

Creating A Waterwise Landscape

Conservation Garden Park

www.ConservationGardenPark.org

8215 South 1300 West

West Jordan, UT

801-565-4300



Conservation
Garden Park

Inspiring and empowering water conservation



Adjusting your landscape to be more water-efficient

The majority of Utah homeowners own and maintain a traditional European landscape consisting of a bluegrass lawn and annual flowers. While this style of landscaping is well suited for areas of the country with large amounts of annual rainfall, it is not sustainable here in the semi-arid region in which we live without significant supplemental watering. Population growth in the Salt Lake Valley continues to increase steadily, placing more reliance on limited water sources. Studies show that Utah homeowners use an average of 44 inches of water on their landscapes each year, when only 30 inches or less are needed to maintain a healthy lawn. For this reason, homeowners are encouraged to take an active part in conserving our precious water resource. Using this brochure will help you get started.

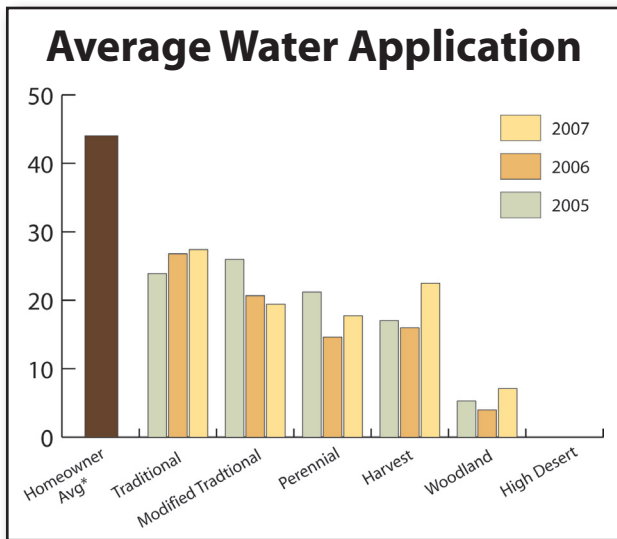
Conserving water for future generations

With ten people added to our population each hour through both in-migration and natural increase, Utah has an anticipated population increase of 1.5 million people by the year 2030. Current rates of water use will not sustain projected growth. Water conservation is not only important in response to droughts, but is essential in providing for future water needs.

On average, Utah homeowners use 44 inches of water on their outdoor landscaping each summer. While this guide will teach you simple things you can do to make your landscape and sprinklers more water-efficient, we'd like to invite you to the Conservation Garden Park to see these principles in action.

The landscapes represented in the graph at right can all be found at the Conservation Garden Park, and as you can see, require much less water than what is currently being used on the average Utah landscape. Naturally, this translates into not only water savings, but a lower water bill. And wouldn't we all like to have a lower water bill?

Stop by and see how beautiful your landscape can be. We know you'll be pleasantly surprised, and your wallet will thank you, too.



**Homeowner average is based on data from 1998-2006 for residential sites in the Salt Lake County "Water Check" program.*

Getting started

This brochure is designed to give the average homeowner some general information on how to create a more water-efficient landscape, thereby helping to conserve our precious resource. With budget limitations in mind, this can be accomplished over time or all at once.

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Time for a Tune-up!

Assessing Your Landscape and Making Simple Adjustments

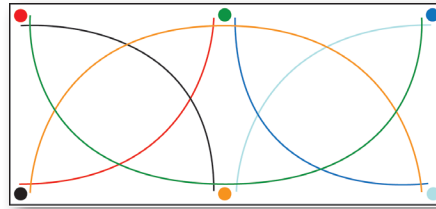
This section focuses on improving the irrigation efficiency of your existing landscape and making behavioral changes for long-term water savings. All measures in this section are either no-cost or low-cost changes you can make.

How much will I save?

Depending on your previous watering habits, making the changes recommended in “Time for a Tune-up” could result in up to 15% water savings.

Tip 1: Visually inspect your irrigation system zone by zone. Activate one valve at a time and inspect each sprinkler head individually. Look for the following possible problems, marking any needed repairs:

Inadequate coverage. Each sprinkler head should spray to the next head (see diagram below). Dry areas in turf are an indication of poor coverage. Sprinkler heads may have to be added, moved, or adjusted to improve coverage (see section 2, “Performance Upgrades”). Using a different nozzle (see diagram, next page) may also improve coverage.



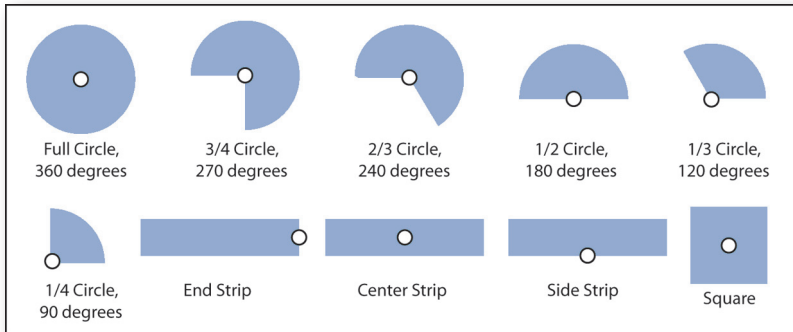
Arrange sprinkler heads so the spray patterns overlap each other.

Broken or leaking sprinkler heads. If any water is observed immediately around the sprinkler head (other than the water spraying from the nozzle), it may be broken, loose or worn out.

Replace or repair any leaking sprinkler heads you find.

Sprinkler heads too high, too low, or tilted to one side. Heads should be straight and flush with the ground. If the head is too low, the spray may be blocked by surrounding turf. It could also become easily clogged by debris. If the head is too high it becomes an obstacle to mowing and edging, as well as a trip hazard. If the head is tilted, the uniformity of the spray is compromised. Dig up the head and use a swing joint to set the head at the proper grade.

Improper nozzles. If a sprinkler is spraying onto a wall, house,



Many nozzle patterns, like those above, are available for fixed-spray sprinklers.

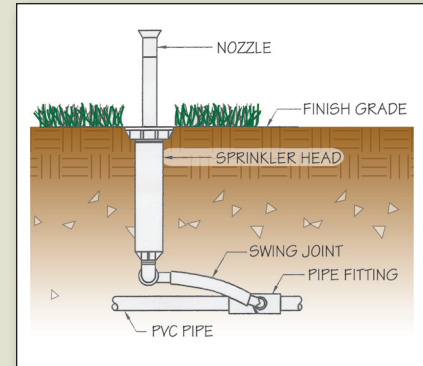


Diagram of a sprinkler head with swing joint.

More Information

Contact Jordan Valley Water Conservancy District for more information about water-efficient landscaping:

- www.ConservationGardenPark.org
- www.slowtheflow.org
- www.jvwcd.org
- 1-877-728-3420



Time for a Tune-up!

sidewalk, street, or anywhere other than the turf, changing to a different nozzle may correct the problem. Many nozzle patterns are available for fixed-spray sprinklers, as shown in the image on the previous page.

Tip 2: “Cycle and Soak” to avoid runoff. This is done by setting multiple start times for a certain zone. For example, watering three times for five minutes in each zone may allow water to penetrate deeper into the soil than watering fifteen minutes all at once. Water will run off from clay soil or sloped areas, where flat, sandy areas will soak up water quickly. Determine the length of time it takes for runoff to occur and never water longer than the runoff time during any watering cycle.

Regular turf maintenance such as fertilization and aeration will create healthy turf and also reduce runoff by opening the soil for better water penetration.

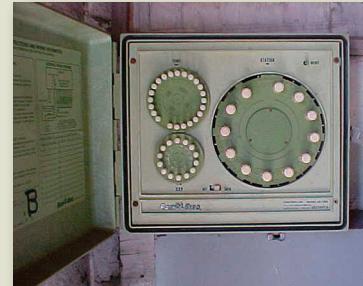
Tip 3: Create a zone chart and attach it in or near the sprinkler timer (also called the clock or controller).

Assign a number to each valve/station/zone. Next, include a description of each zone being watered. The chart could also include scheduling information such as number of start times per day, number of minutes per day, and number of watering days per week.

Another easy way to get a customized watering schedule is to sign up for a free Water Check by calling 1-877-728-3420.

Tip 4: Evaluate the capability of your sprinkler timer to water efficiently. Look for the following waterwise features in a modern sprinkler timer:

- The ability to water in single-minute increments.
- The ability to set multiple start times for each zone (this will allow you to “cycle and soak” as discussed in Tip 2).
- The ability to water on specific days or day intervals.



For best efficiency, consider replacing old-style sprinkler timers such as this one.



Time for a Tune-up!

How Often to Water ~ A Guide*	
Month	Interval
Startup to April 30	Once every 6 days
May	Once every 4 days
June	Once every 3 days
July	
August	
September	Once every 6 days
October 1 to shutdown	Once every 10 days
*Your water needs may be different based on soil type and other conditions. Call for a free Water Check to get your customized watering schedule. 1-877-728-3420.	

- Multiple programs (allows you to water certain zones independently).
- Backup battery (prevents scheduling information from being erased in the event of a power interruption).

For added efficiency, try looking for these additional options:

- Station test features (allows you to quickly check each zone for broken heads or leaks).
- Cycle and soak feature (allows you to set the run and soak time for any zone).
- Rain shut-off device.
- Weather-based watering technology.

Tip 5: Make seasonal adjustments to your watering schedule depending on temperature, wind and rain. Plants require more water when it's hot or windy, and less water when it's rainy or humid. Delay watering in the spring until your lawn actually needs water, then start the system manually and

run it only as needed. Use your regular watering schedule when the hot summer months arrive (before 10 a.m. or after 6 p.m. to minimize evaporation), but remember to water less often in the fall. Making frequent adjustments to your watering schedule based on changing seasons and weather will save a significant amount of water.

Tip 6: Call 1-877-728-3420 for a free **Water Check** to determine a proper watering schedule. After a series of tests and observations of your irrigation system, water checkers will make recommendations and provide you with a customized watering schedule.



Water Checks are a good way to determine if your watering is efficient. Call today to make an appointment. 1-877-728-3420.



Performance Upgrades

Improving Problem Areas in Your Yard

This section focuses on areas of the landscape that may require more extensive work to improve.

How much will I save?

Making changes based on the recommendations in this section could result in water savings of 5 to 10% (for a total of up to 25% if combined with changes in section 1, “Time for A Tune-up”).

Tip 1: Improve spacing of sprinkler heads to improve uniformity. Sprinkler heads that are too close together will create soggy areas in the lawn, and heads that are too far apart will cause dry areas. Assuming your water pressure is adequate, this problem can be corrected by adding or moving heads to create better uniformity in the zone.

Tip 2: Use the same type of sprinkler heads within each zone to improve uniformity. Performance characteristics vary widely between different types and brands of sprinkler heads. For example, a rotor head will generally spray farther than a fixed spray head, but its precipitation rate is lower because it is rotating. For the most consistent coverage, use only one type of sprinkler head per zone.

Tip 3: Improve uniformity by maintaining system pressure. High pressure causes misting, which results in water loss due to evaporation and wind drift. It can also cause damage to your sprinkler system. Low pressure can cause poor coverage and runoff.

Check your water pressure. A plumber can do this for you, or you can schedule a free Water Check, which includes a pressure test. Check with the sprinkler manufacturer to verify the recommended operating pressure range for your sprinklers (available online or from sprinkler supply stores).

To reduce high pressure, install a pressure regulator for the sprinkler system.

To increase pressure that is too low, eliminate one or more heads on the zone, change out nozzles to some with lower flow rates, eliminate any obstructions in the pipe or valves, or reduce the size of the zone by adding a valve to create an additional zone.



Misting created by high water pressure causes water loss.



Performance Upgrades

Tip 4: Improve irrigation zones. Check to make sure each zone contains plants with similar water needs (hydro-zoning). For instance, lawn and thirsty annuals could be in one zone, and natives or drought-tolerant species in another. Use only one type of sprinkler or one type of drip irrigation product to ensure even and consistent watering. Zonal watering is the most efficient means of irrigating a landscape that consists of plants with varying water needs.

Most plants, including lawn, are healthiest when watered deeply but infrequently. Lawns and annuals, however, require more frequent watering than trees and shrubs because of their relatively shallow root zones. Therefore, watering time and frequency should vary greatly between turf and other plants.

Tip 5: Correct any valve problems. Common automatic control valve malfunctions include valves leaking externally (water leaking from the valve itself), valves leaking internally (water leaking through the valve, into the pipe, and out the lowest sprinkler head), valves that are stuck open, and valve wiring problems. These malfunctions can generally be repaired simply by replacing the valve or its components.

For more technical valve troubleshooting, contact a certified irrigation professional.



Dry spots caused by low water pressure.



Debris in valves can cause leakage by preventing the valve from closing properly.

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Making the Transition

Applying Waterwise Principles in Your Landscape

This section provides information on how to transition from a traditional landscape to a water-thrifty landscape by utilizing proven waterwise principles. This process can be done gradually to accommodate budget limitations. Below are basic steps for making this transition, along with an example park strip design to illustrate how each step can be accomplished.

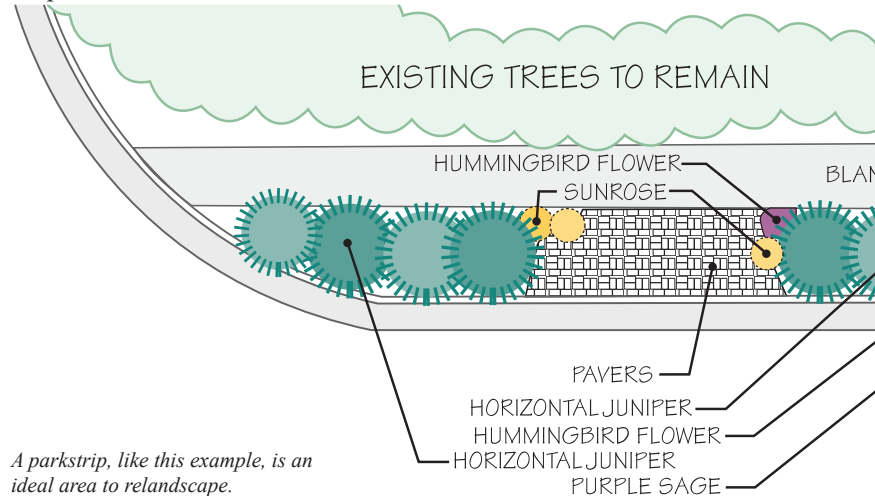
How much will I save?

Changes made based on the recommendations in this section could result in water savings up to 25%, or 50% if combined with changes from all sections, depending on previous conditions and how much turf is replaced.

Step 1: Evaluate which areas of turf could be replaced with waterwise landscaping.

Park strips, turf along walls or next to buildings, narrow side yards, irregularly-shaped turf areas, and turf areas with no practical purpose are all excellent areas to consider for replacement.

A park strip, like our example below, is an ideal area to relandscape.

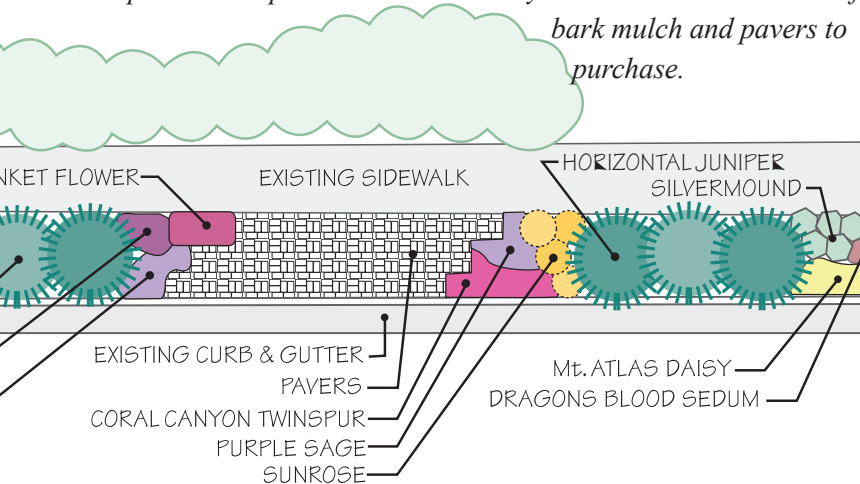


A parkstrip, like this example, is an ideal area to relandscape.

Step 2: Using a tape measure or measuring wheel, determine the total square footage of the area to be relandscaped.

This information will be used to determine quantities of materials needed.

In our example, we will measure the length and width of the park strip to determine the total square footage. We will also measure each planter and paver area individually to determine the amount of bark mulch and pavers to purchase.



Notes:



Making the Transition

Step 3: Review your city's landscape ordinances so you can comply with any limitations and/or guidelines.

Make sure your plans comply before going any further.

Step 4: Prepare a landscape design on paper using native and low-water-use plants.

As you visualize the design, consider the following:

The functional use of the landscape.	Seasonal characteristics including months the plants will bloom.
The look and feel you desire for the area.	Selection of plants based on the amount of sun or shade the area receives.
The shape, color and mature size of the plant materials you wish to use.	Watering requirements due to soil conditions and plant needs.

In your design, group plants with similar watering needs in each zone (hydrozoning). Visit our plant database at www.Conservation-GardenPark.org to search for plants by water requirement, bloom time, or other criteria. In addition, a wide variety of low-water-use plants are displayed at the Conservation Garden Park located at 8215 South 1300 West in West Jordan.

In our example, the park strip will be watered on one zone since all the plants will have a relatively low water requirement. Because visibility is important along the street, all the plants will be fairly small while still providing various colors throughout the year. The paver areas will provide areas for people to cross the park strip.

Step 5: Use existing turf valves for new drip systems—
one valve per hydrozone.

This park strip was watered on one zone prior to relandscaping, so the same valve will be used after the retrofit.

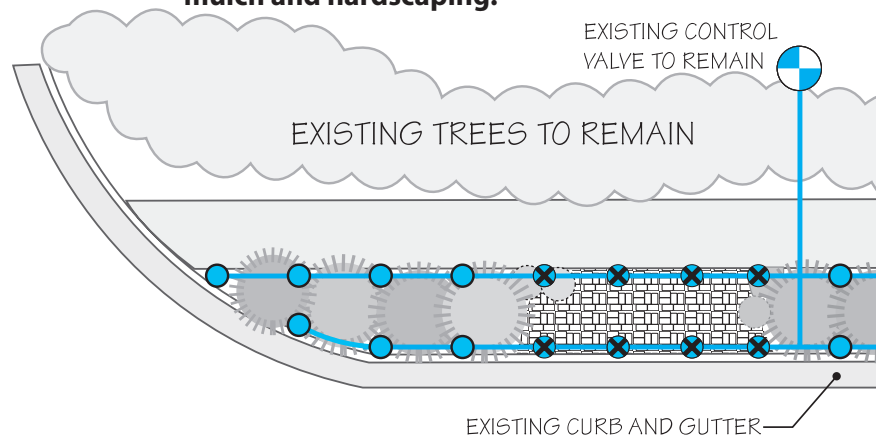
Notes:

3

Making the Transition

Step 6: Locate buried utility lines before you dig. Hitting a buried utility line such as a gas or electrical line can be both dangerous and costly. Call your local utility locating service (Blue Stakes) at least two days prior to digging. The number for Blue Stakes is 1-800-662-4111, or visit their web site at www.bluestakes.org for more information.

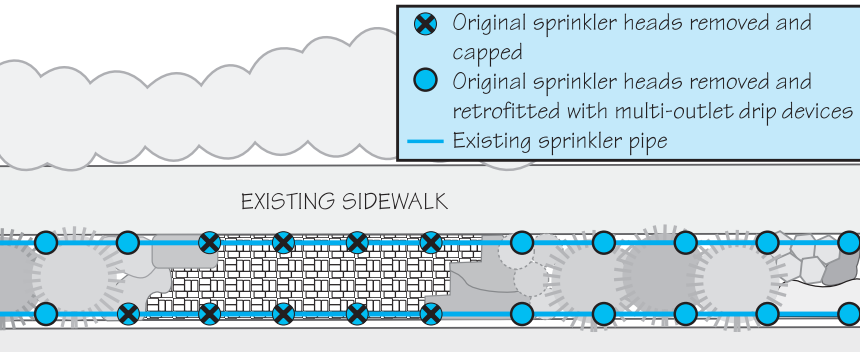
Step 7: Remove turf and enough soil to accommodate mulch and hardscaping.



We will dig three to four inches below sidewalk level for the whole length of the park strip.

Step 8: If using existing sprinkler pipe, remove sprinkler heads and cap all unused pipe fittings.

In our park strip we will use existing sprinkler pipe. In planter areas we will replace sprinkler heads with multi-outlet emitters. All other sprinkler heads will be removed and pipe fittings will be capped.



Notes:



Making the Transition

Step 9: Install hardscaping (pavers, concrete, pathways, retaining walls) according to your design.

Remember to install sleeves under hardscapes if installing new irrigation lines.

In our example, we will install cobblestone brick pavers across two sections of the park strip.

Step 10: Install other landscape features such as boulders, edging, extra soil, rock, etc. according to design plans.

In our example there are no additional landscape features.

Step 11: Install a drip irrigation system. Methods of drip irrigation may vary depending on the landscape design.

In our park strip we will install multi-outlet drip emitters designed

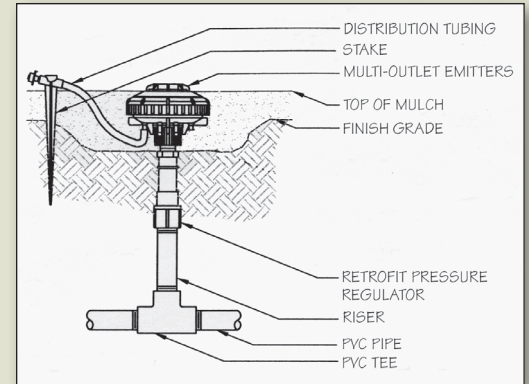
for retrofitting an existing sprinkler system. Multi-outlet drip devices will be used in place of sprinkler heads in the planter areas.

Other methods of drip irrigation include subsurface inline drip, point source emitters, soaker hoses, and bubblers. Some of these may require additional drip components such as filters, pressure regulators, air relief valves, or flush valves.

Note: If planting will be done in segments or over a long period of time, rock or bark mulch can be installed as a “placeholder.”

Step 12: Install plants in appropriate hydrozones. This can be done over time to defer costs.

All the plants in our example have similar water needs and will be watered as one zone.



One type of multi-outlet drip emitter. These can be used to retrofit existing sprinkler heads to drip irrigation.



Making the Transition

Step 13: Finish installing drip system components as necessary (emitters, distribution tubing, etc.).

Emitters should be distributed throughout the root zone of the plant, not just at the base of the plant. Small plants may only need one or two emitters to adequately wet the root zone, while larger shrubs and trees may need several.

Step 14: Install mulch if not done previously.

We will install shredded wood/bark to a three-inch depth.

Step 15: Program drip zones to water deeply but infrequently.

In our example, using low-water-use plants in clay soil will require deep watering only once every week in the summer and twice a month in spring and fall.

Typical grass park strips are difficult to water efficiently, and keeping them green can use a lot of water.

Below is an example of a park strip that has been relandscaped for water efficiency using low-water-use plants, drip emitters, and mulch.



How much will I save?

By making the changes recommended in this guide, you may be able to save 50% or more water while maintaining a beautiful, healthy landscape.

Remember, if we each save a little, we'll all save a lot.

Congratulations!

Implementing these simple adjustments will put you on your way to saving water and money. Additional information is available at the Conservation Garden Park, where you'll find examples of beautiful, water-thrifty landscaping.

Summer hours: Monday - Saturday, 8 a.m. to 8 p.m.;
Sunday noon to 8.

Winter hours: Monday - Friday, 8 a.m. to 5 p.m.

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