

EPA WaterSense Program – Sierra Vista

Overview

The EPA WaterSense program, established in 2006, helps people save water by using products with a product label verifying low water-use, certain design criteria and verifying inspections. WaterSense partners with retailers and distributors to bring water efficient appliances to the market. They encourage product innovation and also promote water efficient landscape irrigation practices.

The main goal of the program is to decrease indoor and outdoor nonagricultural water use through more efficient products, equipment, and programs. With its recognizable label, WaterSense helps consumers easily identify water-efficient products in the marketplace while ensuring product performance and encouraging innovation in manufacturing.

Sierra Vista became a WaterSense partner in September of 2011.

Water Savings

WaterSense labeled new homes save about 10,000 gallons of water per year, or enough water to fill a backyard swimming pool. In addition to WaterSense labeled plumbing fixtures, these new homes include ENERGY STAR qualified dishwashers and clothes washers, if those appliances are installed when the home is built.

WaterSense labeled new homes also incorporate a hot water distribution system that decreases the amount of water lost waiting for hot water to reach the faucet or shower, so residents don't waste time, energy, and thousands of gallons waiting for hot water to reach the tap or tub.

Outdoors, WaterSense labeled homes feature water-efficient landscaping and irrigation systems (if an irrigation system is installed). Builders have the option of developing an outdoor "water budget" and planning the landscaping accordingly, or ensuring any area they landscape uses a variety of water-efficient plantings and features, with less than 40 percent covered by grass.

Comparison

The following tables compare existing City Development Code standards versus WaterSense standards (for New Home Construction).

(Note: Certain WaterSense requirements such as leak-detection are not included.)

(Note: Certain City requirements are already more stringent and are not included.)

Indoor Items:

Item	WaterSense Standard	City Standard	Solution	Cost	Comments
Service Pressure	60 psi	80 psi	Pressure Reducing Valve	\$80-\$225	Lead-free not required in AZ (is more expensive option)
Hot-Water Delivery Systems	No more than 0.6 gal. wasted before hot water exits the fixture	Hot Water Recirculation pump w/timer, or On-Demand pump	Set a standard that must be met and that meets or exceeds WS requirements	Equivalent	WS requirement must be achieved; timer/temp systems don't achieve
Toilet	Max 1.28 gallon WS labeled toilets	1.6 gallon	Mandate 1.28 gallon toilet (must meet MaP rating of 500 or more)	Equivalent	City can consider rebates to encourage replacement in existing homes
Kitchen Sink Fixture	Max 2.2 gpm	2.5 gpm	Mandate max. 2.2 gpm at 60 psi	Equivalent	
Bath Sink	Max 1.5 gpm	2.0 gpm	Mandate max. 1.5 gpm	Equivalent	
Shower Compartment	Total flow max. 2.5 gpm (all showerheads)	2.5 gpm (each showerhead)	Mandate for combination of all showerheads	Equivalent	
Dishwasher	If installed, must be Energy Star	Energy Star only for Commercial, MFR, Public	Amend Code to require Energy Star	Equivalent	Most appliances currently are Energy Star rated
Clothes Washer	If installed, must be Energy Star	If installed by homebuilder must be Energy Star	Amend Code to clarify the distinction	Equivalent	Most appliances currently are Energy Star rated
Evaporative Coolers	3.5 gph per ton-hour of cooling	Do not allow evap coolers alone, need AC	Amend Code to meet the 3.5 gph standard	More expensive due to current City requirement	(City is more stringent)

Water Softener	Meet NSF/ANSI 44 (including the voluntary efficiency standards in Section 7)	None	Ensure compliance	Equivalent
Drinking Water Treatment System	If installed, meet NSF/ANSI (Such systems shall yield at least 85 gallons of treated water per 100 gallons processed)	None	Ensure compliance	Equivalent

Outdoor Items:

Item	WaterSense Standard	City Standard	Solution	Cost	Comments
Landscape Design	2 Options – Budget Tool or turf shall not exceed 40% of landscape area	No turf in front yard	Verify if that meets 40% criteria or revise Code to meet	Less Expensive than turf installation	EPA may require water budget in near future (City is more stringent)
Slopes	In excess of 4:1 shall be vegetated	Fills cannot exceed 4:1 Cuts cannot exceed 3:1 May require rip-rap, etc.	EPA will allow hardscape to control erosion (more typically used in SW)	Negligible for installation, but requires on-going maintenance	Hardscape solution, which meets WS criterion, works better in SW
Mulching	Soil covered with 2-3 inches of mulch	None	Amend Code	\$5 square yard or less	
Irrigation Design and Installation	Must use WaterSense irrigation partner (if available)	None	Amend Code	Equivalent	May require WS Irrigation Partner and certified auditor, which raises cost
Runoff/Overspray	Not allowed	None	Amend Code	None	May require WS Irrigation Partner and certified auditor, which

					raises cost
Distribution Uniformity	65%	None	Amend Code	None	Would only apply to rear yards; may be difficult to find qualified inspector.

Issue

The City could promote water awareness and further save water by working with the WaterSense program in the following potential ways:

- ✚ Provide Incentives for Building WaterSense Homes
 - Rebates
 - Sewer Connection Fee Reduction
 - Elimination of monthly sewer fees until cost is realized
- ✚ Adopt those WaterSense Provisions that are More Stringent than Current City Code Requirements

The following section considers these options and the possible advantages or disadvantages.

1. Provide Incentives for Building WaterSense Homes

- Promote the WaterSense program through advertising, Water Wise and City publications.
- Encourage WaterSense certification by the local water companies so they can certify buildings.
- Inspector Certification of homes costs roughly \$250 - \$350.
- Pressure reducing valves (PRV) cost between \$80 and \$225.
- Reduction could cover a portion, or all, of the increased cost.

Incentives could be provided in three manners:

- a. Utilize the City rebate program to offset the cost of WaterSense home certification and pressure reducing valves.
 - Would require shifting some rebate funds away from toilet rebates, or finding another source of funding.
- b. Provide a Reduction in Sewer Connection Fees for Homes That Are Certified as WaterSense Homes

- Reduce the sewer connection fee (currently \$2400) by an amount sufficient to cover the increased costs of building and certifying a WaterSense home.
 - Reduction has the benefit of cost avoidance for the developer/builder (no waiting for a rebate).
 - With less water used there is less sewage generated.
 - Reduction to builder occurs at building permit issuance, with the WaterSense Certified Home Certificate required for a certificate of occupancy. If certification has not been achieved the sewer fee is then owed.
- c. Eliminate the monthly sewer fee until the determined cost has been saved.
- Has the advantage that the savings is realized by the homeowner directly.
 - Has the disadvantage that builders may not be as enticed to build to WaterSense standards (although they could recoup the costs).

2. Adopt the WaterSense Provisions for New Development

- The City could adopt those particular WaterSense provisions that are more restrictive than current codes into our Development Code for all new development.
- Higher standards include:
 - Maximum 1.28 gallon per flush WaterSense labeled toilet with 500 MaP rating or better
 - 2.2 gallon per minute kitchen sink fixture
 - 1.5 gallon per minute bathroom sink fixture
 - Energy Star mandate for dishwashers and clothes washers
 - 3.5 gph standard for evaporative coolers (if allowed)
 - Stricter standard for shower compartments
 - Stricter standard for hot water recirculation
- Most homebuilders are already using the higher-standard WaterSense fixtures
- Certification would not be required but could still be encouraged

Conclusion

The EPA WaterSense program offers a framework for saving water. Consideration should be given to either providing incentives to encourage builders to design to WaterSense standards, or to adopting the standards as Code requirements. Area builders should be encouraged to become WaterSense partners. Local water companies could be encouraged to provide certification inspections. And consideration should be given to working with WaterSense to modify their requirements to more suitably fit our climate and conditions.