostly underneath the ground • where the view of and access to any one of the air gap, inlet pipe or overflow pipe is obscured by the ground or something similar e.g. rockery or garden bed. There should be no possibility that surface run-off eg: on a sloping site will drain to a rainwater tank.	
biofilm	Biofilm forms when bacteria attach to surfaces exposed to water, and begin to excrete a slimy, glue-like substance that can anchor them to all kinds of material – such as metals, plastics, soil particles, medical implant materials, and tissue. A biofilm can be formed by a single bacterial species, but more often biofilms consist of many species of bacteria, as well as fungi, algae, protozoa, debris and corrosion products. Essentially, biofilm may form on any surface exposed to bacteria and some amount of water. Once anchored to a surface, biofilm microorganisms carry out a variety of detrimental or beneficial reactions (by human standards), depending on the surrounding environmental conditions. Biofilms attached to particles of contaminated soils and aquatic sediments help degrade soil-bound contaminants occuring from accidental chemical releases into the environment. Some reactors designed to promote biofilm growth are very effective for treating environmental wastes such as sewage, industrial waste streams, or contaminated groundwater. Biofilm contamination and fouling occurs in nearly every industrial water-based process, including water treatment and distribution, pulp & paper manufacturing, and the operation of cooling towers.	
biological pollution	Pollution by micro-organisms e.g. bacteria and viruses (see Pollution).	
blue greens	Blue greens or Cyanobacteria are an ancient group of photosynthetic bacteria without a nucleus which produce their own energy from sunlight. Some can assimilate dissolved gaseous nitrogen. A number of species produce toxins. Cells can also cause irritation of the skin and eyes on contact.	
brackish water	Water containing dissolved solids in the range 1000 – 15000 ppm. See Salinity	
brine	Water containing high quantities of sodium chloride	
bushfire rainwater storage		
cartridge filter	A device made up of a housing and a removable cartridge (element) for fluid filtration. Elements can be cleanable and reusable or disposable	
charged systems *See* Wet Inlet Systems		
chloramines	Chemical complexes formed from the reaction between ammonia and chlorine being used to disinfect many municipal water supplies	
cistern	A water storage tank, especially as part of a flushing toilet. An underground reservoir for rainwater	
connection *see* direct connection or indirect connection.		
contamination	Surface water becomes contaminated when pollutants or microorganisms enter the waterbody	

Term	*Description*	*Picture*
	directly, through stormwater drainage, or through groundwater. Groundwater becomes contaminated when pollutants or microorganisms filter through the soil to the watertable.	
dam	A structure constructed across a drainage system to store surface water flow for water supply use or release in a controlled manner for downstream use. A dam can be constructed across a river valley or at the side of a valley to store water pumped into it from "run of river" flow. Dams also store water for farm use.	
deoxygenation	Depletion of oxygen.	
desalination	The process of removing salts from water to produce fresher water (see Salinity).	
diffuse source pollution	Pollution originating from a widespread area e.g. urban stormwater runoff, agricultural runoff. The opposite of point source.	
direct connection	Direct connection occurs: • where a pipe containing water from a reticulated supply is directly connected into a tank or pipe containing water from a rainwater tank, or • where the outlet of a pipe containing a reticulated supply is submerged beneath the surface of water from a rainwater tank.	
dirt traps *See* First flush water diverters		
discharge	Volumetric outflow rate of water, typically measured in cubic metres per second.	
discharge area	Area where groundwater discharges to the surface.	
dissolved oxygen (do)	The concentration of oxygen dissolved in water or effluent, measured in milligrams per litre (mg/L).	
downpipe	A pipe to carry rainwater from a roof to a drain or to ground level	 
dry inlet systems	A system where the tank inlet is at a lower level than any part of the inflow pipework thereby allowing the rainwater to drain completely into the tank.	 http://www.rainharvesting.com.au/dry_systems.asp
dual water check valves	A device to prevent backflow caused by backpressure, which incorporates two independently operating force loaded non-return valves.	
dual water reticulation area	A community which is supplied with both a potable (drinking water) water source, and a	

Term	*Description*	*Picture*
	recycled water source (for specific purposes, including toilet flushing, external use, etc)	
eaves	the part of a roof that meets or overhangs the walls of a building	
ecosystem	A term used to describe a specific environment, e.g. lake, to include all the biological, chemical and physical resources and the interrelationships and dependencies that occur between those resources.	
effluent	Liquid waste or sewage discharged into a river or the sea	
evaporation	Loss of water from the water surface or from the soil surface by vaporisation.	
evapotranspiration	The combined loss of water by evaporation and transpiration.	
fascia	A board covering the ends of rafters or other fittings	
filter pits	Can be used if it is not practical to fit rain heads under roof gutters or on a wall to pre-filter water headed for the water tank. Filter Pits enable screening to be done at a pit which can be safer and easier to clean than cleaning the screens of rain heads fitted at the roof gutter. Extremely beneficial when used in conjunction with underground tanks or where tanks are placed downhill from the building. They are usually placed at a convenient spot in the garden, part way between the building and the tank and are a 'junction' where the pipes from around the house meet, and from which the main pipe/s then connect to the storage tank. They handle large volumes of water and typically come with insect proof stainless steel screens and screens to filter larger debris. Require a fall between the building and the top of the tank depending on the distance of the pipe run between where the pipe enters the ground at the building and the tank. This system will enable the pipes to be connected directly into the wall of the tank which leaves the top of the tank free for other uses and eliminates the need for a tank screen on top of the tank. This prevents contamination of the tank water due passing of water through to leaves and debris collected in collection via the tank screen and reduces the amount of sunlight entering the tank thus minimising the growth of algae and other bacteria. First Flush Water Diverters should be installed downstream of Filter Pits to improve water quality and prevent the first most contaminated water from entering the tank.	 
first flush	The initial runoff from a catchment following the start of a rainfall event which contains higher loads of microbiological contaminants and suspended solids.	
first flush devices *see* first flush water diverters		
first flush system *see* first flush water diverters		
first flush water diverters	A system or device designed to reduce the mean event contaminant concentration by capturing and diverting the first portion of the flow from a catchment following the start of a rainfall event and to automatically reset between such events.	

Term	*Description*	*Picture*
	Fitting an appropriately sized First Flush Water Diverter is critical to ensure good quality rainwater is collected in the tank. Water Diverters improve water quality and reduce tank maintenance by preventing the first flush of water, which may contain contaminants from the roof, from entering the tank. Instead of flowing to the water tank, these pollutants are diverted with the initial flow of rainwater into the chamber of the diverter. Leading water diverters utilize a dependable ball and seat system - a simple automatic system that does not rely on mechanical parts or manual intervention. As the water level rises in the diverter chamber the ball floats, and once the chamber if full, the ball rests on a seat inside the chamber preventing any further water entering the diverter. The subsequent flow of rainwater is then automatically directed along the pipe system to the tank. A slow release valve ensures the chamber empties itself after rain and resets automatically. The diverted water need not be wasted water because the drain pipe from the diverter chamber can be fitted to a standard drip irrigation system.	   http://www.rainharvesting.com.au/first_flush_water_diverters.asp
first foul flush diverters *see* first flush water diverters		
flap valves	Insect proof valves that seal off pipes yet provide high volumes of water to pass through the valve as required. Pipes leading to a rainwater tank (especially if it is a 'wet inlet system') can be protected using these valves, which prevent mosquitoes and vermin accessing the water in the pipe system. Can be fitted to tanks overflow outlets to keep pests out of the tank water. The best kind of Flap Valves have a double seal, are self cleaning, and have flaps that cannot be over-rotated and left open. Vented Flap Valves allow a flow of air over the surface of the water which improves water quality and prevents a vacuum forming when large quantities of water are quickly drawn from the tank	 
flooded lines *see* wet system		

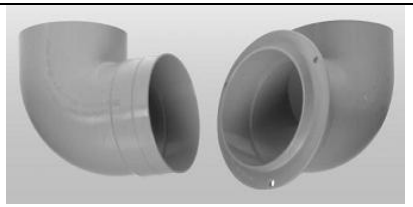
Term	*Description*	*Picture*
gigalitre	A commonly used term to measure large quantities of water, equal to 1000 000 000 litres or 1 million cubic metres or 1 million kilolitres (kL).	
grey water	Water which has been used for domestic purposes not including sewage. Is often recycled for specific uses as treated or untreated grey water.	
groundwater	Water which occupies the pores and crevices of rock or soil (see Surface water).	
groundwater	Water which occupies the pores and crevices of rock or soil (see Surface water).	
gutter	A shallow trough beneath the edge of a roof, or a channel at the side of a street, for carrying off rainwater	
gutter outlets	Outlets, fitted to gutters, that connect and seal the gutter to the downpipe. Gutter outlets fitted in the conventional way cause rubbish to build up in roof gutters. Gutters start to rust because they are not able to drain out efficiently or dry out completely after rain. This creates a breeding habitat for disease carrying mosquitoes. In most instances gutter outlets are fitted by cutting a hole in the gutter, pushing an outlet through from the top side of the gutter, fixing it in place with a few rivets or screws, and then applying a silicone sealant around the top side of the gutter outlet within the gutter itself. This creates a barrier up to 4mm high for debris to jump and obstructs water flow. All gutter outlets should be fitted on the UNDERSIDE of the roof gutter so that there is no obstruction to stop leaves, debris and fine sediments washing out. This will ensure that within a short period of time after the rain stops gutters will drain out and dry out. By creating dry gutters a potential mosquito breeding habitat is eliminated.	Fitted the traditional way, from the top side of the gutter  Fitted from the underside 

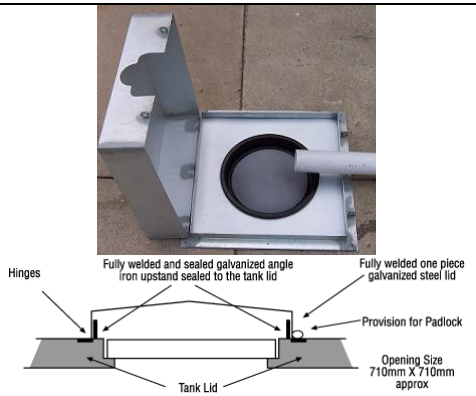
Term	*Description*	*Picture*
gutter pops *See* gutter outlets		
hardness	A common quality of water which contains dissolved compounds of calcium and magnesium. The term hardness was originally applied to waters that were hard to wash in, referring to the soap wasting properties of hard water.	
heavy metals	Metallic elements with high atomic weights eg. mercury, barium and lead. They can damage living things at low concentrations and tend to accumulate in the food chain	
hydrogeology	The study of groundwater, especially relating to the distribution of aquifers, groundwater flow and groundwater quality.	
hydrologic cycle (water cycle)	The continual cycle of water between the land, the ocean and the atmosphere.	
hydrology	The study of water, its properties, distribution and utilization above, on and below the earth's surface.	
hypersaline	Having a salinity greater than seawater (i.e. above 35 parts per thousand) (see Salinity).	
indirect connection *see* air gap	Indirect connection occurs between a rainwater tank and a municipal water supply where the outlet of a pipe containing drinking water from the municipal supply is separated from the water in the rainwater tank by a visible air gap. This ensures that there is no possibility of the rainwater backflowing into the municipal supply.	
integrated catchment management (icm)	The coordinated planning, use and management of water, land, vegetation and other natural resources on a river or groundwater catchment basis. ICM is based on cooperation between community groups and government agencies at all levels to consider all aspects of catchment management.	
kilolitre (kl)	A term commonly used to measure water, equal to 1000 litres. A cubic metre is the volume occupied by a cube measuring one metre along each edge. One cubic metre contains one kilolitre of water.	
leaching/leachate	The process by which materials such as organic matter and mineral salts are washed out of a layer of soil or dumped material by being dissolved by or suspended in percolating rainwater; the material washed out is known as leachate. Leachates can pollute groundwater and waterways.	
leaf or gutter guard	Protective mesh or screen that helps prevent leaves or debris building up in roof gutters. Reduces risk of wind blown embers from bushfires entering gutters and igniting debris build up. Can improve the quality of rainwater collected in tanks. Reduces cleaning and maintenance required. Can prevent gutter downpipes getting blocked and therefore prevents eaves flooding during heavy rainfall.	
leaf separators *See* rain heads		
litre (l)	Unit of volume equal to one cubic decimetre.	
macroalgae	Algae which can be seen by the unaided human eye in contrast to microscopic algae which	

Term	*Description*	*Picture*
	must be studied under the microscope. Include large green, red and brown algae often up to many metres long and referred to as seaweed.	
mains water supply	A centralised water infrastructure network supplying water to a community. Can include potable water (for drinking purposes) or recycled water (for specific purposes including toilet flushing, external use, etc)	
membrane	A thin sheet or surface film, wither natural or man made, of microporous structure that performs as an efficient filter of particles down to the size range of chemical molecules and ions.	
micro organism	An organism so small as to be invisible to the naked eye.	
microfiltration	The separation or removal from a liquid of particulates and micro-organisms in the size of 0.1 to 2 microns in diameter	
micron comparison	Golf Ball 25,000 microns in size Human Hair 100 microns Pollen Grain 20 microns Cysts 1-15 microns	
millilitre (ml)	Unit of volume; one thousandth of a litre.	
mosquito control *see* flap valves, mosquito proof screens	The prevention of the establishment of mosquito breeding habitats, and access of mosquitoes to the rainwater system, through the use of vector or insect proof scrrens and flap valves. Screens used are non-corrosive with aperture of not more than 1mm.	
mosquito proof screens *See* Flap Valves; Rain Heads	Insect proof screens that prevent access of mosquitoes, pests and other vermin to the rainwater tank. Mosquitoes are carriers of disease and all breeding habitats must be eliminated. Screens or Flap Valves can be fitted to the water storage vessel and to pipes leading to the tank. Some Rain Heads also include screens that prevent access at the gutter downpipe. When used in conjunction with systems where screens or Flap Valves are fitted to the end of pipes, Rain Heads can protect a 'wet inlet system' by preventing access to the water that remains in pipes after rain.	 
municipal water supply *see* mains water supply		
nutrient load	The amount of nutrient reaching the waterway over a given time (usually per year) from its catchment area.	
nutrients	Minerals dissolved in water, particularly inorganic compounds of nitrogen (nitrate and ammonia) and phosphorus (phosphate) which provide nutrition (food) for plant growth. Total nutrient levels include the inorganic forms of an element plus any bound inorganic molecules.	
operating pressure	The manufacturer's specified range of pressure within which a water processing device or water system is designed to function. KPa / Psi	
parts per million ppm	A measure of proportion by weight, which is equivalent to one unit of weight of solute (dissolved substance) per million weights of solution	
pathogens	Micro-organisms that can cause disease in other organisms or in humans, animals and plants. They may cause bacteria, viruses or parasites and are found in sewage, in run off from animals and in water for swimming	
ph	A symbol denoting the concentration of hydrogen (H) ions in solution. A measure of acidity or alkalinity in water in which pH 7 is neutral, values above 7 are alkaline and values below 7 are acid.	
photosynthesis	Conversion of carbon dioxide and water to carbohydrates using light energy.	

Term	*Description*	*Picture*
phytoplankton	Microscopic (up to 1-2mm in diameter) free-floating or weakly mobile aquatic plants e.g. diatoms, dinoflagellates, chlorophytes, blue greens.	
plankton	Small organisms which move or drift in the water. The plants are called Phytoplankton, the animals Zooplankton.	
point of connection (stormwater)	The point provided for the connection of a property stormwater drain to the stormwater system.	
pollution	Water pollution occurs when waste products or other substances, e.g. effluent, litter, refuse, sewage or contaminated runoff, change the physical, chemical, biological or thermal properties of the water, adversely affecting water quality, living species and beneficial uses.	
potable water	Fresh and marginal water generally considered suitable for human consumption (see Salinity).	
pre-treatment devices *See* Leaf and Gutter Guards; Rain heads; First Flush Water Diverters		
pump airlift pump bucket pump centrifugal pump circulating pump diaphragm pump force pump free-standing pump hydraulic ram jet (ejector pump) macerator pump piston pump plunger pump	A mechanical device generally driven by a prime mover, and used for raising fluids form a lower to a higher level or for circulating fluid in a pipework. A device for raising a liquid from a lower level to a higher level by use of compressed air. A reciprocating pump being a lift pump incorporating a displacing member, called the bucket, in the form of a short cylinder embodying a non-return valve. A pump in which motion is imparted to a fluid by the centrifugal force imparted by a rotating impeller. A pump used to ensure flow of hot or cold water in a loop system. A pump in which liquid is drawn into than discharged from a chamber through non-return valves by the change in the capacity of the chamber through the flexing of a diaphragm. A pump which forces water against an opposing pressure A pump installed in a dry situation free of sewage (dry well pump) surrounding the pump (i.e. non-submersible). An automatic pumping device which utilizes the energy of flowing water. A pump in which a pressure deficit is created by a venture or nozzle. The pressure differential then causes the liquid to be pumped. A positive displacement pump containing a macerating device. A reciprocating pump incorporating a piston. A reciprocating pump incorporating a long cylindrical piston.	

Term	*Description*	*Picture*
pneumatic ejector	A pump in which liquid flows by gravity into an ejector pot suitably fitted with valves. The container is them emptied by the introduction of compressed air.	
positive displacement pump	A pump which displaces a fixed amount of water with each stroke or rotation irrespective of the pressure.	
reciprocating pump	A pump in which liquid is alternately drawn into and expelled from a chamber through non-return valves by the displacing action of a moving member having a reciprocating movement, i.e. a linear movement regularly reversing in direction. The moving member may be a bucket, a piston, a plunger or ram.	
screw pump	An extended version of the axial flow or propeller pump, comprising an inclined spiral screw in a pipe, which rotates, thus lifting liquid from its submerged lower end.	
semi-rotary pump	A pump which is usually manually operated, by the angular displacement of two radial-valved vanes working in a circular casing.	
submersible pump	A pump designed to operate when submerged in fluid.	
submersible grinding pump	A pump which grinds the sewage into small particles prior to its passing through the impeller.	
sullage pump	A small centrifugal pump used for raising sullage from a lower to a higher level.	
vacuum pump	A pump which extracts air from a pipe system so as to maintain it at a pressure below atmospheric, thereby inducing the flow of a liquid.	
water pump	A pump used for raising water from a lower to higher level or for pressurizing a water supply system.	
rain barrels	Vessels used for rainwater storage. Typically of limited capacity and fed by a single downpipe.	 

Term	*Description*	*Picture*
rain heads	A collector of rainwater, generally rectangular in shape, at the end of a box gutter or downpipe nozzle and external to a building, connected to an external downpipe discharging to a rainwater tank. Its function is to increase the head of water at the entry to the downpipe and thus increase the capacity of the downpipe for wet inlet syste,s to the rainwater tank. New developments have seen the incorporation of angled screens that deflect leaves and debris away from the flow of water. This helps ensure gutters do not become blocked and improves the quality of rainwater collected in the rainwater tank. Some rain heads also incorporate secondary screens that are mosquito proof and these ensure mosquitoes can not access the pipe systems and breed in the stagnant water that remains in pipes of wet inlet systems.	     http://www.rainharvesting.com.au/the_leaf_eater_family_of_rain_heads.asp
rainfall	The amount of rain, usually expressed in millimetres or inches depth of water on an area, that reaches the surface of the earth. The term sometimes also includes other forms of atmospheric precipitation such as snow, hail and dew, but technically only the term *precipitation* should be used in this broader scope.	
rainfall intensity	The amount of rainfall occurring in a unit of time, usually expressed in millimetres or inches per hour.	
rainwater *see* roofwater	The runoff due to rainfall from roofed areas, termed roofwater.	
rainwater diverters *See* first flush water diverters		
rainwater harvesting	Rainwater harvesting involves the collection, storage and distribution of rainwater from the roof, for use inside and outside the home or business.	
rainwater tank overflow - point of discharge	Tank overflow outlets provide a point of discharge once the rainwater tank is full of water. Authorities will have plumbing requirements for discharge into stormwater system and have guidelines for alternative discharge methods. Tank overflow outlets that feature a 90 degree bend enable storage of an extra 120mm of rainwater in the tank.	
rainwater tank setback requirements	Distance from buildings and property boundaries that must be provided for in rainwater tank installations. Setbacks ensure appropriate site access and prevent encroachment on	

Term	*Description*	*Picture*
	neighbouring properties and are required by many authorities.	
rainwater treatment *see* UV rainwater treatment		
reclaimed water	Water taken from a waste (effluent) stream and purified to a level suitable for further use.	
recycled water water recycling	A generic term for water reclamation and reuse. This term can also be used to describe a specific type of "reuse" where water is recycled and reused again for the same purpose (e.g. recirculation systems for washing and cooling, with or without treatment in between).	
reticulated water supply *see* mains water supply		
reuse water water reuse	Beneficial and planned use of a water source for a second, different purpose (especially on-site). For example, reuse of household greywater for garden irrigation.	
roof washers *see* first flsuh water diverters		
roofwater	Rainwater collected from roofs	
roofwater harvesting *see* rainwater harvesting		
run-off	Water that flows over the surface from a catchment area, including streams.	
safety hatches	Hatch fitted to the top of rainwater tanks to provide access to the tank (for cleaning etc), but protect the tank water. Many water tank tops do not drain the water away from the access hole and onto the ground. It is very common for bacteria and harmful pollutants from the top of a tank to find its way into the water storage system. Harmful bacteria present on the lid of a tank can wash into the tank when it rains and pollute the water. Safety hatches fit OVER the existing tank access entry, can be double hinged for security, child proof & lockable, are mosquito & vermin proof, and come complete with an upstand & mounting kit.	
salinity	The concentration of chemical salts dissolved in the water. It is usually expressed in milligrams per litre (mg/L) or parts per million (ppm).	
sediment	Sand, clay, silt, pebbles and organic material carried and deposited by water or wind. Sedimentation is the process by which sediment is deposited e.g. in waterways.	
sediment load	The quantity of sediment moved past a particular cross-section in a specified time. Usually refers to the amount of sediment being transported by a stream or river.	
storage reservoir	A major reservoir of water created in a river valley by building a dam (see Dam).	
stormwater	The runoff due to rainfall from paved and unpaved areas, termed surface water and from water bearing ground, termed subsoil water.	
stormwater attenuation	The temporary storage and release of stormwater to reduce flow rates into the stormwater drainage system during and immediately after a storm event.	

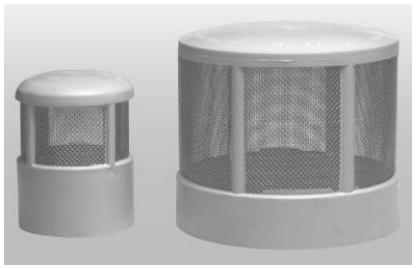
Term	*Description*	*Picture*
stormwater channel *stormwater drain* *subsoil drain*	An artificial channel for the carriage of stormwater, roof water, surface water, subsoil water or permitted trade waste, and shall not convey any sewage. The conduit of a stormwater drainage installation normally laid underground for the conveyance of stormwater from a property to the stormwater system. The conduit of stormwater installation laid underground for the collection and conveyance of subsoil water from the property to a stormwater drain.	
stormwater detention	The process of delaying the release of stormwater into municipal stormwater infrastructure. Stormwater detention reduces the pressure placed on this infrastructure by rapid run off of stormwater due to rainfall events. Rainwater tanks fitted with slow release stormwater attenuation valves can be beneficial in delaying the release of excess rainwater into the stormwater system.	
stormwater installation	Comprises roof gutters, downpipes, surface channels, kerbs and gutters, subsoil water drains and stormwater drains upon any property which are use, or intended to be used, for the conveyance of stormwater from such property. The installation includes inlet pits, stormwater pits, apparatus and appliances connected thereto but does not include any part of the authority stormwater system.	
stormwater retention	The process of holding stormwater in decentralised holding vessels or systems to prevent the flow of stormwater into municipal stormwater infrastructure. By capturing and storing water, rainwater tanks reduce the pressure placed on municipal stormwater pipes, drains and infrastructure.	
stormwater system	Comprises all stormwater mains and drainage works vested in the regulatory authority.	
sullage	Domestic wastes from baths, basins, showers, laundries, and kitchens, including floor wastes from these sources.	
sullage dump point	A point of connection provided in the house drainage line to receive waste discharges.	
surface water	The run-off from unpaved or paved land or buildings as opposed to waste water.	
surface water	The run-off from unpaved or paved land or buildings as opposed to waste water.	
tank automatic flush tank break pressure tank break tank flushing tank sedimentation tank septic tank	A fixed container for storing liquids. A flushing tank arranged to discharge its contents at regular intervals. A storage tank incorporating an air gap, used to reduce the pressure in gravity pipelines. A storage cistern or tank incorporating an air gap, specifically designed for the purpose of backflow prevention. A tank from which water from a fixture is discharged to flush a system of drains. A tank through which water or waste water is passed so that suspended matter may settle to the bottom and be removed. A one storey chamber, or chambers, through which sewage or sullage or both, are allowed to flow slowly to permit settleable suspended matter to settle and be retained, so that organic matter contained therein can be decomposed (digested), by and anaerobic bacterial action in liquid.	

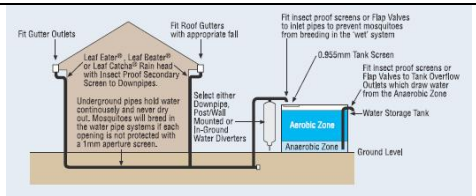
Term	*Description*	*Picture*
sullage tank water storage tank	A tank used to pre-treat sullage, prior to discharge to a common effluent drainage system. A container for storing water	
tank top up systems *See* visible air gap	Tank top up systems enable a dual supply of water - rainwater from the tank is used whenever it is available, and where required the tank is topped up with mains water (where available). This ensures there is always a supply of water in the tank to meet requirements. These systems are important when rainwater from the tank is the source of water for internal purposes, such as toilet flushing or laundry use, or when the tank supplies water for automated irrigation systems. The systems utilise a valve that when activated will introduce mains water to the tank. When the tank water level reaches a designated minimum level, a valve is activated to introduce mains water to the tank. Whilst traditionally fitted with float valves, more advanced systems now feature weights, suspended by an adjustable nylon cord, which pull on the cord to trigger the valve as required. The length of the cord can be varied depending on the minimum water level at which you require the tank to be topped up. Simple and effective systems that are easily maintained. Many systems are designed to fit on top of the tank, providing a visible air gap to prevent potential backflow or contamination of the mains water supply. Air gaps are typically set at between 40-100mm from the system outlet point and the water level in the tank when it is full to overflowing.	  
town water supply *see* mains water supply		
transpiration	The process by which plants take up water from the soil and release water vapour through the leaves.	
treatment	Application of techniques such as settlement, filtration and chlorination, to render water suitable for specific purposes including drinking and discharge to the environment.	
trick feed top up systems		
trickle top up *See* tank top up systems	Trickle top-up is the slow filling of the tank from the drinking water supply. It is designed to minimise effects on the reticulated system and allow for a reasonable re-supply into the tank over a period of several hours.	
turbidity	Muddiness or opaqueness of water due to suspended particles in the water causing a reduction in the transmission of light.	
ultra-violet (uv) light	Light rays which have a wavelength just shorter than the violet end of the visible spectrum.	

Term	*Description*	*Picture*
underground rainwater tanks *See* below ground rainwater tanks		
UV rainwater treatment, sterilisation	Ultra-Violet (UV) sterilization is a treatment that works by destroying the DNA of potentially damaging micro-organisms, thus rendering them harmless. This process is instant, effective and reliable. No chemicals are involved and the process does not affect the taste of the water in any way. UV radiation is part of natural sunlight, and a UV lamp emits a particular wavelength at high concentration to destroy bacteria, viruses and cysts. The water to be treated must first be free of even microscopic particles, so it is usually necessary or to fit sediment pre-filters (such as pre-treatment devices) prior to the water entering the UV unit. UV treatment is safe, reliable and simple to maintain. It is generally deemed to be ecologically preferable to chlorination and reverse osmosis (RO). UV treatment will not remove discolouration or bad taste.	
valve	A device for controlling the flow of fluid, having an aperture which can be wholly or partially closed by the movement relative to the seating of a component in the form of a plate or disc, a door or gate, a piston, a plug or a ball or flexing of a diaphragm.	
air admittance valve	A valve installed on a sanitary plumbing system which is designed to open during periods of negative pressure and permit air to enter, thus maintaining the water level in the trap seal.	
air valve	(a) An automatic valve for the discharge of air from, or the admission of air to, a water main, each containing a buoyant ball which seats itself to close an orifice. (b) A manually operated valve used to release air from a water pipe or fitting.	
ball valve	A valve having a ball which can be turned to move its port or ports relative to the body seat ports, to control the flow of fluid.	
butterfly valve	A valve in which a disc is turned substantially through 90 degrees from the closed to the open position on an axis transverse to that of the valve ports.	
check valve *see* non-return valve.		
combination relief valve	A valve which combines the features of temperature and pressure-relief valves.	
delayed action float valve	A float valve in which the action is delayed until the level of the liquid rises or falls by a predetermined amount.	

Term	*Description*	*Picture*
diaphragm valve	A valve in which a flexible diaphragm forms the closure member and in which the diaphragm isolates the fluid controlled by the valve.	
double air valve	An air valve having two chambers, one with a small orifice, and one with a large orifice.	
equilibrium float valve	A float valve designed so that the hydraulic forces on the closing plunger are in balance.	
expansion control valve	A pressure-activated valve which opens in response to an increase in pressure caused by the expansion of water during the normal heating cycle of the water heater, and which is designed for installation on the cold water supply to the water heater.	
float valve	A valve for controlling the flow of a liquid into a cistern or other vessel, which is operated by the movement of a float.	
flush valve	A manually operated hydraulic device which discharges a predetermined quantity of water to fixtures for flushing purposes. Also called a flusherette or flushometer.	
foot valve	A non-return valve fitted at the bottom of a pump suction pipe in order to retain the water in the pipe.	
gate valve	A valve which affords a straight through flow and in which a sliding gate is moved in its own plane at right angles to the flow.	
globe valve	A screwdown valve having a partially spherical body with a horizontal inlet and a horizontal or vertical outlet. The valve sealing washer is attached to the valve spindle.	
isolating valve	Any valve for the purpose of isolating part of a water system from the remainder.	
jumper valve	A component of a screwdown valve or tap which forms the closing member of the valve. This refers only to a loose jumper valve which is normally separate from the valve spindle. Generally constructed of copper alloy or plastics.	
kinetic air valve	An air valve of such a design that escaping air does not cause the ball to seal the orifice.	
level control valve	A valve for controlling the flow into a tank or vessel. The valve operates when the water level rises or falls to predetermined levels. It may be actuated directly by a float, or remotely by a float or pressure-sensing equipment which detects changes in water level.	
mechanical mixing valve	A mixing valve of the non-thermostatic type, which controls the temperature from the mixed water outlet.	
mixing valve	A valve which separates supplies of hot water and cold water are mixed together, either manually or automatically, to give a desired temperature from the mixed water outlet.	
non-return valve	A valve to prevent reverse flow from the downstream section of a pipe to the section of pipe	

Term	*Description*	*Picture*
	upstream of the valve.	
plug valve	A value consisting of an internal plug which can be turned to move its port or ports relative to the body seat ports to control the flow of fluid.	
pressure limiting valve	A valve which limits the outlet pressure to the set pressure, within specified limits only, at inlet pressures above the set pressure.	
pressure ratio valve	A valve which automatically reduces outlet water pressure to a specifies ratio of its inlet pressure.	
pressure reducing valve	A valve which automatically reduces the pressure to below a predetermined value on the downstream side of the valve	
pressure-sustaining valve	A valve which automatically maintains a predetermined pressure on the upstream side of the valve.	
reflux valve	A valve which prevents the reversal of flow by means of a flap or other mechanism.	
relief valve	A valve which will open to release excess pressure from a system.	
reverse action float valve	A float valve, for use in large automatic flushing cisterns, which is open when the float is at top water level and closed when the float is at bottom water level. A pet cock on the supply side of the ball valve initiates the operation.	
safety valve	A pressure-relief valve fitted on, or close to a boiler or unfired pressure vessel.	
scour valve	A valve fitted to a scour pipe.	
screwdown valve	A valve in which the disc is lifted from and lowered onto the body seat by a stem whose axis is perpendicular to the face of the body seat.	
service valve	A valve for the isolation of a water heater or appliance. It is fitted between the inlet header pipe and the appliance inlet and between the outlet of the water heater and the outlet header pipe.	
single air valve	An air valve with a single chamber having either a small orifice or a large orifice.	
sludge valve	A valve used for drawing off sludge from the bottom of a cistern or tank.	
sluice valve	A solid sliding gate valve, usually key or wheel operated, used for waterworks purposes.	
solenoid valve	A valve adapted for electrical remote control and actuated by a solenoid and plunger.	
stop valve	A valve which can be operated to stop the flow in a pipeline.	
temperature-relief valve	A temperature-actuated valve which automatically discharges fluid at a specified set	

Term	*Description*	*Picture*
	temperature. It is fitted to a water heater to prevent the temperature in the container exceeding a predetermined temperature, in the event that energy input controls fail to function.	
temperature-pressure-relief (TPR) valve	A spring loaded automatic valve limiting the pressure and temperature by means of discharge, and designed for installation on the hot side of a storage water heater.	
tempering valve	A mixing valve which is temperature actuated and is used to temper a hot water supply with cold water to provide hot water at a lower temperature, e.g. 50 degrees Celsius, at one or more outlet fixtures.	
thermostatic mixing valve	A mixing valve in which the temperature from the mixed water outlet is automatically controlled by a thermostatic element/sensor to a preselected temperature.	
vacuum relief valve	A pressure actuated valve which automatically opens to relieve vacuum conditions.	
vented double check valve *see* mechanical backflow prevention device.		
vector	An organism that transmits a particular disease or parasite from one animal or plant to another. eg. mosquitoes	
vent cowls	Vent cowls include an insect proof stainless steel screens and can be fitted to the top of rainwater tanks to help vent them properly. They are an ideal method for providing air circulation through tanks where rainwater is piped directly into the top or side of the tank, rather than passing through a tank screen. Vent cowls are also designed to fit to the top of toilet vent pipes and reduce the possibility of pan syphoning where two toilets are connected to the one line. They feature an open space area of the screen is at least 1.5 times larger than the open area of the pipe which guarantees a full flow of air when the down stream toilet is flushed eliminating vacuum within the line. They fit 50 & 100mm PVC & Copper with the use of a standard 3mm nitrile “O” ring.	
visible air gap	The unobstructed vertical distance through the free atmosphere between the lowest opening of a water service pipe or fixed outlet supplying water to a fixture or receptacle and the highest possible water level of such fixture or receptacle.	
wastewater	Water which has been used for some purpose and would normally be treated and discarded. Wastewater usually contains significant quantities of pollutant (see Effluent and Pollution).	
water supply systems	A system where there is a direct connection between water coming from the alternative water source and the authority’s supply.	
grey water reuse systems	A system where grey water (waste water but not soil or black water), is collected, not treated and reused for acceptable purposes.	
reticulated disinfected reclaimed water systems	A system where soiled water is collected, treated to acceptable minimum standards of controlled disinfection and them reticulated to properties	
water diverters *See* first flush water diverters		

Term	*Description*	*Picture*
water quality	The physical, chemical and biological measures of water	
water sensitive urban design	The integration of urban planning with the management, protection and conservation of the urban water cycle, that ensures urban water management is sensitive to natural hydrological and ecological processes.	
water sensitive urban development	An holistic approach to planning, design and construction of water supply, sewerage, rainwater and stormwater systems for urban communities. Underpins sustainable development by improved efficiency in water use through optimised storage, distribution, use, diversion, loss reduction, treatment and recycling.	
Wet inlet systems	A system where the inflow pipework drops below the level of the tank inlet for some of its course allowing rainwater to remain and stagnate in this section of pipework in between periods of rainfall.	 http://www.rainharvesting.com.au/wet_systems.asp
work of roof plumbing	Work carried out in connection with the installation, alteration, renewal, repair and maintenance of roof coverings (other than non-metallic tiles or slates, or malthoid, bituminous or similar membrane sheeting) and roof water systems including gutters, flashings, valleys, ridging, weathering, rainwater piping and downpipes designed to collect or convey water discharged from roofs.	
work of stormwater drainage	The construction, alteration, extension, disconnection, removal, maintenance, repair, renewal or cleansing of any stormwater drain, communicating or intended to communicate directly or indirectly, with any stormwater channel of an authority.	
work of water plumbing	Work carried out in connection with the supply or conveyance of water and includes the installation, alteration, extension, disconnection, removal, renewal, repair and maintenance of pipes, tanks, fixtures, appliances and fittings designed to convey, store protect, treat, mix, measure, modify or regulate the flow of water, including hot water.	
work of water supply	The construction, alteration, extension, disconnection, removal, maintenance, repair, renewal or clearing of any pipes or fittings of any water service connecting or intended to connect, directly or indirectly with any water main of an authority.	