

Glossary

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.

AQUATIC BENCH - A ten to fifteen foot wide bench which is located around the inside perimeter of a permanent pool and is normally vegetated with aquatic plants; the goal is to provide pollutant removal and enhance safety in areas using stormwater pond SMPs.

AQUIFER - A geological formation which contains and transports groundwater.

“AS-BUILT” - Drawing or certification of conditions as they were actually constructed.

BAFFLES - Guides, grids, grating or similar devices placed in a pond to deflect or regulate flow and create a longer flow path.

BANKFULL FLOW - The condition where streamflow just fills a stream channel up to the top of the bank and at a point where the water begins to overflow onto a floodplain.

BARREL - The closed conduit used to convey water under or through an embankment: part of the principal spillway.

BASE FLOW - The stream discharge from ground water.

BERM - A shelf that breaks the continuity of a slope; a linear embankment or dike.

Better site design - Incorporates non-structural and natural approaches to new and redevelopment projects to reduce effects on watersheds by conserving natural areas, reducing impervious cover and better integrating stormwater treatment.

BIORETENTION - A water quality practice that utilizes landscaping and soils to treat urban stormwater runoff by collecting it in shallow depressions, before filtering through a fabricated planting soil media.

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

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

CHECK DAM - A small dam constructed 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)

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COCONUT ROLLS - Also known as coir rolls, these are rolls of natural coconut fiber designed to be used for streambank stabilization.

COMPACTION (SOILS) - Any process by which the soil grains are rearranged to decrease void space and bring them in 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.

Conservation design - Includes laying out the elements of a development project in such a way that the site design takes advantage of a site's natural features, preserves the more sensitive areas and identifies any site constraints and opportunities to prevent effects.

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.

Conventional site design - For the purposes of this document, conventional design can be viewed as the style of suburban development that has evolved during the past 50 years and generally involves larger lot development, clearing and grading of significant portions of a site, wider streets and larger cul-de-sacs, enclosed drainage systems for stormwater conveyance and large "hole-in-the-ground" detention basins.

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

CRADLE - 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.

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

CURVE NUMBER (CN) - A numerical representation of a given area's hydrologic soil group, plant cover, impervious cover, interception and surface storage derived in accordance with Natural Resources Conservation Service methods. This number is used to convert rainfall volume into runoff volume.

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.

CZARA - Acronym used for the Coastal Zone Act Reauthorization Amendments of 1990. These amendments sought to address the issue of nonpoint source pollution issue by requiring states to develop Coastal Nonpoint Pollution Control Programs in order to receive federal funds.

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.

DESIGN GUIDANCE - Features that enhance the performance but may not be necessary for all applications and may be modified if it does not improve the performance of the practices in a specific site.

DETENTION - The temporary storage of storm runoff in a SMP with the goals of controlling peak discharge rates and providing gravity settling of pollutants.

DETENTION STRUCTURE - A structure constructed for the purpose of temporary storage of stream flow or surface runoff and gradual release of stored water at controlled rates.

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DEVIATION FROM STANDARDS - Non-compliance with the technical standards set by this technical standard. To be in compliance with this technical standards (Design Manual), projects must meet both performance and sizing criteria. The Department will only accept deviations from the technical standards that involve the use of an alternative post-construction stormwater management practice or a modification to one of the practices from this technical standard that has been demonstrated to be equivalent to this technical standard.

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

DISTRIBUTED RUNOFF CONTROL (DRC) - A stream channel protection criteria which utilizes a non-uniform distribution of the storage stage-discharge relationship within a SMP to minimize the change in channel erosion potential from predeveloped to developed conditions.

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.

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.

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 SWALE - An open drainage channel explicitly designed to detain and promote the filtration of stormwater runoff through an underlying fabricated soil media.

Effective Bypass - The runoff that leaves the site untreated. Example: flow that pass over the weir in a filter system not treated (i.e. not effected by the primary removal mechanism).

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.

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 geologic 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.

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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.

EXFILTRATION - The downward movement of water through the soil; the downward flow of runoff from the bottom of an infiltration SMP into the soil.

EXTENDED DETENTION (ED) - A stormwater design feature that provides for the gradual release of a volume of water over a 12 to 48 hour interval in order to increase settling of urban pollutants and protect downstream channels from frequent storm events.

EXTREME FLOOD (Q_F) - The storage volume required to control those infrequent but large storm events in which overbank flows approach the floodplain boundaries of the 100-year flood.

FILTER BED - The section of a constructed filtration device that houses the filter media and the outflow piping.

FILTER FENCE - A geotextile fabric designed to trap sediment and filter runoff.

FILTER MEDIA - The sand, soil, or other organic material in a filtration device used to provide a permeable surface for pollutant and sediment removal.

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.

FLOODPLAIN - The land area that is subject to inundation from a flood that has a one percent chance of being equaled or exceeded in any given year. This is typically thought of as the 100-year flood.

FLOW SPLITTER - An engineered, hydraulic structure designed to divert a percentage of storm flow to a SMP located out of the primary channel, or to direct stormwater to a parallel pipe system, or to bypass a portion of baseflow around a SMP.

FOREBAY - Storage space located near a stormwater SMP inlet that serves to trap incoming coarse sediments before they accumulate in the main treatment area.

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.

FOURTH ORDER STREAM - Designation of stream size where many water quantity requirements may not be needed. A first order stream is identified by "blue lines" on USGS quad sheets. A second order stream is the confluence of two first order streams, and so on.

FRENCH 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.

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.

GRASS CHANNEL - A open vegetated channel used to convey runoff and to provide treatment by filtering out pollutants and sediments.

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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 DIAPHRAGM - A stone trench filled with small, river-run gravel used as pretreatment and inflow regulation in stormwater filtering systems.

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.

GRAVEL TRENCH - A shallow excavated channel backfilled with gravel and designed to provide temporary storage and permit percolation of runoff into the soil substrate.

Green Infrastructure – In the context of stormwater management, the term green infrastructure includes a wide array of practices at multiple scales to manage and treat stormwater, maintain and restore natural hydrology and ecological function by infiltration, evapotranspiration, capture and reuse of stormwater, and establishment of natural vegetative features. On a regional scale, green infrastructure is the preservation and restoration of natural landscape features, such as forests, floodplains and wetlands, coupled with policies such as infill and redevelopment that reduce overall imperviousness in a watershed or ecoregion. On the local scale green infrastructure consists of site- and neighborhood-specific practices and runoff reduction techniques. Such practices essentially result in runoff reduction and or establishment of habitat areas with significant utilization of soils, vegetation, and engineered media rather than traditional hardscape collection, conveyance and storage structures. Some examples include green roofs, trees and tree boxes, pervious pavement, rain gardens, vegetated swales, planters, reforestation, and protection and enhancement of riparian buffers and floodplains.

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.

HI MARSH - A pondscaping zone within a stormwater wetland which exists from the surface of the normal pool to a six inch depth and typically contains the greatest density and diversity of emergent wetland plants.

HI MARSH WEDGES - Slices of shallow wetland (less than or equal to 6 inches) dividing a stormwater wetland.

HOT SPOT - Area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater.

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

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

HYDROLOGIC SOIL GROUP (HSG) - A Natural Resource Conservation Service classification system in which soils are categorized into four runoff potential groups. The groups range from A soils, with high permeability and little runoff production, to D soils, which have low permeability rates and produce much more runoff.

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HYDROSEED - Seed or other material applied to areas in order to re-vegetate after a disturbance.

HYPOXIA - Lack of oxygen in a waterbody resulting from eutrophication.

IMPERVIOUS COVER (I) - Impermeable surfaces that can not effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

INDUSTRIAL STORMWATER PERMIT - An NPDES permit issued to a commercial industry or group of industries which regulates the pollutant levels associated with industrial storm water discharges or specifies on-site pollution control strategies.

INFEASIBLE - A practice that is not technologically possible, or not economically practicable and achievable in light of best industry practices.

INFILTRATION RATE (F_C) - The rate at which stormwater percolates into the subsoil measured in inches per hour.

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.

LEVEL SPREADER - A device for distributing stormwater uniformly over the ground surface as sheet flow to prevent concentrated, erosive flows and promote infiltration.

Long term runoff volume - Total runoff over a long period of time (>25 years).

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.

MICROPOOL - A smaller permanent pool which is incorporated into the design of larger stormwater ponds to avoid resuspension or settling of particles and minimize impacts to adjacent natural features.

MICROTOPOGRAPHY - The complex contours along the bottom of a shallow marsh system, providing greater depth variation which increases the wetland plant diversity and increases the surface area to volume ratio of a stormwater wetland.

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

MUNICIPAL STORMWATER PERMIT - A SPDES permit issued to municipalities to regulate discharges from municipal separate storm sewers for compliance with EPA established water quality standards and/or to specify stormwater control strategies.

Natural areas - This is undisturbed land or previously disturbed land that has been restored and that retains pre-development hydrologic and water quality characteristics.

New development - Any land disturbance that does meet the definition of Redevelopment Activity included in this glossary.

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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-structural stormwater control – Natural measures that reduce pollution level, do not require extensive construction or engineering efforts and/or promote pollutant reduction by eliminating the pollutant source.

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

NPDES - Acronym for the National Pollutant Discharge Elimination System, which regulates point source and non-point source discharge.

Off-site - Areas outside of the “project area” that may contribute to the same design point as the “project area.”

OFF-LINE - A stormwater management system designed to manage a storm event by diverting a percentage of stormwater events from a stream or storm drainage system.

ON-LINE - A stormwater management system designed to manage stormwater in its original stream or drainage channel.

ONE YEAR STORM (Q_{P1}) - A stormwater event which statistically has a 100% chance of being equaled or exceeded on average in a given year.

ONE HUNDRED YEAR STORM (Q_{P100}) A extreme flood event which statistically has a one percent chance of being equaled or exceeded in any given year..

OPEN CHANNELS - Also known as swales, grass channels, and biofilters. These systems are used for the conveyance, retention, infiltration and filtration of stormwater runoff.

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.

PEAK DISCHARGE RATE - The maximum instantaneous rate of flow during a storm, usually in reference to a specific design storm event.

Performance criteria - The design criteria listed under the “Required Elements” sections in Chapters 5, 6 and 10 of this technical standard. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Chapters 4, 9 and 10.

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

PERMEABILITY - The rate of water movement through the soil column under saturated conditions

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.

Phosphorus Index - (Phosphorus Index) is the measure of phosphorus already present in soil. The value is determined by testing at the North Carolina Department of Agriculture and Consumer Services soil analysis laboratory in Raleigh. Values greater than 100 are considered very high. Values ranging between 50 and 100 are considered high. Values between 25 and 50 are medium; values less than 25 are low. A soil with a very high or high P-Index is less able to retain phosphorus because it is already “full.”

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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.

POCKET POND - A stormwater pond designed for treatment of small drainage area (< 5 acres) runoff and which has little or no baseflow available to maintain water elevations and relies on ground water to maintain a permanent pool.

POCKET WETLAND - A stormwater wetland design adapted for the treatment of runoff from small drainage areas (< 5 acres) and which has little or no baseflow available to maintain water elevations and relies on ground water to maintain a permanent pool.

POND BUFFER - The area immediately surrounding a pond which acts as filter to remove pollutants and provide infiltration of stormwater prior to reaching the pond. Provides a separation barrier to adjacent development.

POND DRAIN - A pipe or other structure used to drain a permanent pool within a specified time period.

PONDSCAPING - Landscaping around stormwater ponds which emphasizes native vegetative species to meet specific design intentions. Species are selected for up to six zones in the pond and its surrounding buffer, based on their ability to tolerate inundation and/ or soil saturation.

POROSITY - Ratio of pore volume to total solids volume.

PRETREATMENT - Techniques employed in stormwater SMPs to provide storage or filtering to help trap coarse materials before they enter the system.

PRINCIPAL SPILLWAY - The primary pipe or weir which carries baseflow and storm flow through the embankment.

REDEVELOPMENT ACTIVITY - The disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Required Element - Features of the design that are integral to the performance of the practice and must be used in all applications.

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.

REVERSE-SLOPE PIPE - A pipe which draws from below a permanent pool extending in a reverse angle up to the riser and which determines the water elevation of the permanent pool.

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.

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.

RISER - A vertical pipe or structure extending from the bottom of a pond SMP and houses the control devices (weirs/orifices) to achieve the discharge rates for specified designs.

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.

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RUNOFF COEFFICIENT (RV) - A value derived from a site impervious cover value that is applied to a given rainfall volume to yield a corresponding runoff volume.

SAFE PASSAGE – Safely passing the Spillway Design Flood (SDF) and Service Spillway Design flood (SSDF) as defined in the NYSDEC “Guidelines for Design of Dams.”

SAFETY BENCH - A flat area above the permanent pool and surrounding a stormwater pond designed to provide a separation from the pond pool and adjacent slopes.

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).

SEDIMENT - Solid material, both mineral and organic, that is in suspension, 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.

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.

SETBACKS - The minimum distance requirements for location of a structural SMP in relation to roads, wells, septic fields, other structures.

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 channel, dam or embankment. It is customary to name the horizontal distance first, as 1.5 to 1, or frequently, 1 ½: 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.

Site - At minimum applies to areas of disturbance. This technical standard refers to contributing areas to one design point as “site” or “project area”.

Site limitations –Site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

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

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.

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

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

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.

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STORMWATER FILTERING - Stormwater treatment methods which utilize an artificial media to filter out pollutants entrained in urban runoff.

STORMWATER PONDS - A land depression or impoundment created for the detention or retention of stormwater runoff.

STORMWATER WETLANDS - Shallow, constructed pools that capture stormwater and allow for the growth of characteristic wetland vegetation.

STREAM BUFFERS - Zones of variable width which are located along both sides of a stream and are designed to provide a protective natural area along a stream corridor.

STREAM CHANNEL PROTECTION (CP_v) - A design criteria which requires 24 hour detention of the one year postdeveloped, 24 hour storm event for the control of stream channel erosion.

STRUCTURAL SMPS - Devices which are engineered and constructed to provide temporary storage and treatment of stormwater runoff.

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

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

TECHNICAL RELEASE NO. 20 (TR-20) - A Soil Conservation Service (now NRCS) watershed hydrology computer model that is used to compute runoff volumes and route storm events through a stream valley and/or ponds.

TECHNICAL RELEASE No. 55 (TR-55) - A watershed hydrology model developed by the Soil Conservation Service (now NRCS) used to calculate runoff volumes and provide a simplified routing for storm events through ponds.

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.

TEN YEAR STORM (Q_{p10}) - The peak discharge rate associated with a 24 hour storm event that has a 100% chance of being equaled or exceeded in a given ten year.

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.

TOTAL IMPERVIOUS AREA - This is the total area within a watershed of all materials or structures on or above the ground surface that prevents water from infiltrating into the underlying soils. Impervious surfaces include, without limitation: paved parking lots, sidewalks, rooftops, patios, and paved, gravel and compacted-dirt surfaced roads. Gravel parking lots and/or compacted urban soils are often not included in total impervious area but may have hydrologic characteristics that closely resemble paved areas.

TOTAL SUSPENDED SOLIDS - The total amount of soil particulate matter, including both organic and inorganic material, suspended in the water column.

TRASH RACK - Grill, grate or other device at the intake of a channel, pipe, drain or spillway for the purpose of preventing oversized debris from entering the structure.

TROUT WATERS - Waters classified as (T) or (TS) by the New York State DEC.

TWO YEAR STORM (Q_{p2}) - The peak discharge rate associated with a 24 hour storm event that has a 100% chance of being equaled or exceeded in a given two year.

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ULTIMATE CONDITION - Full watershed build-out based on existing zoning.

ULTRA-URBAN - Densely developed urban areas in which little pervious surface exists.

VELOCITY HEAD - 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).

VOLUMETRIC RUNOFF COEFFICIENT (R_v) - The value that is applied to a given rainfall volume to yield a corresponding runoff volume based on the percent impervious cover in a drainage basin.

WATER QUALITY EFFICIENCY - A term that is intended to indicate the performance of the SMP by itself (not the full system including bypass). With less flow (hydrologic source control) the efficiency is likely improved.

WATER QUALITY VOLUME (WQ_v) - The storage needed to capture and treat 90% of the average annual stormwater runoff volume.

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

WEDGES - Design feature in stormwater wetlands which increases flow path length to provide for extended detention and treatment of runoff.

WET SWALE - An open drainage channel or depression, explicitly designed to retain water or intercept groundwater for water quality treatment.

WETTED PERIMETER - 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.