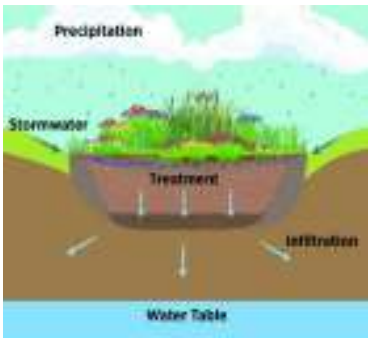
Module 5 Glossary: Understanding Stormwater Systems



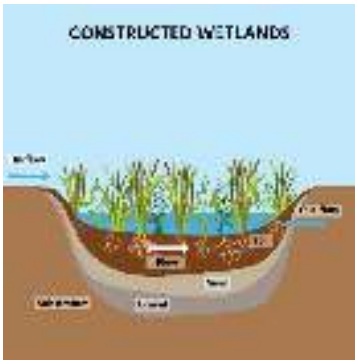
Bioretention Cell / Rain Garden: A shallow, planted area that filters runoff through layers of soil, mulch, and plants

Bioswale: A vegetated ditch or channel that slows water flow and filters out sediment and pollutants

Catch Basin: A structure containing a sump placed below grade to conduct water from a street or other paved surface to the storm sewers

Channel: A natural stream that conveys water; a man-made ditch or swale excavated for the flow of water

Cistern / Rain Barrel: A container that captures and stores roof runoff to later use or slow release, helping reduce runoff volume



Constructed Wetland: A man-made wetland that mimics natural wetland processes to treat and store stormwater

Detention Basin: A dry basin that temporarily stores stormwater and slowly releases it to reduce peak flows

Detention: The temporary storage of storm runoff in a BMP with the goals of controlling peak discharge rates

Ditches and Open Channels: Graded, open pathways designed to quickly move stormwater away from roads and properties

Drainage: The removal of excess surface water or ground water from land by means of surface or subsurface drains

Erosion and Sediment Control (ERS): A device placed, constructed on, or applied to the

landscape that prevents or curbs the detachment of soil, its movement, and/or deposition

Green Infrastructure: These systems are designed to mimic natural processes by capturing, slowing, infiltrating, and treating stormwater at or near its source, providing both water quality treatment and volume control while delivering environmental and community benefits.

Green Street: A street design that incorporates GI elements like bioswales, permeable pavement, and curb extensions to manage and treat stormwater in the right-of-way

Illicit discharges: Unpermitted discharges to waters of the state that do not consist entirely of stormwater or uncontaminated groundwater except certain discharges identified in the RIPDES Phase II Stormwater General Permit

Impervious Cover: Those surfaces that cannot effectively infiltrate rainfall consisting of surfaces such as building rooftops, pavement, sidewalks, driveways, compacted gravel (e.g. driveways and parking lots)

Low Impact Development (LID): A site planning and design strategy intended to maintain or replicate predevelopment hydrology through the use of site planning, source control, and small-scale practices integrated throughout the site to prevent, infiltrate, and manage runoff as close to its sources as possible. Specifically, LID seeks to avoid increased runoff by preserving and protecting as much of the natural site condition as possible, reduce runoff by minimizing impervious cover to the maximum extent possible, and manage impacts by treating runoff close to the point where it is generated by using small-scale, vegetated systems rather than conveying and managing stormwater in large, costly drainage systems.

Nonpoint Source Pollution: Pollution caused by diffuse sources that are not regulated as point sources and are normally associated with precipitation and runoff from the land or percolation

Outfall: The point where water flows from a conduit, stream, or drain

Outlet Control Structure: A hydraulic structure placed at the outlet of a channel, spillway, pond, etc., for the purpose of dissipating energy, providing a transition to the channel or pipe downstream, while achieving the discharge rates for specific designs

Outlet: The point at which water discharges from stormwater practices such as pipes or channels

Permeable Pavement: Pavement with spaces or porous material that lets water soak through the underlying layers

Point Source: Any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged

Retention Pond: A pond that permanently holds water and has space to store and slowly release additional runoff

Riparian Buffer: A vegetated strip of land along a stream or river that slows runoff, filters pollutants, and protects water quality while stabilizing banks and supporting habitat

Runoff: The water from rain, snowmelt, or irrigation that flows over the land surface and is not absorbed into the ground, instead flowing into surface waters or land depressions

ystem that filters runoff through layers of sand, gravel, emove contaminants

Underground infrastructure that quickly moves reets and buildings

Stormwater Basin: A large depression or impoundment created for the detection or retention of stormwater runoff

Stormwater Management Plan: A plan describing the proposed methods and measures to prevent or minimize water quality and quantity impacts associated with a development project both during and after construction. It identifies selected LID source controls and treatment practices to address those potential impacts, the engineering design of the treatment practices, and maintenance requirements for proper performance of the selected practices

Stormwater Pollution Prevention Plan (SWPPP): Identifies potential sources of pollution and outlines specific management activities designed to minimize the introduction of pollutants into stormwater

Stormwater: Water consisting of precipitation runoff or snowmelt

Tree Box / Tree Trench: An engineered system around urban trees that collects and filters stormwater runoff through soil media before releasing it underground

Underground Storage Vault: A buried tank or structure that temporarily holds stormwater to delay discharge

Vegetated Filter Strip: A grassy or planted strip of land that slows and filters runoff from roads or parking lots

Water Quality Treatment: These systems are primarily designed to treat or filter pollutants from stormwater before it enters waterways.

Water Quantity Control: These systems are primarily designed to manage the volume and timing of stormwater runoff to reduce flooding, erosion, and infrastructure overload.

Image References

Dr. Bianca Ross, URI.

NEIWPCC Permitting Point Source Pollution—https://neiwpcc.org/2023/04/03/permitting-point-source-pollution/

Penn State University, "Detention basins could catch more than stormwater"—https://www.psu.edu/news/research/story/detention-basins-could-catch-more-stormwater