

## SECTION 202 GENERAL DEFINITIONS

**ACCEPTED ENGINEERING PRACTICE.** That which conforms to accepted principles, tests or standards of nationally recognized technical or scientific authorities.

**ACCESS (TO).** That which enables a fixture, appliance or equipment to be reached by ready *access* or by a means that first requires the removal or movement of a panel, door or similar obstruction (see "Ready *access*").

**ACCESS COVER.** A removable plate, usually secured by bolts or screws, to permit *access* to a pipe or pipe fitting for the purposes of inspection, repair or cleaning.

**ADAPTER FITTING.** An *approved* connecting device that suitably and properly joins or adjusts pipes and fittings which do not otherwise fit together.

**AIR ADMITTANCE VALVE.** One-way valve designed to allow air to enter the plumbing drainage system when negative pressures develop in the piping system. The device shall close by gravity and seal the vent terminal at zero differential pressure (no flow conditions) and under positive internal pressures. The purpose of an air admittance valve is to provide a method of allowing air to enter the plumbing drainage system without the use of a vent extended to open air and to prevent *sewer* gases from escaping into a building.

**AIR BREAK (Drainage System).** A piping arrangement in which a drain from a fixture, appliance or device discharges indirectly into another fixture, receptacle or interceptor at a point below the *flood level rim* and above the trap seal.

**AIR GAP (Drainage System).** The unobstructed vertical distance through the free atmosphere between the outlet of the waste pipe and the *flood level rim* of the receptacle into which the waste pipe is discharging.

**AIR GAP (Water Distribution System).** The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture or other device and the *flood level rim* of the receptacle.

**ALTERNATIVE ENGINEERED DESIGN.** A plumbing system that performs in accordance with the intent of Chapters 3 through 12 and provides an equivalent level of performance for the protection of public health, safety and welfare. The system design is not specifically regulated by Chapters 3 through 12.

**ANCHORS.** See "Supports."

**ANTISIPHON.** A term applied to valves or mechanical devices that eliminate siphonage.

**APPROVED.** Acceptable to the code official or other authority having jurisdiction.

**APPROVED AGENCY.** An established and recognized agency approved by the code official and that is regularly engaged in conducting tests or furnishing inspection

services.

**AREA DRAIN.** A receptacle designed to collect surface or storm water from an open area.

**ASPIRATOR.** A fitting or device supplied with water or other fluid under positive pressure that passes through an integral orifice or constriction, causing a vacuum. Aspirators are also referred to as suction apparatus, and are similar in operation to an ejector.

**BACKFLOW.** Pressure created by any means in the water distribution system, which by being in excess of the pressure in the water supply mains causes a potential backflow condition.

**Backpressure, low head.** A pressure less than or equal to 4.33 psi (29.88 kPa) or the pressure exerted by a 10-foot (3048 mm) column of water.

**Backsiphonage.** The backflow of potentially contaminated water into the potable water system as a result of the pressure in the potable water system falling below atmospheric pressure of the plumbing fixtures, pools, tanks or vats connected to the potable water distribution piping.

**Drainage.** A reversal of flow in the drainage system.

**Water supply system.** The flow of water or other liquids, mixtures or substances into the distribution pipes of a potable water supply from any source except the intended source.

**BACKFLOW CONNECTION.** Any arrangement whereby backflow is possible.

**BACKFLOW PREVENTER.** A device or means to prevent backflow.

**BACKWATER VALVE.** A device or valve installed in the *building drain* or *sewer* pipe where a *sewer* is subject to backflow, and which prevents drainage or waste from backing up into a lower level or fixtures and causing a flooding condition.

**BASE FLOOD ELEVATION.** A reference point, determined in accordance with the building code, based on the depth or peak elevation of flooding, including wave height, which has a 1 percent (100-year flood) or greater chance of occurring in any given year.

**BATHROOM GROUP.** A group of fixtures consisting of a water closet, lavatory, bathtub or shower, including or excluding a bidet, an *emergency floor drain* or both. Such fixtures are located together on the same floor level.

**BEDPAN STEAMER OR BOILER.** A fixture utilized for scalding bedpans or urinals by direct application of steam or boiling water.

**BEDPAN WASHER AND STERILIZER.** A fixture designed to wash bedpans and to flush the contents into the sanitary drainage system. Included are fixtures of this type that provide for disinfecting utensils by scalding with steam or *hot water*.

**BEDPAN WASHER HOSE.** A device supplied with hot and cold water and located adjacent to a water closet or clinical sink to be utilized for cleansing bedpans.

**BRANCH.** Any part of the piping system except a riser, main or *stack*.

**BRANCH INTERVAL.** A vertical measurement of distance, 8 feet (2438 mm) or more in *developed length*, between the connections of horizontal branches to a drainage *stack*. Measurements are taken down the *stack* from the highest horizontal *branch* connection.

**BRANCH VENT.** A vent connecting one or more individual vents with a vent *stack* or *stack* vent.

**BUILDING.** Any structure occupied or intended for supporting or sheltering any *occupancy*.

**BUILDING DRAIN.** That part of the lowest piping of a drainage system that receives the discharge from soil, waste and other drainage pipes inside and that extends 30 inches (762 mm) in *developed length* of pipe beyond the exterior walls of the building and conveys the drainage to the *building sewer*.

Combined. A *building drain* that conveys both sewage and storm water or other drainage.

Sanitary. A *building drain* that conveys sewage only.

Storm. A *building drain* that conveys storm water or other drainage, but not sewage.

**BUILDING SEWER.** That part of the drainage system that extends from the end of the *building drain* and conveys the discharge to a *public sewer*, *private sewer*, individual sewage disposal system or other point of disposal.

Combined. A *building sewer* that conveys both sewage and storm water or other drainage.

Sanitary. A *building sewer* that conveys sewage only. Storm. A *building sewer* that conveys storm water or other drainage, but not sewage.

**BUILDING SUBDRAIN.** That portion of a drainage system that does not drain by gravity into the *building sewer*.

**BUILDING TRAP.** A device, fitting or assembly of fittings installed in the *building drain* to prevent circulation of air between the drainage system of the building and the *building sewer*.

**CIRCUIT VENT.** A vent that connects to a horizontal drainage *branch* and vents two traps to a maximum of eight traps or trapped fixtures connected into a battery.

**CISTERN.** A small covered tank for storing water for a home or farm. Generally, this tank stores rainwater to be utilized for purposes other than in the potable water

supply, and such tank is placed underground in most cases.

**CLEANOUT.** An *access* opening in the drainage system utilized for the removal of obstructions. Types of cleanouts include a removable plug or cap, and a removable fixture or fixture trap.

**CODE.** These regulations, subsequent amendments thereto, or any emergency rule or regulation that the administrative authority having jurisdiction has lawfully adopted.

**CODE OFFICIAL.** The officer or other designated authority charged with the administration and enforcement of this code, or a duly authorized representative.

**COMBINATION FIXTURE.** A fixture combining one sink and laundry tray or a two- or three-compartment sink or laundry tray in one unit.

**COMBINATION WASTE AND VENT SYSTEM.** A specially designed system of waste piping embodying the horizontal wet venting of one or more sinks or floor drains by means of a common waste and vent pipe adequately sized to provide free movement of air above the flow line of the drain.

**COMBINED BUILDING DRAIN.** See "*Building drain, combined.*"

**COMBINED BUILDING SEWER.** See "*Building sewer, combined.*"

**COMMON VENT.** A vent connecting at the junction of two fixture drains or to a fixture *branch* and serving as a vent for both fixtures.

**CONCEALED FOULING SURFACE.** Any surface of a plumbing fixture which is not readily visible and is not scoured or cleansed with each fixture operation.

**CONDUCTOR.** A pipe inside the building that conveys storm water from the roof to a storm or combined *building drain*.

**CONSTRUCTION DOCUMENTS.** All of the written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of the project necessary for obtaining a building permit. The construction drawings shall be drawn to an appropriate scale.

**CONTAMINATION.** An impairment of the quality of the potable water that creates an actual hazard to the public health through poisoning or through the spread of disease by sewage, industrial fluids or waste.

**CRITICAL LEVEL (C-L).** An elevation (height) reference point that determines the minimum height at which a backflow preventer or vacuum breaker is installed above the *flood level rim* of the fixture or receptor served by the device. The critical level is the elevation level below which there is a potential for backflow to occur. If the critical level marking is not indicated on the device, the bottom of the device shall constitute the critical level.

**CROSS CONNECTION.** Any physical connection or arrangement between two otherwise separate piping systems, one of which contains potable water and the other

either water of unknown or questionable safety or steam, gas or chemical, whereby there exists the possibility for flow from one system to the other, with the direction of flow depending on the pressure differential between the two systems (see "Backflow").

**DEAD END.** A *branch* leading from a soil, waste or vent pipe; a *building drain*; or a *building sewer*, and terminating at a *developed length* of 2 feet (610 mm) or more by means of a plug, cap or other closed fitting.

**DEPTH OF TRAP SEAL.** The depth of liquid that would have to be removed from a full trap before air could pass through the trap.

**DESIGN FLOOD ELEVATION.** The elevation of the "design flood," including wave height, relative to the datum specified on the community's legally designated flood hazard map.

**DEVELOPED LENGTH.** The length of a pipeline measured along the centerline of the pipe and fittings.

**DISCHARGE PIPE.** A pipe that conveys the discharges from plumbing fixtures or appliances.

**DRAIN.** Any pipe that carries wastewater or water-borne wastes in a building drainage system.

**DRAINAGE FITTINGS.** Type of fitting or fittings utilized in the drainage system. Drainage fittings are similar to cast-iron fittings, except that instead of having a bell and spigot, drainage fittings are recessed and tapped to eliminate ridges on the inside of the installed pipe.

#### DRAINAGE FIXTURE UNIT

**Drainage (dfu).** A measure of the probable discharge into the drainage system by various types of plumbing fixtures. The drainage fixture-unit value for a particular fixture depends on its volume rate of drainage discharge, on the time duration of a single drainage operation and on the average time between successive operations.

**DRAINAGE SYSTEM.** Piping within a *public* or *private* premise that conveys sewage, rainwater or other liquid wastes to a point of disposal. A drainage system does not include the mains of a *public sewer* system or a private or public sewage treatment or disposal plant.

**Building gravity.** A drainage system that drains by gravity into the *building sewer*.

**Sanitary.** A drainage system that carries sewage and excludes storm, surface and ground water.

**Storm.** A drainage system that carries rainwater, surface water, subsurface water and similar liquid wastes.

**EFFECTIVE OPENING.** The minimum cross-sectional area at the point of water

supply discharge, measured or expressed in terms of the diameter of a circle or, if the opening is not circular the diameter of a circle of equivalent cross-sectional area. For faucets and similar fittings, the *effective opening* shall be measured at the smallest orifice in the fitting body or in the supply piping to the fitting.

**EMERGENCY FLOOR DRAIN.** A floor drain that does not receive the discharge of any drain or indirect waste pipe, and that protects against damage from accidental spills, fixture overflows and leakage.

**ESSENTIALLY NONTOXIC TRANSFER FLUIDS.** Fluids having a Gosselin rating of 1, including propylene glycol; mineral oil; polydimethylsiloxane; hydrochlorofluorocarbon, chlorofluorocarbon and carbon refrigerants; and FDA-approved boiler water additives for steam boilers.

**ESSENTIALLY TOXIC TRANSFER FLUIDS.** Soil, waste or gray water and fluids having a Gosselin rating of 2 or more including ethylene glycol, hydrocarbon oils, ammonia refrigerants and hydrazine.

**EXISTING INSTALLATIONS.** Any plumbing system regulated by this code that was legally installed prior to the effective date of this code, or for which a permit to install has been issued.

**FAUCET.** A valve end of a water pipe through which water is drawn from or held within the pipe.

**FILL VALVE.** A water supply valve, opened or closed by means of a float or similar device, utilized to supply water to a tank. An antisiphon fill valve contains an antisiphon device in the form of an *approved air gap* or vacuum breaker that is an integral part of the fill valve unit and that is positioned on the discharge side of the water supply control valve.

**FIXTURE.** See "Plumbing fixture." **FIXTURE BRANCH.** A drain serving two or more fixtures

that discharges to another drain or to a *stack*. **FIXTURE DRAIN.** The drain from the trap of a fixture to a junction with any other drain pipe. **FIXTURE FITTING**

Supply fitting. A fitting that controls the volume and/or directional flow of water and is either attached to or accessible from a fixture, or is used with an open or atmospheric discharge.

Waste fitting. A combination of components that conveys the sanitary waste from the outlet of a fixture to the connection to the sanitary drainage system.

**FIXTURE SUPPLY.** The water supply pipe connecting a fixture to a *branch* water supply pipe or directly to a main water supply pipe.

**FLOOD HAZARD AREA.** The greater of the following two areas:

1. The area within a flood plain subject to a 1-percent or greater chance of flooding in any given year.

2. The area designated as a *flood hazard area* on a community's flood hazard map or as otherwise legally designated.

**FLOOD LEVEL RIM.** The edge of the receptacle from which water overflows.

**FLOW CONTROL (Vented).** A device installed upstream from the intercept to having an orifice that controls the rate of flow through the interceptor and an air intake (vent) down- stream from the orifice that allows air to be drawn into the flow stream.

**FLOW PRESSURE.** The pressure in the water supply pipe near the faucet or water outlet while the faucet or water outlet is wide open and flowing.

**FLUSH TANK.** A tank designed with a fill valve and flush valve to flush the contents of the bowl or usable portion of the fixture.

**FLUSHOMETER TANK.** A device integrated within an air accumulator vessel that is designed to discharge a predetermined quantity of water to fixtures for flushing purposes.

**FLUSHOMETER VALVE.** A valve attached to a pressurized water supply pipe and so designed that when activated it opens the line for direct flow into the fixture at a rate and quantity to operate the fixture properly, and then gradually closes to reseal fixture traps and avoid water hammer.

**GREASE INTERCEPTOR.** A plumbing appurtenance that is installed in a sanitary drainage system to intercept oily and greasy wastes from a wastewater discharge. Such device has the ability to intercept free-floating fats and oils.

**GREASE-LADEN WASTE.** Effluent discharge that is produced from food processing, food preparation or other sources where grease, fats and oils enter automatic dishwasher pre-rinse stations, sinks or other appurtenances.

**GREASE REMOVAL DEVICE, AUTOMATIC (GRD).** A plumbing appurtenance that is installed in the sanitary drainage system to intercept free-floating fats, oils and grease from wastewater discharge. Such a device operates on a time- or event-controlled basis and has the ability to remove free-floating fats, oils and grease automatically without intervention from the user except for maintenance.

**GRIDDED WATER DISTRIBUTION SYSTEM.** A water distribution system where every water distribution pipe is inter- connected so as to provide two or more paths to each fixture supply pipe.

**HANGERS.** See "Supports."

**HORIZONTAL BRANCH DRAIN.** A drainage *branch* pipe extending laterally from a soil or waste *stack* or *building drain*, with or without vertical sections or branches, that receives the discharge from two or more fixture drains or branches and con- ducts the discharge to the soil or waste *stack* or to the *building drain*.

**HORIZONTAL PIPE.** Any pipe or fitting that makes an angle of less than 45

degrees (0.79 rad) with the horizontal.

**HOT WATER.** Water at a temperature greater than or equal to 110°F (43°C).

**HOUSE TRAP.** See "Building trap."

**INDIRECT WASTE PIPE.** A waste pipe that does not connect directly with the drainage system, but that discharges into the drainage system through an *air break* or *airgap* into a trap, fixture, receptor or interceptor.

**INDIVIDUAL SEWAGE DISPOSAL SYSTEM.** A system for disposal of domestic sewage by means of a septic tank, cesspool or mechanical treatment, designed for utilization apart from a public *sewer* to serve a single establishment or building.

**INDIVIDUAL VENT.** A pipe installed to vent a fixture trap and that connects with the vent system above the fixture served or terminates in the open air.

**INDIVIDUAL WATER SUPPLY.** A water supply that serves one or more families, and that is not an *approved* public water supply.

**INTERCEPTOR.** A device designed and installed to separate and retain for removal, by automatic or manual means, deleterious, hazardous or undesirable matter from normal wastes, while permitting normal sewage or wastes to discharge into the drainage system by gravity.

## JOINT

**Expansion.** A loop, return bend or return offset that provides for the expansion and contraction in a piping system and is utilized in tall buildings or where there is a rapid change of temperature, as in power plants, steam rooms and similar occupancies.

**Flexible.** Any joint between two pipes that permits one pipe to be deflected or moved without movement or deflection of the other pipe.

**Mechanical.** See "Mechanical joint."

**Slip.** A type of joint made by means of a washer or a special type of packing compound in which one pipe is slipped into the end of an adjacent pipe.

**LEAD-FREE PIPE AND FITTINGS.** Containing not more than 8.0-percent lead.

**LEAD-FREE SOLDER AND FLUX.** Containing not more than 0.2-percent lead.

**LEADER.** An exterior drainage pipe for conveying storm water from roof or gutter drains to an *approved* means of disposal.

**LOCAL VENT STACK.** A vertical pipe to which connections are made from the fixture side of traps and through which vapor or foul air is removed from the fixture or device utilized on bed-pan washers.

**MACERATING TOILET SYSTEMS.** An assembly consisting of a water closet and sump with a macerating pump that is designed to collect, grind and pump wastes from the water closet and up to two other fixtures connected to the sump.

**MAIN.** The principal pipe artery to which branches are connected.

**MANIFOLD.** See "Plumbing appurtenance."

**MECHANICAL JOINT.** A connection between pipes, fittings, or pipes and fittings that is not screwed, caulked, threaded, soldered, solvent cemented, brazed or welded. A joint in which compression is applied along the centerline of the pieces being joined. In some applications, the joint is part of a coupling, fitting or adapter.

**MEDICAL GAS SYSTEM.** The complete system to convey medical gases for direct patient application from central supply systems (bulk tanks, manifolds and medical air compressors), with pressure and operating controls, alarm warning systems, related components and piping networks extending to station outlet valves at patient use points.

**MEDICAL VACUUM SYSTEMS.** A system consisting of central-vacuum-producing equipment with pressure and operating controls, shutoff valves, alarm-warning systems, gauges and a network of piping extending to and terminating with suitable station inlets at locations where patient suction may be required.

**NONPOTABLE WATER.** Water not safe for drinking, personal or culinary utilization.

**NUISANCE.** Public nuisance as known in common law or in equity jurisprudence; whatever is dangerous to human life or detrimental to health; whatever structure or premises is not sufficiently ventilated, sewerred, drained, cleaned or lighted, with respect to its intended *occupancy*, and whatever renders the air, or human food, drink or water supply unwholesome.

**OCCUPANCY.** The purpose for which a building or portion thereof is utilized or occupied.

**OFFSET.** A combination of *approved* bends that makes two changes in direction bringing one section of the pipe out of line but into a line parallel with the other section.

**OPEN AIR.** Outside the structure.

**PLUMBING.** The practice, materials and fixtures utilized in the installation, maintenance, extension and alteration of all piping, fixtures, plumbing appliances and plumbing appurtenances, within or adjacent to any structure, in connection with sanitary drainage or storm drainage facilities; venting systems; and public or private water supply systems.

**PLUMBING APPLIANCE.** Anyone of a special class of plumbing fixtures intended to perform a special function. Included are fixtures having the operation or control dependent on one or more energized components, such as motors, controls,

heating elements, or pressure- or temperature-sensing elements.

Such fixtures are manually adjusted or controlled by the owner or operator, or are operated automatically through one or more of the following actions: a time cycle, a temperature range, a pressure range, a measured volume or weight.

**PLUMBING APPURTENANCE.** A manufactured device, prefabricated assembly or an on-the-job assembly of component parts that is an adjunct to the basic piping system and plumbing fixtures. An appurtenance demands no additional water supply and does not add any discharge load to a fixture or to the drainage system.

**PLUMBING FIXTURE.** A receptacle or device that is either permanently or temporarily connected to the water distribution system of the premises and demands a supply of water there- from; discharges wastewater, liquid-borne waste materials or sewage either directly or indirectly to the drainage system of the premises; or requires both a water supply connection and a discharge to the drainage system of the premises.

**PLUMBING SYSTEM.** Includes the water supply and distribution pipes; plumbing fixtures and traps; water-treating or water-using equipment; soil, waste and vent pipes; and sanitary and storm sewers and building drains; in addition to their respective connections, devices and appurtenances within a structure or premises.

**POLLUTION.** An impairment of the quality of the potable water to a degree that does not create a hazard to the public health but that does adversely and unreasonably affect the aesthetic qualities of such potable water for domestic use.

**POTABLE WATER.** Water free from impurities present in amounts sufficient to cause disease or harmful physiological effects and conforming to the bacteriological and chemical quality requirements of the Public Health Service Drinking Water Standards or the regulations of the public health authority having jurisdiction.

**PRIVATE.** In the classification of plumbing fixtures, "*private*" applies to fixtures in residences and apartments, and to fixtures in nonpublic toilet rooms of hotels and motels and similar installations in buildings where the plumbing fixtures are intended for utilization by a family or an individual.

**PUBLIC OR PUBLIC UTILIZATION.** In the classification of plumbing fixtures, "*public*" applies to fixtures in general toilet rooms of schools, gymnasiums, hotels, airports, bus and railroad stations, public buildings, bars, public comfort stations, office buildings, stadiums, stores, restaurants and other installations where a number of fixtures are installed so that their utilization is similarly unrestricted.

**PUBLIC WATER MAIN.** A water supply pipe for public utilization controlled by public authority.

**QUICK-CLOSING VALVE.** A valve or faucet that closes automatically when released manually or that is controlled by a mechanical means for fast-action closing.

**READY ACCESS.** That which enables a fixture, appliance or equipment to be directly reached without requiring the removal or movement of any panel, door or

similar obstruction and without the use of a portable ladder, step stool or similar device.

**REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER.** A backflow prevention device consisting of two independently acting check valves, internally force-loaded to a normally closed position and separated by an intermediate chamber (or zone) in which there is an automatic relief means of venting to the atmosphere, internally loaded to a normally open position between two tightly closing shutoff valves and with a means for testing for tightness of the checks and opening of the relief means.

**REGISTERED DESIGN PROFESSIONAL.** An individual who is registered or licensed to practice professional architecture or engineering as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed.

### **RELIEF VALVE**

**Pressure relief valve.** A pressure-actuated valve held closed by a spring or other means and designed to relieve pressure automatically at the pressure at which such valve is set.

**Temperature and pressure relief (T&P) valve.** A combination relief valve designed to function as both a temperature relief and a pressure relief valve.

**Temperature relief valve.** A temperature-actuated valve designed to discharge automatically at the temperature at which such valve is set.

**RELIEF VENT.** A vent whose primary function is to provide circulation of air between drainage and vent systems.

**RIM.** An unobstructed open edge of a fixture.

**RISER.** See "Water pipe, riser."

**ROOF DRAIN.** A drain installed to receive water collecting on the surface of a roof and to discharge such water into a leader or a conductor.

**ROUGH-IN.** Parts of the plumbing system that are installed prior to the installation of fixtures. This includes drainage, water supply, vent piping and the necessary fixture supports and any fixtures that are built into the structure.

**SELF-CLOSING FAUCET.** A faucet containing a valve that automatically closes upon deactivation of the opening means.

**SEPARATOR.** See "Interceptor."

**SEWAGE.** Any liquid waste containing animal or vegetable matter in suspension or solution, including liquids containing chemicals in solution.

**SEWAGE EJECTORS.** A device for lifting sewage by entraining the sewage in a

high-velocity jet of steam, air or water.

**SEWER** See "Building sewer."

**Public sewer.** A common *sewer* directly controlled by public authority.

**Sanitary sewer.** A *sewer* that carries sewage and excludes storm, surface and ground water.

**Storm sewer.** A *sewer* that conveys rainwater, surface water, subsurface water and similar liquid wastes.

**SLOPE.** The fall (pitch) of a line of pipe in reference to a horizontal plane. In drainage, the slope is expressed as the fall in units vertical per units horizontal (percent) for a length of pipe.

**SOIL PIPE.** A pipe that conveys sewage containing fecal matter to the *building drain* or *building sewer*.

**SPILLPROOF VACUUM BREAKER.** An assembly consisting of one check valve force-loaded closed and an air-inlet vent valve force-loaded open to atmosphere, positioned downstream of the check valve, and located between and including two tightly closing shutoff valves and a test cock.

**STACK.** A general term for any vertical line of soil, waste, vent or inside conductor piping that extends through at least one story with or without offsets.

**STACK VENT.** The extension of a soil or waste *stack* above the highest horizontal drain connected to the *stack*.

**STACK VENTING.** A method of venting a fixture or fixtures through the soil or waste *stack*.

**STERILIZER**

**Boiling type.** A boiling-type sterilizer is a fixture of a non-pressure type utilized for boiling instruments, utensils or other equipment for disinfection. These devices are portable or are connected to the plumbing system.

**Instrument.** A device for the sterilization of various instruments.

**Pressure (autoclave).** A pressure vessel fixture designed to utilize steam under pressure for sterilizing.

**Pressure instrument washer sterilizer.** A pressure instrument washer sterilizer is a pressure vessel fixture designed to both wash and sterilize instruments during the operating cycle of the fixture.

**Utensil.** A device for the sterilization of utensils as utilized in health care services.

**Water.** A water sterilizer is a device for sterilizing water and storing sterile water.

**STERILIZER VENT.** A separate pipe or *stack*, indirectly connected to the building drainage system at the lower terminal, that receives the vapors from non-pressure sterilizers, or the exhaust vapors from pressure sterilizers, and conducts the vapors directly to the open air. Also called vapor, steam, atmospheric or exhaust vent.

**STORM DRAIN.** See "Drainage system, storm."

**STRUCTURE.** That which is built or constructed or a portion thereof.

**SUBSOIL DRAIN.** A drain that collects subsurface water or seepage water and conveys such water to a place of disposal.

**SUMP.** A tank or pit that receives sewage or liquid waste, located below the normal grade of the gravity system and that must be emptied by mechanical means.

**SUMP PUMP.** An automatic water pump powered by an electric motor for the removal of drainage, except raw sewage, from a sump, pit or low point.

**SUMP VENT.** A vent from pneumatic sewage ejectors, or similar equipment, that terminates separately to the open air.

**SUPPORTS.** Devices for supporting and securing pipe, fixtures and equipment.

**SWIMMING POOL.** Any structure, basin, chamber or tank containing an artificial body of water for swimming, diving or recreational bathing having a depth of 2 feet (610 mm) or more at any point.

**TEMPERED WATER.** Water having a temperature range between 85°F (29°C) and 110°F (43°C).

**THIRD-PARTY CERTIFICATION AGENCY.** An *approved* agency operating a product or material certification system that incorporates initial product testing, assessment and surveillance of a manufacturer's quality control system.

**THIRD-PARTY CERTIFIED.** Certification obtained by the manufacturer indicating that the function and performance characteristics of a product or material have been determined by testing and ongoing surveillance by an *approved third-party certification agency*. Assertion of certification is in the form of identification in accordance with the requirements of the *third-party certification agency*.

**THIRD-PARTY TESTED.** Procedure by which an *approved* testing laboratory provides documentation that a product, material or system conforms to specified requirements.

**TRAP.** A fitting or device that provides a liquid seal to prevent the emission of *sewer* gases without materially affecting the flow of sewage or wastewater through the trap.

**TRAP SEAL.** The vertical distance between the weir and the top of the dip of the

trap.

**UNSTABLE GROUND.** Earth that does not provide a uniform bearing for the barrel of the *sewer* pipe between the joints at the bottom of the pipe trench.

**VACUUM.** Any pressure less than that exerted by the atmosphere.

**VACUUM BREAKER.** A type of backflow preventer installed on openings subject to normal atmospheric pressure that prevents backflow by admitting atmospheric pressure through ports to the discharge side of the device.

**VENT PIPE.** See "Vent system."

**VENT STACK.** A vertical vent pipe installed primarily for the purpose of providing circulation of air to and from any part of the drainage system.

**VENT SYSTEM.** A pipe or pipes installed to provide a flow of air to or from a drainage system, or to provide a circulation of air within such system to protect trap seals from siphonage and backpressure.

**VERTICAL PIPE.** Any pipe or fitting that makes an angle of 45 degrees (0.79 rad) or more with the horizontal.

**WALL-HUNG WATER CLOSET.** A wall-mounted water closet installed in such a way that the fixture does not touch the floor.

**WASTE.** The discharge from any fixture, appliance, area or appurtenance that does not contain fecal matter.

**WASTE PIPE.** A pipe that conveys only waste.

**WATER-HAMMER ARRESTOR.** A device utilized to absorb the pressure surge (water hammer) that occurs when water flow is suddenly stopped in a water supply system.

**WATER HEATER.** Any heating appliance or equipment that heats potable water and supplies such water to the potable *hot water* distribution system.

**WATER MAIN.** A water supply pipe or system of pipes, installed and maintained by a city, township, county, public utility company or other public entity, on public property, in the street or in an *approved* dedicated easement of public or community use.

**WATER OUTLET.** A discharge opening through which water is supplied to a fixture, into the atmosphere (except into an open tank that is part of the water supply system), to a boiler or heating system, or to any devices or equipment requiring water to operate but which are not part of the plumbing system.

**WATER PIPE**

**Riser.** A water supply pipe that extends one full story or more to convey water

to branches or to a group of fixtures.

**Water distribution pipe.** A pipe within the structure or on the premises that conveys water from the water service pipe, or from the meter when the meter is at the structure, to the points of utilization.

**Water service pipe.** The pipe from the water main or other source of potable water supply, or from the meter when the meter is at the public right of way, to the water distribution system of the building served.

**WATER SUPPLY SYSTEM.** The water service pipe, water distribution pipes, and the necessary connecting pipes, fittings, control valves and all appurtenances in or adjacent to the structure or premises.

## WELL

**Bored.** A well constructed by boring a hole in the ground with an auger and installing a casing.

**Drilled.** A well constructed by making a hole in the ground with a drilling machine of any type and installing casing and screen.

**Driven.** A well constructed by driving a pipe in the ground. The drive pipe is usually fitted with a well point and screen.

**Dug.** A well constructed by excavating a large-diameter shaft and installing a casing.

**WHIRLPOOL BATHTUB.** A plumbing appliance consisting of a bathtub fixture that is equipped and fitted with a circulating piping system designed to accept, circulate and discharge bathtub water upon each use.

**YOKE VENT.** A pipe connecting upward from a soil or waste *stack* to a vent *stack* for the purpose of preventing pressure changes in the stacks.

## SECTION 301 GENERAL

301.1 Scope. The provisions of this chapter shall govern the general regulations regarding the installation of plumbing not specific to other chapters.

301.2 System installation. Plumbing shall be installed with due regard to preservation of the strength of structural members and prevention of damage to walls and other surfaces through fixture usage.

301.3 Connections to the sanitary drainage system. All plumbing fixtures, drains, appurtenances and appliances used to receive or discharge liquid wastes or sewage shall be directly connected to the sanitary drainage system of the building or premises, in accordance with the requirements of this code. This section shall not be construed to prevent the indirect waste systems required by Chapter 8.

301.4 Connections to water supply. Every plumbing fixture, device or appliance requiring or using water for its proper operation shall be directly or indirectly connected to the water supply system in accordance with the provisions of this code.

301.5 Pipe, tube and fitting sizes. Unless otherwise specified, the pipe, tube and fitting sizes specified in this code are expressed in nominal or standard sizes as designated in the referenced material standards.

301.6 Prohibited locations. Plumbing systems shall not be located in an elevator shaft or in an elevator equipment room.

Exception: Floor drains, sumps and sump pumps shall be permitted at the base of the shaft, provided that they are indirectly connected to the plumbing system and comply with Section 1003.4.

301.7 Conflicts. In instances where conflicts occur between this code and the manufacturer's installation instructions, the more restrictive provisions shall apply.

## SECTION 302 SEWER SYSTEM

EXCLUSION OF MATI

302.1 Detrimental or dangerous materials. Ashes, cinders or rags; flammable, poisonous or explosive liquids or gases; oil, grease or any other insoluble material capable of obstructing, damaging or overloading the building drainage or *sewer* system, or capable of interfering with the normal operation of the sewage treatment processes, shall not be deposited, by any means, into such systems.

302.2 Industrial wastes. Waste products from manufacturing or industrial operations shall not be introduced into the *public sewer* until it has been determined by the code official or other authority having jurisdiction that the introduction thereof will not

damage the *public sewer* system or interfere with the functioning of the sewage treatment plant.

## SECTION 303 MATERIALS

303.1 Identification. Each length of pipe and each pipe fitting, trap, fixture, material and device utilized in a plumbing system shall bear the identification of the manufacturer.

303.2 Installation of materials. All materials used shall be installed in strict accordance with the standards under which the materials are accepted and *approved*. In the absence of such installation procedures, the manufacturer's installation instructions shall be followed. Where the requirements of referenced standards or manufacturer's installation instructions do not conform to minimum provisions of this code, the provisions of this code shall apply.

303.3 Plastic pipe, fittings and components. All plastic pipe, fittings and components shall be third-party certified as conforming to NSF 14.

303.4 Third-party testing and certification. All plumbing products and materials shall comply with the referenced standards, specifications and performance criteria of this code and shall be identified in accordance with Section 303.1. When required by Table 303.4, plumbing products and materials shall either be tested by an *approved* third-party testing agency or certified by an *approved third-party certification agency*.

## SECTION 304 RODENTPROOFING

304.1 General. Plumbing systems shall be designed and installed in accordance with Sections 304.2 through 304.4 to prevent rodents from entering structures.

304.2 Strainer plates. All strainer plates on drain inlets shall be designed and installed so that all openings are not greater than  $\frac{1}{2}$  inch (12.7 mm) in least dimension.

304.3 Meter boxes. Meter boxes shall be constructed in such a manner that rodents are prevented from entering a structure by way of the water service pipes connecting the meter box and the structure.

304.4 Openings for pipes. In or on structures where openings have been made in walls, floors or ceilings for the passage of pipes, such openings shall be closed and protected by the installation of *approved* metal collars that are securely fastened to the adjoining structure.

## SECTION 305 PROTECTION OF PIPES AND PLUMBING SYSTEM COMPONENTS

305.1 Corrosion. Pipes passing through concrete or cinder walls and floors or other corrosive material shall be protected against external corrosion by a protective sheathing or wrapping or other means that will withstand any reaction from the lime and acid of concrete, cinder or other corrosive material. Sheathing or wrapping shall allow for movement including expansion and contraction of piping. Minimum wall

thickness of material shall be 0.025 inch (0.64 mm).

305.2 Breakage. Pipes passing through or under walls shall be protected from breakage.

305.3 Stress and strain. Piping in a plumbing system shall be installed so as to prevent strains and stresses that exceed the structural strength of the pipe. Where necessary, provisions shall be made to protect piping from damage resulting from expansion, contraction and structural settlement.

305.4 Sleeves. Annular spaces between sleeves and pipes shall be filled or tightly caulked in an *approved* manner. Annular spaces between sleeves and pipes in fire-resistance-rated assemblies shall be filled or tightly caulked in accordance with the *International Building Code*.

305.5 Pipes through or under footings or foundation walls. Any pipe that passes under a footing or through a foundation wall shall be provided with a relieving arch, or a pipe sleeve pipe shall be built into the foundation wall. The sleeve shall be two pipe sizes greater than the pipe passing through the wall.

305.6 Freezing. Water, soil and waste pipes shall not be installed outside of a building, in attics or crawl spaces, concealed in outside walls, or in any other place subjected to freezing temperatures unless adequate provision is made to protect such pipes from freezing by insulation or heat or both. Exterior water supply system piping shall be installed not less than 6 inches (152 mm) below the frost line and not less than 12 inches (305 mm) below grade.

305.6.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be a minimum of [NUMBER] inches (mm) below finished grade at the point of septic tank connection. Building sewers shall be a minimum of [NUMBER] inches (mm) below grade.

305.7 Waterproofing of openings. Joints at the roof and around vent pipes, shall be made water-tight by the use of lead, copper, galvanized steel, aluminum, plastic or other *approved* flashings or flashing material. Exterior wall openings shall be made water-tight.

305.8 Protection against physical damage. In concealed locations where piping, other than cast-iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than 1½ inches (38 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates. Such shield plates shall have a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage). Such plates shall cover the area of the pipe where the member is notched or bored, and shall extend a minimum of 2 inches (51 mm) above sole plates and below top plates.

305.9 Protection of components of plumbing system. Components of a plumbing system installed along alleyways, drive- ways, parking garages or other locations exposed to damage shall be recessed into the wall or otherwise protected in an *approved* manner.