

INITIAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
DEPARTMENT OF WATER RESOURCES

REGARDING THE AMENDMENT OF THE
2016 CALIFORNIA PLUMBING CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5

(DWR XXX)

STAKEHOLDER REVIEW DRAFT

(The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific. (PART 1 – ADMINISTRATIVE CODE))

LEGEND FOR EXPRESS TERMS*

1. Existing California amendments or code language being modified are in italics when they appear in the model code text: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears underlined and in italics.
3. Repealed text: All such language appears in ~~strikeout~~.

[NOTE: The formatting shown in the legend above may not be correctly applied in this draft.]

INITIAL EXPRESS TERMS

1. **DWR intends to redesignate certain sections of Chapter 16A, Part II as sections of Chapter 15 of the California Plumbing Code and to amend other sections of the California Plumbing Code, including parts of chapters 2, 6, and 15, as more specifically described in the following sections.**
2. **[Reserved.]**

3. DWR proposes to adopt the entire Model Plumbing Code except as amended below.

Notes: Attention is drawn to the following sections of the 2015 Uniform Plumbing Code (Model Code) that DWR proposes to adopt without amendment. Instead of adopting the entire Model Code, DWR may decide to adopt only these specific sections.

1501.1 (Applicability)*	1501.11 (Inspection and Testing)*	1503.2 (Permit)
1501.2 (System Design)*	1501.11.1 (Supply Inspection and Test)	1503.2.1 (Plumbing Plan Submission)
1501.4 (Component Identification)	1501.12 (Separation Requirements)	1503.3 (System Changes)
1501.5 (Maintenance and Inspection)	1501.13 (Abandonment)	1503.6 (Reclaimed (Recycled) Water System Materials)
1501.5.3 (Maintenance Responsibility)*	1501.13.1 (General)	1503.7 (Reclaimed (Recycled) Water System Color and Marking Information)
1501.6 (Operation and Maintenance Manual)*	1501.13.2 (Underground Tank)	1503.8 (Valves) (DWR requesting comments)
1501.8 (Material Compatibility)	1501.14 (Sizing)	1503.11 (Same Trench as Potable Water Pipes)
1501.9 (System Controls)		1503.13 (Inspection and Testing)

* There are amendments to these sections in the 2016 California Plumbing Code that have not been reviewed by DWR. DWR may propose to adopt these amendments or propose alternative amendments after review.

4. DWR proposes to amend Chapter 2 as follows:

**CHAPTER 2
DEFINITIONS**

206.0

Disinfected Tertiary Recycled Water. *Filtered and subsequently disinfected wastewater that meets the approved method of treatment and minimum level of water quality specified in California Code of Regulations, Title 22, Division 4, Chapter 3 for the purpose of direct beneficial use.*

Explanation:
Notes:

220.0

Reclaimed (Recycled) Water. *(HCD 1) Nonpotable water that meets California Department of Public Health State Water Resources Control Board statewide uniform criteria for disinfected tertiary recycled water. Reclaimed (recycled) water is also known as "recycled water" or "reclaimed water".*

Recycled Water Supply System. *The system of municipal reclaimed (recycled) water supply consisting of supply distribution pipes, plumbing fixtures, and devices for direct beneficial use in buildings and within the property lines of the premises; including associated joints, fittings, connections, devices, receptors, valves, backflow prevention devices, and other appurtenances carrying or supplying recycled water in or adjacent to the building or premises.*

Explanation:
Notes:

1. Reclaimed (Recycled) Water: Title 22 allows disinfected secondary-23 recycled water for landscape irrigation of cemeteries, freeway landscaping, and restricted access golf courses. The Plumbing Code will not apply to these uses.
2. Recycled Water Supply System: This definition is patterned after Model Code definition of "Water Supply System".

Notation

Authority: Water Code Sections: 13551, 13552.2, 13552.4, 13552.6, 13552.8, 13553, 13554, 13555.3, 13557.

Reference(s): Water Code Sections: 13520, 13521.

5. DWR proposes to amend Chapter 6 as follows:

**CHAPTER 6
WATER SUPPLY AND DISTRIBUTION**

601.2 Hot and Cold Water Required. Except where not deemed necessary for safety or sanitation by the Authority Having Jurisdiction, each plumbing fixture shall be provided with an adequate supply of potable running water piped thereto in an approved manner, so arranged as to flush and keep it in a clean and sanitary condition without danger of backflow or cross-connection. Water closets and urinals shall be flushed by means of an approved flush tank or flushometer valve.

Exceptions:

1. Listed fixtures that do not require water for their operation and are not connected to the water supply.
2. "...".
3. Alternate water sources shall be allowed as specified in Chapter 15 of this code.
4. Where a public agency requires a building to use recycled water to flush water closets and urinals in accordance with California Water Code 13554.

In occupancies where plumbing fixtures are installed for private use, hot water shall be required for bathing, washing, laundry, cooking purposes, dishwashing or maintenance. In occupancies where plumbing fixtures are installed for public use, hot water shall be required for bathing and washing purposes. This requirement shall not supersede the requirements for individual temperature control limitations for public lavatories and public and private bidets, bathtubs, whirlpool bathtubs, and shower control valves.

Explanation:

Notes:

601.3.3 Alternate Water Sources. ~~Alternate water source systems shall have a purple (Pantone color No. 512, 522C, or equivalent) background with~~ be identified and permanently marked with clearly visible black uppercase lettering on purple background. The identification may be accomplished by labeling piping using purple-colored (Pantone color No. 512) adhesive Mylar PVC tape affixed along the entire length of the pipe, or using non-metallic pipe manufactured with purple (Pantone color No. 512, 522C, or equivalent) integral to the material. For either material, the tape or pipe shall be installed so the wording is clearly visible and shall be field or factory-marked as follows:

- (1) Gray water systems shall be marked in accordance with this section with the words "CAUTION: NONPOTABLE GRAY WATER, DO NOT DRINK" in black letters.
- (2) Reclaimed (recycled) water systems shall be marked in accordance with this section with the words: "CAUTION: NONPOTABLE RECLAIMED (RECYCLED) WATER, DO NOT DRINK" in black letters.
- (3) On-site treated water systems shall be marked in accordance with this section with the words: "CAUTION: ON-SITE TREATED NONPOTABLE WATER, DO NOT DRINK" in black letters.
- (4) Rainwater catchment systems shall be marked in accordance with this section with the words: "CAUTION: NONPOTABLE RAINWATER-WATER, DO NOT DRINK" in black letters

Explanation:

Notes:

1. "Nonpotable" and "do not drink" are redundant, but the meaning of "nonpotable" may not be understood by many people.
2. While perhaps outside the purview of these amendments, it is suggested that "WATER" be deleted after "RAINWATER" as redundant. "Rainwater" as one word is a noun, not an adjective. The duplicate "water"

did not appear in the 2013 model code and may be a typo in the 2015 model code.

3. Comments are requested on whether one or both Pantone 512 or 522C should be specified and whether there are any issues in producing pipe or tape in these colors.

Notation

Authority: Water Code Sections: 13551, 13552.2, 13552.4, 13552.6, 13552.8, 13553, 13554, 13555.3, 13557.

Reference(s): Water Code Sections: 13520, 13521.

6. DWR proposes to amend Chapter 15 as follows:

**CHAPTER 15
ALTERNATIVE WATER SOURCES FOR NONPOTABLE APPLICATIONS**

Intent

The provisions of this chapter are intended to:

1. Conserve potable water by facilitating greater reuse of laundry, shower, lavatory and similar sources of water discharge, or by use of alternate water sources for nonpotable uses for irrigation and/or indoor use.
2. Reduce the number of non-compliant gray water systems by making legal compliance easily achievable.
3. Provide guidance for avoiding potentially unhealthful conditions.
4. Provide an alternative way to relieve stress on a private sewage disposal system by diverting the gray water.

Explanation:

Notes:

1. Consider giving the Intent a section number to be clearer that this is formal regulatory language.
2. Chapter 15 addresses commercial and industrial water uses of recycled water, so item 1 should be more broad.

1501.0 General

1501.1.1 Allowable Use of Alternate Water. Where approved or required by the Authority Having Jurisdiction, alternate water sources [reclaimed (recycled) water, gray water, and on-site treated nonpotable *gray* water] shall be permitted to be used in lieu of potable water for the applications identified in this chapter.

Explanation:

Notes:

The second “gray” has been added to the Model Code in the 2016 California Plumbing Code to conform to California amendments to Section 1504.

1501.3 Permit. It shall be unlawful for a person to construct, install, alter, or cause to be constructed, installed, or altered an alternate water source system in a building or on a its premises without first obtaining a permit to do such work from the Authority Having Jurisdiction.

Prior to commencing the issuance of permits for indoor gray water systems pursuant to state requirements relating to gray water, a city, county, city and county or other local agency shall seek consultation with the local public health department to ensure that local public health concerns are addressed in local standards or ordinances, or in issuing permits. See California Water Code Section 14877.3 for gray water systems.

Explanation:

Notes:

1. The phrase “from the Authority Having Jurisdiction” in first sentence is contained in Chapter 16A and the Model Code, but is deleted in 2016 California Plumbing Code. The reason is not known. DWR proposes to restore this phrase and solicits comments on whether it is appropriate.
HCD Comment: Model Code, Existing Chapter 1, 103.1 covers the need for permits adequately. For AHJ language removed by HCD.

2. "Premises" (plural) is the correct spelling for the area around a building. See definition of "supply system" in §218.0 for plural usage. Added "s".

1501.5.1 Method and Frequency. Alternate water source systems and components shall be inspected and maintained in accordance with *the manufacturer's recommendations and/or as required by the Enforcing Agency. The frequency of testing, inspection, and maintenance shall be in accordance with Table 1501.5 unless more frequent inspection and maintenance is required by the manufacturer.*

Notes:

1501.5.1: This section and Table 1501.5 are under review for clear explanation of required frequency. "Enforcing Agency" is defined in Chapter 2. It is used in 2016 California Plumbing Code. How does this differ from Authority Having Jurisdiction?
DWR proposes to retain model code §1501.5.1, and 1501.5.2 as amended and 1501.5.3 without amendment.

1501.5.2 Maintenance Log. A maintenance log for *reclaimed (recycled) water*, gray water, and on-site treated *gray* water systems is required to have a permit in accordance with Section 1501.3 and shall be maintained by the property owner and be available for inspection. The property owner or designated appointee shall ensure that a record of testing, inspection and maintenance in accordance with Table 1501.5 is maintained in the log. The log will indicate the frequency of inspection and maintenance for each system.

Notes:

Comment is requested on the practicality of a maintenance log for single family residences and condominiums where the owner controls plumbing. Are there alternatives to identify plumbing alterations that may not have been permitted? In these situations, do valve seals (section 1503.8.1) help?

**TABLE 1501.5
MINIMUM ALTERNATE WATER SOURCE TESTING, INSPECTION, AND MAINTENANCE FREQUENCY**

DESCRIPTION	MINIMUM FREQUENCY
Inspect and clean filters and screens, and replace (where necessary).	Every 3 months <i>or more frequently as required by manufacturer's instructions and/or the Authority Having Jurisdiction</i>
Inspect and verify that disinfection, filters and water quality treatment devices and systems are operational and maintaining minimum water quality requirements as determined by the Authority Having Jurisdiction.	In accordance with manufacturer's instructions, and the Authority Having Jurisdiction.
Inspect pumps and verify operation.	After initial installation and every 12 months thereafter <i>or more frequently as required by manufacturer's instructions and/or the Authority Having Jurisdiction</i>
Inspect valves and verify operation.	After initial installation and every 12 months thereafter <i>or more frequently as required by manufacturer's instructions and/or the Authority Having Jurisdiction</i>
Inspect pressure tanks and verify operation.	After initial installation and every 12 months thereafter <i>or more frequently as required by manufacturer's instructions and/or the Authority Having Jurisdiction</i>
Clear debris from and inspect storage tanks, locking devices, and verify operation.	After initial installation and every 12 months thereafter <i>or more frequently as required by manufacturer's instructions and/or the Authority Having Jurisdiction</i>
Inspect caution labels and marking.	After initial installation and every 12 months thereafter <i>or more frequently as required by manufacturer's instructions and/or the Authority Having Jurisdiction</i>
Inspect and maintain mulch basins for gray water irrigation systems.	As needed to maintain mulch depth and prevent ponding and runoff.
Cross-connection inspection and test*	After initial installation and every 12 months thereafter <i>In accordance with this chapter.</i>

* The cross-connection test shall be performed in the presence of the Authority Having Jurisdiction in accordance with the requirements of this chapter .

1501.7 Minimum Water Quality Requirements. The minimum water quality for alternate water source systems shall meet the applicable water quality requirements for the intended application as determined by the Authority

Having Jurisdiction. ~~In the absence of water quality requirements for on-site treated nonpotable gray water shall comply with Section 1504.10.2. systems, the requirements of NSF 350 shall apply. Reclaimed (recycled) water shall comply with the water quality requirements of Section 1503.14.~~

Exception:

Water treatment is not required for gray water used in a disposal field or for subsurface or subsoil irrigation.

Explanation:

Notes:

1501.10 Signage

~~For the purposes of Sections 1501.10.1, 1501.10.2, and 1501.10.3, * _____ * shall be replaced by RECYCLED WATER or ON-SITE TREATED NONPOTABLE GRAYWATER as applicable.~~

1501.10.1 Commercial, Industrial, Institutional, and Residential Restroom Signs. A sign shall be installed in restrooms in commercial, industrial, and institutional, and residential occupancies using reclaimed (recycled) water and on-site treated nonpotable gray water for water closets, urinals, or both. Each sign shall contain ½ of an inch (12.7 mm) letters of a highly visible color on a contrasting background. The location of the sign(s) shall be such that the sign(s) are visible to users. The location of the sign(s) shall be approved by the Authority Having Jurisdiction and shall contain the following text:

~~CAUTION: NONPOTABLE * _____ *, DO NOT DRINK. DO NOT CONNECT TO DRINKING WATER SYSTEM. NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM.
TO CONSERVE WATER, THIS BUILDING USES * _____ * TO FLUSH TOILETS AND URINALS.~~

1501.10.2 Tank-Type Toilets. Where tank-type toilets (water closets) are flushed with recycled water, a permanent sign (such as plastic or stainless steel) shall be installed inside the tank to warn that the water within the tank is not a suitable emergency water supply. The sign shall be labeled: "CAUTION: NONPOTABLE RECYCLED WATER – DO NOT DRINK."

Notes:

1501.10.2: Should this section be broadened to cover on-site treated nonpotable graywater?

1501.10.3 Equipment Room Signs. Each room containing reclaimed (recycled) and on-site treated nonpotable gray water equipment shall have a sign posted in a location that is visible to anyone working on or near recycled water and/or nonpotable gray water equipment with the following wording in 1 inch (25.4 mm) letters:

CAUTION: NONPOTABLE * _____ *, DO NOT DRINK. DO NOT CONNECT TO DRINKING WATER SYSTEM. NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM.

* _____ * Shall indicate RECLAIMED (RECYCLED) WATER or ON-SITE TREATED NONPOTABLE GRAY WATER accordingly.

In equipment rooms where recycled water is used, the background of the signs shall be purple.

1501.10.4 Outdoor Signs. All outdoor use areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public in a size no less than 4 inches high by 8 inches wide, that include the following wording: RECYCLED WATER – DO NOT DRINK. Each sign shall display an international symbol similar to that shown in figure 601. As approved by the State Water Resources Control Board, Division of Drinking Water, alternative signage and wording, or an educational program, may be substituted provided the applicant demonstrates that the alternative approach will assure an equivalent degree of public notification.

Notation

Explanation:

Notes:

1501.10: DWR proposes signage in all residential restrooms. HCD proposes signage in residential common

use area restrooms. Clarification is needed on meaning of definition of “common use area” (*Private use areas within multifamily residential facilities where the use of these areas is limited exclusively to owners, residents and their guests. The areas may be defined as rooms or spaces or elements inside or outside of a building.*) Appropriate warnings should be in place in all restrooms.

1501.10.4: DWR version more closely conforms to Title 22, §60310(g). Consider adapting to HCD version. Title 22 specifies using the international do not drink symbol (Fig. 601), consistent with other Plumbing Code signage in Section 601. Which figure below, 601 (left) or 1503.9 (right) is best, or is one better for indoor signage and the other for outdoor signage?



See 1503.8 for valve access door signs.

1501.11.1 Supply System Inspection and Test. Alternate water source systems shall be inspected and tested in accordance with this code for testing of potable water piping.

Explanation:
The above text is Model Code language.

Notes:
DWR is proposing to adopt the model code §1501.11 and 1501.11.1 as shown above without amendment. The 2016 CPC has added at the end of §1501.11, “and/or as required by the Authority Having Jurisdiction”. Should we add this?

See also 1501.5 & 1503.13.

1501.11.2 Annual Cross-Connection Inspection and Testing. An initial and subsequent annual inspection and test shall be performed on both the potable and alternate water source systems before the initial operation of the alternate water source system. During an initial or subsequent cross-connection test, the The potable and alternate water source system shall be isolated from each other and independently inspected and tested to ensure there is no cross-connection in accordance with Section 1501.11.2.2. Initial or subsequent inspections or tests shall be performed in accordance with Section 1501.11.2.1 through Section 1501.11.2.4. The inspection and testing shall be performed by a cross-connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements.

- (1) Pursuant to California Code of Regulations, Title 22, section 60316, when recycled water is used in a building or within premises, a written report documenting the result of the inspection or testing, whether for an initial inspection and test or subsequent inspection or test conducted pursuant to Section 1501.11.2.3 or Section 1501.11.2.4, shall be submitted to the State Water Resources Control Board, Division of Drinking Water, within 30 days following completion of the inspection or testing.
- (2) A cross-connection test pursuant to Section 1501.11.2.2 shall be performed on the premises of a recycled water supply system when there is material reason to believe that the potable water system or recycled water supply system separation from another water supply has been compromised. A material reason to believe that the system has been compromised may be based on, but is not limited to, evidence gathered (a) during a visual inspection performed pursuant to Section 1501.11.2.1 or (b) as a result of an inspection performed following complaints of water quality or flow conditions consistent with a compromised system.

Explanation:
Notes:

1. First sentence: This is edited to make explicit that the initial inspection and test must be performed before initial operation of the recycled water system.

2. Second sentence: This is to make clear that the summary of the cross-connection test in this sentence applies not only to the initial test, but any subsequent test. This section does not require any subsequent tests, but annual or 4-years inspections and tests are required in Sections 1501.11.2.3, 1501.11.2.4 and 1503.13. Also, a cross-connection test is required every 4 years for condominiums by Water Code 13553(d)(1)(C).
3. Third sentence: This sentence as edited makes clear that Sections 1501.11.2.1 through Section 1501.11.2.4 apply not only to the initial test but also any subsequent test.
4. The reference to CA-NV AWWA is drawn from Title 22, §60316(a).
5. Paragraph (1): The requirement for a written report is from Title 22, §60316(a).
6. Paragraph (2): The criteria for material reason are from Chapter 16A, §1620A.0(B).

1501.11.2.1 Visual System Inspection. Prior to commencing the cross-connection testing, a dual system inspection shall be conducted by the Authority Having Jurisdiction and other authorities having jurisdiction as follows:

- (1) Meter locations of the alternate water source and potable water lines shall be checked to verify that no modifications were made, and that no cross-connections are visible.
- (2) ~~All pumps~~ Pumps and equipment, equipment room signs, and exposed piping in equipment room shall be checked.
- (3) ~~All valves~~ Valves shall be checked to ensure that the valve lock seals are still in place and intact. Valve control door signs shall be checked to verify that no signs have been removed.
- (4) If the visual inspection indicates that the alternate water supply system has been modified, a Cross-Connection Test is required.

Explanation:

Notes:

1501.11.2.1 (Visual System Inspection): Paragraph (4) is carried over from Chapter 16A, Section 1620A.0 (B)(1)(iv).

1501.11.2.2 Cross-Connection Test. ~~The procedure for determining cross-connection shall be followed by the applicant. A cross-connection test shall be performed pursuant to Section 1501.11.2. The test shall be conducted in the presence of the Authority Having Jurisdiction and or other authorities having jurisdiction to determine whether a cross connection has occurred as follows:~~

- (1) The potable water system shall be activated and pressurized. The alternate water source system shall be shut down, depressurized, and drained.
- (2) The potable water system shall remain pressurized for a minimum period of time specified by the Authority Having Jurisdiction while the alternate water source system is empty. The minimum period the alternate water source system is to remain depressurized shall be determined on a case-by-case basis, taking into account the size and complexity of the potable and the alternate water source distribution systems, but in no case shall that period be less than 1 hour.
- (3) ~~The drain on the alternate water source system shall be checked for flow during the test and~~ All fixtures, potable and alternate water source, shall be tested and inspected for flow. Flow from an alternate water source system outlet indicates a cross-connection. No flow from a potable water outlet shall indicate that it is connected to the alternate water source system.

(4) The drain on the alternate water system shall be checked for flow during the test and at the end of the test.

~~(4)(5)~~ The potable water system shall then be depressurized and drained.

~~(5)(6)~~ The alternate water source system shall then be activated and pressurized. For the initial test, a temporary connection to a potable water supply will be required to test the recycled water system plumbing. At the conclusion of the test, the temporary connection to the potable water supply shall be disconnected.

[Question from HCD, included here for reference. Should a temporary connection to the potable water supply be required to have a backflow prevention device in accordance with Title 17 when connecting the potable water system to the gray water or recycled water system?]

~~(6)(7)~~ The alternate water source system shall remain pressurized for a minimum period of time specified by the Authority Having Jurisdiction while the potable water system is empty. The minimum period the potable water system is to remain depressurized shall be determined on a case-by-case basis, but in no case shall that period be less than 1 hour.

STATE OF CALIFORNIA
BUILDING STANDARDS COMMISSION

~~(7)~~~~(8)~~(9) All fixtures, potable and alternate water source, shall be tested and inspected for flow. Flow from a potable water system outlet indicates a cross-connection. No flow from an alternate water source outlet will indicate that it is connected to the potable water system.

~~(8)~~~~(9)~~ The drain on the potable water system shall be checked for flow during the test and at the end test.

~~(9)~~~~(10)~~ Where there is no flow detected in the fixtures ~~which~~ that would indicate a cross-connection, the potable water system shall be repressurized.

Explanation:

Notes:

1. "Applicant" is not defined.
2. Paragraph (3), last sentence: Does "no flow" from a potable water outlet always indicate a cross-connection? Contrary to model code language shown above, Chapter 16A states "No flow from a potable water outlet would indicate that it may be connected to the recycled water system." This indicates a level of uncertainty not reflected in model code. Which version is more accurate?
3. Paragraphs (3) and (4): The first sentence in Paragraph (3) is edited to be parallel to Paragraph (8) and reflect Chapter 16A language. Paragraph (4) added from Chapter 16A. This makes Paragraphs (3) and (4) parallel to (8) and (9). Comment is requested on appropriate description of (3) and new (4).
4. Paragraphs (2) & (6) - new (7): Is less than 1 hour an acceptable procedure? Chapter 16A did not have a minimum time, but the Model Code does. HCD proposes to delete the minimum time consistent with Chapter 16A.
5. Paragraph (9) – new (10): "that" is the correct word.
6. A cross-connection test is required at least every 4 years per 1501.11.2.4 and Title 22, Section 60316. A cross-connection test is required every 4 years for condominiums by Water Code 13553(d)(1)(C). HCD proposes to eliminate the requirement for residential buildings.
7. Should a cross-connection test or at least a visual inspection be required if any potable or nonpotable system alteration has occurred or a valve seal is broken and this becomes known to officials, rather than waiting for the annual inspection or physical evidence of a problem to occur for an assessment (per 1501.11.2.4 and 1501.11.2(2))?

1501.11.2.3 Discovery of Cross-Connection. In the event that a cross-connection is discovered, the following procedure, ~~in the presence of the Authority Having Jurisdiction,~~ shall be activated immediately:

~~(1)~~ (1) *Notify the Authority Having Jurisdiction of the cross-connection.*

~~(4)~~ The alternate water source piping to the building and its premises shall be shut down at the meter, and the alternate water source riser shall be drained.

~~(2)~~ Potable water piping to the building and its premises shall be shut down at the meter.

~~(3)~~ The cross-connection shall be uncovered and disconnected.

~~(4)~~ The building and its premises shall be retested in accordance with Section 1501.11.2.1 and Section 1501.11.2.2.

~~(5)~~ The potable water system shall be chlorinated with 50 parts-per-million (ppm) chlorine for 24 hours.

~~(6)~~ The potable water system shall be flushed after 24 hours, and a standard bacteriological test shall be performed. Where test results are acceptable, the potable water system shall be permitted to be recharged.

Explanation:

Notes:

Should any or all of these steps be performed in the presence of the AHJ, as specified in the model code?

1501.11.2.4 Annual Inspection. An annual inspection of the alternate water source system, following the procedures listed in Section 1501.11.2.1 shall be required. Annual cross-connection testing, following the procedures listed in Section 1501.11.2.2 shall be required by the Authority Having Jurisdiction, unless site conditions do not require it. In no event shall the test occur less than once in 4 years. Alternate testing requirements shall be permitted by the Authority Having Jurisdiction for residential, institutional, or industrial buildings where shutting off the water is not practical. The reclaimed (recycled) water purveyor or other designated appointee may substitute for the Authority Having Jurisdiction for the purpose of inspections and tests pursuant to this section.

Explanation:

Notes:

These amendments to the Model Code incorporate language from Chapter 16A, §1620A.0(B)(2).

1502.0 Gray Water Systems.

1502.3 Connections to Potable and Reclaimed (Recycled) Water Systems. Gray water systems shall have no direct connection to a potable water supply, on-site treated nonpotable gray water supply, or reclaimed (recycled) water systems. Potable water, on-site treated nonpotable graywater, reclaimed (recycled) water, or rainwater is permitted to be used as makeup water for a non-pressurized storage tank provided the connection is protected by an air gap, in accordance with this code and California Code of Regulations, Title 17.

Explanation:

Notes:

Review closely. This language adheres to model code language in requiring an air gap. A distinction needs to be made clear between the backflow device required by Title 17 to be located as near as possible to the connection with the public water supply and backflow devices located on the premises to protect potable water users on the site. There should be an air gap between potable water and gray water. Title 17 requires an air gap on the potable source at the property line if potable water supplements recycled water. Gray water is more hazardous than recycled water.

Recycled water needs to be protected from contamination from gray water. There is no backflow device required at the recycled water meter to protect the public recycled water supply.

1503.0 Reclaimed (Recycled) Water Systems.

1503.1 General. The provisions of this section shall apply to the installation, construction, alteration, and repair of reclaimed (recycled) water supply systems receiving reclaimed (recycled) water from a water/wastewater utility intended to supply uses such as water closets, urinals, trap primers for floor drains and floor sinks, aboveground and subsurface irrigation, industrial or commercial cooling or air conditioning and other allowed uses approved by the Authority Having Jurisdiction.

(1) Recycled water uses that are generally allowed are specified in the California Code of Regulations, Title 22, Division 4, Chapter 3.

(2) Recycled water uses that are allowed from any particular wastewater treatment facility are specified in the permit for recycled water issued by the State Water Resources Control Board or Regional Water Quality Control Board.

(3) Unless specified otherwise, the general provisions applying to alternate water systems pursuant to Section 1501.0 and following shall apply to recycled water supply systems.

Explanation:

Notes:

“Authority Having Jurisdiction” is an ambiguous term that has led to confusion for local officials. If we know now who has the authority for certain actions, this should be identified in the Plumbing Code in lieu of Authority Having Jurisdiction.

1503.1.1 Toilet and Urinal Flushing. In accordance with Water Code Section 13553, reclaimed (recycled) water is allowed for toilet and urinal flushing in certain structures. These structures include commercial, retail and office buildings, theaters, auditoriums, condominium projects, schools, hotels, apartments, barracks, dormitories, jails, prisons, reformatories, and other structures as determined by the State Water Resources Control Board.

1503.4 Connections to Potable or Reclaimed (Recycled) Water Systems. Reclaimed (recycled) water supply systems shall have no connection to a potable water supply or alternate water source.

Exceptions:

(1) Potable water is permitted to be used as makeup water for a reclaimed (recycled) water storage tank provided the potable water supply inlet is protected by an air gap ~~or reduced-pressure principle backflow preventer~~ in accordance with this code.

(2) A potable water supply may be connected temporarily for initial testing of the recycled water supply system.

(3) Reclaimed (recycled) water is permitted to be used as makeup water for an alternate water source system provided the recycled water supply system is protected by an air gap in accordance with this code.

Explanation:

Notes:

A distinction needs to be made clear between the backflow device required by Title 17 to be located as near as possible to the connection with the public water supply and backflow devices located on the premises to

protect potable water users on the site.

The air gap requirement for using potable water as makeup water into recycled water systems is consistent with Title 17. Use of an RP device on-site would result in a requirement for an air gap at the potable water meter.

Consideration must be given to contaminating recycled water when recycled water is used as makeup water for nonpotable systems and there is insufficient protection in connections with other nonpotable supplies. Recycled water quality is highly regulated. There is currently no requirement for a backflow prevention device at the recycled water meter to prevent contaminated recycled water from entering the public recycled water distribution system. DWR proposes an air gap, which is consistent with Model Code §1502.3 and 1504.4 for connections to untreated and treated gray water. The Model Code allows a Reduced Pressure (RP) device for makeup water into rainwater systems, §1602.4. DWR would like input on allowing a RP device for to protect recycle water used as makeup for untreated or treated gray water or rainwater.

1503.8 Valves. Valves, except fixture supply control valves, shall be equipped with a locking feature.

Explanation: This section is found in Model Code as shown.

Notes:

Would Chapter 16A Valve Seal requirements, carried over to §1503.8.1 below, substitute? Who would control the lock?

1503.8.1 Valve Seals. *The master reclaimed (recycled) water shut-off valve and/or the reclaimed (recycled) water meter curb cock and each valve within a wall shall be sealed after the recycled water supply system has been approved and placed into operation. These seals shall be either crimped lead wire seal or plastic break away seal which, if broken after system approval, shall be deemed conclusive evidence that the recycled water supply system has been accessed. The seals shall be purple, numbered, and contain the words "RECYCLED WATER", and shall be supplied by the recycled water purveyor, or by other arrangements acceptable to the Authority Having Jurisdiction. A record of the seal numbers and the reasons for breaking and replacing them shall be recorded in the maintenance log pursuant to Section 1501.5.2.*

Explanation:

Notes: The requirement for valve seals is in Chapter 16A, §1619A.0(E). DWR proposes to add a requirement not currently in Chapter 16A or the model code to record plumbing system alterations in a maintenance log (required in model code §1501.5.2) that resulted in breaking valve seals.

Comment is requested on the applicability of this section to single family residences and condominiums. Would there be a master recycled water valve entering a house that is not in a wall?

1503.8.2 Valve and Appurtenance Access Door Signs. *Each reclaimed (recycled) water valve within a wall shall have its access door into the wall equipped with a warning sign approximately six (6) inches by six (6) inches (152 mm x 152 mm) with wording in approximately 3/8 inch (9.5 mm) letters on a purple background. The wording text and format of the sign shall be substantially the same as that specified in Section 1501.10.1. The signs shall be attached inside the access door frame and shall hang in the center of the access door frame. This sign requirement shall be applicable to any and all access doors, hatches, etc., leading to reclaimed (recycled) water piping and appurtenances.*

Explanation:

Notes:

The letter size is increased to 3/8 inch from 1/2 inch shown in Chapter 16A for better visibility within constraints of size of sign.

1503.9 Hose Bibbs. Hose bibbs shall not be allowed on reclaimed (recycled) water piping systems ~~located in areas accessible to the public. Access to reclaimed (recycled) water at points in the system accessible to the public shall be through a quick-disconnect device~~ Only quick couplers that differs from those installed on the potable water system shall be used on the recycled water piping system in areas subject to public access. ~~Hose bibbs~~ Quick couplers supplying reclaimed (recycled) water shall be marked with the words: "CAUTION: NONPOTABLE RECLAIMED RECYCLED WATER, DO NOT DRINK," and the symbol in Figure 1503.9.

Exceptions:

In accordance with Health and Safety Code Section 8117 and 8118, hose bibbs are approved for use in cemeteries supplied with reclaimed (recycled) water. A hose bibb in an area subject to access by the

general public shall be equipped with a sign marked "CAUTION: NONPOTABLE RECLAIMED RECYCLED WATER, DO NOT DRINK," and the symbol in Figure 1503.9.



FIGURE 1503.9

Explanation:

Notes:

Which symbol is better, Figure 1503.9 or Figure 601, which appears to be more common, at least in the Plumbing Code? Is one symbol better for indoor signage and the other for outdoor signage?
As amended, private residential landscaping will not have hose bibbs or quick couplers.

1503.10 Required Appurtenances. The reclaimed (recycled) water system and the potable water system within the building and the premises shall be provided with the required appurtenances (e.g., valves, air/vacuum relief valves, etc.) to allow for ~~deactivation or drainage~~ testing as required for a cross-connection test in accordance with Section 1501.11.2.

Explanation:

Notes:

The substitution of "testing" for "deactivation or drainage" is based on Chapter 16A. DWR would like input on this.

1503.12 Signs. Signs in rooms and water closet tanks in buildings using reclaimed (recycled) water shall be in accordance with Section ~~1501.10~~ and Section 1501.10.1, 1501.10.2, and 1501.10.3. Signs on access doors to valves and appurtenances shall be in accordance with Section 1503.8.2. Outdoor signs in areas where recycled water is used shall be in accordance with Section 1501.10.4.

Explanation:

Notes:

The provisions in Chapter 16A, Section 1619A are now covered as cited in Section 1503.12.

1503.14 Minimum Water Quality Requirements for Reclaimed (Recycled) Water. The minimum water quality for reclaimed (recycled) water shall meet the applicable water quality requirements of California Code of Regulations, Title 22, Division 4, Chapter 3, (commencing with Section 60301) for disinfected tertiary recycled water and the applicable reclaimed (recycled) water use.

1504.0 On-Site Treated Nonpotable Water Systems.

1504.4 Connections to Potable or Reclaimed (Recycled) Water Systems. On-site treated nonpotable gray water systems shall have no connection to a potable water supply or reclaimed (recycled) water ~~source~~ supply system.

Exceptions:

- (1) Potable or reclaimed (recycled) water is permitted to be used as makeup water for a non-pressurized gray water storage tank provided the makeup water supply inlet is protected by an air gap in accordance with this code.
- (2) A potable water supply may be connected temporarily for initial testing of the on-site treated nonpotable gray water system.

Explanation:

Notes:

DWR language is intended to provide consistent and clearer format and requirements across 1503.4, 1504.4, and 1602.4. Potable water must be protected by an air gap. The air gap requirement follows the Model Code. DWR will consider allowing recycled water to be protected by an RP device based on input.

Notation

7. DWR proposes to amend Chapter 16 as follows:

**CHAPTER 16
NONPOTABLE RAINWATER CATCHMENT SYSTEMS**

1602.4 Connections to Potable or Reclaimed (Recycled) Water Systems. Rainwater catchment systems shall have no direct connection to a potable water supply or alternate water source system.

Exceptions:

- (1) Potable or reclaimed (recycled) water is permitted to be used as makeup water for a non-pressurized rainwater catchment storage tank system provided the makeup reclaimed (recycled) water supply inlet connection is protected by an airgap or reduced-pressure principle backflow preventer in accordance with this code.
- (2) A potable water supply may be connected temporarily for initial testing of the rainwater catchment system.

Explanation:

Notes:

DWR language is intended to provide consistent and clearer format and requirements across 1503.4, 1504.4, and 1602.4. Potable water must be protected by an air gap. The air gap requirement follows the Model Code. DWR will consider allowing recycled water to be protected by an RP device based on input.

Notation

Authority: Water Code Sections: 13551, 13552.2, 13552.4, 13552.6, 13552.8, 13553, 13554, 13555.3, 13557.
Reference(s): Water Code Sections: 13520, 13521. Health and Safety Code Sections: 8117, 8118.