



Commerce City Amendments

to the

2018 International Plumbing Code

The city of Commerce City adopts the 2018 edition of the International Plumbing Code, including Appendices B, C, D and E, and the standards referenced in such code and appendices (the “IPC”), save and except such amendments as set forth in this article.

The 2018 edition of the International Plumbing Code is amended in the following respects and adopted herein as amended (effective date December 4, 2019 and amended on August 2, 2021 and October 4, 2021).

(a) Section 101.1 is amended to read as follows:

101.1 Title. These regulations shall be known as the Plumbing Code of the city of Commerce City, hereinafter referred to as “this code.”

(b) Section 102.10, entitled “Other Laws,” is amended by addition of the following:

Whenever any county health department, state or federal law or regulation imposes a greater or more restrictive requirement than required by this code, the provisions of those laws or regulations shall govern. Whenever the requirements imposed by this code are greater or more restrictive than the requirements imposed by any other law or regulation or resolution of any governmental body, then the requirements of this code shall govern.

(c) Section 103, entitled “Department of Plumbing Inspection,” is deleted in its entirety and the following is added in lieu thereof:

SECTION 103 - CODE ADMINISTRATION

103.1 Entity charged with code administration. The Community Development Department, as established by the Commerce City Revised Municipal Code, is charged with the administration and enforcement of this code.

103.2 Building official. The building official, appointed by the city manager, is charged with the direct overall administration and enforcement of this code; and, in the performance of said duties, may delegate the necessary authority to the appropriate technical, administrative, and compliance staff under the supervision of the building official. Whenever this code uses the term “code official,” it shall mean the “building official.”

103.3 Liability. The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties.

103.3.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representative of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of this code.

(d) Section 104.4, entitled “Right of entry,” is deleted in its entirety and the following is added in lieu thereof:

104.4 Right of entry. The code official’s right to enter and inspect property shall be exercised in accordance with Section 1-3001 of the Commerce City Revised Municipal Code, as amended from time to time.

(e) **Numbered Paragraph 2 of Section 106.2 is amended to read as follows:**

SECTION 106 – PERMITS

106.2 Exempt work. The following work shall be exempt from the requirement for a permit:

1. The stopping of leaks in drains, water, soil, waste, or vent pipe: provided, however, that if any concealed trap, drainpipe, water, soil, waste, or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work, and a permit shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages or the repairing of leaks in pipes, valves, or fixtures and the removal and reinstallation of water closets, tubs, tub-shower combinations, showers, sinks, lavatories and similar plumbing fixtures, provided such repairs, removals or replacements do not involve or require the replacement or rearrangement of valves, pipes or fixtures or the removal or replacement of building finishes or alter any accessibility requirements.
3. Plumbing work or repairs deemed by the building official to be minor and ordinary and which does not adversely affect public health or general safety.

(f) **Section 106.5.5, entitled “Suspension or revocation of permit,” is amended to read as follows:**

106.5.5 Suspension or revocation of permit. The code official is authorized to suspend or revoke a permit issued under the provisions of this code whenever the permit is issued in error, or on the basis of incorrect, inaccurate or incomplete information, or is obtained by fraudulent means, or is in violation of any ordinance or regulation of any of the provisions of this code, other ordinances or laws of the city, state or federal government.

(g) **Section 106.6, entitled “Fees,” is deleted in its entirety and the following is added in lieu thereof:**

106.6 Fees. The fees for any permit issued pursuant to this code, as well as related fees for work done in connection to or concurrently with the work authorized by a permit, shall be set by resolution of the city council. The city council is also authorized to establish a refund policy, and to impose additional fees for any person who commences any work before obtaining the necessary permits. No permit shall be valid until the appropriate fees have been paid.

(h) **Sections 106.6.1, 106.6.2, and 106.6.3 are deleted.**

(i) **Section 108, entitled “Violations,” is deleted in its entirety and the following is added in lieu thereof:**

SECTION 108 – VIOLATIONS; STOP WORK; UNSAFE PLUMBING

108.1 Unlawful acts. No person or entity shall violate a provision of this code or fail to comply therewith or with any of the requirements thereof. No person or entity shall fail to comply with any order issued by the code official under this code. No person or entity shall erect, construct, alter, repair, remove, demolish or utilize any plumbing system except in conformity with all of the provisions of this code and in conformity with the terms and conditions of any permit, certificate, or other approval issued under this code, or of any directive of the code official.

108.2 Penalties and enforcement. Violations of this code are subject to enforcement through the penalties, procedures, and remedies specified in Article V, Chapter 5 and other applicable provisions of the Commerce City Revised Municipal Code, at the discretion of the city.

108.3 Stop work orders. Where the code official finds any work regulated by this code being performed in a manner either contrary to the provisions of this code or in a manner that is dangerous or unsafe, the code official is authorized to issue a stop work order in accordance with the provisions of Section 5-5007 of the Commerce City Revised Municipal Code, as may be amended from time to time.

108.4 Unsafe plumbing. Any plumbing regulated by this code that is unsafe or that constitutes a fire or health hazard, unsanitary condition, or is otherwise dangerous to human life is hereby declared unsafe. Any use of plumbing regulated by this code constituting a hazard to health, safety or welfare by reason of inadequate maintenance, dilapidation,

obsolescence, fire hazard, disaster, damage or abandonment is hereby declared an unsafe use. Any such unsafe equipment is hereby declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition or removal.

108.4.1 Authority to condemn equipment. Whenever the code official determines that any plumbing, or portion thereof, regulated by this code has become hazardous to life, health or property or has become unsanitary, the code official shall order in writing that such plumbing either be removed or restored to a safe or sanitary condition. A time limit for compliance with such order shall be specified in the written notice. A person shall not use or maintain defective plumbing after receiving such notice.

Where such plumbing is to be disconnected, written notice shall be given. In cases of immediate danger to life or property, such disconnection shall be made immediately without such notice.

108.4.2 Authority to disconnect service utilities. The code official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by the technical codes in case of an emergency, where necessary, to eliminate an immediate danger to life or property. Where possible, the owner or the owner's authorized agent and occupant of the building, structure or service system shall be notified of the decision to disconnect utility service prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service systems shall be notified in writing, as soon as practical thereafter.

108.4.3 Connection after order to disconnect. A person shall not make connections from any energy, fuel, power supply or water distribution system or supply energy, fuel or water to any equipment regulated by this code that has been disconnected or ordered to be disconnected by the code official or the use of which has been ordered to be discontinued by the code official until the code official authorizes the reconnection and use of such equipment. Where any plumbing is maintained in violation of this code, and in violation of any notice issued pursuant to the provisions of this section, the code official shall institute any appropriate action to prevent, restrain, correct or abate the violation.

(j) Section 109, entitled "Means of Appeal," is deleted in its entirety.

(k) Section 202, entitled "Definitions," is amended to include a new definition:

Trap Drain. That portion of horizontal piping between the weir of a trap and a point where it intersects with the vent serving the same trap (trap arm).

(l) Section 305.4, entitled "Freezing," is amended to read as follows:

305.4 Freezing. Water, soil and waste pipes shall not be installed outside of a building, in attics or crawl spaces, concealed in outside walls, or in any other place subjected to freezing temperatures unless adequate provision is made to protect such pipes from freezing by insulation or heat or both. Exterior water supply system piping shall be installed not less than 48 inches (1,220 mm) below the below grade.

(m) Section 305.4.1 entitled "Sewer depth," is amended to read as follows:

305.4.1 Sewer depth. Building sewers shall be installed not less than 12 inches (305 mm) below grade.

(n) Section 308.5, entitled "Interval of support," is amended to read as follows:

308.5 Interval of support. Pipe shall be supported in accordance with Table 308.5. Hanger rods shall be sized in accordance with Table 308.5.1.

Exception: The interval of support for piping systems designed to provide for expansion/contraction shall conform to the engineered design in accordance with Section 316.1.

**TABLE 308.5
HANGER ROD SIZE**

PIPE AND TUBE SIZE (inch)	ROD SIZE (inch)
1/2 - 4	3/8
5 - 8	1/2
10 - 12	5/8

For SI: 1 inch = 25.4 mm

(o) **Section 308.7.1 entitled "Location," is amended to read as follows:**

308.7.1 Location. For pipe sizes greater than 4 inches (102 mm), restraints shall be provided for drain pipes utilizing mechanical joints at all changes in direction and at all changes in diameter greater than two pipe sizes. Braces, blocks, rodding and other suitable methods as specified by the coupling manufacturer shall be utilized.

(p) **Section 312.1, entitled "Required tests," is amended to read as follows:**

312.1 Required tests. The permit holder shall make the applicable tests prescribed in Sections 312.2 through 312.10 to determine compliance with the provisions of this code. The permit holder shall give reasonable advance notice to the code official when the plumbing work is ready for tests. The equipment, material, power and labor necessary for the inspection and test shall be furnished by the permit holder and he or she shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests. Plumbing system piping shall be tested with either water or by air.

(q) **Section 312.3, entitled "Drainage and vent air test," is amended to read as follows:**

312.3 Drainage and vent air test. An air test shall be made by forcing air into the system until there is a uniform gauge pressure of 5 psi (34.5 kPa) or sufficient to balance a 10-inch (254-mm) column of mercury. This pressure shall be held for a test period of not less than 15 minutes. Any adjustments to the test pressure required because of changes in ambient temperatures or the seating of gaskets shall be made prior to the beginning of the test period.

(r) **Section 312.4, entitled "Drainage and vent final test is deleted in its entirety.**

(s) **Section 312.5, entitled "Water supply system test," is amended to read as follows:**

312.5 Water supply system test. Upon completion of a section of or the entire water supply system, the system, or portion completed, shall be tested and proved tight under a water pressure not less than the working pressure of the system or by an air test of not less than 50 psi (344 kPa). This pressure shall be held for not less than 15 minutes. The water utilized for tests shall be obtained from a potable source of supply. The required tests shall be performed in accordance with this section and Section 107.

(t) **Section 312.9, entitled "Shower liner test," is deleted in its entirety.**

(u) **Section 312.10.1, entitled "Inspections," is deleted in its entirety.**

(v) **Section 312.10.2, entitled "Testing," is amended to read as follows:**

312.10.2 Testing. Reduced pressure principle, double check, pressure vacuum breaker, reduced pressure detector fire protection, double check detector fire protection, and spill-resistant vacuum breaker backflow preventer assemblies and hose connection backflow preventers shall be tested at the time of installation, immediately after repairs or relocation and

at least annually by a certified cross connection control technician. The testing procedure shall be performed in its entirety in accordance with one of the following standards: ASSE 5013, ASSE 5015, ASSE 5020, ASSE 5047, ASSE 5048, ASSE 5052, ASSE 5056, CSA B64.10 or CSA B64.10.1.

(w) Section 403.1, entitled "Minimum number of fixtures," is amended to read as follows:

403.1 Minimum number of fixtures. Plumbing fixtures shall be provided in the minimum number as shown in Table 403.1, based on the actual use of the building or space. Uses not shown in Table 403.1 shall be considered individually by the code official. The number of occupants shall be determined by the International Building Code. Lavatory to water closet or urinal ratios in accordance with Table 403.1 shall be maintained in all restrooms.

(x) Table 403.1, entitled "Minimum Number of Required Plumbing Fixtures," is amended by changing footnote "e" to read as follows:

e. For business and mercantile classifications with an occupant load of 30 or fewer, service sinks shall not be required.

(y) Section 403.2, entitled "Separate facilities," is amended to read as follows:

403.2 Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.
2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 30 or fewer.
3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 100 or fewer.
4. Separate facilities shall not be required in business occupancies in which the maximum occupant load is 30 or fewer.

(z) Section 405.3.2, entitled "Public lavatories," is amended to read as follows:

405.3.2 Public lavatories. In employee and public toilet rooms, the required lavatory shall be located in the same room as the required water closet

Exception: Lavatories located outside a toilet room located within a classroom serving students from that classroom only. These toilet rooms and lavatories shall not count toward the total fixture count required by Table 403.1.

(aa) Section 410.2, entitled "Small occupancies," is amended to read as follows:

410.2 Small occupancies. Drinking fountains shall not be required for an occupant load of 30 or fewer.

Note: Table 2902.1 in the 2018 International Building Code was amended by adding footnote "g" which states: "For mercantile occupancies, drinking fountains are not required for an occupant load of 75 or fewer." This amendment did not make it into the 2018 IPC but will be considered valid for both the 2018 IBC and IPC.

(bb) (aa) Section 421.7, entitled "Shower head location," is added to read as follows:

421.7 Shower head location. Showerheads shall be located on the sidewall of shower compartments or be arranged so the shower head does not discharge directly at the entrance to the compartment and the bather can adjust the valve prior to stepping into the shower spray.

(cc) **Section 421.8, entitled “Shower valve location,” is added to read as follows:**

417.8 Shower valve location. A shower or tub/shower control valve shall be installed only where the spout and/or shower head discharges into an approved tub or shower compartment.

(dd) **Section 425.3, entitled “Water closet seats,” is amended to read as follows:**

425.3 Water closet seats. Water closets shall be equipped with seats of smooth, nonabsorbent material. Seats of water closets provided for public or employee toilet facilities shall be of the hinged open-front type. Integral water closet seats shall be of the same material as the fixture. Water closet seats shall be sized for the water closet bowl type.

Exception: Water closets installed in public restrooms for the purpose of complying with accessible fixtures as required by Section 404 fitted with the “AXS-Wingman Universal Design Water Closet Seat” having a closed front are allowed.

(ee) **Section 504.6.1, entitled “Collection of relief valve discharge,” is added to read:**

504.6.1. Collection of relief valve discharge. A means shall be provided to capture the discharge from a relief valve and convey it to the sanitary drainage system or exterior of the structure either by gravity or a pumped discharge.

Exceptions:

1. Replacements for existing water heaters.
2. Where a water sensing device wired to a normally closed solenoid valve installed in the water service piping is placed within the water heater drain pan.

(ff) **Section 504.6.1.1, entitled “Pumped discharge of relief valve collection,” is added to read:**

504.6.1.1 Pumped discharge of relief valve collection. Pumps used to discharge the clear water collection of relief valves shall have an operating temperature equal to or exceeding that of the relief valve discharge temperature and shall have a gpm rating equal to or greater than the discharge of the relief valve.

(gg) **Table 605.3, entitled “Water Service Pipe,” (copper or copper-alloy tubing row) is amended to read as follows:**

Copper or copper-alloy tubing (Type K, WK, L, WL) ^a	ASTM B75/B75M; ASTM B88; ASTM B251; ASTM B447
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a. When using copper or copper-alloy tubing below grade, Type K or WK shall be used.

(hh) **Table 605.4, entitled “Water Distribution Pipe” (copper or copper-alloy tubing row) is amended to read as follows:**

Copper or copper-alloy tubing (Type K, WK, L, WL) ^a	ASTM B75/B75M; ASTM B88; ASTM B251; ASTM B447
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a. When using copper or copper-alloy tubing below grade, Type K or WK shall be used.

(ii) **Section 605.15.2, entitled “Solvent cementing,” is amended to read as follows:**

605.15.2 Solvent cementing. Joint surfaces shall be clean and free from moisture, and an approved primer shall be applied. Solvent cement, orange in color and conforming to ASTM F493, shall be applied to joint surfaces. The joint shall be made while the cement is wet, and in accordance with ASTM D2846 or ASTM F493. Solvent cement joints shall be permitted above or below ground.

(jj) Section 608.9.1, entitled "Signage required," is amended to read as follows:

608.9.1 Signage required. Plumbing fixtures flushed with non-potable water shall be identified with signage that reads as follows: "NONPOTABLE WATER USED TO FLUSH THIS FIXTURE. CAUTION: NONPOTABLE WATER – DO NOT DRINK." In addition, the pictograph shown in figure 608.9.1 shall appear on the required signage. A permanent warning sign must also be visible at all fixtures from which graywater is collected and shall read as follows: "WATER FROM THIS FIXTURE IS REUSED. CHEMICALS, EXCRETA, PETROLEUM OILS AND HAZARDOUS MATERIALS SHALL NOT BE DISPOSED DOWN THIS DRAIN." Words shall be legibly and 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 inch in height and in colors in contrast to the background on which they are applied.

(kk) Section 608.17.11, entitled "Connection to graywater system," is added to read as follows:

608.17.11 Connection to graywater system. The potable water system connection to a graywater system must be protected against backflow by an air gap or reduced pressure principle backflow prevention assembly.

(ll) Section 705.10.2, entitled "Solvent cementing," is amended to read as follows:

705.10.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D2855. Solvent cement joints shall be permitted above or below ground.

(mm) Table 706.3, entitled "Fittings for change of direction," is amended by deleting footnotes a., and b.

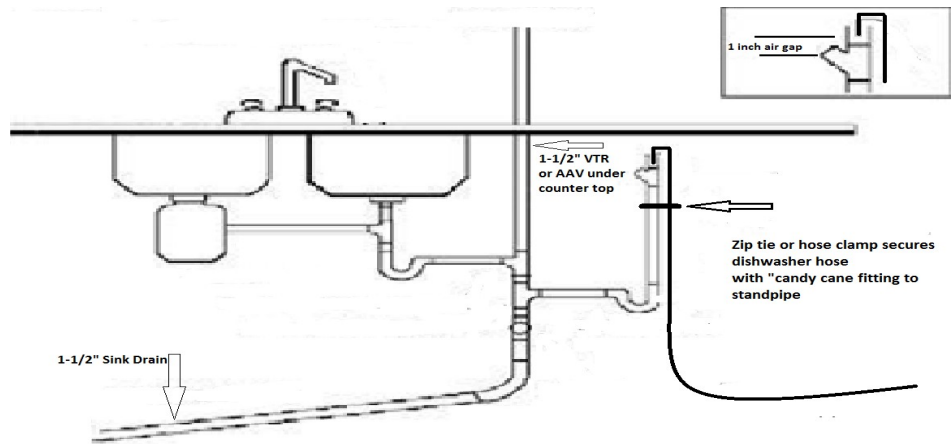
(nn) Section 802.3, entitled "Installation," is amended to read as follows:

802.3 Installation. Indirect waste piping shall discharge through an air gap or air break into a waste receptor. Waste receptors shall be trapped and vented and shall connect to the building drainage system.

(oo) Section 802.1.7, entitled "Food utensils, dishes, pots and pans sinks," is changed to "Domestic dishwashing machines," and is amended to read as follows:

802.1.7 Domestic dishwashing machines. Domestic dishwashing machines shall discharge indirectly through an air gap or air break into a waste receptor in accordance with Section 802.3, or discharge into a wye branch fitting on the tailpiece of the kitchen sink or the dishwasher connection of a food waste disposer. The waste line of a domestic dishwashing machine discharging into a kitchen sink tailpiece or food waste disposer shall connect to a deck-mounted air gap or the waste line shall rise and be securely fastened to the underside of the sink rim or counter.

Exception: Domestic dishwashing machines may be connected to a separately trapped stand pipe provided with an air break shown in the illustration below.



**FIGURE 802.1.7
DISHWASHER DRAIN**

(pp) Section 802.1.7, entitled "Food utensils, dishes, pots and pans sinks," is renumbered to a new Section 802.1.8.

(qq) Section 903.1, entitled "Roof extension," is amended to read as follows:

903.1 Roof extension. Open vent pipes that extend through a roof shall be terminated not less than 6 inches (152 mm) above the roof. Where a roof is to be used for assembly or as a promenade, observation deck, sunbathing deck or similar purposes, open vent pipes shall terminate not less than 7 feet (2,134 mm) above the roof.

(rr) Section 903.2, entitled "Frost closure," is deleted in its entirety.

(ss) Section 912.1, entitled "Horizontal wet vent permitted," is amended to read as follows:

912.1 Horizontal wet vent permitted. Any combination of fixtures within two bathroom groups located on the same floor level is permitted to be vented by a horizontal wet vent. The wet vent shall be considered to be the vent for the fixtures and shall extend from the connection of the dry vent along the direction of the flow in the drain pipe to the most downstream fixture drain connection to the horizontal branch drain. Each wet-vented fixture drain shall connect independently to the horizontal wet vent. Only the fixtures within the bathroom groups shall connect to the wet-vented horizontal branch drain. Any additional fixtures shall discharge downstream of the horizontal wet vent.

Exception: Fixtures other than those considered to be bathroom group fixtures, of equivalent drainage fixture units, may be included in the wet vented section provided the total number of drainage fixture units does not exceed the total number included in two bathroom groups.

(tt) Section 1002.1, entitled "Fixture traps," is amended to read as follows:

1002.1 Fixture traps. Each plumbing fixture shall be separately trapped by a liquid-seal trap, except as otherwise permitted by this code. The vertical distance from the fixture outlet to the trap weir shall not exceed 24 inches (610 mm), and the horizontal distance shall not exceed 30 inches (762 mm) measured from the centerline of the fixture outlet to the centerline of the inlet of the trap. The height of a clothes washer standpipe above a trap shall conform to Section 802.3.3. A fixture shall not be double trapped.

Exceptions:

1. This section shall not apply to fixtures with integral traps.
2. A combination plumbing fixture is permitted to be installed on one trap, provided that one compartment is not more than 6 inches (152 mm) deeper than the other compartment and the waste outlets are not more than 30 inches (762 mm) apart.

3. A grease interceptor intended to serve as a fixture trap in accordance with the manufacturer's installation instructions shall be permitted to serve as the trap for a single fixture or a combination sink of not more than three compartments where the vertical distance from the fixture outlet to the inlet of the interceptor does not exceed 30 inches (762 mm) and the developed length of the waste pipe from the most upstream fixture outlet to the inlet of the interceptor does not exceed 60 inches (1,524 mm).
4. Floor drains in multilevel parking structures that discharge to a building storm sewer shall not be required to be individually trapped. Where floor drains in multilevel parking structures are required to discharge to a combined building sewer system, the floor drains shall not be required to be individually trapped provided that they are connected to a main trap in accordance with Section 1103.1.
5. Trench and floor drains connected to a sand oil interceptor need not be individually trapped provided the drain piping from the trench or floor drains is turned down after entering the interceptor so the discharge point is a minimum of 4 inches (102 mm) below the standing water level of the interceptor.

(uu) Section 1003.1, entitled "Where required," is amended to read as follows:

1003.1 Where required. Interceptors and separators shall be provided to prevent the discharge of oil, grease, sand and other substances harmful or hazardous to the public sewer, the private sewage system or the sewage treatment plant or processes.

Exception: Where special regulations exist by the local waste water and/or sanitation district into which the grease trap or interceptor effluent is transported and/or treated. These regulations may supersede this requirement.

(vv) Section 1101.3, entitled "Prohibited drainage," is amended to read as follows:

1101.3. Prohibited drainage. Storm water shall not be drained into sewers intended for sewage only. Storm water from roof drains shall not discharge over public walkways located in the public right-of-way or any other walkway generally used by the public.

(ww) Section 1301.3.1, entitled "Distribution pipe labeling and marking," is added to read as follows:

1301.3.1 Distribution pipe labeling and marking. Non-potable distribution piping shall comply with Section 608.9.2.

(xx) Section 1301.9.5, entitled "Overflow," is amended to read as follows:

1301.9.5 Overflow. The storage tank shall be equipped with an overflow pipe having a diameter not less than that shown in Table 606.5.4. The overflow pipe shall be protected from insects or vermin. The overflow drain shall not be equipped with a shutoff valve and shall discharge into the sanitary sewer either directly, or indirectly with a trap in the drain line to keep odors from escaping the tank. A cleanout shall be provided on each overflow pipe in accordance with Section 708.

(yy) Section 1301.9.8, entitled "Draining of tanks," is amended to read as follows:

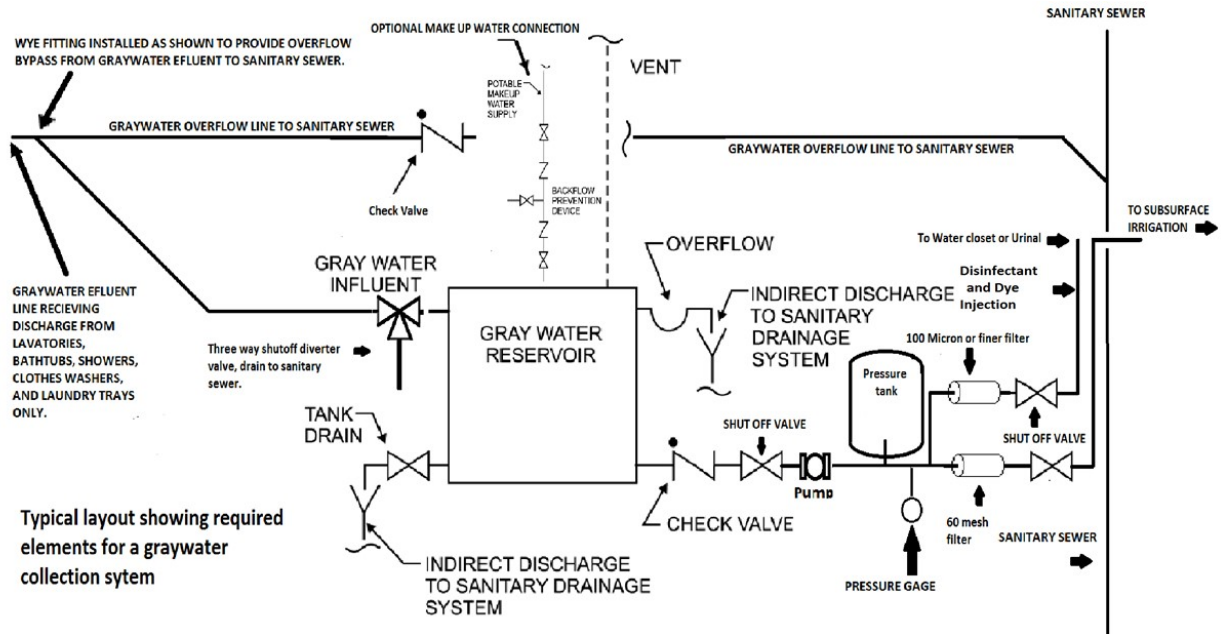
1301.9.8 Draining of tanks. Tanks shall be provided with a means of emptying the contents for the purpose of service or cleaning. Tanks shall be drained by using a pump or by a drain located at the lowest point in the tank. The tank drain pipe shall discharge into the sanitary sewer either directly, or indirectly with a trap in the drain line to keep odors from escaping the tank and shall not be smaller in size than specified in Table 606.5.7. Not less than one cleanout shall be provided on each drain pipe in accordance with Section 708.

(zz) Section 1301.11, entitled "Trenching requirements," is deleted in its entirety.

(aaa) Section 1301.12, entitled "Outdoor outlet access," is deleted in its entirety.

(bbb) Section 1301.13, entitled "Typical graywater collection system," is added to read as follows:

1301.13 Typical graywater collection system. Graywater collection systems shall be in accordance with Figure 1301.13.



**FIGURE 1301.13
TYPICAL GRAYWATER COLLECTION SYSTEM**

(ccc) Section 1302.1, entitled "General," is amended to read as follows:

1302.1 General. The provisions of ASTM E2635 and Section 1302 shall govern the construction, installation, alteration and repair of on-site non-potable water reuse systems for the collection, storage, treatment and district All plumbing systems utilizing non-potable water reuse systems shall have a double check valve installed at the water service entrance immediately downstream of the building water service shut off valve.

(ddd) Section 1302.5, entitled "Filtration," is amended to read as follows:

1302.5 Filtration. Untreated water collected for reuse shall be filtered as required for the intended end use. Filters shall be provided with access for inspection and maintenance. Filters shall utilize a pressure gauge or other approved method to provide indication when a filter requires servicing or replacement. Filters shall be installed with shutoff valves immediately upstream and downstream to allow for isolation during maintenance. Graywater used for dispersed subsurface irrigation system requires a cartridge filter. The cartridge filter must be a minimum of 60 mesh located between the storage tank and the irrigation system.

(eee) Section 1302.6.1, entitled "Graywater used for fixture flushing is amended to read as follows:

1302.6.1 Graywater used for fixture flushing. Graywater used for flushing water closets and urinals shall be disinfected and treated by an on-site water reuse treatment system complying with NSF 350. Graywater used for toilet and urinal flushing shall be dyed with blue or green food grade vegetable dye and be visibly distinct from potable water.

(fff) Section 1302.7.3, entitled "Overflow," is added to read as follows:

1302.7.3 Overflow. Storage tank for on-site non-potable systems must include an overflow line without a shut off valve. The overflow line shall be connected to the sanitary sewer either directly or indirectly. The overflow line must be the

same or larger diameter line than the tank influent line. The overflow line connected indirectly must be trapped to prevent the escape of gas vapors from the tank.

(ggg) Section 1302.7.4, entitled "Venting," is added to read as follows:

1302.7.4 Venting. Storage tank for on-site non-potable systems must be vented. Indoor tanks must be vented to the atmosphere outside the building or connected to the plumbing vent system.

(hhh) Section 1302.7.5, entitled "Tank drains," is added to read as follows:

1302.7.5 Tank Drains. Storage tank for on-site non-potable systems must include a valved drain. The drain shall be indirectly connected to the sanitary sewer. The tank drain line must be the same or larger diameter line than the tank influent line.

(iii) Section 1302.8.1, entitled "Bypass valve," is amended to read as follows:

Section 1302.8.1 System Bypass. One three-way diverter valve listed and labeled to NSF 50 or other approved device shall be installed on collection piping upstream of any graywater treatment equipment, as applicable, to divert untreated on-site reuse sources to the sanitary sewer to allow servicing and inspection of the system. Bypass valves shall be installed downstream of fixture traps and vent connections. Bypass valves shall be marked to indicate the direction of flow, connection and storage tank or drain-field connection. Bypass valves shall be installed in accessible locations. Two shutoff valves shall not be installed to serve as a bypass valve. In addition to the bypass valve a series of drainage fittings shall be installed in the collection piping upstream of the bypass valve in a configuration that will allow the graywater from the plumbing fixtures to automatically flow directly into the sanitary sewer system in the event the filter or other parts of the collection system become clogged to the point of not allowing the effluent free flow through the system. The overflow line connected to the sanitary sewer shall be equipped with a backwater valve.

(jjj) Section 1303, entitled "Non-potable rainwater collection and distribution systems," is deleted in its entirety.

(kkk) Chapter 14, entitled "Subsurface landscape irrigation systems," is deleted in its entirety