

GLOSSARY

- Acre-foot**— Volume of water (stone in a trickling filter) required to cover 1 acre 1 foot deep. Equals 43,560 cubic feet.
- Activated sludge**— Sludge settled out of aerated sewage.
- Activated-sludge process**— Sewage treatment in which sewage is brought into contact with air and with biologically active sludge. The sludge is separated by sedimentation, leaving a clear effluent.
- Adsorption**— Adhesion in a thin layer of molecules of gases, dissolved substances, or liquids to the surfaces of solid bodies. Results in a relatively high concentration of gas or liquid on the surfaces.
- Aeration**— The process of adding air to a liquid, either by passing finely divided liquid through the air or by passing diffused air through a liquid.
- Algae**— Small plants, generally one-celled, which may give water a color, taste, odor, or turbidity when present in large numbers. They do not cause human disease but do affect the dissolved oxygen content of the body of water in which they exist.
- Alternating device**— Used in a sewage treatment plant to deliver sewage automatically or manually into different parallel treatment units according to a predetermined cycle.
- Alum**— Common name for aluminum sulfate, a chemical used for coagulation in purifying water and sewage.
- Anaerobic**— Able to live in absence of free oxygen.
- Average flow**— The amount of sewage that will be produced by an individual or facility during a given period of time. It is used as a criteria for design of the treatment works.
- Backfill**— The process of refilling an excavation, usually after some object has been placed in it. Also the material placed in such an excavation.
- Bacteria**—
 Pathogenic— Bacteria causing disease.
 Saprophytic— Bacteria living on dead organic matter.
- Baffles**— Wood, metal, or masonry deflectors that divert, guide, or agitate the flow of liquid.
- Bell-and-spigot-joint**— A joint made by inserting the small end (spigot) of one pipe into the flared end (bell) of another. Calking is tamped around the spigot in the bell to seal the joint.
- Biochemical action**— Chemical action from the activity of living organisms.
- Biochemical oxygen demand**— Quantity of oxygen required for biochemical oxidation in a given time at a given temperature, usually for 6 days at 20° C.
- Bleach**— Chloride of lime, an unstable material of indefinite composition. Term sometimes applied incorrectly to calcium hypochlorite.
- Blowoff**— A waste gate or valve for discharging tank content or emptying a depressed sewer.
- Branch**— Special forms of vitrified sewer tile and cast-iron pipe for connecting to a sewer or water main.
- Capacity factor**— A multiplier used with the authorized population to obtain the design population.
- Catch basin**— Chamber or well designed to keep grit and debris out of a sewer.
- Centigrade**— Temperature scale with 0° as the freezing point and 100° as the boiling point of water.
- Centrifuge**— A device which separates a mixture of solids and liquids by rapid rotation.
- Cesspool**— Pit into which sewage or other liquid waste is discharged and out of which the liquid seeps into surrounding soil.
- Chamber**— General term for a space inclosed by walls; a compartment. Often prefixed by a descriptive word, as *grit* or *screen* to indicate contents, or *discharge* or *flushing* in indicate purpose.
- Diversion**— Chamber containing a device for diverting all or part of the flow through it.
- Flowing through**— Upper story or compartment of a two-story sewage-sedimentation tank.
- Screen**— Chamber in a sewage treatment plant containing screens.
- Settling**— Sometimes used to designate the sedimentation compartment of two-story tank, as in the case of the Imhoff tank.

- Sludge digestion*— Any chamber used for the digestion of sludge; lower story of an Imhoff tank.
- Chlorination*— Treatment with chlorine or chlorine compounds to disinfect or oxidise matter or retard its decomposition.
- Chlorinator*— Device for adding dissolved chlorine to sewage.
- Chlorine liquid*— Chlorine gas which has been liquefied under pressure.
- Clarification*— Process of removing suspended and colloidal matter from a turbid liquid.
- Coagulation*— Flocculation of colloidal material.
- Coefficient*— Number used in a formula to express the relationship of variables such as temperature and pressure under the conditions to which a formula applies.
- Coefficient of discharge*— Coefficient applied to formulas for discharge of water over or through weirs, orifices, or other hydraulic measuring devices to modify the theoretical formula to fit actual test results.
- Collecting system*— A system of sewers and appurtenances for the collection and transportation of sewage.
- Colloid*— Any substance finely dispersed so it will not settle from a liquid but not soluble in the liquid. It can be precipitated by chemical treatment or by contact with solid surfaces.
- Contact aerator*— Aeration tank holding asbestos plates, broken stone, coke, brushwood, or other media through which the sewage flows.
- Contamination*— Introduction of pathogenic bacteria into water, making it unfit for human consumption.
- Cradle*— Support for pipe laid above the surface of the ground or in soft earth.
- Cubic foot per second*— The flow of 1 cubic foot of water past a given point in 1 second. Also termed second-foot.
- Debris*— Floating trash, suspended sediment or bed load moved by a stream.
- Design population*— The population obtained by multiplying the authorised military and tributary population by the proper capacity factor.
- Detritus tank or chamber*— Settling tank of short detention period, primarily for removing heavy settling solids. Detention chamber, larger than grit chamber, usually designed so sediment can be removed without interrupting sewage flow.
- Diffuser*— Porous plate or other device through which compressed air enters sewage.
- Digestion*— Biochemical decomposition of organic matter to form mineral and simpler organic compounds.
- Dilution*— Method of disposing of sewage or effluent by discharging into a stream or other body of water. Ratio of volume of flow of a stream to the volume of sewage or effluent discharged into it.
- Discharge capacity*— Maximum rate of flow of water passing through a conduit, channel, or other hydraulic structure.
- Disinfection*— Partial destruction, ordinarily by chemicals, of micro-organisms likely to cause disease.
- Distributor*— Used to apply sewage to the surface of a filter.
- Fixed*— Perforated pipes, notched troughs, slopping boards, or sprinkler nozzles.
- Movable*— Rotating or reciprocating perforated pipes or troughs that supply spray or a thin sheet of sewage.
- Division box*— Installed in a conduit to divide the flow equally or in various proportions to other channels.
- Drying sludge*— Process of reducing the moisture content of sludge by drainage or evaporation through exposure to air, application of heat, or other methods.
- Effluent*— Partly or completely treated sewage flowing out of a sewage treatment device.
- Examination of water or sewage*—
- Bacterial*— Examination of water to determine contamination which might affect the sanitary quality of the water; an examination to determine the effectiveness of previous treatment.
- Chemical*— Determining the character and composition of material in solution or suspension.
- Microscopic*— Determining the presence of microscopic organic growth which might be objectionable or harmful.
- Physical*— Determining physical characteristics such as temperature, turbidity, settleable solids, color, taste and odor.
- Facultative bacteria*— Bacteria that can live in the presence or absence of oxygen.
- Filter*—
- Sand*— Filter in which sand is the filtering medium.
- Sprinkling*— Trickling filter in which sewage is applied by spray.
- Trickling*— Filter having an artificial bed of coarse material over which sewage is distributed and through which it trickles to underdrains, permitting oxidation of organic matter by biochemical agencies.

Filtering media—Materials through which liquid applied to a filter must pass.

Filtration—Process of passing a liquid through a porous medium to remove suspended and colloidal matter and oxidize the dissolved organic matter. Sometimes loosely applied to removal of solids and liquid organic matter by treatment beds.

Find-settling tank—Tank through which effluent of a trickling filter or other oxidizing device passes for removal of settleable solids.

Fines—Finer-grained particles of soil, sand, or gravel.

Floc—Small gelatinous particles suspended in sewage. They are formed from colloidal solids, bacterial masses, and precipitated chemicals.

Flocculation—Formation of floc either by biochemical action or slow stirring, with or without addition of chemicals.

Flow—Movement of water, silt, sand, or other mobile material. Quantity of water carried by a stream or pipe, expressed in terms of volume per unit of time. Stream of water that is moving or flowing.

Dry-weather—Flow in a sewer during dry weather. Such flow consists entirely of sewage and wastes and does not include storm water. Flow of water in a stream during dry weather, usually entirely ground water.

Radial—Flow of liquid across a tank, either from the center to the periphery, or vice versa.

Flume—Open conduit of wood, masonry, or metal constructed on a uniform grade.

Flushing—Removing material deposited in a sewer or basin by washing out with a large flow of water or sewage.

Freeboard—Vertical distance from normal maximum level of liquid surface to the top of the channel or tank.

Fungi—Small nonchlorophyll plants which may cause disagreeable tastes and odors in water when they decompose.

Gauge—

Differential—Device that measures difference in pressure between two points in a pipe or receptacle containing a liquid.

Float—Device for measuring elevation of the surface of a liquid. Actuating element is a buoyant float.

Hook—Pointed U-shaped hook, attached to a staff or vernier scale, used to measure elevation of water surface accurately.

Indicator—Device that shows by a pointer the instantaneous value of such quantities

as depth, pressure, velocity, stage, discharge, or movements and positions of water-controlling devices.

Pressure—Device for registering pressure of liquids or gases. It may be graduated in pounds per square inch or in equivalent feet of head.

Recording—Device that makes a continuous record, either graphical or in tabular form. Also called a *register*.

Staff—Graduated rod or board used to determine elevation of water surface in a stream channel, conduit, or tank.

Water level—Device indicating water level in a reservoir or other receptacle.

Gas Vent—Passage for escape of gases from decomposition. Opening in digestion chamber of Imhoff tank to allow liberated gas to escape without passing through sewage in the settling chamber.

Grade—Elevation of the invert of a pipe line, canal, culvert, or sewer.

Hydraulic—Line joining the elevations to which water would rise in freely vented pipes from a closed conduit or water-bearing stratum under pressure. A line that coincides with the surface of the flowing water in an open channel flowing less than full and not under pressure.

Gravity system—System in which all sewage flows on descending grades from source; one requiring no pumping.

Grit chamber—A small detention chamber, or an enlargement of a sewer, designed to reduce sewage velocity enough to let the heaviest solid matter settle.

Head—Height of free surface of a body of water above a specified point.

Friction—Head or energy lost by water flowing in a stream or conduit because of disturbances set up by contact between moving water and its conduit and also because of intermolecular friction. Head losses from bends, expansions, obstructions, and impact are commonly included under this term.

Pressure—Head on any point in a conduit represented by the height of the hydraulic grade line above that point.

Static—Elevation of a motionless body of water above a specified point.

Total—Sum of static, friction, and velocity heads.

Velocity—Elevation required to impart a specified velocity to water. It is equal to

the vertical distance a body must fall freely to acquire that velocity.

Weir— Vertical difference in elevation between the crest of a weir (apex of a triangular weir) and the water surface in the channel above the weir. It does not include the head corresponding to the velocity of approach, unless so specified.

Hydraulics— Science concerned primarily with the mechanics of fluids, especially water.

Hydraulic gradient— Surface slope of liquid in a sewer.

Hydrogen ion concentration (pH)— Index of the acidity or alkalinity of a liquid. The greater the hydrogen ion concentration, the greater the acidity of the liquid. A pH value of 7 is neutral; values below 7.0 are acid; values above 7.0 are alkaline. The pH value of a liquid is determined either by potentiometer measurement or by comparison with color standards after adding certain reagents. (A rough check can be quickly made with litmus paper.)

Imhoff tank— Deep two-story tank having an upper, continuous-sedimentation chamber and a lower, sludge-digestion chamber. The floor of the upper slopes steeply to trapped slots through which solids settle into the lower. The lower chamber does not receive fresh sewage directly but has gas vents and means of taking out digested sludge near the bottom.

Infiltration— Leaching of water from ground into a sewer.

Influent— Sewage, raw or partially treated, flowing into any sewage treatment device.

Inlet— Surface connection to a closed drain; structure at the diversion end of a conduit; upstream end of any structure through which water may flow; connection between surface of ground and sewer for admitting surface or storm water.

Intermittent filter— Natural or artificial bed of sand or other fine-grained material to which sewage is applied in doses. Sewage flowing through is filtered, and the organic matter is oxidized.

Invert— Refers to floor, bottom, or lowest point in the internal cross section of a sewer.

Irrigation—

Broad— Irrigation of crops with sewage. Differs from sewage farming because sewage disposal is the primary object of broad irrigation with the raising of crops incidental.

Subsurface— Process of applying sewage to land by distributing it beneath the surface through open-jointed pipes or drains.

Surface— Process of distributing sewage over surface of ground.

Lamphole— Refers to pipe connecting to sewer with a wye or tee connection which permits inspection and flushing of the sewer by fire hose to clear it of heavy obstructions.

Leaching— Escape of water or sewage from a dry well or cesspool into surrounding permeable soil.

Manhole— Shaft into a sewer large enough to admit a man.

Drop— Manhole having an influent sewer from which sewage falls to a lower level.

End— Manhole at upstream end of a sewer.

Junction— Manhole at junction of two or more sewers.

Line— Manhole in sewer at place where no other sewers connect. It may be where the sewer changes direction either in line or grade.

Manhole cover—

Tight— Cover without openings.

Ventilated— Manhole cover with ventilation openings.

Manometer— U-shaped tube that contains a liquid. The surface of the liquid in one end of the tube moves up or down proportionally with increase or decrease in pressure on the liquid in the other end.

Micro-organism— Small living organisms which can be seen only under a microscope.

Nozzle— Short conical-shaped tube used as an outlet for a hose or pipe. Velocity of the emerging stream of water is increased because of the reduced cross-sectional area of the nozzle.

Sprinkler— Nozzle used to apply sewage as spray to a trickling filter.

Overflow— Device that discharges excess storm flow from a combined sewer.

Oxygen deficiency— Difference between the amount of oxygen in water and total amount of oxygen needed to satisfy the biochemical demand. Usually expressed in parts per million.

Parshall flume— Special flume used to measure water flow in open conduits.

Peak flow— The largest amount of sewage that will flow through the sewer at any given time. It is used as a criteria for the design of the sewer size.

Percolation— Flow or trickling of a liquid through a relatively coarse filtering medium. Liquid usually does not completely fill the pores of the medium.

Pipe—

Suction— Inlet of a pump through which water is lifted by suction from the water level to the pump.

Vitrified-clay— Clay pipe having glazed surface that makes it watertight. Principally used for sewage.

Pneumatic ejector— Compressed-air device for lifting liquids or sludge. Liquid passes through an inlet check valve into a chamber. When the chamber is full, a float opens the compressed-air valve. Compressed air ejects the liquid through the outlet check valve into a discharge pipe.

Pollution— Introduction into water of any substance (s) that make it objectionable to the senses of sight, taste, or smell.

Potable— Term describing clean, relatively pure water considered satisfactory for domestic consumption.

Precipitation— Term applied to rainfall or snowfall; the passing of a substance out of solution into solid form.

Chemical— Precipitation of a substance in solution, caused by adding chemicals. Accelerating sedimentation of sewage solids by adding chemicals that coagulate the suspended or colloidal matter. Process of softening hard water by adding lime or sodium carbonate.

Priming— Starting the flow in a pump or siphon.

Protozoa— One-celled animals, the lowest and simplest form of animal life. Some types found in water are similar to algae, which are plants.

Pump—

Air-chamber— Displacement pump with an air chamber in which air is alternately compressed and expanded by water which the pump displaces, resulting in a more even rate of discharge.

Centrifugal— Impeller pump having straight or curved vanes fixed radially on a shaft and inclosed in a casing. Water enters near the center of the vanes. Rotating velocity imparted to water is converted to pressure.

Impeller— Any pump that moves water by application of power from a mechanical agency or medium.

Reciprocating— Displacement pump with one or more closed cylinders. Each cylinder contains a piston or plunger that draws liquid into the cylinder through the inlet valve and forces it out through the outlet valve. When only one end of the cylinder

acts on the liquid, the pump is *single acting*; when both ends act on the liquid, it is *double acting*.

Purification— Removal, by natural or artificial methods, of objectionable matter from water or sewage.

Degree of— Measure of how completely such impurities as bacteria and organic matter are destroyed or removed from sewage.

Self— Destruction of objectionable impurities from water or sewage by natural means.

Putrefaction— Decomposition of organic matter with ill-smelling products. Occurs under conditions of oxygen deficiency.

Putrescibility— Susceptibility of waste waters, sewage, effluent, or sludge to putrefaction. The relative tendency of organic matter to decompose in the absence of oxygen.

Rainfall— Amount of rain, usually expressed as depth in inches on a unit area, that reaches the surface of the earth.

Reagents— Substances which are added to a liquid to detect or measure the pH value by means of the reaction (color) which they cause.

Relative stability— Ratio, expressed in percentage, of oxygen available to oxygen *required* for complete biochemical oxidation of organic matters in waste water, sewage, effluent or diluted sewage.

Reoxygenation— Recombine oxygen with a liquid, such as the liquid portion of sewage.

Riparian right— Common-law right of the owner of land abutting upon a natural body of water to use such water “undiminished in quantity and unaffected in quality.” This right has been abrogated in a number of western States and greatly modified in others. In general, each riparian owner may make reasonable use of water, extent of use being governed by reasonable requirements of other riparian owners and by quantity of water available.

Sanitary survey— A study of the environmental conditions of a water source that might affect its use for domestic consumption.

Saturation— Condition of a liquid when it has taken into solution the maximum possible quantity of a given substance at a given temperature and pressure.

Saturation deficit— Difference, expressed in percentage, between the amount of dissolved oxygen in a stream and the amount needed to produce oxygen saturation under given conditions.

Screen— Device used to retain coarse sewage solids. The screening element may consist of

- grating, wire mesh, perforated plate, or parallel bars, rods, or wires. Screen openings may have any shape, usually circular or rectangular slots.
- Bar*— Screen having parallel bars or rods. placed over an opening to prevent entrance of large solids.
- Coarse*— Screen least dimension whose openings are usually larger than 1 inch.
- Fine*— Screen whose least dimension openings are 1/4 inch or less.
- Screening*— Process of removing, by racks or screens, the relatively coarse and suspended solids in water, sewage, and racks.
- Screenings*— Material removed from sewage by screens and racks.
- Scum*— Sewage solids floating at the surface buoyed up by entrained gas, grease, or other substance.
- Second-foot (cfs)*— Term used to express rate of flow of water. Equals 1 cubic foot per second.
- Sediment*— Any material carried in suspension by water which settles to bottom when water loses motion.
- Sedimentation*— Settling of suspended matter in a liquid by gravity.
- Sedimentation tank*— Tank or basin in which sewage is retained until suspended matter settles.
- Separate system*— System of sewers in which sewage and storm water are carried in separate conduits.
- Septic tank*— Settling tank that retains the sludge in immediate contact with the sewage that flows through the tank. Sludge is retained long enough to secure satisfactory decomposition of organic solids by anaerobic bacterial action.
- Settleable solids*— Suspended solids which settle in quiescent sewage within a reasonable period.
- Settling*— See sedimentation.
- Settling chamber*— Sometimes used to designate the sedimentation compartment of a two-story tank, as in the case of the Imhoff tank. (See *sedimentation tank*.)
- Sewage*— Wash water and water-carried animal, culinary, and industrial wastes. Liquid waste containing human excreta and other matter flowing in or from a house drainage system or sewer, excreta including feces, urine, secretions from the skin, and expectoration. Liquid wastes from institutions, stables, and business buildings. Combination of liquid wastes with such ground, surface, and storm water as may enter the sewers.
- Dilute*— Sewage containing a relatively small quantity of organic matter.
- Domestic*— Sewage derived principally from dwellings, business buildings, institutions, and like sources. It may or may not contain ground water, surface water or storm water, and may contain a small proportion of industrial wastes. Somewhat more general term than sanitary sewage.
- Filtered*— Effluent of a sewage filter.
- Fresh*— Sewage of recent origin which still contains dissolved oxygen.
- Industrial sewage*— Sewage from industrial processes.
- Sanitary*— Sewage from the sanitary conveniences of a dwelling, business building, factory, or institution. The water supply of a community after it has been used and discharged into a sewer.
- Septic*— Sewage undergoing putrefaction in the absence of oxygen.
- Settled*— Sewage from which some of the solids have settled out in a tank.
- Stale*— Sewage containing little or no oxygen but free from putrefaction.
- Storm*— Liquid flowing in combined or storm sewers as a result of rainfall.
- Strong*— Sewage containing organic matter in excess of the normal quantity.
- Treated*— Sewage that has received more or less complete treatment.
- Sewage disposal*— Riddance of sewage by any method.
- Sewage treatment*— Any artificial process for removing or altering the objectionable constituents of sewage and rendering it less offensive or dangerous.
- Sewage treatment works*— Treatment plant and means of disposal of sewage.
- Sewer*— Pipe or conduit, generally closed but not normally flowing full, for carrying sewage and other waste liquids.
- Branch*— Sewer receiving sewage from a relatively small area (usually from two or more laterals).
- Building*— Pipe conveying sewage from a single building to a common sewer or point of immediate disposal.
- Combined*— Used to carry domestic, sanitary sewage, or industrial waste, and storm sewage.
- Depressed*— Sewer that usually crosses beneath a valley or water course. It runs full at greater than atmospheric pressure because its profile is below the hydraulic grade line. Commonly called *inverted siphon*.

- Force main*— A sewer in which the sewage is under pressure.
- House connection*— The pipe carrying sewage from the building to a common sewer. Also called a Building Sewer or House Sewer.
- Intercepting*— Sewer cutting transversely a number of other sewers to intercept the flow.
- Lateral*— Sewer that discharges into a branch or other sewer and has no other common sewer tributary to it.
- Main*— Sewer receiving the discharge of many tributary branches. Also called trunk sewer.
- Outfall*— Sewer that receives sewage from the treatment plant or collection system and conducts it to the point of final discharge or disposition.
- Relief*— Sewer installed to relieve an existing sewer of inadequate capacity.
- Sanitary*— Sewer that carries sanitary sewage and excludes as far as possible the storm sewage, surface water, and ground water. Usually used to carry industrial wastes from the area served.
- Storm-overflow*— Sewer used to carry excess of storm flow from a main or intercepting sewer to an independent outlet.
- Sewerage system*— Collecting system of sewers and appurtenances.
- Sewerage works*— Term applied to facilities for collecting, treating, and disposing of sewage.
- Silt*— Fine particles of earth, sand, or soil carried in suspension by flowing water. The term sometimes includes material rolled along the bed of the stream.
- Siphon*— Inverted U-shaped tube, one end longer than the other, used to transfer liquids from a higher to a lower level over an intermediate elevation.
- Inverted*— See *depressed sewer*.
- Sleek*— Thin oily film on the surface of water.
- Sludge*— A semiliquid mass formed by mixing water with solids. Sewage suspended solids that have settled out in tanks or basins.
- Conditioning*— Chemical treatment of liquid sludge before dewatering.
- Humus*— sludge deposited in final or secondary-settling tanks after sewage has passed through a trickling filter or other oxidizing device. Sludge that resembles humus in appearance.
- Liquid*— Sludge containing enough water, usually more than 80 percent, to permit it to flow by gravity.
- Spadable*— Sludge dry enough, usually under 70 percent moisture, to be shoveled from the drying bed.
- Sludge bed*— Natural or artificial layers of porous material upon which sludge is dried by drainage or evaporation.
- Sludge cake*— Mass resulting from sludge pressing or vacuum filtering.
- Sludge concentration*— Process of reducing water content of sludge, leaving it still a liquid.
- Sludge dewatering*— General term for removing part of the water in sludge, with or without heat, by draining, pressing, centrifuging, exhausting, passing between rollers, or acid flotation. The process involves reducing sludge from liquid to spadable sludge.
- Sludge drying*— Process of drying sludge by drainage, evaporation, exposure to air, or application of heat.
- Specific gravity*— Ratio of the weight of a unit volume of any substance to an equal volume of water under standard conditions.
- Spiral-flow tank*— Tank used in the activated sludge process. Sewage is given a spiral motion in its flow through the tank by introducing air through a line of diffusers located at one side near the bottom.
- Stability*— Ability of sewage, effluent, or digested sludge to resist putrefaction.
- Sterilization*— Destruction of all micro-organisms by heat or chemical action.
- Stilling well*— Pipe, chamber, or compartment with closed sides and bottom, used to check pulsations or surges while permitting the water level to rise and fall with the major fluctuations of the main body of water.
- Storm water*— That portion of the rainfall which runs off the surface during and immediately after a storm.
- Stream*— Body of water flowing in a natural surface channel. Body of water flowing in an open or closed conduit. Jet of water issuing from an opening such as a nozzle or a fissure in rock.
- Discharge*— Rate of flow of water, usually expressed as cubic feet per second.
- Gauging*— Measuring velocity of a stream of water.
- Suspended matter*— Solids physically suspended in sewage.
- Tank*— Any artificial receptacle through which liquids pass or in which they are held.
- Dortmund*— Vertical-flow sedimentation tank with a hopper bottom. Sewage enters near the bottom, rises and overflows at the surface, and the sludge is removed from the bottom.

- Dosing*— Tank used to accumulate raw or partially treated sewage for discharge to contact beds or filters. The discharge is regulated for correct distribution essential to subsequent treatment.
- Horizontal-flow*— Tank or basin, with or without baffles, in which the direction of flow is generally horizontal.
- Imhoff*— See *Imhoff tank*.
- Multiple dosing*— Two or more dosing tanks of equal capacity. Each is equipped with a dosing device, interconnected to fill and discharge tanks alternately or in rotation. Two tanks, so arranged, are called twin dosing tanks.
- Settling*— See *sedimentation tank*.
- Skimming*— Chamber arranged to floating matter rises and remains on the surface until removed. The liquid flows out continuously under partitions, curtain walls, or scum boards.
- Trap*— Device used to prevent liquid from reversing its direction of flow in a conduit or from passing a given point. Device preventing sewer air or gases from backing up and escaping through a plumbing fixture.
- Grease*— Device by which grease in sewage is held at the surface of a basin so it can be skimmed off.
- Tributary*— Stream or other body of water, surface or underground, that contributes its water to another and larger stream or body of water.
- Turbidity*— Condition of water when it contains visible material in suspension. Such material does not have to be large enough to be seen as individual particles by the naked eye, but the cloudiness in the water must be caused by material in suspension, not in solution.
- Turbulence*— State of flow of water in which the water is agitated by “cross currents and eddies. Opposed to quiet or quiescent flow.
- Vacuum*— Condition existing when the pressure in closed space is much lower than the surrounding atmospheric pressure. Strictly speaking, the term applies to a condition within an inclosed space from which all air, gas, vapor, or other substance has been exhausted. In general use, the term is applied to any space where less than atmospheric pressure exists.
- Valve*— Device installed in a pipe line for controlling the magnitude and direction of flow.
- Air*— Valve that either releases air from a pipe line automatically without loss of water or introduces air into a line automatically if the internal pressure becomes less than atmospheric pressure.
- Automatic*— Valve that opens or closes when predetermined conditions are reached.
- Check*— Valve that prevents reversal in direction of flow.
- Flap*— Valve that opens and shuts by rotating around hinge on one edge.
- Foot*— Valve in the bottom of the pump suction pipe. It opens to let water enter the suction pipe, but closes to prevent water from passing out at the bottom.
- Gate*— Valve with flat disk that slides over the opening through which water passes and fits tightly against it.
- Needle*— Valve with circular outlet through which flow is controlled by a tapered needle extending through the outlet. Needle reduces outlet area as it is advanced and enlarges area as it is withdrawn.
- Pump*— Opening through which water enters and leaves cylinders of a displacement pump.
- Rotary*— Valve having approximately a cylindrical-shaped casing with an opening of same diameter as the pipe line. When the interior gate, which turns through a 90° angle, is opened fully, liquid flows through valve without construction or appreciable resistance.
- Safety*— Valve that automatically opens when predetermined conditions, usually of pressure, are exceeded in a pipe line or other closed receptacle containing liquids or gases. It prevents damage that might occur if conditions exceeded safe limitations.
- Velocity*—
- Approach*— Average velocity of water flowing in a channel of approach to a weir or tank inlet.
- Mean*— Average velocity of a stream flowing in a channel or conduit at a given cross section. It equals the discharge divided by the cross-sectional area of the section.
- Venturi meter*— Device for measuring flow of liquid through closed conduits or pipes. It consists of a Venturi tube and a flow-registering device.
- Water-borne disease*— Disease caused by organisms carried in water. The most common water-borne diseases are typhoid fever, Asiatic cholera, dysentery, and other intestinal diseases. Also, anthrax germs and some parasitic worms can be carried by water.
- Weir*—

Contracted— A weir with its crest extending only part way across the channel. The crest is terminated by partitions in the same plane as the crest which rise above the water level on the upstream side of the weir and produce a contraction in the width of the stream of water as it leaves the notch.

Free— Weir that is not submerged. Either the tail water is below the weir crest or the flow is not affected by tail water.

Measuring— Device to measure rate of flow of water. It generally consists of a rectangular, trapezoidal, triangular, or other notch in a thin vertical plate. The water flows through the notch, and its depth of overflow (head) is an index of the rate of flow.

Parabolic— Measuring weir with a notch shaped as a vertical parabola designed so

the discharge of the weir is directly proportional to the head.

Rectangular— Measuring weir with a rectangular notch.

Submerged— Weir placed in a stream so the downstream water level is equal to or higher than the weir crest.

Suppressed— Weir with one or both sides or bottom flush with the channel of approach. This prevents contradiction of the nappe (sheet of water above the weir crest) adjacent to the flush side or bottom. Suppression may be on one end, both ends, bottom, or any combination.

Triangular— Measuring weir with a triangular notch. Usually used to measure small flows. Also called V -notch weir.