Rain Gardens

Green Infrastructure

As our population has grown, natural landscapes, prairies and forests have been replaced by agricultural land and sprawling cities. Stormwater, once easily absorbed, now flows as runoff across the ground and over hard surfaces. Stormwater runoff occurs when precipitation from rain or snowmelt flows over hard surfaces unable to absorb it, like driveways, roofs, sidewalks and streets. The hard surfaces increase the speed and volume of water that reaches the stream and causes stream bank erosion. In extreme cases, this could results in property loss.

Untreated stormwater runoff can be harmful when discharged into the water bodies we use for swimming, fishing and as a source of drinking water. Stormwater picks up chemicals, nutrients, debris, sediment and other pollutants. It can also increased temperature as it is carried by sewers directly into lakes, streams, or rivers.

To counter the effects of excessive stormwater runoff, we can manage stormwater differently with green infrastructure. Green infrastructure involves the use of soils, plants, and land features in an effort to preserve, interconnect, and mimic natural processes that slow, sink, and spread stormwater where it first falls. This reduces the volume of runoff and the amount and type of pollutants entering our waterways. Using green infrastructure to manage stormwater, we can prevent untreated water from affecting our environment and reduce the amount of water we use on our lawn and landscaping. Common strategies include the collection and conveyance of stormwater runoff from roofs, driveways and other surfaces so that rain is absorbed or is collected for re-use. Selecting plants for landscaping that have deep roots that promote infiltration and only need rainfall to thrive.

By using green infrastructure on your own property, you can realize the many benefits it provides.

Description:

By catching rainwater where it falls, a well-designed rain garden is able to successfully manage stormwater runoff. Rain gardens are defined as shallow ground depressions that use native and adapted plants to absorb and filter stormwater running off your roof, driveway and other hard surfaces. As the captured water drains through the soil in your rain garden, pollutants are absorbed, broken down and prevented from entering our waterways. Compared to a conventional landscape that typically has compacted lawns and bermed planting beds, rain gardens prevent stormwater from running off the lawn, thereby allowing water to soak into the ground and contaminate local water resources. In addition, rain gardens add beauty to your property and create a habitat for birds and butterflies. Rain gardens are an important way to make our cities and neighborhoods more attractive places to live while enhancing ecological health.

Considerations:

Rain gardens are fairly simple to create and maintain. Even a small rain garden helps prevent stormwater pollution from entering our water resources. To prevent damage to utilities, always call Diggers Hotline of Nebraska at 800-331-5666 before you start your project.

- Map out your rain garden by choosing spots that are down slope of downspouts or paved areas that will drain into it.
- Typical rain gardens are 100 to 300 square feet and designed to drain within 24 hours.
- For better drainage, till compost into the soil. Make sure to include an overflow to convey excess stormwater.
- Your rain garden should blend into the landscape but not be built underneath the canopy of any trees. Soil agitation under your tree can damage its roots.
- You should test the soil for infiltration to determine how deep to make the rain garden. If your soil absorbs .25" per hour, you can expect 6" to soak in over 24 hours.

To learn more about this and other Green Infrastructure strategies, visit:

www.OmahaStormwater.org

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