COMMON STORMWATER DEFINITIONS #3

Engineered Soil: A mixture of sand, soils and organic materials that improves the infiltration and enhances the growing conditions for plants as well as to help with removal of runoff pollutants.

Eutrophication: The process by which a body of water acquires a high concentration of nutrients, especially phosphates and nitrates. These typically promote excessive growth of algae. As the algae die and decompose, high levels of organic matter and the decomposing organisms deplete the water of available oxygen, causing the death of other organisms, such as fish. Eutrophication is a natural, slow-aging process for a water body, but human activity typically speeds up the process.

Good Housekeeping: Common sense measures that help businesses and agencies manage site activities and operations to control pollution. They are employed to prevent materials and wastes from being exposed to stormwater, thereby preventing stormwater runoff pollution. It is a proactive approach to stormwater management and seeks to prevent problems before they occur.

Gray Infrastructure: Transportation, roads, bike trails, water, wastewater, stromdrains, electric, telecommunication and other essential community support systems.

Pollutant(s): A substance, that renders the air, soil, water, or other natural resource harmful or unsuitable for aquatic, riparian and human habitats.

> **Debris:** A collection of loose material derived from rocks, or an accumulation of animal or vegetable matter.
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> **E.coli (Escherichia coli):** Bacteria that normally live the intestines of healthy people and animals. Most strains are harmless, but a few are nasty strains that produce powerful toxins that cause skin ailments or illness in humans. The presence of E. coli in water is a strong indication of sanitary sewage contamination or animal waste. Sources include but are not limited to pets and wildlife.
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> **Heavy Metals:** Metallic elements are harmful to living organisms in low concentrations and are therefore considered pollutants. Examples are mercury, cadmium, arsenic, and lead. Some metals such as copper, selenium and zinc are essential to maintain the metabolism of the human body however in higher concentrations they bioaccumulate and lead to poisoning. Metals can enter a water system from industries, consumer waste, vehicles and in some cases from natural sources.
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> **High pH:** Is an important limiting chemical factor for aquatic life. If the water in a stream is too acidic or basic, an imbalance may result and harm or kill stream organisms. It is expressed in a range of 0 to 14. Neutral water has a pH of 7. Values less than 7 are considered acidic, with 0 being the most acidic. Generally, streams pH balance is between 6 and 9. A change of 1 unit on a pH scale represents a 10 fold change in the pH, such that a pH of 6 is ten times more acidic than water with a pH of 7, and water with a pH of 5 is hundred times more acidic than water with a pH of 7.
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> **Hydrocarbons:** Are a common and naturally occurring organic compound of which the majority is found in oils and grease. In stormwater they can be found as free floating, emulsified (like an oil and vinegar mixture), or adsorbed to suspended solids. They are not soluble in water and can affect respiration of aquatic life, algae and plankton, feeding and reproduction of aquatic life, and aesthetics by sheens. Sources are typically vehicle byproducts related to use and maintenance.

Litter: Small refuse or waste materials carelessly dropped, especially in public places. Or a layer of partly decomposed leaves, twigs, etc, on the ground in a wood or forest.

Nutrients: The primary nutrients are phosphorus and nitrogen. Excess levels of nutrients in our lakes and streams cause the degradation of these water bodies by stimulating the growth of plants and algae (including toxic algae), which reduces the amount of dissolved oxygen available for entire aquatic ecosystems. Sources include fertilizer, manure, organic wastes in sewage, industrial effluent, vehicle exhaust and eroded soils.

Temperature: Aquatic animals are sensitive to changes in water temperature and require a certain temperature range to survive and thrive. Cold water holds more oxygen than warm water.

Total Suspended Solids (TSS): Is a water quality measurement that looks at the sediment suspended in stormwater. High concentrations of suspended solids can cause many problems for stream health and aquatic life. For example, high TSS blocks light from reaching bottom dwelling plants which produce oxygen for aquatic life. Also, suspended solids increase water temperature and can clog fish gills.

Trash: Anything of little use or value.

Prevention Practices: Is a preventative maintenance program that can improve water quality by controlling pollutant discharges to surface water that would result from spills and leaks. Moreover, preventive maintenance programs can also save money by reducing the likelihood of having a system breakdown and the costly cleanup projects. It is similar to Good Housekeeping.

Turbitity: Is the measure of the relative clarity of water. Turbid water is caused by suspended and colloidal matter such as clay, silt, organic and inorganic matter, and microscopic organisms. Turbid water may be the result of soil erosion, urban runoff, algal blooms, and bottom sediment disturbances.

Vegetated buffer: Also called a filter strip is an area along a shoreline, wetland, or stream where sheet flow runoff flows through dense vegetation. The primary function is to reduce runoff volumes, slow down the runoff, filter out suspended sediment and enhance infiltration.