

## Terms commonly associated with septic systems:

Please note: some of the following terms are generic while some are precise legal definitions in the State of Washington. Please consult specific rules and regulations of your State and/or local jurisdiction other definitions regarding these and other terms associated with septic systems.

### A

**Absorption Area** - an area to which wastewater is distributed for infiltration to the soil.

**Absorption Field** – see Drainfield.

**Absorption Trench** - a long narrow area (excavation) which includes a pipe for the distribution of septic tank effluent.

**Additive** or septic additive, septic chemical, septic treatment, septic tank additive: A septic additive is a chemical, bacteria, or other product sold to be placed into a septic tank or septic absorption system, purportedly to improve the function of the system, improve drainfield performance, avoid septic tank pumping, or other repair or maintenance need. In a normal conventional septic system additives are not required, are illegal in some jurisdictions, and in some cases they can actually damage the system leading to costly repairs.

**Aerobic Treatment Unit (ATU)** – a container of various configurations that provides for aerobic degradation or decomposition of wastewater constituents by bringing the wastewater into direct contact with air by some mechanical means.

**Aggregate** - washed gravel or crushed stone 3/4 - 1 1/2 inches in diameter. See drain rock.

**Alternative Septic System** – an on-site sewage system other than a conventional gravity system or a conventional pressure distribution system. Properly operated and maintained alternative systems provide equivalent or enhanced treatment performance as compared to conventional gravity systems.

**Anaerobic wastewater process:** a three step bacterial respiration process that occurs in the absence of oxygen. Heterotrophic bacteria (which do not require oxygen) oxidize material to form CO<sub>2</sub> and water. The process is more complex than described here, involving also autotrophic bacteria and chemical processes in three stages: acid fermentation, acid regression, and alkaline fermentation.

### B

**Baffle** - a flow deflecting device used in septic tanks and distribution boxes to inhibit the discharge of floating solids, reduce the amount of settleable solids that exit, and reduce the exit velocity of the wastewater.

**Basal area** – the effective surface area available to transmit the treated effluent from the filter media in a mound system into the original receiving soils.

**Biomat:** a bacterial slime layer in the soil below the leachfield and around other wastewater disposal systems. Critical septic effluent treatment occurs in the biomat.

**Blackwater or septage** - waste carried off by toilet and urinal.

**BOD - Biochemical Oxygen Demand** - the amount of oxygen necessary to permit microbes (within a septic treatment system) to consume organic material in wastewater. BOD is normally expressed as BOD-5 or five-day BOD, the amount of oxygen consumed by microbes (for example within a septic treatment systems) over a five day period, for a given volume of wastewater. BOD is used to describe the quality of untreated wastewater, or in other words, to determine the amount of treatment that wastewater will require before it can be discharged to the environment.

**Breakout or effluent breakout:** Visible movement of septic effluent to the surface of a property. Septic effluent appearing on the surface of a property or in nearby ponds or streams, is incontrovertible evidence of a failure in the septic system. Breakouts of septic effluent may occur during normal system usage when the absorption bed has failed, when the system has been overloaded, or during a septic loading and dye test.

**Building Sewer** - that part of the drainage system which extends from the end of the building drain and conveys wastewater to the sewage system or sewer (the pipe from the house to the septic tank).

## C

**Capacity of a Septic System:** describes the volume of wastewater (blackwater or greywater) which an onsite septic system must be capable of handling. Typically capacity, described as daily volume of wastewater in gallons or liters, is a function of the number of building occupants using the facility, adjusted for other building activities such as laundry, garbage grinders, or other site activities.

**Catabolism:** the oxidative, exothermic, enzymatic degradation process resulting in release of energy from large organic molecules. One of the processes in the breakdown of wastewater by microorganisms.

**Centralized Septic System:** an onsite wastewater disposal system which collects waste from multiple buildings or facilities for treatment and disposal at a single site or facility. Centralized septic systems may serve an entire community or a large group of homes such as townhouses or condominiums. Centralized wastewater and septage disposal systems are generally associated with large treatment requirements such as for an entire community.

**Cesspool:** A cesspool combines the septic treatment tank and absorption system into a single component. A cesspool is a stone or

concrete block or (safer) pre-cast concrete lined pit into which sewage is discharged. Solids remain in the pit, effluent is absorbed into soil below and at the sides of the cesspool. Solids settle to the bottom, floating grease and scum collect at the top, and liquid seeps into the ground, initially through the bottom and most of the time through the side of the cesspool.

**Chemical Toilets:** use a chemically treated reservoir located directly below the toilet seat. The chemicals reduce odors and perform partial (incomplete) disinfection of the waste.

**Cleanout** - an opening providing access to part of the sewage system.

**Cluster Septic System:** a type of *centralized septic system* serving as few as two homes, or just a few homes. Clustered septic systems may be used in a development of new homes in which small groups of two or three homes are served by individual wastewater treatment systems.

**Coliform (Bacteria)** – a group of bacteria which produce gas and ferment lactose, some of which are found in the intestinal tract of warm-blooded animals. They are indicators of potential ground water and /of surface water contamination with such fecal material.

**Composting Toilets:** use natural materials inside of a holding tank to decompose sewage where the decomposed material is retained for later removal.

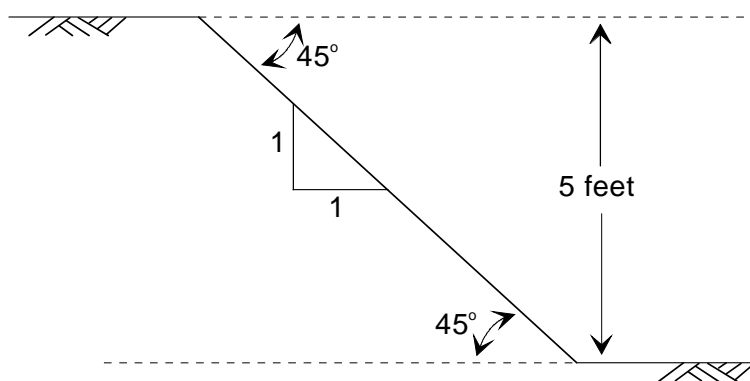
**Conventional gravity system:** a traditional onsite sewage system consisting of a (water-tight) septic tank and a subsurface absorption system with gravity distribution of the effluent

**Conventional pressure distribution system** – an on-site sewage system consisting of a septic tank and a subsurface soil absorption system with pressure distribution of the effluent.

**Covenant** – a recorded agreement stating certain activities and/or practices are required or prohibited.

**Cover material** – the material used to cover a mound system, usually selected because of its availability, cost, and ability to support vegetation, to transfer oxygen, and to shed water. It includes the cap and topsoil.

**Cuts and/or banks** – any naturally occurring or artificially formed slope greater than one hundred percent (forty-five degrees) and extending vertically at least five feet from the toe of the slope to the top of the slope as follows:



**Curtain Drain** - a subsurface drain designed and constructed to control groundwater and surface water intrusion into the area of the sewage system.

## D

**Decentralized wastewater treatment:** wastewater treatment and disposal systems handling a small volume of effluent, but serving multiple buildings, usually ones which are built close together, such as a small apartment complex.

**Demand system** – any system where the dosing frequency (or flow to a treatment or disposal component) is controlled by the volume of effluent flowing to the component. For a demand system

containing a pump and pressure distribution system, the pump turns on when sufficient volumes (demand) flow into the chamber causing the pump-on float to activate and the predetermined dose volume to be discharged to the treatment and /or disposal component which follows.

**Denitrification:** the removal of nitrogen from wastewater, normally by an anoxic process.

**Designer** – a person licensed by the Washington State Department of Licensing to match site and soil characteristics with appropriate on-site sewage technology.

**Discharge Effluent Pipe:** this pipe conducts septic effluent out of a pumping chamber (under pump power) or septic tank (by gravity).

**Disinfection Septic Systems** for onsite wastewater treatment: some onsite wastewater treatment and disposal systems are required to disinfect the effluent before it can be discharged to the environment. Sand bed systems, filter systems, and aerobic systems may require disinfection depending on the level of treatment achieved by other wastewater handling components.

**Dissolved oxygen (DO)** – the oxygen dissolved in water, wastewater, or other liquid, usually expressed in milligrams per liter (mg/l), parts per million (ppm), or percent of saturation.

**Disposal component** – a subsurface absorption system (SSAS) or other soil absorption system (for example, a mound) receiving septic tank or other pretreatment device effluent and transmitting into original, undisturbed soil.

**Distributing valve:** A valve that distributes flow to multiple drainfield laterals, zones or locations by automatically rotating upon each pump cycle. Mechanical distributing valves may also be used.

**Distribution Box** - a device used to uniformly distribute sewage to the

absorption area. Also referred to as "D-box", this component connects a single effluent line leaving the septic tank or other wastewater treatment component to the network of effluent distribution lines in a gravity absorption area.

**Distribution Line** - the non-perforated pipe used to distribute wastewater to the absorption area.

**Dosing** – the application of wastewater to a treatment or disposal system in discreet amounts over a definite time period, as opposed to an unregulated flow.

**Dosing tank/Chamber** - A tank that collects treated wastewater for period of time and then, periodically, discharges it into another treatment or disposal component, depending upon the needs and design of the particular on-site sewage system. Also known as a Pump Chamber.

**Drainfield (conventional)** or drain field or drainage bed or seepage bed or leachfield: see Absorption Area and Leach field. An area in which perforated piping is laid in drain rock-packed trenches, or excavations (seepage beds) for the purpose of distributing the effluent from a wastewater treatment unit.

**Drain rock** – Clean, washed gravel. May vary in size from ¾ inch to 2 ½ inches in diameter.

**Drinking Water** - water whose physical, chemical and biological quality is or is intended to be satisfactory for human consumption, food preparation or culinary purposes.

**Drywell:** a pit or hole in the ground, open to soil at its sides and bottoms, intended to receive and dispose of gray water (water from building non-sewage drains such as laundry, showers, sinks). A drywell, or "seepage pit" is used at some building sites to receive "gray water" from a laundry, sink, or shower. The pit may be site-built of stone or dry-laid concrete block, rubble-filled, or constructed of (safer) pre-cast concrete.

**Dye Test** or "Septic Loading and Dye Test": Septic dye tests involve flushing a special florescent dye down a toilet or other drain. Activated charcoal packets are placed in drainages, waterways or other locations where a septic system may fail too. The charcoal collects the dye if the system is short-circuiting to a drain or to the surface. A positive dye result indicates waste water is coming to the surface and the septic system is failing.

## E

**Effluent:** septic effluent is the clarified, partially treated liquid which leaves a septic tank. Large solids have been separated by settlement, by floating to coagulate in a grease and scum layer, or by filtration or other methods. Septic effluent moves out of a septic treatment tank into an absorption system (or other effluent treatment system) for further treatment and ultimate disposal or discharge to the environment.

**Engineer** – a person who is licensed and in good standing under chapter 18.43 Revised Code of Washington.

**Excreta** – Human urine and feces.

**Expansion** – a change in a residence, facility, site or use that: a) causes an on-site sewage system to exceed its existing treatment or disposal capability, for example, when a residence is increased from two to three bedrooms or a change in use from an office to a restaurant; or b) reduces the treatment or disposal capability of the existing on-site sewage system or the reserve area, for example, when a building is placed over a reserve area.

## F

**Failure** of a Septic System: A condition of an on-site sewage system that threatens the public health by inadequately treating sewage or creating a potential for direct or indirect contact between sewage and the public. Examples of failure include: (a) Sewage on the surface of the ground; (b) Sewage backing up into a structure caused by slow absorption of septic tank effluent;

(c) Sewage leaking from a septic tank, pump chamber, holding tank, or collection system; (d) Cesspool or seepage pits where evidence of ground water or surface water quality degradation exists; (e) Inadequately treated effluent contaminating ground water or surface water. (f) Noncompliance with standards stipulated on the permit.

**Final Treatment/Disposal Unit:** That portion of an on-site sewage system designed to provide final treatment and disposal of the effluent from a wastewater treatment unit, including, but not limited to, absorption fields (drainfields), sand mounds and sand-lined trenches.

**Fats, Oils & Grease (FOG)** - a FOG is a measure of the amount of fatty matter from animal and vegetable sources and hydrocarbons from petroleum products and waxes, such as from lotion, shampoos, and tanning oils. High levels of fats, oils, and greases in the wastewater stream may interfere with wastewater treatment and disposal efficiency.

**Filter** – a device or structure for removing suspended solid or colloidal material from wastewater.

**Filter media** – the material through which wastewater is passed for the purpose of treatment (ASTM C-33).

**Filtrate** – liquid which has passed through a filter.

**Final treatment/disposal unit** – that portion of an on-site sewage system designed to provide final treatment and disposal of the effluent from a treatment component, including, but not limited to, absorption fields (drainfields), sand mounds, and sand-lined trenches/beds.

**Force Main:** a (comparatively) smaller diameter sewage waste line used to move solid waste output from a grinder pump to a waste and wastewater treatment facility. Grinder pumps are used with "force main" septic systems to move waste products uphill to a private onsite wastewater treatment facility or in larger installations, to

move sewage or "blackwater" or waste products to a centralized treatment facility. Force mains used to carry sewage prepared by a grinder pump will generally be of smaller diameter than waste lines which work by gravity.

**French Drain** – see curtain drain.

## G

**Gray water** or grey water or graywater – that portion of the wastewater stream that originates in sinks, tubs, showers, laundry; i.e. all portions excluding toilet wastes.

**Gray water systems** or grey water septic systems refer to systems which reduce the liquid effluent load on a septic system by separating greywater (or graywater) from sinks and showers from blackwater (black water) from toilets. Greywater is wastewater which does not contain sewage, typically coming from building sinks, showers, and laundry facilities.

**Groundwater** - subsurface water occupying the zone of saturated soil, permanently, seasonally, or as the result of tides..

**Grain Size, Effective** - a measure of the diameter of soil particles, when compared to a theoretical material having an equal transmission constant. It is the dimensions of that mesh screen which will permit 10 percent of the sample to pass and will retain 90 percent.

**Grinder pumps:** a macerating pump capable of grinding up sewage, including the solid waste, so that the waste product can be pumped at pressure to a treatment system. Grinder pumps are used with "force main" septic systems to move waste products uphill to a private onsite wastewater treatment facility or in larger installations, to move sewage or "blackwater" or waste products to a centralized treatment facility. Force mains used to carry sewage prepared by a grinder pump will generally be of smaller diameter than waste lines which work by gravity.

## H

**Holding tank** - Septic Holding Tank Systems use a sealed tank to hold household waste and wastewater until the tank can be pumped out by a septic pumping company. Holding tanks have no drains and must be pumped.

## I

**Incinerator toilet systems:** incinerator toilets use electricity or gas to burn the waste placed into these systems.

**Infiltration** - the flow or movement of water into the interstices or pores of a soil through the soil interface.

**Infiltrative Surface:** In drainfields, the drain rock-original soil interface at the bottom of the trench; in mound systems, the gravel-mound sand and the sand-original soil interfaces; in sand-lined trenches/beds (sand filter), the gravel-sand interface and the sand-original soil interface at the bottom of the trench or bed.

**Influent:** Wastewater, partially or completely treated, or in its natural state (raw wastewater), flowing into a reservoir, tank, treatment unit, or disposal unit.

**Installer** – a qualified person approved by a local health officer to install or repair on-site sewage systems or components.

**Intermittent sand filter** – a sand filter in which pre-treated wastewater is applied periodically providing intermittent periods of wastewater application followed by periods of frying and oxygenation of the filter bed.

**Interceptor Drain** – see curtain drain

**Invert** - the floor, bottom, or lowest point of the inside cross section of a pipe.

## JKL

**Leach field** – see Drainfield.

**Lift pump:** a lift pump is used to move liquid effluent from a lower pumping chamber or effluent tank to a higher level tank or possibly out of an effluent tank up to a mound system, sand bed, or other elevated effluent treatment system.

**Local health department** - a city, county, or city-county department or district of health or a State Department of Health District Office.

**Local health officer** – the health officer of the city, county, or city-county health department or district within the state of Washington, or a representative authorized by and under the direct supervision of the local health officer, as defined in chapter 70.05 Revised Code of Washington.

## M

**Media filter septic systems:** Media filter septic systems use a conventional septic tank followed by any of several methods to further filter and treat septic effluent before it is discharged to the soil, soil surface, or waterway. A sand filter is a typical media filter.

**Metabolism:** The sum of all of the biochemical processes employed in the breakdown of organic compounds (catabolism) and in the building up of cell protoplasm (anabolism). Metabolic processes convert chemically-bound energy into energy forms that can be used to support life. One of the processes in the breakdown of wastewater by microorganisms.

**Mound (sand mound)** - a disposal component in which a specific sand media is placed upon the ground surface, after the ground surface has been properly prepared. Effluent from a treatment component is discharged into a bed above the sand, is treated by flowing downward through the sand and is discharged directly into the underlying soil where it is disposed of (with some additional polishing).

## N

**Net free area or effective septic tank working volume** The "net free area" or "effective septic tank volume" is the actual tank interior volume minus the space occupied by settled sludge and floating scum. Net free area or effective septic tank working volume is discussed when considering effluent retention time since a small net free area reduces the effluent retention time in the septic tank.

**Non-potable well** - water used for irrigation, etc, but not for human consumption.

## O

**Obstructed land** - areas on property used for such purposes as pools, concrete slabs, buildings, driveway, parking and similar areas which would prohibit, hinder, or affect the installation, operation, or maintenance of onsite sewage disposal system

**On-site Sewage System (OSS):** [or Onsite Wastewater Treatment System or Septic System] An integrated arrangement of components for a residence, building, industrial establishment or other places not connected to a public sewer system which: (a) Convey, store, treat, and/or provide subsurface soil treatment and disposal on the property where it originates, upon adjacent or nearby property; and (b) Includes piping, treatment devices, other accessories, and soil underlying the disposal component of the initial and reserve areas.

**Ordinary high-water mark** – the mark on lakes, streams, and tidal water, found by examining the beds and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland with respect to vegetation, as that condition exists on the effective date of the regulations, or as may naturally change thereafter.

**OTL - Onsite [Wastewater] Treatment Level:** the level of treatment of wastewater by an onsite facility before the wastewater is discharged to the environment.

**Overall Treatment Level** of wastewater (OTL) describes the degree of sanitization of wastewater that occurs as wastewater passes through a treatment system. It is a scale of the level of water pollution which ranges from an OTL of 0% (or 10 on a pollution scale) (untreated raw sewage effluent) to an OTL of 100% (or 0 on a pollution scale). An OTL of 100% means that the output of the treatment system has produced water of the same quality as drinking water. While drinking water standards vary among various states, provinces, and countries, drinking water standards specify the level of allowable bacteria (such as less than one CFU per 100 ml of water) as well as the allowable levels of nitrites, nitrates, and a long list of common chemical contaminants. The U.S. EPA National Primary Drinking Water Standards list 87 contaminants that must be tested in approving water for human consumption.

All of these need to be addressed by the wastewater treatment system. The typical OTL of an onsite wastewater treatment system is required to discharge effluent which is at least as clean as normally-occurring groundwater. Some treatment systems produce a lower OTL and require disinfection. Other wastewater treatment systems produce water which is cleaner than local groundwater.

## P

**Particle size** – the diameter of a soil or sand particle, usually measured by sedimentation or sieving.

**Percolation** - the movement of water through the pores of a soil or other porous medium following infiltration through the soil interface. The liquid may or may not fill the pores of the medium.

**Perc Test / Soil Percolation Test:** A hole, 5-7 feet deep is dug in an area to be tested for future use as a drain field, or near the drain-field area in representative soils. Water is poured into the hole and the soils or septic engineer or contractor observes the rate at which soil absorbs the water by noting the time that it takes for the level of water in the hole to drop one inch

(for example). More precise "perc tests" may involve using a specific quantity of water or a hold of specific dimensions to make these observations. "Perc" tests are no longer used in the State of Washington to determine soil absorption capacity.

**Performance standard** – a standard used to judge whether predetermined requirements have been met, such as the necessary level of treatment for waste stream, after the completion or initiation of operation. Performance standards generally are in the form of a predetermined level or concentration of a particular compound or constituent that is allowed in a waste effluent.

**Permeability** - a measure of the rate of movement of liquid through soil.

**Person** – any individual, corporation, company, association, society, firm, partnership, joint stock company, or any governmental agency, or the authorized agents of any such entities.

**Pollution** (of water or wastewater): contamination of water (or air or other substances) with unwanted and potentially harmful substances, making the water (or air or other) unsuitable for human consumption, harmful to animals, and (depending on whose definition) unsuitable for agricultural, industrial, or recreational use. Where conventional septic tank and drainfield onsite wastewater treatment is in use the chief pollutants released by the system are bacteria (fecal coliform) and nitrates. Under current practices, the level of sewage treatment which a given wastewater treatment system provides to its effluent prior to discharge is generally described as primary, secondary, or tertiary, with the last term representing the most thorough treatment.

**Ponds for wastewater treatment:** a large basin which holds and treats wastewater by bacteria and/or algae which form in the treatment pond. Treatment ponds are usually site-constructed and may use a pond bottom liner in addition to earth berms to form the treatment container.

**Potable well** - water used for drinking

**Pressure distribution** - a system of small diameter pipes equally distributing effluent throughout a trench or bed, as described in the "Guidelines for Pressure Distribution Systems" by the Washington State Department of Health.

**Pressure sewer:** see *Force Main*

**Proprietary device or method** – a device or method classified as an alternative system, or a component thereof, held under a patent, trademark or copyright.

**Pump chamber:** A tank or compartment following the septic tank or other pretreatment process, which contains a pump, floats, and volume for storage for effluent. Effluent is pumped from the pump chamber to another pretreatment process or to the disposal component. In certain types of pressure distribution systems, this may also be called a "surge tank." If a siphon is used, in lieu of a pump, this is called a "siphon chamber."

**Pumper** – a person approved by the local health officer to remove and transport wastewater

**OR**

**Raised Bed Septic Systems:** a wastewater absorption trench system which has been constructed in soil-fill material which has been placed on top of the natural soil on a building lot. Raised septic bed systems make at least partial use of existing soils for wastewater treatment.

**Raw wastewater** – wastewater before it receives any treatment.

**RCW** – Revised code of Washington – Law that was passed by the Washington State House of Representatives and Senate and signed by the governor.

**Receiving Environment (RE):** the environment, generally soils or nearby waterways, which receive effluent which has been treated by an onsite wastewater

treatment system. A general objective of wastewater treatment systems is to discharge into the receiving environment water which is as clean or cleaner of pollutants than the naturally occurring groundwater in the same locale.

**Recirculating sand (gravel) filter** – a sand (gravel) filter which processes liquid waste by mixing filtrate with incoming septic tank effluent and recirculating it several times through the filter media before discharging to a final treatment/disposal unit.

**Repair** – restoration, by reconstruction or relocation, or replacement of a failed on-site sewage system.

**Reserve area** – an area of land approved for the installation of a conforming system and dedicated for replacement of the on-site sewage system upon its failure.

**Residential sewage** – sewage having the constituency and strength typical of wastewater from domestic households.

**Restrictive layer** – a stratum impeding the vertical movement of water, air, and growth of plant roots, such as hardpan, clay pan, fragipan, caliche, some compacted soils, bedrock and unstructured clay soils.

**Retention time** in septic tanks: the length of time (hours or days) that septic effluent remains in the septic tank before moving out to the treatment or absorption system.

## S

**Sand filter** – a biological and physical wastewater treatment component consisting (generally) of an under drained bed of sand t which pre-treated effluent is periodically applied. Filtrate collected by the under drains is then disposed of by an approved soil absorption system. Pretreatment can be provided by a septic tank or another approved treatment component.

**Sand-lined drainfield trench/bed (sand filter)** – a combination of a pressure distribution drainfield and an intermittent

sand filter consisting of a two-foot layer in the pressure distribution drainfield trench.

### **Saturated vs. Non-Saturated**

**Wastewater Treatment Systems:** A wastewater treatment system such as an aerobic treatment unit (ATU), because it involves a tank filled with wastewater and forced oxygenation of that wastewater, is a type of saturated wastewater treatment system. Other non-saturated wastewater treatment systems such as trickling filter beds use passively-infused air to support their oxygen-supported microorganisms. Unlike ATUs, non-saturated systems allow passive air contact with effluent as it moves through the media. Air is not being pumped. Both types of systems make use of aerobic microorganisms.

**Scum** - the wastewater material which is less dense than water and floats on top of the water.

**Secondary Effluent Treatment:** the level of septic effluent treatment provided by a centralized wastewater treatment plant, obtains about 85% reduction BOD and TSS or 30 mg/l.

**Seepage pit** – an excavation more than three feet deep where the sidewall of the excavation is designed to dispose of septic tank effluent. Seepage pits may also be called “dry wells.”

**Septage:** the mixture of solid wastes, scum, sludge, and liquids pumped from within septic tanks, pump chambers, holding tanks, and other on-site sewage system components.

**Septic System:** A set of components to receive, treat, and dispose of sewage at a residential or other property, typically including a tank to receive and hold solid waste and a treatment system to sanitize and dispose of clarified septic effluent or wastewater, such as a septic leach field or drainfield, or an advanced or alternative wastewater treatment system such as a septic mound, raised bed septic system, or an aerobic septic system.

**Septic Tank:** a watertight pretreatment receptacle receiving the discharge of sewage from a building sewer or sewers, designed and constructed to permit separation of settleable and floating solids from the liquid, detention and anaerobic digestion of the organic matter, prior to discharge of the liquid.

**Sequencing batch reactor:** wastewater treatment systems use activated sludge to treat wastewater in a single tank for all of the treatment functions and steps.

**Service interval** – the time period between planned site visits to perform various system monitoring functions such as checking equipment, renewing depleted disinfectant chemical supplies, collecting samples. The service intervals may be specified by contracts, operation plans, or local health jurisdiction permits.

**Setbacks** - Clearances or Distances Required for Septic Components: because onsite wastewater treatment systems may discharge septic effluent into local soils or even nearby surface water or ground water, separation distance is required between various septic system components (septic tank, drainfield, piping) and other common property features (buildings, wells, property lines, nearby streams or ponds).

**Sewage** – any urine, feces, and the water carrying human wastes, including kitchen, bath, and laundry wastes from residences, building, industrial establishments or other places. See also “residential sewage.”

**Sludge, septic:** settled solid waste at the bottom of a septic tank. Sludge is semi-solid organic waste.

**Soil Absorption System** or Subsurface Soil Absorption System - "SSAS": A system of trenches three feet or less in width, or beds between three feet and ten feet in width, containing distribution pipe within a layer of clean gravel designed and installed in original, undisturbed soil for the purpose of receiving effluent and transmitting it into the soil.

**Soil Auger:** "... Like a probe, an auger provides a column of soil for viewing when extracted. Auger diameters are typically larger than probes, and extensions can be added to access deeper into the soil. An auger produces larger samples and is more effective in rocky areas than a probe, although it still may be difficult to use due to rocks."

**Soil Log:** a detailed description of soil characteristics providing information on the soil's capacity to act as an acceptable treatment and disposal medium for sewage.

**Soil Pit or Test Hole:** "... a dug-out area near the perimeter of an expected drainfield area. Soil pits provide the best method for viewing both undisturbed soil and how soil varies over the depth of the pit. Pits may be the only reliable method to determine depth to bedrock.

**Soil Probe:** "... a hollow tube that, when pushed into the soil and extracted, gives an undisturbed column of soil for viewing. Probes vary in length and diameter. Usually extensions can be added to probe deeper into the soil. It is the quickest method of looking at soil, and also allows you to detect faint soil mottling or cemented layers.

**Soil type** – a numerical classification of fine earth particles and coarse fragments as described by Federal, State and local regulations.

**Stratified sand filter** – a sand filter which is constructed with varying specific filter sand media, placed in horizontal layers of specified thickness, separated by supporting layer of graded gravel.

**Suitable soil** – Original, undisturbed, unsaturated soil of types permissible for on-site sewage systems.

**SSAS or Subsurface soil absorption system** – a system of trenches of three feet or less in width or beds between three and ten feet in width, containing distribution pipe within a layer of clean gravel designed and installed in original, undisturbed soil for the

purpose of receiving effluent and transmitting it into the soil.

**Surface water** – any body of water, whether fresh or marine, flowing or contained in natural or artificial unlined depressions for significant periods of the year, including natural and artificial lakes, ponds, springs, rivers, streams, swamps, marshes, and tidal waters.

**Suspended Growth vs. Attached Growth Aerobic Treatment Systems:** Oxygen-supported (aerobic) bacteria in the mixed liquor perform the primary treatment in the system. As the bacteria themselves die off they remain suspended in the mixed liquor - a "suspended growth aerobic treatment system". Alternatively, a media, such as synthetic fabrics, may be suspended in the treatment tank, permitting the bacteria to attach to the media surfaces - an "attached growth aerobic treatment system".

**Suspended growth wastewater treatment** systems use activated sludge wastewater treatment to process waste: completely-mixed activated sludge (continuously receiving input), plug flow activated sludge systems (wastewater is treated in individual batches), sequencing batch reactors, aerated stabilization lagoons, attached growth systems, trickling filters, rotating biological contractors, and sand filters.

## T

**Timer-controlled system** – a pressure distribution system where the pump on and off times are regulated over time.

**Treatment Component:** any approved method of, or device for, treatment of sewage to a level that is suitable for further treatment and dispersal into the subsoil environment by the disposal component.

**[Septic] Tilt Switch:** also known as a float switch. A switch used to turn a septic pump on and off. Typically the septic tilt switch is

located in a steel container or "can" (to prevent interference from solid waste) or may be encased in an epoxy block (to protect the switch and make it waterproof) and is used to control a septic effluent pump. Tilt switches work by gravity (and changes in the liquid level in a tank) to turn a pump on or off. Where the tilt switch is affixed to a levered float which moves up or down (tilts) in response to changes in the liquid level in a tank, it may also be called a *float switch*. A steel ball enclosed in a tube moves to close or open an electrical circuit by either touching two electrical contacts (wire ends inside the tube) or, as the tube slopes to put the wire ends in the "up" position, the steel ball rolls away from the electrical wire ends and thus opens or turns "off" the circuit.

**Trickling filter wastewater treatment** systems employ a porous material on which microorganisms become attached to form a biomat (or "slime layer"). Wastewater treatment systems using gravel, slag, or even chopped plastic scrap are used in these systems. Effluent is collected after passing through the system by a piping system which permits oxygen to enter the filter and which collects solids which have passed through. (Compare with attached growth and media filter systems.

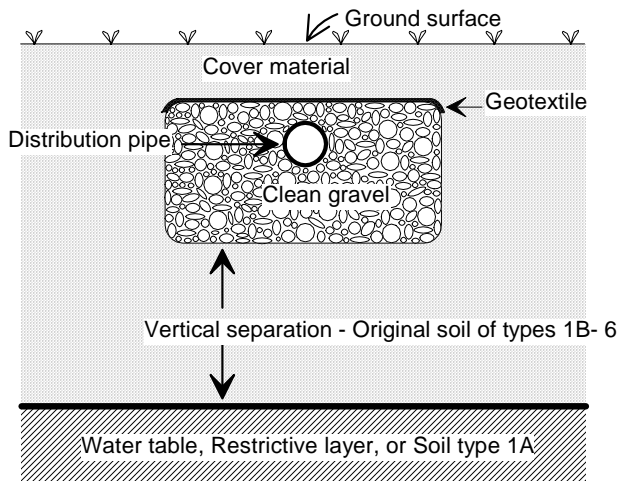
**TSS - Total Suspended Solids** the total amount of suspended solid material in sewage - matter that has not either settled to the bottom of a septic tank as sludge or coagulated at the top of a septic tank as the floating scum layer.

## U

**Useable Soil** – See also "suitable soil."

## VWXYZ

**Vertical Separation:** The depth of unsaturated, original, undisturbed suitable soil between the bottom of a disposal component and the highest seasonal water table, a restrictive layer, or unsuitable soil



**Wastewater:** Water-carried human excreta and/or domestic waste from residences, buildings, industrial establishments or other facilities. (See SEWAGE.)

**Wastewater Treatment Unit:** A unit designed, constructed, and installed to stabilize liquid waste by biochemical and physical action.

**Wastewater Design Flow:** The volume of wastewater predicted to be generated by occupants of a structure. For residential dwellings, this volume is calculated by multiplying the number of bedrooms by either 120 or 150 GPD (gallons per day).

**Water Softener:** Water softeners remove unwanted minerals from the water supply using one of several methods such as ion exchange. A high level of minerals in water, referred to as "hard" water, can lead to clogged pipes and other plumbing problems as well as aesthetic concerns such as unpleasant bathing (difficult to obtain a soap lather) or tastes in water.

**Wastewater Treatment:** The process of removing pollutants and pathogens from wastewater, discharging the water to the environment, ... , and disposing of the byproducts of the treatment process.

**Watercourse** - a visible path through which surface water travels on a regular basis. Drainage areas which contain water only

during and immediately after a rainstorm shall not be considered a watercourse.

**Waterless septic systems:** do not exist, but this term may be used to describe waterless toilets, composting toilets, chemical toilets, and incinerating toilets to receive blackwater or sewage from a building. A true "waterless" system does not exist because even these special toilets depend on greywater (from sinks, showers, laundry) having been separated and disposed-of by other means. The toilet types listed will require maintenance and disposal of their contents.

**Well head area** - the area surrounding a well which includes the cone of influence (where the drawdown of groundwater causes groundwater flow).

**Wetland** - an area(s) of marshes or swamps which have been designated as such by Federal, State or other agencies having jurisdiction. Wetlands may be pre-existing swamps or marshes or they may be constructed anew. In either case they are considered a "natural" system. Some "constructed wetlands" are used to treat septic effluent.