

The Challenge of Stormwater

When it rains in a community, impervious surfaces such as rooftops and pavement prevent rainwater from soaking into the soil. The resulting stormwater runoff collects litter, oil, excess nutrients from fertilizers, and sediment as it flows across the ground.

Think about the impervious footprint of a house that includes roofs, walkways, driveways, patios, and decks. Add up the square footage of all this impervious surface and multiply that total by 0.6, and you'll have an estimate of the gallons of stormwater runoff resulting from that house in a 1" rain event. Make the equals sign below an "approx. equal" symbol.

Square Feet of Impervious Surface x 0.6 [≈] # gallons of Runoff produced in a 1" rainstorm

For just a 400-square-foot patio, that's roughly 240 gallons of stormwater! Other factors influencing runoff volumes as well, such as slope and ground compaction.

Communities conventionally manage this runoff by draining untreated stormwater into underground pipes and culverts that eventually empty into a stream or river. However, these conventional methods can concentrate flow. Therefore, while these "gray" stormwater systems are important for stormwater management and flood control, Green Infrastructure (GI) alternatives can decrease demands on conventional stormwater systems by reducing the volume and velocity of stormwater runoff.

What is Green Infrastructure?

Green Infrastructure (GI) is an approach to stormwater management that reduces the volume of polluted runoff entering our stormwater pipes and our streams. GI systems such as rain gardens, green roofs, and cisterns are designed to capture and treat the first flush of a rain event by slowing down stormwater runoff and allowing it to slowly infiltrate the ground, evaporate, or be harvested for reuse. GI systems typically feature amended soils, stones, and plants that replicate the natural drainage systems of undeveloped land. GI can also include planning approaches such as forest conservation and restoration and impervious cover reduction.



Green infrastructure can reduce the volume, velocity, and temperature of stormwater runoff, reducing pollution and beautifying the community. Beyond reducing the impacts of stormwater and protecting our waterways, some GI can even improve air quality and create habitats for pollinators and wildlife.

What Can You Do?

Everyone can help reduce the impacts of stormwater, even at home, with GI alternatives such as:

- Install a rain barrel, plant a tree, or redirect your downspout into a rain garden. Trees are sponges for runoff water and are a great asset to a yard for shade, wildlife benefits, and beautification.

- Doing a soil test will help you understand the water infiltrating capacity and nutrient makeup of your lawn. From years of lawn mowing and use, many lawns are compacted, meaning they cannot infiltrate water as well. Clay-dominant soils, prevalent locally, also have poor infiltration capacity. Aeration of your lawn is one way to add space back into the soil, which allows water to be absorbed. Doing a soil test will also allow you to see if your lawn has nutrient deficiencies. If not, there is no need to add fertilizer. If yes, you can target your fertilization to that specific nutrient deficiency and use it sparingly.



Rain Barrell



Downspout Planter

- Use porous concrete or permeable pavers as an alternative to concrete for walkways and patios.
- Landscape your yard using native plants and pollinator species to help build a more resilient neighborhood. Native plants are better adapted to our soils and climate. They require less irrigation and are more resilient during times of drought.