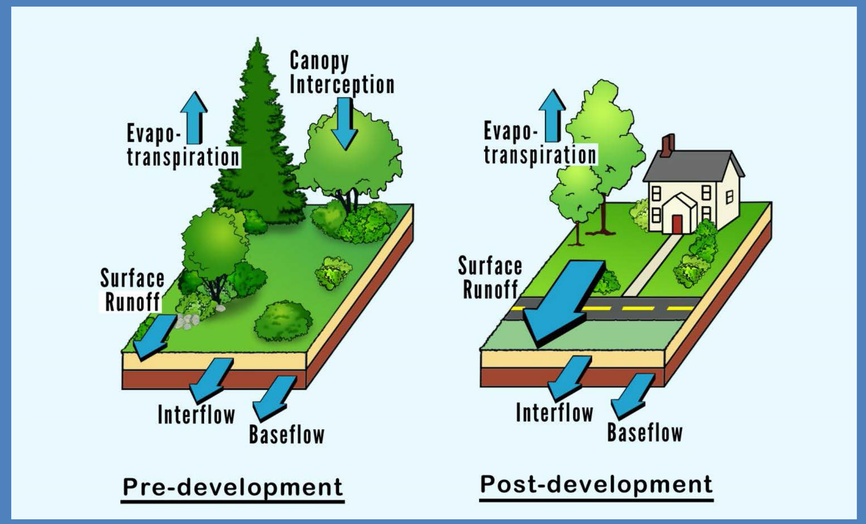
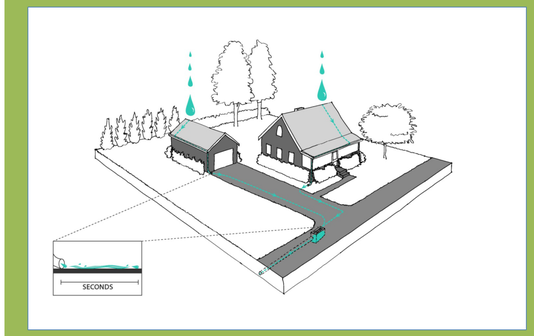
STORMWATER IMPACTS IN YOUR WATERSHED

Where does the water go…

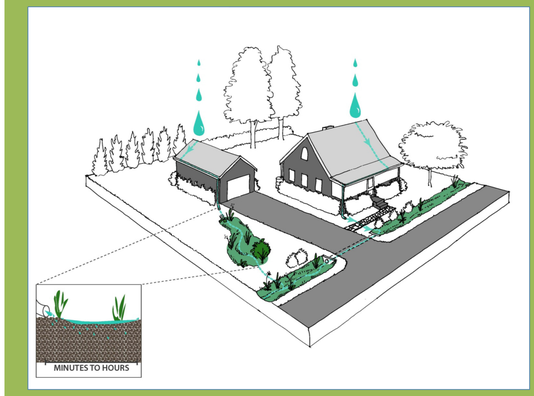
…when it rains? There is very little surface runoff from undeveloped, vegetated land with most of the rain water captured and used by trees or infiltrated into the ground. Once an area is developed, hard **"impervious" surfaces** such as rooftops, driveways, and roads increase runoff from the site.



How can you help?



Stormwater from typical house lots flows quickly from **roof to driveway to street**, picking up pollutants as it goes.

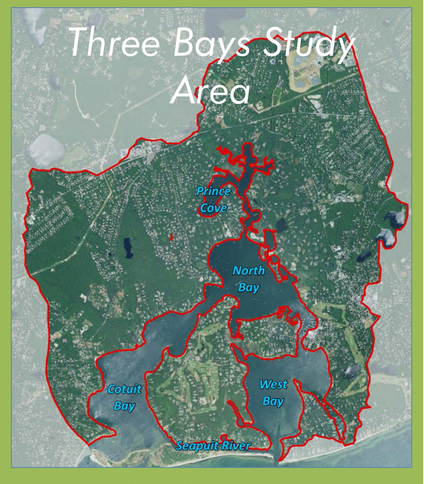


You can **break the impervious chain** by adding rain barrels, building rain gardens, or just planting more native trees and shrubs in your yard!

Three Bays Project

The **Association to Preserve Cape Cod (APCC)** and project partners are working on improving **stormwater management**. The Team has identified a variety of opportunities to **"retrofit"** road and parking lot drainage systems throughout the study area to improve water quality.

To learn more, visit: www.apcc.org/rcc/snep



Stormwater Management in Three Bays to Improve Water Quality

A project funded by the Environmental Protection Agency's Southeast New England Program

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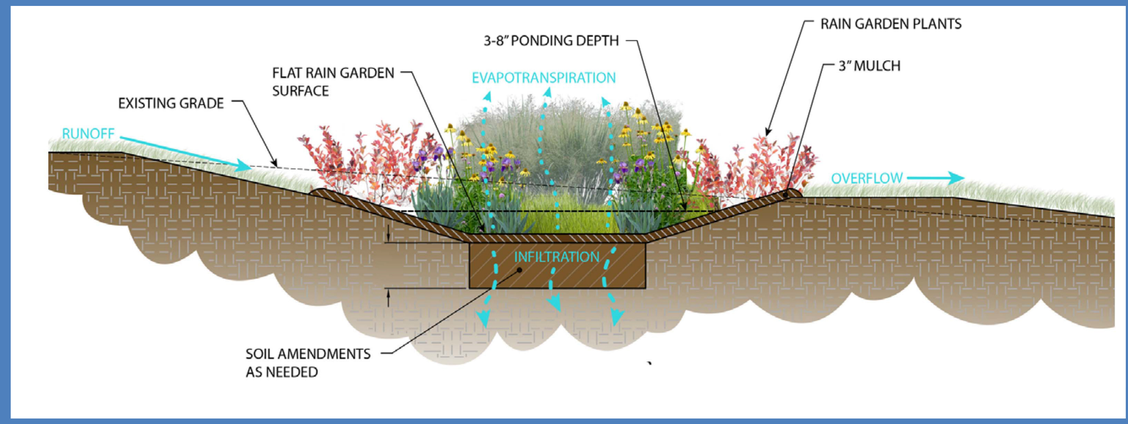
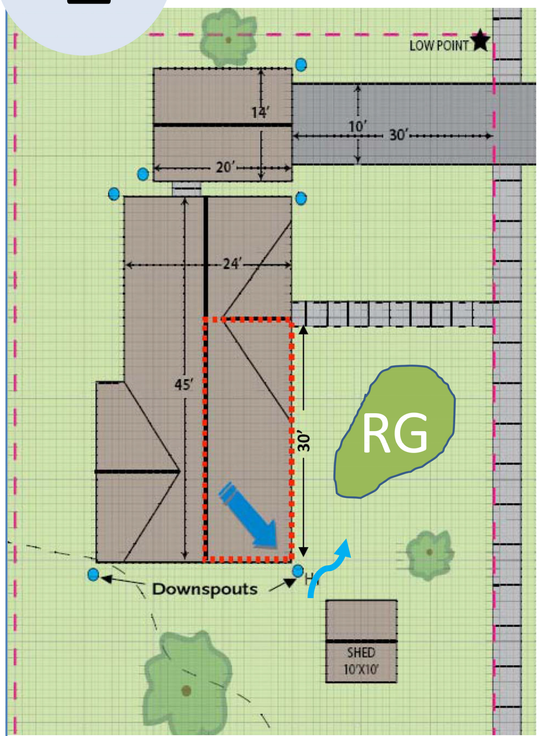
HOW TO BUILD A RAIN GARDEN

Rain gardens are landscaped depressions designed to absorb stormwater runoff from rooftops, driveways, roads, parking lots, and compacted lawn areas. This runoff can carry pollutants, cause flooding and erosion, damage infrastructure, and impact aquatic ecosystems. Rain gardens use soils and plants to filter pollutants, promote recharge to groundwater, and encourage evapotranspiration.



Rain gardens are NOT wet features – they should be dry <24 hours after a rain event!

1 Site Selection



Example plan showing rain garden (RG) that captures runoff from a portion of roof (IA)

- **Walk your property!**
- Determine existing **flow paths**
- **Avoid wet areas**
- Maintain **setbacks** from structures, trees, and septic systems
- Find **flat areas** for easiest installation

2 Design

- Estimate **impervious areas (IA)** draining to your rain garden (rooftops, driveways, patios, etc.)
- Size **rain garden (RG)** to hold **1 inch of rain (P=0.08 ft)** (use equation below or Table 1 for quick reference)
- Typical rain gardens are **6 inches deep (D=0.5 ft)** – go shallower for clayey soils

$$RG\ (ft^2) = \frac{IA\ (ft^2) * P\ (ft)}{D\ (ft)}$$

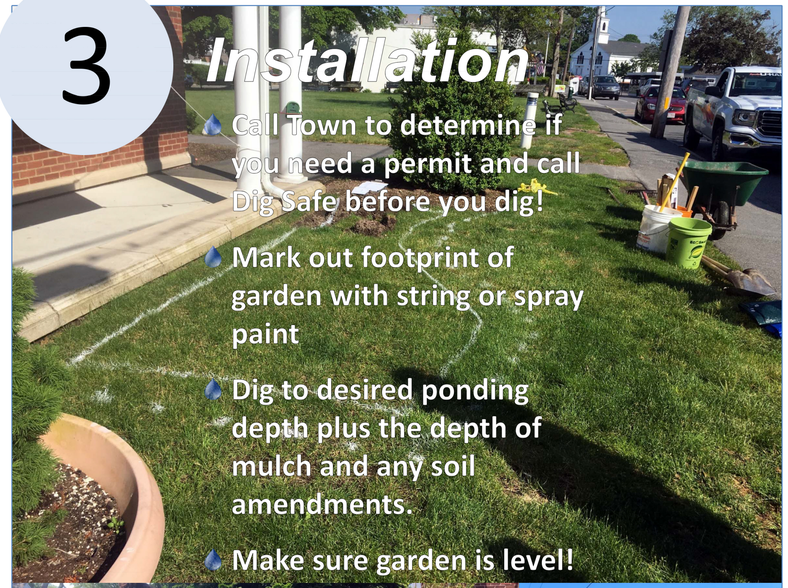
Table 1. Approximate Rain Garden Size (ft^2) to meet rainfall target of 1 inch

Impervious Drainage Area	Ponding Depth		
	3" (.25 ft)	6" (.50 ft)	8" (.67 ft)
500 ft^2	170	85	65
750 ft^2	250	125	95
1000 ft^2	340	170	125
1500 ft^2	500	250	190
2000 ft^2	680	340	250

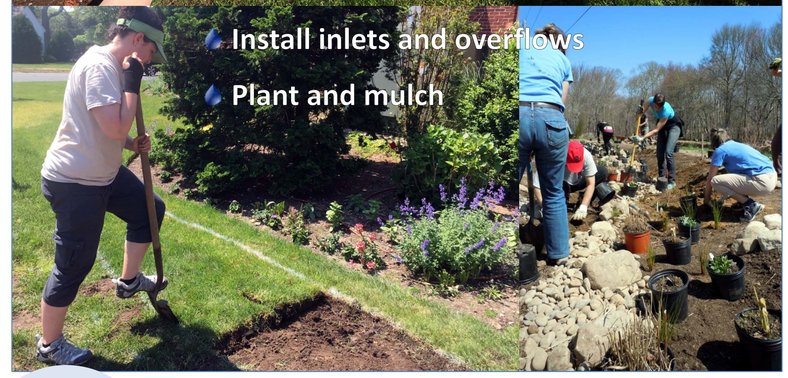
HINT: Use the **UCONN Rain Garden App** to help you!

Rain Garden App
A Mobile App for designing, installing, and maintaining a Rain Garden
UCONN

3 Installation



- Call Town to determine if you need a permit and call Dig Safe before you dig!
- Mark out footprint of garden with string or spray paint
- Dig to desired ponding depth plus the depth of mulch and any soil amendments.
- Make sure garden is level!
- Install inlets and overflows
- Plant and mulch



4 Maintenance

- Weed and prune
- Stabilize eroding slopes and inlets
- Amend soils if garden stays wet

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