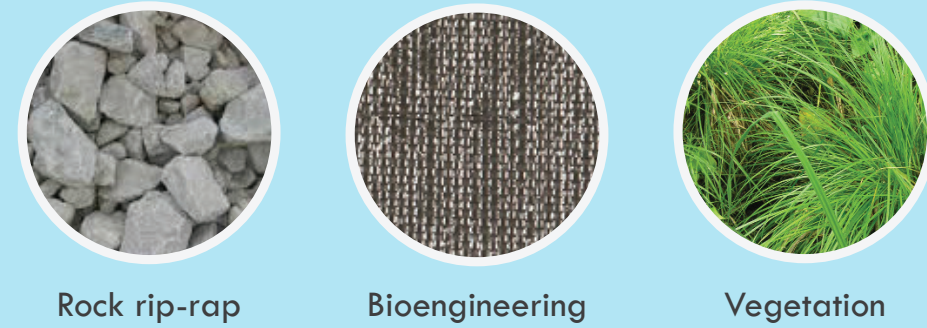


STORMWATER BEST MANAGEMENT PRACTICES

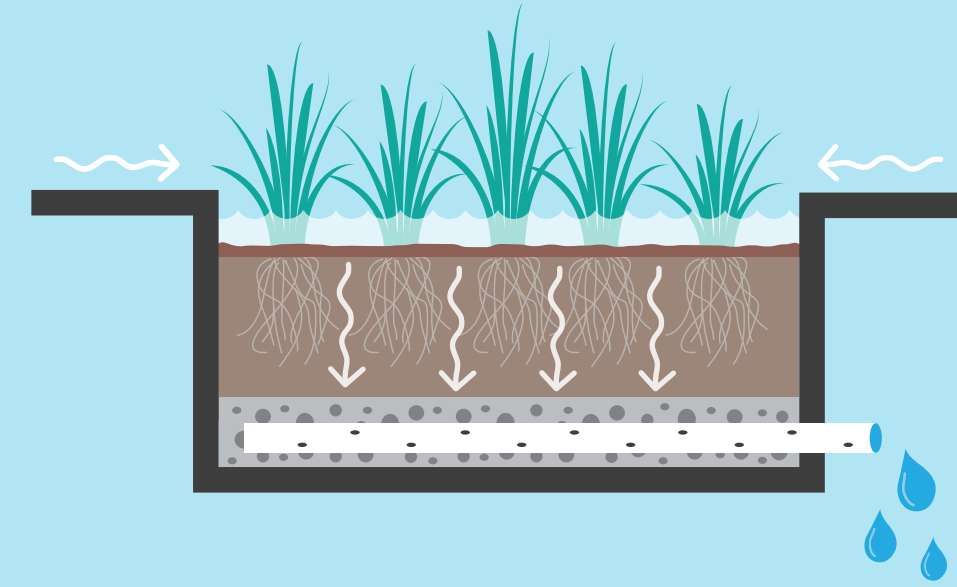
OUTFALL PROTECTION

A storm drain outfall is where a storm drain pipe or channel discharges stormwater runoff to a natural waterbody. Increased urbanization can damage outfalls by increasing the volume, frequency and intensity of stormwater runoff from impervious surfaces. Erosion from unstable outfalls can release sediment and other pollutants into nearby waterbodies. These outfalls can be stabilized or improved through the use of rip-rap, bioengineering techniques and/or vegetation.



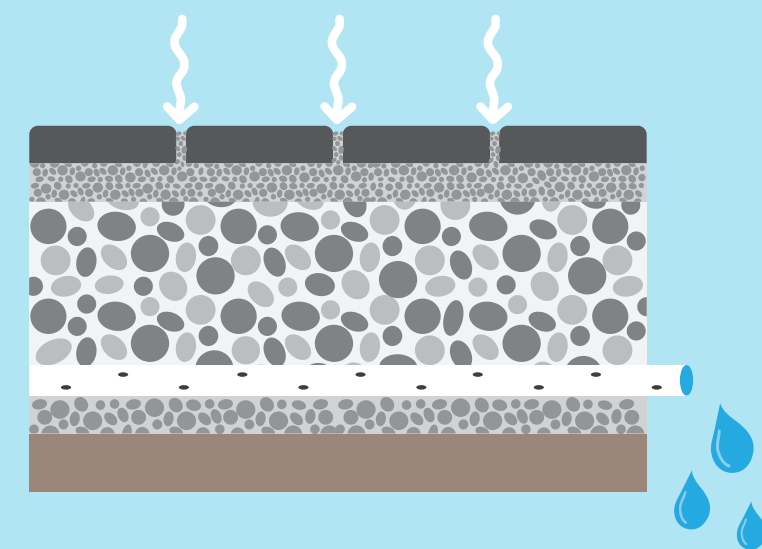
MICRO-BIORETENTION

A micro-bioretenention cell is a small-scale practice that captures and treats stormwater runoff from buildings, roads or parking lots. It works by collecting stormwater from impervious surfaces and allowing it to pond temporarily. Plants in micro-bioretenention include native species that are adaptable to wet and dry soil conditions.



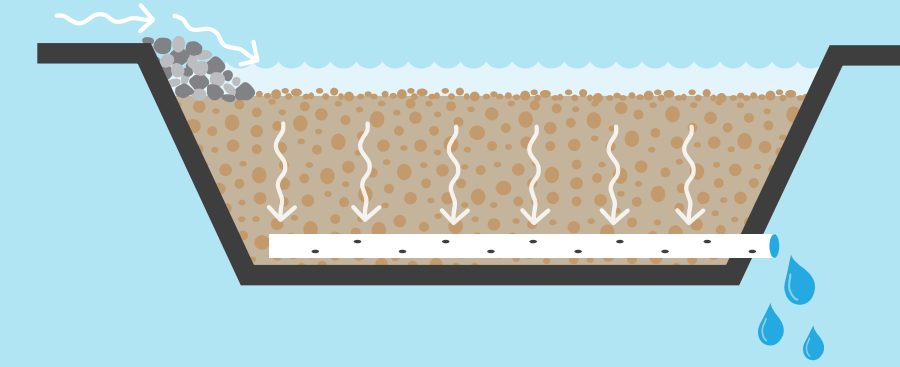
PERMEABLE PAVEMENT

Permeable pavement is an alternative to conventional pavement systems. The pavement surface allows stormwater to flow through to a gravel storage area underneath. The stormwater infiltrates into the ground or discharges to the storm drain system by an underdrain. Permeable pavement can be found in different applications such as parking spaces, alleys, sidewalks or pedestrian plaza areas.



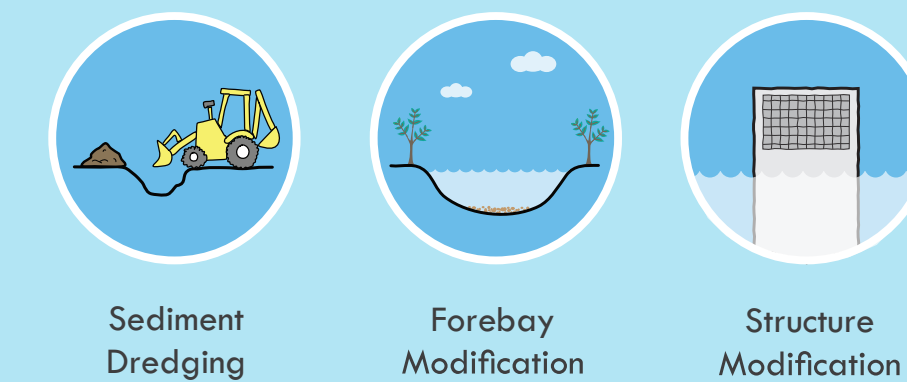
POCKET SAND FILTER

A pocket sand filter is a small depression in the ground filled with sand. It is designed to remove pollutants by filtering water through a bed of sand. It often looks like a small volleyball court or sandbox. After flowing through the BMP, the treated water is either absorbed by the soil under the sand filter or is conveyed into the storm drain system by an underdrain.



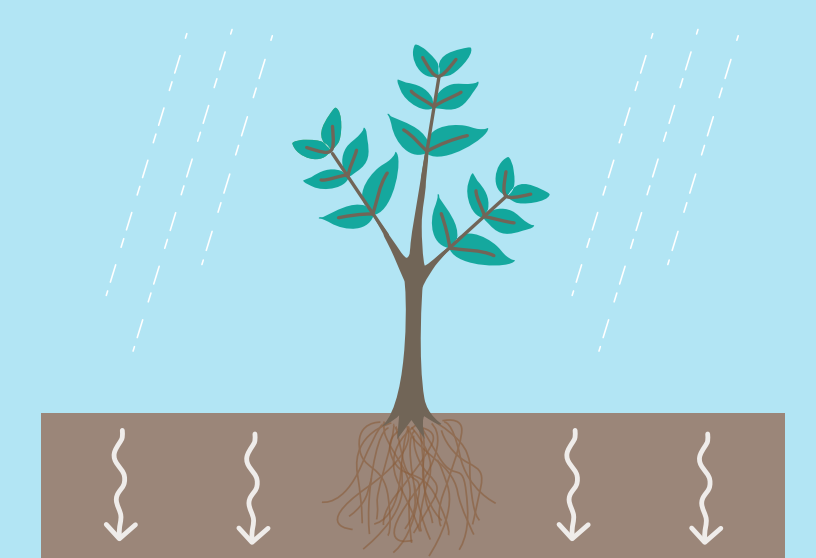
POND RETROFIT

The County has a large number of existing stormwater management ponds that do not meet the current water quality standards for stormwater BMPs. Pond retrofits include reconfiguring and re-grading the ponds so that they provide a permanent pool of water. Water flows into a forebay that captures and settles out pollutants such as sediment and nutrients.



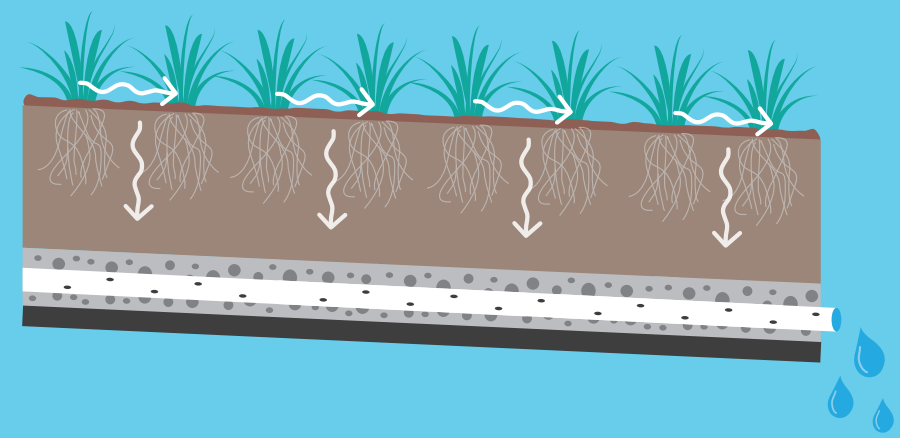
TREE PLANTING

Trees are one of the greenest and most economical stormwater BMPs. When it rains, trees intercept rainwater and allow it to evaporate or slowly soak into the ground. The roots help to remove pollutants by absorbing nutrients as water moves through the soil. Trees provide soil stabilization, improve air quality and help keep communities within a healthy temperature range in the summer.



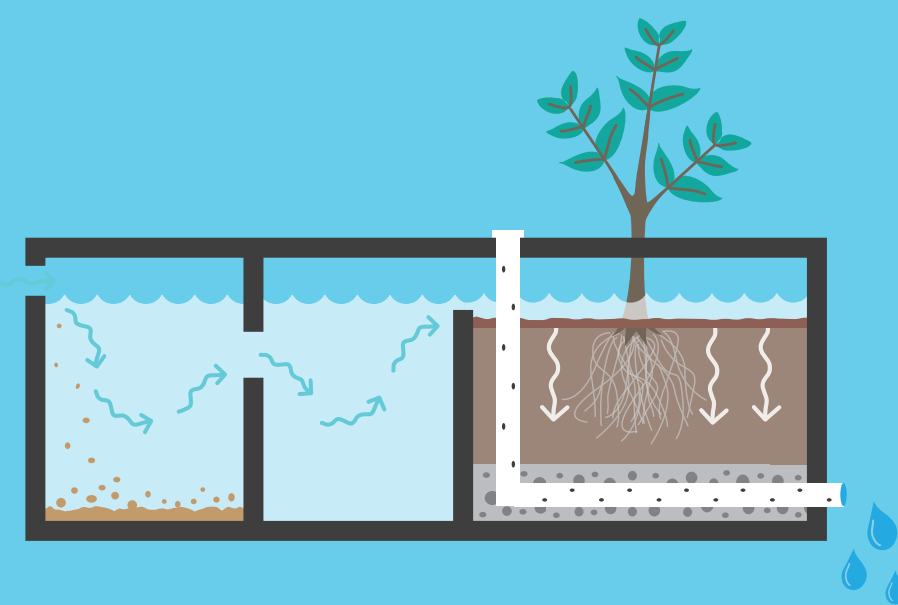
BIOSWALE

A bioswale uses plants and an engineered soil mix to treat stormwater runoff. Water is not ponded in a bioswale. It flows across the plants and engineered soil in the swale where runoff is infiltrated or filtered out. The shape of a bioswale can be linear or it can meander along roads or parking lots.



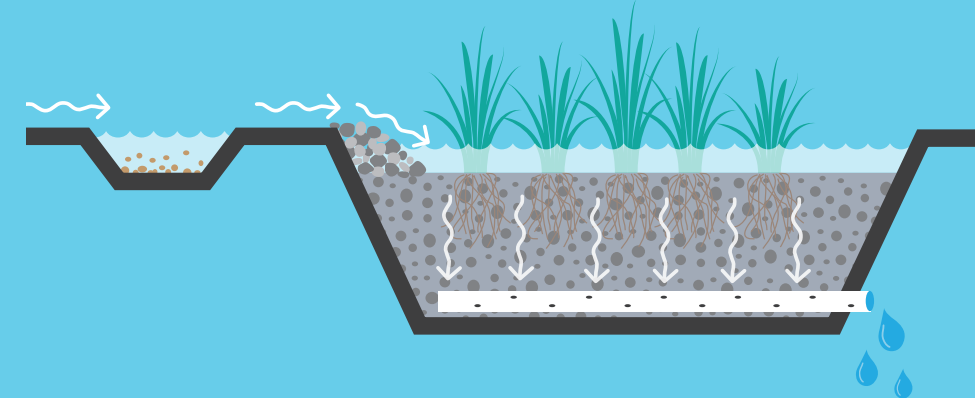
TREE BOX FILTER

A tree box filter is a concrete box filled with an engineered soil mix that can filter out pollutants from stormwater. The soil mix is designed to handle a large flow of water; this allows the device to treat a large impervious area with only a small footprint. This BMP is often used in areas where there is limited space.



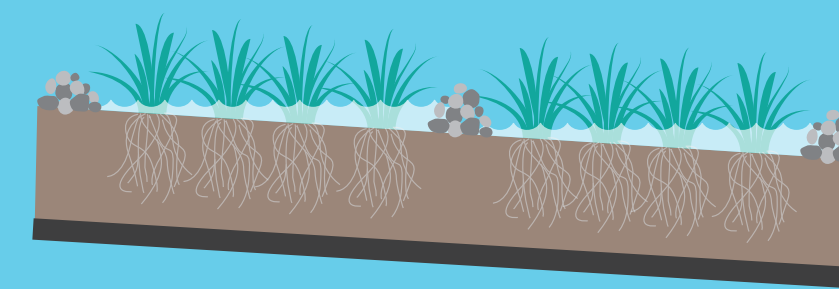
SUBMERGED GRAVEL WETLAND

A submerged gravel wetland is a large-scale practice that can be placed in poor-draining soil areas. The wetland is filled with gravel and covered with a layer of soil. Plants in the wetland include native emergent species that help remove nutrients such as nitrogen, phosphorus and sediment. A submerged gravel wetland will stay wet at all times so it must be located in larger drainage areas to sustain the plants and ecosystem.



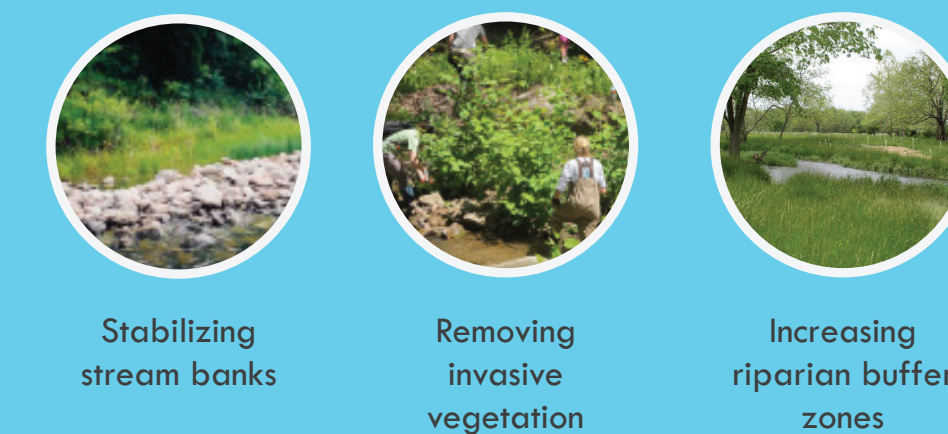
WET SWALE

A wet swale safely conveys stormwater to a natural outfall such as a wetland or stream. The wetland in the bottom of the swale reduces flow velocity and filters out pollutants. A wet swale can be used along roadways or parking lots where the groundwater table is high and the soil is damp. A wet swale will often have large piles of stone or check dams where water will pond to help slow and maintain the water flow.



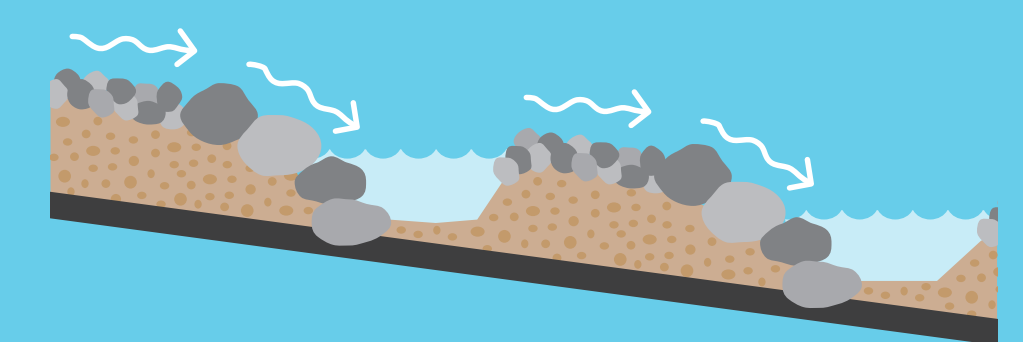
STREAM RESTORATION

Stream restoration is a major construction project that stabilizes an eroded stream. This is done by installing grade controls such as adding rocks at the bottom of the stream bed, re-grading the side slopes and stabilizing the banks with rocks and vegetation. The overall condition of the stream can be improved through the proper management of a healthy riparian buffer.



REGENERATIVE STEP POOL CONVEYANCE

Regenerative Step Pool Storm Conveyance (SPSC) is designed to stabilize and restore eroded outfalls. A series of small pools and riffles help to remove sediment and control downstream erosion. A sand and woodchip stream bed filters pollutants and promotes infiltration into the natural groundwater system.

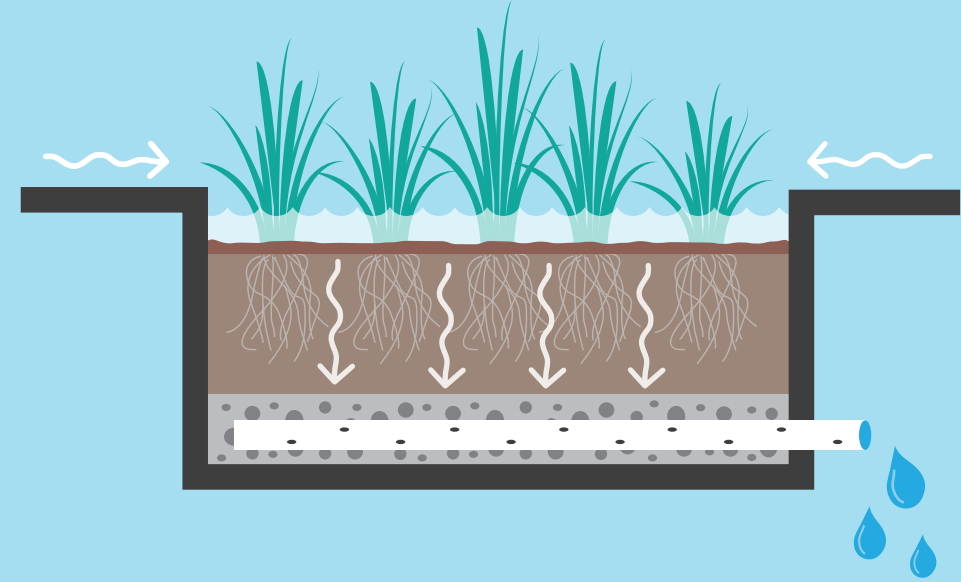


STORMWATER AUTHORITY OF CHESTER PARTNERSHIP

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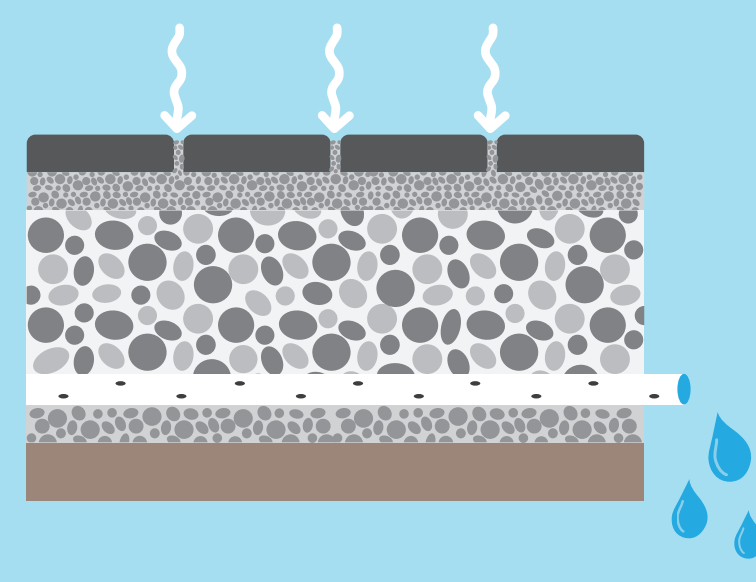


COMMON STORMWATER BEST MANAGEMENT PRACTICES



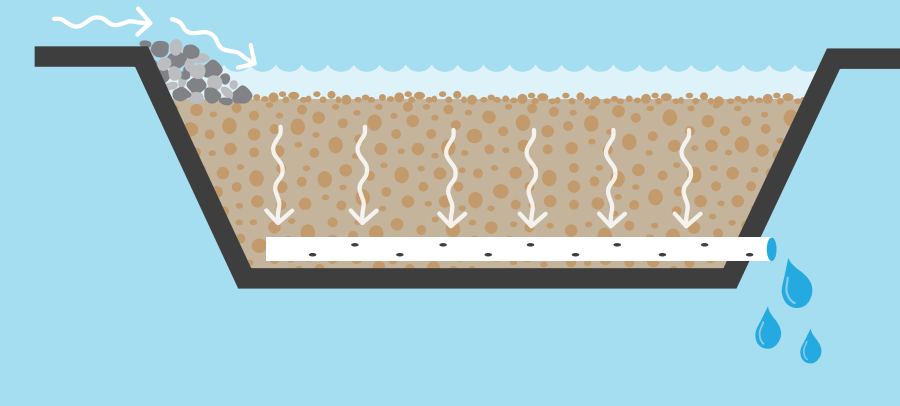
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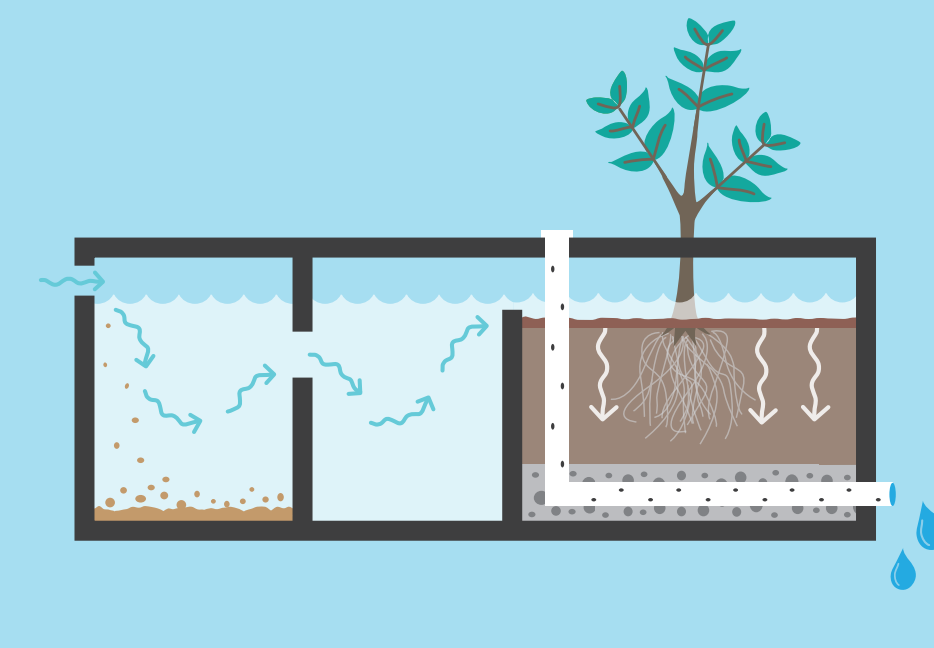
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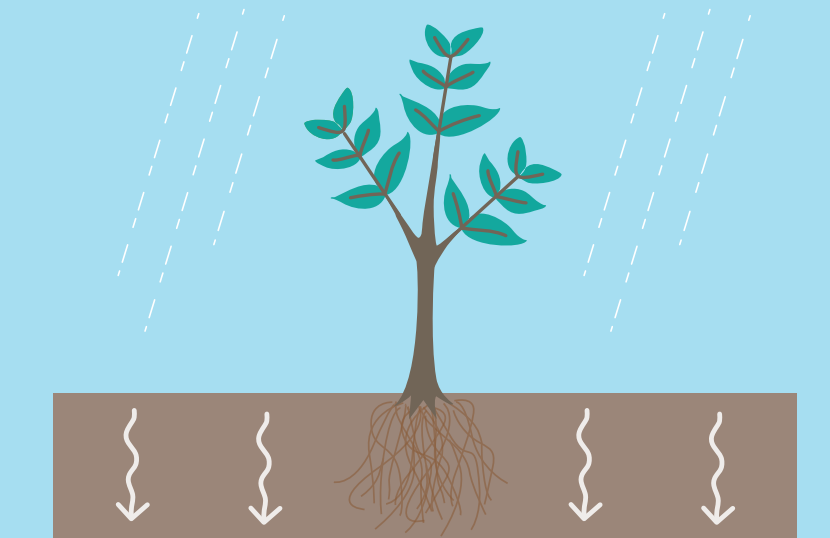
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