



September 17, 2009

California Building Standards Commission  
Attn: Dave Walls, Executive Director  
2525 Natomas Park Drive, Suite 130  
Sacramento, CA 95833

Subject: Comments on Proposed Revisions to Chapter 16 Nonpotable Water Reuse Systems, Part I (Graywater)

Dear Mr. Walls:

WaterReuse California submitted the attached comments on this subject to the Department of Housing and Community Development (HCD) dated May 5, 2009, in which we requested that purple pipe be reserved for recycled water and nomenclature be used to distinguish between recycled water and other non-potable waters. We are pleased that HCD has proposed code revisions consistent with our request. We also support the requirement that indoor use of gray water be disinfected consistent with Health and Safety Code Title 22 requirements. We urge you to preserve these important changes in the adopted code.

Thank you for your consideration. Please contact me at 707 237-6992 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "David W. Smith". The signature is fluid and cursive, with the first name "David" being the most prominent.

David W. Smith, PhD  
Managing Director

***Recycling Water to Meet the World's Needs***

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## CALIFORNIA SECTION

May 5, 2009

Department of Housing and Community Development  
Division of Codes & Standards  
Attention: Jim Rowland  
1800 Third Street, Room 260-33  
Sacramento, CA 95811-6944

Subject: Comments on Proposed Revisions to Chapter 16 Nonpotable Water Reuse Systems, Part I (Graywater)

Dear Mr. Rowland:

WaterReuse Association is an international organization promoting responsible water recycling and represents the water recycling industry. WaterReuse opposes adoption of Section 1610.2 of Uniform Plumbing Code Chapter 16 Part 1 in which purple pipe would be required for use in graywater systems. WaterReuse also opposes use of the term "recycled water" (per Section 1602.0) to describe graywater. This purpose of this letter is to explain our opposition and suggest alternatives intended to enhance public health and safety.

### *Pipe Color*

Purple pipe should not be specified for graywater use for the following reasons:

1. The State of California has adopted purple as the color code for non-potable uses of recycled water: For example, the State of California's Health and Safety code is as follows:

"116815. Purple pipe for recycled water

- (a) All pipes installed above or below the ground, on and after June 1, 1993, that are designed to carry recycled water, shall be colored purple or distinctively wrapped with purple tape.

The State's Title 22 regulations requires recycled water treatment to the tertiary

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treatment for use in some situations where UPC Chapter 16 would apply and does not permit recycled water use in other situations where UPC Chapter 16 would apply.

2. Utilities have educated staff and recycled water users about safe use of recycled water through purple piping. Recycled water meets particular treatment and quality requirements that are more stringent than those for gray water. Gray water has the potential to contain fecal bacteria, viruses and other pathogens, and other water quality constituents that are removed from recycled water. Graywater systems are not subject to the same rigorous cross-connection prevention and verification testing to which recycled water systems are subject. Allowing purple pipe to be used for a product other than recycled water will inevitably lead to cross-connections between graywater and recycled water systems, exposing the public to unnecessary health risk and adversely affecting the credibility of both water types as safe and appropriate uses when used consistent with their respective regulations and codes.

Yellow pipe with black lettering is designated in Section 601.2 of the 2009 UPC for non-potable water systems. WateReuse suggests that yellow pipe should be required instead of purple pipe to achieve the intent of Section 1610.2 and to preserve the use of purple pipe for recycled water consistent with California's Health and Safety Code.

### ***Terminology***

The term "recycled water" should not be used in conjunction with graywater for the following reasons:

1. "Recycled water" has particular meaning under Title 22 and defining graywater as recycled water would obligate owners of graywater systems to comply with the requirements of Title 22. These requirements include treatment to the tertiary level, onerous monitoring for bacteria and limitations on entities that can deliver recycled water. This would discourage graywater use and thus is counter to the intent of your agency's Chapter 16 Part 1 amendment effort.
2. Gray water is not recycled water as defined under Title 22 and calling it recycled water has the potential to cause confusion amongst the public that WateReuse has sought to educate about the safety and proper uses of recycled water.

WateReuse recommends "treated graywater" as a term that more precisely describes graywater.

Comments on Proposed Revisions to Chapter 16 Nonpotable Water Reuse Systems

May 5, 2009

Page 4

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David W. Smith, PhD

Managing Director

cc: Dean Reynolds, Department of Water Resources  
Gary Yamamoto, Department of Public Health  
Bob Castle, Marin Municipal Water District  
Richard Harris, Nossaman LLP  
Mary Grace Pawson, Winzler & Kelly