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भारतीय मानक मसौदा

जल से जुड़े शब्दों का शब्दकोश

भाग 2 आपूर्ति और मल जल व्यवस्था

(*पहला पुनरीक्षण*)

Draft Indian Standard

Glossary of Terms Relating to Water

Part 2 Water Supply and Sewerage

{*First Revision* of IS 7022 (Part 2)}

ICS 01.040.13; 13.060.01

Water Quality Sectional Committee, CHD 36	**Last Date of Comment: 17.06.2024**

FOREWORD

(*Formal clause to be added later*)

Realizing the rapid pace of industrialization within the country it was considered expedient to take up formulation of standards on definition and classification of water supply and sewage. The concerned committee, while formulating standards on different aspects covered under its scope felt that formulation of a standard glossary of water relating to water supply and sewage was necessary. Commonly used scientific terms may have a different import when specifically used in relation to different types of water. That such a need for standardization of terminology for avoiding ambiguity and confusion in the use of the terms is vitally called for has been amply borne out through experience gained in the formulation of Indian Standards relating to water supply and sewerage.

This standard was originally published in 1979. Due to the changes in the respective fields such as industry, science and technology that have happened, it has become necessary to review and update the existing glossary of terms. Consequently, this first revision has been prepared to keep all the definitions up to date with the latest definitions given in various publications such as International Standards, national regulations etc. as well as incorporating few additional terms and deleting some terms depending on their usage and meaning in the present context.

Should any difference exist between the definitions in this standard and those in the individual standards, the latter shall prevail.

The Technical Committee responsible for formulation of this standard has decided to publish IS 7022 in 3 different parts. This part covers terms widely used in relation to water supply and sewerage. The other parts of IS 7022 are as following:

Part 1 Water sewage and industrial effluents

Part 3 Marine Water and Related Methods

1 SCOPE

This standard (Part 2) defines terms widely used in relation to water supply and sewerage.

2 TERMINOLOGY

For the purpose of this standard, the following definitions shall apply.

A

2.1 Absorbance

The logarithm to the base 10 of reciprocal of the relative transmittance, *T*.

$$A = \log_{10}\frac{1}{T} = -\log_{10} T$$

2.1.1 Absorbance thus expresses the excess absorption over that of a specified reference or standard. It is implied that compensation has been effected for reflectance losses, solvent absorption losses, and refractive effect, if present, and that attenuation by scattering, is small compared with attenuation by absorption.

2.2 Absorption

Penetration of a liquid or gas into the body of another substance without chemical reaction.

2.3 Absorbing Well

A shaft or well driven through an impermeable stratum to allow water to drain through to a permeable one. Also called drain well, negative well, dead well.

2.4 Absorption Loss

The loss of water, or the quantity of water lost, from a reservoir or canal by capillary action and percolation during the process of priming. After a canal or reservoir has reached a stable condition this loss is called seepage.

2.5 Abyssinian

A well consisting of a perforated tube with a pointed end is driven into unconsolidated sediments, to tap shallow groundwater.

2.6 Abyssinian Well

A tube with perforations above the pointed end is driven into a start of moderate hardness to obtain a supply of water.

2.7 Acid

A compound which dissociates in an aqueous solution to furnish hydrogen ions.

2.8 Acidity

The quantitative capacity of aqueous media to react with hydroxyl ions.

2.9 Acidity, Free Mineral

The quantitative capacity of aqueous media to react with hydroxyl ions to *p*H 4.3.

2.10 Acid Mine Drainage

Acidic drainage from bituminous coal mines, containing a high concentration of acidic sulphates, especially ferrous.

2.11 Actinomycetes

A type of micro-organism related to both bacteria and fungi which causes earthly and musty odours in water.

2.12 Activated Carbon — *see* **2.129**.

2.13 Activated Sludge Process

A biological sewage treatment process in which a mixture of sewage and activated sludge is agitated and aerated. The activated sludge is subsequently separated from the treated sewage (mixed liquor) by sedimentation, and wasted or returned to the process as needed. The treated sewage overflows the weir of the settling tank in which separation from the sludge takes place.

2.14 Activated Sludge Loading

The mass (in kg) of biochemical oxygen demand (BOD) in the applied liquid per unit volume of aeration capacity or per unit mass (in kg) activated sludge per day.

2.15 Adsorption

Taking up of gases, liquids or dissolved substances on the surface of solids without chemical reaction.

2.16 Advanced Treatment

The application to a treated waste water stream of any physical-chemical process or combination of processes to increase the removal of pollutants and render the water more suitable for reuse purposes.

2.17 Aerated Filter

A biological filter of special design in which the sewage or the filter medium is aerated.

2.18 Aerated Pond

A natural or artificial waste water treatment pond in which mechanical or diffused-air aeration is used to supplement the oxygen supply.

2.19 Aeration

Dissolution of air in a liquid by bringing about intimate contact between air and the liquid by one of the following methods: spraying the liquid in air; bubbling air through the liquid; or by

agitation of the liquid by passing through a packed tower or by cascading with the aim of transferring from the liquid phase to the gaseous phase or vice versa.

2.20 Aeration, Diffused Air

Aeration is produced in a liquid by air passed through a diffuser.

2.21 Aeration Mechanical

2.21.1 The mixing, by mechanical means, of sewage and activated sludge in the aeration tank of the activated sludge process, to bring fresh surfaces of liquid into connect with the atmosphere.

2.21.2 The introduction of atmospheric oxygen into a liquid by the mechanical action of paddle or spray mechanisms.

2.22 Aeration Period

The theoretical time, usually expressed in hours, that the mixed liquor is subjected to in aeration tank undergoing activated sludge treatment.

2.23 Aeration Period

2.23.1 The theoretical time, usually expressed in hours, during which mixed liquor is subjected to aeration in an aeration tank while undergoing activated sludge treatment. It is equal to the volume of the tank divided by the volumetric rate of flow of the wastewater and return sludge, the daily average volumetric rate of flow of the wastewater and return sludge.

2.23.2 The theoretical time during which water is subjected to aeration.

2.24 Aeration Tank

A tank in which sewage is aerated.

2.25 Aeration Surface

The absorption of air through the surface of a liquid.

2.26 Aerobacter Aerogenes

One of the groups of bacteria included in the coliform group which, if present in preponderance, may indicate pollution of old origin or the result of growth such as that sometimes occurring in leather washers, jute packing, wood, etc.

2.27 Aerobic

Thriving only in the presence of oxygen.

2.28 Aerobic Digestion

Digestion of suspended organic matter by means of aeration (*see* **2.208**).

2.29 Afforestation

The planting of trees, commonly for the prevention of soil erosion in catchment areas.

2.30 After growth

The regrowth of vegetation, or bacteria in water after treatment to destroy it.

2.31 After precipitation

The precipitation of colloidal calcium carbonate on the sand grains of a filter and/or in the pipe of the distribution system after treatment of the water with lime.

2.32 Agglomeration or Flocculation

The coalescence of dispersed suspended matter into larger particles or floes which settle rapidly. Frequently used as a synonym for flocculation.

2.33 Air Lift

A device for raising liquid by injecting air in and near the bottom of a riser pipe submerged in the liquid to be raised.

2.34 Air-lift Pump

A pump, used largely for lifting water from wells, from which air under pressure is discharged into the water at the bottom of the well in fine bubbles. The bubbles mix with the water and reduce the apparent specific gravity of the air-water mixture, and the surrounding water causes the mixture to rise in the discharge pipe to the outlet. Also called air lift.

2.35 Air Relief Valve

An air valve placed at the summit of a pipeline to release the air automatically and prevents the pipeline from becoming air bond with a resultant increase of pressure.

2.36 Albuminoid

Protein and protein-like substances such as collagen and keratin.

2.37 Alfalfa Gate

In irrigation, a sheet-metal shear gate in a section of corrugated pipe, used for the control of water flow from sub laterals into fields and ditches.

2.38 Algae

Primitive plants, uni-celled or multi-celled, are capable of synthesizing their foodstuffs by photosynthesis.

2.39 Algal Bloom

Large masses of microscopic and macroscopic plant life such as green algae, occurring in bodies of water (*see* **2.111**).

2.40 Algicide

Any substances that are highly toxic to alga.

2.41 Alkalinity, Bicarbonate

Alkalinity is caused by bicarbonate ions.

2.42 Alkalinity, Carbonate

Alkalinity caused by carbonate ions.

2.43 Alkalinity, Caustic

The alkalinity caused by hydroxyl ions.

2.44 Alkali Soil

A soil that has either so high a degree of alkalinity (*p*H 8.5 or higher), or so high a percentage of exchangeable sodium (15 percent or higher), or both, that the growth of most crop plants is reduced.

2.45 Alluvial Deposit

Solid material deposited by a stream in its lower reaches.

2.46 Alternating Double Filter

Biological filter in which alternating double filtration is carried out.

2.47 Alternating Double Filtration

The treatment of sewage by pairs of biological filters, the sewage passing through each unit of the pair in series; the order of passage through the filters is periodically changed.

2.48 Anaerobic

Thriving in the absence of oxygen.

2.49 Anaerobic Contact Process

An anaerobic waste treatment process in which the microorganisms responsible for waste stabilization are removed from the treated effluent stream by sedimentation or other means and held in or returned to the process to enhance the rate of treatment.

2.50 Anaerobic Digestion

The degradation of organic matter is brought about through the action of microorganisms in the absence of elemental oxygen.

2.51 Anaerobic Waste Treatment

Waste stabilization brought about through the action of microorganisms in the absence of air or elemental oxygen. Usually refers to waste treatment by methane fermentation.

2.52 Anion

A negatively charged ion.

2.53 Antichlors

Reagents, such as sulphur dioxide, sodium bisulphite, and sodium thiosulphate which can be used to remove excess chlorine residuals from water or watery wastes by conversion to an inert salt.

2.54 Anticorrosion Treatment

Treatment to reduce or eliminate corrosion producing characteristics of the water.

2.55 Apron

An impervious cover (for example of concrete) at the top of a dam, sea wall, etc. to prevent turbulent erosion and/or hydrostatic uplift pressure.

2.56 Artesian

Pertaining to groundwater, or things connected with groundwater (for example a well or underground basin), where the water is under pressure and will rise to a higher elevation if afforded an opportunity to do so.

2.57 Artesian Spring

A spring issuing from a confined aquifer.

2.58 Artesian Well

A well which withdraws water from an aquifer in which it is confined, under pressure, below an impermeable stratum.

2.59 Artificial Rainfall

Water is artificially applied in the form of rain, usually by a rainfall simulator for experimental purposes.

2.60 Artificial Watercourse

A surface watercourse constructed by human agencies.

2.61 Aspirator

A hydraulic device which creates a negative pressure by forcing liquid through a restriction, thus increasing the velocity head. Used in the laboratory in place of a vacuum pump; sometimes used in place of a sump pump. Can be used to aerate liquid.

2.62 Assimilative Capacity

The capacity of a natural body of water to receive: a) waste waters, without deleterious effects; b) toxic materials, without damage to aquatic or human life who consume the water; and c) BOD within prescribed dissolved oxygen limits.

2.63 Available Dilution

The ratio, usually expressed in percentage, of the quantity of untreated sewage or partly or completely treated effluent, to the average quantity of diluting water available effectively at the point of disposal or at any point under consideration. The factor is sometimes taken as the reciprocal. Also called ‘available dilution’.

2.64 Available Oxygen

The quantity of atmospheric oxygen dissolved in the water of a stream. It is the quantity of dissolved oxygen available for the oxidation of organic matter in sewage.

B

2.65 Backflow

The flow of a liquid in a direction reverse of that intended.

2.66 Backshore

The part of the shore covered by water during exceptional storms only, especially those combined with exceptionally high water; the zone of the shore landward of the foreshore, acted upon by waves only during severe storms.

2.67 Back-Siphonage

The flowing back of contaminated or polluted water from a plumbing fixture or cross-connection into a water supply line due to a lowering of pressure in the water line.

2.68 Bactria

Primitive micro-organisms, generally free of pigment, which is reproduced by dividing into one, two, or three planes. They occur as single cells, groups, chains, or filaments. They may be grown by special culturing out of their native habitat.

2.69 Bacteria, Aerobic

Bacteria which thrive only in the presence of oxygen.

2.70 Bacteria, Anaerobic

Bacteria which thrive only in the absence of oxygen.

2.71 Bacteria Bed

A bed of sand, gravel, broken stone, or other media through or over which sewage or effluent flows or trickles, and depends on biological action for its effectiveness.

2.72 Bacteria, *Coli-aerogenes* — *see* **2.72**.

2.73 Bacteria, Coliform Group

A group of bacteria, predominantly inhabitants of the intestine of man and other vertebrates but also found on vegetation, including all aerobic and facultative anaerobic Gram-negative, non-spore forming bacilli that ferment lactose with gas formation. Formerly referred to as *B. coli* and bacteria of *coli-aerogenes* group. Their presence is indicative of faecal pollution.

2.74 Bacteria, Facultative

Bacteria which can grow in the presence or absence of oxygen.

2.75 Bacteria, Iron

Bacteria which assimilate iron and excrete its compounds in their life processes, thereby contributing to corrosion.

2.76 Bacteria, Non-pathogenic

Bacteria which do not induce disease in man or the higher animals.

2.77 Bacteria, Pathogenic

Bacteria that produce disease.

2.78 Bacteria Saprophytic

Bacteria that thrive upon dead organic matter.

2.79 Bacteria, Sulphate-Reducing

Bacteria which assimilate oxygen from sulphate compounds thereby reducing them to sulphide.

2.80 Bactericide

An agent, physical or chemical, for the destruction of bacteria.

2.81 Bacteriophage

A viral agent that dissolves specific bacterial cells.

2.82 Balancing Reservoir

2.82.1 A holding basin in which variations in flow and composition of a liquid are averaged. Also called equalizing basin.

2.82.2 A reservoir interposed in a water supply system at any point between source and consumer for the purpose of elasticity of operation to the distribution system.

2.83 Ball Valve

Valve controlled by the rise and fall of a floating ball.

2.84 Band Screen

Screen with endless, moving band of screening medium.

2.85 Bar Screen

Screen consisting of bars usually spaced 2.5 cm to 15 cm apart.

2.86 Basin

2.86.1 A natural or artificially created space or structure, surface or underground, which has a shape and character of confining material that enables it to hold water. The terms is sometimes used for a receptacle midway in size between a reservoir and tank.

2.86.2 A large slip or dock partially surrounded by quays. Its water level is subject to fluctuations with the water level of the main body of water with which it connects.

2.86.3 The surface area within a given drainage system.

2.86.4 A small area in an irrigated field or plot surrounded by low earth ridges and designed to hold irrigation water.

2.86.5 An area upstream from a substance or surface obstruction to the flow of water.

2.86.6 A shallow tank or depression through which liquids may be passed or in which they are detained for treatment or storage.

2.87 Beach

The belt or zone along the shore, usually with a gentle slope toward the water, is occupied by unconsolidated material, moving sand, or shore drift. The zone from the waterline to the place where there is a marked change in material or physiographic form, or to the line of permanent vegetation (usually the effective limit of normal storm waves).

2.88 Bed

2.88.1 The bottom of a watercourse or any body of water.

2.88.2 A scam or deposit later in origin than the rock below, a regular member of the series of formations and not an intrusion.

2.89 Bed Load

Sand, gravel, etc., are carried by a stream along its bed.

2.90 Benthal Deposit

Accumulation on the bed of a watercourse of deposits containing organic matter arising from natural erosion or discharges of waste waters.

2.91 Benthic Region

The bottom of a body of water. This region supports the benthos, a type of life that not only lives upon but contributes to the character of the bottom.

2.92 Benthos

Aquatic bottom dwelling, organisms. These include (a) sessile animals, such as sponges, barnacles, mussels, oysters, some of the worms, and many attached algae; (b) creeping forms, such as insects, snails, and certain clams; and (c) burrowing forms which include most clams and worms.

2.93 Berkefeld Filter

A household apparatus for filtering water through a diatomaceous earth called kieselguhr.

2.94 Beta Energy, Maximum

The maximum energy of the beta-particle energy spectrum is produced during the beta decay of a given radioactive species.

NOTE

Since a given beta-particle emitter may decay to several different quantum states of the product nucleus, more than one maximum energy may be listed for a given species.

2.95 Bio-aeration

An early name for activated sludge treatment in which the air was introduced by surface diffusion and by slowly moving paddles.

2.96 Bioassay

A determination of the concentration of a given material by comparison with a standard preparation; or the determination of the quantity necessary to affect a test animal under stated laboratory conditions.

2.97 Biochemical

Resulting from biological growth of activity, and measured by or expressed in terms of the ensuing chemical change.

2.98 Biochemical Oxygen Demand (BOD)

The quantity of oxygen required for the oxidation of organic matter by bacterial action in the presence of oxygen. It is a measure of the strength of organic matter in terms of its ability to deplete oxygen in water. Generally, the standard test consists of measuring the oxygen depletion at 27 °C for 3 days.

2.99 Biochemical Oxygen Demand (BOD), First Stage

The oxygen demand to stabilize the carbonaceous organic matter present in the waste water. Generally, the test consists of measuring the oxygen depletion at 20 °C for 10 days.

2.100 Biochemical Oxygen Demand (BOD), Second Stage

The oxygen demand to stabilize the non-carbonaceous organic matter such as ammonia nitrogen, which is oxidized to nitrites and nitrates. The test consists of measuring the oxygen depletion at 20 °C for the subsequent 10 days. The first stage and the second stage BOD is the total BOD for 20 days, expressed as ultimate BOD.

2.101 Biochemical Process — *see* **2.106**.

2.102 Biodegradation (Biodegradability)

The destruction or mineralization of either natural or synthetic organic materials by the microorganisms populating soils, natural bodies of water, or waste water treatment systems.

2.103 Biological Filter, Trickling Filter, Percolating Filter, Sprinkling Filter, Bacteria Bed

A bed of coarse granular material, through which sewage or liquid wastes are allowed to trickle, and in which organic matter is stabilized by biological action.

2.104 Biological Filtration

The process of passing a liquid through the medium of a biological filter, thus permitting contact with attached zoogleal films that adsorb and absorb fine suspended, colloidal, and dissolved solids and release end products of biochemical action.

2.105 Biological Oxidation

The process whereby microorganisms in the presence of oxygen convert the organic matter contained in waste water into a more stable or a mineral form.

2.106 Biological Process

The process by which the life activities of bacteria and other micro-organisms in search for food, break down complex organic materials into simple, more stable substances. Self-purification of sewage, polluted streams, sludge digestion, and so-called secondary sewage treatments result from this process. Also called the ‘biochemical process’.

2.107 Biological Purification

The process whereby microorganisms convert the organic matter contained in waste water into a more stable or a mineral form.

2.108 Biological Tests

Examination for the purpose of determining the presence, identity, numbers, or effects of the presence of any organism in industrial water.

2.109 Biological Treatment

The treatment of water or sewage for the removal of organic matter with the assistance of biological organisms.

2.110 Bleed-Off

2.110.1 To drain a liquid or gas, or to bleed accumulated air from a water line, or to drain a tap or a container of accumulated water.

2.110.2 The exuding, percolation, or seeping of a liquid through a surface.

2.111 Bloom

Large masses of microscopic and macroscopic plant life, such as green algae, occurring in bodies of water.

2.112 Bloom, Lake — *see* 2.111.

2.113 Blow-Off Cock

The outlet on a pipeline is used to discharge water or accumulations deposited from the water.

2.114 Blowdown

Draining off a portion of the contents of a boiler with a view to reduce the concentration of total solids in the boiler.

2.115 Booster Pump

A pump is installed on a pipeline to raise the pressure of the water on the discharge side of the pump.

2.116 Booster Station

A pumping station in a water distribution system is used to increase the pressure in the mains on the discharge side of the pumps.

2.117 Boiler Water

Water is present in a boiler when steaming is, or has been taking place.

2.118 Bore

The tidal wave in a watercourse.

2.119 Bore hole

A deep well of small diameter.

2.120 Brackish water

Water containing dissolved solids at a concentration higher than acceptable standards for intended use.

NOTE

1 The concentration of total dissolved solids in brackish water can vary from 1 000 mg/l to 10 000 mg/l. Brackish water is less saline than sea water (1 000 mg/l to 10 000 mg/l of TDS for brackish vs up to 35 000 mg/l for sea water).

2 The concentration of total dissolved solids of many brackish water can vary considerably over space and/or time.

2.121 Break point

2.121.1 In the chlorination of water, containing ammonia nitrogen, the point at which the residual chlorine is a minimum.

2.121.2 In water softening, the point at which the softening bed starts losing its efficiency.

2.122 Broad Irrigation

The irrigation of crops with sewage. It differs from sewage farming in that sewage disposal is the primary object of broad irrigation, with the raising of crops being incidental, while the reverse is true of sewage farming.

2.123 Brook, Stream

A small watercourse.

2.124 Buffer

A substance that tends to resists changes in the *p*H of a solution.

2.125 Buffer Action

The action of certain substances in resisting a change in hydrogen ion concentration.

2.126 Bulking of Sludge

In activated sludge, the occupation by the sludge is of an excessive volume so as to hinder efficient sedimentation.

C

2.127 Canal

An artificial watercourse for navigation or irrigation.

2.128 Capillary Fringe

Heights to which water rises by capillary action above the water-table.

2.129 Carbon, Activated

The Carbon particles are usually obtained by carbonization of cellulosic material in the absence of air and possessing a high adsorptive capacity. Commonly used for the removal of colour, taste, or odour in water.

2.130 Carbonate Balance

The condition of equilibrium existing in a water which neither deposits carbonate hardness nor dissolves the film of carbonate hardness already deposited.

2.131 Carbonate Hardness

The hardness in water is caused by bicarbonates and carbonates of calcium and magnesium.

2.132 Carrier

A person who, though showing no clinical signs of a disease, carries (and disseminates) large quantities of pathogenic organisms.

2.133 Carry Over

Entrainment of liquid or solid particles from the boiling liquid in the evolved vapour; also the particles so entrained.

2.134 Cascade

2.134.1 A stretch of stream, intermediate between a rapids and a waterfall, where the drop in elevation of the stream bed is considerable but not sufficient to cause the water to fall vertically.

2.134.2 A sudden drop installed in a water way to produce agitation and aeration of the liquid flowing over.

2.135 Catchment, Catchment Area, Catchment Basin

The area is drained by a watercourse or surface water drain.

2.136 Cation

A positively charged ion.

2.137 Cation Exchange Material

An ion-exchange material is capable of reversible exchange of positively charged ions.

2.138 Caustic Embrittlement

A form of metal failure that occurs in steam boilers at riveted joints and at tube ends, the cracking being predominately intercrystalline.

NOTE

This form of cracking, which has been known as 'Caustic embrittlement' is believed to result from the action of certain constituents of concerned boiler water upon steel under stress.

2.139 Caulking

Making a joint watertight by wedging in a filling.

2.140 Cesspool

An underground impervious pit into which raw household sewage or other untreated liquid waste is discharged for temporary storage and from solution to form closed ring soluble complexes.

2.241 Channel

A conduit carrying liquid under gravity, usually open at the top.

2.142 Check Valve, Reflux Valve

Valve which, when inserted in a pipeline, does not permit fluid to flow back in the event of a burst.

2.143 Chelating Agent

Chemical compounds which have the property of withdrawing ions from solution to form closed ring soluble complexes.

2.144 Chemical Oxygen Demand (COD)

The amount of oxygen, expressed in mg per litre (mg/l), consumed under specified conditions in the oxidation of the organic and oxidizable inorganic matter contained in an industrial waste water, corrected for the influence of chlorides.

2.145 Chloramine

A group of disinfecting agents formed by the action of chlorine on free or combined ammonia.

2.146 Chlorination

The application of chlorine to water, sewage, or industrial wastes, generally for the purpose of disinfection, but frequently for accomplishing other biological or chemical results.

2.147 Chlorination, Break-Point

The application of chlorine to water, sewage, or industrial wastes containing free ammonia to the point at which free residual chlorine is a minimum.

2.148 Chlorine, Combined Available Residual

That portion of the total residual chlorine remaining in water, sewage, or industrial wastes at the end of a specified contact period, which will react chemically and biologically as chloramines or organic chloramines.

2.149 Chlorine Demand

The difference between the amount of chlorine added to water, sewage, or industrial wastes and the amount of residual chlorine remaining at the end of a specified contact period. The demand for any given water varies with the amount of chlorine applied, time of contact, and temperature.

2.150 Chlorine, Free Available Residual

That portion of the total residual chlorine remaining in water, sewage, or industrial wastes at the end of a specified contact period, which will react chemically and biologically as a hypochlorous acid or hypochlorite ion.

2.151 Chlorine Requirement — *see* **2.152**

2.152 Chlorine, Residual

The total amount of chlorine (combined and free available chlorine) remaining in water, sewage, or industrial wastes at the end of a specified contact period following chlorination.

2.153 Clarifier

A tank or basin in which water, sewage, or other liquids containing settleable solids, are retained for a sufficient time, and in which the velocity of Bow is sufficiently low, to remove by gravity a part of the suspended matter. Circular sedimentation tanks are also known as clarifiers

2.154 Clean River

A river that gives no sensible evidence of pollution and from which wholesome drinking water can be obtained by practicable methods of water purification.

2.155 Clear Well

Tank in which filtered water is stored at the treatment plant.

2.156 Coagulant

A material that removes colloidal substances present in water, sewage, etc., in the form of a precipitate comprising floc particles more or less gelatinous in character.

2.157 Coagulation

2.157.1 The process of converting colloidal or finely divided suspended matter into particles of such size as can be settled reasonably rapidly by the addition of appropriate chemical coagulation, by biological processes, or by other means.

2.157.2 The process of adding a coagulant and necessary other reacting chemicals.

2.158 Cock

A means of withdrawing liquid from a conduit or reservoir, regulated by a valve. Sometimes used for stopcock.

2.159 Colloids

Finely divided solids (particle size varying from 10^{-8} to 10^{-7}) which will not settle but may be removed by coagulation or biochemical action.

2.160 Colony Count, Plate Count

A determination of the number of bacterial colonies produced on a suitable solid medium.

2.161 Combined Sewer

A sewer is intended to receive both waste water and storm or surface water.

2.162 Combined Waste water

A mixture of surface runoff and other waste water such as domestic or industrial waste water.

2.163 Composting

The biological breakdown of organic solids to stabilize them, producing a humic substance valuable as a fertilizer base.

2.164 Condensate

Water is obtained by evaporation and subsequent condensation of steam; usually water of high purity, unmixed with any other water.

2.165 Condenser

An apparatus for removing heat from a vapour (steam) so as to cause it to revert to the liquid state (water).

2.166 Conditioning

Treatment of water exclusive of disinfection to produce a water free of taste, odours, and other undesirable qualities. The term is more specially used for the treatment of boiler feed water.

2.167 Confluene

Place of meeting of two streams.

2.168 Contact Bed

A tank for the treatment of sewage, filled with a coarse granular medium. The tank is filled and allowed to stand full, and then emptied and allowed to stand empty.

2.169 Contact Filter — *see* **2.168**.

2.170 Contact Period

The time allowed for a sterilizing agent to act on the water under treatment before the water is fed to supply. Occasionally the term is also used for any other reaction period.

2.171 Contact Stabilization

Modification of the activated sludge process whereby previously aerated activated sludge is brought into contact with raw sewage for a short period of time (e.g. 15 min to 30 min).

NOTE

The sludge, after contact, is settled out and returned to a separate tank where it is aerated for a longer period of time (6 h to 8 h).

2.172 Contact Stabilization Process

A modification of the activated sludge process in which raw waste water is aerated with a high concentration of activated sludge for a short period, usually less than 60 min to obtain BOD removal by absorption. The solids are subsequently removed by sedimentation and transferred to a stabilization tank where aeration is continued further to oxidize and condition them before their reintroduction to the raw waste water flow.

2.173 Contamination

A general term signifying the introduction into the water of micro-organisms, chemicals, wastes, or sewage, which renders the water unfit for its intended use.

2.174 Cooling Coil

A coil of pipe or tubing contains a flowing stream of hot liquid which is cooled by heat transfer to a cold liquid outside.

2.175 Cooling Water

Water is used for cooling, mainly for steam condensers or internal combustion engines.

2.176 Corrosion

Chemical attack, as of metals, by which the metal is converted to a compound and thus deteriorated.

2.177 Counter Background

In the measurement of radioactivity, the counting rate resulting from factors other than the radioactivity of the sample and reagents used.

NOTE

Counter background varies with the location, shielding of the detector and the electronics: it includes cosmic rays, contaminating radioactivity, and electrical noise.

2.178 Counter Beta-Particle Efficiency

In the measurement of radioactivity, that fraction of beta particles emitted by a source which is detected by the counter.

2.179 Counter Efficiency

In the measurement of radioactivity, that fraction of the disintegrations occurring in a source which is detected by the counter.

2.180 Counter, Proportional

An instrument whose response to radiation is based upon the collection of the ions formed by the interaction of the radiation with the counter materials, plus a proportionate number of secondary ions formed by gas amplification.

2.181 Count, Standard Plate

The number of colonies of bacteria grown on selected solid media at a given temperature and incubation period is usually expressed as the number of bacteria per millilitre of sample.

2.182 Critical Concentration Range

In bioassay, the interval between the highest concentration at which all test animals survive for 48 h and the lowest concentration at which all test animals die within 24 h.

2.183 Critical Depth

The depth at which the change from smooth to streaming non-turbulent to turbulent flow occurs, for a given discharge.

2.184 Critical Flow

Flow at critical velocity in an open channel.

2.185 Critical Velocity

Velocity at critical depth.

2.186 Cross Connection

2.186.1 A physical connection through which a supply of potable water could be contaminated or polluted.

2.186.2 A connection between a supervised potable water supply and an unsupervised supply of unknown potability.

2.187 Crown

The inside top of the arch in a sewer, covered channel, or conduit.

2.188 Crustacean

Mostly, aquatic animals have rigid outer coverings, jointed appendages, and gills. Examples are crayfish, crabs, barnacles, water fleas, and sow bugs.

2.189 Culture Medium

A nutrient medium for the growth of organic life for study

2.190 Curie

A unit of radioactivity equivalent to 3.700×10^{10} atomic disintegrations per second or 2.220×10^{12} atomic disintegrations per minute. A microcurie is one millionth of a curie (10^{-6} curie); a picocuric, one-millionth of a microcurie (10^{-12} curie).

2.191 Current Meter

An instrument for measuring the velocity of flow in a watercourse.

D

2.192 Dam

A structure, usually of earth, masonry or concrete, to prevent, impound, or control the flow of a watercourse for navigation, water supply, hydroelectric power, flood control, etc.

2.193 Deaeration

The process of removing air from a liquid in which it is dissolved, usually for control of corrosion.

2.194 Dechlorination

The partial or complete removal of residual chlorine from water by any chemical or physical process.

2.195 Deferrization

The removal, usually with the aid of aeration, of iron from water.

2.196 Defluoridation

Removal of fluorides from water.

2.197 Degradation

The lowering of a river bottom by the action of flowing water.

2.198 Degradation-Organic Matter

The oxidation and reduction of organic matter in streams and sewage.

2.199 Denitrification

Reduction of dissolved nitrates due to biochemical action.

2.200 Deposit

A layer of solid matter is formed by sedimentation from a stream of gas or liquid.

2.201 Deposition

The process of subsidence of solid material held in suspension in water.

2.202 Depressed Sewer

A section of sewer constructed lower than adjacent sections to pass beneath a valley, watercourse, or other obstruction. It runs full or at a pressure greater than atmospheric because its crown is depressed below the hydraulic grade line.

2.203 Detention Tank

A tank used in water or waste water treatment to provide adequate time for chemical or physical reactions to take place in the body of liquid being treated.

2.204 Diffused Air Aeration

A method for supplying air to sewage in activated sludge treatment by blowing air into the sewage.

2.205 Diffuser Plate

A porous plate is used in aeration tanks to diffuse air or other gases in various water and waste water treatment processes.

2.206 Diffuser Tube

An air tube is used in aeration tanks to diffuse air or other gases in various water and waste water treatment processes.

2.207 Diffusion Aerator

An aerator that blows air under low pressure through submerged porous plates, perforated pipes, or other devices so that small air bubbles rise through the water or waste water continuously.

2.208 Digested Sludge

Sludge is digested under either aerobic or anaerobic conditions until the volatile content has been reduced to the point at which the solids are relatively non-putrescible and inoffensive.

2.209 Digestion Tank

A tank in which digestion is carried out.

2.210 Digester

A tank in which sludge is placed to permit digestion to occur. Also called a sludge digestion tank.

2.211 Dike

An artificial watercourse is usually for drainage.

2.212 Dilution Disposal

The disposal of sewage by discharge into water.

2.213 Direct Irrigation

Application of waste water directly to land by spraying through multiple outlet pipes, or furrows for the purpose of disposal of waste water rather than raising crops.

2.214 Disk Screen

Screen in which a perforated screening medium is carried by a revolving disk.

2.215 Disinfected Waste Water

Waste water in which chlorine or other disinfecting agents has been added, during or after treatment, to destroy pathogenic organisms.

2.216 Ditch

A small artificial watercourse for surface drainage.

2.217 Dortmund Tank

Vertical-flow sedimentation tank with a steep-sided pyramidal bottom, mainly used for sewage.

2.218 Dosing Siphon

Siphon used for applying sewage to filters.

2.219 Double Filtration

Filtration of water in two stages through rapid sand filters, without a coagulant, and then through slow sand filters, whose capacity is thus increased.

2.220 Drain

A conduit for the carriage of storm water, or sewage, or other used waters.

2.221 Drainage

2.221.1 In general, the removal of surface water from a given area either by gravity or by pumping. Commonly applied to surface water and groundwater.

2.221.2 The area from which water occurring at a given point or location on a stream originates. In such cases, synonymous with ‘drainage area’ and ‘watershed’.

2.222 Dredge

To remove deposits from under water.

2.223 Drilled Well

Well excavated by means of a rotary or percussion drill which removes material by abrasion.

2.224 Drilling

Sinking a borehole by means of a rotary or percussion drill.

2.225 Drinking Water Supply

Supply of water fit for drinking.

2.226 Driven Well

Well-constructed by driving into the soil a well casing fitted with a suitable point.

2.227 Drought

An extended period of dry weather or of deficient rainfall.

2.228 Drum Screen

Screen in which a perforated screening medium is carried on the circumference of a revolving cylindrical drum.

2.229 Dry Weather Flow

The minimum flow in a watercourse in periods of dry weather, or the normal flow in a combined sewer in dry periods.

2.230 Dug Well

Shallow well excavated by hand or power tools as distinct from drilled or driven well.

2.231 Dunbar Filter

Biological filter in which a comparatively coarse medium is overlaid by a fine medium.

E

2.232 Eddy

A surface vortex.

2.233 Eddy Current

The velocity in an eddy rather than the normal velocity of a stream.

2.234 Elutriation

The removal of soluble matter from solids by washing and decantation.

2.235 Embankment

An artificial mound or bank for confining a watercourse, etc., within bounds.

2.236 Evaporation

The loss of water as vapour from a body of surface water or from the soil.

2.237 Extended Aeration

A modification of the conventional sludge process which provides for aerobic sludge digestion within the aeration system. The concept envisages the stabilization of organic matter under aerobic conditions and disposal of the end products into the air as gases and with the plant effluent as finely divided suspended matter and soluble matter.

F

2.238 Fermentation Tank

A tank is used to ferment organic wastes.

2.239 Fetch

The distance over which wind can act on water to produce waves.

2.240 Field capacity

The maximum amount of water that a soil can retain after gravitational water has drained away.

2.241 Filterability filtrability

The indication of the ease with which the liquid can be separated from the solids by filtration.

2.242 Filter, High Rate

A trickling filter operated at a high average daily dosing rate, including any recirculation of effluent. The hydraulic loading is between 100 and 400 mld/hectare, and organic loading is between 0.4 kg/m^3 and 2.0 kg/m^3.

2.243 Filter, Low Rate

A trickling filter operated at a low average daily dosing rate. The hydraulic loading is between 10 and 40 mid/hectare, and organic loading is between 0.1 kg/m^3 and 0.4 kg/m^3.

2.244 Flash-Off

The water is lost as steam when a sample of hot boiler water is taken without adequate provision for cooling the sample.

2.245 Float

An appliance which rests in the surface of water or sewage is usually used for registering the level or for operating a switch.

2.246 Floating Cover

An airtight cover to a basin, which floats on the liquid in that basin or is supported by the pressure of gas covers that liquid.

2.247 Flood

2.247.1 Inundation caused by excessive storm runoff.

2.247.2 The peak runoff in a watercourse following such rainfall.

2.247.3 Abnormal movement of the tidal wave towards the shore.

2.248 Flowing Well

An artesian well in which the water reaches and overflows at the surface.

2.249 Flume

A device in the form of an artificial open channel, for the transmission or measurement of flow of water.

2.250 Foam

The aggregate of minute bubbles formed in water (or other liquid) by agitation, fermentation, aeration, etc.

2.251 Foaming

In sewage treatment, the production of foam is due to reduced surface tension.

G

2.252 Gravity Filter

A rapid sand filter of the open type, the operating level of which is placed near the hydraulic grade line of the influent and through which the water flows by gravity.

2.253 Grease Trap

A basin, fitted with a scum-board, to remove grease from a liquid waste.

2.254 Grey water sullage

The waste water from household baths and showers, hand basins, and kitchen sinks but excluding waste water and excreta from water closets.

2.255 Grit Washer

Device for removing organic matter from the grit settled from sewage.

2.256 Groundwater

The water which is being held in, and can usually be recovered from, an underground formation.

2.257 Groundwater Lowering

The artificial local lowering of the water-table to enable work to be carried out in excavation in the dry.

2.258 Gutter

2.258.1 A channel for collecting surface drainage from roads.

2.258.2 A channel for collecting surface drainage from roofs.

2.258.3 A channel placed above a rapid sand filter for collecting the wash-water.

H

2.259 Head

The pressure at a point defined in terms of the corresponding vertical column of liquid.

2.260 Head Race

A channel supplying water to a water turbine.

2.261 High Water

The highest level reached by an incoming tide; frequently used also for the time of this occurrence.

2.262 Horizontal-Flow Tank

Tank in which the liquid flows horizontally, usually longitudinally, or radially.

2.263 House Sewer

A pipe conveying waste water from a single building to a common sewer or point of immediate disposal.

2.264 Humus Sludge

2.264.1 Sludge deposited in final or secondary settling tanks following trickling filters or contact beds.

2.264.2 Sludge resembling humus in appearance.

2.265 Hypochlorination

Chlorination by calcium hypochlorite or similar compounds.

I

2.266 Impounding Reservoir

A reservoir built to impound the water from a catchment area and formed by damming the watercourse which drains that catchment.

2.267 Infiltration

The movement of water through the surface into the soil or of water into an underwater conduit from the soil.

2.268 Inflow

The water (or sewage) entering a basin, reservoir or treatment plant; often used as synonym for influent.

2.269 Intermittent Sand Filter

An early type of biological filter, using sand as the medium, and intermittently dosed with sewage to avoid clogging.

2.270 Invert

The floor, bottom, or lowest portion of the internal cross section of a conduit. Used particularly with reference to aqueducts, sewers, tunnels and drains.

J

2.271 Jar Test

Laboratory scale test for effectiveness of coagulation and/or flocculation.

L

2.272 Laminar Flow, Streamline Flow

Flow in which the streamlines remain parallel to the axis of flow.

2.273 Langelier's Index

Value is obtained by subtracting the saturation *p*H (*p*Hs) from the measured *p*H of a water sample.

NOTE

The *p*Hs is the calculated *p*H that would be obtained if the waste were in equilibrium with solid calcium carbonate.

2.274 Leach

To dissolve mineral salts from the ground by the passage of water.

2.275 Littoral Drift

The material carried along the shore by the action of wind and waves.

2.276 Low Water

The lowest level reached by an outgoing tide; frequently used also for the time of this occurrence.

M

2.277 Magnetite Filter

Filter for sewage, using magnetite (magnetic iron oxide) as the medium, which can then be cleaned by agitating the magnetite electromagnetically.

2.278 Main Sewer

2.278.1 In large systems, the principal sewer to which branch sewers and submains are tributary; also called trunk sewer, In small systems, a sewer to which one or more branch sewers are tributary.

2.278.2 In plumbing, the public sewer to which the house or building sewer is connected.

2.279 Manhole

An access in a sewer provided for the purpose of permitting a man to enter or leave the sewer.

2.280 Marble Test

A chemical test to determine the carbonate balance of water.

2.281 Marginal Chlorination

An obsolescent practice in which chlorination is carried out so as to provide a predetermined residual of chlorine after a rather short contact period, but without any determination of the nature of the residual.

2.282 Mechanical Aeration

A method of supplying air to sewage in activated sludge treatment by the mechanical agitation of the sewage.

N

2.283 Non-settlable Matter

That suspended matter which does not settle nor float to the surface of the water in a period of one hour.

2.284 Non-settlable Solid

Waste water matter that will stay in suspension for an extended period of time. Such a period may be arbitrarily taken for testing purposes as one hour.

O

2.285 Oil Remover — *see* **2.286**.

2.286 Oil Separator

Equipment for the removal, by flotation or other means, of oil from contaminated water.

2.287 Outlet

The point of exit from a basin, conduit, reservoir, etc., of a stream of water or sewage; frequently used also for the equipment permitting such exit.

2.288 Oxygen Balance

Difference between dissolved oxygen content and first stage biochemical oxygen demand at a given point.

2.289 Oxygen Depletion

Loss of dissolved oxygen from water or wastewater resulting from biochemical or chemical action.

P

2.290 Paddle Wheel

A water wheel with paddles or strips of wood or other material attached to its periphery. Such a wheel may be constructed on the side of a vessel or watercraft and revolved by machinery to move the vessel, or it may be set in a moving stream or under a full stream of water which causes it to revolve and generate water power.

2.291 Percolation

The movement of water through a permeable stratum.

2.292 Petcock

A small cock is used for sampling.

2.293 Phytoplankton

Plant plankton.

2.294 Pipeline

A conduit, made up of pipes, for carrying water, sewage, or other fluid.

2.295 Pitting

Localized corrosion

2.296 Plain Setting Tank

A tank or basin in which water, wastewater, or other liquid containing settlable solids is retained for a sufficient time, and in which the velocity of flow is sufficiently low, to remove by gravity a part of the suspended matter.

2.297 Plate Count

The number of colonies of bacteria grown on selected solid media at a given temperature and incubation period is usually expressed in number of bacteria per millilitre of sample.

2.298 Plug Cock

Cock with a valve closed by a cylindrical or conical plug.

2.299 Plumbo solvent

Type of a water which is able to dissolve lead from pipes and fitting.

2.300 Plumbo Solvency

The power of a soft water to dissolve lead from pipes and fittings.

2.301 Pondage

The holding back of water for later release, especially for water power. Also used for the water so held and for the storage available for such holding.

2.302 Precipitation

The overall deposit of meteorological water including rain, snow, and hail.

2.303 Presumptive Coliform Count

A statistical estimate of the number of coliforms in water detected under certain conditions of incubation (medium, temperature, time).

2.304 Primary Filtration

The first stage of double filtration.

2.305 Primary Sedimentation Basin

A sedimentation basin preceding biological treatment or filtration.

R

2.306 Rainfall

The quantity of rain falling in a given time is usually measured in units of depth (for example mm per annum).

2.307 Raingauge

An instrument for the measurement of rainfall.

2.308 Rake

Equipment used for clearing screens or for assisting in the cleaning of sand filters.

2.309 Random error

Component of measurement error that in replicate measurements varies in an unpredictable manner.

2.310 Rapid Sand Filter

A filter for the purification of water, in which sand is used as the filter medium, and in which solids are removed mainly by mechanical action which may be assisted by a chemical floc.

2.311 Rate of Flow

The volume of water flowing through a cross section of a conduit in a unit time.

2.312 Recharging

The addition, by natural or artificial means, of water to an underground aquifer.

2.313 Regulating Reservoir

A reservoir designed to enable the regime of the watercourse, upon which it is constructed, to be controlled, especially in times of flood and drought.

2.314 Reservoir

A watertight structure for the collection or storage of water.

2.315 Ridge and Furrow Tank

Aeration tank for activated sludge in which the bottom of the tank is a series of ridges and furrows.

2.316 Rotary Sprinkler

A sewage sprinkler revolving on a centre spindle is frequently driven by the reaction of the discharged sewage.

2.317 Runoff

The proportion of the rainfall which reaches the watercourse of the surface-water drain.

S

2.318 Saline Water

Water containing dissolved salts — usually from 10 000 mg/l to 33 000 mg/l.

2.319 Salinometer

A hydrometer is used to determine the concentration of dissolved salts in boiler water.

2.320 Sand Trap

A small basin for the removal of heavy inorganic solids from water.

2.321 Sanitary Sewer

A sewer that carries liquid and water-carried wastes from residences, commercial buildings, industrial plants, and institutions, together with minor quantities of ground, storm, and surface waters that are not admitted intentionally.

2.322 Scraper

Equipment for the removal of sludge, etc., from the sedimentation basins and after treatment installation.

2.323 Scum Board

A baffle in the surface of sewage to prevent the passage of scum.

2.324 Scum Chamber

In an Imhoff tank the chamber through which the gas produced by the digestion passes.

2.325 Seeding Material

A well-digested or ripened sludge that has undergone decomposition; is used for seeding sludge-digestion tank.

2.326 Seiche

Oscillation of the water in a lake.

2.327 Sewage Fungus

A filamentous or gelatinous growth in heavily polluted water, containing colonial bacteria, true fungi, and colonial protozoa.

2.328 Sewer Appurtenances

Structures, devices, and appliances, other than pipe or conduit that are integral parts of a sewer system.

2.329 Sewer Arch

The curved top of a masonry sewer.

2.330 Sewer Manhole

A shaft or chamber providing access from the surface of the ground to a sewer.

2.331 Sewer Outfall

The outlet or structure through which wastewater is finally discharged.

2.332 Sewer Outlet

The point of final discharge of wastewater or treatment plant effluent.

2.333 Sewer Rod

A hard wood stick or light metal rod, nearly 1 m long with a coupling on each end. Rods are joined and pushed into a sewer to dislodge obstructions.

2.334 Sewer System

Collectively, all of the property involved in the operation of a sewer utility. It includes land, waste water lines and appurtenances, pumping stations, treatment works, and general property. Occasionally referred to as a sewerage system.

2.335 Silt

Suspended matter in water, generally inorganic or such matter deposited of a size between clay and fine sand.

2.336 Silting

The reduction of the Capacity of a reservoir or basin due to a deposit of silt or other inorganic matter.

2.337 Skimming Tank

Tank for the removal of grease and oil by flotation and skimming.

2.338 Slow Sand Filter

A filter for the treatment of water, in which sand is used as the filter medium, and in which mechanical removal of solids is assisted by biological action.

2.339 Sludge Conditioning

Pretreatment of sludge to assist its drainage and filtration.

2.340 Sludge Digestion

Digestion of sludge

2.341 Sludge Rising

The lifting of sewage sludge to the surface due to entrained gases.

2.342 Sludge Seeding

In the biological treatment of waste water and associated sludges, the inoculation of the unit process with biologically active sludge, resulting in the acceleration of the initial stage of the process.

2.343 Sluice Gate

Device for controlling the flow of water in an open channel.

2.344 Sluice Valve

Gate valve used in a pipeline.

2.345 Smooth Flow

Flow in an open channel, above the critical depth, in which an obstruction will produce backwater.

2.346 Spillway

Waterway in connection with a dam or other hydraulic structure for the passage of excess water.

2.347 Spiral Flow Tank

Aeration tank for activated sludge in which air is added in such a way as to promote spiral flow in the liquor.

2.348 Spring

Emergence of groundwater at the surface at a defined location.

2.349 Sprinkler

Device for scattering water (or sewage) in drops.

2.350 Squeegee

A Scraping implement is usually a straight edged blade of rubber or similar material.

2.351 Stabilization Lagoon

A shallow pond for storage of wastewater before discharge. Such lagoons may serve only to detain and equalize wastewater composition before regulated discharge to a stream, but often they are used for biological oxidation (*see* **2.352**).

2.352 Stabilization Pond

A type of oxidation pond in which biological oxidation of organic matter is effected by natural or artificially accelerated transfer of oxygen to the water from air.

2.353 Standard-Rate Filter

A type of trickling filter in which both hydraulic and organic loadings are relatively low, usually built to operate without recycling or recirculation of waste water.

2.354 Static Head

The head corresponding to no discharge.

2.355 Stopcock

A valve.

2.356 Storm Sewer

A sewer that carries storm water and surface water, street wash and other wash waters, or drainage, but excludes domestic waste water and industrial wastes. Also called a storm drain.

2.357 Storm Water

Surface water is produced by heavy rainfall.

2.358 Straining

Removal of small solids from water (or sewage) by a strainer or screen.

2.359 Stratification

The formation of two more or less distinct layers in a body of water, due to differences of real or pseudo-density.

2.360 Stream Bank

The natural confines of watercourse.

2.361 Streaming Flow

Flow in an open channel, below the critical depth, in which an obstruction will produce a standing wave

2.362 Suction Head

That part of the effective head on a water turbine is given by the vertical height between the turbine and the tail water.

2.363 Surface Aeration

The absorption of air through the surface of a liquid.

2.364 Subsurface Irrigation

The application of water (or sewage) to the ground by means of perforated conduits buried in the ground.

2.365 Swallow Hole

A point in a permeable formation, at which a watercourse disappears into the formation.

T

2.366 Tailbay

The open chamber receiving the discharge from a water turbine, drowned siphon, spillway, etc.

2.367 Tail Water

The water below a water turbine, dam, etc.

2.368 Tapered Aeration

Diffused-air aeration in which the amount of air introduced into the sewage is gradually reduced as the sewage passes from the inlet to the outlet.

2.369 Taste Threshold

The taste which can just be detected by a sensitive observer when compared with taste-free water

2.370 Thermocline

The region of a rapid change of temperature in a body of water showing temperature stratification.

2.371 Time of Flow

In storm-water drainage, the time taken for the storm water to flow in the sewer from the point of entry to the outfall or to the junction with another sewer.

2.372 Travelling Sprinkler

A sewage sprinkler reciprocating across the biological filter is often driven mechanically by the sewage.

2.373 Tributary

A stream or river which flows into another and thereby augments it.

2.374 Turbulent Flow

Flow in which the streamlines do not remain parallel to the axis of flow.

2.375 Two Stage Purification

The purification of sewage is in two stages, for example first by activated sludge for aeration and second, by nitrification biological filters.

V

2.376 Vertical-Flow Tank

Tank in which the liquid flows upwards so that descending solids can assist flocculation.

2.377 Viscosity

Resistance of a liquid to relative sliding between two adjacent layers.

W

2.378 Water Conditioning

Treatments, exclusive of disinfection, intended to produce a water free of taste, odour, and other undesirable qualities.

2.379 Waterlogged

Saturated with water.

2.380 Watershed

Often used as a synonym for catchment area.

2.381 Water-Table

The free surface of the zone of saturation.

2.382 Weir

An artificial obstruction with a horizontal lip is used for measuring or controlling the level of a liquid.

2.383 Well

A vertical shaft dug or driven for abstracting water from an aquifer.

2.384 Well Casing

The metal, concrete, or other material lining in a well.

2.385 Wing Screen

Screen in which a perforated screening medium is carried on a series of rotating wings.

Y

2.386 Yield

The amount of water that can safely be drawn from a particular source.