

GLOSSARY

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AASHTO - American Association of State Highway & Transportation Officials
(Formerly AASHO.)

ACCEPTABLE OUTLET - That point where storm water runoff can be released into a watercourse or drainage way of adequate capacity without causing scour or erosion.

ACID SOIL - A soil giving an acid reaction throughout most or all of the portion occupied by roots. (Precisely, below a pH of 7.0; practically, below a pH of 6.6.)

ALLUVIAL FAN - A sloping, fan shaped mass of sediment deposited by a stream where it emerges from an upland onto a plain.

ALLUVIUM - A general term for all detrital material deposited or in transit by streams, including gravel, sand silt, clay and all variations and mixtures of these. Unless otherwise noted, alluvium is unconsolidated.

ANGLE OF REPOSE - The stable angle between the horizontal and the maximum slope that a soil assumes through natural processes which will not slough.

ANTI-SEEP COLLAR - An impermeable diaphragm usually of sheet metal or concrete constructed at intervals within the zone of saturation along the conduit of a principal spillway to increase the seepage length along the conduit and thereby prevent piping or seepage along the conduit.

ANTI - VORTEX DEVICE - A device designed and placed on the top of a riser or at the entrance of a pipe to prevent the formation of a vortex in the water at the entrance.

APRON - A floor or lining to protect a surface from erosion, for example, the pavement below chutes, spillways, or at the toes of dams.

ASPECT - The direction a slope faces - a physiographic feature of steep slopes which influences plant growth and adaptation.

ATTERBERG LIMITS - Atterberg limits are soil properties measured for soil materials passing the No. 40 sieve.

Liquid Limit (LL) - the liquid limit is the water content corresponding to the arbitrary limit between the liquid & plastic states of consistency of a soil.

Plastic Limit (PL) - The plastic limit is the water content corresponding to an arbitrary limit between the plastic and semisolid states of consistency of a soil.

Plasticity Index (PI) - The plasticity index is the numerical difference between the liquid limit and plastic limit.

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.

BARREL - The usually mild sloping closed conduit used to convey water under or through a dam; part of a principal spillway.

BASE FLOW - The stream discharge from ground water accretion.

BEDLOAD - The sediment that moves by sliding, rolling or bounding on or very near the streambed;
sediment moved mainly by tractive or gravitational forces or both but at velocities less than the surrounding flow.

BERM - A shelf that breaks the continuity of a slope.

BIODEGRADABLE - Capable of being broken down (degraded) by common soil organisms.

BLIND DRAIN - A type of drain consisting of an excavated trench refilled with pervious material, such as coarse sand, gravel or crushed stone, through whose voids water percolates and flows to an outlet. Often referred to as a French drain because of its initial development and widespread use in France.

BRACKISH (WATER) - Slightly to moderately salty water .

BULKHEAD - A wall made from wood, steel, concrete, etc. for protection of shoreline from waves or currents.

CALCIUM SULFATE - Gypsum. A hydrated form used to treat high sodium soils.
 CaSO_4

CHANNEL - A natural stream that conveys water; a ditch or channel excavated for the flow of water.

CHANNEL IMPROVEMENT - The improvement of the flow characteristics of a channel by clearing, excavation, realignment, lining, or other means in order to increase its water carrying capacity.

CHANNEL STABILIZATION - Erosion prevention and stabilization of velocity distribution in a channel using jetties, drops, revetments, structural linings, vegetation and other measures.

CHANNEL STORAGE - Water temporarily stored in channels while enroute to an outlet.

CHECK DAM - A small dam construction in a gully or other small watercourse to decrease the stream flow velocity (by reducing the channel gradient) , minimize channel scour, and promote deposition of sediment.

CHUTE - A high velocity, open channel for conveying water to a lower level without erosion.

CLAY (SOILS) - 1. A mineral soil separate consisting of particles less than 0.002 millimeter in equivalent diameter. 2. A soil texture class. 3. (Engineering) A fine grained soil (more than 50 percent passing the No. 200 sieve) that has a high plasticity index in relation to the liquid limit. (Unified Soil Classification System)

COMPACTION - To unite firmly. With respect to construction work with soils, engineering compaction is any process by which the soil grains are rearranged 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 -1. An imaginary line on the surface of the earth connecting points of the same elevation. 2. A line drawn on a map connecting points of the same elevation.

COOL (SLOPE, EXPOSURE) - A slope facing north or east, or a slope shaded during the hot part of the day.

CORDGRASS - Grasses of genus *Spartina* which are so named because of seed heads which have the appearance of coarse cord. These grasses are important soil binders along saltwater shorelines and marshes.

CORE TRENCH - A trench, filled with relatively impervious material intended to reduce seepage of water through porous strata.

CRADLE (ENGINEERING) - A structure usually of concrete shaped to fit around the bottom and sides of a conduit to support the conduit, increase its strength and in dams, to fill all voids between the underside of the conduit and the soil.

CREST -1. the top of a dam, dike, spillway or weir, frequently restricted to the overflow portion. 2. The summit of a wave or peak of a flood.

CRITICAL AREA OR SITE - Sediment producing, highly erodible or severely eroded areas.

CRITICAL DEPTH (HYDRAULICS) - Depth of flow in a channel of specified dimensions at which specific energy is a minimum for a given discharge.

CROWN (OF SLOPE) - Top of slope; apex.

CRUSHED STONE - Aggregate consisting of angular particles produced by mechanically crushing rock.

CULM - The stem of grasses, sedges and rushes which is jointed and usually hollow in grasses and usually solid in sedges and rushes.

CULTIPACKER SEEDER - A farm tool equipped with a seedbox which drops the seed between cultipacker rollers to place the seed to firm soil where they will be pressed into soil by the second corrugated roller.

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 - A wall or other structure, such as a trench, filled with relatively impervious material intended to reduce seepage of water through porous strata.

CUTTINGS - A small shoot cut from a plant to start a new plant.

CYCLONE (SEEDER) - A hand turned or tractor drawn seeder that broadcasts seed onto the seedbed by a rotary motion that slings the seed outward from the seeder .

DAM - A barrier to confine or raise water for storage or diversion, to create a hydraulic head, to prevent gully erosion, or for retention of soil, sediment or other debris.

DEBRIS - Broken remains of plants, objects and rocks that form trash or remains.

DECIDUOUS - Plants that shed their leaves annually as opposed to evergreen.

DEPOSITION - The accumulation of material dropped because of a slackening movement of the transporting agent, water or wind.

DESICCATION - Drying out as of root systems of plants before they are planted.

DESILTING AREA - An area of grass, shrubs or other vegetation used for inducing deposition of silt and other debris from slowing water, located above a pond, field or other area needing protection from sediment accumulation. (See filter strip.)

DETENTION DAM - A dam constructed for the purpose of temporary storage of stream flow or surface runoff which releases the stored water at controlled rates.

DIKE (ENGINEERING) - An embankment to confine or control water, for example, one built along the banks of a river to prevent overflow or lowlands; a levee.

DISTURBED AREA - An area in which the natural vegetative soil cover has been removed or altered and, therefore, is susceptible to erosion.

DIVERSION - A channel with a supporting ridge on the lower side constructed across the slope to divert water from areas where it is in excess to sites where it can be used or disposed of safely. Diversions differ from terraces in that they are individually designed.

DOLOMITIC (LIMESTONE) - Liming materials that contain more than 6 percent magnesium (mg); high magnesium lime.

DRAIN (NOUN) - 1. A buried pipe or other conduit (subsurface drain). 2. A ditch or channel (open drain) for carrying off surplus surface water or groundwater.

DRAIN (VERB) - 1. To provide channels, such as open ditches or closed drains, so that excess water can be removed by surface flow or internal flow. 2. To lose water (from the soil) by percolation.

DRAINAGE - 1. The removal of excess surface water or ground water from land by means of surface or subsurface drains. 2. Soils characteristics that affect natural drainage.

DRAINAGE AREA (WATERSHED) - All land and water area from which runoff may run to a common (design) point.

DRAUGHTY (SOIL OR SLOPE) - Lacking moisture during part of the growing season during a typical year .

DROP INLET SPILLWAY - An outfall structure in which the water drops through a vertical riser connected to a discharge conduit.

DROP SPILLWAY - An outfall structure in which the water drops over a vertical wall onto an apron at a lower elevation.

DROP STRUCTURE - A structure for dropping water to a lower level and dissipating surplus energy; a fall. The drop may be vertical or inclined.

DRY STORAGE - The 1800 cubic feet of storage in a trap or basin that is dewatered after rain events.

EMERGENCY SPILLWAY - A dam spillway designed and constructed to discharge flow in excess of the principal spillway design discharge.

ENERGY DISSIPATOR - A designed device such as an apron of rip-rap or a concrete structure placed at the end of a water transmitting apparatus such as pipe, paved ditch or paved chute for the purpose of reducing the velocity, energy and turbulence of the discharged water.

ENTRANCE HEAD - The head required to cause flow into a conduit or other structure, including both entrance loss and velocity head.

EROSION - 1. The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep. 2. Detachment and movement of soil or rock fragments by water, wind, ice or gravity. The following terms are used to describe different types of water erosion:

Accelerated erosion - Erosion much more rapid than normal, natural or geological erosion, primarily as a result of the influence of the activities of man or, in some cases, of other animals or natural catastrophes that expose base surfaces, for example, fires.

Gully erosion - The erosion process whereby water accumulates in narrow channels and, over short periods, removes the soil from this narrow area to considerable depths, ranging from 1 or 2 feet to as much as 75 to 100 feet.

Rill erosion - An erosion process in which numerous small channels only several inches deep are formed. See rill.

Sheet erosion - The spattering of small soil particles caused by the impact of raindrops on wet soils. The loosened and spattered particles may or may not subsequently be removed by surface runoff.

EROSIVE VELOCITIES - Velocities of water that are high enough to wear away the land surface. Exposed soil will generally erode faster than stabilized soils. Erosive velocities will vary according to the soil type, slope, structural or vegetative stabilization used to protect the soil.

ESTHETIC (AESTHETIC) - Pleasing in appearance; showing good taste.

EVERGREEN - Plants which have leaves or needles yearlong as opposed to those that lose their leaves during part of the year.

EXCELSIOR BLANKET - An erosion retardant material made from excelsior strands held together with netlike stands of plastic or other material.

EXPOSURE (SLOPE) -

North - Slopes facing in any compass direction clockwise between N45W and S45E.

South - Those slopes which face in any compass direction clockwise between S45E and N45W.

FILTER STRIP - A strip of permanent vegetation above ponds, diversions and other structures to retard flow of runoff water, causing deposition of transported material, thereby reducing sediment flow.

FINES (SOIL) - Generally refers to the silt and clay size particles in soil.

FREEBOARD (HYDRAULICS) - The distance between the maximum water surface elevation anticipated in design and the top of retaining banks or structures. Freeboard is provided to prevent overtopping due to unforeseen conditions.

GABION - A flexible woven-wire basket composed of two to six rectangular cells filled with small stones.

Gabions may be assembled into many types of structures such as revetments, retaining walls, channel liners, drop structures and groins.

GABION MATTRESS - A thin gabion, usually six or nine inches thick, used to line channels for erosion control.

GRADE - 1. The slope of a road, channel or natural ground. 2. The finished surface of a canal bed, roadbed, top of embankment, or bottom of excavation; any surface prepared for the support of construction, like paving or laying a conduit. 3. To finish the surface of a canal bed, roadbed, top of embankment or bottom of excavation.

GRAFTING - A method of propagating plants by joining wood from one plant to another plant to get more desirable growth on the second plant.

GRASSED WATERWAY - A natural or constructed waterway, usually broad and shallow covered with erosion resistant grasses, to convey surface water down the slope.

GRAVEL - 1. Aggregate consisting of mixed sizes of 1/4 inch to 3 inch particles which normally occur in or near old streambeds and have been worn smooth by the action of water. 2. A soil having particle sizes, according to the Unified Soil Classification System, ranging from the No. 4 sieve size angular in shape as produced by mechanical crushing.

GRAVEL FILTER - Washed and graded sand and gravel aggregate placed around a drain or well screen to prevent the movement of fine materials from the aquifer into the drain or well.

GROIN - A shore protection structure built (usually perpendicular to the shoreline) to trap littoral drift or retard erosion of the shoreline.

GROUND COVER - Plants which are low-growing and provide a thick growth which protects the soil as well as providing some beautification of the area occupied.

GULLY - A channel or miniature valley cut by concentrated runoff through which water commonly flows only during and immediately after heavy rains or during the melting of snow. The distinction between gully and rill is one of depth. A gully is sufficiently deep that it would not be obliterated by normal tillage operations, whereas a rill is of lesser depth and would be smoothed by ordinary farm tillage.

HEAD (HYDRAULICS) - 1. The height of water above any plane of reference. 2. The energy, either kinetic or potential, possessed by each unit weight of a liquid expressed as the vertical height through which a unit weight would have to fall to release the average energy possessed. Used in various terms such as pressure head, velocity head, and head loss.

HERBACEOUS PERENNIAL (PLANTS) - A plant whose stems die back to the ground each year.

HERBICIDE - Chemical formulation used to control weeds or brush.

HULLED (SEED) - Hullless seed, such as sericea lespedeza. Seed are usually processed after threshing to take off outer hull to facilitate scarification and quicken germination.

HYDRAULIC GRADE LINE - In a closed conduit a line joining the elevations to which water could stand in risers or vertical pipes connected to the conduit at their lower end and open at their upper end. In open channel flow, the hydraulic grade line is the free water surface.

HYDRAULIC GRADIENT - The slope of the hydraulic grade line. The slope of the free surface of water flowing in an open channel.

HYDRAULIC JUMP - The sudden turbulent rise in water level from a flow stage below critical depth to flow stage above critical depth, during which the velocity passes from super critical to subcritical.

HYDROGRAPH - A graph showing variation in stage (depth) or discharge of a stream of water over a period of time.

HYDROSEEDER - A machine designed to apply seed, fertilizer, lime and short fiber wood or paper mulch to the soil surface.

HYDRO-SEEDING - Seeding with a hydroseeder.

INFLOW PROTECTION - A water handling device used to protect the transition area between any water conveyance (dike, swale, or swale dike) and a sediment trapping device.

INTERCEPTOR DRAIN - A surface or subsurface drain, or a combination of both, designed and installed to intercept flowing water.

LIME - Basic calcareous materials used to raise pH of acid soils for benefit of plants being grown. May be either ground limestone or hydrated lime.

LITTORAL DRIFT - The sedimentary material moved in the littoral zone under the influence of waves and currents.

MANNING'S FORMULA (HYDRAULICS) - A formula used to predict the velocity of water flow in an open channel or pipeline:

$$V = \frac{1.486}{n} R^{2/3} S^{1/2}$$

Where V is the mean velocity of flow in feet per second; R is the hydraulic radius; S is the slope of the energy gradient or for assumed uniform flow the slope of the channel, in feet per foot; and n is the roughness coefficient or retardance factor of the channel lining.

MULCH - Covering on surface of soil to protect and enhance certain characteristics, such as water retention qualities.

MULCH ANCHORING TOOL - A tool that looks like a dull disk designed to press straw and similar mulches into the soil to prevent loss due to wind, water or gravity.

NETTING (MULCH) - Paper or cotton material used to hold mulch material on the soil surface.

NITROGEN - FIXING (BACTERIA) - Bacteria having the ability to fix atmospheric nitrogen, making it available for use by plants. Inoculation of legume seeds is one way to insure a source of these bacteria for specified legumes.

NON-EROSIVE VELOCITY - Controlling the velocity of water to prevent detachment and movement of soil or rock. Erosive velocity will vary according to the soil type, slope, structural or vegetative stabilization used to protect the soil.

NORMAL DEPTH - Depth of flow in an open conduit during uniform flow for the given conditions. (See uniform flow.)

NOXIOUS WEEDS - Harmful; undesirable; hard to control.

- a. Restricted - May be sold in the trade but are limited to very small amounts as undesirable contaminants.
- b. Prohibited - Prohibited from sale.

OUTFALL - The point where water flows from a conduit, stream or drain.

OUTLET - The point at which water discharges from such things as a stream, river, lake, tidal basin, pipe, channel or drainage area.

OUTLET CHANNEL - A waterway constructed or altered primarily to carry water from man-made structures such as terraces, subsurface drains, diversions and impoundments.

OVERFALL- Abrupt change in stream channel elevation; the part of a dam or weir notch over which the water flows.

PAPER FIBER - A short fiber mulch material usually applied by hydroseeder along with fertilizer and seed.

PARENT MATERIAL - The unconsolidated rock material from which the soil profile develops.

PENDULOUS - More or less hanging or inclined downward.

PERMANENT SEEDING - Results in establishing perennial vegetation which may remain on the area for many years.

PERMISSIBLE VELOCITY (HYDRAULICS) - The highest average velocity at which water may be carried safely in a channel or other conduit. The highest velocity that can exist through a substantial length of a conduit and not cause scour of the channel. A safe, non-eroding or allowable velocity.

pH - A number denoting the common logarithm of the reciprocal of the hydrogen ion concentration. A pH of 7.0 denotes neutrality, higher values indicate alkalinity, and lower values indicate acidity.

PHREATIC LINE - The upper surface of the zone of saturation in an embankment is the phreatic (zero pressure) surface; in cross-section, this is called the phreatic line.

PIPING - Removal of soil material through subsurface flow channels or "pipes" developed by seepage water.

PLUGS - Pieces of turf- or sod, usually cut with a round tube, which can be used to propagate the turf or sod by vegetative means.

PROJECTION - In sediment basins or other dams the perpendicular distance that the anti-seep collar extends from the outside surface of the pipe or pipe cradle.

RECYCLED CONCRETE EQUIVALENT - May be substituted for stone or rip-rap as called for in these specifications except where stone must be "washed ". Concrete used in place of stone shall be broken into the stone sizes required for the application, shall be angular, resist crumbling and shall contain no steel reinforcement.

RETENTION - The amount of precipitation on a drainage area that does not escape as runoff. It is the difference between total precipitation and total runoff.

REVETMENT - Facing of stone or other material, either permanent or temporary, placed along the edge of a stream or shoreline to stabilize the bank and to protect it from the erosion action of water.

RHIZOME - Any prostrate, more or less elongated stem growing partly or completely beneath the surface of the ground; usually rooting at the nodes and becoming upcurved at the apex.

RIGHT-OF-WAY - Right of passage, as over another's property. A route that is lawful to use. A strip of land acquired for transport or utility construction.

RILL - A small channel cut by concentrated runoff but through which water commonly flows only during and immediately after rains or during the melting of snow. A rill is usually only a few inches deep (but no more than a foot) and, hence, no obstacle to tillage operations.

RIP-RAP- Broken rock, cobbles, or boulders placed on earth surfaces, such as the face of a dam or the bank of a stream, for protection against the action of water (waves); also applies to brush or pole mattresses, or brush and stone, or similar materials used for soil erosion control.

ROUGHNESS COEFFICIENT (HYDRAULICS) - A factor in velocity and discharge formulas representing the effect of channel roughness on energy losses in flowing water. Manning's "n" is a commonly used roughness coefficient.

RUNOFF (HYDRAULICS) - That portion of the precipitation on a drainage area that is discharged from the area in the stream channels. Types include surface runoff, ground water runoff or seepage.

SALINE SOIL - A non-alkali soil containing sufficient soluble salts to impair plant growth.

SAND- 1. (Agronomy) A soil particle between 0.05 and 2.0 millimeters in diameter. 2. A soil textural class. 3. (Engineering) According to the Unified Soil Classification System, a soil particle larger than the No. 200 sieve (0.074mm) and passing the No.4 sieve (approximately 1/4 inch).

SCD - Soil Conservation District.

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.

SEDIMENTATION - Deposition of detached soil particles.

SEDIMENT DISCHARGE (SEDIMENT LOAD) - The quantity of sediment, measured in dry weight or by volume, transported through a stream cross-section in a given time. Sediment discharge consists of both suspended load and bedload.

SEEPAGE - 1. Water escaping through or emerging from the ground. 2. The process by which water percolates through the soil.

SEEPAGE LENGTH - In sediment basins or ponds, the length along the pipe and around the anti-seep collars that is within the seepage zone through an embankment. (See "phreatic line".)

SHA- Maryland State Highway Administration.

SHEET FLOW - Water, usually storm runoff, flowing in a thin layer over the ground surface.

SIDE SLOPES (ENGINEERING) - The slope of the sides of a canal, dam or embankment. It is customary to name the horizontal distance first, as 1.5 to 1, or frequently, 1 1/2 : 1, meaning a horizontal distance of 1.5 feet to 1 foot vertical.

SILT - 1. (Agronomy) A soil separate consisting of particles between 0.05 and 0.002 millimeter in equivalent diameter. 2. A soil textural class. 3. (Engineering) According to the Unified Soil Classification System a fine grained soil (more than 50 percent passing the No. 200 sieve) that has a low plasticity index in relation to the liquid limit.

SLURRY - A thickened, aqueous mixture of such things as seed, fertilizer, short fiber mulch or soil.

SMALL GRAIN MULCH MATERIAL - Straw material from oats, barley, wheat, or rye.

SOD - A piece of earth containing grass plants with their matted roots. Turf.

SOIL - 1. (Agronomy) 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. 2. (Engineering) Earth and rock particles resulting from the physical and chemical disintegration of rocks, which may or may not contain organic matter. It includes fine material (silts and clays), sand and gravel.

SOIL TEST - Chemical analysis of soil to determine needs for fertilizers or amendments for species of plant being grown.

SPECIFIC ENERGY - The average energy per unit weight of water at a channel section as expressed with respect to the channel bottom.

SPILLWAY - An open or closed channel, or both, used to convey excess water from a reservoir. It may contain gates, either manually or automatically controlled to regulate the discharge of excess water.

SPREADER (HYDRAULICS) - A device for distributing water uniformly in or from a channel.

STABILIZATION - Providing adequate measures, vegetative and/or structural that will prevent erosion from occurring.

STABILIZED AREA - An area sufficiently covered by erosion resistant material such as a good cover of grass, or paving by asphalt, concrete, or stone, in order that erosion of the underlying soil does not occur.

STABILIZED GRADE - The slope of a channel at which neither erosion nor deposition occurs.

STABLE (STREAM OR CHANNEL) - The condition of a stream, channel or other water course in which no erosion or deposition occurs; adequately protected from erosion.

STAGE (HYDRAULICS) - The variable water surface or the water surface elevation above any chosen datum.

STATIC HEAD - Head resulting from elevation differences, for example, the difference in elevation in headwater and tailwater in a hydroelectric plant.

STILLING BASIN - An open structure or excavation at the foot of an outfall, conduit, chute, drop, or spillway to reduce the energy of the descending stream of water.

STOLON - A trailing or reclining above ground stem capable of rooting and/or sending up new shoots from the nodes.

STRUCTURAL - Relating to something constructed or built by man.

STRUCTURAL (SOIL) - The combination or arrangement of primary soil particles into secondary particles, units or peds. (Dune sand is structureless)

SUBCRITICAL FLOW - Flow at velocities less than critical velocity.

SUBGRADE - The soil prepared and compacted to support a structure or a pavement system.

TAILWATER (HYDRAULICS) - Water, in a river or channel, immediately downstream from a structure.

TEMPORARY SEEDING - A seeding which is made to provide temporary cover for the soil while waiting for further construction or other activity to take place.

TERRACE - An embankment or combination of an embankment and channel constructed across a slope at a suitable spacing to control erosion by diverting or storing surface runoff instead of permitting it to flow uninterrupted down the slope. Normally used only on cropland.

TEXTURE (SOIL) - The relative proportions of various soil separates in a soil material.

THATCH - A tightly intermingled layer of living and dead stems, leaves and roots of grasses.

TIDAL BANKS - Vertical or sloping banks adjoining oceans, rivers, bays, estuaries, etc. which are affected by fluctuations of daily tides.

TIME OF CONCENTRATION - Time required for water to flow from the most remote point of a watershed, in a hydraulic sense, to the outlet.

TOE (OF SLOPE) - Where the slope stops or levels out. Bottom of the slope.

TOE WALL - Downstream wall of a structure, usually to prevent flowing water from eroding under the structure.

TOPSOIL - Fertile or desirable soil material used to top dress roadbanks, subsoils, parent material, etc.

TRAP EFFICIENCY - The capability of a reservoir to trap sediment. The ratio of sediment trapped to the sediment delivered, usually expressed in percent.

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.

UNHULLED (SEED) - Seed still encased with a hull. Example: Sericea lespedeza before it is rendered hullless by mechanically removing the hull.

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 are equal at all sections of a reach.

UNIVERSAL SOIL LOSS EQUATION - An equation used for the design of water erosion control system: $A=RKLSCP$ where A is average annual soil loss in tons per acre per year; R is rainfall factor; K is soil erodibility factor; L is length of slope; S is percent of slope; C is cropping and management factor; and P is conservation practice factor .

UPLIFT (HYDRAULICS) - The upward force of water on the base or underside of a structure.

VARIETY - A variant within a species which reproduces true by seed or vegetative propagation.

VELOCITY HEAD (HYDRAULICS) - Head due to the velocity of a moving fluid, equal to the square of the mean velocity divided by twice the acceleration due to gravity (32.16 feet per second per second).

WATER SURFACE PROFILE (HYDRAULICS) - The longitudinal profile assumed by the surface of a stream flowing in an open channel; the hydraulic grade line.

WEEP-HOLES (ENGINEERING) - Openings left in retaining walls, aprons, linings or foundations to permit drainage and reduce pressure.

WET STORAGE - The wet storage area is the 1800 cubic feet in the permanent pool of water in a sediment trap or basin.

WETTED PERIMETER (HYDRAULICS) - The length of the line of intersection of the plane or the hydraulic cross-section with the wetted surface of the channel.

WING WALL - Side wall extensions of a structure used to prevent sloughing of banks or channels and to direct and confine overfall.

WOOD FIBER - A short fiber mulch material, usually applied with a hydro-seeder in an aqueous mixture.