

# INTRODUCTION

## RETAIN YOUR RAIN (RYR) OVERVIEW

As a coastal city with **144** miles of shoreline, Norfolk is shaped by water. Water supports Norfolk's economy and provides beauty and recreation, yet water also represents one of our greatest challenges- flooding.

Several factors contribute to flooding in Norfolk. Sea level rise exacerbates flooding through higher tides and increases in storm surge, which reduce the effectiveness of storm water systems. Flat land and old undersized pipes in parts of the city delay rainwater runoff and cause water to pool in the streets. Currently after each rain event, Norfolk drains or pumps every drop of runoff, but our pipes and pumps can only handle so much at a time. When everyone forces water from their property into the drain at the same time, back flooding will occur. Think of our pipes as a roadway network at rush hour. There is simply too much too quickly resulting in a water traffic jam that causes flooding. In order to deal with increased flooding, Norfolk needs to think differently about how we manage water.

Norfolk has adopted a Resilience Strategy that focuses largely on finding new ways to manage and live with water and is encouraging its citizens to play a role. By installing home **RETAIN YOUR RAIN** Projects like rain barrels, rain gardens, bioswales, green roofs, and trees, you are capturing runoff and storing rain water so it doesn't

flow into the drain all at once or even at all. This takes pressure off the city's pipes and pumps and reduces flooding. Better yet, that water is used in a more beneficial way. You are not only helping to reduce flooding, but you are also addressing goals of other initiatives that the City has adopted including the Green Infrastructure Plan and the Climate Action Plan that contribute to the overall health and resilience of our communities and environment.

This is a comprehensive manual on how to incorporate **RETAIN YOUR RAIN** projects so that you can contribute to Norfolk's resilience and help build the coastal community of the future!



The **RETAIN YOUR RAIN** App is a web tool to help you determine whether you live in an "INFILTRATION" or "STORAGE" zone so that you can pick the appropriate **Home Projects**. Click the image to access the app.



# BENEFITS

## HERE ARE A FEW REASONS TO RETAIN YOUR RAIN

- Help mitigate storm and flood damage to your property in addition to mitigating flooding throughout the city of Norfolk.
- Storing water on your property to use for your plants or for other activities, instead of using city water.
- Trees provide beauty, habitat, absorb heat, produce oxygen, drink up lots of water, and when placed appropriately, reduce heating/ cooling costs of your home throughout the seasons.
- Reduce overload and wear-and-tear of stormwater infrastructure. The more water sent to the street means bigger pipes needed, and more tax money to maintain the system.
- Save on municipal water use, avoid purchases of unnecessary fertilizers and chemicals, & reduce maintenance costs.
- Plants provide beauty, food for pollinators, habitat, add value to your property, absorb and break down pollutants.



- You will be doing your part to contribute to the protection of the Chesapeake Bay and other watersheds.
- Properly maintained downspouts will keep water away from your home, reduce erosion, and prevent water from leaking into crawl spaces and under slabs.
- Minimize runoff and pollutants which can cause erosion and damage to waterways. When water soaks into the ground, this also recharges groundwater.
- Concrete and other impervious surfaces collect and radiate high amounts of solar heat during the summer. Reduce the urban heat island effect from buildings and pavement by planting trees and using green roof technology.
- Increase the presence of nature in the city. This has health as well as psychological benefits.

## FINDING HELP

It is possible to receive grants from local foundations to help fund your **Home Projects**. Some of these groups may also have free or low-cost supplies and kits to help you. Consider signing up with one or more of these groups and be an advocate for sustainability. They can also provide you with additional advice and information.



### Organizations:

#### Ask HR Green | Bay Star Homes

<https://askhrgreen.org/programs/bay-star-homes/>

#### Chesapeake Bay Foundation

<http://www.cbf.org/join-us/education-program/student-wave/shared-action-projects/>

#### City of Norfolk Office of Resilience

<https://www.norfolk.gov/3612/Office-of-Resilience>

#### City of Norfolk Stormwater

<https://www.norfolk.gov/index.aspx?NID=1689>

#### Elizabeth River Project

<https://elizabethriver.org/get-involved-0>

#### Friends of Norfolk's Environment

<http://www.foneonline.org/>

#### Norfolk Botanical Garden

<https://norfolkbotanicalgarden.org/learn/>

#### Norfolk Master Gardeners

<https://www.nmgy.org/>

#### Virginia Cooperative Extension

<https://ext.vt.edu/>

#### Virginia's Soil & Water Conservation Districts

<https://vaswcd.org/>

#### Wetlands Watch

<http://wetlandswatch.org/citizen-action>