

SILVER SPRINGS MUTUAL WATER COMPANY

Public Water System

Water Conservation Plan

Background / System Information

The Silver Springs Mutual Water Company (SSMWC) public water system (PWS ID NV0000223) serves customers within the town of Silver Springs. The total service area is approximately 50 square miles. The estimated population served (2013) is 2,961 through 1,298 service connections of which 1,194 are residential service connections. SSMWC is fully metered. The Residential, Commercial and Industrial customer base rate is 15,000 gallons with a flat rate charge per 1,000 gallons above the base rate.

SSMWC is located in the Churchill Water Basin-102, Lyon County, Nevada. Water is supplied from 3 active drilled wells. The Lake Street Well utilizes a 100HP vertical line shaft turbine pump and the Idaho Street Well utilizes a 100HP submersible pump. Both these wells pump directly into the arsenic removal Water Treatment Plant (WTP) which utilizes a multimedia filtration system in conjunction with the chemicals Ferric Chloride, Sodium Hypochlorite and a Polymer to remove the arsenic to below the USEPA MCL of 10 ppb. The Deodar Well utilizes a 100HP submersible pump and has the capability to pump directly into the distribution system or to the arsenic removal WTP depending on the quarterly arsenic sampling results at sample sites AS01 and AS02. Currently the Deodar Well arsenic results are between 8 to 9 ppb and are able to pump directly into the distribution system without additional treatment. Above-ground storage consists of three one-million-gallon tanks. The North Tanks 01 and 02 are located north of Hwy 50 and East of 95A. The West Tank is located southwest of the Ramsey-Weeks Cutoff. Full-time disinfection is practiced, and the system maintains a free chlorine residual of approximately 0.25 mg/L. Additionally, the SSMWC consists of two pressure zones (zones 1 and 2). Wastewater collection is managed by Dayton Utilities (Lyon County) and is not affiliated with the SSMWC.

Although growth in the SSMWC system has been minimal, with the planned expansion of the USA Parkway to US Highway 50, the expansion of the airport and growth at the USA Parkway Industrial Complex, the SSMWC service area is expected to experience an increased growth in residential, commercial and industrial customers. With this increased growth potential, water conservation will continue to increase in importance, especially to defer construction of new facilities. Additionally, as the State of Nevada continues to experience increasing drought conditions, water conservation is increasingly necessary.

This plan is to be reviewed at five-year intervals, with modifications to meet changing system conditions.

Plan Elements

This plan describes the drinking water conservation and drought management efforts in the SSMWC, along with implementation schedules. The plan components conform to Nevada regulations as outlined by the Nevada Department of Conservation and Natural Resource, Division of Water Resources. Plan elements address the following areas:

- Increase public awareness of the need to conserve water.
- Encourage reduction in lawn sizes and use of arid and semiarid plants.
- Identify specific water conservation measures.
- Propose plan to identify and reduce leakage.
- Increase reuse of effluent where applicable.
- Provide a drought contingency plan.
- Implementation schedule.
- Plan effectiveness metrics.
- Tiered pricing analysis.

Public Awareness

The SSMWC efforts to enhance public awareness of the need to conserve water include the following:

- New customers are provided with the SSMWC Water Conservation Plan which includes literature on conservation (see Appendix) when they open a water service account.
- Periodically, educational literature is placed on water bills, or messages appear printed in yearly newsletter. Educational materials include tips on conservation landscaping, basic ways to conserving water, things you can do to prevent water waste and water leak loss calculators.
- We participate in Earth Day activities or other public outreach opportunities to raise public awareness of water use.
- Additional information on Water Conservation is available on our Website (www.silverspringsmwc.com)

Lawn sizes and use of arid and semiarid plants

The SSMWC encourages the public to practice scientific turf management and makes literature and resources available to customers (see Appendix). System-owned and public turf areas are scientifically managed. Local nurseries are encouraged to promote the use of drip irrigation and climate-appropriate plant materials.

Specific water conservation measures

- This water conservation plan was prepared in accordance with the Nevada Revised Statute (NRS) 540.141 plan of water conservation.
 - a) Copies of the SSMWC Water Conservation Plan are available to local suppliers, contractors and residents.
 - b) The SSMWC checks new construction, renovation, and expansions within SSMWC's customer base to insure compliance with the water conservation plan.
- Water meters are not routinely tested, unless requested by the customer.
- The Nevada Revised Statute (NRS) 461.175, which specifies low-flow fixtures, is enforced.

The SSMWC code includes a provision that water service can be shut off for wasting water. This is enforced by visual inspection for runoff, following-up on citizen reports, and review of use at metered services. Typically, a verbal or written warning is issued, followed by a shut-off when cooperation is not forthcoming.

All commercial customers are metered and pay a metered water rate charge based on usage (water rate charges are included).

A residential metering program is implemented. **These meters are read monthly to obtain usage information and for billing.**

Plan to identify and reduce leakage

- The SSMWC has in place a capital improvement plan to replace distribution lines at the anticipated life-cycle end.
- Monthly, we audit production vs. sales to determine the amount of unaccounted water and infrastructure leakage index. We also

compare current to historical same-month production. When production increases unexpectedly, we initiate a leak survey.

- It is our written policy to repair leaks in a timely manner. All large leaks are repaired immediately and small leaks (less than 1 gallon per minute) within 48 hours.

Reuse of effluent

Effluent is treated by Dayton Utilities (Lyon County). Currently, there are plans in place to reuse effluent within the service area (the Silver Springs/Lyon County airport and the sod farm).

Drought contingency plan

Nevada is an arid state and Lyon County is continuing to grow and water requirements are increasing. The area is subject to drought cycles; therefore, it is necessary to have a drought contingency plan. The objective of our plan is to manage the available resources to insure continued supply of potable water during periods of drought. We monitor water levels at our well sites and record the information. We work with other local water purveyors to ensure adequate supplies are available.

When the SSMWC has found that a water scarcity condition exists or is likely to exist and has proclaimed the existence of a drought or emergency condition, it shall also declare an appropriate drought or emergency stage for its service area which may be Stage 1, Stage 2, Stage 3, or Stage 4, described as follows:

Stage 1 Drought or Emergency

1. Water from the SSMWC water system allowed to pool, pond, or runoff of applied areas is considered a waste of water and as such is not permitted.
2. Leaks occurring on the customer side of each meter in the SSMWC water system are considered a waste of water and as such are not permitted.
3. Water from the SSMWC water system which runs down the street due to excessive watering or poorly maintained sprinklers is considered a waste of water and as such, is not permitted. If a sprinkler system is broken and left on for more than two (2) hours, the water will be shut off by the SSMWC until it is fixed.

4. During a Stage 1 Drought or Emergency, lawn watering, including landscaping and the watering of a garden, will NOT be permitted between the hours of 1:00 pm and 5:00 pm

Stage 2 Drought or Emergency

1. Water from the SSMWC water system allowed to pool, pond, or run-off of applied areas is considered a waste of water and as such is not permitted.
2. Leaks occurring on the customer side of each meter in the SSMWC water system are considered a waste of water and as such are not permitted.
3. No hard surfaces including sidewalks, driveways, parking areas or decks may be washed or hosed down with water supplied through the SSMWC potable water system unless required by health and safety requirements .
4. No washing of vehicles with hoses is permitted with the SSMWC water supplied through the SSMWC potable water system, except with hoses equipped with an automatic shut off device or at facilities designated on the SSMWC billing records as a commercial vehicle wash.
5. Water used for watering vegetation, including lawns, landscaping, and gardens is limited as follows:
 - a. Residences with even numbered addresses: Monday, Wednesday, & Saturday;
 - b. Residences with odd numbered addresses: Tuesday, Thursday & Sunday;
 - c. Commercial and Industrial Customers: Tuesday and Friday; and Sunday;
 - d. All watering of lawns, landscaping, and gardens is prohibited between the hours of 1:00 pm and 5:00 pm
6. No use of water for decorative purposes is permitted.

Stage 3 Drought or Emergency

1. Water from the SSMWC water system allowed to pool, pond, or run-off of applied areas is considered a waste of water and as such is not permitted.
2. Leaks occurring on the customer side of each meter in the SSMWC water system are considered a waste of water and as such are not permitted.

3. . No hard surfaces including sidewalks, driveways, parking areas or decks may be washed or hosed down with water supplied through the SSMWC potable water system unless required by health and safety requirements.
4. No washing of vehicles with hoses is permitted with the SSMWC water supplied through the SSMWC potable water system, except with hoses equipped with an automatic shut off device or at facilities designated on the SSMWC billing records as a commercial vehicle wash.
5. Water used for watering vegetation, including lawns, landscaping, and gardens is limited as follows:
 - a. Residences with even numbered addresses: Wednesday & Saturday;
 - b. Residences with odd numbered addresses: Tuesday & Sunday;
 - c. Commercial and Industrial Customers: Tuesday & Friday;
 - d. All watering of lawns, landscaping, and gardens is prohibited between the hours of 1:00 pm and 5:00 pm
6. No use of water for decorative purposes is permitted.
7. Water from the towns potable water system used for general construction or maintenance activities, including dust control, compaction and concrete curing, is considered a waste of water and as such is not permitted.

Stage 4 Drought or Emergency

1. Water from the SSMWC water system allowed to pool, pond, or run-off of applied areas is considered a waste of water and as such is not permitted.
2. Leaks occurring on the customer side of each meter in the SSMWC water system are considered a waste of water and as such are not permitted.
3. No hard surfaces including sidewalks, driveways, parking areas or decks may be washed or hosed down with water supplied through the SSMWC potable water system unless required by health and safety requirements.
4. No washing of vehicles with hoses is permitted with the SSMWC water supplied through the SSMWC potable water system, except with hoses equipped with an automatic shut off device or at facilities designated on the SSMWC billing records as a commercial vehicle wash.

5. Water used for watering vegetation, including lawns, landscaping, and gardens is limited as follows:
 - a. No watering from December through February;
 - b. Watering will only be allowed one day per week during March, April & May.
 - c. Watering will be allowed two days per week from June 1st through August 15th.
 1. Residences with even numbered addresses: Wednesday & Saturday;
 2. Residences with odd numbered addresses: Tuesday & Sunday;
 3. Commercial and Industrial Customers: Tuesday & Friday;
 - d. One day per week August 16th through September;
 - e. All watering of lawns, landscaping, and gardens is prohibited between the hours of 1:00 pm and 5:00 pm
6. No use of water for decorative purposes is permitted.
7. Water from the towns potable water system used for general construction or maintenance activities, including dust control, compaction and concrete curing, is considered a waste of water and as such is not permitted.
8. During a Stage 4 Drought or Emergency, the planting or installing of new lawns is prohibited from July through September.

Implementation schedule

All the plan elements listed are currently in place. The plan is to be reviewed every five years and updated as system needs change.

100% of residential services are now metered. Residential meters are being read.

Plan effectiveness metrics

Historical well production will be compared to estimated population each year to determine the gallons per capita per day (gpcpd) consumption. For 2019, the gross production, less commercial/industrial sales, divided by the estimated population, is approximately 91.86 gpcpd. With the average US household annual consumption slightly greater at 101.5 gpcpd, plan revision will be considered, to include additional conservation measures. At the present time, well production, less commercial sales, provides a gross gpcpd estimate. The same calculation applied to winter sales, provides an estimate of non-- irrigation household use.

When a plan element is activated, such as mailing literature or declaring a drought stage, production in terms of gpcpd will be compared to same month historical data to estimate effectiveness. It is estimated that metering alone will be the major driver of conservation, by raising awareness of individual account use. Metering alone, without a rate structure change, but with the public education elements, can be expected to provide a ten percent reduction in water use, or 10 gpcpd

Tiered pricing analysis

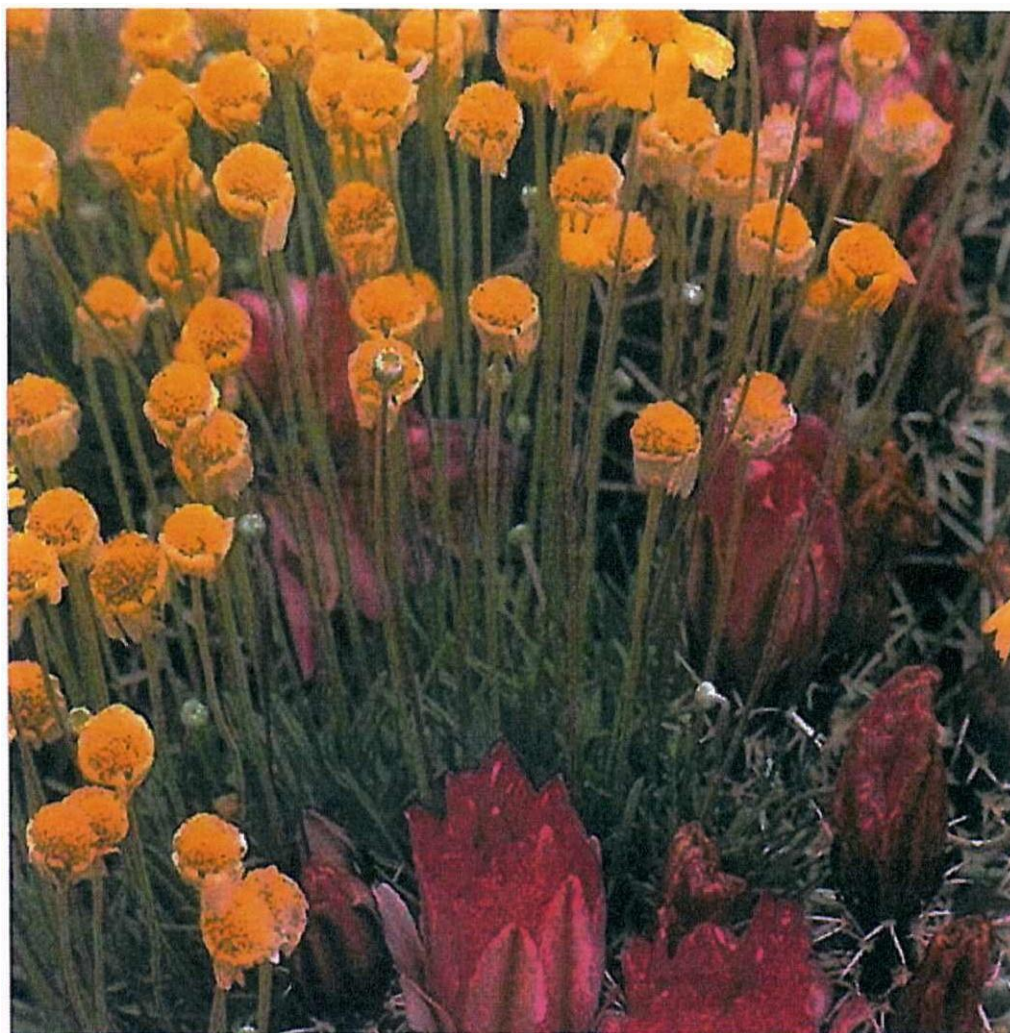
Silver Springs Mutual Water Company is a non-profit, privately owned mutual co-op, owned by the membership which it serves. A tiered rate structure designed to promote water conservation, would not be beneficial to SSMWC's membership and is in direct conflict with managements primary purpose which is to keep expenses to a minimum. Currently there are no plans to change the rate structure, only to promote conservation through the efforts of information and education. The current residential water rates and commercial structure is a flat rate with additional charges per 1,000 gallons of water used above 15,000 gallons per month. Rates are reviewed annually and would be adjusted to meet budgeted expenses, if needed. Each time rates are altered the water usage patterns will be analyzed to determine price sensitivity. The amount of water conserved as a result of actual price changes, in terms of gpcpd, will be used in future analyses.

Efficient Landscaping

Appendix A

Zone Your Landscape

A key to using water efficiently is to group plants of similar water requirements in the same irrigation "zone." For example, trees and shrubs need far less water than bluegrass. Therefore, trees and shrubs should comprise one or more watering zones and your lawn should be a separate zone. Each zone's irrigation should be controlled by a different water valve. By dividing your landscape into zones, you can apply the right amount of water to each type of plant. Plus, zoning your landscape will help to prevent one of the most common irrigation mistakes - overwatering!



Design Your Landscape for Water Conservation

By utilizing smart design principles, you can start saving water even before you install your landscape.

Avoid narrow strips of lawn or water-thirsty plants that must be watered by overhead sprinklers. A narrow strip of lawn (such as the median between a sidewalk and curb) is virtually impossible to irrigate without sprinkler overspray. In addition, narrow planting

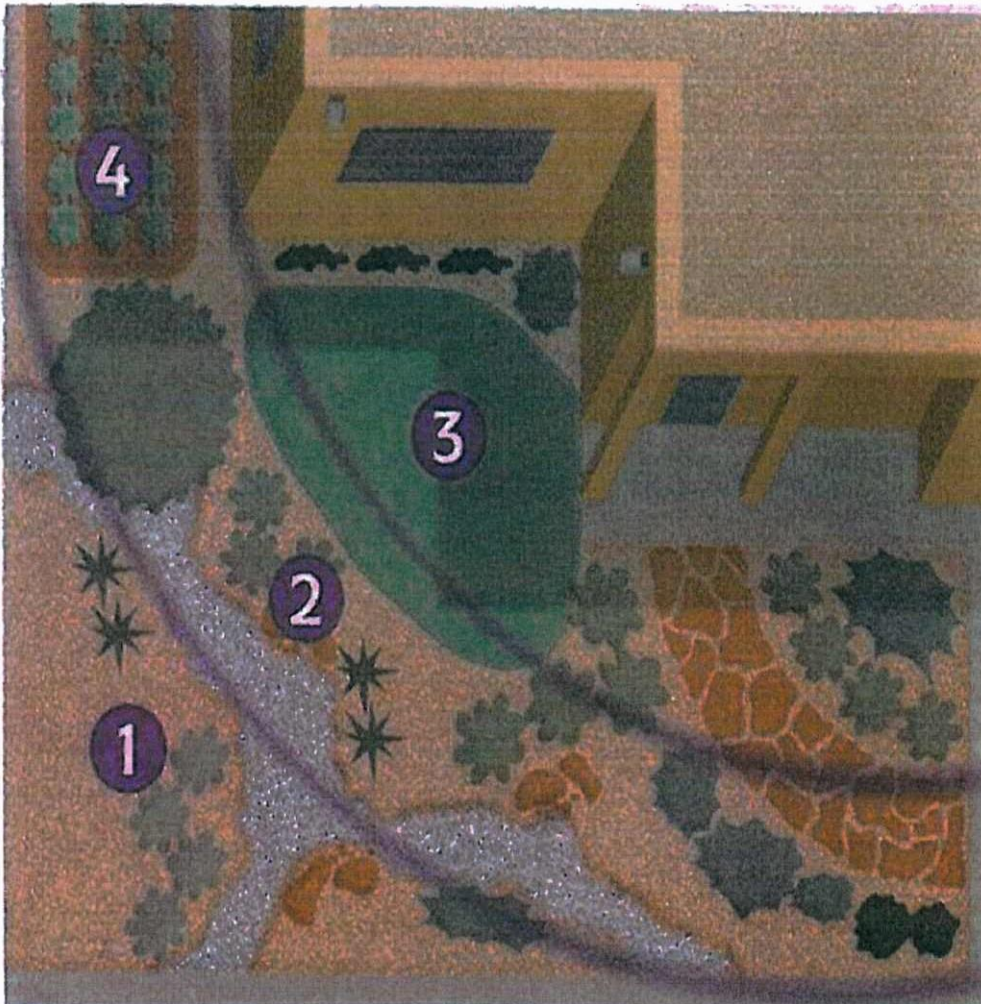
March 17, 2020 - Reviewed and approved by Division of Water Resources

strips dry out more quickly than wider areas and require more frequent watering. By using plants and drip irrigation in these narrow areas, you'll ensure long-term water conservation.

What Kind of Irrigation Is Best?

It's important to use irrigation water wisely and efficiently. Different landscapes-and specific "micro-climates" within a landscape-can best be watered using very different types of irrigation. Here are the most common irrigation methods for the various watering zones in your landscape:

- 1. Arid Zones** Drip irrigation is perfect for the driest zones of a landscape. A drip system saves water because very little is lost to evaporation or runoff. By delivering water slowly and directly to a plant's root zone, drip irrigation promotes healthy plant growth. Water savings can easily be 50% or more versus traditional sprinkling. Drip emitters are well-suited for most trees, shrubs and perennials.
- 2. Transition Zones** Micro-sprayers are an efficient choice for moderate-water-use flowers, perennials and some shrubs. Small areas of groundcover can also be efficiently watered with micro-sprayers.
- 3. Oasis Zones** Traditional sprinklers are designed for water-thirsty turf. Sprinklers can also be an efficient way to irrigate some densely planted flowers and groundcovers. Use the new low-spray-angle heads on lawns and low groundcovers to reduce water loss due to wind. Subsurface irrigation is a new option for some turf areas and other dense plantings . By delivering water underground directly to a plant's roots, subsurface irrigation loses virtually no water to evaporation
- 4. Vegetable Gardens** Instead of watering your backyard garden with a hose, consider converting to a water-conserving drip system. Do-it-yourself kits, available at nurseries and home centers, enable you to run an efficient drip system off an existing hose faucet.



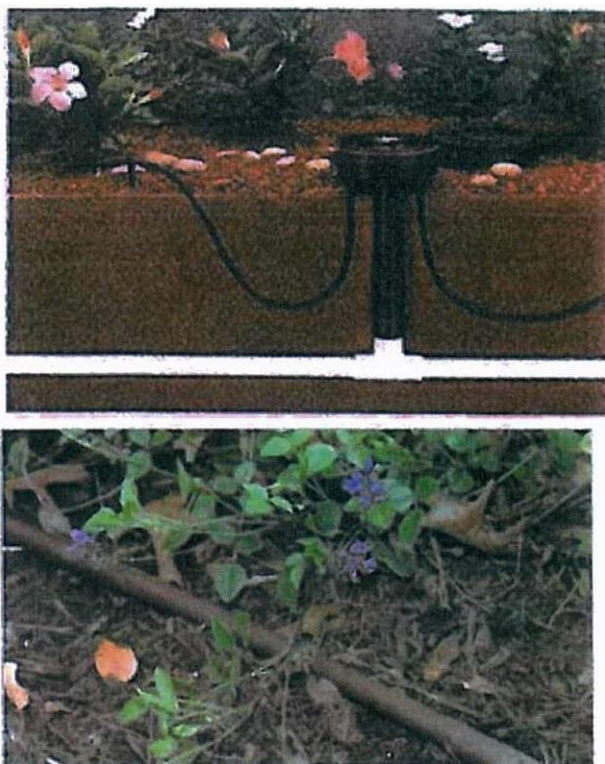
Can Sprinklers be Converted to Drip?

In many cases, existing sprinkler heads can be retrofitted to accommodate multi-line drip emitters.

Analyze your landscape to determine the most efficient way to deliver water. If some of your landscape can be efficiently watered by drip emitters (or if you're converting water-thirsty plantings to water-thrifty plants), drip could be a water-wise option.

Keep in mind that sprinklers and drip emitters apply water at different rates (measured in gallons per minute and gallons per hour, respectively). It's best to put sprinklers and drip emitters on different irrigation valves. Remember, too, that a drip system requires a pressure regulator and filter. Some drip hydrants have built-in pressure regulators and filters, which makes the conversion process easier.

Drip irrigation kits (which can be used to convert vegetable gardens to drip irrigation, for example) are available at hardware stores, home centers and nurseries. In most cases, major irrigation system conversions can best be installed by professional landscape contractors and irrigation specialists.



Irrigation System Testing and Maintenance Checklist

For maximum efficiency, your irrigation system needs regular inspections and adjustments. Use the following checklist as a guide to routine maintenance.

Spring

- Set controller for watering times and durations.
- Replace back-up battery in controller .
- Test manual shut-off/isolation valve.
- Check and clean filters .
- Check and clean screens in sprinkler heads. Adjust spray pattern to eliminate water waste due to overspray.
- Inspect all drip emitters. Clean if clogged. Make sure emitters are applying water to the entire root zone of each plant.

Summer

- Adjust controller for watering times and durations during the hottest months.
- Check and clean filters.
- Inspect all drip emitters. Clean if clogged.

Fall

- Adjust controller to further shorten watering times and durations as the weather cools.
- Test manual shutoff/ isolation valve.
- Check and clean filters.

March 17, 2020 - Reviewed and approved by Division of Water Resources

- Inspect all drip emitters. Clean if clogged. Make sure emitters are applying water to the entire root zone of each plant .
- When daytime temperatures are below 40 degrees, discontinue watering and turn *off* the irrigation system .

Smart Irrigation Saves Water

Water is precious in the arid West. The plants that have adapted to living in our harsh, dry conditions require little water. Plants native to wetter climates, on the other hand, require significant amounts of supplemental water when grown in Nevada.

But no matter what kind of landscape you have, using the right type of irrigation can substantially reduce your water use. The key to smart irrigation is to give plants the amount of water they need to grow and thrive (no more, no less) - and to deliver that water in the most efficient way possible.

By examining your existing irrigation system, fixing leaks, and converting to efficient drip emitters and sprayheads where appropriate, you'll conserve water and help preserve Nevada's enchanting quality of life.

Water Saving Tips

Appendix B

Question : Why conserve water?

Answer : Over the last several years, interest in water conservation has increased, particularly in the western U.S. where drought conditions persist. Many communities have policies about water usage and some charge more based on increasing consumption. There are many reasons for conserving water. Here are three of the most compelling:

1. It's the right thing to do. Everyone needs water to survive. Simply put, we have an obligation to share this vital resource and not waste it.
2. We have more people, but not more water. The amount of water on Earth remains the same while the population soars. We can take steps now or we can be forced into them down the road.
3. It will save money. The less water you use, the less you have to pay, and the more money you will have for other things.

Not only will you save money, you will help your community save money too. If conservation is practiced widely by homeowners within a community, you have sustained reductions in pumping demands at the water wells.

Question : What are the biggest water users in a



home?

Answer : In most homes, toilets, washing machines, and dishwashers use the most water. Newer models such as low-flow toilets and efficient washers and dishwashers save water and money. A 1.6 gallon-per-flush toilet can save thousands of gallons each year and

energy saving washing machines use 35 to 50 percent less water and half as much energy.

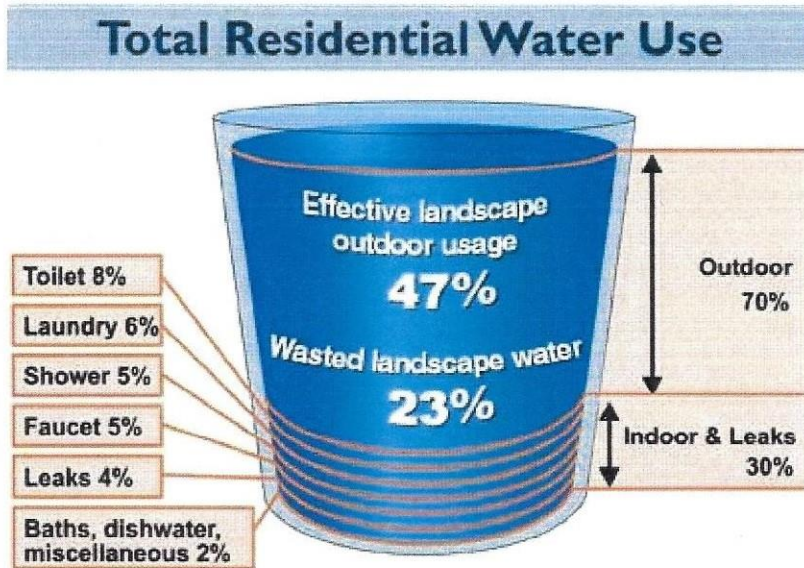
Question: How can homeowners save water?

Answer: There are many ways to save water in the home including:

1. Keep a pitcher of water in the refrigerator rather than running the tap until the water gets cold.
2. Fixing that leaky toilet can save as much as 500 gallons of water a day.
3. Replace five-gallon-per-flush toilets with standard 1.9 gallon-per-flush models. This can save an average of 18,600 gallons per year.
4. Repair dripping faucets by replacing washers. One drop per second can add up to 2,700 gallons per year.
5. Don't let water run while brushing teeth or shaving. On average you will save more than five gallons of water.
6. Garbage disposals use approximately 11.5 gallons of water per day. Try composting organic kitchen wastes instead.
7. Use the dishwasher and washer only when you have full loads. Never pour water down the drain when there may be another use for it such as watering a plant or cleaning around your home.
8. Watch your sprinklers in action and adjust your sprinklers if necessary.
9. Water less on overcast or cool days and never water while it's raining.
10. Water your lawn during less windy, cooler times of the day.
11. Make sure nothing is blocking irrigation sprinkler heads.
12. Set your lawn mower blades one notch higher. Longer grass means less evaporation .
13. Adjust your sprinklers so that water only lands on the grass and areas that need it and not in the street or on the sidewalk.
14. Direct the water drain line to a flowerbed, tree base, or lawn if you have an evaporative air conditioner.
15. Put a layer of mulch around trees and plants to slow evaporation and protect roots from temperature extremes.
16. Look for wet spots to help you find leaky or broken pipes, valves, and fittings in irrigation systems.
17. Careful weeding, pruning, fertilizing and pest control will

ensure a healthy landscape and increase water savings .

ensure a healthy landscape and increase water savings



Low Water Landscaping

Appendix C



Cherry Meidiland Rose



Cranberry Cotoneaster



Echinacea



Crabapple Tree



Feather Reed Grass



Moonglow Juniper



Ice Plant



Kentucky Bluegrass



Moonlight Broom



Red Flowering Yucca



Red Hot Poker



Russian Sage