

GLOSSARY

The list of terms that follows is representative of those used by soil conservationists, soil scientists, engineers, developers, contractors, planners, etc. The terms are in common use in conservation matters.

ACCESS ROAD- A road or vehicular travel way constructed to provide needed access to a site.

ACRE-FOOT- The volume of a substance, such as water, that will cover 1 acre to a depth of 1 foot.

AESTHETIC VALUE- The increase in value of a property derived from such intangible factors as its inherent attractiveness, its access to attractive views, or its general appeal to the sense of beauty of the owner or purchaser.

A-HORIZON- The organic material and leached minerals in the uppermost layer of soil.

AMORTIZATION- To repay a debt in a sequence of equal payments. Part of each payment is used to pay the interest due at the time it is made, and the balance is applied to the reduction of the principal.

ANGLE OF REPOSE- Angle between the horizontal and the maximum slope that a soil assumes through natural processes.

ANTECEDENT MOISTURE CONDITION (AMC)- The degree of wetness of a watershed at the beginning of a storm.

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

ASSESSED VALUE- The value placed on property for taxation purposes.

ASSOCIATED COSTS- A term commonly used in water resource development projects. These costs include the value of goods and services needed over and above project costs to make the immediate products or services of a project available for use or sale.

BASE FLOW- The stream discharge from groundwater runoff.

BEDDING- The process of laying a drain or other conduit in its trench and tamping earth around the conduit to form its bed. The manner of bedding may be specified to conform to the earth load and conduit strength.

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.

B-HORIZON- The layer of soil below the A-horizon, sometimes referred to as the subsoil or zone of accumulation.

BENCH MARK (economics)- Data for a specific time period that is used as a base for comparative purposes with comparable data.

(engineering) – A point of reference in elevation surveys.

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

BLIND- Placement of loose soil around a tile or conduit to prevent damage or misalignment when the trench is backfilled. Allows water to flow more freely to the tile.

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

BLIND INLET- Inlet to a drain in which entrance of water is by percolation rather than open flow channels.

BRUSH LAYERING- The embedment of green branches of shrub or tree species, perpendicular to the slope, on successive horizontal rows or contours.

BRUSH-MATTING- A blanket, or covering, of hardwood brush fastened down with stakes and wire.

cfs.- abbreviation for cubic feet per second. A unit of water flow.

CAPITAL RECOVERY PERIOD- The period of time required for the net returns from an outlay of capital to equal the investment.

CAPITALIZED COST- The first cost of an asset plus the present value of all renewals expected within the planning horizon.

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 capacity. Sometimes used to connote channel stabilization.

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

COMPACTION- To unite firmly; the act or process of becoming compact, usually applied in geology to the changing of loose sediments into hard, firm rock. 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 cubic foot.

CONDUIT- Any channel intended for the conveyance of water, whether open or closed.

CONIFER- A tree belonging to the order of Coniferea, usually evergreen, with cones and needle-shaped or scale-like leaves and producing wood known commercially as “soft wood”.

CONSERVATION- The protection and improvement of natural resources.

CONSERVATION DISTRICT- A public organization created under state enabling law as a special purpose district to develop and carry out a program of soil, water, and related resource conservation, use, and development within its boundaries; usually a subdivision of state government with a local governing body and always with limited authorities. Often called a soil conservation district or a soil and water conservation district.

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.

CONTOUR INTERVAL- The vertical distance between contour lines.

CONTOUR MAP- A map that shows the shape of the surface features of the ground by the use of contours.

CONTOUR WATTLING- The packing of lengths of bundles of twigs or tree whips into a continuous length, partially buried across a slope at regular contour intervals and supported on the downhill side by stakes.

CREST- 1. The top of a dam, dike, spillway, or weir, or other water barrier or control..

2. The summit of a wave or peak of a flood.

CRITICAL SITE- A sediment producing, highly erodible, or severely eroded area or site.

CRITICAL VELOCITY- Velocity at which a given discharge changes from tranquil to rapid flow; that velocity in open channels for which the specific energy (sum of the depth and velocity head) is a minimum for a given discharge.

CROSS-SECTION- A drawing that shows the features that would be exposed by a vertical cut through a man-made or natural structure or area.

CROWN (forestry)- The upper part of a tree, including the branches and foliage.

CUBIC FOOT PER SECOND- Rate of fluid flow at which 1 cubic foot of fluid passes a measuring point in 1 second. (Abbr. cfs.) (Syn. Second-foot; CUSEC.) See **cfs**.

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 embankment or fill areas.

CUTOFF- 1. Wall, collar, or other structure, such as a trench, filled with relatively impervious material intended to reduce seepage of water through porous strata.

2. In river hydraulics, the new and shorter channel formed either naturally or artificially when a stream cuts through the neck of a band.

DEBRIS DAM- A barrier built across a stream channel to retain rock, sand, gravel, silt, or other material.

DEBRIS GUARD- Screen or grate at the intake of a channel, drain, or pump structure for the purpose of preventing debris from entering.

DECIDUOUS PLANT- A plant that sheds all of its leaves every year at a certain season.

DEGRADATION- To wear down by erosion, especially through stream action.

DEPOSIT- Material left in a new position by a natural transporting agent, such as water, wind, ice, or gravity, or by the activity of man.

DESIGN STANDARDS- Standards of construction governing the size, shape, and relationship of spaces in any structure, which will control soil erosion and sedimentation.

DESIGN STORM- A given rainfall amount, areal distribution, and time distribution, used to estimate runoff. The rainfall amount is for a given frequency (25-year, 50-year, etc.).

DE-SILTING AREA- An area of grass, shrubs, or other vegetation used for inducing deposition of silt and other debris from flowing water, located about a stream, 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 and for releasing the stored water at controlled rates.

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

DISCHARGE- Rate of flow, specifically fluid flow; a volume of fluid passing a point unit time, commonly expressed as cubic feet per second, million gallons per day, gallons per minutes, or cubic meters per second.

DISCHARGE FORMULA (hydraulics)- A formula to calculate rate of flow of fluid in a conduit or through an opening. For steady flow discharge, $Q=AV$, wherein Q is rate of flow, A is cross sectional area, and V is mean velocity. Common units are: Q = cubic feet per second, A = square feet, and V = feet per second, respectively. To calculate the mean velocity, V, for uniform flow in pipes or open channels, see Manning's formula.

DIVERSION- Channel constructed across the slope for the purpose of intercepting surface runoff; changing the accustomed course of all or part of the surface water drainage path. See Terrace.

DIVERSION TERRACE- Diversions, which differ from terraces in that they consist of individually designed channels across a hillside; may be used to protect bottomland from hillside runoff or may be needed above a terrace system for protection against runoff from an un-terraced area. They may also divert water out of active gullies, protect farm buildings from runoff, reduce the number of waterways, and are sometimes used in connection with strip cropping to shorten the length of slope so that the strips can effectively control erosion. See Terrace.

DRAINAGE- The removal of excess surface water or groundwater from land by means of surface or subsurface drains.

DRAINAGE AREA- The area draining into a stream at a given point. The area may be of different sizes for surface runoff, subsurface flow and base flow, but generally the surface runoff area is used as the drainage area. See watershed.

DRAINAGE DISTRICT- A cooperative, self-governing public corporation created under state law to finance, construct, operate, and maintain a drainage system involving a group or land holding.

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

DROP SPILLWAY- Overfall 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. A drop may be vertical or inclined.

EFFLUENT- 1. The discharge or outflow of water from ground or subsurface storage.

2. The fluids discharged from domestic, industrial, and municipal waste collection systems or treatment facilities.

ERODIBILITY (OF SOIL)- The 'K' value in RUSLE expresses the average long-term soil and soil profile response to the erosive powers of rain storms.

EROSION- The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

a. **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 to 2 feet to as much as 75 to 100 feet.

b. **RILL EROSION-** An erosion process in which numerous small channels only a few inches deep are formed; occurs mainly on recently cultivated soils. See Rill.

c. **SHEET EROSION-** The removal of a fairly thin, uniform layer of soil from the land surface by runoff water.

EROSIVITY (OF SOIL)- The 'R' value in RUSLE expresses the interrelationships of the raindrop energy times the 30-minute rainfall intensity.

EUTROPHICATION- A means of aging lakes whereby aquatic plants are abundant and waters are deficient in oxygen. The process is usually accelerated by enrichment of waters with surface runoff containing nitrogen and phosphorus.

EVAPOTRANSPIRATION (ET)- Plant transpiration plus evaporation from the soil. Difficult to determine separately, therefore used together as a unit for study.

FALLOW- Cropland plowed, but not seeded during one or more growing seasons; cropland left idle may be a normal part of the cropping system for weed control, water conservation, soil conditioning, etc.

FILTER STRIP- Strip of permanent vegetation designed to retard flow of runoff water, causing deposition of transported material, thereby reducing sediment flow. See **Desilting Area**.

FINISHED GRADE- The final grade or elevation of the ground surface conforming to the approved grading plan.

FLOOD FRINGE- That portion of the floodplain subject only to shallow inundation and low velocity flow of flooding water.

FLOODPLAIN- Normally dry land areas subject to periodic, temporary inundation by stream flow or tidal overflow. Land formed by deposition of sediment by water; alluvial land.

FLOODPLAIN MANAGEMENT- The wise use of floodplains so as to reduce human suffering, property damage, and habitat loss resulting from floods and to lessen the need for expensive flood control structures, such as dams and reservoirs.

FLOODWAY- That portion of the floodplain required to store and discharge floodwaters without causing significant damaging, or potentially damaging, increases in flood heights and velocities.

FREEBOARD (hydraulics)- Vertical distance between the maximum water surface elevation anticipated in design and the top of restraining banks or structures provided to prevent overtopping because of unforeseen conditions.

FREQUENCY- An expression or measure of how often a hydrologic event of given size or magnitude should, on the average, be equaled or exceeded. For example, a 50-year frequency flood should be equaled or exceeded in size, on the average, only once in 50 years. In drought or deficiency studies, it usually defines how many years will, on the average, be equal to or less than a given size or magnitude.

FUNCTIONAL PLAN- A plan for one element, or closely related elements of a comprehensive plan, for example, transportation, recreation, and open spaces. Such plans, of necessity, should be closely related to the land use plan. Plans that fall short of considering all elements of a comprehensive plan may be considered as functional plans. Thus, resource conservation and development plans and watershed project plans should be considered as functional plans.

GABION- A galvanized wire basket filled with stone used for structural purposes. When fastened together, gabions are used as retaining walls, revetments, slope protection and similar structures.

GRADE STABILIZATION STRUCTURE- A structure for the purpose of stabilizing the grade of a gully or other watercourse, thereby preventing further head-cutting or lowering of the channel grade.

GRASSED WATERWAY- A natural or constructed waterway, usually broad and shallow, covered with erosion resistant grasses, used to conduct surface water; can reduce velocity and filter water.

GRAVEL ENVELOPE- Selected aggregate placed around the screened pipe section of well casing or a subsurface drain to facilitate the entry of water into the well or drain.

GRAVEL FILTER- 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.

GRUBBING- The removal of stumps and root material from the soil mantle.

GULLY- A channel or miniature valley cut by concentrated runoff but through which water commonly flows only during and immediately after heavy rains or during the melting of snow. A gully may be dendritic or branching or it may be linear, rather long, narrow, and of uniform width. 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 smothered by ordinary tillage or low impact grading.

HARDPAN- A hardened soil layer in the lower A or in the B horizon caused by cementation of soil particles with organic matter, or with materials such as silica, sesquioxides, or calcium carbonate. The hardness does not change appreciably with changes in moisture content, and pieces of the hard layer do not slake in water.

HIGHWAY EROSION CONTROL- The prevention and control of erosion in ditches, at cross drains, and on fills and road banks within a highway right-of-way. Includes vegetative practices and structural practices.

HOOD INLET- Entrance to a closed conduit that has been shaped to induce full flow at minimum water surface elevation.

HORIZONS, MINERAL SOIL-

A horizons are surface layers

B horizons are subsoil horizons ¹. They are designated as follows:

B alone indicates some residual transformation or change in place, such as color.

Bt indicates accumulations of translocated clay. Bx indicates a B horizon with fragipan characteristics such as firmness, brittleness and high density.

C horizons are substrata layer ¹; they consist of mineral material like or unlike the material from which the A & B horizons have formed and have been little affected by soil forming process. They are designated as follows:

C alone indicates material like the material from which the A & B horizons have formed.

Cx indicates a C horizon of material like that of the A & B horizons but has the firm, brittle and dense characteristics of a fragipan.

¹ Roman numerals are prefixed to the appropriate horizon designations such as IIB, IIBt, IIBx, and IIC or IICx when it is necessary to number a series of layers of unlike or contrasting material from the surface downward. Claverack is an example in which the A & B horizons have formed in sand and the underlying material is contrasting silty clay that is indicated as a IIC horizon.

HYDRAULIC GRADE LINE- In a closed conduit, a line joining the elevations to which water could stand in risers of 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.

HYDROGRAPH- A graph showing stage, flow, velocity, or other property of water with respect to time.

HYDROLOGIC SOIL COVER COMPLEX- A combination of a hydrologic soil group and a type of cover.

HYDROLOGIC SOIL GROUP- A group of soils having the same runoff potential under similar storm and cover conditions.

HYDROLOGY- The science that deals with the occurrence and movement of water in the atmosphere, upon the surface, and beneath the land areas of the earth. Rainfall intensities, rainfall interception by trees, effects of crop rotation on runoff, floods, droughts and the flow of springs and wells, are some of the topics studied by a hydrologist.

HYDROSEEDING- The dissemination of seed hydraulically in a liquid medium; mulch, lime, and fertilizer can be incorporated into the sprayed mixture.

IMPERVIOUS SOIL- A soil through which water, air or roots cannot penetrate. No soil is impervious to water and air without significant impact or compaction.

IMPOUNDMENT- Generally, an artificial collection or storage of water, as a reservoir, pit, dugout, sump, etc.

INDUSTRIAL PARK- A tract of land, the control and administration of which are vested in a single body, suitable for industrial use because of location, topography, proper zoning, availability of utilities, and accessibility to transportation.

INFILTRATION- Rainfall minus interception, evaporation, and surface runoff. The part of rainfall that enters the soil.

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.

INITIAL ABSTRACTION (I_a)- When considering surface runoff, I_a is all the rainfall before runoff begins. When considering direct runoff, I_a consists of interception, evaporation and the soil-water storage that must be exhausted before direct runoff may begin.

INOCULATION (OF SEEDS)- The addition of nitrogen fixing bacteria (inoculant) to legume seeds or to the soil in which the seeds are to be planted; the bacteria take free nitrogen from the air and make it available to the seeds.

INTERCEPTION- Precipitation retained on plant or plant residue surfaces and finally absorbed, evaporated, or sublimated. That which flows down the plant to the ground is called “stem flow” and not counted as true interception.

INTERMITTENT STREAM- A stream, or portion of a stream, that flows only in direct response to precipitation. It receives little or no water from springs and no long term continued supply from melting snow or other sources. The stream, or channel, is dry for some part of the year, usually during the dry months.

ISO-ERODENT VALUE- A term used to correlate areas of equally erosive average annual rainfall.

LANDSCAPE- All the natural features, such as fields, hills, forests, water, etc., that distinguish one part of the earth's surface from another part, usually that portion of land or territory which the eye can comprehend in a single view, including all of its natural characteristics.

LIME, AGRICULTURAL- A soil amendment consisting principally of calcium carbonate, but including magnesium carbonate and perhaps other materials, used to furnish calcium and magnesium as essential elements for the growth of plants and to neutralize soil acidity.

LINING- A protective covering over all or part of the perimeter of a reservoir or a conduit to prevent seepage losses, withstand pressure, resist erosion, and reduce friction or otherwise improve conditions of flow.

LIVE STAKING- Utilizing vegetative cover for the control of erosion and shallow sliding by means of willow or poplar cuttings that root easily and grow rapidly under certain conditions.

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

$$V=[(1.486) (r^{2/3})(s^{1/2})]/n$$

Where:

V= the mean velocity of flow in feet per second;

r=the hydraulic radius;

s=the slope of energy gradient or, for assumed uniform flow, the slope of the channel in feet per foot; and

n=the roughness coefficient or retardance factor of the channel lining.

MUCK SOIL- 1. An organic soil in which the organic matter is well decomposed (USA usage).

2. A soil containing 20 to 50 percent organic matter.

MULCH- A natural or artificial layer of plant residue or other materials, such as sand or paper, on the soil surface.

NETTING- Plastic, paper, cotton, or other material used to hold mulch on the soil surface.

OUTLET- Point of water disposal from a stream, river, lake, tidewater, or artificial drain.

PARTICLE SIZE CLASSES FOR FAMILY

GROUPINGS (as used in the Soil Classification System of the National Cooperative Soil Survey in the United States)- Various particle size classes are applied to arbitrary control sections that vary according to the depth of the soil, presence or absence of argillic horizons, depth to paralithic or lithic contacts, fragipans, horizons. No single set of particle size classes is appropriate as a family grouping for all kinds of soil. The classification tabulated below provides a choice of several particle size classes.

1. Sandy-Skeletal- More than 35 percent, by volume, coarser than 2 millimeters, with enough fines to fill interstices larger than 1 millimeter; fraction less than 2 millimeters is as defined for the sandy class.
2. Loamy-Skeletal- More than 35 percent, by volume, coarser than 2 millimeters, with enough fines to fill interstices larger than 1 millimeter; fraction less than 2 millimeters is as defined for loamy classes.
3. Sandy- Sands, except very fine sand, and loamy sands, except loamy very fine sand.
- 4a. Coarse-Loamy- With less than 18 percent clay and more than 15 percent coarser than very fine sand (including coarse fragments up to 7.5 centimeters).
- b. Fine-Loamy- With more than 18 percent clay but less than 35 percent clay and more than 15 percent coarser than very fine sand (including coarse fragments up to 7.5 centimeters).
- c. Coarse-Silty- With less than 18 percent clay and less than 15 percent coarser than very fine sand (including coarse fragments up to 7.5 centimeters).
- d. Fine-Silty- With more than 18 percent clay and less than 35 percent clay and less than 15 percent coarser than very fine sand (including coarse fragments up to 7.5 centimeters).
- 5a. Fine- With more than 35 percent clay but less than 60 percent clay.
- b. Very-Fine- With more than 60 percent clay.

PEAK FLOW- The maximum instantaneous flow of water from a given storm condition at a specific location.

PEAT- Dark brown residual material produced by the partial decomposition and disintegration of plants that grow in wet places.

PERMEABILITY- The quality of a soil horizon that enables water or air to move through it. Terms used to describe permeability are as follows: very slow, slow, moderately slow, moderate, moderately rapid, rapid, and very rapid.

pH- A numerical measure of the acidity or alkalinity of a soil; neutral soil has a pH of 7; all pH values below 7 are acid, and all above 7 are alkaline.

PLANNED UNIT DEVELOPMENT- A zoning classification permitting flexibility of site design by combining building types and uses in ways that would be prohibited by traditional zoning standards.

PLAT OF SURVEY- A scaled drawing identifying a parcel of real estate, prepared by a registered surveyor, including a legal description of the property and the dimensions of the physical improvements.

RAINFALL INTENSITY- The rate at which rain is falling at any given instant, usually expressed in inches per hour.

RECP- Rolled erosion control products. These are manufactured rolls of material used to protect slopes and/or waterways by resisting flow and aiding vegetation.

RETARDANCE (vegetation)- The characteristic of the vegetative lining of a channel that tends to restrict and impede flow relative to a perfectly smooth channel.

RETURN FLOW- That portion of the water diverted from a stream which finds its way back to the stream channel either as surface or underground flow.

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

RIPARIAN RIGHTS- The rights of an owner whose land abuts water. They differ from state to state and often depend on whether the water is a river, lake or ocean. See Water Rights.

RIPRAP- 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 applied to brush or pole mattresses, or brush and stone, or other similar materials used for soil erosion control.

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

RUNOFF CURVE NUMBER (CN)- A parameter combining the effects of soils, watershed characteristics, and land use. This parameter represents the hydrologic soil cover complex of the watershed.

RUSLE- Abbreviation for Revised Universal Soil Loss Equation; used to estimate sheet and rill soil loss on potentially erosive sites.

SCALPING- Removal of sod or other vegetation in spots or strips.

SCARIFY- To abrade, scratch, or modify the surface; for example, to scratch the impervious seed coat of hard seed or to break the surface of the soil with a narrow-bladed implement.

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.

SEDIMENT BASIN- A basin or pond designed to store a calculated amount of sediment being transported on a site.

SEDIMENT DISCHARGE- 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.

SEEDBED- The soil prepared by natural or artificial means to promote the germination of seed and the growth of seedlings.

SEEPAGE- 1. Water escaping through, or emerging from, the ground along an extensive line or surface, as contrasted with a spring where the water emerges from a localized spot.

2. The process by which water percolates through the soil.

3. (percolation) The slow movement of gravitational water through the soil.

SETTLING BASIN- An enlargement in the channel of a stream to permit the settling of debris carried in suspension.

SHRINK-SWELL POTENTIAL- The susceptibility of soil to volume change due to loss or gain in moisture content.

SHRUB- A woody perennial plant differing from a perennial herb by its more woody stems and from a tree by its low stature and habit of branching from the base. There is no definite line between herbs and shrubs or between shrubs and trees; all possible intergradations occur.

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.

SITE ANALYSIS- Evaluation of the qualities and drawbacks of a site by comparison with those aspects of other comparable sites.

SOIL EROSION AND SEDIMENT CONTROL PLAN-

A plan which fully indicates the necessary land protection and structural measures, including a schedule of the timing of their installation, which will effectively minimize soil erosion and sediment yields.

SOIL STRUCTURE- The arrangement of primary soil particles into compound particles or clusters that are separated from adjoining aggregates and have properties unlike those of an equal mass of unaggregated soil particles. The principal forms of soil structure are: platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular), and granular. Structureless soils are: (1) single grain (each grain by itself, as in dune sand), or (2) massive (the particles adhering together without any regular cleavage, as in many claypans and hardpans).

SOIL SURVEY- Survey showing soil type and composition.

SOIL TEXTURE- The relative proportions of the various soil separates in a soil as described by the classes of soil texture shown in Figure 1. The textural classes may be modified by the addition of suitable adjectives when coarse fragments are present in substantial amounts; for example, gravelly silt loam. (For other modifications, see coarse fragments). Sand, loamy sand, and sandy loam are further subdivided on the basis of the proportions of the various soil separates present.

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.

SPOIL- Soil or rock material excavated from a canal, basin, or similar construction.

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

STATE SOIL AND WATER CONSERVATION COMMITTEE, COMMISSION, OR BOARD- The state agency established by state soil conservation districts, enabling legislation to assist with the administration of the provisions of the state soil conservation districts law. The official title may vary from the above as new, or amended, state laws are made.

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

STREAMBANKS- The usual boundaries, not the flood boundaries, of a stream channel. Right and left banks are named facing downstream.

STRATA CAPACITY- The maximum amount of material a stream is able to transport.

STREAM LOAD- Quantity of solid and dissolved material carried by a stream. See Sediment Load.

STORMWATER MANAGEMENT- Runoff water safely conveyed or temporarily stored and released at an allowable rate to minimize erosion and flooding.

STRIPPING- Denuding vacant or untouched land of its present vegetative cover and topsoil.

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

SUBSOIL- The B horizons of soils with distinct profiles. In soils with weak profile development, the subsoil can be defined as the soil below the plowed soil (or its equivalent of surface soil), in which roots normally grow. Although a common term, it cannot be defined accurately.

SUMP- Pit, tank, or reservoir in which water is collected for withdrawal or stored.

SUSPENDED LOAD- The fine sediment kept in suspension in a stream because the settling velocity is lower than the upward velocity of the current.

SWALE- A linear, but flattish depression in the ground surface which conveys drainage water but offers no impediment to traffic, as do ditches or gutters.

TERRACE- An embankment or combination of an embankment and channel constructed across a slope to control erosion by diverting or storing surface runoff instead of permitting it to flow uninterrupted down the slope. Terraces or terrace systems may be classified by their alignment, gradient, outlet, and cross-section. Alignment is parallel or non-parallel. Gradient may be level, uniformly graded, or variably graded. Grade is often incorporated to permit paralleling the terraces. Outlets may be soil infiltration only, vegetated waterways, tile outlets, or combinations of these. Cross-sections may be narrow base, broad base, bench, steep backslope, flat channel, or channel.

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

TIMING SCHEDULE- A construction progress schedule showing the proposed dates of commencement and completion of each of the various subdivisions of work as shown and called for in the approved plans and specifications.

TOPOGRAPHIC MAP- A schematic drawing of prominent landforms indicated by conventional symbols such as hachures or contour lines.

TOPSOIL- The uppermost layers of soil containing organic material and suited for plant survival and growth.

TRAP EFFICIENCY- The capability of a reservoir to trap sediment.

TRAVEL TIME- The time for water to travel from one location to another in a watershed. Travel time is a component of time of concentration (T_c).

TRIBUTARY- Secondary, or branch of a stream, drain, or other channel that contributes flow to the primary or main channel.

TRM- Turf reinforcement mat. These are typically non-biodegradable mats with depth, which aid in stabilizing waterways by providing strength to vegetative root systems.

UNIFIED SOIL CLASSIFICATION SYSTEM (engineering)- A classification system based on the identification of soils according to their particle size, gradation, plasticity index, and liquid unit.

UNIT HYDROGRAPH- A discharge hydrograph coming from one inch of direct runoff distributed uniformly over the watershed, with the direct runoff generated at a uniform rate during the given storm duration. A watershed may have 1-hour, 2-hour, etc. unit hydrographs.

WATER QUALITY STANDARDS- Minimum requirements of purity of water for various uses; for example, water for agricultural use in irrigation systems should not exceed specific levels of sodium bicarbonates, pH, total dissolved salts, etc.

WATER RIGHTS- The legal rights to the use of water. They consist of riparian rights and those acquired by appropriation and prescription. Riparian rights are those rights to use and control water by virtue of ownership of the bank or banks. Appropriated rights are those acquired by an individual to the exclusive use of water, based strictly on priority of appropriation and application of the water to beneficial use and without limitation of the place of use to riparian land. Prescribed rights are those to which legal title is acquired by long possession and use without protest of other parties.

WATERSHED- The area contributing direct runoff to a stream. Usually it is assumed that base flow in the stream also comes from the same area. However, the ground water watershed may be larger or smaller.

WATERTABLE- The upper surface of groundwater or that level below which the soil is saturated with water; locus of points in soil water at which the hydraulic pressure is equal to atmospheric pressure.

WATERWAY- A natural course or constructed channel for the flow of water.

WATTLE- A group or bundle of twigs, whips, or witches.

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

ZONING (rural)- A means by which governmental authority is used to promote the proper use of land under certain circumstances. This power traditionally resides in the state; and the power to regulate land uses by zoning is usually delegated to minor units of government, such as towns, municipalities, and counties, through an enabling act that specifies powers granted and the conditions under which these are to be exercised.

ZONING ORDINANCE- The exercise of police power for the purpose of carrying out the land use plan of an area. It may also include regulations to effect control of the size and height of buildings, population density, and use of buildings; for example, residential, commercial, industrial, etc.

