

Glossary of Terms used in the Stormwater Industry

Term	Code	Definition
d/s	Hyd	<p>Abbreviation meaning downstream. Used to refer to any location or activity that exists within, or moves towards, the lower part of a channel or watercourse relative to a reference point within the channel or watercourse.</p> <p>Usually used in reference to drainage lines, channels and watercourses. Down-slope is used when referring to overland flow paths or other areas primarily subjected to sheet flow.</p>
Daily rain gauge	Hyd	An instrument for measuring rainfall over a 24-hour period.
Dam	Gen	A barrier designed to obstruct the flow of water, or the body of water confined by such a barrier.
	Eng	<p>A barrier constructed for storage, flood control and diversion purposes. A dam may be constructed across a natural waterway or on the periphery of a reservoir.</p> <p>When water is stored behind the dam is for irrigation or other water supply purposes, the whole complex becomes a RESERVOIR.</p>
Dam embankment	Eng	The wall or structural fill that impounds water as part of a dam.
Dam failure	Eng	The physical collapse of all or part of the dam or the uncontrolled release of any of its contents.
Darcy-Weisbach equation	Hyd	An equation used to define friction loss.
Darcy-Weisbach friction factor	Hyd	A dimensionless parameter characterising the friction loss in a flow.
Deadwater zone	Wwy	The part of a water body that does not effectively contribute to the flow path of liquid passing through the water body. Such zones usually have a retention time much greater than the effective hydraulic residence time of the wetland.
Debris	Sol	Loose and unconsolidated coarse material arising from the disintegration of rocks, soil, vegetation or other material transported and deposited by erosion.
	Wwy	Large boulders, rock fragments, gravel-sized to clay-sized material and vegetative material displaced by stream flows, typically during flood events.
Debris deflector wall	Eng	Vertical sloping wall placed on the inlet headwall of a culvert to minimise the risk of debris blocking of the culvert's inlet.
Declining loss	Hyd	An assumed stormwater loss (usually measured in mm/hr) that occurs after all initial losses have occurred, and which declines as a function of time.
Decomposition	Eco	The process of breaking down organic matter by aquatic invertebrates.

Defined Flood Event (DFE)	Sto	The flood event adopted by a local government for the management of development in a particular locality. Flooding during the Defined Flood Event (DFE) generally does not represent the full extent of flood-prone land.
Deflation	Sol	The process by which the wind removes fine particles from soil.
Deflocculation	Sol	The process by which masses of colloidal, or very fine clay particles or 'flocs', separate in water into their constituent particles which go into suspension.
Degradation	Gen	The process of decline in the quality of natural resources, usually caused by human activities.
	Geo	The general lowering of the surface of the land by erosive processes.
	Wwy	The lowering of a channel bed in elevation as a result of erosion processes.
Degree of meandering	Wwy	The measurement of the ratio of the total length of a channel reach to the straight length of the channel reach. The meandering is considered minor for ratios of 1.0 to 1.2, appreciable for ratios 1.2 to 1.5, and severe for ratios greater than 1.5.
Dendritic form	Wwy	A waterway with branching pattern similar to a shrub or tree. Typically occurs when the rock and weathered mantle (surface area of the drainage catchment) offer uniform resistance to erosion.
Dendritic network	Eng	A pipe network with tree-like branches and no closed loops.
Dendritic pattern	Hyd	A drainage catchment where the main drainage lines (in plan form) has a branch-like pattern similar to a shrub or tree.
Denitrification	Sci	The process of microbial conversion (reduction) of nitrate or nitrite to nitrogen gas, in the absence of oxygen.
Depauperate	Eco	To reduce in quality, vigour or capacity.
Deposit	Gen	1. To put, lay down, drop, leave, place, throw or precipitate matter.
	Gen	2. Matter that has temporarily or permanently come to rest on a surface after previously being in motion, e.g. a deposit of sediment.
Deposition	Gen	The act of depositing.
	Wwy	Any loose material accumulated as a result of a reduction in the velocity of the transporting agent.
Design capacity	Hyd	The maximum storage volume or discharge a hydraulic structure is designed to hold or carry.
Design discharge	Sto	The nominated discharge (flow rate) used in the design of a hydraulic structure, or a component of the structure. The design of a hydraulic structure may involve the use of more than one design discharge, for e.g. one discharge may be used for the design of the structure's maximum hydraulic capacity, and another for the design of a specific feature such as erosion control or fish passage.

Design flood	Hyd	<p>A probabilistic or statistical estimate, generally being based on some form of probability analysis of flood or rainfall data. An annual recurrence interval or exceedance probability is attributed to the estimate.</p> <p>The use of a design rainfall in the estimation of a flood does not imply that if such rainfall occurred at a given time, the estimated flood elevations would result.</p>
	Sto	The maximum flood for which a hydraulic structure is designed to safely operate with appropriate freeboard.
Design flood hydrograph	Sto	The discharge hydrograph used in the design of a hydraulic structure.
Design flow	—	<p>The nominated discharge (flow rate) used in the design of a hydraulic structure, or a component of the structure.</p> <p>The design of a hydraulic structure may involve the use of more than one design discharge, for e.g. one discharge may be used for the design of the structure's maximum hydraulic capacity, and another for the design of a specific feature such as erosion control or fish passage.</p>
Design hydrograph	Sto	The discharge hydrograph used in the design of a hydraulic structure.
Design life	Eng	The maximum period of time for which a structure is designed to perform its intended function.
Design peak discharge	Hyd	That discharge (flow rate) used in the design of a structure's hydraulic capacity.
Design rainfall intensity	Hyd	That rainfall intensity used in the design of a particular component or feature of a hydraulic structure.
Design return period	Eng	The return period selected in order to design a particular component or feature of a structure in relation to its desired design life and performance.
Design standard	Sto	Design criteria or specifications that a design must meet to comply with regulations or policy.
Design storm	Hyd	A synthetic rainfall profile used for design or analysis of a hydraulic structure or system.
Design storm duration	Hyd	The duration of rainfall for a specific design storm.
Design velocity	Hyd	The flow velocity or velocities used to design a particular component or feature of a hydraulic structure.
De-silt	Esc	To remove settled or collected sediment.
De-snagging	Wwy	The process of removing fallen trees, branches and other large woody debris from a watercourse.
Desorption	Gen	The process of releasing substances back into a solution after they have previously been adsorbed onto a surface, e.g. the release of ions from sediments under adverse conditions (eg. low pH anaerobic).

Detection limit	Gen	The smallest concentration or amount of a substance that can be reported as present with a specified degree of certainty by a definite, complete analytical procedure.
Detention	Sto	The process of temporarily holding and/or controlled release of stormwater through the use of a hydraulic storage system.
Detention basin	Sto	A basin designed to temporarily hold storm or flood waters, and release such waters in a controlled manner to attenuate outflows. No water is retained within the basin between storm or flood events.
Detention practices	Sto	Any stormwater detention management system—basin, parking lot, depressed grassy area, rooftop storage, buried or aboveground tank—used to temporarily detain storm or flood waters for the purposes of delaying or attenuating outflows from a site or catchment.
Detention structure	Sto	Any stormwater structure—basin, parking lot, depressed grassy area, rooftop storage, buried or aboveground tank—used to temporarily hold storm or flood waters for the purposes of delaying or attenuating outflows from a site or catchment.
Detention system	Sto	Any stormwater detention management system—basin, parking lot, depressed grassy area, rooftop storage, buried or aboveground tank—used to temporarily detain storm or flood waters for the purposes of delaying or attenuating outflows from a site or catchment.
Detention tank	Sto	A tank used to temporarily hold stormwater for the purposes of delaying or attenuating outflows.
Detention time	Sto	The amount of time required to displace either the full or normal operating volume of a tank, basin or water body.
Detritivore	Eco	Any organism that feeds on dead and decaying organic matter (detritus).
Detritus	Gen	Particles of rock or other material worn or broken away from a mass, usually by the action of water or glacial ice.
	Wwy	Unconsolidated sediments composed of both inorganic and dead or decaying organic material.
Development category	Hyd	The category of land use within a catchment that defines its fraction impervious.
Dewatering	Eng	The permanent or temporary removal of water from a given location.
De-weeding	—	See Weeding.
Diatoms	Eco	A diverse group of single-celled microscopic algae found in virtually all waters.
Diffusion	Sto	The process of mixing water constituents throughout a water body by means of eddy and molecular diffusion.
Direct runoff	Hyd	Total rainfall minus losses. Also known as stormwater runoff.

Dirty water	Gen	Water, whether fresh, brackish or saline, that contains undesirable contaminants.
	Esc	Surface runoff that has been contaminated as a result of moving through a given property or by the actions of a given construction or building activity, whether or not the water contained some contaminants prior to entering the site.
	Min	Surface runoff that has picked up any solid or dissolved pollutants through contact with disturbed or contaminated surfaces.
Discharge	Hyd	The instantaneous volumetric rate of flow at a specific location in a flow line or hydrologic structure. Also known as FLOW RATE.
Discharge area	Hyd	An area of land where groundwater reaches the surface and flows or seeps out.
Discharge coefficient	Hyd	See COEFFICIENT OF DISCHARGE or DISCHARGE COEFFICIENT OF RUNOFF.
Discharge coefficient of runoff	Hyd	A dimensionless calibration coefficient used in the Rational Method for the calculation of the peak rate of storm runoff for a given design ARI. The coefficient is not directly related to the volumetric runoff coefficient. Also known as the DISCHARGE COEFFICIENT.
Discharge hydrograph	Hyd	The tabular or graphical relationship between flow rate (discharge) and time for a given period of time and location within a drainage catchment. The highest point of the flood hydrograph represents the peak discharge.
Dish drain	Eng	A shallow paved drain across a road.
Disinfection	Gen	The process of destroying disease germs.
	Sto	The process of destroying pathogens e.g. bacteria.
Dislocation	Sto	Movement of organic matter and algae downstream during high flows.
Dispersible soil	Sol	A soil that is structurally unstable in water, breaking down into its constituent particles (sand, silt and clay) and consequently allowing the dispersive clay fraction to disperse and cloud the water. The dispersion is caused by the high, negative, electro-magnetic charge on the surface of clay particles typically less than 0.005mm in diameter.
Dispersion percentage	Sol	A measure of soil dispersibility representing the proportion of clay plus fine silt (< 0.005mm approx) in a soil which is dispersible, expressed as a percentage. It is determined in the laboratory by comparing the amount of fine material, in a soil sample, dispersed by a 10-minute shaking in water, to the amount dispersed by a 120-minute shaking in water containing dispersant. Highly dispersible clays have a high dispersion percentage
Dispersive	Sol	Relating to soil material that readily disperses in water.

Dissipater	Eng	A structure used to absorb excess kinetic energy in flowing water. Energy dissipaters are typically incorporated into the outlets of hydraulics structures to reduce outlet flow velocities and downstream erosion. (Dissipator in USA) Also known as an ENERGY DISSIPATER
Dissolved air flotation	Res	A treatment process during which fine air bubbles become attached to suspended particles in the water so that the particles will float to the surface.
Dissolved constituent	Sto	Any constituent in a water sample that will pass through a 0.45: m membrane filter.
Dissolved fraction	Sto	That part of a water sample passing through a 0.45: m pore size filter paper. It typically includes pure dissolved and the colloidal material fraction.
Dissolved oxygen	Wat	1. Free oxygen in water available to aquatic animals and chemical reaction.
	Wat	2. The level of free oxygen in water usually reported in units of mg/L.
Distributed approach	Sto	Placement of stormwater treatment devices throughout a catchment or sub-catchment.
Ditch check	Sto	A structural barrier, wall, weir, or dam constructed across a drainage channel to control invert erosion or to prevent head-cut or gully erosion migrating up a channel past the ditch check. Effectively acting as an open channel drop structure. The term CHECK DAM is the term more commonly used within the Erosion and Sediment Control industry.
Diurnal	Gen	Relating to a daily occurrence.
Diurnal cycling	Gen	Having a period of variation of one day.
Diversion bank	Esc	An earth bank constructed across a slope designed to intercept and divert water. The term DIVERSION DRAIN is more commonly used within the stormwater industry.
Diversion block	Sto	A small block constructed for the purpose of diverting water from the table drain to a culvert or side drain.
Diversion channel	Esc	A formally designed temporary or permanent drainage channel, possibly incorporating a diversion bank on the down-slope side of the channel.
	Sto	A constructed drainage channel or waterway used to divert water from its natural course.
Diversion dam	Eng	A dam or weir built across a river to divert water into a canal. It raises the upstream water level of the river but does not provide any significant storage volume.

Diversion drain	Sto	A drain that transports stormwater runoff from the shoulders of a road or table drain to a disposal area. Also known as a SPUR DRAIN, TURNOUT DRAIN or MITRE DRAIN.
Diversion flood	Hyd	A flood that is designed to be diverted around or past a structure.
Diversion structure	Wwy	A device used to re-route or bypass flood flows in order to reduce the peak flows at a given location.
DO	Wat	Abbreviation used for dissolved oxygen, or the concentration of dissolved oxygen.
Domestic dam	Eng	A dam to store water for domestic uses. Typically has a maximum capacity of 2ML.
Down-cutting	Wwy	The lowering of the bed level through processes of erosion.
Down-slope	Hyd	Any location or activity that exists within, or moves towards, the lower part of a slope relative to a reference point on the slope. Ordinarily used to refer to overland flow paths or other areas primarily subjected to sheet flow.
Downstream	Hyd	Any location or activity that exists within, or moves towards, the lower part of a channel or watercourse relative to a reference point within the channel or watercourse. Ordinarily used to refer to drainage lines, channels and watercourses.
Downwardly inclined screens	Sto	A stormwater treatment system primary comprising of downwardly inclined trash racks. Typically incorporates a pollutant holding shelf at its base. Stormwater normally falls vertically through the trash rack bars causing gross pollutants to be trapped on the rack. Gravity and the force of the flowing water cause the pollutants to slide down the rack to the holding shelf at the base of the rack.
Drain	Sto	A constructed channel or conduit used for drainage purposes.
Drainage	Sto	Natural or artificial means of intercepting and removing surface or subsurface water.
Drainage authority	Sto	Organisation with statutory rights and duties relating to drainage.
Drainage basin	—	The area of land from which stormwater runoff contributes to stream flow at the most downstream point of the catchment. Also known as a CATCHMENT, DRAINAGE CATCHMENT and WATERSHED (USA).
Drainage catchment	Hyd	The area of land from which stormwater runoff contributes to stream flow at the most downstream point of the catchment. Also known as a CATCHMENT, DRAINAGE BASIN and WATERSHED (USA).
Drainage criteria	Sto	Specific design criteria, specifications or design standard used by a designer to ensure the drainage system complies with a given policy or standard.

Drainage easement	Sto	A corridor of land where drainage is its primary purpose.
Drainage entrance treatments	Sto	Any measure that involves either preventing pollutants entering a stormwater drainage system, or captures them at, or just inside, the drain's inlet.
Drainage network	Sto	The system of channels and pipes and overland flow pathways that drain a catchment area. Networks typically comprise a main drain, branch drains, and collector drains.
Drainage system	Sto	The system of gully inlets, pipes, overland flow paths, open channels, culverts and detention basins used to convey runoff to its receiving waters within a drainage catchment or catchments.
Drainline	Sto	The pathway in which a drainage system is contained.
Drawdown	Min	A lowering of the watertable of an unconfined aquifer or the potentiometric surface of a confined aquifer caused by pumping of groundwater from wells.
Drinking water	Res	Water of a quality suitable for drinking.
Drizzle	Met	Fairly uniform precipitation composed exclusively of fine droplets of water very close to one another. Drizzle droplets are so small that their individual impact on a water surface is imperceptible. Drizzle may be characterised as intermittent or continuous and is also classified by intensity. Slight drizzle has a rainfall up to 0.2mm per hour. Generally does not reduce visibility less than 1000m. Moderate drizzle has a rainfall greater than 0.2mm per hour, but not greater than 0.4mm per hour. Generally reduces visibility to between 400 and 1000m. Thick drizzle has a rainfall greater than 0.4mm per hour. Generally reduces visibility to less than 400m.
Drop	Hyd	A rapid lowering of bed elevation.
Drop chamber	Sto	A junction pit in a pipe drainage system in which there is a significant variation (lowering) between the elevations of inlet and outlet pipes. Typically these chambers are used to dissipate large quantities of energy from the water when descending steep gradients. Also known as a DROP STRUCTURE.
Drop inlet	Hyd	An inlet to a hydraulic structure comprising a sudden or rapid lowering of the bed elevation.
Drop inlet	Sto	An inlet to a sub-surface drainage system where the water drops vertically into the connecting chamber. Also known as a FIELD INLET.
Drop inlet culvert	Eng	A culvert that incorporates a drop at its entrance.
Drop pipe	Esc	A temporary drainage conduit extending down the face of a newly formed or unstable slope. Typically used as a temporary drainage system to control soil erosion while the bank is being stabilised or while an alternative (final) drainage system is being constructed.

		Also known as a SLOPE DRAIN.
Drop pit	Sto	<p>A junction pit in a pipe drainage system in which there is a significant variation (lowering) between the elevations of inlet and outlet pipes. Typically these chambers are used to dissipate large quantities of energy from the water when descending steep gradients.</p> <p>Also known as a DROP STRUCTURE.</p>
Drop spillway	Eng	A spillway with a vertical drop for its control section. The term includes overshot or cantilevered spillways used on small farm dams. In cases where the crest of the drop structure forms a direct continuum with the adjacent embankments, as in a weir, the spillway is known as a straight drop spillway.
Drop structure	Hyd	An open channel hydraulic structure specifically designed to allow water to fall rapidly. The structure usually incorporates an energy dissipater, however, energy dissipation may also occur within the immediate downstream channel.
	Sto	<p>A junction pit in a pipe drainage system in which there is a significant variation (lowering) between the elevations of inlet and outlet pipes. Typically these chambers are used to dissipate large quantities of energy from the water when descending steep gradients.</p> <p>Also known as a DROP PIT.</p>
Drowned weir	Hyd	<p>A type of weir flow where the nappe is discharging underwater, and the upstream water level is affected by the downstream water level.</p> <p>Also known as a SUBMERGED WEIR.</p>
Dry detention basin	—	See DETENTION BASIN.
Dry detention practices	—	See DETENTION PRACTICES.
Dryland salinity	Sol	The process in which salts in the ground are brought close to the surface by the rising water table. The accumulation of salt degrades the upper soil profile and impacts on agriculture, infrastructure and the environment.
Dry weather flow	Wwy	<p>The stream flow rate that cannot be directly attributed to storm events. It includes any regular, long-term inflows such as environmental flows from regulated lakes or reservoirs. The flow rate is usually not constant, but varies with groundwater levels and long-term weather conditions.</p> <p>Also known as the BASE FLOW.</p>
Dry wells	Sto	Small infiltration trenches used to drain small areas. Typically used in well-drained soils. The infiltration (seepage) reservoir may contain an observation well for routine inspection.
Dual reticulation	Res	A domestic or industrial water distribution system consisting of two separate and distinct piping networks, one of which is designed to convey drinking water, the other water of lesser quality for non-drinking purposes.

Dust	Sol	Any matter comprising a wide range of fine materials, including soil materials, which can be transported over long distances by wind. As wind velocity or air turbulence decreases, the larger and heavier particles settle, whereas many of the smallest particles are in almost permanent suspension. The suspension fraction in wind erosion is generally accepted as being less than 100µm in size.
Dyke	Gen	An embankment for retaining the waters of the sea or a river.
	Eng	An embankment to confine or control water, often built along the bank of a river to prevent overflow of lowlands. Also known as a LEVEE.
	Lfm	A temporary berm or ridge of compacted earth that channels water around or away from a specific area.
Dynamic equilibrium	Gen	A condition where the long-term removal of a given substance from a control volume is balanced by the long-term replacement of that substance.
	Eco	The state at which the competing rates of uptake and elimination of a chemical within an organism or tissue are equal. An apparent steady state is reached when the concentration of a chemical in tissue remains essentially constant during a continuous exposure. Also known as STEADY STATE.
	Wwy	The state at which the long-term erosion rates at a given location along a waterway are balanced by the long-term accretion rates, thus resulting in insignificant long-term variations in channel or floodplain sediments volumes or levels.
Dynamics	Sci	The study of motion inclusive of the influence of mass and force.
Dynamic wave model	Hyd	A flood routing model based upon the continuity equation in one-dimensional form and the momentum equation. Unlike the kinematic wave model, it considers all the acceleration and pressure terms in the momentum equation.