

2009 Code Update Training

WELCOME

INTERNATIONAL RESIDENTIAL CODE 2009 EDITION

PLUMBING SECTION

2009 Code Update Training

HOUSEKEEPING



2009 Code Update Training

CHANGES

We will be covering the significant changes to the International Residential Code and the changes common to the International Residential Code and the International Plumbing Code in this portion of the presentation.

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P2603.6 FREEZING

- NOT NEW BUT REQUIRED, 2603.6 FREEZING, IN LOCALITIES HAVING A WINTER DESIGN TEMPERATURE OF 32 DEGREES OR LOWER. A WATER, SOIL OR WASTE PIPE SHALL NOT BE INSTALLED OUTSIDE OF A BUILDING, IN EXTERIOR WALLS, IN ATTICS OR CRAWL SPACES, OR IN ANY OTHER PLACE SUBJECT TO FREEZING UNLESS ADEQUATE PROVISIONS IS MADE TO PROTECT IT FROM FREEZING BY INSULATION OR HEAT OR BOTH.

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IRC 2705.1

General

Added subsection #5 to read as follows:

5. Water closets, lavatories and bidets. A water closet, lavatory or bidet shall not be set closer than 15 inches from its center to any side wall, partition or vanity or closer than 30 inches center-to-center between adjacent fixtures. There shall be at least a 21 inch clearance in front of the water closet, lavatory or bidet to any wall, fixture or door.

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IRC 2708.2 & IPC 417.2

Water supply riser

Water supply risers from the shower valve to the shower head outlet, whether exposed or concealed, shall be attached to the structure using support devices designed for use with the specific piping material or fittings *anchored with screws*.

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IRC 2719.1

Floor drains

Added line to body of text to read as follows:

Floor drains shall not be located under or have their access restricted by permanently installed appliances.

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IRC 2803.6.1 & IPC 504.6

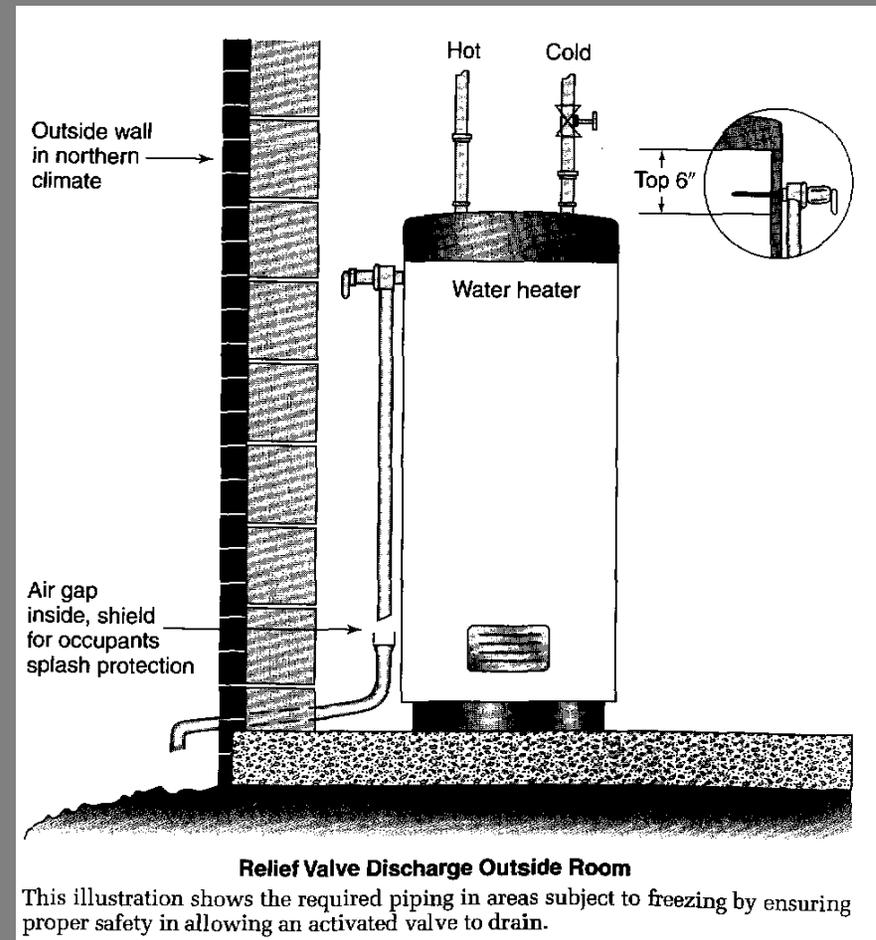
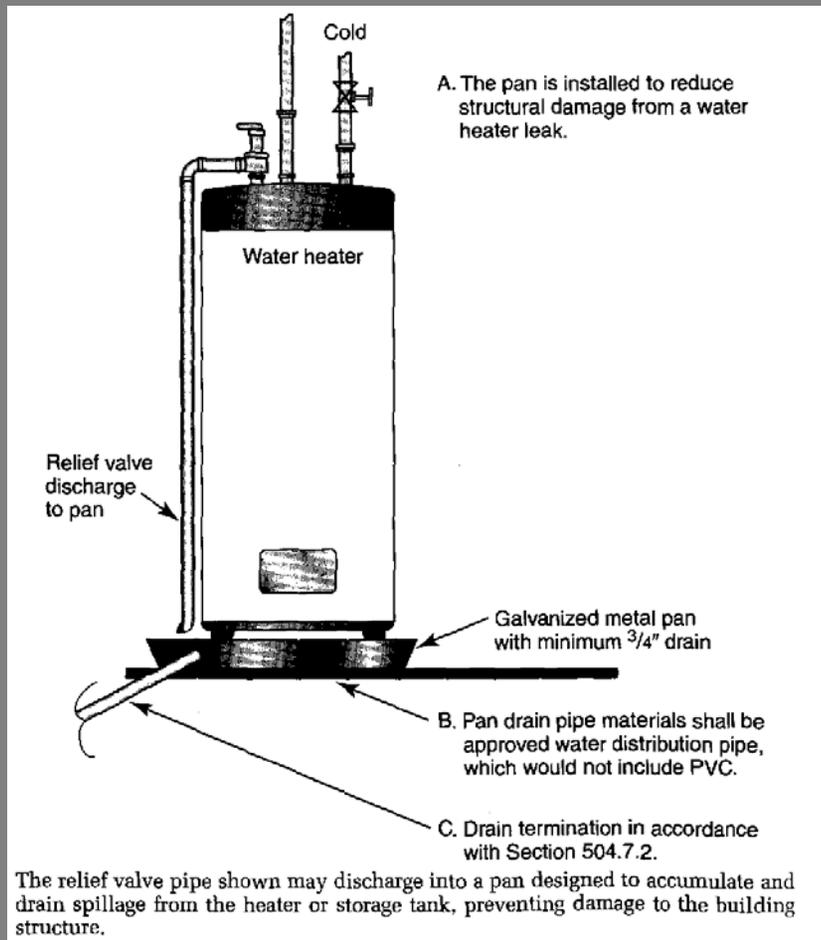
Requirements for water heater discharge piping

Reworded item #5 to read as follows:

5. Discharge to the floor, *to the pan serving the water heater or storage tank*, to a waste receptor or to the outdoors.

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IRC 2803.6.1 & IPC 504.6



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IRC 2803.7

Vacuum relief valve

Bottom fed tank-type water heaters and bottom fed tanks connected to water heaters shall have a vacuum relief valve installed that complies with ANSI Z21.22.



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IRC 2901.1

Potable water required

Added wording to body of text to read as follows:

In a building where a nonpotable water-distribution system is installed, the nonpotable system shall be identified by color marking, metal tags or other appropriate method. Where color is used for marking, purple shall be used to identify municipally reclaimed water, rain water and gray water distribution systems.

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IRC 2902.6.1 & IPC 608.14.1

Outdoor enclosures for backflow prevention devices

Outdoor enclosures for backflow prevention devices shall comply with ASSE 1060.



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IRC 2902.6.2 & IPC 608.14.2

Protection of backflow preventers

Backflow preventers shall not be located in areas subject to freezing except where they can be removed by means of unions, or are protected by heat, insulation or both.

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IRC 2902.6.3 & IPC 608.14.2.1

Relief port piping for backflow preventers

The termination of the piping from the relief port or air gap fitting of the backflow preventer shall discharge to an approved indirect waste receptor or to the outdoors where it will not cause damage or create a nuisance.

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IRC 2903.9.5 & IPC 608.7

Valves and outlets prohibited below grade

Potable water outlets and combination stop-and-waste valves shall not be installed underground or below grade. Freezeproof yard hydrants that drain the riser into the ground are considered to be stop-and waste valves.

Exception: Installation of freezeproof yard hydrants that drain the riser into the ground shall be permitted if the potable water supply to such hydrants is protected upstream of the hydrants in accordance with Section P2902 and the hydrants are permanently identified as nonpotable outlets by approved signage that reads as follows: **“Caution, Nonpotable Water. Do Not Drink.”**

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IRC 2904

Dwelling Unit Fire Sprinkler Systems

Fire sprinkler systems will not be required by the USBC for residential dwelling units regulated by the IRC. However, if a fire sprinkler system is to be installed in a residential dwelling unit, it will be required to meet the provisions set forth in the IRC Section 2904.1 through Section 2904.8.2 or the manufacturer's installation instructions for a proprietary system.

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IRC 2905.6 & IPC 605

Pipe Fittings

The IRC and the IPC now recognize the ASSE 1061 standard for removable and non-removable push pull fittings.



NOTE: The use of these fittings with PEX piping **must** be recognized by the PEX manufacturer.

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TRACER WIRE

- USBC ADDS P3002.2.1 TO READ TRACER WIRE NEEDS TO BE INSTALLED TO LOCATE PUBLIC SEWER SYSTEMS, 18 AWG WIRE MINIMUM

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IRC 3005.2.6

Base of stacks

Reworded body of text to read as follows:

A cleanout shall be provided at the base of each waste or soil stack.

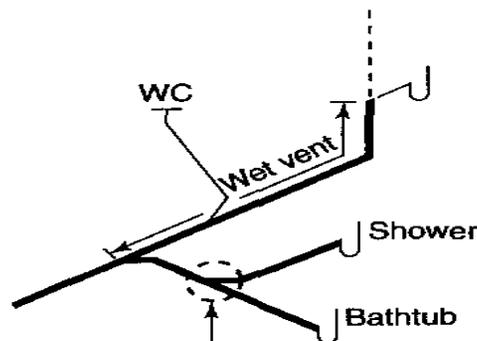
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IRC 3108.1 & IPC 909.2.2.2

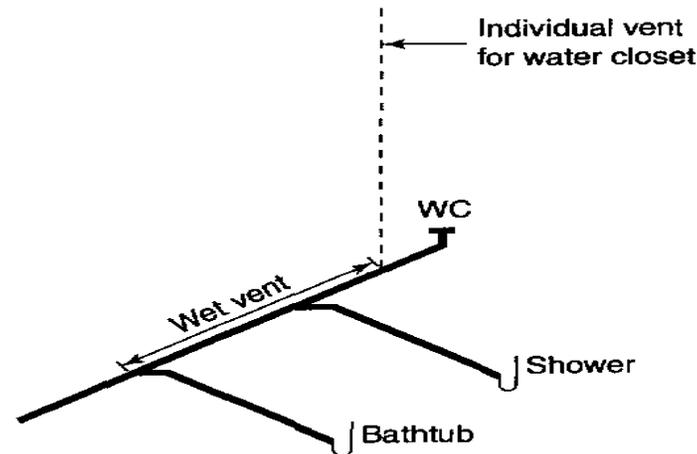
Horizontal wet vent permitted

Added wording to body of text to read as follows:

Each wet vented fixture drain shall connect independently to the horizontal wet vent.



Fixture drains must connect independently to the horizontal wet vent



Water closet permitted upstream of the dry vent connection to wet vent

Horizontal wet venting

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IRC 3111.1

Types of fixtures

Removed standpipes and drinking fountains from combination waste and vent systems. It now reads as follows:

A combination waste and vent system shall not serve fixtures other than floor drains, sinks and lavatories. A combination waste and vent system shall not receive the discharge of a food waste grinder.

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IRC 3114.3

Air Admittance Valves Where permitted

Added wording to body of text to read as follows:
Individual and branch type air admittance valves shall vent only fixtures that are on the same floor level and connect to a horizontal branch drain.

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IRC 3114.8 & IPC 917.8

Air Admittance Valves Prohibited installations

New section added to read as follows:

Air admittance valves without an engineered design shall not be used to vent sumps or tanks of any type.

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IRC P3114.8 & IPC 917.8



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IRC 3201.2 & IPC 1002.4

Trap Seals

Added language to body of text to read as follows:

.... Trap seal primer valves shall connect to the trap at a point above the level of the trap seal.....

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Questions and Answers



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**This is the end of the significant changes to
the 2009 International Residential Code**

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INTERNATIONAL PLUMBING CODE 2009 EDITION

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IPC 301.6

Prohibited Locations

An exception is added to read as follows:

Floor drains, sumps and sump pumps shall be permitted at the base of the elevator shaft, provided that they are indirectly connected to the plumbing system and comply with Section 1003.4.

Section 1003.4 is the section requiring an oil separator.

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IPC 301.7

Conflicts

Section reworded to read as follows:

In instances where conflicts occur between this code and the manufacturer's installation instructions, the more restrictive provisions shall apply.

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- Example. Under no circumstances may the pump discharge to the sanitary sewer. this is a violation of the spotsylvania ,king george, stafford counties.. city of fredericksburg, county utility department regulations., unmetered water

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IPC Table 403.1

Minimum Fixtures

- ✂ Changed water closet requirements for A-4 and A-5 occupancies for females from 1 per 40 for the first 1,500 to 1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520.
- ✂ Added requirements for R-3 occupancies.
Congregate living facilities with 16 or fewer persons:
Male 1 toilet per 10 person, 1 lav per 10 person, 1 tub per 8 person. Female 1 toilet per 10 person, 1 lav per 10 person, 1 tub per 8 person. 1 service sink and 1 drinking fountain per 100 person.

continued.....

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IPC Table 403.1

continued.....

Minimum Fixtures

- ✚ A tub or shower is now required in adult and child day care facilities.
- ✚ Added note e to read: The minimum number of required drinking fountains shall comply with Table 403.1 and chapter 11 of the IBC.
- ✚ Added note f to read: Drinking fountains are not required for an occupant load of 15 or less

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IPC 403.1.2

Family or assisted-use toilet and bath fixtures

New section added to read as follows:

Fixtures located within family or assisted-use toilet and bathing rooms required by Section 1109.2.1 of the International Building Code are permitted to be included in the number of required fixtures for either the male or female occupants in assembly and mercantile occupancies.

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IPC 403.4.1

Directional signage

New section added to read as follows:

Directional signage indicating the route to the public facilities shall be posted in accordance with Section 3107 of the International Building Code. Such signage shall be located in a corridor or aisle, at the entrance to the facilities for customers and visitors.

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IPC 412.2

Floor drains

Added line to body of text to read as follows:

Ready access shall be provided to floor drains.

Exception: Floor drains serving refrigerated display cases shall be provided with access.

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IPC 413

Commercial Food Waste Grinders

413.3: The waste outlet for a food waste grinder has been reduced from minimum 2 inch to minimum 1 ½ inch.

413.4 added language as follows: The water supply for food waste grinders shall be protected against backflow by an air gap or backflow preventer in accordance with Section 608.

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IPC 502.5

Clearances for maintenance and replacement

Added new section to read as follows:

Appliances shall be provided with access for inspection, service, repair and replacement without disabling the function of a fire-resistance-rated assembly or removing permanent construction, other appliances or any other piping or ducts not connected to the appliance being inspected, serviced, repaired or replaced. A level working space at least 30 inches deep and 30 inches wide shall be provided in front of the control side to service an appliance.

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IPC 608.8

Identification of nonpotable water

In buildings where nonpotable water systems are installed, the piping conveying the nonpotable water shall be identified either by color marking or metal tags in accordance with Sections 608.8.1 through 608.8.3. All nonpotable water outlets such as hose connections, open ended pipes, and faucets shall be identified at the point of use for each outlet with the words, “Nonpotable—not safe for drinking.” The words shall be indelibly printed on a tag or sign constructed of corrosion-resistant waterproof material or shall be indelibly printed on the fixture. The letters of the words shall be not less than 0.5 inches in height and color in contrast to the background on which they are applied.

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IPC 608.8.2

Identification of Nonpotable Water Color

Added to body of text to read as follows:

....The color purple shall be used to identify reclaimed, rain and gray water distribution systems.

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TRACER WIRE

- USBC ADDS SECTION 703.6 .
TRACER WIRE TO PUBLIC SANITARY
SYSTEMS, 18 AWG WIRE MINIMUM.

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IPC Table 709.1

Drainage fixture units for fixtures and groups

Adds new values for multiple shower heads based on the total flow rate through showerheads and body sprays.

FIXTURE TYPE	DRAINAGE FIXTURE UNIT VALUE AS LOAD FACTORS	MINIMUM SIZE OF TRAP (inches)
Shower (based on the total flow rate through showerheads and body sprays)		
Flow rate:		
5.7 gpm or less	2	1½
Greater than 5.7 gpm to 12.3 gpm	3	2
Greater than 12.3 gpm to 25.8 gpm	5	3
Greater than 25.8 gpm to 55.6 gpm	6	4

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IPC 802.1.8

Food utensils, dishes, pots and pans sinks

Sinks used for the washing, rinsing or sanitizing of utensils, dishes, pots, pans or serviceware used in the preparation, serving or eating of food shall discharge indirectly through an air gap or an air break or directly connect to the drainage system.

In the 2006 Code Edition these sinks were required to be directly connected.

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IPC 1003.3.4

Grease Interceptor and Automatic Grease Removal Devices

Added an exception to read as follows:

Exception: Interceptors that have a volume of not less than 500 gallons and are located outdoors shall not be required to meet the requirements of this section.



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IRC Appendix O & IPC Appendix C

Residential and Commercial Gray Water Recycling Systems

This portion of our presentation will cover the use of Appendix O of the IRC and Appendix C of the IPC. These appendixes cover the use of gray water recycling. JUST GONNA GO THRU A COUPLE OF REQUIREMENTS AND PICTURES OF DEVICES

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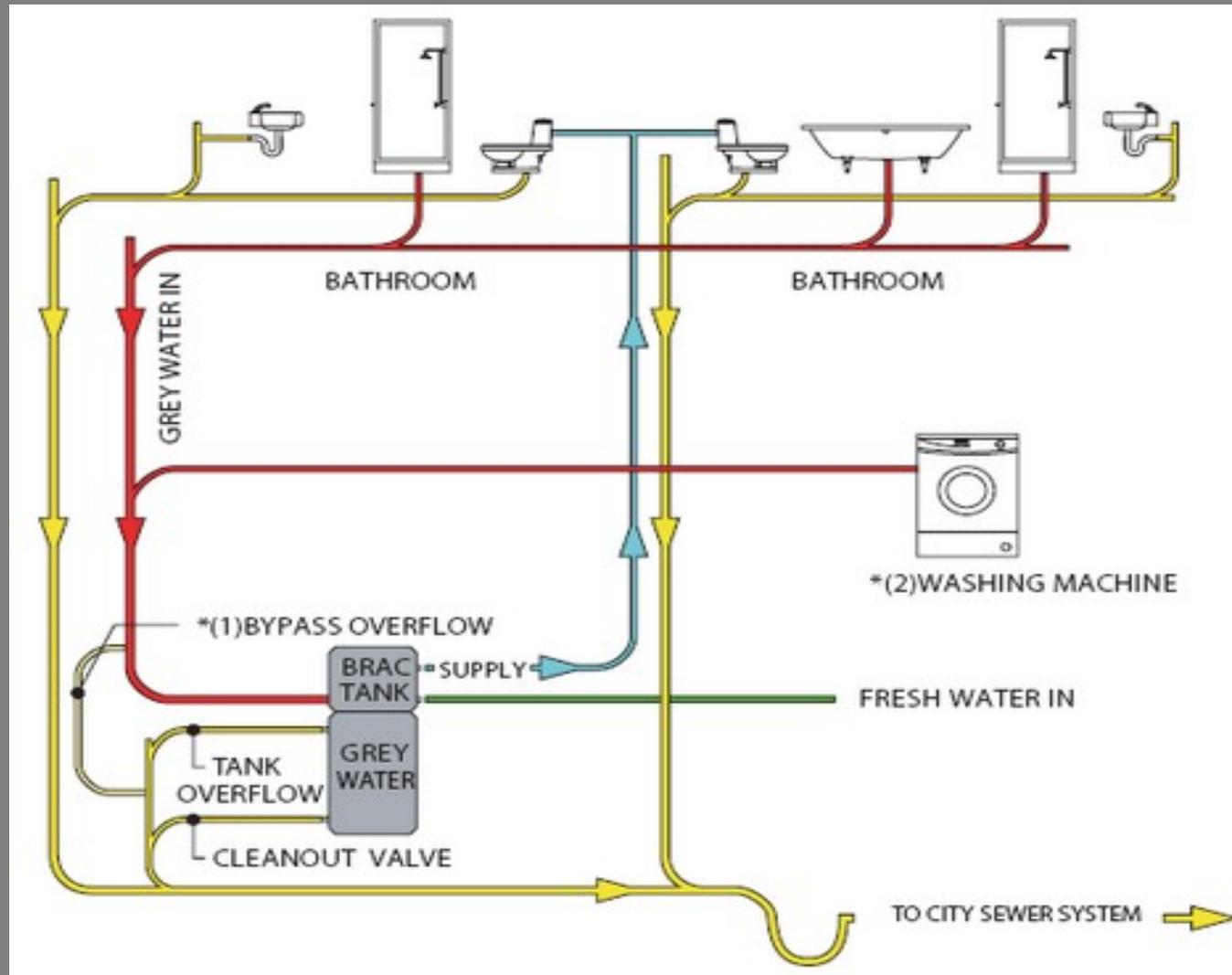
IRC P2601.2 & IPC 301.3

Connections to Drainage System

Exception: Bathtubs, showers, lavatories, clothes washers and laundry trays shall not be required to discharge to the sanitary drainage system where such fixtures discharge to an approved gray water system for flushing of water closets and urinals or for subsurface landscape irrigation.

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IRC P2601.2 & IPC 301.3



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IRC AO101.11 & IPC C101.10

Collection Reservoir

Gray water shall be collected in an approved reservoir constructed of durable, nonabsorbent and corrosion-resistant materials. The reservoir shall be a closed and gas-tight vessel. Access openings shall be provided to allow inspection and cleaning of the reservoir interior.

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IRC AO101.11 & IPC C101.10



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IRC AO101.10 & IPC C101.11

Filtration

Gray water entering the reservoir shall pass through an approved filter such as a media, sand or diatomaceous earth filter.



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IRC AO 101.12 & IPC C101.12

Overflow

The collection reservoir shall be equipped with an overflow pipe having the same or larger diameter as the influent pipe for the gray water. The overflow pipe shall be trapped and shall be indirectly connected to the sanitary drainage system.

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IRC AO 102.2 & IPC C102.2

Disinfection

Gray water shall be disinfected by an approved method that employs one or more disinfectants such as chlorine, iodine or ozone that are recommended for use with the pipes, fittings and equipment by the manufacturer of the pipes, fittings and equipment.

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IRC AO102.3 & IPC C102.3

Makeup Water

Potable water shall be supplied as a source of makeup water for the gray water system. The potable water supply shall be protected against backflow in accordance with Section P2902 of the IRC or Section 608 of the IPC. There shall be a full-open valve located on the makeup water supply line to the collection reservoir.

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IRC AO102.4 & IPC C102.4

Coloring

The gray water shall be dyed blue or green with a food grade vegetable dye before such water is supplied to the fixtures.

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IRC A0102.5 & C102.5

Materials

Distribution piping shall conform to one of the standards listed in Table P2905.4 of the IRC or Table 605.3 of the IPC.

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IRC AO102.6 & IPC C102.6

Identification

Distribution piping and reservoirs shall be identified as containing nonpotable water. Piping identification shall be in accordance with Section 608.8 of the IPC.

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USBC R329.1.2

Rain Water Re-Use

Where approved, rainwater re-use shall be permitted when installed in accordance with the IPC Appendix C provisions for gray water recycling systems. Rainwater and gray water shall not be interconnected.

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Questions and Answers



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**This is the end of the significant changes
to the 2009 International Plumbing
Code**