

**MIDWAY SEWER DISTRICT
COMPREHENSIVE SEWER SYSTEM PLAN
GLOSSARY OF TERMS**

Aeration. The bringing about of contact between air and a liquid by one or more methods, such as spraying the liquid in the air, bubbling the air through the liquid, or agitation of the liquid to promote surface absorption of the air.

Anaerobic. An environment devoid of oxygen and nitrate.

Aquifer. A porous, water-bearing geologic formation. Generally restricted to materials capable of yielding an appreciable supply of water.

Average Annual Flow (AAF). The average day flow for the entire year.

Average Dry Weather Flow (ADWF). ADWF is the flow for an average day during the dry weather months of May through October, and represents the baseline of sewage flow for the service area. The ADWF includes sewage discharges plus the average amount of groundwater infiltration (base GWI) which occurs throughout the dry season. In the absence of actual data, 100 gallons per capita per day is often used to predict the ADWF for a new service area. Peaking factors for existing flows are derived on the basis of ADWF.

Average Wet Weather Flow (AWWF). AWWF is the flow for an average day during the wet weather months of November through April. The AWWF includes sewage discharges, groundwater infiltration and stormwater inflow which occurs throughout the wet season.

Biochemical Oxygen Demand - Five Day (BOD5). The quantity of oxygen required to support biological oxidation of the organic matter contained in wastewater. Usually referred to as BOD, this characteristic defines the strength of a wastewater and often determines the type and degree of treatment which must be provided to produce a required effluent quality. BOD is commonly expressed as the amount of oxygen utilized in the oxidization of organic matter over a five-day period at 20 degrees C.

Combined Sewer. A sewer which receives both wastewater and storm or surface water.

Commercial Wastewater. Wastewater generated in predominantly business or commercial areas, including both sanitary wastes and wastes from the commercial activities. Typically, commercial wastewater includes, but is not limited to, wastes from restaurants, laundromats, and service stations.

DMR. Discharge Monitoring Report.

DOE. State of Washington Department of Ecology.

DOH. State of Washington Department of Health.

Domestic Wastewater. Wastewater principally derived from the sanitary conveniences of residences or produced by normal residential activities.

Dry Weather Flow. Wastewater flow during periods of little or no rainfall; in the Puget Sound area, this typically occurs during the months May through October. Rates of flow exhibit hourly, daily, and seasonal variations. A certain amount of infiltration may also be present.

Dry Well. The dry compartment in a pumping station, near or below pumping level where the pumps and/or motors and controls are located.

EPA. The United States Environmental Protection Agency.

FOG. Fats, Oil and Grease.

Force main. A sewer pipeline that flows full under pressure, discharging from a pump station (as opposed to an inverted siphon).

GMA. State of Washington Growth Management Act.

gpad. Gallons per acre per day.

gpcd. Gallons per capita per day.

gpd. Gallons per day.

gpm. Gallons per minute.

gpd/sf. Gallons per day per square foot.

Hydrogen Sulfide. A potentially toxic and lethal gas (chemical symbol H₂S) produced in sewers and digesters by anaerobic decomposition. Detectable in low (<0.0001 percent) concentrations by its characteristic "rotten egg" odor, it deadens the sense of smell in higher concentrations or after prolonged exposure.

Infiltration. The quantity of groundwater that leaks into the wastewater collection system from the surrounding soil. Common points of entry include broken pipes and defective joints in the pipe or in walls of manholes. Infiltration may result from defective sewers being located below the groundwater table or from saturation of the soil by rain or irrigation water. Infiltration is divided into two categories: Groundwater-Related Infiltration (GWI) which occurs throughout the year, and Rainfall-Dependent Infiltration (Rain GWI) which occurs during and shortly after storm events as a result of temporarily raising the groundwater table.

Inflow. Rainwater which enters the collection system through roof drain connections, catch basin connections, and holes in the tops of manhole covers in flooded streets. Inflow is generally distinguished from infiltration by the rapidity with which inflow begins and ends after a period of rainfall.

Interceptor. A sewer that receives flow from a number of main or trunk sewers, force mains, etc.

Inverted Siphon. Inverted Siphon is defined as a sewer that dips below the hydraulic grade line to avoid an obstruction such as a creek or a canyon.

King County-Metro. Refers to the operator of a regional wastewater treatment and disposal which was formerly known as "Metro" but is now under the jurisdiction of the King County government.

Lateral. A sewer that has no other common sewers discharging into it.

Main. A sewer that receives flow from one or more laterals. Also referred to as "trunk."

mgd. Million gallons per day.

mg/l. Milligrams per liter. See also "ppm."

NPDES. National Pollutant Discharge Elimination System (Permit).

Nitrification. The process of converting organic and ammonia-nitrogen into nitrate nitrogen by nitrifying autotrophic bacteria.

Nitrogen. An essential nutrient that is often present in wastewater as ammonia, nitrate, nitrite, and organic nitrogen. The concentrations of each form and the sum, total nitrogen, are expressed as mg/l elemental nitrogen. Also present in some ground water as nitrate and in some polluted ground water in other forms.

Peak Day Flow (PDF). The maximum flow received over a calendar day, usually occurring during the wet weather.

Peak Design Flow/ Peak Hour Flow (PHF). The largest estimated flow sustained over a 60-minute period in the design year of the wastewater facility.

Peak Month Flow (PMF). The largest estimated flow rate sustained over a calendar month.

pH. A measure of the hydrogen-ion concentration in a solution, expressed as the logarithm (base ten) of the reciprocal of the hydrogen-ion concentration in gram moles per liter. On the pH scale (0-14), a value of 7 at 25°C represents a neutral condition. Decreasing values, below 7, indicate increasing acidity; increasing values, above 7, indicate increasing alkalinity.

Phosphorus. An essential chemical element and nutrient for all life forms. Occurs in orthophosphate, pyrophosphate, tripolyphosphate, and organic phosphate forms. Each of these forms is expressed as mg/l elemental phosphorus.

ppd. Pounds per day.

ppm. Parts per million.

PSRC. Puget Sound Regional Council.

Revised Code of Washington (RCW). Compilation of laws passed by the State legislature.

SCFM. Standard Cubic Feet per Minute.

SWD. Side Water Depth.

SEPA. State Environmental Policy Act.

Sewerage. A complete system of piping, pumps, basins, tanks, unit processes, and appurtenances for the collection, transporting, treating, and discharging of wastewater. Term is declining in use, generally being replaced by sewer system or wastewater facilities.

Submain. A sewer that receives flow from one or more lateral sewers.

Suspended Solids (SS). The suspended undiluted material transported in wastewater. The quantity of suspended material removed during treatment varies with the type and degree of treatment and has an important bearing on the size of many mechanical and process units. Also referred to as "Total Suspended Solids" (TSS).

TAZ. Transportation Analysis Zone.

Total Suspended Solids (TSS). See "Suspended Solids."

Trunk. A sewer that receives flow from one or more sewer mains. See "Main".

UV. Ultra-violet irradiation (for disinfection).

Volatile Suspended Solids (VSS). The organic portion of the total suspended solids which will oxidize and be driven off as a gas at 600°C. VSS typically represents 75 to 85 percent of the TSS for digested and undigested sludge.

WAC. Waste Access Chamber.

WAD. Waste Access Device.

Washington Administrative Code (WAC). Document which consists of regulations adopted by the State to carry out the RCW.

Wastewater. Water-carried wastes from residences, businesses, institutions, and industrial establishments, together with such ground and storm waters as may be present.

Wastewater Treatment Plant (WWTP). A water pollution control facility engineered and constructed to remove pollutants from wastewater. Also referred to as a sewage treatment plant.

Wet Weather Flow. Wastewater flow during or following periods of moderate to heavy rainfall; in the Puget Sound area, this typically occurs during the months November through April. Infiltration and inflow may increase the wet weather flow to a rate many times greater than the dry weather flow, and unless provided for in sewerage design, can produce hydraulic overloads resulting in wastewater overflows to streets or water courses.

Wet Well. The compartment in a pump station where wastewater flow is collected and from which the pumps intake wastewater to be discharged into a force main.