

WELCOME TO THE
SAINT ANTHONY
RAIN BARREL WORKSHOP

RAIN BARREL PRESENTATION OVERVIEW

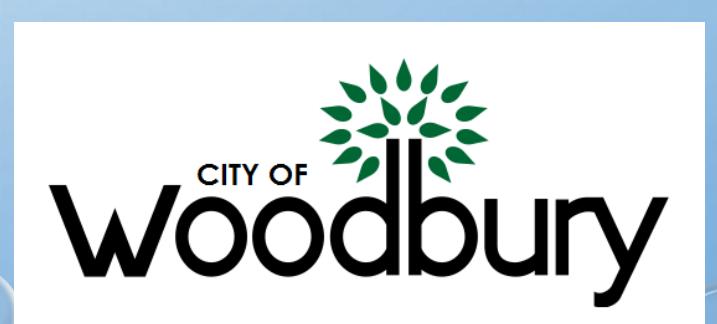
- INTRODUCTION
- THE IMPORTANCE OF RAIN BARRELS
- RAIN BARREL HOW TO
 - INSTALLATION
 - MAINTENANCE
 - USE
- WHAT HAPPENS TO WATER RUNOFF
- NEXT STEPS



Kristin Seaman



- Served an 11 month volunteer term with Saint Anthony Village
 - Rain Barrels, Pollinators, Outreach & Education
- Master Water Steward, Mississippi Watershed Management Organization
- Now work for the City of Woodbury on stormwater and water conservation



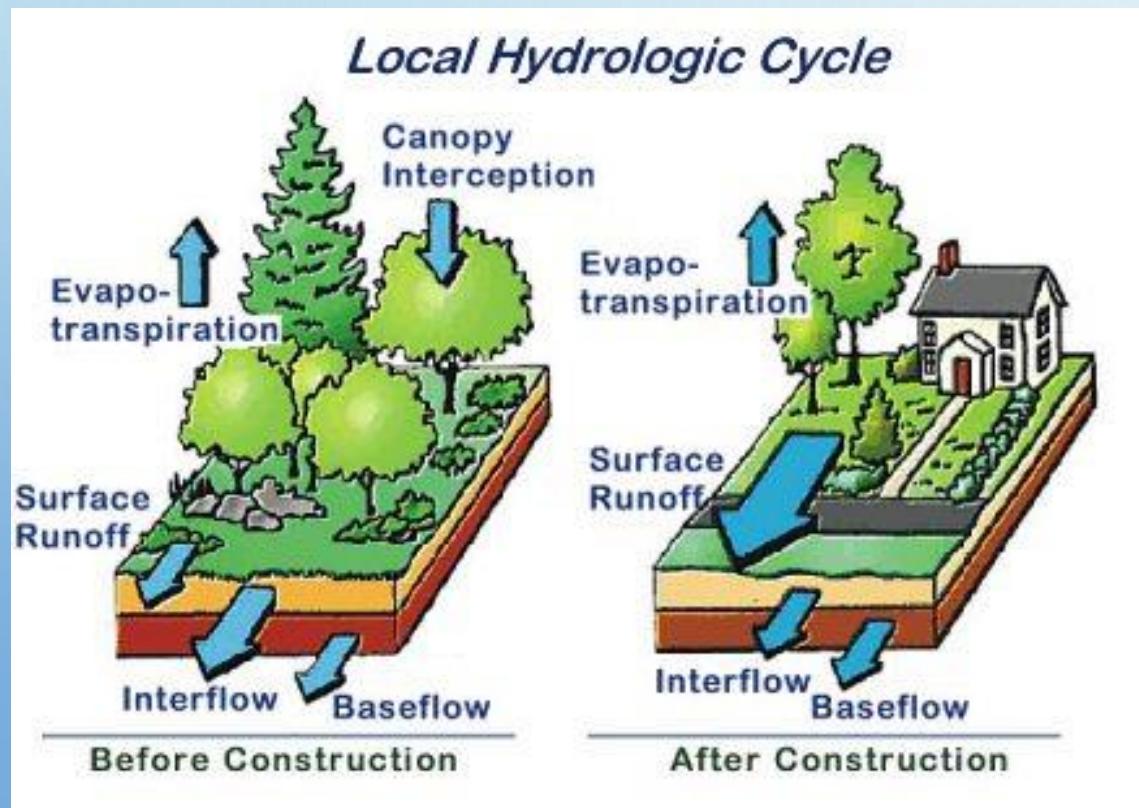
Jay Hartman Public Works Director

- Streets
- Parks
- Stormwater
- Water & Sewer
- Engineering
 - Spring Clean Up Day: May 5th
 - Drop off at Public Works 9am-12
 - Park Clean Up 9:30-12 (see Facebook)

Saint Anthony
Village



THE IMPORTANCE OF RAIN BARRELS (AND WATER CONSERVATION)



- All rainwater moves from hard surface (or smooth turf grass) to storm drains which dump into the Mississippi River or Silver Lake (impaired waters)
- There is no filter!
- Manmade structures/design prevents rainfall from staying on our properties, being filtered through natural processes, and from recharging our groundwater supply
- Rainwater capture is one way to reduce the effects on surface and ground water

THE IMPORTANCE OF RAIN BARRELS (AND WATER CONSERVATION)

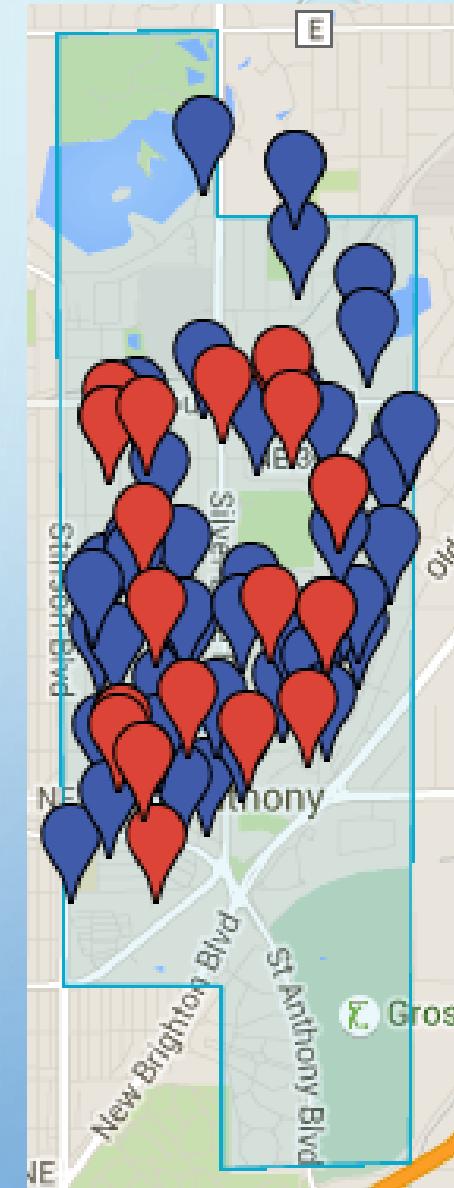
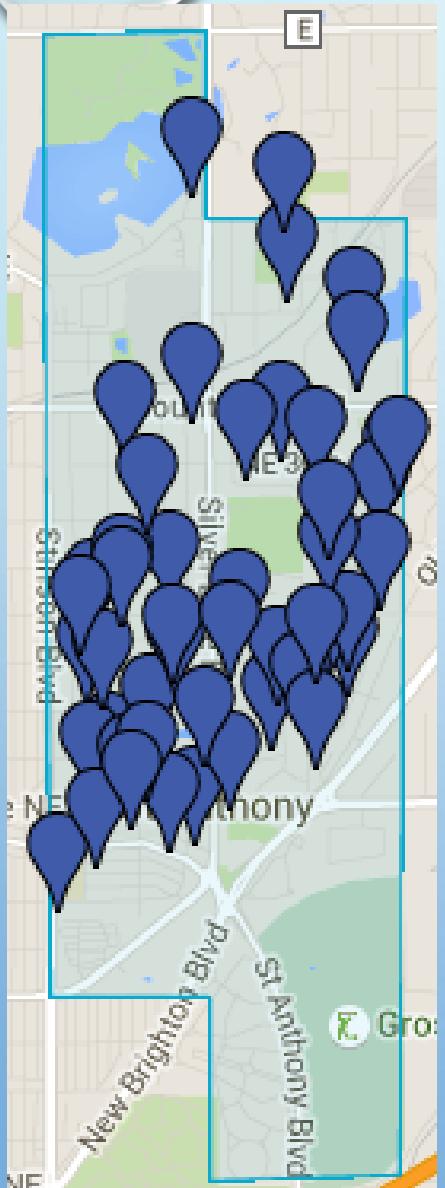


- The city pumps and cleans groundwater
- This water is treated to add nutrients that are healthy for us but unnecessary for plants, yards and cars
- Treatment: GAC and AOP
- North and East Groundwater Management Area, DNR is closely watching groundwater withdrawal and monitoring levels

THE IMPORTANCE OF RAIN BARRELS (AND WATER CONSERVATION)

This is the fourth Rain Barrel workshop Saint Anthony has hosted

- 110 barrels were distributed between 2012, and 2017
- Today another 30 barrels are being added to the community
- We all need to do our part in using water efficiently



SUMMER WATER USE AND BEING SUSTAINABLE

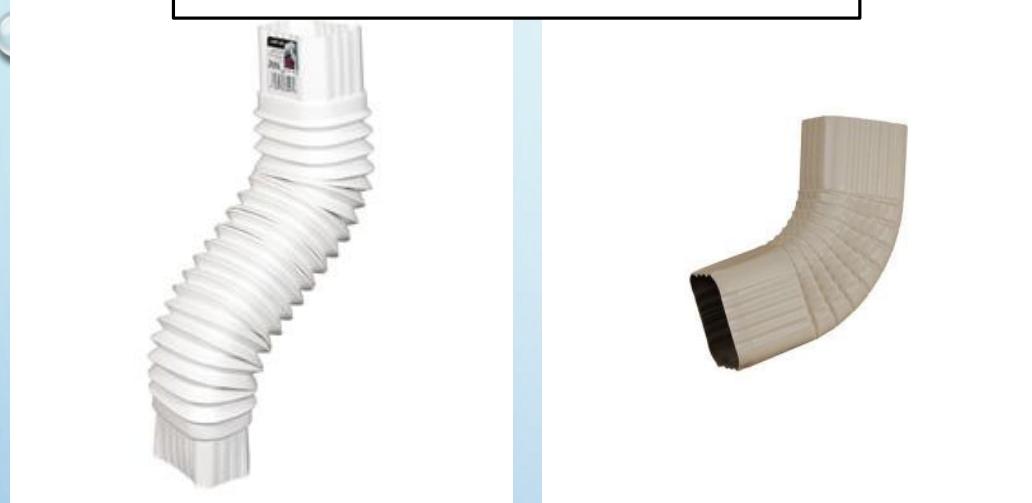


- In the metro, the average per capita water use is 125 gallons per day
- Water use in the summer on average 2.4 times what it is in the rest of the year

Reducing water use by 20% can make a big difference

- 90 gallons per day per capita allows for the expected growth in population and business without increasing water use
- Reducing summer use from 2.4 times to 1.6 times winter use

Less than \$5 at Home Depot
Come in different sizes and colors



RAIN BARREL INSTALLATION

1. Find your location

- Level ground near a downspout (barrels will weigh 500 lbs when full)
- Closest to your watering needs
- Construct a stand- 2 feet (height=pressure)
- Place your barrel

2. Mark your downspout

- Depends on downspout and attachment and size of your downspout
- Measure twice, cut once
- Leave space to access the top opening

Spend some time thinking about and assembling a stand that will be able to support a full barrel before moving on

RAIN BARREL INSTALLATION



3. Cut

- Use a hacksaw to cut your downspout (water needs to flow within $\frac{1}{2}$ inch of the barrel opening)
- Put cardboard behind downspout while cutting to protect house

4. Connect barrel to downspout

- Use fasteners whenever necessary
- Keep the bottom half of your downspout to be reattached over winter

RAIN BARREL MAINTENANCE

Winter maintenance:

- Disconnect barrel from downspout in November (maybe October)
- Completely drain the barrel (into the grass/garden and away from foundations and walkways)
- Reattach modified downspout to full length extension (resembles pre-barrel days)
- Clean out debris from barrel
- Cover with a tarp or move inside, leave spigot open in case water gets inside

Products for Problems: Mosquito dunks, chlorine tablets, algaecide, white vinegar, baking soda

- all can be found at local hardware/pool stores

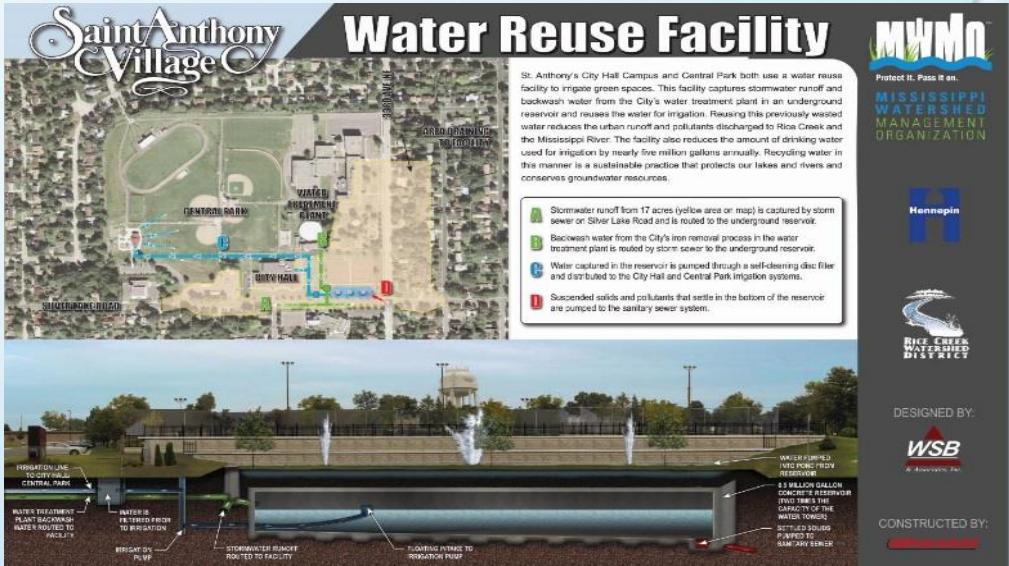
Potential Issue: Try to put your barrel on a downspout that isn't mostly in direct sunlight

RAIN BARREL USE

- Use rain water instead of using your garden hose: lawn, trees, flowers
- Empty before next rain event: sitting water for multiple days can be bad for your barrel
- Not enough research on whether or not its safe for produce: roofs are made from petroleum based products, rain water can carry bird droppings
 - Proceed with caution/Better safe than sorry
 - If you choose to use on produce: apply water to soil and wash produce thoroughly
- If leaving town for 3 or more days, leave spigot open and directed at lawn/garden (soaker hose)

WHAT HAPPENS TO WATER RUNOFF?

- SAV and watersheds are installing systems that treat the stormwater that your barrel(s) can't catch
- Find other improvements on your property to help protect our water



Saint Anthony Village

Silver Lake Stormwater Treatment System

Project Description

The Silver Lake Stormwater Treatment System will improve the stormwater ponds ability to remove phosphorus. This will be achieved by constructing an underground water collection system along 39th Avenue and on the west side of the ponds. This work will begin in March 2014 and the treatment system will be in operation in the late summer to early fall of 2014.

Construction Cost

\$421,000 • Completion: June 2014 • Operational by Fall 2014

Funding Sources

Public Right-of-Way Grant (\$14,000) | Rice Creek Watershed District (\$50,000) | City of St. Anthony (\$144,000)

WSB

Saint Anthony Village

Central Park Biofiltration Stormwater Treatment System

Project Description

The City aims to reduce stormwater pollutants, conserving water for Rice Creek County Ditch System 3, which is tributary to Long Lake in the City of New Brighton. Long Lake is an impaired water body with the MPCA and a priority water body for the RQVO for water quality protection.

Construction Cost

\$300,000 • Completion: Summer 2014 • Operational by Fall 2014

Funding Sources

Public Right-of-Way Grant (\$14,000) | Rice Creek Watershed District (\$50,000) | City of St. Anthony (\$144,000)

WSB

Saint Anthony Village

St. Anthony Stormwater Research Facility

Project Description

The Research Facility will have a primary treatment component consisting of a sand chamber and flow controls to settle and trap particulate matter, floating trash, and debris from stormwater. The facility will also have a secondary treatment pond designed to remove the solids removed from the stormwater. The secondary treatment system is also designed to help remove phosphorus and other pollutants. The effectiveness of available and emerging treatment technologies such as iron sand filter, fiber media with activated alumina, alum flocculation, ionization, ozone, and other future technologies. New technologies can be plugged into the system and monitored for their effectiveness at pollutant removal and cost for operation.

Construction Cost

\$1,400,000 • Completion: Fall 2013 • Operational by Spring 2014

Funding Sources

MPCA Annual Operations and Maintenance Cost (\$100,000) | City of St. Anthony (\$144,000)

WSB

Saint Anthony Village

Mirror Lake

Concept Plan

- 1) Baseline Lake
- 2) Permeable Outlet Structure
- 3) Baseline Shoreline

Project Benefits

- Reduce phosphorus loading and algae blooms in Mirror Lake and downstream
- Annual Total Phosphorus Removal: 50 pounds minimum
- Improve water clarity from 10 ft to 12 ft
- Create degraded embankment wetland
- Improve Public Safety
- 100% beach access permit
- Improve aquatic and riparian wildlife habitat
- Buffer lake source water
- Baseline water quality

Construction Cost

\$1,400,000 • Completion: Fall 2013 • Operational by Spring 2014

Legend

- Proposed Contours
- Existing Contours
- Water Body
- Gas Line
- Storm Sewer

WSB

YOUR NEXT STEPS TO GETTING YOUR BARREL

- Public works will deliver barrels at the end of your driveway
- Install and put to use!
- Email me with any issues/discoveries: seam0061@umn.edu
- Tell your neighbors, friends and family
- Challenge yourself to use your barrel from full to empty as many times as possible