RAIN GARDENS

Improve your landscape, improve our water

Why a rain garden?

As we add more impervious surface to the landscape (e.g. roads, rooftops, driveways, parking lots, etc.), we create more stormwater runoff. More stormwater runoff means less rain "soaks" (infiltrates) into the ground. Less infiltration means less groundwater for our wells and streams, worsening the effects of drought. As stormwater flows across impervious surfaces or exposed soil, it picks up various pollutants, such as oil and grease, excess nutrients, bacteria, trash and sediment.

Polluted stormwater flows down our storm drains and through our ditches where it is discharged, untreated, into our streams, rivers, and lakes. Stormwater runoff pollution can adversely impact aquatic ecosystems and our drinking water supplies. Increased impervious surface leads to more stormwater runoff, more water pollution, and less groundwater. Ultimately this can cost you money (e.g. a new well or higher water rates). Building a simple rain garden on your lot can help offset these impacts.

What is a rain garden?

A rain garden is a man-made depression designed to collect stormwater runoff to improve water quality. They act as a "bioretention" area by allowing collected runoff to infiltrate (soak) into the ground. As collected runoff soaks in, pollutants are filtered through the soil, and taken up by the plants. Biological processes help clean the water as it soaks into the ground.

Rain Garden Benefits

Rain gardens help:

- **Reduce erosion** by slowing stormwater runoff.
- **Remove excess nutrients** and other pollutants.
- **Reduce effects of drought** by increasing infiltration.
- **Save water** by reducing lawn irrigation needs.
- **Add biodiversity and interest** to your landscape.

Building a Rain Garden

Rain gardens may be simple or complex depending upon your particular site. A typical rain garden consists of a dug-out depression, soil berm, planting soil mix and the correct plants. More complex gardens may have under drains and outlet structures.

There are some important things to consider when designing and building a rain garden:

- **Select the best site**
  Watch it rain and see where the runoff goes.
- **Check your soil drainage**
  Clay soils* require special consideration. Clay soils are the predominate soil type in Orange County.
- **Size them correctly**
  Formulas are available to help size rain gardens correctly. There is local expertise available to help size/design your rain garden free of charge.
- **Select the correct plants**
  Plants must tolerate extremes from very wet to drought conditions.
- **Slow the water down**
  Use a grass filter strip, stone, or rain barrel to slow the water as it enters your rain garden.
- **Maintain it correctly**
  Mulch annually, remove weeds, keep out sediment, and don't add fertilizer or other chemicals.

**Clay soils are made up of fine particles and don't drain as well as sandy soils. In a rain garden, this can present problems because the water may not soak in fast enough. Some solutions for clay soils include making rain gardens shallower, increasing the surface area of the garden, installing under drains, backfilling with a suitable planting soil, or simply creating a stormwater "pocket" wetland.*

Local Resources for Rain Gardens

ORANGE COUNTY
NORTH CAROLINA

Orange County Planning & Inspections - Erosion Control, Stormwater, and Engineering Division
131 W. Margaret Lane, P.O. Box 8181
Hillsborough, NC 27278
919-245-2575
www.orangecountync.gov/Planning

Orange County Soil and Water Conservation District
1020 US 70 West
Hillsborough, NC 27278
919-245-2750
www.orangecountync.gov/SoilWater

Orange County Cooperative Extension
1020 US 70 West
Hillsborough, NC 27278
919-245-2050
orange.ces.ncsu.edu