Response to Public Comments Received on the Draft *Version 1.1 WaterSense® New Home Specification*

August 30, 2012

Background

This document provides WaterSense's responses to public comments received on the March 22, 2012, *Draft Version 1.1 WaterSense New Home Specification*. For purposes of this document, the comments are summarized. The actual comments can be viewed in their entirety at http://www.epa.gov/watersense/new_homes/homes_final.html.

WaterSense thanks all commenters for taking the time to provide feedback on the proposed modifications presented in the *Draft Version 1.1 WaterSense New Home Specification.* Although many commenters provided suggestions related to specification components not addressed in the modifications, WaterSense is only considering comments related to the modifications presented at this time. Comments considered to be outside of the scope of this modification will be taken into consideration at a later date when those components of the specification are open for revision.

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I. Comments on Section 1.0 – Scope and Objective

Specification Scope for Multi-Family Buildings

a. One commenter suggested that the specification should not require multi-family buildings to be below a certain height nor require mechanical equipment for individual units. Instead, the commenter suggested the specification remove any reference to building stories and state units in multi-family buildings can receive the label so long as they meet all of the specification's performance criteria.

   Response: WaterSense has found that buildings with large-scale commercial-style heating, cooling, and hot water systems have potential uses of water that would not be captured by the requirements of the specification. However, WaterSense agrees with the commenter that the scope as currently written could exclude buildings that utilize alternative energy technologies (such as geothermal or solar) to heat water, and that the current hot water delivery criteria are capable of identifying inefficient uses of water in these instances. In addition, WaterSense wishes to maintain consistency with ENERGY STAR,® which allows for the labeling of buildings that are capable of providing 50 percent of their hot water use through solar heating under their homes program (as opposed to the mid and high-rise program). Therefore, WaterSense has clarified the scope of this modification to allow for the inclusion of multi-family buildings using alternative renewable energy sources to heat water that are able to provide 50 percent of the hot water through this alternative source.

b. Five commenters supported extending the WaterSense label to multi-family residential buildings.

c. One commenter did not support the addition of multi-family new homes without additional caveats for system flow rates, control capabilities, and higher design and construction criteria. The commenter indicated that the requirements for single-family new homes are not transferrable to multi-family homes, particularly with regard to the irrigation systems.

   Response to comments "b" and "c" above: WaterSense appreciates these comments. To clarify, system flow rates, control capabilities, and design and construction standards are governed by local codes. As stated in the specification, WaterSense does not intend to contravene state or local codes and requirements. Therefore, all homes, landscapes, and irrigation systems shall be expected to meet all applicable national, state, and local regulations.

II. Comments on Section 3.0 – Indoor Water-Efficiency Criteria

Leaks

a. Two commenters suggested that the specification include a requirement for the installation of leak detection devices. The commenters indicated that leak testing in new home construction is a snapshot in time and provides no assurance that leaks will not develop later on. The commenters also cited statistics suggesting that 14 percent of water consumption in U.S. homes is attributed to plumbing leaks.

One of the commenters suggested the following revision be made to Section 3.1:

> "Leaks – There shall be no detected leaks from any water-using fixtures, appliances, or equipment. Compliance prior to occupancy shall be verified through pressure-loss testing and visual inspection. Continuous, real-time monitoring for leaks after occupancy shall be enabled by the provision of a flow-sensing, leak detection system capable of detecting leaks beginning at a flow rate of 2 ounces (60 ml) per minute or less per minute. Beginning on XX.XX.201X, deployed leak detection systems must be able to stop any detected leak by automatically turning off the water."

Response: WaterSense did not propose any changes to the specification with respect to leaks or leak detection; thus, this comment is beyond the scope of this modification. However, WaterSense will continue to consider ways to improve leak prevention in future revisions. In addition, WaterSense continues to support and encourage ongoing leak detection through many of its outreach activities, including Fix a Leak Week each March.

Service Pressure

b. One commenter indicated that static service pressure of 60 psi (pounds per square inch) is not adequate for large commercial irrigation systems. The commenter suggested that the static water pressure be a minimum of 75 psi as supplied to the dedicated water meter for the irrigation system. Further, the commenter indicated that municipalities should provide assurance that this pressure at construction will be maintained for the life of the project, or booster pumps will be provided at no cost to the current multi-family development owners.

Response: As stated in Section 3.1 of the specification, the 60 psi limitation is the maximum indoor water pressure. This pressure requirement is not applicable to outdoor irrigation systems. As specified in the *Guidelines for Irrigation Audits on WaterSense Labeled New Homes*, irrigation auditors are required to verify that the operating pressure of the irrigation system is within 10 percent of the manufacturer's recommended operating pressure.

Hot Water Delivery Systems

c. One commenter supported the revisions to Section 3.3, indicating that the revised text provides clarity on which types of systems are acceptable.

Response: WaterSense appreciates this support and agrees that this modification will clarify which types of hot water distribution systems are acceptable.

d. One commenter suggested that the distance from the water heater to the fixture, which allows for the storage of no more than 0.5 gallons of water, is too long. The commenter indicated that since every branch line from a loop or recirculation system will be not more than 0.5 inches in size, this would represent about 50 feet of pipe. In addition, the branch line is usually never insulated so the time delay will not be acceptable to the user. The commenter indicated that this will cause the user to turn on the water and let it run until long after the hot water arrives. The commenter suggested that WaterSense review options regarding the 50-foot distance.

   Response: WaterSense did not propose any changes to the specification with respect to hot water distribution system storage volume requirements. Therefore, this comment is beyond the scope of this modification. To clarify, the hot water distribution criteria in the specification are significantly more stringent than current industry practice but are flexible enough to allow for a range of systems with and without the use of recirculation pumps. WaterSense appreciates these comments and will take them into consideration at a later date when specification components related to hot water distribution system storage volume requirements are open for revision.

Urinals

e. One commenter suggested that the specification be written to allow waterless urinals. The commenter indicated that the current language in Section 3.4.2 could be interpreted to preclude the installation of waterless urinals, which would be inappropriate and unjustified. The commenter suggested the following revision be made to Section 3.4.2:

   > "Urinals – All <u>flushing</u> urinals, if installed, shall be WaterSense labeled flushing urinals."

   Response: WaterSense agrees with the proposed change and has clarified the language.

Indoor Water Fixtures

f. One commenter suggested that the specification encourage permanent low-flow fixtures, including in-line conservation devices such as flow-control valves or tamper-resistant aerators. The commenter indicated that screw-on aerators are easy to dismantle or switch out once installed.

   Response: WaterSense did not propose any changes to the specification with respect to faucets; thus, this comment is beyond the scope of this modification. However, WaterSense appreciates these comments and will take them into consideration at a later date when specification components related to faucets are open for revision.

Appliances

g. One commenter suggested that Section 3.7 contains unnecessarily broad language with respect to appliance "upgrades" through the homebuilder. The commenter stated that any

appliance sold through WaterSense builders should be ENERGY STAR labeled regardless of whether it is an upgrade; therefore, it is unnecessary to include the term "as upgrades." The commenter suggested the following revision be made to Section 3.7: "Appliances – If the following types of appliances are financed, installed, or sold ~~as upgrades~~ through the homebuilder, they shall meet these criteria:"

Response: WaterSense did not propose any changes to the specification with respect to appliances; thus, this comment is beyond the scope of this modification. However, WaterSense appreciates these comments and will take them into consideration at a later date when specification components related to appliances are open for revision.

h. One commenter suggested that Section 3.7.2 include a link to the ENERGY STAR specification for commercial clothes washers, since home-grade clothes washers are not generally sturdy enough to work well in multi-family, common-area laundry rooms. The commenter provided the following link: www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=CCW.

Response: WaterSense agrees with this comment and has included this link.

Interior Flow Rates and Calculations

i. One commenter suggested that WaterSense make the specification consistent with national and state green building codes. According to the commenter, green codes such as the California Green Building Standards Code and the International Green Construction Code have similar but different flow rate thresholds for prescriptive compliance. The commenter suggested that WaterSense consider these thresholds and establish performance metrics that are consistent with these new minimum thresholds.

Response: Other than requiring WaterSense labeled showerheads, WaterSense did not propose any changes to the specification with respect to the flow rates of indoor plumbing products and appliances. Therefore, this comment is beyond the scope of this modification. However, WaterSense appreciates these comments and will take them into consideration at a later date when specification components related to flow rates of indoor plumbing products and appliances are open for revision.

Evaporative Cooling Systems

j. One commenter suggested that the specification clarify that buildings using cooling towers to support cooling systems that are servicing living areas are not eligible to earn the WaterSense label. According to the commenter, the specification appears to assume that an evaporative cooler would be a swamp cooler. The commenter stated that, while this is a reasonable assumption for single-family homes, it is possible for multi-family buildings to include other types of evaporative coolers such as cooling towers for which there are no defined water-efficiency requirements. The commenter suggested the following language be added to Section 3.8.1:

> "Residential areas served by cooling towers are not applicable for this specification."

Response: To clarify, central heating and cooling systems are allowed in buildings three stories or less. WaterSense has also clarified that the evaporative cooling criteria in the specification apply to evaporative coolers designed for individual units/houses.

Metering

k. One commenter suggested that Section 3.9 include a requirement that water metering technology be used in single-family homes, in addition to multi-family buildings. According to the commenter, water metering technology is an important tool for training or re-enforcing to the end-user the goals of measurable water use reduction. The commenter also indicated that the additional cost to install water metering equipment is negligible compared to the cost of construction. The commenter suggested the following language be added to Section 3.9:

> "Metering – All WaterSense new home projects shall include metering technology capable of tracking water use of the single-family home or in the case of multi-family buildings, individual domiciles, and shall include appurtenances that make the information available to the owner or resident via display, remote display, or other means."

Response: WaterSense did not propose any changes to the specification with respect to the metering requirements for single-family new homes; thus, this comment is beyond the scope of this modification.

l. One commenter indicated that meters have a variable performance record; therefore, an expected level of accuracy should be included in the specification. The commenter suggested that that the following revision be made to Section 3.9:

> "Metering – In multi-family buildings, each unit must be individually metered or equipped with an alternate technology capable of accurately tracking water use. Any measurement technology or meter must meet or exceed American Water Works Association (AWWA) metering accuracy standard C700 or the AWWA standard for the type of meter used. ~~and making the information available to r~~ Residents of the individual unit must be able to read the meter without requesting access from the manager or building owner."

m. One commenter suggested that Section 3.9 metering requirements include leak detection and reporting, citing statistics suggesting that 14 percent of water consumption in U.S. homes is attributed to plumbing leaks. The commenter also expressed that individual apartment occupants that are not billed separately for water based on their consumption have little incentive to conserve water, and that leak detection will result in positive action on the part of the occupant and building owner to resolve leaks in a timely fashion. The commenter suggested that the following language be added to Section 3.9:

> "Metering – Each unit must be individually metered or equipped with an alternate technology capable of tracking water use and making information available to the homeowner. Real-time monitoring for leaks shall be enabled by the provision of leak detection hardware capable of detecting leaks beginning at a flow rate of 2

> ounces (60 ml) per minute or less. Beginning on XXXXXX XX, 201X, deployed leak detection systems must be able to stop any detected leaks by automatically turning off the water."

n. One commenter supported the proposed requirement for multi-family buildings to install metering for individual units; however, the commenter indicated the resulting data should be used for recovering water and sewer utility charges from building occupants, rather than simply collecting data for occupants' "information." The commenter indicated that allocating the cost of water service to individual dwelling units incentivizes residents to undertake responsible water use, citing a 2004 National Multiple Family Submetering Allocation Billing Program study sponsored by EPA and 13 public water suppliers that demonstrated that submetering reduced indoor water consumption by about 16 percent. The commenter suggested deleting the term "homeowner" before the period at the end of section 3.9 and adding the following language:

> "residents of the individual unit and to the manager of the building or the manager's designee for recovering water and sewer utility charges from building occupants based upon measured use."

o. One commenter expressed concern over specifically recognizing the difference between metering and submetering, and suggested that the specification specifically allow for submetering. According to the commenter, the two terms are not synonymous. Submetering systems allow a landlord, property management firm, condominium association, homeowners association, or other multi-tenant property to bill tenants for individually measured utility usage. Individual utility meters, on the other hand, are owned and maintained by utility companies. The commenter suggested that individual metering for multi-family building units would be cost-prohibitive.

Response to comments "l" through "o" above: WaterSense appreciates these comments and suggestions on the metering of multi-family homes and agrees that data on water consumption can encourage water conservation. While WaterSense has required that multi-family buildings be capable of tracking the water use for each unit, WaterSense does not intend to specify how the "metering" is to be conducted, nor how the water use data are to be used. The specification is an "as built" specification, and WaterSense does not have the ability to monitor water use or building practices after homes are sold and/or occupied. Builders always have the option to go beyond the WaterSense criteria by adding leak detection equipment and are encouraged to do so. WaterSense has clarified that submetering, one popular technology that can help meet this requirement, is allowed under the specification. In addition, WaterSense has added information about metering and meter-alternative technologies to the *Resource Manual for Building WaterSense Labeled New Homes.*

New Addition – Furnace-Mounted Humidifiers

p. One commenter suggested that the specification address the use of furnace-mounted humidifiers. According to the commenter, these humidifiers are relatively common fixtures in homes across North America and can waste as much as 100 to 200 liters of water per day. The commenter suggested the inclusion of language specifying that furnace-mounted

humidifiers must not discharge water continuously to sewer drains during operation; that water use must be minimized when not used directly for humidification; and that all other water must be recycled or captured for reuse if not contributing directly to humidification. The commenter suggested the following language:

> "A furnace-mounted humidifier must not flush to sewer continuously when in operation. Water not used for providing humidity directly to the home must be minimized for the daily cleaning of the unit. All other water which is not contributing to humidity in the home must be recycled through the unit or captured for reuse."

q. One commenter suggested that WaterSense develop a specification for furnace-mounted humidifiers. This potential specification could be inserted into Section 3.8 of the new homes specification. The commenter indicated that 400,000 units were installed annually over the past five years. These humidifiers discharge 96 gallons of water per day that is not utilized for humidification, the commenter said. The commenter suggested that WaterSense consider the criteria for furnace-mounted humidifiers in Canada, which provides rebates for products that send 10 to 15 liters per day to the drain and a more significant rebate for products that send less than 10 liters per day to the drain.

Response to comments "p" and "q" above: Adding requirements for furnace-mounted humidifiers is beyond the scope of this modification. However, WaterSense has added furnace-mounted humidifiers to its list of products to be considered in the future for label eligibility.

New Addition – Sump Pumps

r. One commenter suggested that the specification address the use of water-powered sump pumps. According to the commenter, these pumps are used as backups during power outages and can draw up to 600 gallons per hour of fresh drinking water. The commenter suggested the inclusion of language specifying that water-powered or water-driven sump pumps should not be used, neither as a primary nor backup sump pump.

Response: Adding requirements for sump pumps is beyond the scope of this modification.

III. Comments on Section 4.0 – Outdoor Water-Efficiency Criteria

Landscaped Area

a. One commenter suggested that the landscape criteria apply to the back yard as well as the front yard. The commenter suggested that this change would help the requirement for criteria to apply to all areas improved upon by the builder.

b. Two commenters supported the criteria that the landscape requirements apply to all sections of the landscape improved upon by the builder, including common areas of multi-family buildings, provided all of the proposed changes in the new home specification are incorporated. Specifically, the commenters noted that the WaterSense Water Budget Tool is an appropriate option to use to meet the landscape design criteria.

Response to all of the above: WaterSense thanks the commenters for their comments on the landscaped area and agrees that the WaterSense Water Budget Tool is an appropriate option for meeting the landscape design criteria. WaterSense did not propose any changes to the specification with respect to the landscapable area for single-family homes; thus, the comment to apply the criteria to the back yard is beyond the scope of this modification.

Recognition for New Homes Prior to Labeling

c. One commenter suggested adding a third paragraph to Section 4.1 to introduce a procedure for identifying new homes currently under construction but that have not yet received the WaterSense label. According to the commenter, such a provision with corresponding guidelines would enable the marketing/advertising of new homes intended to be WaterSense labeled, without negative impacts upon the WaterSense program. The commenter suggested the following language be added as a third paragraph under Section 4.1:

> "Projects having not yet earned the WaterSense label may use designated language and symbols illustrating the goal to be WaterSense labeled…"

Response: This comment is beyond the scope of this modification. However, WaterSense will continue working with its partners to develop approaches for advertising homes under construction that are seeking the WaterSense label.

Soil Types, Amendments, and Preparations

d. One commenter suggested that the specification should add a credit for the use of post-consumer compost as a soil amendment. The commenter suggested the following language be added to Section 4.1:

> "In planting areas, soil shall be amended with 2 inches of compost or to 5% organic matter content. Compost shall be incorporated into the top 8-12 inches of soil. Compost must contain at least 25% post-consumer recycled content."

e. One commenter suggested that future specification revisions include basic soil composition or improvement or preparation requirements, since soil conditions can affect the frequency with which supplemental water must be applied to plants. The commenter indicated that installing landscape on compacted or poor-quality soil conditions is practiced for expedience and cost savings. The commenter also noted that such a requirement may add measurable cost to new home construction, but is defensible and arguably expected by the consuming public.

Response to comments "d" and "e" above: WaterSense did not propose any changes to the specification with respect to soil composition or amendments; thus, these comments are beyond the scope of this modification.

Landscape Design

f. Seven commenters supported the removal of the 40 percent turfgrass limitation in favor of a workable WaterSense Water Budget Tool approach.

g. One commenter strongly objected to the removal of the 40 percent turfgrass limitation. The commenter stated that the WaterSense program needs more time to determine the best approach, since there are a limited number of WaterSense labeled new homes to date. The commenter also stated that, although the WaterSense Water Budget Tool has improved, it is still far more complicated to use than a simple percentage calculation of landscapable areas devoted to irrigated turf. The commenter suggested retaining the language of Section 4.1.1.

h. One commenter was neutral about removing the 40 percent turfgrass limitation, but suggested taking great care in considering exclusive use of the WaterSense Water Budget Tool. The commenter stated that there is a lack of clear definitions of plantings' respective water use and that this ambiguity could compromise water savings. Furthermore, the commenter indicated that scientifically determined crop coefficients currently do not exist for most plantings, meaning the majority of determinations of plant water use are subjective. As an example, the commenter stated that turfgrass can currently be classified as a low water-using plant using the WaterSense Water Budget Tool despite a lack of evidence supporting the use of true low water-using grasses as turfgrass. The commenter suggested the following language be added to Section 4.1.1:

> "Design of the landscaped area shall be developed using the WaterSense Water Budget Tool. The tool and WaterSense Water Budget Approach can be found at www.epa.gov/watersense/water_budget. For single-family homes, pools, spas, and other water features shall be treated as turfgrass. Under no circumstances shall turfgrass be classified as a low water-using plant unless third-party testing data demonstrating a particular variety has a summer crop coefficient of 0.3 or less is submitted to and approved for such use by WaterSense. No cool-season grasses shall be classified as other than high water-using unless third-party testing data demonstrating a particular variety has a summer crop coefficient of 0.7 or less is submitted to and approved for such use by WaterSense."

i. One commenter recommended an alternative option for estimating landscapable areas containing turfgrass, pools, spas, and other water features. This alternative option would be based on an estimated supplemental irrigation demand (ESID), which is the net difference between historic monthly evapotranspiration rates and historic average precipitation. The estimated ESID would be used to determine the landscapable area. Up to 80 percent of the landscapable area would be provided for ESIDs below 60 percent, and 40 percent of the landscapable area would be provided for ESIDs at or above 60 percent. Specifically, the commenter suggested the following language be added to Section 4.1.1:

> "Simplified landscape design option – High demand areas' allowance shall be based upon the estimated supplemental irrigation demand (ESID) percentage. ESID is the net difference between historic monthly evapotranspiration rates in the region and historic average precipitation and shall be calculated using the High Demand Areas Allowance Table. Where ESID percentage is 60 or more, the property shall be allowed to have up to 40 percent of the installed landscape areas as high demand areas. In no cases shall the property have more than 80 percent of the installed landscape areas as High Demand Areas."

High Demand Areas Allowance Table

Month	Historic Evapotranspiration Rate (HETo) or (inches/month or mm/month)	Normal Precipitation (NP) (inches/month or mm/month)	Estimated Supplemental Irrigation Demand (ESID = (HETo) (inches/month or mm/month)
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Sum Columns			

ESID Percentage – (Sum ESID/HETo or NPE)

High Demand Areas Allowance (1-ESID Percentage) include areas with irrigated turfgrass, pools, spas, and other water features.

j. One commenter urged WaterSense to brief other departments and contacts in EPA and the Interagency Sustainable Working Group about the rationale for considering the removal of the 40 percent turfgrass limitation from the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings Guidance*.

Response to all of the above: Since the release of the *2009 WaterSense Single-Family New Home Specification*, WaterSense has educated many stakeholders, including prospective builders, on the proper use of the WaterSense Water Budget Tool. As a result, the majority of WaterSense labeled homes to date have used the Water Budget Tool to meet the outdoor requirements of the specification. To the extent that the turfgrass limitation has been used, it is only in areas where local or state laws and ordinances (or sometimes other local restrictions) have been the driving force behind choices in landscape design and installation. WaterSense is confident that its Water Budget Tool is a viable alternative in these circumstances and has undertaken efforts to educate builders, providers, and inspectors on the best way to utilize the Water Budget Tool in these instances. WaterSense has also recently developed an online version of the Water Budget Tool, which substantially upgrades the user interface. While the new online application does not change the underlying equations, it does make the tool far more user-friendly and provides improved guidance on how the Water Budget Tool should be used. If over time there is a high demand for a simplified approach for designing landscapes, WaterSense will revisit the options presented in these comments.

Inclusion of Pools, Spas, and Other Water Features in Landscaped Design

k. One commenter suggested that WaterSense remove the prescription that pools, spas, and other water features be treated as turfgrass. The commenter indicated that pools, spas, and water features are inanimate amenities separate from the living landscape and should be kept separate. They have no bearing on the plant selection or corresponding plant water use and should not be included in the prescription of calculations affecting the plant pallet.

l. Two commenters suggested that pools, spas, and other water features not be exempted from inclusion in the landscape evapotranspiration (ET) water budget calculation for multi-family homes. The commenters indicated that, considering evaporation and maintenance practices, these features use significant amounts of water, even with the requirement for pool covers. One commenter suggested the following revision be made to the language in Section 4.1.1:

> "4.1.1 Landscape design – Design of the landscaped area shall be developed using the WaterSense Water Budget Tool. The tool and *WaterSense Water Budget Approach* can be found at www.epa.gov/watersense/water_budget. ~~for single-family homes, p~~Pools, spas, and other water features shall be treated as turfgrass.
>
> For multi-family buildings, common-use pools/spas and all areas that are reserved for private use of a particular residence/unit (such as areas deeded, identified as limited-use common elements, or otherwise restricted by building management) are excluded from the landscapable area. Additional criteria apply to pools/spas in section 4.1.4."

The other commenter suggested following revision be made to Section 4.1.1:

> "4.1.1 Landscape design – Design of the landscaped area shall be developed using the *WaterSense Water Budget Tool*. The tool and *WaterSense Water Budget Approach* can be found at www.epa.gov/watersense/water_budget, www.epa.gov/watersense/nhspecs/water_budget_tool.html, and www.epa.gov/watersense/nhspecs/water_budget_approach.html. EPA has developed two options for designing the landscape of WaterSense labeled new homes; builders shall choose and implement one of these options. ~~For single-family homes, p~~Pools, spas, and other water features shall be treated as turfgrass under both options.
>
> ~~For multi-family buildings, common-use pools/spas and all areas that are reserved for private use of a particular residence/unit (such as areas deeded, identified as limited-use common elements, or otherwise restricted by building management) are excluded from the landscapable area. Additional criteria apply to pools/spas in section 4.1.4."~~

m. Two commenters supported the exclusion of common-use pools/spas and other areas reserved for private use from the landscape design criteria for multi-family homes. The commenters indicated that pools and spas installed in multi-family building settings are designed and used in different ways than those installed in single-family homes.

Response to comments "k" through "m" above: WaterSense agrees with the commenters who stated that pools in multi-family building complexes are designed and used in different ways than those installed in single-family homes and has decided to continue to exclude common-use pools/spas and other areas reserved for the private use of a particular residence/unit from the landscapable area. Multi-family home pools are often larger, and therefore afford themselves to specific criteria which, when implemented, can save a significant amount of water from being wasted. While the area of a common-use pool in a multi-family building is not being included in the landscapable area, builders are being required to include multiple technologies designed to minimize their water losses and ensure that they are able to operate in an efficient manner. Comments on the treatment of pools for single-family homes are out of the scope of this modification.

Water Budget Tool Name and Format

n. Two commenters agreed with incorporating a Web-based version of the WaterSense Water Budget Tool as part of the specification.

o. Three commenters suggested renaming the WaterSense Water Budget Tool the "WaterSense Landscape Design Tool." The commenters noted that, although the tool sets an allotment of water to a given landscape, it is then used as a landscape design tool, setting the amount of turfgrass allowed to be installed on the landscape. The current tool is also required regardless of whether an irrigation system is installed.

Response to comments "n" and "o" above: WaterSense has determined that the WaterSense Water Budget Tool should not be renamed, since many stakeholders including WaterSense partners are familiar with and use the existing term.

Water Budget Tool Comments Related to the Proposed Specification Modifications

p. Two commenters suggested that the WaterSense Water Budget Tool needs refinement before it can meet the intended goals. One of the commenters indicated that the current irrigation allowance provided by the tool would significantly exceed what the jurisdiction would consider appropriate for the Phoenix, Arizona area. The commenter suggested establishing an agreed-upon method of addressing the difference between plant water requirements and irrigation requirements caused by irrigation system inefficiencies. This would allow locations with higher amounts of rainfall to be less restricted by plant material choices. In addition, the commenter suggested using the standardized version of the modified Penman-Monteith (FAO 56) equation adopted by the Irrigation Association to calculate evapotranspiration (ETo). The commenter suggested using an agreed-upon method of modifying sensor data to account for improperly sited weather stations.

q. Two commenters suggested that the WaterSense Water Budget Tool clarify that builders of multi-family new homes do not have to input information for common-use pools and spas.

r. One commenter supported EPA's involvement in the Landscape Water Availability Standard being developed by the American Society of Agricultural and Biological Engineers (ASABE) to develop a well-supported and comprehensive standard and to educate key stakeholders on the benefits of a water budget and the use of such a tool.

s. One commenter noted that the WaterSense Water Budget Tool cannot accommodate mixed turf seeding. According to the commenter, mixed seeding practices can yield occasions in which landscapes use low water-using turfgrass in the summer and high water-using turfgrass in the winter. The commenter also noted that even when turfgrass selection input was set to "high water use," in an attempt to account for higher water consumption caused by mixed seeding, the calculator allowed for 56 percent of a landscapable area in the Phoenix, Arizona, region to be turfgrass.

t. One commenter stated that the Water Budget Tool would be more effective if there were reliable data classifying the water demands of landscape plant materials. The commenter also indicated that lists classifying plant water needs are subjective and the availability of such lists varies. To address this, the commenter suggested that WaterSense encourage the development of reliable regional plant lists designating plant materials as low, medium, and high water-using.

u. One commenter believed that WaterSense should establish an agreed-upon method of addressing differences between plant water requirements and irrigation water requirements accounting for irrigation system inefficiencies. The commenter indicated that such a method must be tied to average local rainfall in order to increase the limitation on high water use plants in areas where most of the water will come from irrigation. The commenter also indicated that this approach would allow locations with greater average rainfalls to be less restricted in their plant material choices.

v. One commenter noted that, although the WaterSense Water Budget Tool is conservative, there appear to be cracks in its modeling. The commenter noted that the Water Budget Tool would fail at his residence, even though the residence has far below the 40 percent turf area. The commenter stated that even with high water management practices, the model requires that he redesign his landscape to meet the water budget.

w. One commenter stated that the WaterSense Water Budget Tool provides a window into landscape water demands and, with more development, can be applied universally. However, the commenter noted that the tool does not consider expanding canopies, nor does it consider that, for the budget to fit, significant agronomy and irrigation science will be required. This, in turn, demands monitoring and routine database analysis.

Response to comments "p" through "w" above: Although the WaterSense Water Budget Tool is designed to provide a relative measure of efficiency using best available data, it is not designed to be a predictive tool. Because WaterSense did not propose revisions to the WaterSense Water Budget Tool itself, changes to the underlying assumptions and data inputs are beyond the scope of this modification. However, WaterSense appreciates these comments and will take them into consideration at a later date if future revisions are made to its Water Budget Tool.

Slopes

x. One commenter expressed uncertainty about the rationale for requiring vegetation in steeply sloped areas, but indicated that it may be related to erosion control. The commenter suggested removing this requirement from the specification if the motivation is unrelated to erosion control. The commenter suggested the following revision be made to Section 4.1.2:

> "Slopes – Slopes in excess of 4 feet of horizontal run per 1 foot vertical rise (4:1) shall ~~be vegetated~~ be landscaped to prevent erosion. Vegetation plantings on such slopes must utilize erosion prevent techniques that will remain in place until vegetation is established."

y. One commenter suggested that, when discussing slopes (e.g., Sections 4.1.2 and 4.2.8), the specification define them as rise over run rather than run over rise, in order to be consistent with mathematical engineering conventions. Specifically, the commenter suggested the following revision be made to Section 4.1.2:

> "Slopes – Slopes in excess of ~~4 ft of horizontal run per 1 foot vertical rise (4:1)~~ 1 foot vertical rise per 4 feet horizontal run (1:4) shall be vegetated."

z. One commenter suggested that the specification insert language limiting turfgrass to slopes less than 10 feet of horizontal run per 1 foot of vertical rise (10:1). The commenter noted that turf on slopes results in water loss from overspray and increased runoff, which negatively affects water quality in addition to increasing irrigation requirements. The commenter suggested the following language be added to Section 4.1.2:

> "Turf shall be limited to slopes less than 10 feet of horizontal run per 1 foot of vertical rise (10:1)."

Response: WaterSense did not propose any changes to the specification with respect to slopes; thus, these comment are beyond the scope of this modification. However, WaterSense appreciates these comments and will take them into consideration at a later date when specification components related to slopes are open for revision.

Mulching

aa. One commenter suggested that the specification add a new mandatory measure for the application of at least 3 inches of mulch containing at least 75 percent post-consumer recycled content to non-turf areas of landscapes. Specifically, the commenter suggested the following language be added to Section 4.1.3:

> "A minimum three-inch (3") layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas or applications where mulch is contraindicated. Mulch must contain at least 75 percent post-consumer recycled content by volume or weight."

Response: WaterSense did not propose changes to the specification with respect to mulching; thus, this comment is beyond the scope of this modification. WaterSense notes, however, that the specification requires mulching on bare soil. WaterSense appreciates these comments and will take them into consideration at a later date when specification components related to mulching are open for revision.

Pools/Spas

bb. One commenter supported the revisions to Section 4.1.4 and stated that all proposed revisions are logical changes for common swimming pools.

Response: WaterSense appreciates this comment and agrees that the design criteria for pools installed in multi-family buildings are appropriate.

Ornamental Water Features

cc. One commenter found the term "beneficial use" in Section 4.1.5 to be vague and in its application to multi-family housing and suggested defining the term more specifically. The commenter suggested the following revision be made to Section 4.1.5:

> "Ornamental water features – Ornamental water features financed, installed, or sold ~~as upgrades~~ by the homebuilder must recirculate water ~~and serve a beneficial use~~. The total water use or surface area of outdoor ornamental water features on a multi-family building site shall not exceed a catch basin volume of 100 gallons or a 25-square-foot surface area. No automated make-up water connection may be allowed."

Response: WaterSense did not propose changes to the specification with respect to ornamental water features; thus, this comment is beyond the scope of this modification.

Chemical Injection Systems

dd. One commenter suggested the specification's landscape and turf irrigation designs include chemical injection systems, to allow for the application of chemicals that improve water efficiency. As an example, the commenter indicated that the use of injection systems to apply soil surfactants, which are typically used in golf courses, could reduce water use by up to 40 percent.

Response: WaterSense did not propose changes to the specification with respect to soil composition or amendments; thus, this comment is beyond the scope of this modification.

Alternative Water

ee. One commenter suggested that WaterSense should promote alternative water sources such as rainwater harvesting in Section 4.2 to reduce water consumption. According to the commenter, rainwater harvesting for clothes washing, irrigation, and/or water closets would further reduce potable water consumption and contribute toward meeting the 20 percent reduction goals of the program. The commenter also suggested that the specification should require irrigation systems to be supplied by rainwater harvesting systems and that they should not be connected to potable water supplies. The commenter suggested the following revision be made to Section 4.2:

> "4.2 Irrigation System – Irrigation systems are not required. Irrigation systems that are financed, installed, or sold through the homebuilder must meet the following criteria:
>
> Option 1: Irrigation systems are supplied by a rainwater harvesting system, and are not connected to the potable water supply,
>
> OR
>
> Option 2: Meet the following requirements

Response: Adding rainwater harvesting is beyond the scope of this modification.

Irrigation System Audit Waivers

ff. One commenter suggested that empowering inspectors to perform light irrigation system audits would be a better option than simply issuing inspection waivers. The commenter suggested the following revision be made to Section 4.2.1:

> "In the event there are no auditor companies available to perform audit, inspector will do a light audit of the system to ensure basic system performance."

Response: To clarify, WaterSense currently requires post-installation audits to be conducted on all irrigation systems whether or not a waiver is issued. The waiver is only for the requirement that the audit be performed by a WaterSense irrigation partner.

WaterSense did not propose changes to the specification with respect to the irrigation audit; thus, this comment is beyond the scope of this modification.

Distribution Uniformity

gg. One commenter suggested that, rather than measuring the distribution uniformity of the largest spray-irrigated area, Section 4.2.5 should require measuring all irrigation zones, including drip irrigation zones. The commenter suggested the following revision be made to Section 4.2.5:

> "Distribution uniformity – Overhead irrigation systems shall achieve a lower quarter distribution uniformity (DULQ) of 65 percent or greater. Drip irrigation systems shall achieve a low quarter emission uniformity of 85 percent or greater. ~~Distribution uniformity shall be measured on the largest spray-irrigated area during the post-installation audit.~~ All irrigation zones shall be audited.

Response: WaterSense did not propose changes to the specification with respect to the distribution uniformity requirements; thus, this comment is beyond the scope of this modification.

Irrigation Controllers

hh. Two commenters supported the new specification requirement for WaterSense labeled weather-based irrigation controllers and the inclusion of soil moisture sensor-based irrigation controllers, along with all of the capability requirements listed.

Response: WaterSense appreciates this support and agrees that the irrigation criteria for WaterSense labeled weather-based irrigation controllers and the inclusion of soil moisture sensor-based controllers are appropriate.

ii. One commenter indicated that WaterSense needs to further "ground truth" the requirements for irrigation controllers. The commenter suggested that EPA seems uninformed, because closed-loop control logic and technology can maintain active root zones within a justifiable range.

Response: WaterSense appreciates these comments and stands by its requirement for using WaterSense labeled weather-based irrigation controllers. The specification was developed through years of coordination with industry and other stakeholders. To clarify, all WaterSense labeled weather-based irrigation controllers are independently certified for efficiency and performance.

jj. Two commenters requested that WaterSense provide additional language to clarify that the requirement for a WaterSense labeled weather-based irrigation controller would be waived if a soil moisture sensor-based irrigation controller meeting all of the capabilities listed in the specification is installed with the irrigation system. The commenters suggested the following revision be made to Section 4.2.7:

> "Soil moisture sensor-~~based~~ equipped irrigation controllers may continue to be used provided they contain the following ~~features~~ capabilities in both smart and standard mode:"

Response: WaterSense agrees with this comment and has replaced the term "features" with "capabilities."

kk. Two commenters requested the inclusion of soil moisture sensor add-on and plug-in devices, in addition to stand-alone soil moisture sensor-based irrigation controllers.

Response: WaterSense appreciates these comments. To clarify, the specification does not preclude the use of soil moisture sensor add-on and plug-in devices, in addition to stand-alone soil moisture sensor-based irrigation controllers.

ll. Two commenters requested that WaterSense provide additional language clarifying that if a final specification for soil moisture sensor-based irrigation controllers is completed, the specification will only require a "WaterSense labeled irrigation controller."

Response: WaterSense appreciates these comments and will revisit the issue when a final specification for soil moisture sensor-based irrigation controllers is completed.

mm. One commenter suggested that the specification require all automatically controlled landscape irrigation systems to be capable of interfacing with rainfall sensing and interrupting technology. The commenter suggested the following language be added to Section 4.2:

> "The controller shall be capable of interfacing with rainfall sensing and interrupt technology and shall have such technology installed, tested and placed into service."

Response: WaterSense appreciates these comments. To clarify, the *WaterSense Specification for Weather-Based Irrigation Controllers* incorporates these capabilities.

nn. One commenter suggested that the specification require irrigation controllers capable of syringe-cycle programming in order to reduce runoff, maximize efficient utilization of water by plants, and enable flexibility in scheduling of irrigation events. The commenter suggested the following language be added to Section 4.2.:

> "The controller shall be capable of syringe-cycle irrigation water delivery, whether by station feature or by program feature or both."

Response: WaterSense appreciates these comments. To clarify, the *WaterSense Specification for Weather-Based Irrigation Controllers* incorporates these capabilities.

oo. One commenter suggested that the language in Section 4.2.7 should leave room for the adaptation of new irrigation controller technologies.

Response: WaterSense appreciates these comments and will consider the issue in future revisions to this specification.

Sprinkler Irrigation

pp. One commenter suggested revising the language in Section 4.2.8. The commenter indicated that in some regions the requirement for a pop-up height greater than 4 inches could be incorrectly interpreted to mean a minimum of a 4-inch pop-up height is appropriate. The commenter suggested the following revision be made to Section 4.2.8:

> "Sprinkler irrigation – Sprinkler irrigation, other than as a component of a micro-irrigation system, shall not be used to water plantings other than maintained turf grass. Sprinkler heads shall have a 4- to 6-inch or greater popup height (based on the sprinkler clearing the maximum turf height between mowing) and matched precipitation nozzles. Sprinkler irrigation shall not be used on strips of turf grass less than 4 feet wide nor on slopes in excess of 4 feet of horizontal run per 1 foot vertical rise (4:1)."

qq. One commenter suggested that Section 4.2.8 increase the minimum width of planting areas to 8 feet and reduce slopes to 10 feet of horizontal run per 1 foot vertical rise (10:1). Increasing the width and decreasing the slopes of turf areas reduces water loss due to overspray and surface runoff. The commenter suggested the following language be added to Section 4.2.8:

> "Sprinkler irrigation shall not be used on strips of turfgrass less than 8 feet wide nor on slopes in excess of 10 feet of horizontal run per 1 foot vertical rise (10:1)."

rr. One commenter suggested that Section 4.2.8 include a requirement for pressure management of sprinkler systems, since water-use inefficiencies can result from sprinkler operation at pressures above manufacturers' specifications. The commenter suggested the following revision be made to Section 4.2.8:

> "Sprinkler irrigation – Sprinkler irrigation, other than as a component of a microirrigation system, shall not be used to water plantings other than maintained turfgrass. Sprinkler heads shall have a 4-inch or greater popup height and matched precipitation nozzles. Sprinkler systems shall be designed and installed to operate at the manufacturer's operating pressure specifications, using pressure regulators or sprinkler heads with pressure regulating stems where needed. Sprinkler irrigation shall not be used on strips of turfgrass less than 4 feet wide nor on slopes in excess of 4 feet of horizontal run per 1 foot vertical rise (4:1)."

Response to comments "pp" through "rr" above: WaterSense did not propose changes to the specification with respect to sprinkler irrigation; thus, these comments are beyond the scope of this modification. However, WaterSense appreciates these comments and will take them into consideration at a later date when specification components related to sprinkler irrigation are open for revision.

Micro-Irrigation Systems

ss. One commenter expressed concern over the specification's prescribed use of flush-end assemblies for micro-irrigation systems. According to the commenter, insects can enter flush-end assemblies and become trapped within the tubing, clogging micro-sprays and drippers. The commenter also noted that, despite the use of filters, debris can still enter lines and cause flush valve leaks if caught between the plunger and inside wall of the flush valve. The commenter recommended revising Section 4.2.9 by deleting the phrase "flush end assemblies" and replacing it with "removable end-fitting or end-flush valve device."

tt. One commenter suggested that Section 4.2.9 require pressure-compensating drip emitters. The commenter indicated that non-pressure-compensating emitters can have output flows that differ from their rated water usage and that are lower in emission uniformity. The commenter suggested the following revision be made to Section 4.2.9:

> "Micro-irrigation systems – At a minimum, micro-irrigation systems shall be equipped with pressure regulators, filters, pressure compensating emitters, and flush end assemblies."

Response: WaterSense did not propose changes to the specification with respect to micro-irrigation systems; thus, these comments are beyond the scope of this modification. However, WaterSense appreciates these comments and will take them into consideration at a later date when specification components related to micro-irrigation systems are open for revision.

Metering

uu. Two commenters supported the Section 4.2.11 requirement that irrigation systems installed in multi-family buildings must be metered. The commenters asked WaterSense to expand this requirement to include irrigation systems installed in all WaterSense labeled new homes.

Response: WaterSense did not propose changes to the specification with respect to the metering of irrigation systems in single-family homes; thus, this comment is beyond the scope of this modification.

vv. One commenter stated that the independent metering of irrigation systems installed in multi-family buildings provides the potential for water management; however, the commenter noted, simply requiring their installation will not guarantee water use efficiency. The commenter suggested that Section 4.2.11 state its intended purpose for metering. The commenter also suggested considering requiring performance assessments of irrigated landscapes in multi-family buildings and stated that these assessments would determine annual landscape water requirements, which could be used to ensure efficient water use.

Response: WaterSense appreciates these comments. To clarify, the new home specification is an "as built" specification; therefore, WaterSense does not have any mechanism to measure or verify the amount of water used for irrigation.

ww. Two commenters requested that WaterSense clarify specification language in Section 4.2.11 to ensure that flow sensors will qualify for use in measuring irrigation system water use as well as flow. The commenters noted that not all flow sensors are included under the definition of a "meter," even though they can measure and record the amount of water used by an irrigation system. The commenters indicated that flow sensors are a great tool to measure water, while controlling the flow of water used by the irrigation system. To address this issue, the commenters suggested replacing all references of the term "metering" with "measuring."

Response: WaterSense appreciates these comments. To clarify, WaterSense selected the term "metering" because it is the accepted term within the irrigation and building industries.

IV. Comments on Section 5.0 – Homeowner and Building Management Education

Irrigation System

a. One commenter suggested that operating manuals for single- and multi-family buildings (Sections 5.1 and 5.3, respectively) include procedures or guidelines for the regular, periodic mechanical maintenance of irrigation systems. According to the commenter, omitting such procedures or guidelines misses important factors related to long-term system efficiency, reliability, and cost of ownership. For this reason, the commenter recommended that the following language be added to Sections 5.1.1 and 5.3.1:

> "Irrigation System – If an irrigation system is installed, the builder shall, in a professional and workmanlike fashion, provide the owner or owner's representative with a scale record drawing (i.e., schematic) of the system, an itemized list and quantities of irrigation components, copies of suggested or expected irrigation schedules by week or month, information about programming or reprogramming the controller (and related input technologies) and a maintenance and operation guideline that includes common and expected tasks to perform upon the irrigation system and time intervals to complete such tasks. This information shall be included in the landscape irrigation system operating manual prior to or at the time of final system walkthrough and turnover."

b. Two commenters supported the requirement to provide building management with all information necessary to properly manage irrigation systems. They also requested that the specification require record drawings for multi-family buildings. The commenters indicated that while a schematic is sufficient for single-family homes, irrigation systems in multi-family buildings can be more complex. The commenters suggested record drawings require the following information:

- Electric valves
- Gate valves
- Backflow prevention device
- Controller
- Rain shutoff
- Sprinklers and nozzles
- Drip tubing
- Filters
- Wire routing
- Point of connection
- Water meter
- Wire splices
- Drains
- Pipe routing

- Sleeving
- Pressure regulators

c. One commenter indicated that training on the use of metering devices should be included in the homeowner's user manual, so that it can serve as a practical tool for end users to measure the impact of their water-use practices.

Response to comments "a" through "c" above: WaterSense did not propose changes to the specification with respect to the general requirements and content of the homeowner's manual, with the exception of requirements specific to multi-family new homes. Therefore, these comments are beyond the scope of this modification.

To clarify, in the Building Operating Manual template that builders use to develop their own manuals, WaterSense has included references to the appropriate Irrigation Association documents, which address standard operation and maintenance procedures. Although WaterSense has decided not to include in the specification additional detail on the components of a record drawing at this time, it has added this level of detail to its *Resource Manual for Building WaterSense Labeled New Homes*.

V. Comments on Section 7.0 – Definitions

a. One commenter indicated that there is no standard definition for a leak. The commenter stated that, while it may be seem obvious that a leak is any unintended usage of water, the specification needs to define the term in order to characterize at what point the leak needs to be addressed. The commenter suggested the following language be added to Section 7.0:

> "Any unintended escape of water due to a failure in a component of the plumbing system or a connected plumbing appliance. Also, any user error resulting in the persistent loss of water over time. Adequate detection of leaks requires the ability to monitor water flow for the entire structure beginning at flow rates of 2 ounces (60 ml) or less."

Response: WaterSense did not propose changes to the specification with respect to leaks; thus, this comment is beyond the scope of this modification.

b. One commenter indicated that the definition for the phrase "hot water source" inaccurately states "hot water heaters" and explained that water heaters heat cold or cool water, but not hot water. The commenter suggested the following language be added to Section 7.0:

> "The container in which water is stored and/or heated such as a hot water heater or a demand-controlled recirculation loop."

Response: WaterSense appreciates these comments and has determined that the commenter's suggested language for the definition of "hot water source" is consistent with current language in the specification.

c. One commenter indicated that the current definition of front yard means the portion of the lot extending across the full width of the lot between the front lot line and the front walls of the house and recommended revising the definition as follows:

> "Use local code definitions when available. Otherwise, the front yard means the portion of the lot extending across the full width of the lot between the ~~front~~ lot line and the ~~front~~ walls of the ~~house~~ building <u>that are parallel to the public right of way.</u>"

Response: WaterSense did not propose changes to the specification with respect to the requirements for how the landscaped area was defined in relation to the front yard of single-family new homes; thus, this comment is beyond the scope of this modification.

d. One commenter suggested that the current definition for the term "micro-irrigation system" is too broad. The commenter suggested the following revision be made to Section 7.0:

> "The ~~frequent~~ application of small quantities of water on or below the soil surface as drops, tiny streams, or miniature spray through emitters or applicators placed along a water delivery line. Micro-irrigation encompasses a number of methods

or concepts such as bubbler, drip, trickle, mist, or spray and subsurface irrigation. For purposes of this specification, emitters that apply water directly to the soil, within four inches of the soil/mulch or subsurface shall have flow rates equal to or less than 4 gallons per hour; ~~microirrigation includes emission devices that~~ micro-spray products shall be installed at least four inches from the soil/mulch surface and shall have flow rates less than 30 gallons per hour (113.6 liters per hour)."

Response: WaterSense did not propose changes to the specification with respect to micro-irrigation systems; thus, this comment is beyond the scope of this modification.

VI. Comments on Appendix B: Determining Volume of Piping Systems

Determining Volume of Piping Systems

a. One commenter supported the continued use of the approach presented in Appendix B for calculating the internal volume of water distribution tubing. The commenter stated that alternate methods relying on average piping volumes could yield significant errors. For this reason, the commenter encouraged EPA to maintain the current approach for calculating the internal volume of water distribution tubing.

Response: WaterSense appreciates this comment. However, since WaterSense did not propose changes to the specification with respect to calculating the internal volume of water distribution tubing, this comment is beyond the scope of this modification.

Appendix B Updates for New Piping Materials

b. One commenter suggested Appendix B be updated to include polyethylene, raised temperature (PE-RT), a hot water piping material. The commenter suggested the following data be added to Appendix B:

Nominal Size (Inches)	PE-RT SDR 9 (Oz Water/ Ft Tubing)
3/8	0.64
1/2	1.18
3/4	2.35
1	3.91
1 1/4	5.81
1 1/2	8.09
2	13.86

c. One commenter suggested Appendix B be updated to include polypropylene (PP), another new hot water piping material. The commenter suggested the following data be added to Appendix B:

Nominal Size (Inches)	PP SDR 6 (Oz Water/ Ft Tubing)	PP SDR 7.3 (Oz Water/ Ft Tubing)	PP SDR 11 (Oz Water/ Ft Tubing)
3/8	0.91	1.09	1.24
1/2	1.41	1.68	2.12
3/4	2.23	2.62	3.37
1	3.64	4.36	5.56
1 1/4	5.73	6.81	8.60
1 1/2	9.03	10.61	13.47
2	14.28	16.98	21.39

Response to comments "b" and "c" above: WaterSense did not propose changes to the specification with respect to the piping material; thus, these comments are beyond the scope of this modification.

VII. Comments on New Homes Irrigation Audit Checklist

Verification of System Operating Pressure

a. One commenter indicated that the audit checklist require auditors to verify static water pressures are at or below a suggested maximum of 90 psi, since excessive static pressures contribute to leaking pipes. The commenter suggested the following language be added to the Irrigation Audit Checklist:

> "Max. Static Water Pressure 90 psi or less."

Response: WaterSense did not propose changes to the specification with respect to the verification of system operating pressure; thus, this comment is beyond the scope of this modification.

VIII. Comments on WaterSense New Home Certification

WaterSense Provider Designation

a. One commenter suggested that WaterSense providers have a specific role and title so that they can better develop relationships between raters and the WaterSense program. The commenter also suggested there be a designation that inspectors can earn that is analogous to the Residential Energy Savings Network (RESNET) certified Home Energy Raters (HERS) designation.

   Response: WaterSense did not propose changes to the specification with respect to the designation and role of inspectors; thus, this comment is beyond the scope of this modification.

IX. General Specification Comments

Translation of Specification

a. One commenter suggested that the specifications and supporting materials be translated into other languages, beginning with Spanish. The commenter stated that such translations will help ensure the WaterSense program's success, since many businesses employ individuals who do not speak English as their primarily language.

Response: WaterSense appreciates these comments. To clarify, WaterSense does not translate its program documents into any other language at this time.

Integration with the ICC 700

b. One commenter suggested that the WaterSense program harmonize with the International Code Council (ICC) 700 National Green Building Standard. Such a harmonization would comply with the federal government's National Technology Transfer and Advancement Act of 1995, the commenter said, which requires federal agencies to recognize and incorporate existing consensus standards in public initiatives. The commenter indicated that the ICC 700 specifications are sufficiently similar to the inputs of the WaterSense Water Budget Tool such that integration between the two is possible.

Response: WaterSense agrees with the commenter that national green building programs should align to the greatest extent possible. WaterSense developed its new homes specification with a goal of having it complement criteria in existing programs such as ENERGY STAR, the National Association of Home Builders' ICC 700 National Green Building Standard, and the U.S. Green Building Council's LEED® for Homes. WaterSense will continue to work with these other organizations to maintain consistency among the programs.

General Comments on the WaterSense Program

c. One commenter suggested the elimination of the WaterSense program. The commenter said he can no longer support the WaterSense program given the current budget cuts in transportation, education, agriculture, national security, and infrastructure programs.

d. One commenter supported the revisions to the new homes specification and said that he will continue to encourage builders to consider becoming WaterSense partners.

Response: WaterSense appreciates these comments and suggestions.