

look for



WaterSense® Labeled New Homes



WaterSense New Homes 101

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Region 6

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WaterSense: the Why & What



Non-drought water shortages expected in 36 states

Communities face major infrastructure investments

Consumers challenged by rising utility bills

Much of water used outdoors is wasted



Identify high-performing technology

Promote water efficient behavior/action

Help consumers save money

Reduce need to expand infrastructure capacity

Save water for critical needs



WaterSense Label Assures Confidence

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Products must:

- Offer equivalent or superior performance
- Be about 20 percent more water-efficient than conventional models
- Realize water savings on a national level
- Provide measurable results
- Achieve water efficiency through several technology options
- Be effectively differentiated by the WaterSense label
- Be independently certified for performance and efficiency

WaterSense Labeled Products



Flushing Urinals
(≤ 0.5 gpf)



Lavatory Faucets
(≤ 1.5 gpf)



Tank-Type Toilets
(≤ 1.28 gpf)



Showerheads
(≤ 2.0 gpm)



Irrigation Controllers



New Homes



NEW! Pre-Rinse Spray Valves

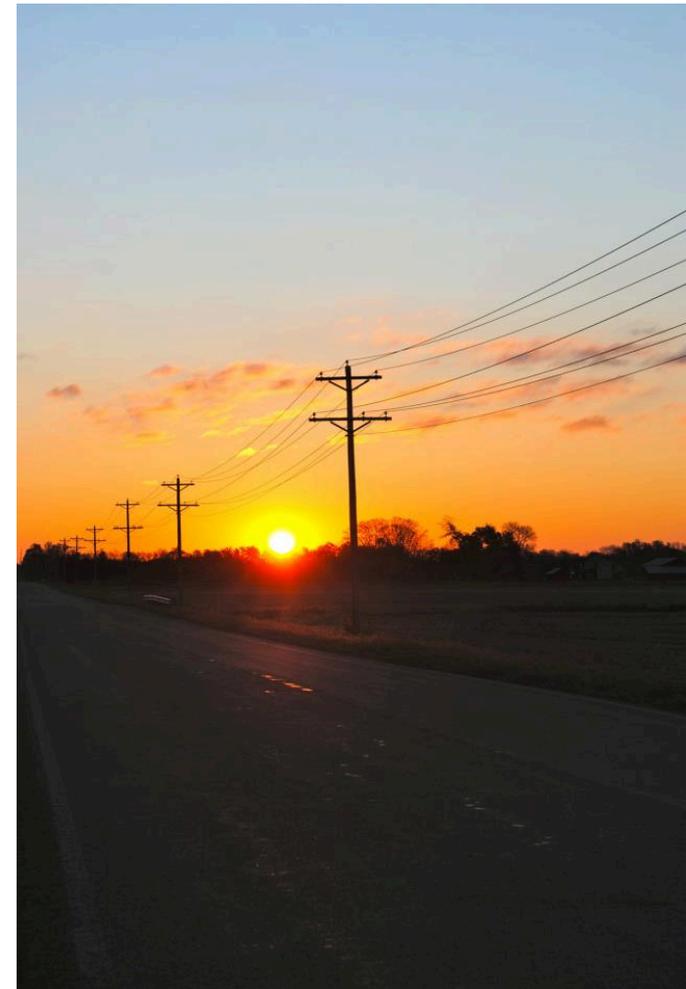
More than 10,000 Labeled Product Models



Water factors are also included in many ENERGY STAR qualified products

Not Just About Water

- Moving, treating, and heating water uses energy
 - Every gallon of water has an energy “footprint”
- Energy used by the Water sector
 - Nationally - ~3-4%
 - California - ~20%
 - Municipal level - can be > 40%
 - System level - energy is one of the highest utility costs



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Why Build (or Buy) a WaterSense Labeled New Home?



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WaterSense Labeled New Homes Program

- First national new home labeling program for water efficiency
- Works with other green building programs
- As of 2013, units in multifamily buildings can earn the label
- WaterSense labeled new homes:
 - Reduce water use in new homes by **at least 20%**
 - Educate homeowners about continuing water-efficient behaviors
 - Encourage community infrastructure savings
 - Are third-party certified



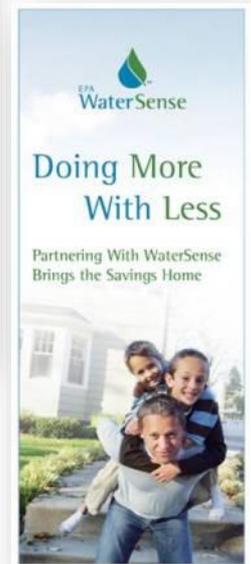
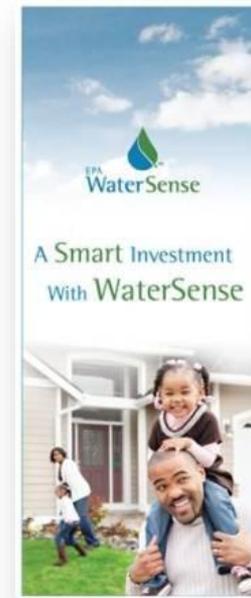
First community of all WaterSense labeled new homes in Issaquah, WA

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Selling a WaterSense Labeled Home

- **Inside:** compared to a typical home, a family of four could save big in a WaterSense labeled new home
 - **50,000** gallons of water - equal to 2,000 loads of laundry
 - More than \$600 per year on water, sewer, and energy bills
- **Outside:** water-efficient landscapes are adaptable to local watering restrictions
 - Easily maintained
 - Offer long term curb appeal



Why Will Consumers Purchase WaterSense Labeled Homes?



- **Low maintenance is key**
- **Convenience, efficiency, & confidence**
 - Hot water will be delivered to users faster and use less energy
 - Landscaping will be healthy and sustainable, using less water and requiring less maintenance
 - WaterSense labeled products have been tested and certified for efficiency *and* performance
- ***Everyone* looks good!**



**WaterSense labeled new home by
HiPointe Homes
Colorado Springs, CO**

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Building & Inspecting a WaterSense Labeled New Home



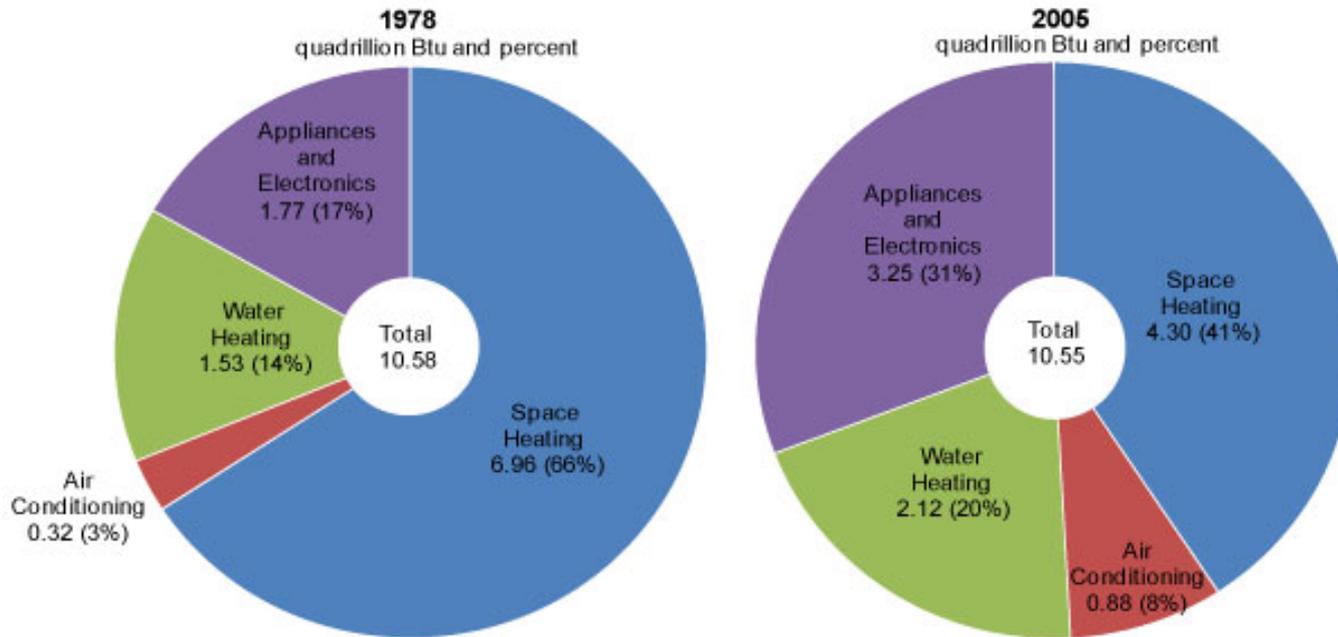
What Makes a WaterSense Labeled Home?



Hot Water Distribution Systems

Energy by End Use

Total energy use in homes

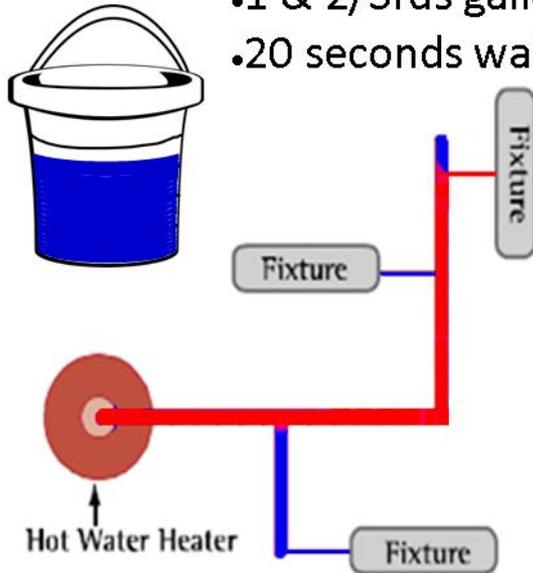


Source: U.S. Energy Information Administration, 1978 and 2005 Residential Energy Consumption Survey

Hot Water Distribution Systems

The Problem

- 1 & 2/3rds gallons wasted.
- 20 seconds wait time

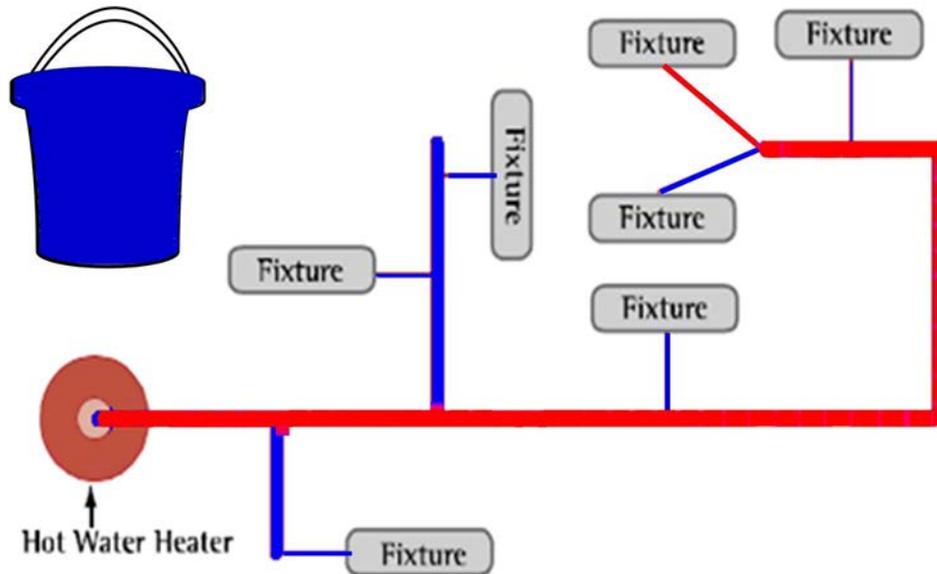


Copper L piping:

- 1" = 5.53 ounces/ft
- 3/4" = 3.22 ounces/ft
- 1/2" = 1.55 ounces/ft

Hot Water Distribution Systems

The Problem



- 3 gallons wasted
- 1 minute 30 seconds wait time

Copper L piping:

- 1" = 5.53 ounces/ft
- $\frac{3}{4}$ " = 3.22 ounces/ft
- $\frac{1}{2}$ " = 1.55 ounces/ft

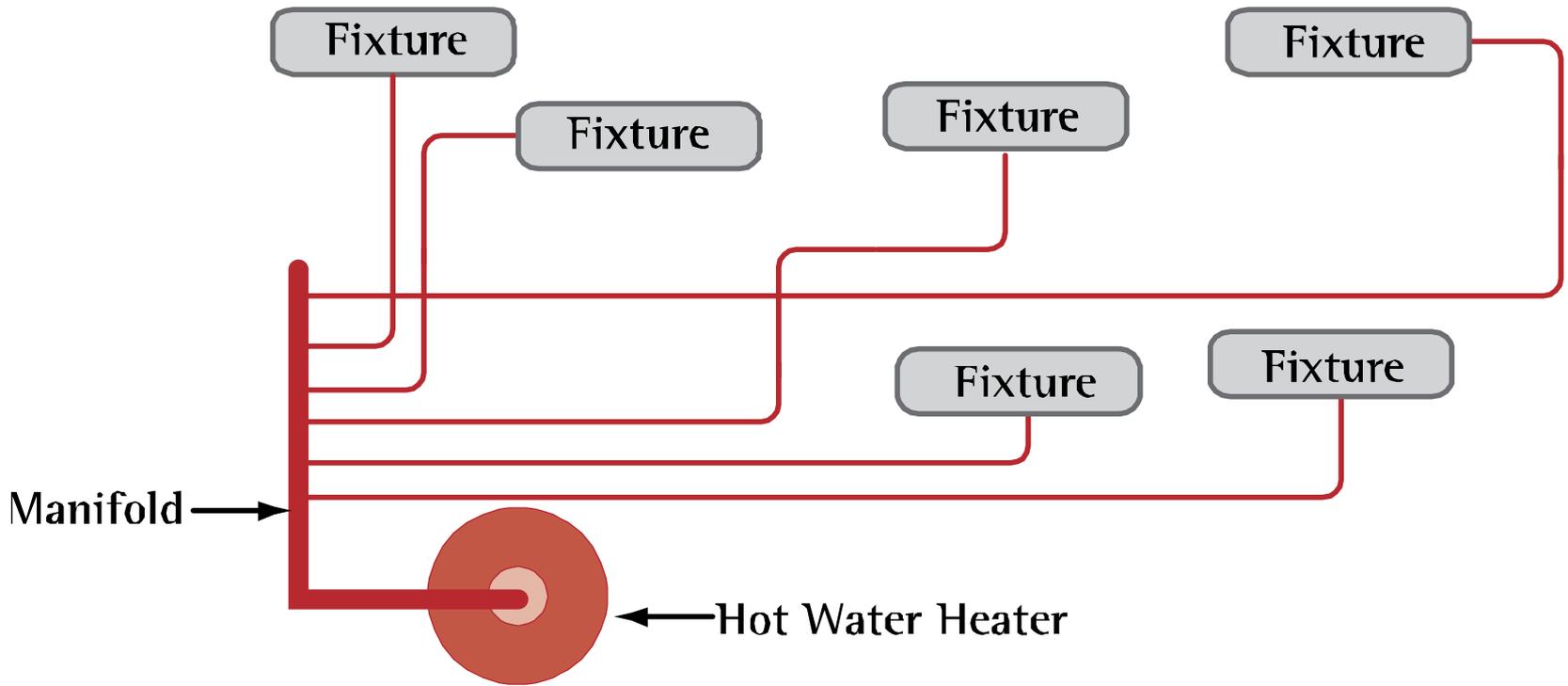
Hot Water Distribution Systems Performance Requirement

- The system shall store no more than 0.5 gallons in any piping/manifold between the hot water source and any hot water fixture.
- No more than 0.6 gallons of water shall be collected from the fixture before hot water is delivered (accounts for water that must be removed from the system before hot water can be delivered).
- Recirculation systems must be demand initiated (push button or motion sensor).
 - Timer and temperature activated recirculation systems do not meet this requirement.



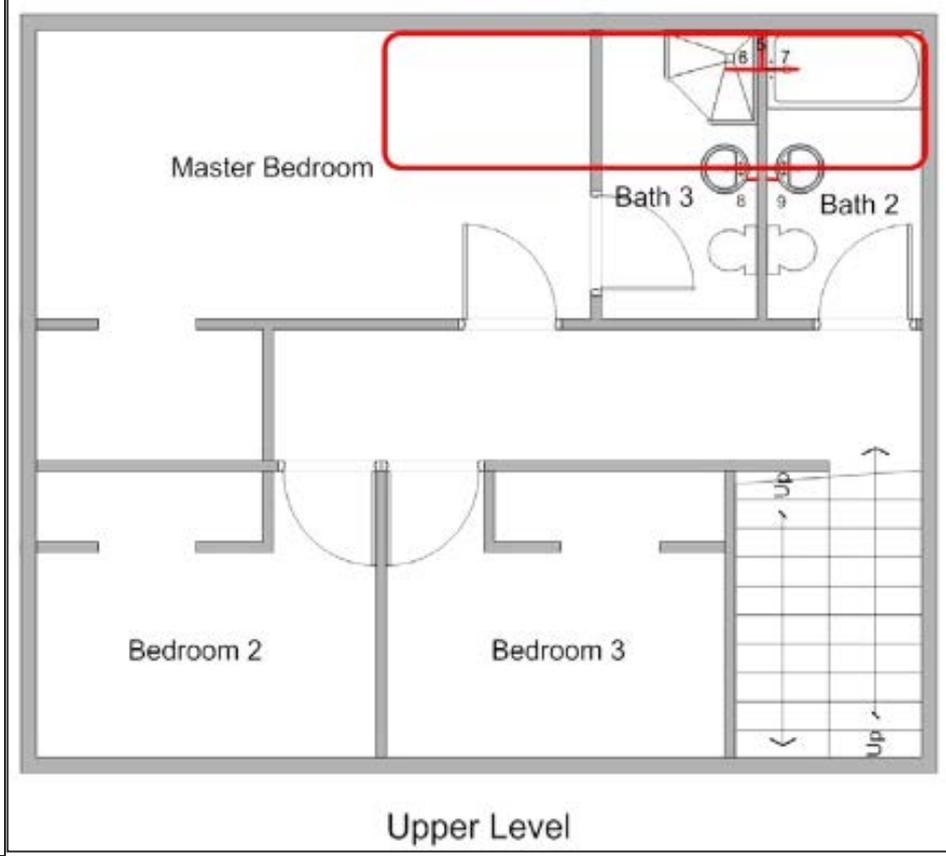
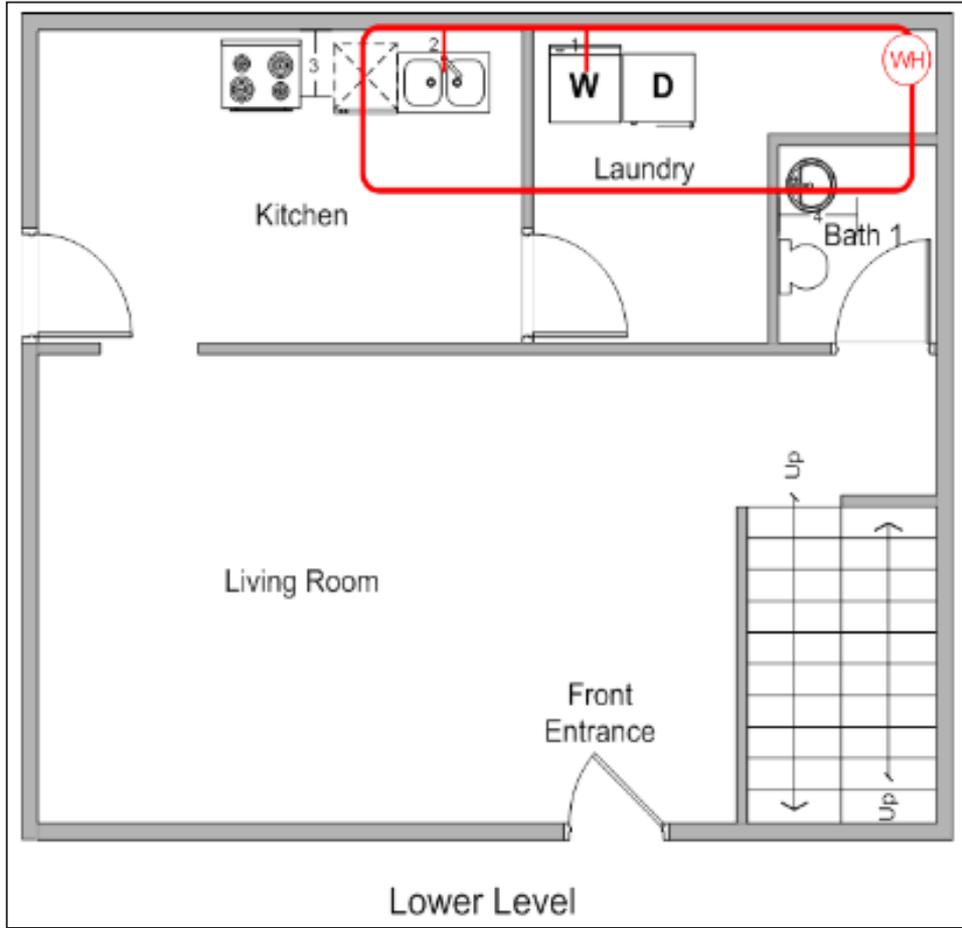
Hot Water Distribution Systems

Whole House Manifold System





Hot Water Distribution Systems On Demand Recirculation



This House

Old

- Trunk & Branch System
 - Under the slab
 - Two trunks
 - Central heater location
- Up to 2 plus minute wait for hot water
 - Average wait time of 32 seconds
- Annual operating cost of \$365

New

- On demand recirculation
 - Insulated piping through attic
 - Push button/motion sensor activated
- Wait time < 11 seconds
- Annual operating costs of \$238

Hot Water Distribution Systems

Things to Remember

1. Do the math
2. Make sure you have the numbers
3. Let the plumber know why you need the numbers
4. Let the builder and/or homeowner know why what they have is better

[Guide for efficient hot water delivery](#) on WaterSense website.

Multi-Family Homes

- Single family homes & townhomes
- OR**
- Residential units in multi-family buildings three stories or less in size
- OR**
- Residential units in multi-family buildings, including mixed-use buildings, that have independent heating, cooling, and hot water systems separate from other units

Scope of version 1.1

Units in buildings that utilize central hot water systems powered by alternative energies, such as solar or geothermal, for domestic hot water are allowed if the alternative energy source provides at least 50 percent of the hot water needs for the residential units.



Requirements for Homes in MF Buildings

- Even though the units receive the label, buildings must meet certain common area and outdoor criteria in order to be labeled
 - Consider these prerequisites

Note: Specific requirements and considerations are summarized in Appendix D of the specification.



Requirements for Homes in MF Buildings

Laundry Facilities

- Common-use laundry rooms shall include ENERGY STAR qualified clothes washers with water factors of 6.0 or less

Metering

- Each labeled unit shall be individually metered, submetered, or equipped with alternate technology capable of tracking water use for individual units

Requirements for Homes in MF Buildings

Outdoors

- Outdoor criteria shall apply to all common use area that are improved upon
 - Includes areas that are landscapes (including sod or turf), water features, etc.
- If there is an irrigation system, it shall meet all existing criteria AND be independently metered, submetered, or equipped with an alternate technology.
- If units are occupied prior to completion of outdoor (or common-use space), the indoor inspection can be completed but the label should be withheld until all criteria are met.

Requirements for Homes in MF Buildings

Pools

- Are treated differently than in single-family homes
 - Typically larger pools with more advanced equipment and controls
- Are not accounted for in the landscape design criteria (as they are in single-family homes)
- Must be independently metered or submetered
- Must be equipped with a gutter or grate system
- Must be equipped with either sorptive media (pre-coat) or cartridge filtration



Requirements for Homes in MF Buildings

Education

- For homes in multi-family buildings there are two manuals required:
 - Occupant Operating Manual (one per home)
 - Building Operating Manual (one per building)

Pressure loss test

- Should be done in each individual unit to verify that water is being delivered at or below 60 psi
 - Can be done at a washer hookup, but may require an additional adapter if washer/dryer connections aren't present
 - If there is no shutoff for the unit's water supply this could be an indication the building is using riser pipe plumbing

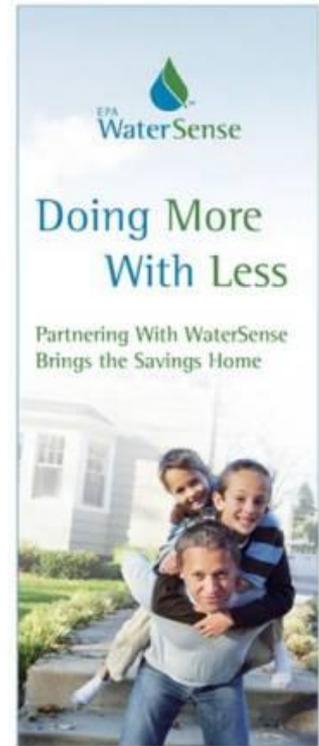


Why Join WaterSense?

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- National specifications for water-efficient products and services
- New opportunity for distinction in the market
- Growing demand for services (easy add-on)
- Recognition from EPA as a water-efficiency leader
- Membership in a network of water-efficiency leaders
 - Learn new strategies
 - Collaborate with other types of partners



Website & Resources



WaterSense® An EPA Partnership Program

Product Search | Meet Our Partners

WaterSense / New Homes

New Homes

Bringing Savings Home: WaterSense Labeled New Homes

Building Certifying Promoting Buying

- Easy to find on the WaterSense homepage
 - Look for the “New Homes” tab
 - www.epa.gov/watersense/new_homes
- Inspection video
- Resources for realtors
- Help us build our gallery of homes.

Who's Building in Your State?

WaterSense labeled new homes are popping up all across the country. Saving water, energy, and money makes sense wherever you might live—whether your region has recently experienced a drought or is flush with lakes and streams. [Find a WaterSense builder partner in your state.](#) And check out a few of the homes below that have been built to date!



Chapel Hill, NC
(Vanguard)



Hendersonville, NC
(Nappier Homes)



Colorado Springs, CO
(GJ Gardner)



Roseville, CA
(KB Home)

New Homes Tools & Resources

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EPA WaterSense

Doing More With Less

Partnering With WaterSense Brings the Savings Home

The WaterSense® **Blueprint**

EPA United States Environmental Protection Agency

LEARN THE ISSUES | SCIENCE & TECHNOLOGY | LAWS & REGULATIONS | ABOUT EPA

WaterSense® An EPA Partnership Program

Water Budget Tool (V 1.01)

STEP 1: Landscape | STEP 2: Plants and Irrigation | STEP 3: Summary

Fill out the chart below with all the appropriate information to calculate your landscape's water needs.

Zone	Area (sq. ft.)	Plant Type / Landscape Feature	Water Demand	Irrigation type	Impact on Water Use	Required Water (gallons/day)
1	2,200	Turfgrass	Medium	Fixed Spray	★★★★★	8,030
2	130	Groundcover	Low	Drip - Standard	★★★	105
3	588	Shrubs	Low	Drip - Standard	★★★	436
4	392	Shrubs	Low	Drip - Standard	★★★	318
5	720	Groundcover	Low	Drip - Standard	★★★	175
6	450	Groundcover	Low	Drip - Standard	★★★	365
7	540	Turfgrass	Low	Fixed Spray	★★★	1,611
Total: 5,100						
add zone						

12,239 Water allowance (gallons/day)
11,488 Total hot water requirement for the City (gallons/day)
+751 Excessing (Excess Gallons/day)

Next Step >

Helpdesk | (844) WTR-GENS | (800-735-7373) | Contact Us | Office of Water
WaterSense, U.S. Environmental Protection Agency, Office of Watersheds Management (20306), 1300 Pennsylvania Avenue, N.W. Washington, D.C. 20460

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Last updated on Monday, July 26, 2010

EPA WaterSense

A Smart Investment With WaterSense



Save Water & Energy

Don't Waste Time! Get Hot Water Fast!

WaterSense® labeled homes have efficient plumbing systems that get you hot water right when you need it!

www.epa.gov/newhomes





What's Next?



- Builders sign a partnership agreement with EPA
 - Begin constructing new homes to earn the WaterSense label
- Contact your local utility/water provider or govt to ask about possible incentives
- Each home/unit must pass an inspection overseen by a licensed certification provider
 - Or sampling of homes in a development

Builder partnership agreements:

<http://www.epa.gov/watersense/partners/builders.html>





Questions/Contact

- WaterSense Information
 - Web site: www.epa.gov/watersense
- For questions:
 - Helpline: watersense@epa.gov
 - Toll-free: (866) WTR-SENS
- And online:
 - www.facebook.com/epawatersense
 - www.twitter.com/epawatersense

EPA Region 6 Technical EPA Region 6

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