

Glossary

Not all the terms included below are used in this guide. However, most of the terms included below are commonly used by the various professional disciplines associated with erosion control and stormwater quality who might be using this guide.

AASHTO:	American Association of State Highway and Transportation Officials.
Absorption:	The assimilation or taking up of water or other solutions by soil or other material.
Abstraction:	That portion of rainfall which does not become runoff. It includes interception, infiltration, and storage in depressions.
Adsorption:	The adhesion in an extremely thin layer of molecules (such as gases, solutions, or liquids) to the surface of solid bodies or liquids with which they are in contact.
ADT:	Average Daily Traffic.
Aesthetic:	Pleasing to look at. Emphasis on Beauty.
Allowable Headwater Depth:	The depth or elevation of the flow impoundment for a drainage facility above which damage, some other unfavorable result, or a significant flood hazard could occur.
Anti-seep collar:	A watertight curtain constructed around a pipe or other conduit and placed through a dam, dike, or roadway embankment for the purpose of reducing seepage losses and piping failures.
Anti-vortex device:	A device, usually a vertical or horizontal plate, carefully designed and placed at the entrance of a pipe to prevent air from entering the structure when the pipe is flowing full.
Apron:	A floor or lining to protect a surface from erosion, for example, the pavement below chutes, spillways, culverts, or at the toes of dams.
Aquatic life:	Wildlife living or growing on, in, or adjacent to water.
Aquifer:	A porous, water-bearing geologic formation. Generally restricted to materials capable of yielding an appreciable supply of water.
Backwater:	The increase in water surface elevation induced upstream from such things as a bridge, culvert, dike, dam, another stream at a higher stage, or other similar structures or conditions that obstruct or constrict a channel relative to the elevation occurring under natural channel and floodplain conditions.

Baffles:	Vanes, guides, grids, grating, or similar devices placed in a conduit to deflect or regulate flow and effect a more uniform distribution of velocities.
Bank:	The side slopes or margins of a channel between which the stream is normally confined.
Barrel:	The usually mild sloping closed conduit used to convey water under or through a dam; part of a principal spillway.
Base flow:	In the U.S. Geological Survey's annual reports on surface-water supply, the discharge above which peak discharge data are published.
Bed:	The bottom of a channel.
Bed load:	Sediment that is transported in a stream by rolling, sliding, or skipping (saltating) along the bed or very close to it; considered to be within the bed layer.
Bedrock:	The more or less solid rock in place either on or beneath the surface of the earth. It may be soft, medium, or hard and have a smooth or irregular surface.
Benthic region:	The bottom of a body of water which supports the benthos.
Benthos:	The plant and animal life whose habitat is the bottom of a sea, lake, or river.
Best Management Practices (BMPs):	Schedule of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States.
BOD:	Biological Oxygen Demand.
CDOT:	Colorado Department of Transportation.
CDPHE:	Colorado Department of Public Health and Environment.
CDPS:	Colorado Discharge Permit System.
CFR:	Code of Federal Regulations. Codifies and publishes, at least annually, Federal regulations currently in force.
Channel:	A natural stream that conveys water; a ditch or channel excavated for the flow of water.
Channel, open:	A channel having a water surface exposed at all points to atmospheric pressure.
Channel slope:	Fall per unit length along the channel centerline.

Compaction:	With respect to construction work with soils, engineering compaction is any process by which the soil grains are compressed to decrease void space and bring them into closer contact with one another, thereby increasing the weight of solid material per unit of volume, increasing the shear and bearing strength, and reducing permeability.
Conduit:	Any channel intended for the conveyance of water, whether open or closed.
Contour:	An imaginary line on the surface of the earth connecting points of the same elevation, or a line drawn on a map connecting points of the same elevation.
CRS:	Colorado Revised Statutes.
Crushed stone:	Aggregate consisting of angular particles produced by mechanically crushing rock.
Cut:	Portion of land surface or area from which earth has been removed or will be removed by excavation; the depth below original ground surface to excavated surface.
Cut-and-fill:	Process of earth moving by excavating part of an area and using the excavated material for adjacent embankments or fill areas.
Cutoff trench:	A long, narrow excavation constructed along the center line of a dam, dike, levee, or embankment and filled with relatively impervious material intended to reduce seepage of water through porous strata.
Debris:	Broken remains of plants, objects, and rocks that form trash or remains.
Deposition:	The accumulation of material dropped because of a reduced carrying capacity of the transporting agent, water, or wind.
Design highwater:	The elevation of the water surface as determined by the flow conditions of the design floods.
Design life:	The period of time for which a facility is expected to perform its intended function.
Design storm:	A selected rainfall pattern of specified amount, intensity, duration, and frequency that is used as a basis for determining the design discharge.
Detention time:	The theoretical time required to displace the contents of a tank or pond at a given rate of discharge (volume divided by rate of discharge).

Dike:	An embankment to confine or control water, especially one built along the banks of a river to prevent overflow of lowlands.
Discharge:	The flow of a stream, canal, or aquifer. (Hydraulics) Rate of flow, especially fluid flow; a volume of fluid passing a point per unit time commonly expressed as cubic meters per second, cubic feet per second, gallons per minute, or millions of gallons per day.
Disturbed area:	An area in which the natural vegetative soil cover has been removed or altered, and therefore, is more susceptible to increased erosion.
Drain:	A buried pipe or other conduit (closed drain). A ditch (open drain) for carrying off surplus surface water or groundwater.
Drainage:	The removal of excess surface water or groundwater from land by means of surface or subsurface drains.
Drainage basin:	A geographical area or region that is so sloped and contoured that surface runoff from streams and other natural watercourses is carried away by a single drainage system by gravity to a common outlet or outlets. Also referred to as a watershed or drainage area.
Drop structure:	A structure for dropping water to a lower level and dissipating surplus energy; a fall. The drop may be vertical or inclined.
Embankment:	A man-made deposit of soil, rock, or other material used to form an impoundment or surface for construction.
Energy dissipator:	A device used to reduce the energy of flowing water.
EPA:	Environmental Protection Agency.
Erosion:	Process whereby soil materials are detached and transported by water, wind, ice, or gravity.
Evapotranspiration:	The combined loss of water from a given area and during a specific period of time, by evaporation from the soil surface and by transpiration from plants.
FEMA:	Federal Emergency Management Agency.
FHWA:	Federal Highway Administration.
Filter fabric:	A woven, water permeable material generally made of synthetic products such as polypropylene and used in stormwater management and erosion and sediment control applications to trap sediment or prevent the clogging of aggregates by fine soil particles.
Flood:	An overflow or inundation that comes from a river or other body of water. Any relatively high stream flow overtopping the natural or artificial banks in any reach of a stream.

Flood control:	Methods or facilities for reducing flood flows.
Flood frequency:	The average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.
Floodplain:	The lowland that borders a stream and is subject to flooding when the stream overflows its banks.
Freeboard:	A vertical distance between the elevation of the design highwater and the top of a dam, diversion ridge, or highway structure.
Frequency of storm (design storm frequency):	The anticipated period in years that will elapse, based on average probability of storms in the design region, before a storm of a given intensity and/or total volume will recur.
Froude number (F):	A calculated number of classifying water flow as critical ($F=1$), supercritical ($F>1$), or subcritical ($F<1$). Represents the effect of gravity on flowing water; the ratio of inertial forces to gravitational forces.
Grade:	The slope of a road, channel, or natural ground.
Graded stream:	A stream in which, over a period of years, the slope is delicately adjusted to provide, with available discharge and with prevailing channel characteristics, just the velocity required for transportation of the sediment load supplied from the drainage basin.
Gradient:	Change of elevation, velocity, pressure, or other characteristics per unit length; slope.
Grading:	Any stripping, cutting, filling, stockpiling, or any combination thereof, including the land in its cut-and-filled condition.
Groundwater table:	The free surface of the groundwater.
Head loss:	Energy loss due to friction, eddies, changes in velocity, and/or the direction of flow.
Head (Hydraulics):	The height of water above any plane or reference.
Headwater:	The source of a stream. The water upstream from a structure or point on a stream.
Headwater depth:	Depth of water above the inlet flow line at the entrance of a culvert or similar structure.
Herbicide:	Chemical formulation used to control weeds or brush.
Hydrograph:	A graph showing for a given point on a stream or for a given point in any drainage system the discharge, stage (depth), velocity, or other property of water with respect to time.

Hydrologic cycle:	The circuit of water movement from the atmosphere to the earth and back to the atmosphere through various stages or processes such as precipitation, interception, runoff, infiltration, percolation, storage, evaporation, and transpiration.
Hydroplane:	To skid on a wet surface such as pavement because a film of water on the surface causes the tires to lose contact with it.
Hydroseeder:	A machine designed to apply seed, fertilizer, lime, and short fiber wood or paper mulch to the soil surface.
Impervious:	Not allowing infiltration.
Impoundment:	Generally, an artificial collection or storage of water, as a reservoir, pit, dugout, sump, etc.
Infiltration rate:	A soil characteristic determining or describing the maximum rate at which water can enter the soil under specified conditions including the presence of an excess of water.
Intermittent stream:	A stream or portion of a stream that flows only in direct response to precipitation.
Invert:	The lowest point on the inside of a drain, conduit, or channel.
Land use:	A term which relates to both the physical characteristics of the land surface and the human activities associated with the land surface.
Manning's equation (Hydraulics):	An equation used to predict the velocity of water flow in an open channel or pipeline.
Mean velocity:	The average velocity of a stream flowing in a channel or conduit at a given cross-section or in a given reach. It is equal to the discharge divided by the cross-sectional area of the reach.
Mean depth (Hydraulics):	Average depth; cross-sectional area of a stem or channel divided by its surface or top width.
Mitigate:	The act of lessening, offsetting, or compensating an impact on surface waters.
Nonpoint source pollution:	Pollution that enters a water body from diffuse origins on the watershed and does not result from discernible, confined, or discrete conveyances.
Normal depth:	Depth of flow in an open conduit during uniform flow for the given conditions.
NPDES:	National Pollutant Discharge Elimination System.
Nutrient(s):	A substance necessary for the growth and reproduction of organisms. In water, those substances that promote growth of algae and bacteria; mainly nitrates and phosphates.

Outfall:	The point, location, or structure where wastewater or drainage discharges from a drain to a receiving body of water.
Outlet:	The point at which water discharges from such things as a stream, river, lake, tidal basin, pipe, channel, or drainage area.
PCB:	Polychlorinated Biphenyls.
Peak Discharge:	The maximum instantaneous flow from a given storm condition at a specific location.
Percolation:	The movement of water through soil.
Percolation rate:	The rate, usually expressed as a velocity, at which water moves through saturated granular material.
Perennial stream:	A stream that maintains water in its channel throughout the year.
Pervious:	Allowing movement of water through some material.
Pesticides:	Chemical compounds used for the control of undesirable plants, animals, or insects. The term includes insecticides, herbicides, algacides, rodenticides, nematocides, fungicides, and growth regulators.
pH:	A number denoting the common logarithm of the reciprocal of the hydrogen ion concentration. It is a numerical measure of acidity of hydrogen ion activity and of alkalinity. A pH of 7 denotes neutrality, higher values indicate alkalinity, and lower values indicate acidity.
Piping:	Loss of soil through subsurface flow channels or “pipes” developed by seepage water.
Plunge pool:	A device used to dissipate the energy of flowing water that may be constructed or made by the action of flowing.
Pollutant:	Dredged spoil, dirt, slurry, solid waste, incinerator residue, sewage, sewage sludge, garbage, trash, chemical waste, biological nutrient, biological material, radioactive material, heat, wrecked or discarded equipment, rock, sand, or any industrial, municipal, or agricultural waste. [25-8-103(15), CRS].
Pollution:	Man-made, man-induced, or natural alteration of the physical, chemical, biological, and radiological integrity of water. [25-8-103(16), CRS]. The presence in a body of water (or soil or air) of substances of such character and in such qualities that the natural quality of the environment is impaired or rendered harmful to health and life or offensive to the senses.
Porosity:	The ratio of void volume to total volume in a material.
Porous pavement:	A pavement through which water can flow at significant rates.

Rainfall intensity:	The rate at which rain is falling at any given instant, usually expressed in millimeters per hour or inches per hour.
Rational method:	A means of computing storm drainage flow rates (Q) by use of the formula $Q = CIA$, where C is a coefficient describing the physical drainage area, I is the rainfall intensity, and A is the drainage area.
Receiving water:	The body of water into which runoff or effluent is discharged.
Runoff:	That portion of precipitation that flows from a drainage area on the land surface, in open channels, or in a stormwater conveyance system.
Runoff coefficient:	Fraction of total rainfall that will appear at a conveyance as runoff. [40 CFR 122.26(b)(11)].
Saturation point:	In soils, the point at which a soil or an aquifer will no longer absorb any amount of water without losing an equal amount.
Scour:	The clearing and digging action of flowing air or water, especially the downward erosion caused by stream water in sweeping away mud and silt from the outside bank of a curved channel or during a flood.
Sediment:	Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.
Sheet flow:	Water, usually storm runoff, flowing in a thin layer over the ground surface.
Slope:	Degree of deviation of a surface from the horizontal; measured as a numerical ratio, percent, or in degrees.
Soil:	The unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.
Sod:	A section of grass-covered soil held together by matted roots.
Stabilization:	Providing adequate measures, vegetative and/or structural, that will prevent erosion from occurring.
State waters:	Any and all surface and subsurface waters which are contained in or flow in or through this state, but does not include waters in sewage systems, waters in treatment works of disposal systems, waters in potable water distribution systems, and all water withdrawn for use until use and treatment have been completed. [25-8-103(19), CRS].

Storm drain:	A drain that carries stormwater and surface water, street wash, and other wash waters or drainage, but excludes sewage and industrial wastes. Also called a storm sewer.
Stormwater:	Stormwater runoff, snow melt runoff, and surface runoff and drainage. [40CFR 122.26(b)(13)].
Stormwater runoff:	See runoff.
Structural:	Relating to something constructed or built by a man.
Surface water:	All water the surface of which is exposed to the atmosphere.
Suspended solids:	Solids either floating or suspended in water, sewage, or other liquid wastes.
SWMP:	Stormwater Management Plan.
Tailwater depth:	The depth of flow immediately downstream from a discharge structure.
Toe (of slope):	Where the slope stops or levels out. Bottom of the slope.
Topography:	General term that includes characteristics of the ground surface such as plains, hills, mountains, degree of relief, steepness of slopes, and other physiographic features.
Toxicity:	The characteristic of being poisonous or harmful to plant or animal life; the relative degree or severity of this characteristic.
Transpiration:	The process by which water vapor escapes from living plants and enters the atmosphere.
Trash rack:	Grill, grate, or other device at the intake of a channel, pipe, drain, or spillway for the purpose of preventing oversize debris from entering the structure.
Turbidity:	Cloudiness of a liquid, caused by suspended solids; a measure of the suspended solids in a liquid.
Unified soil classification system (engineering):	A classification system based on the identification of soils according to their particle size, gradation, plasticity index, and liquid limit.
Uniform flow:	A state of steady flow when the mean velocity and cross-sectional area remain constant in all sections of a reach.
Urban runoff:	Surface runoff from an urban drainage area that reaches a stream or other body of water or sewer.
Velocity, permissible:	The highest velocity at which water may be carried safely in a canal or other conduit without channel bed scour or bank erosion.
VOC:	Volatile Organic Compounds.

Water table:	The upper surface of the free groundwater in a zone of saturation.
Water quality:	A term used to describe the chemical, physical, and biological characteristics of water, usually in respect to its suitability for a particular purpose.
Water resource:	The supply of groundwater and surface water in a given area.
Water right:	A right granted to a specified user to use waters of the state for a beneficial purpose.
Watercourse:	A definite channel with bed and banks within which concentrated water flows, either continuously or intermittently.
Weir:	Device for measuring or regulating the flow of water.
Wetted perimeter:	The length of the line made by the intersection of the plane, or the hydraulic cross-section, with the wetted surface of the channel.
WQCV:	Water Quality Capture Volume.