

Rainwater as a Resource: Installing Green Stormwater Infrastructure at Home

Heather Finden
Planning & Development Department

Neighborhood Synergy Conference
September 12, 2026



City of Phoenix



Overview

- Audience Participation Questions!
- A Changing City
- Using Green Stormwater Infrastructure
- Residential Incentives
- Conservation Programs
- Resources
- Q & A





Audience Questions

- Why did you sign join today's session?
- What does 'Water Conservation' mean to you?
- What are you hoping to get out of today's presentation?



A Changing City.....



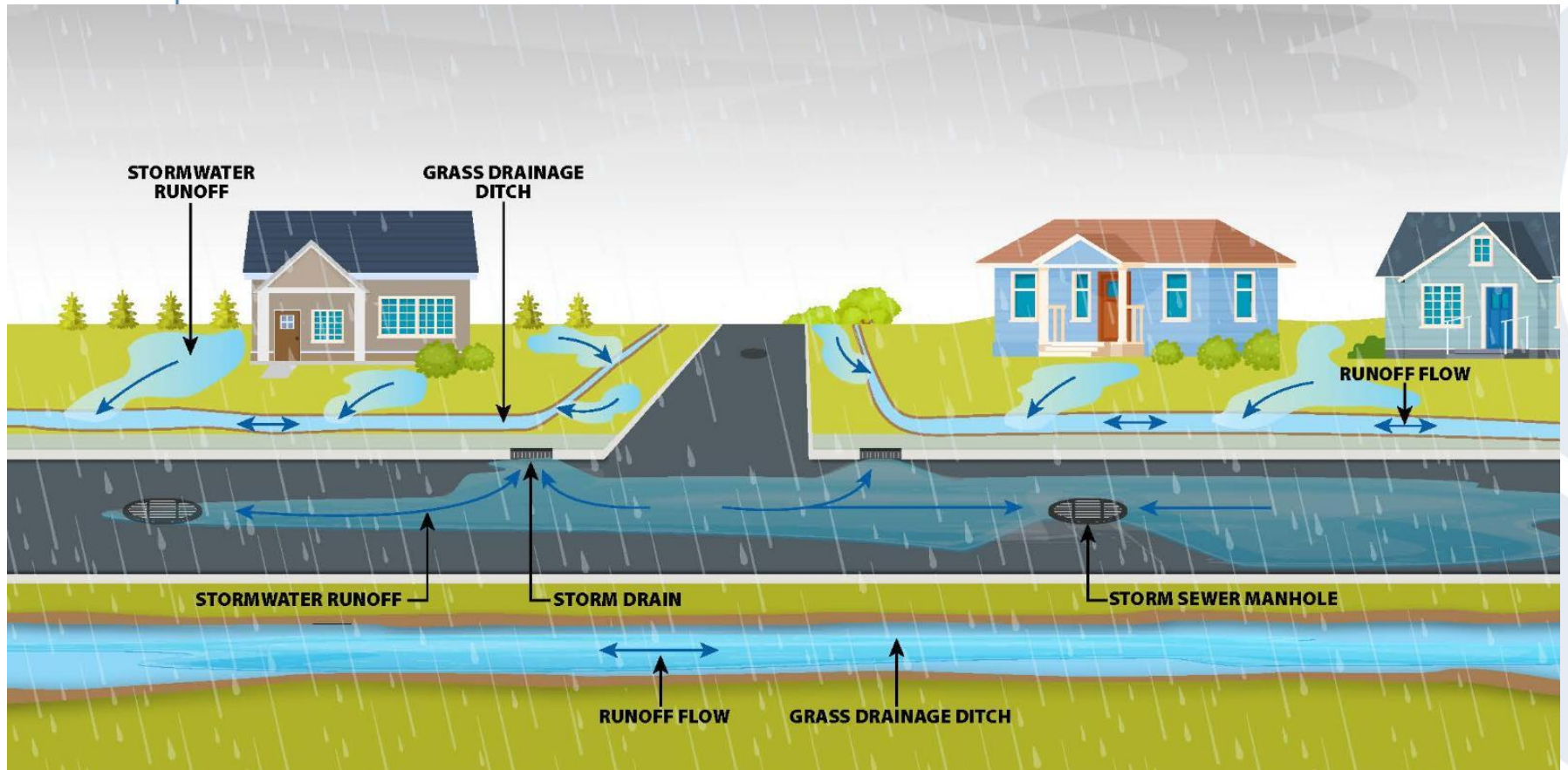
<https://vintage-phoenix.blogspot.com/>



[google.com/maps](https://www.google.com/maps)



What is Stormwater?



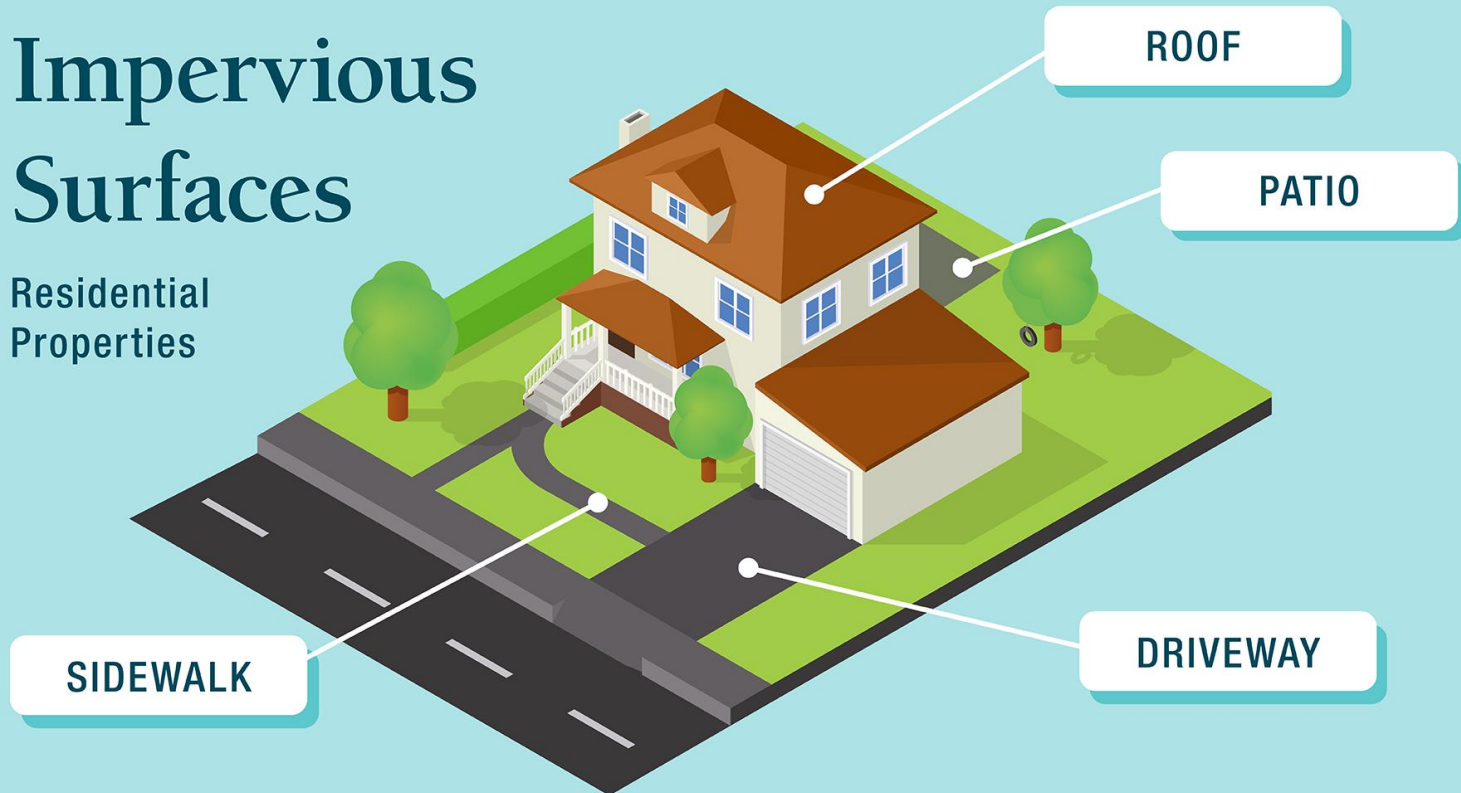
<https://fifth-ward-kashmere-gardens-uprr-epa.hub.arcgis.com/pages/stormwater-investigation>



Why Do We Care?

Impervious Surfaces

Residential Properties



<https://www.wakeforestnc.gov/engineering/stormwater-management/stormwater-utility>



*Let's use Rainwater
as a Resource!*



Green Stormwater Infrastructure

Infrastructure constructed with a range of measures that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to the public storm drain system or to surface waters.



City of Phoenix – Heather Finden



Benefits of GSI

GREEN STORMWATER INFRASTRUCTURE

Green Stormwater Infrastructure, or GSI is a design technique that uses plants, soils, permeable concrete, or other permeable surfaces to allow stormwater to soak into the ground.

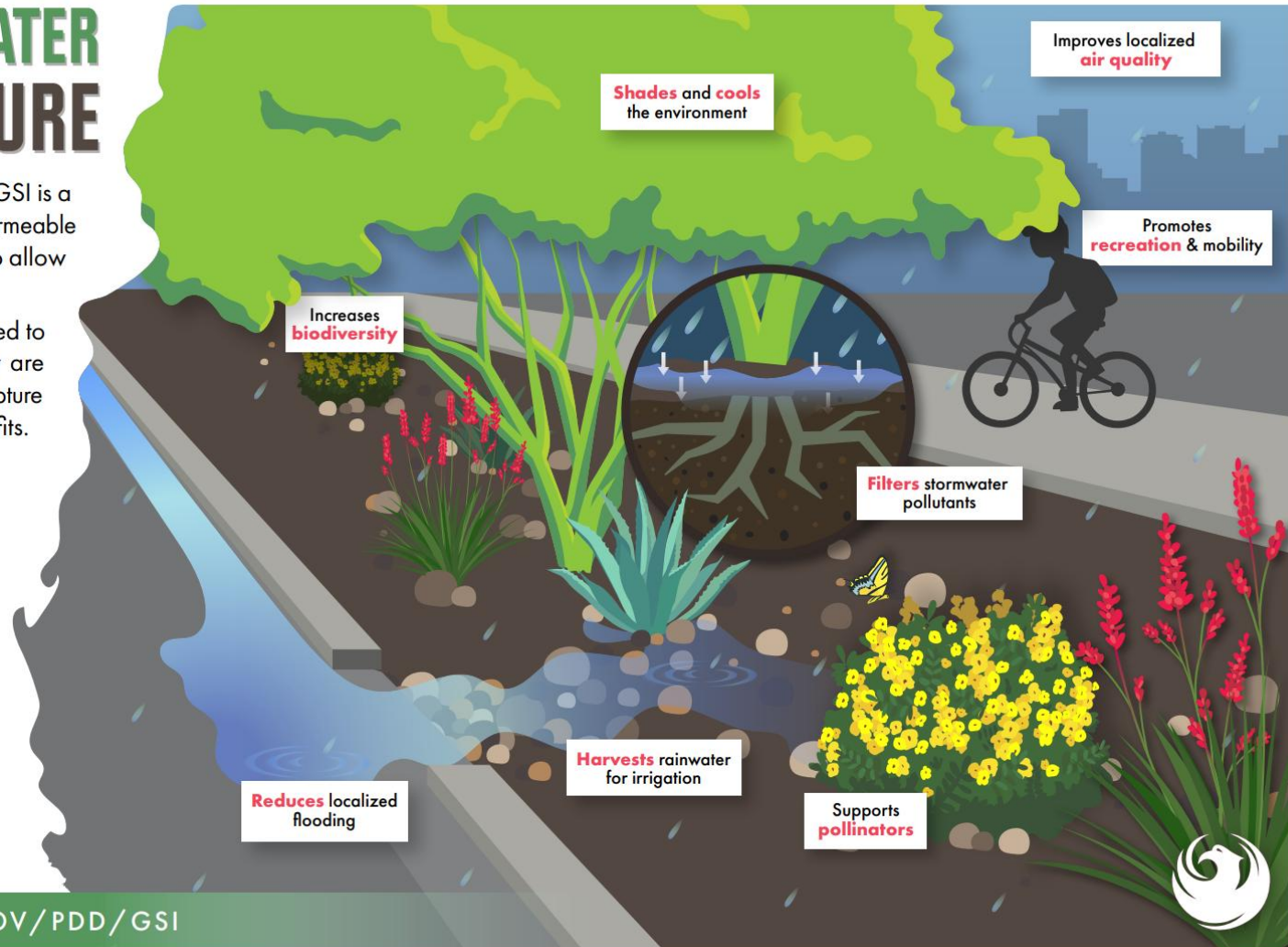
These features are also sometimes referred to as low impact development (LID). They are generally small in size and are used to capture water where it falls for multiple co-benefits.

Examples include:

- Permeable pavement
- Curb openings
- Bioswales
- Stormwater harvesting basins
- Bioretention systems
- Curb extensions (chicanes)

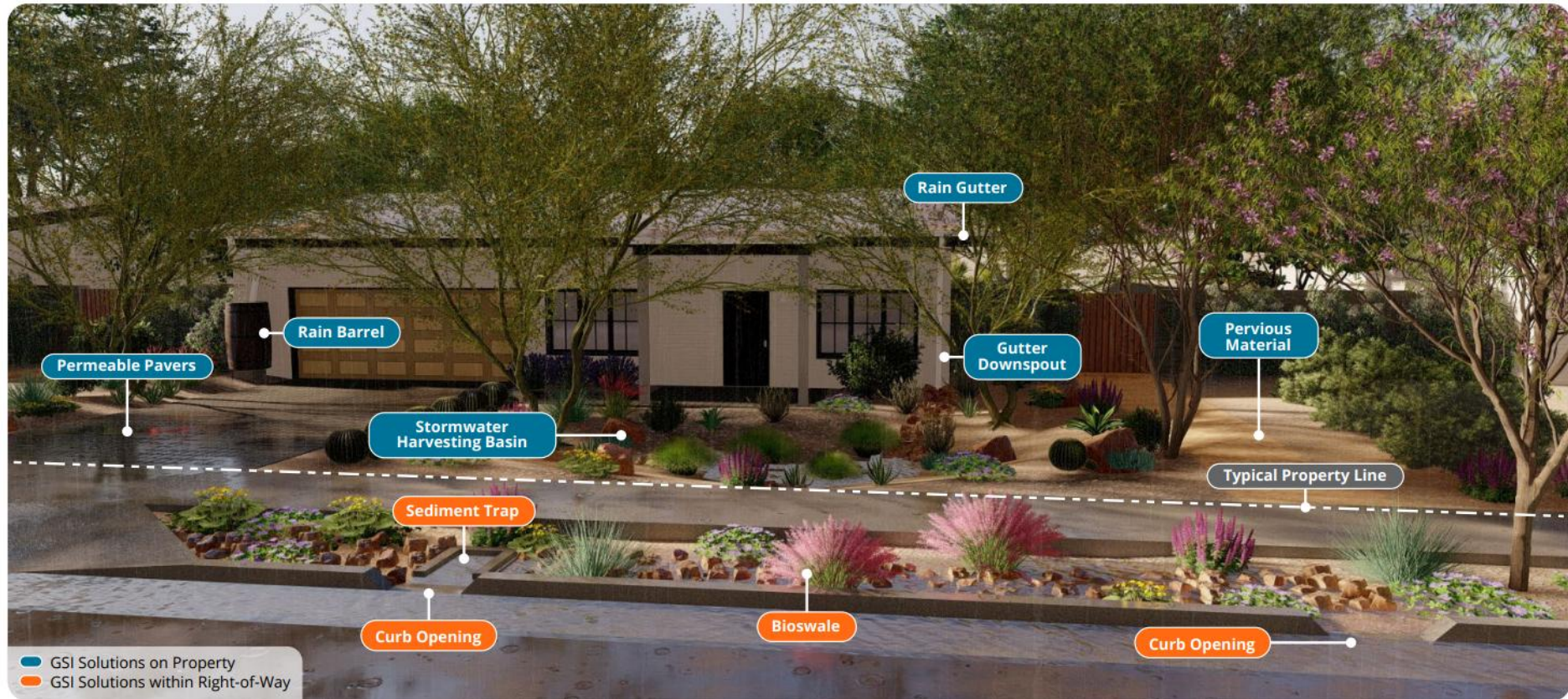
LEARN MORE AT:

PHOENIX.GOV/PHOENIX.GOV/PDD/GSI





Range of Measures





Considerations

- Budget & schedule
 - How much do you want to spend?
 - Are you doing the work yourself or hiring a contractor?
- Placement on property
 - Where are the buildings and structures?
 - Where does the rain fall and how does it travel?
 - What do you want your yard to look like?
 - Are there conflicts with utilities?
 - Do you have an HOA or property restrictions?



Rain Barrel



Collect gutter
or downspout

Spigot

Rain Barrel

Elevated
Platform



Rain Gutter System



Optional Leaf
Guard

Erosion
Control





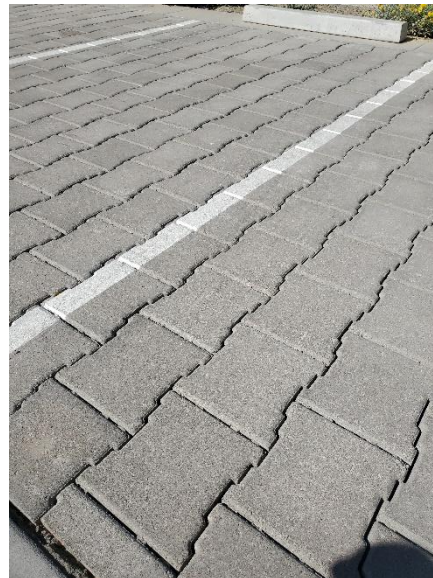
Permeable Hardscapes



- ✓ Small voids and/or permeable materials allow water to infiltrate into the ground instead of running off the site.
- ✓ Good for driveways, patios, landscape retrofits, and small spaces.
- ✓ Reduces pollutants, assists with ponding & flooding and reduces stormwater runoff.



Permeable Hardscape Examples





Stormwater Harvesting Basin



- ✓ Rain garden or shallow vegetated earthen depression that collects rainwater and allows it to percolate in the ground within 36 hours.
- ✓ Good for front and back yards, next to impervious surfaces, and retrofit projects.
- ✓ Helps reduce irrigation needs, provides cooling to property, Reduces stormwater runoff.



Stormwater Harvesting Examples



Photo Credit: Tricia Balluff



Photo Credit: Heather Finden



Vegetated or Rock Bioswales



- ✓ Open, shallow channels designed to slow and infiltrate stormwater runoff.
- ✓ Ideal between sidewalks and streets
- ✓ Helps reduce pollutants, supports vegetation, provides cooling to property, reduces reliance on potable water for irrigation.



Bioswale Examples



Photo Credits: Heather Finden and City of Phoenix staff



Native Plants

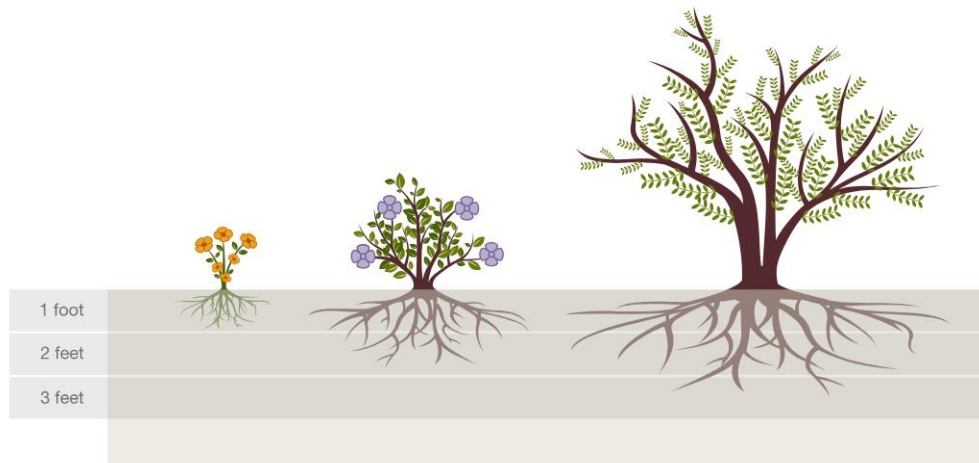
- Adapted to Phoenix climate
- Use less water, fertilizer, and pesticides
- Prevent stormwater runoff and improve air quality
- Support greater abundance and diversity of pollinators, birds, and other wildlife





Watering & Irrigation

- Provide and maintain healthy soil
- Establishment period vs. long term care
- Water for the plant
- “Water with the Seasons”
- Fix leaks





Grass Removal Programs

PHX WATER SMART

**CONSERVE SOME BLUE.
SAVE SOME GREEN.**



> NON-RESIDENTIAL INCENTIVES

- Lower water use by 85%
- Receive \$2 per square foot
- Still have 25% of designated funding remaining



Grass Removal Program



PHXWATERSMART

RESIDENTIAL

GRASS INCENTIVES



- Lower water use by 85%
- Receive \$2 per square foot
- Still have 25% of designated funding remaining



Install Xeriscape



Landscaping for areas where water conservation is practiced with the use of drought tolerant plants.

- It is beautiful!
- Spend less time on maintenance
- Save money!
- Reduce outdoor water use by 85%
- Attract and support pollinators, birds, and wildlife



Xeriscape Plans

SITE PLAN

Our site plan will help you to see the potential in your front yard!

PLANT PALETTE

SYMBOL	QUANTITY	COMMON NAME	BOTANICAL NAME	SIZE (FT.)	BENEFITS
	1	Desert Willow	<i>Chilopsis linearis</i>	Up to 20' wide	
	3	Parry's Agave	<i>Agave parryi</i>	Up to 3' wide	
	3	Desert Spoon	<i>Dasyllirion wheeleri</i>	Up to 4' wide	
	6	Slipper Plant	<i>Euphorbia lamell</i>	Up to 3' wide	
	2	Beavertail Prickly Pear	<i>Opuntia basilaris</i>	Up to 3' wide	

MATERIALS



IRRIGATION

Follow this guide and adapt the plan to your unique yard. Always look for more resources if you are unsure, and if needed, consult with a landscape professional.

AVERAGE YEAR WATERING FREQUENCY

WINTER	SPRING	SUMMER	FALL	WINTER
JANUARY 31 FEBRUARY 28 MARCH 31 APRIL 30 MAY 31 JUNE 30 JULY 31 AUGUST 31 SEPTEMBER 30 OCTOBER 31 NOVEMBER 30 DECEMBER 31	MARCH 31 APRIL 30 MAY 31 JUNE 30 JULY 31 AUGUST 31 SEPTEMBER 30 OCTOBER 31 NOVEMBER 30 DECEMBER 31	JUNE 30 JULY 31 AUGUST 31 SEPTEMBER 30 OCTOBER 31 NOVEMBER 30 DECEMBER 31	SEPTEMBER 30 OCTOBER 31 NOVEMBER 30 DECEMBER 31	NOVEMBER 30 DECEMBER 31
< Days between watering	< Days between watering	< Days between watering	< Days between watering	< Days between watering
< Waterings per month	< Waterings per month	< Waterings per month	< Waterings per month	< Waterings per month

This watering guide is based on average precipitation in the Sonoran Desert.

TURN OFF YOUR SYSTEM WHEN IT RAINS.

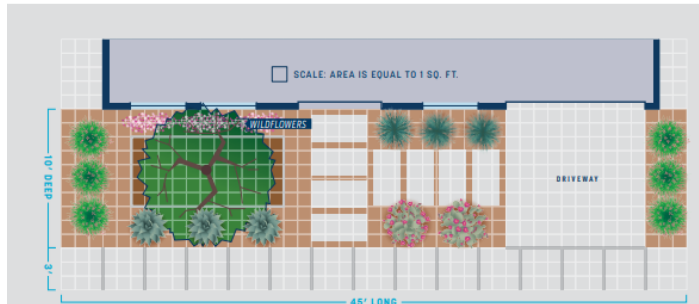
For every 1-inch of rainfall in a 1-square foot area, you are getting 0.623 gallons of water FREE. A general rule of thumb: a 1/2-inch rain event can allow you to delay your next planned watering day by a week or more.

REMEMBER:

Your new plants will be very thirsty in the beginning! Please visit our website to find out how to safely establish your new plants and transition to a lower watering schedule.

WHAT'S THE DEAL WITH MY DIRT?

Soil types in the Phoenix Metro vary widely. Different combinations of soil elements, like sand, loam, and clay, impact your watering plans. Visit our website to learn about the soil you have and how to adapt your watering schedule.

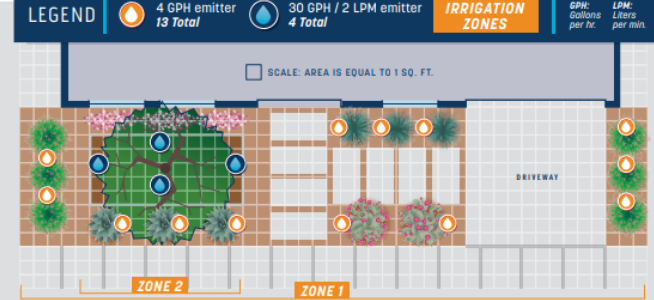


PLANT FACTS & TIPS



The plants in this plan may attract bugs and birds! To bring even more pollinators, try planting wildflowers! Check this QR code to learn how.

This plan includes the use of mulch and passive rainwater harvesting techniques. To learn more about how you can make the most of rain, please visit phoenix.gov/savewater.



DID YOU KNOW?

MULCH CAN TRAP WATER AND KEEP YOUR SOIL MOIST! THIS IS GREAT FOR THIRSTY PLANTS. BUT IT IS NOT GOOD FOR MOST OF OUR DESERT PLANTS. USE YOUR MULCH STRATEGICALLY! TO LEARN MORE, VISIT OUR WEBPAGE.



"THIS IS THE PERFECT YARD FOR ME"

-testament from local gecko.



City Programs



Community Canopy Grant

- Eligible areas in City of Phoenix
- Individuals – Up to 2 trees in a front yard
- Neighborhoods – Between 30 and 200 trees
- Supported by Urban and Community Forestry Grant
- Expand tree coverage, improve shade, and cool the local environment.



Other Programs



Community Tree Program



Shade Tree Program & Workshop



Tree Program & Workshops



Resources



City of Phoenix

Search Phoenix.gov



A 文 English ▾

Mode

Residents ▾

Businesses ▾

Explore Phoenix ▾

City Administration ▾

News ▾

Calendar ▾

> [Administration](#) > [City Departments](#) > [Planning and Development](#) > [Residential Building](#) > [Residential Projects](#) > [Green Stormwater Infrastructure](#)

≡ Planning and Development

[Overview](#)

[Planning and Zoning](#)

[Site Development](#)

[Residential Building](#)

[Residential Inspections](#)

➤ [Residential Projects](#)

[Applications and Checklists](#)

[Help with My Home Project](#)

[Residential Process Overview](#)

[Accessory Dwelling Units \(ADU\)](#)

Green Stormwater Infrastructure

What is Green Stormwater Infrastructure?

Green Stormwater Infrastructure, or GSI means infrastructure constructed with a range of measures that use plant or soil systems,

permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to the public storm drain system or to surface waters.

Contact Us:

postconstruction.storm@phoenix.gov
[602-534-7130](tel:602-534-7130)

Additional GSI Resources

Visit these sites and documents to see how you can incorporate GSI into your projects and on your property and to learn more about GSI in the City of Phoenix.



Web: phoenix.gov/pdd/gsi



Resources

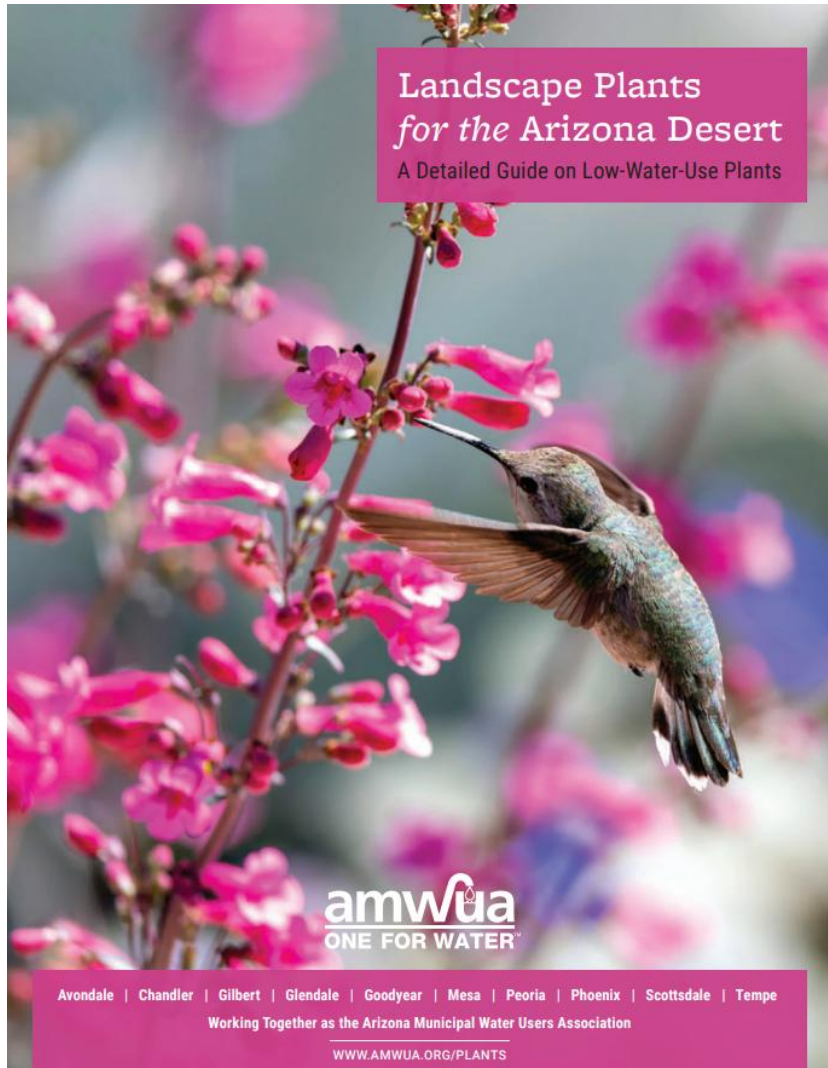
CENTRAL ARIZONA URBAN DESERT LANDSCAPE GUIDE

How to use native and desert adapted plants in ornamental horticulture, identify invasive plants, save water, and other landscaping tips & recommendations



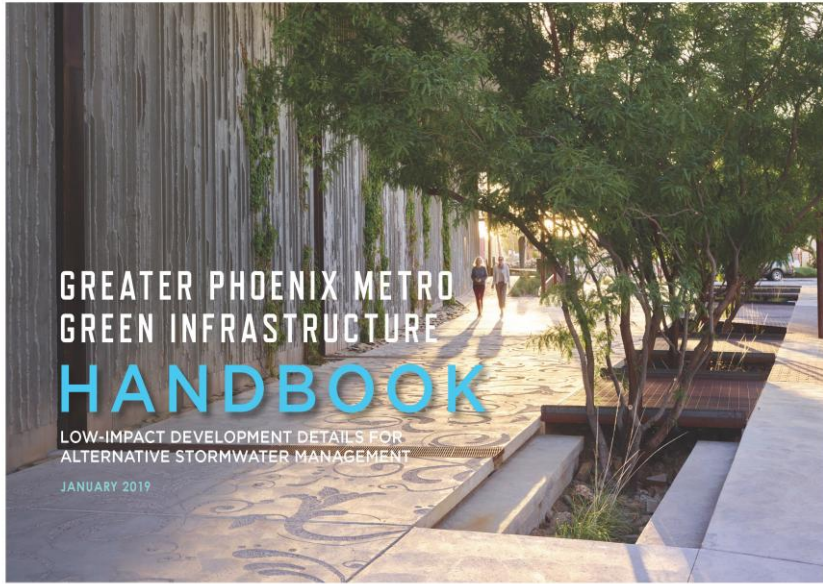


Resources





Resources



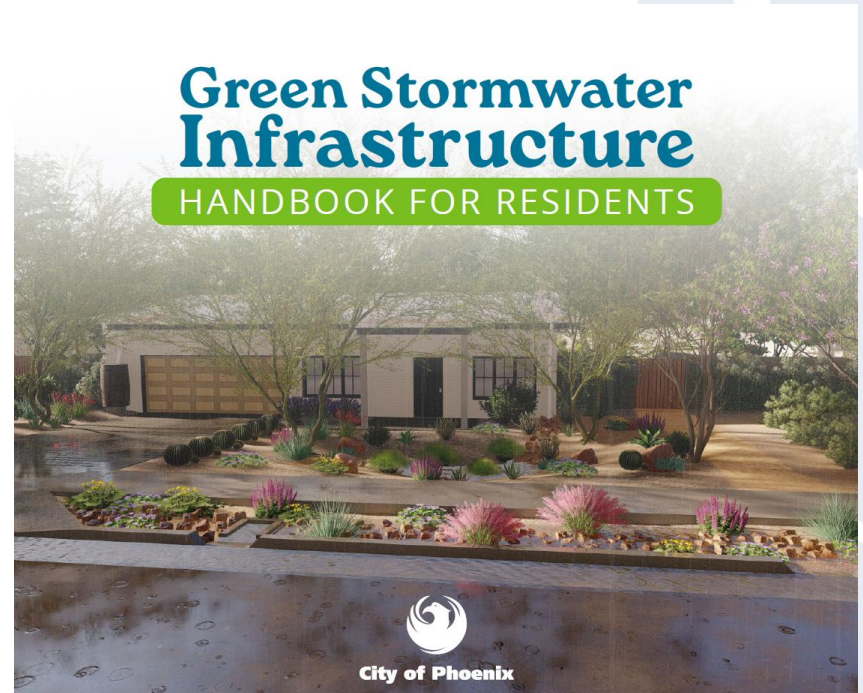
Prepared for



in Collaboration
with



and Member
Communities





Resources





Questions?



Thank you and feel free to contact our office!

Heather Finden

602-534-7130 office
602-695-5823 cell

heather.finden@phoenix.gov



City of Phoenix