



# WaterSense<sup>®</sup> Labeled Homes

## Version 2.0



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November 19, 2020

# “Leaning In” to 2020

## Meet Jilly

- 5.5-year-old American Staffordshire Terrier rescue
- Likes:
  - Belly rubs
  - Long walks
  - Car rides
  - Interrupting webinars at the most inopportune times
- Dislikes:
  - Squirrels
  - Wasting water (especially with baths)



# Agenda

- A little looking back, a little looking ahead
- Updated certification process
- Version 2 technical requirements
- Version 2 pilot program
- Examples of Version 2 requirements

# Where We've Been, Where We're Going?

**What Will This Mean?**

- Rising costs for water and sewer
  - Higher utility bills
  - Larger connection fees
- Increased use of outdoor water restriction
  - Designated watering days
  - No new planting
  - Water budget based billing
  - No outdoor water use
- More stringent code
  - More efficient plumbing products
  - Strict permitting & development policies

Water restrictions  
*Reduce your use!*

5

What we thought 5-6 years ago:

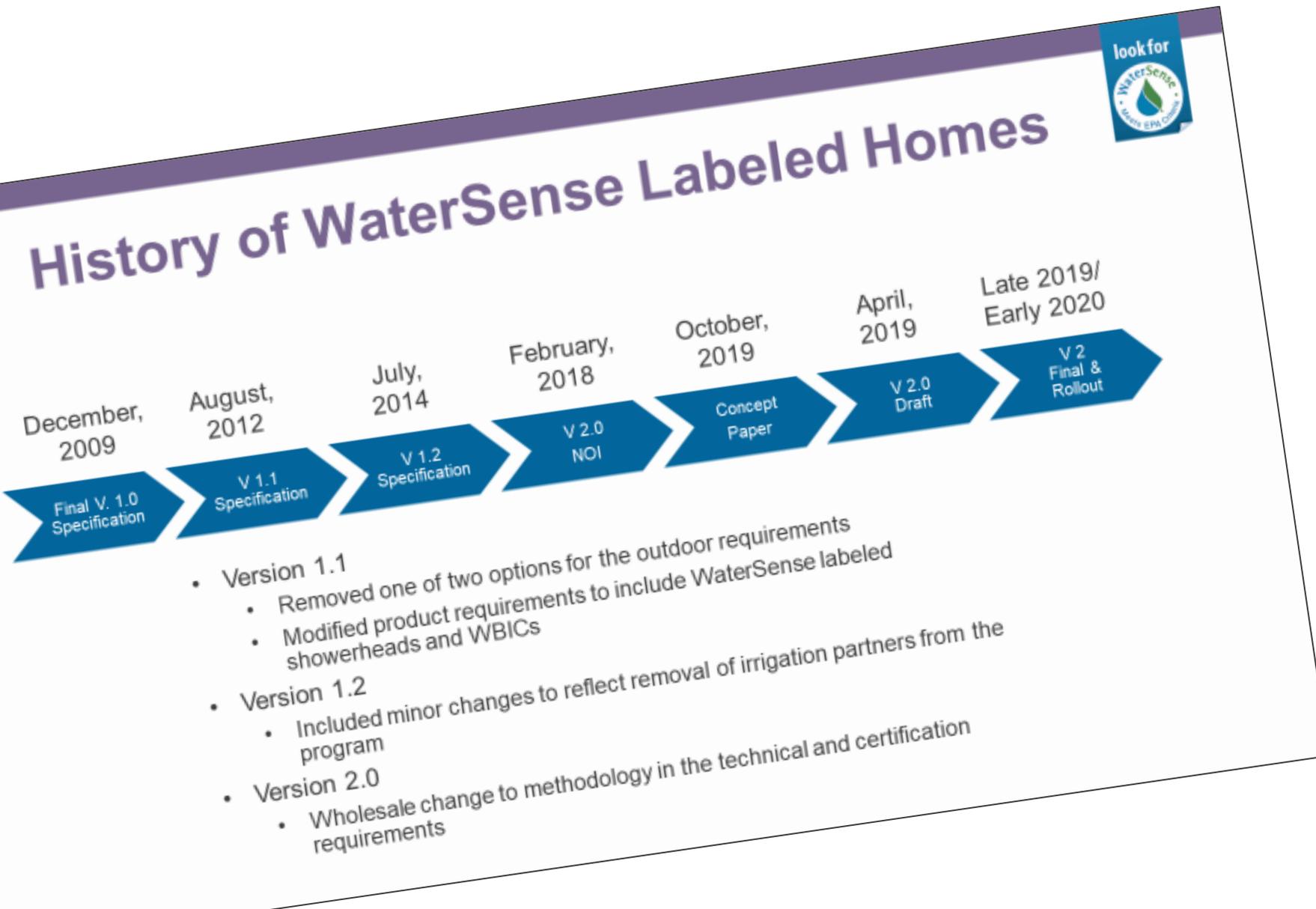
- Rising cost of water ✓
- Increased outdoor water restrictions ✓
- More stringent code ✓



# Why Water Matters to the Building Industry in 2020

- Cost of water
  - Average cost of water has continued to rise, this trend is likely to continue
  - Largely driven by capital infrastructure spending
- Being responsible stewards of water is an important part of the building industry's social license to operate
  - New homes frequently bare a large part of the conservation burden because they represent a substantial *new* demand to the community
- Water is an increasingly important part of the land entitlement process
  - Availability of water/service connections is frequently the deciding factor in a site's viability
- Corporate disclosure & reporting
  - Investors are increasingly interested in these issues as a potential risk to business operations (both from an ESG and financial perspective)

# Last Year Around This Time...



- Planned to release all revised elements late 2019/early 2020
  - Update certification and technical requirements
  - First major update to both since 2009
- V2 currently available in pilot form
- Still plan to release final V2 for 2021 (minimal changes from the draft)

# “Modernizing” the Certification Infrastructure

- WaterSense released the updated Certification System in May, 2020
  - Titled as “version 1.3” but is essentially the same in spirit as what we had intended to release as the “version 2.0” certification system
- The certification system is essentially agnostic to the technical requirements
- Focuses on organizational and system capacity for oversight of the WaterSense label
  - Creates a more consistent approach with WaterSense labeled products and revisions to the ENERGY STAR Certified Homes certification requirements
- Will facilitate participation of other Home Certification Organizations (HCOs)
- Streamlines participation for existing builder, provider, and rater partners

# RESNET as a WaterSense HCO

- RESNET was approved as the first WaterSense HCO this past summer
- Has been our sole certification partner (‘program administrator’) since 2009
- RESNET is transitioning from “WaterSense providers” to using “HERSh2o providers” to conduct oversight of WaterSense labeled homes
  - All HERSh2o providers, raters, and RFIs will be able to do WaterSense certifications
- Reporting is integrated into the HERSh2o registry
  - Currently this happens via xml schema in the HERSh2o excel worksheet, ultimately it will be handled by software
- Brief training is available for raters and RFIs on the RESNET training portal



# WaterSense Home Verifiers

- Raters/RFIs earn the title “WaterSense Home Verifier” after completing the required training
- Will be listed in a searchable tool on the WaterSense website
- RESNET will provide this information directly to EPA
  - No additional action needed by the rater



# Find a WaterSense Home Verifier



WaterSense and its approved home certification organizations (HCO) jointly maintain the Directory of Home Verifiers. Updates to the directory are made quarterly and reflect the best information available at the time. Individuals listed in the directory have been trained and authorized by an HCO to verify homes in accordance with the WaterSense Specification for Homes.

- Will be searchable by
  - Name
  - Company
  - Location
  - HCO\*

Reset ZIP Code Only

Search by ZIP Code ?

Enter ZIP Code

Search

25 Miles

Verifier/Company Name

Enter a Keyword

Add

State (1 selected)

- All
- Alabama
- Alaska
- Arizona
- Arkansas
- California

**75 Records Found** for Home Verifiers  
Showing Records **1** through **10**

## Scott Akey

**Company Name** Rain Bird Corporation

**Email:** N/A

**Phone:** N/A

[Visit website to learn more](#)

**Home Certification Organization – Program:** Irrigation Association

## Andrew Barna

**Company Name** BrightView Landscape Services

**Email:** N/A

**Phone:** N/A

[Visit website to learn more](#)

**Home Certification Organization – Program:** Irrigation Association

## J. Louis Bergantino

**Company Name** Rain Bird Corporation

**Email:** N/A

**Phone:** N/A

[Visit website to learn more](#)

\*once additional HCOs are approved

# What Do I Need to Do?

## Builders

- Existing: No action required (existing partnership agreement carry forward)
- New: Sign up as a WaterSense builder partner at no cost
- Consider participating in the V2 pilot to take advantage of flexibility and get ready for the new requirements

## Raters/RFIs

- Take the HERSh2o and WaterSense training on the RESNET training portal

## Providers

- Existing: Sign up as a HERSh2o provider **by the end of 2020**
- New: Sign up as a HERSh2o provider

## Others

- If you work through a different home certification system stay up to date as we onboard more HCOs

# Indoor Checklist

Current Version 1.2

Item	Section	Home or Unit Criteria	Yes	No	NI*	Doc†
<b>Indoor Water Efficiency Criteria</b>						
Leaks	3.1	Pressure-loss test on all water supplies detected no leaks				
		No visible leaks from hot water delivery system				
		No visible leaks from toilets/urinals				
		No visible leaks from bathroom faucets				
		No visible leaks from kitchen faucets				
		No visible leaks from showerheads				
		No visible leaks from other fixtures or appliances				
Service pressure	3.2	Single-family: Pressure tank installed and set ≤ 60 psi OR				
		Single-family: PRV installed upstream of fixtures and pressure test ≤ 60 psi OR				
		Single-family: Pressure test ≤ 60 psi and written documentation from water supplier that pressure ≤ 60 psi				Req.
		Multi-family: Pressure test ≤ 60 psi				
Hot water delivery	3.3	Acceptable system type				
		10°F temp. change within ≤ 0.6 gallons				
Toilets	3.4.1	WaterSense labeled				Req.
Flushing urinals	3.4.2	WaterSense labeled				Req.
		WaterSense labeled				Req.
faucets	3.5.1	Measured flow rate—maximum 1.5 gpm (Flow test maximum: 0.25 gallons)				
Kitchen sink faucets	3.5.2	Measured flow rate—maximum 2.2 gpm (Flow test maximum: 0.4 gallons)				
		WaterSense labeled				Req.
Showerheads	3.6	Measured flow rate—maximum 2.0 gpm water per shower compartment ≤ 2,160 in <sup>2</sup> (Flow test maximum: 0.35 gallons/compartment)				
		Separate controls for showerheads if > 2160 in <sup>2</sup>				
Dishwashers	3.7.1	ENERGY STAR qualified				Req.
Clothes washers	3.7.2	ENERGY STAR qualified				Req.
		Water factor ≤ 6.0				Req.
Evaporative cooling system	3.8.1	Acceptable system type				Req.
		Maximum 3.5 gal/water/ton hour cooling, maximum 3 blowdowns in 24 hours				Req.
		Controls blowdown through conductivity or a basin temperature-based controller				Req.
Water softeners	3.8.2	Certified to NSF/ANSI Standard 44, including voluntary efficiency rating standards in Section 7				Req.
Drinking water	3.8.3					Req.

Low-hanging fruit: simple to implement and verify

Items that require basic documentation or on-site verification

Items that require coordination and planning w/ builder

# Outdoor Criteria

Item	Section	Home or Unit Criteria	Yes	No	NI*	Doc†
<b>Outdoor Water Efficiency Criteria</b>						
Landscape design	4.1	Single-family: Front yard landscaped				
		All improved upon areas landscaped				
		Temporary landscape installed				
	4.1.1	Landscapable area of lot $\leq$ 1,000 ft <sup>2</sup> and exempt from landscape design criteria				
4.1.1.1	Water budget tool calculations verified				Req.	
	Landscape complies with water budget design				Req.	
Slopes	4.1.2	Slopes $\geq$ 4:1 are vegetated				
Mulching	4.1.3	No exposed soil				
		All mulch is 2 to 3 inches deep				
Pools/spas	4.1.4	Single-family: Cover installed				
		Multi-family: Independently metered				
		Multi-family: Gutter or grate system				
Ornamental water feature	4.1.5	Multi-family: Sorptive media or cartridge filtration system				
		Recirculates water and serves beneficial use				
Irrigation system	4.2	WaterSense labeled weather-based irrigation controllers or approved soil moisture sensor-based controller				Req.
		Multi-family: Independently metered				
		Designed or installed by an irrigation professional certified by a WaterSense labeled program				Req.
		Provided waiver for design/installation				Req.
		System audited by certified irrigation professional				Req.
		Irrigation System Audit Checklist completed by certified irrigation professional				Req.
Provided waiver for audit				Req.		

Low-hanging fruit: simple to implement and verify

Items that require basic documentation or coordination w/ irrigation professional

Items that require coordination and planning w/ builder

# Resident/Home-owner Manual

Item	Section	Home or Unit Criteria	Yes	No	NI <sup>†</sup>	Doc <sup>†</sup>
<b>Homeowner or Resident and Building Management Education Criteria</b>						
Single-family/ occupant operating manual	5.2	Written operating and maintenance manual (or chapter) for all water-using equipment/controls installed in house, unit, yard, or common use outdoor area				
		General information on water-efficient dishwashers and clothes washers if they are not installed				
Building operating manual	5.3	Multi-family: Manual for all water-using equipment and controls outside of individual dwellings or inside of individual dwellings that are maintained by building management				
Irrigation system	5.2	Schematic, itemized list of irrigation components, copies of irrigation schedules, and information on reprogramming schedules included in operating manual for homeowners of single-family homes and for building managers for multi-family buildings				
Pools/spas	4.1.4	Multi-family: Detailed information on filtration equipment and manufacturer's recommended maintenance schedule to building management				
<b>Notes on Homeowner Education Criteria</b>						

# Irrigation Audit Checklist

Item	Section	Criterion	Yes	No	NI*
<b>Outdoor Water Efficiency Criteria—Irrigation System Design</b>					
Design and installation	4.2.1	Designed or installed by certified irrigation professional Name of professional:			
		Waiver provided for design/installation Name of designer/installer:			
Leaks	4.2.3	System operates without leaks (checked during the audit)			
Overspray	4.2.4	System prevents runoff and overspray from leaving the property (checked during the audit)			
DU <sub>L</sub>	4.2.5	Is 65% or greater (determined by catch-can test during audit)			
Rain shut-off device	4.2.6	System includes a technology that inhibits or interrupts operation of the irrigation system during periods of rainfall or sufficient moisture (e.g., rain sensors, soil moisture sensors)			
Irrigation controller	4.2.7	WaterSense labeled weather-based controller or soil moisture sensor-based controller with the following capabilities in both smart and standard mode: <ul style="list-style-type: none"> <li>o The controller shall be capable of preserving the contents of the irrigation program settings when the power source is lost and without relying on an external battery backup.</li> <li>o The controller shall either be capable of independent, zone-specific programming or storing a minimum of three different programs to allow for separate schedules for zones with differing water needs.</li> <li>o The controller shall be capable of indicating to the user when it is not receiving a signal or local sensor input and is not adjusting irrigation based on current weather or soil moisture conditions.</li> <li>o The controller shall be capable of interfacing with a rainfall device.</li> <li>o The controller shall be capable of accommodating watering restrictions as follows:               <ul style="list-style-type: none"> <li>o Operation on a prescribed day(s)-of-week schedule</li> <li>o Either even-day or odd-day scheduling, or any day-interval scheduling between two and seven days</li> <li>o The ability to set irrigation runtimes to avoid watering during a prohibited time of day (e.g., between 9:00 a.m. and 9:00 p.m.)</li> <li>o Complete shut-off (e.g., on/off switch) to accommodate outdoor irrigation prohibition restrictions</li> </ul> </li> <li>o The controller shall include a percent adjust (water budget) feature.</li> <li>o If the primary source of weather or soil moisture information is lost, the controller shall be capable of reverting to either a proxy of historical weather data or a percent adjust (water</li> </ul>			

Item	Section	Criterion	Yes	No	NI*
<b>Outdoor Water Efficiency Criteria—Irrigation System Design</b>					
		budget) feature. <ul style="list-style-type: none"> <li>o The controller shall be capable of allowing for a manual operation troubleshooting test cycle and shall automatically return to smart mode within some period of time as designated by the manufacturer, even if the switch is still positioned for manual operation.</li> </ul>			
Sprinkler heads	4.2.8	Have a 4-inch or greater pop-up height and matched precipitation. Note: This excludes components of a micro-irrigation system.			
Sprinkler irrigation	4.2.8	Not installed on plantings other than turfgrass other than as part of a micro-irrigation system			
Sprinkler irrigation	4.2.8	Not used on strips of turfgrass < 4 feet wide or on slopes > 4:1 other than as part of a micro-irrigation system			
Micro-irrigation system	4.2.9	Includes a pressure regulator, filters, and flush end assemblies			
Schedule	4.2.10	Two seasonal water schedules (initial grow-in period and established landscape) are posted at the controller.			
Verification of system operating pressure		Station or zone pressure within 10% of manufacturer recommended operating pressure			
<b>Notes on Irrigation System Criteria</b>					

\* Primarily completed by an irrigation professional *if* an irrigation system is installed



# Additional Checklists for Multifamily Units

Lot Number/Street Address of Building					
Unit Number		Date	_/_/___		
Have all prerequisites been met for the building in which this unit is located?		Yes	<input type="checkbox"/>		
		No, this unit is being occupied prior to final building inspection	<input type="checkbox"/>		
		Date unit is labeled (must be after building inspection)	_/_/___		
Item	Section	Criteria	Yes	No	Doc
Occupant Operating Manual	5.1	Written operating and maintenance manual (or chapter) for all water-using equipment/controls installed in house, unit, yard, or common-use outdoor area			Required

Lot Number/Street Address of Building					
Unit Number		Date	_/_/___		
Have all prerequisites been met for the building in which this unit is located?		Yes	<input type="checkbox"/>		
		No, this unit is being occupied prior to final building inspection	<input type="checkbox"/>		
		Date unit is labeled (must be after building inspection)	_/_/___		
Item	Section	Criteria	Yes	No	Doc
Occupant Operating Manual	5.1	Written operating and maintenance manual (or chapter) for all water-using equipment/controls installed in house, unit, yard, or common-use outdoor area			Required

Lot Number/Street Address of Building					
Unit Number		Date	_/_/___		
Have all prerequisites been met for the building in which this unit is located?		Yes	<input type="checkbox"/>		
		No, this unit is being occupied prior to final building inspection	<input type="checkbox"/>		
		Date unit is labeled (must be after building inspection)	_/_/___		
Item	Section	Criteria	Yes	No	Doc
Occupant Operating Manual	5.1	Written operating and maintenance manual (or chapter) for all water-using equipment/controls installed in house, unit, yard, or common-use outdoor area			Required

Lot Number/Street Address of Building					
Unit Number		Date	_/_/___		
Have all prerequisites been met for the building in which this unit is located?		Yes	<input type="checkbox"/>		
		No, this unit is being occupied prior to final building inspection	<input type="checkbox"/>		
		Date unit is labeled (must be after building inspection)	_/_/___		
Item	Section	Criteria	Yes	No	Doc
Occupant Operating Manual	5.1	Written operating and maintenance manual (or chapter) for all water-using equipment/controls installed in house, unit, yard, or common-use outdoor area			Required

Lot Number/Street Address of Building					
Unit Number		Date	_/_/___		
Have all prerequisites been met for the building in which this unit is located?		Yes	<input type="checkbox"/>		
		No, this unit is being occupied prior to final building inspection	<input type="checkbox"/>		
		Date unit is labeled (must be after building inspection)	_/_/___		
Item	Section	Criteria	Yes	No	Doc
Occupant Operating Manual	5.1	Written operating and maintenance manual (or chapter) for all water-using equipment/controls installed in house, unit, yard, or common-use outdoor area			Required

# Challenges With V1

- Prescriptive requirements create too many potential deal breakers
  - Stakeholders clearly voiced a desire for increased flexibility
- Some requirements are good practices, but don't necessarily demonstrate quantifiable or marketable benefits
  - Builders need to be able to quantify benefits to market their homes at an advantage
  - Communities need to be able to predict and measure the benefits (in terms of future demand reductions)
- Value proposition of fixed requirements is variable
  - Example: Outdoor requirement may save lots of water in a dry climate with year-round irrigation, but very little in a cooler climate with a short irrigation season

# Technical Requirements for V2

## MANDATORY CHECKLIST FOR WATERSENSE LABELED HOMES

Item	Requirements	Confirmed	
Leaks	Pressure-loss test on all water supplies detected no leaks	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from hot water delivery system	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from toilet(s), as determined through visual assessment and by conducting a dye tablet test in each toilet to ensure the flapper is not leaking	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from bathroom faucet(s)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from showerhead(s)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from bathroom tub faucet(s), i.e., tub spout(s), when showerhead(s) is activated, as determine through visual assessment after showerhead has been activated for one minute	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from kitchen and other sink faucet(s)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from other fixtures or appliances (e.g., clothes washers, dishwashers, hose bibs, irrigation systems) at point of use or point of connection to water distribution system	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Toilets	WaterSense labeled	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Bathroom sink faucets	WaterSense labeled	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Showerheads	WaterSense labeled	<input type="checkbox"/> Yes	<input type="checkbox"/> No

- Meet all items on the mandatory checklist
- Meet an efficiency target of 30% relative to standard new construction

# Mandatory Checklist

- Ensures that all WaterSense labeled homes contain a minimum set of features that meet homeowners' expectations for quality performance
- Criteria for checklist features
  - Basic measure of quality performance not represented by volumetric use
  - Universally applicable to homes regardless of market or climate
  - Easily attainable at little or no incremental cost
- Loss of quality-performance was identified as a risk of setting a standard based on performance efficiency
- Ensures some measure of balance in climates that are more likely to have high outdoor water use

# What About Outdoors?



- Outdoor requirements don't appear on the checklist
  - Can be used to meet the efficiency target
  - It is virtually impossible for many homes to meet the efficiency requirements without substantial outdoor efficiency measures
- Do outdoor measures meet checklist's goals?
  - Universal applicability
  - Minimal incremental cost
  - Focus on quality-performance

# What About Hot Water Distribution?

## Current Requirement

1. Systems must be designed to store no more than 0.5 gallons of water between the source and furthest use of DHW
2. Systems are tested to a 10° F temperature rise in 0.6 gallons
3. Recirculation systems must be demand initiated

- DHW can be used to meet the efficiency target
- *Unless* you're willing to place size limits on homes, it is difficult to meet the checklist's goals for
  - Universal applicability
  - Minimal incremental cost
- Changes to code are starting to outpace the WaterSense requirement

# Why a Percent Reduction/Performance Measure?

- Focuses on WaterSense's primary objective: saving water
- Increases flexibility and adapts to regional differences
  - Allows builder to choose which technologies or practices best suit their process, market, and style
- Aligns impacts of specific measures with their quantifiable impacts
- Easily translates to water and cost savings
- Scales with climate
  - Reference home is consistent across all states/jurisdictions

# Why 30 Percent?

- Maintains—or in some cases, increases—water savings compared to current requirements
- Establishes a level that, while rigorous, is still universally achievable in all markets and climates
  - Will apply even in markets with more efficient code requirements
- Provides a balance of indoor and outdoor measures that scale appropriately with climate

# How do I Measure 30%?

- EPA allows HCOs to develop their own method of measuring water use
  - EPA retains the role of reviewing/approving each HCO's method
  - This evaluation protocol is available on our website
- Currently, EPA has approved RESNET's HERSh2o
- Goal is to efficiently work within the existing framework of potential HCOs while;
  - Ensuring certified homes actually meet the stated efficiency threshold
  - Protecting the integrity of the WaterSense program and label

# Version 2.0 Pilot

- Multiple parties were anxious to start using V2
  - Provides an opportunity for proof of concept
- The current administration was interested in exploring consumer satisfaction with different products and technologies
  - The building industry plays an important role in market for plumbing products
  - Builders pay very close attention to homeowner satisfaction (which impacts their reputation and sales) by monitoring call backs (which are a significant post-delivery expense) and resolution activities
- EPA is working with current and potential HCOs to ensure a seamless transition from the pilot to final release of V2

# RESNET V2 Pilot



First WaterSense labeled homes under V2 by KB Home

- Allows the label to be earned by single-family homes that meet the draft V2 checklist and have a HERSH20 score of 70 or less
- Originally introduced in Las Vegas
  - Helps to fill a void left by the recently sunset WaterSmart Homes program
  - RESNET can expand the pilot to other areas at their discretion with proper notice to EPA
- Open to participation from future HCOs

# Pilot Feedback

- Programmatic feedback on V2
  - Ease of implementation, clarity of requirements, etc.
- Anonymized data that could indicate consumer satisfaction levels
  - Correlation of call backs to specific technologies or design strategies
  - Meant to access information that primarily already exists, not create new collection efforts



# Using HERSh2o for WaterSense V2

Project Information Sheet: (version 1.2.05)			
Input cells highlighted in light yellow are mandatory entries.		Input cells highlighted in light orange are optional entries.	
<b>Location</b>	Excel_Version_No	1.2.05	<b>Comments/Instructions (in blue font):</b>
Street_Address	Oristano Ln		Enter address number and street name
Unit_ID			Enter unit identification if townhouses with same street address
City	Henderson		Enter name of nearest City where project is located
State	NV		Enter two-letter postal code for State
Zip_Code	97231		Enter valid 5 digit U.S. postal zip code
TMY_State	Oregon		<input type="button" value="Import XML"/> <input type="button" value="Export As XML"/>
TMY_Weather_Station	Portland/Hillsboro		
<b>Providers</b>			
Builder_Name	Joe Builder		Enter the builder of record
Rater_Name	Joe Rater		Enter the name of the Rater certified to perform HERS H2O Ratings
Rater_RTIN	9876543		Enter the certified Rater's RTIN (unique ID number assigned by RESNET)
Rater_e-mail	jrater@ratertown.com		Enter certified Rater's e-mail address
Site_Rating_Date	2/5/2020		Enter date H2O Rating Site visit was completed
Rating_Field_Inspector_ID_No	RO9668		Enter Rating Field Inspector Identification Number if applicable
QA_Provider_Name	QA Associates		Enter the name of the Rater's Quality Assurance Provider
QA_Provider_ID	9999-999		Enter the QA Provider's unique ID number

- Long term the plan is to embed the calculations in rating software
- Current spreadsheet includes WaterSense checklist and export function to the RESNET registry
- Based on pilot feedback, HERSh2o rating AND WaterSense certification adds 30-60 minutes to existing rating

# Getting to 30



3 bedroom  
2 bath  
2,400 ft<sup>2</sup>  
10,000 ft<sup>2</sup> lot



# San Bernardino, CA

## Reference Home

	Indoor	Outdoor
Water Use (kgal/year)	48.5	126.7
Rating	100	

Key influences on this home:

- Hot and dry
- Year-round irrigation
- Large lot size



# San Bernardino, CA

	Reference Home		Mandatory Checklist	
	Indoor	Outdoor	Indoor	Outdoor
Water Use (kgal/year)	48.5	126.7	44.1	126.7
Rating	100		98	

Mandatory checklist includes:

- WaterSense labeled plumbing products (toilets, showerheads, bathroom faucets)
- Basic leak detection

# San Bernardino, CA

	Reference Home		Mandatory Checklist		V1.2 Indoor Requirements	
	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
Water Use (kgal/year)	48.5	126.7	44.1	126.7	33.6	126.7
Rating	100		98		91	

Major version 1.2 indoor requirements:

- ENERGY STAR certified clotheswasher and dishwasher
- On demand hot water recirculation
  - System must be designed to store no more than 0.5 gallons of water
- Additional product and verification requirements not included here



# San Bernardino, CA

	Reference Home		Mandatory Checklist		V1.2 Indoor Requirements		V1.2 Indoor & Outdoor Requirements	
	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
Water Use (kgal/year)	48.5	126.7	44.1	126.7	33.6	126.7	33.6	96
Rating	100		98		91		77	

Major Version 1.2 outdoor requirements:

- WaterSense labeled controller
- Professional irrigation audit/commissioning
- Would also require the WaterSense Water Budget Tool, not included here



# San Bernardino, CA

	Reference Home		Mandatory Checklist		V1.2 Indoor Requirements		V1.2 Indoor & Outdoor Requirements		WaterSense V2 Certification	
	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
Water Use (kgal/year)	48.5	126.7	44.1	126.7	33.6	126.7	33.6	96	36.9	82.8
Rating	100		98		91		77		68	

Achieves WaterSense certification through:

- Mandatory checklist
- ENERGY STAR certified clotheswasher and dishwasher
  - No hot water recirculation
- Outdoor water use improvements
  - Reducing the irrigated area (the part of the landscape that requires supplemental irrigation) by 20%
  - WaterSense labeled controller
  - Professional irrigation audit/commissioning
  - No Water Budget

# Portland, ME

## Reference Home

	Indoor	Outdoor
Water Use (kgal/year)	48.5	28.1
Rating	100	

Key influences on this home:

- Cool and wet climate
- Limited irrigation despite large lot size
- Cool climate increases the ratio of hot to cold water used



# Portland, ME

	Reference Home		Mandatory Checklist	
	Indoor	Outdoor	Indoor	Outdoor
Water Use (kgal/year)	48.5	28.1	44.1	28.1
Rating	100		95	

Mandatory checklist includes:

- WaterSense labeled plumbing products (toilets, showerheads, bathroom faucets)
- Basic leak detection

# Portland, ME

	Reference Home		Mandatory Checklist		V1.2 Indoor Requirements	
	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
Water Use (kgal/year)	48.5	28.1	44.1	28.1	33.6	28.1
Rating	100		95		81	

Major version 1.2 indoor requirements:

- ENERGY STAR certified clotheswasher and dishwasher
- On demand hot water recirculation
  - System must be designed to store no more than 0.5 gallons of water
- Additional product and verification requirements not included here

# Portland, ME

	Reference Home		Mandatory Checklist		V1.2 Indoor Requirements		V1.2 Indoor & Outdoor Requirements	
	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
Water Use (kgal/year)	48.5	28.1	44.1	28.1	33.6	28.1	33.6	22.6
Rating	100		95		81		73	

Major Version 1.2 outdoor requirements:

- WaterSense labeled controller
- Professional irrigation audit/commissioning
- Would also require the WaterSense Water Budget Tool, not included here



# Portland, ME

	Reference Home		Mandatory Checklist		V1.2 Indoor Requirements		V1.2 Indoor & Outdoor Requirements		WaterSense V2 Certification	
	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
Water Use (kgal/year)	48.5	28.1	44.1	28.1	33.6	28.1	33.6	22.6	28.5	23.7
Rating	100		95		81		73		68	

Achieves WaterSense certification through:

- Mandatory checklist
  - Further reducing plumbing product efficient (1 GPF toilets, 1.5 GPM showerheads, 1.5 GPM faucets)
- ENERGY STAR certified clotheswasher and dishwasher
- Hot water recirculation
- WaterSense labeled irrigation controller
  - No professional irrigation audit/commissioning or Water Budget
  - No reduction in irrigated area

# What Version 2 Will Mean for You

- Hot water distribution requirement
  - No longer mandatory but can be used to meet efficiency target
- WaterSense water budget tool
  - No longer mandatory but landscape and irrigation technology can be used to meet efficiency target
- Certified irrigation professional
  - No longer mandatory but can be used to receive an audit/commissioning credit toward the efficiency target
- Better ability to quantify impacts of specific measures and the labeled home overall

# Overview of Potential Benefits

- Reduce prescriptive requirements
  - Version 2.0 draft requires a single, short, easily achievable checklist
  - Version 1.2 requires multiple checklists and several requirements where difficulty and impact varied greatly by region and market
- Focus on primary goal of saving water
  - Efficiency requirement focuses on quantifiable water savings
- Allow for easier implementation and certification by using the organization and processes of existing HCOs

we build



# Questions?

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