Statewide Alternate Method
October 2017

No. 08-02 and 08-04
Grey Water Reuse Systems
Commercial and Residential Installations

(Ref.: ORS 455.060)

Statewide Alternate Methods *are approved by the Division administrator in consultation with the appropriate advisory board. The advisory board's review includes technical and scientific facts of the proposed alternate method. In addition:*

- *Building officials shall approve the use of any material, design or method of construction addressed in a statewide alternate method;*
- *The decision to use a statewide alternate method is at the discretion of the designer; and*
- *Statewide alternate methods do not limit the authority of the building official to consider other proposed alternate methods encompassing the same subject matter.*

Code Edition: 2017 Oregon Plumbing Specialty Code (OPSC)

Date: Oct. 1, 2017 (Combined and Updated)
Sept.. 15, 2008 (Issued)

Initiated by: Building Codes Division

Subject: On-site grey water reuse systems

Background:

On-site grey water systems distribute wastewater that has not come into contact with toilet waste, urinal waste, kitchen sink waste, dishwasher waste or similarly contaminated sources for the purpose of flushing toilets and urinals in structures. Grey water conservation systems are limited to wastewater from bathtubs, showers, bathroom washbasins, clothes-washers, and laundry tubs.

Many other states allow wastewater conservation systems under plumbing codes and through alternate methods. Water conservation systems are being installed in California, New Mexico, Arizona, Washington, New York, Massachusetts, Texas, Vermont, and Utah.

Discussion:

Under Oregon law, when the division considers making an alternate method ruling on a method of construction, it must consider "standards and interpretations published by the body that promulgates any nationally recognized model code adopted as a specialty code of this state." ORS 455.060.

IAPMO has the following product standard for water conservation systems, IAPMO IGC 207-2009. In addition to this standard by the entity that publishes Oregon's model codes, another authoritative source, the Canadian Standards Association (CSA) publishes CSA B128.1-2006 as the standard for water conservation systems. Neither standard is limited to residential installations.

Conclusion:

The division initiated two alternate method ruling, 08-02 and 08-04 as a means of addressing sustainability in Oregon. On June 20, 2008, the division presented both statewide alternate methods for plumbing systems that conserve water from certain plumbing fixtures, by specifying standards for the design and installation of grey water systems. At that time, the board approved both scientific and technical facts related to an alternate method rulings for water conservation systems in residential and commercial structures for flushing toilets and urinals in structures and product listing and standards associated with water conservation systems. This new revision combines 08-02 and 08-04 into one statewide alternate method.

This ruling does not recognize installations in apartments or commercial buildings used for childcare facilities or schools. This ruling addresses water conservation systems for the use of flushing toilets and urinals. This ruling is limited to grey water from bathtubs, showers, bathroom wash basins, clothes-washers, and laundry tubs. It does not include wastewater from toilets, urinals, kitchen sinks or dishwashers. The system shall have no direct connection to any potable water system. The proper system design, maintenance, and use are the responsibility of the building owner. The acceptability of grey water conservation systems as an alternate method of construction are contingent on construction meeting the following conditions:

1. Except as otherwise provided for in this alternate method, the provisions of the Oregon Plumbing Specialty Code shall be applicable to grey water conservation installations. The grey water conservation systems are in addition to the other requirements of the plumbing code.
2. The type of system shall be listed to the IAPMO IGC 207-2009 or CSA B128.1-2006 (R2011) standard or be listed by an American National Standards Institute (ANSI) accredited product listing program. The system, except as otherwise approved, may consist of a holding tank or tanks, pump, and automatic chemical treatment device.
3. All piping and plumbing component materials and products used in the installation of a grey water conservation system shall be approved for the specific use in the Oregon Plumbing Specialty Code or be listed by any ANSI accredited product listing program.
4. No water conservation system or part thereof shall discharge water outside of the structure served unless approved by Oregon Department of Environmental Quality.
5. System components shall be properly identified as to the manufacturer.
6. Installation shall conform to the equipment and installation methods identified by the manufacturer and product listing.
7. A flow test shall be performed through the system to the point of water conservation use. All lines and components shall be watertight.
8. Holding tanks shall be installed per the manufacturer's installation instructions and listing, and shall be secured or anchored against overturning. Holding tanks shall be filled with water to the overflow line prior to and during inspection. All seams and joints shall be left exposed, and the tank shall remain watertight.
9. Each holding tank shall be vented as required by Chapter 9 of the plumbing code and shall have a locking, gasketed access opening or approved equivalent to allow for inspection and cleaning.
10. Each holding tank shall have its rated capacity permanently marked on the unit. In addition,

a sign stating WATER CONSERVATION SYSTEM WATER, NON-POTABLE WATER shall be permanently marked on the holding tank. This signage is not required for the toilet tank.

11. Each holding tank shall have an overflow drain. The system must be designed so that the tank overflow will gravity drain to the existing sewer line or septic tank. The tank shall be protected against sewer line backflow by a backwater valve. The overflow drains shall have a connection to the building drain or building sewer, upstream of septic tanks, if any. The overflow drain shall not be equipped with a shutoff valve.
12. The overflow drain pipes shall not be less in size than the inlet pipe. The vent size shall be determined based on the total drainage fixture units as outlined in Table 703.2 of the plumbing code. Unions or equally effective fittings shall be provided for all piping connected to the holding tank.
13. Holding tanks shall be constructed of solid, durable materials not subject to excessive corrosion or decay, both externally and internally, by an approved coating or other acceptable means and shall be watertight. Holding tanks shall meet nationally recognized standards for the intended use and be listed by an ANSI accredited listing agency.
14. Holding tanks constructed of alternate material may be approved by the municipality, provided they comply with approved applicable standards or are listed by an ANSI accredited listing agency.
15. All valves shall be accessible.
16. Other collection and distribution systems may be approved by the local municipality, as allowed by the plumbing code and this ruling.
17. Marking on pipe for commercial and industrial water conservation systems shall be permanent, distinct, and easily recognizable.
18. All grey water conservation system piping shall be purple in color or be marked by a continuous purple tape, painted purple or be marked with the words NON-POTABLE WATER or with an equivalent international symbol.
19. Marking on piping shall be repeated at intervals of not more than five feet.

The technical and scientific facts for this Statewide Alternate Method are approved.

(Signature on file)	June 17, 2010
Administrator Building Codes Division	Date