

Staff: Baaba K. Halm  
Counsel to the Committee

Laura Rogers  
Legislative Attorney

Benjamin J. Goodman  
Senior Legislative Policy Analyst



**THE COUNCIL**

**REPORT OF THE INFRASTRUCTURE DIVISION  
ROBERT NEWMAN, LEGISLATIVE DIRECTOR**

**COMMITTEE ON HOUSING AND BUILDINGS  
Hon. Erik Martin Dilan, Chair**

June 22, 2010

**INT. NO. 263:**

By: Council Members Dickens, Brewer, Comrie,  
Foster, James, Lander and Williams

**TITLE:**

A Local Law to amend the administrative code of  
the city of New York, in relation to reducing the  
waste of drinking water for cooling.

**PLUMBING CODE:**

Amends sections PC 202 and 428.1.

**INT. NO. 264:**

By: Council Members Eugene, Foster, James,  
Lander and Palma

**TITLE:**

A Local Law to amend the plumbing code of the  
city of New York, in relation to drinking fountains.

**PLUMBING CODE:**

Amends section 410.1 of the Plumbing Code of title  
28.

**INT. NO. 268:**

By: Council Members Lander, Barron, Brewer, Chin, Vann and Williams

**TITLE:**

A Local Law to amend the administrative code of the city of New York, in relation to preventing water waste in buildings.

**PLUMBING CODE:**

Amends sections 605.5.4.1, 608.16.2 of the Plumbing Code of title 28 and adds a new section 606.7 to such Code.

**INT. NO. 271:**

By: Council Members Lappin, Brewer, Gonzalez, Lander, Recchia, Van Bramer, Vann and Williams

**TITLE:**

A Local Law to amend the New York city plumbing code and the administrative code of the city of new York, in relation to enhancing water efficiency standards.

**ADMINISTRATIVE CODE:**

Amends sections 202, 419.1, 604.4, table 604.4, and chapter 13 of the Plumbing Code of title 28 and deletes section C102 of such Code and amends section 20-689 of title 20.

**BACKGROUND AND ANALYSIS:**

On June 22, 2010, the Committee on Housing and Buildings, chaired by Council Member Erik Martin Dilan, will conduct a hearing on a legislative package of bills related to enhancing the energy efficiency of buildings. This committee report discusses four bills included in such package which relate to the efficient use of water: Int. No. 263, "A Local Law to amend the administrative code of the city of New York, in relation to reducing the waste of drinking water for cooling"; Int. No. 264, "A Local Law to amend the New York city plumbing code, in relation to drinking fountains"; Int. No. 268, "A Local Law to amend the administrative code of the city of New York, in relation to preventing water waste in buildings" and Int. No. 271, "A Local Law

to amend the New York city plumbing code and the administrative code of the city of new York, in relation to enhancing water efficiency standards.”

By enacting Local Law 22 of 2008, New York City committed to reducing its greenhouse gas emissions by 30% by 2017 for government operations and by 30% citywide by 2030. PlaNYC, the City’s comprehensive sustainability plan, sets an additional goal of reducing New York City’s daily water use by 60 million gallons. Buildings are responsible for about 75% of our greenhouse gas emissions<sup>1</sup> and 85% of our water use, making improved building efficiency a crucial component of reaching these environmental goals. New York City has experienced seven droughts over the last 45 years<sup>2</sup> and is vulnerable to future droughts. The Department of Environmental Protection has successfully implemented water conservation strategies since the 1990’s, reducing daily average water use in New York City from over 208 gallons per person in 1988 to about 134 gallons per person in 2006.<sup>3</sup> Daily use remains high, however, and code improvements have the potential to make further reductions in water use, helping to protect the quality and adequacy of the City’s water supply.

Recognizing the important role of building performance, Mayor Bloomberg and Speaker Quinn convened the New York City Green Codes Task Force in July of 2008. The Task Force was composed of industry experts, union representatives, tenant advocates, environmentalists, academics, developers, buildings owners, and representatives of City agencies as well as the Mayor’s office and the Speaker’s office. This group was divided into nine technical committees, a steering committee, and an industry advisory committee. After two years of work examining each of New York City’s building codes, the Task Force presented 111 recommendations for

---

<sup>1</sup> Mayor’s Office of Long-Term Planning and Sustainability, September 2009. Inventory of New York City Greenhouse Gas Emissions.

<sup>2</sup> New York City Department of Environmental Protection. Available online at: [http://www.nyc.gov/html/dep/html/drinking\\_water/drougthist.shtml](http://www.nyc.gov/html/dep/html/drinking_water/drougthist.shtml)

<sup>3</sup> Green Codes Task Force Proposals: Executive Summary at p. 57, 2010. Available online at: <http://www.urbangreencouncil.org/greencodes/>

“greening the codes.” The recommended improvements are intended to raise the bar for environmental performance in buildings throughout the City.

The bills before the Committee today are the first of these recommendations to come before the Council as proposed legislation with regard to more efficient water use. The Committee expects to hear testimony from representatives of the Department of Buildings industry experts, environmentalists, academics, developers, property owners, tenants, and other persons interested in this legislation.

### **Int. No. 263**

Most large cooling systems typically re-circulate water but certain large commercial cooling systems, such as large ice-making machines or walk-in refrigerators use potable water that passes through the system only once before being disposed of as wastewater, thus using large amounts of drinking water unnecessarily. Moreover, when these systems encounter problems, they are likely to use even more water – such as if for example, a valve that controls water flow may remain open when it fails- meaning that improperly functioning systems may be running drinking water on a once-through basis 24 hours a day. Int. No. 263 would prohibit the use of drinking water for once-through cooling systems.

Bill section one would add the definition of “once-through cooling” to New York City Plumbing Code (Plumbing Code or PC) section 202 in the appropriate alphabetical order in that section. The definition of this term would be “[t]he use of potable water to cool a condenser, or other process equipment or building equipment, and then discharging the water to a sanitation drain. Once-through cooling also includes the use of potable water to temper hot water or steam before discharging to a sanitation drain.

Bill section two would amend chapter 4 of the Plumbing Code by adding a new section PC 428 entitled, "Prohibited Water Uses." The heading of new section 428.1 within section 428 is, "Prohibited potable water uses" and provides that potable water shall not be permitted for those uses prohibited by PC 428. The heading of new section 428.1.1 is, "Potable water prohibited for once through cooling" and provides that potable water shall not be used for once-through cooling. This new section also provides that "[e]quipment such as ice-making machines, walk-in coolers, refrigerated walk-in boxes, or environmental air conditioning equipment shall be provided with air cooled condensers or recirculating condenser water systems, or supplied with non-potable water as permitted by Appendix C" of the Plumbing Code. An exception would be made for once-through water cooled ice makers which produce less than 500 lbs of ice per day at Standard Rating Conditions as specified in ARI Standard 810-2006.

Bill section three provides that this local law would take effect on January 1, 2011, except that the Commissioner of Buildings shall take such actions as are necessary for its implementation, including the promulgation of rules, prior to such effective date.

#### **Int. No. 264**

Drinking water throughout the day is important for health and drinking fountains provide a free source of drinking water in buildings. Drinking fountains are required in many buildings, but a previous change to the Plumbing Code allowed machines that dispense bottled water to fulfill up to 50% of this requirement.

Bill section one amends section 410.1 of the Plumbing Code by requiring that drinking fountains dispense water that may drunk without using a cup. The water must be dispensed at an angle which prevents the mouths and noses of a person drinking from the fountain from touching the water source. The water fountain must also contain a separate faucet or outlet, which can be

used to fill a bottle that is at least ten inches high with drinkable water. In occupancies where drinking fountains are required and where drinkable water is available to all users of the space and can be used for filling cups or bottles, which are at least ten inches high, water coolers or faucets, equipment or devices providing purified water, other than faucets, equipment or devices located in restrooms may no longer serve as a substitute for a drinking fountain in an effort to reduced environmental damage done through individual bottles of water. However, equipment or devices that dispense water in individual bottles, one bottle at a time, are allowed to be substituted for up to 50 percent of the required drinking fountains.<sup>4</sup>

Bill section two contains the enactment clause and provides that this local law would take effect on January 1, 2011, except that the Commissioner of Buildings shall take such actions as are necessary for its implementation, including the promulgation of rules, prior to such effective date.

### **Int. No. 268**

Certain types of facilities such as commercial laundry facilities, commercial cooking facilities and swimming pools use large amounts of water. For these users, equipment leaks and malfunctions can waste enormous amounts of water very quickly. While all commercial buildings have meters that measure building-wide water consumption, identifying water usage by individual water users is not possible absent sub-meters placed strategically throughout a building. For that reason, Int. No. 268 would require major water uses such as swimming pools, commercial kitchens, and commercial laundries to have separate sub-meters for water. This would alert both the operator of the facility and the Department of Environmental Protection

---

<sup>4</sup> See Section PC 403, attached as an addendum on page 21, which details the occupancies where drinking fountains are required.

(DEP) to a potential water leak or equipment malfunction and would allow the problem to be addressed more quickly.

Bill section one contains the legislative intent expressing the need for this legislation.

Bill section two amends section 606.5.4.1 of the Plumbing Code by requiring that all roof tanks must be provided with a high water level alarm which must be located at or slightly below the overflow. The high water level alarm must be designed to activate when the ball cock, automatic supply valve, or emergency electrical cut-off fails. The alarm would alert the staff of the building of a water leak or equipment malfunction.

Bill section three amends section 606 of the PC by adding a new section 606.7, which requires water sub-meters from a list promulgated by the DEP to be installed on the makeup water lines for: evaporative cooling towers; commercial cooking facilities; commercial laundry facilities; commercial gyms and spas and swimming pools. However, swimming pools accessory to Group R-3 occupancies<sup>5</sup> are not required to have a water sub-meter.

Bill section four amends section 608.16.2 of the PC by requiring that makeup water supplies to boilers serving buildings greater than six stories must be equipped with a water sub-meter from a list to be promulgated by DEP along with inlet and outlet isolation valves.

Bill section five contains the enactment clause and provides that this local law would take effect on January 1, 2011, except that the Commissioner of Buildings shall take such actions as are necessary for its implementation, including the promulgation of rules, prior to such effective date.

---

<sup>5</sup> Pursuant to Section 310.1.3 of the Building Code of the City of New York, Group R-3 occupancies include one- and-two-family homes, group homes and convents and monasteries with fewer than twenty occupants.

## **Int. No. 271**

Although New York City usually has abundant rainfall and snow melt in its 2,000 square mile watershed to provide those who reside and work in the City with adequate supplies of water, over the past 10-15 years there have been significant periods where the City's water supply has not been adequate to meet average daily needs without some limitations being imposed. For example, in the Spring and Summer of 2002, the City's water supply was only at 33% of capacity, far below the typical capacity of 80-90% and the Department of Environmental Protection imposed certain restrictions on water use, such as providing water in restaurants watering lawns and hosing down sidewalks.

It has been estimated by some that reducing the amount of water used by plumbing fixtures such as toilets and showerheads could ultimately reduce water consumption by 5-7 gallons of water per person per day, or 3-4% over the next ten years.<sup>6</sup> Using less water should also reduce wastewater flows, potentially easing the burden on the City's wastewater treatment plants and reducing the incidence of combined sewer overflows. In addition, by removing impediments to the use of non-water urinals, we facilitate the use of water-saving technologies. Int. No. 271 is intended to aid in this effort by address water efficiency standards for toilets, showerheads, and other plumbing fixtures and by allowing other technologies to be used.

Bill section one amends the list of definitions in section 202 of the Plumbing Code by adding the definitions of "Dual Flush Toilet" and "Non-Water Urinal." "Dual Flush Toilet" is defined as a toilet that enables the user to use different flush volumes depending on the type of waste. "Non-Water Urinal" is defined as a urinal which is not supplied by a water distribution system. The waste from a waterless urinal is immediately chemically treated then discharged into the sanitary drainage system.

---

<sup>6</sup> Green Codes Task Force Proposals. Available online at:<http://www.urbangreencouncil.org/greencodes/>



Bill section two amends section 419.1 of the PC regarding the approval of urinals by adding a provision that allows non-water urinals to be used but they must conform to ANSI/ASME A112.19.19.

Bill section three amends section 604.4 of the PC by deleting the maximum water consumption flow rates and quantities for blowout design toilets and clinical sinks.

Bill section four amends table 604.4 of the PC by changing the maximum flow rate or quantity for the following plumbing fixtures: a private lavatory from 2.2 gmp at 60 psi to 1.5 gmp at 60 psi<sup>7</sup>; a shower head from 2.5 gpm at 80 psi to 2.0 g,p at 80 psi; a sink faucet from 2.2gpm at 60 psi to 1.5gpm at 60 psi; a urinal from 1.0 gallon per flushing cycle to 0.5 gallons per flushing cycle and a toilet from, 1.6 to 1.28U gallons per flushing cycle or equivalent dual flush. Furthermore, the maximum flow rate of a service sink was added to the table and would require a maximum flow rate of 2.5gpm at 60 psi.

Bill section five amends chapter 13 of the PC by adding a reference to ASMI standard A112.19.19, vitreous China Nonwater Urinals.....419.1.

Bill section six removes section C102 (Waterless Urinals) from the PC because the water usage provisions relating to waterless urinals (now called “non-water” urinals) has been added by bill section four to the chart in section PC 604.

Bill section seven amends section 20-689 of the Ad. Code and makes it illegal to not just “distribute, sell or offer to sell or import” a non-compliant plumbing fixture, it will now also be illegal to “buy, offer to buy, or cause any person to buy or sell or import” any plumbing fixture which does not comply with the water consumption requirements of PC 604.4.

Bill section eight contains the enactment clause and provides that this local law would take effect on January 1, 2011, except that the Commissioner of Buildings and the Commissioner

---

<sup>7</sup> Psi refers to pounds of pressure per square inch.

of Consumer Affairs shall each take such measures as are necessary for its implementation, including the promulgation of rules, prior to the effective date.

Int. No. 263

By Council Member Dickens, Brewer, Comrie, Foster, James, Lander and Williams.

A Local Law

To amend the New York city plumbing code, in relation to reducing the waste of drinking water for cooling.

Be it enacted by the Council as follows:

Section 1. Section PC 202 of the New York city plumbing code is amended by adding a certain definition to be placed in the appropriate alphabetical order to read as follows:

**ONCE-THROUGH COOLING.** The use of potable water to cool a condenser, or other process equipment or building equipment, and then discharging the water to a sanitation drain. Once-through cooling also includes the use of potable water to temper hot water or steam before discharging to a sanitation drain.

§2. Chapter 4 of the New York city plumbing code is amended by adding a new section PC 428 to read as follows:

**SECTION PC 428**  
**PROHIBITED WATER USES**

**428.1 Prohibited potable water uses.** Potable water shall not be permitted for those uses prohibited by this section.

**428.1.1 Potable water prohibited for once through cooling.** Potable water shall not be used for once-through cooling. Equipment such as ice-making machines, walk-in coolers, refrigerated walk-in boxes, or environmental air conditioning equipment shall be provided with air cooled condensers or recirculating condenser water systems, or supplied with non-potable water as permitted by Appendix C of this code.

Exception:

Once-through water-cooled ice makers producing less than 500 pounds of ice per day at Standard Rating Conditions as specified in ARI Standard 810-2006 shall be exempt.

§3. This local law shall take effect on January 1, 2011, except that the commissioner of buildings shall take such measures as are necessary for its implementation, including the promulgation of rules, prior to such effective date.

JH  
6-4-10 12 pm  
LS# 992  
WE 6

By Council Member Eugene, Foster, James, Lander and Palma

A LOCAL LAW

To amend the New York city plumbing code, in relation to drinking fountains.

Be it enacted by the Council as follows:

Section 1. Section 410.1 of the New York city plumbing code, as added by local law number 33 for the year 2007, is amended to read as follows:

**SECTION PC 410**

**DRINKING FOUNTAINS**

**410.1 Approval.** Drinking fountains shall dispense potable water that may be drunk without using a cup, and which shall be dispensed at such an angle so as to prevent the mouths and noses of persons drinking from such fountains from coming into contact with the water outlet, and which shall also contain a separate faucet or other outlet suitable for filling a bottle that is at least 10 inches high with potable water. Drinking fountains shall conform to ASME A112.19.1M, ASME A112.19.2M or ASME A112.19.9M, and water coolers shall conform to ARI 1010. Drinking fountains and water coolers shall conform to NSF 61, Section 9. Where water is served in restaurants, drinking fountains shall not be required. In other occupancies, where drinking fountains are required, [bottled water dispensers] where potable water is readily available to all users of a space and may be dispensed for filling cups, or bottles which are at least 10 inches high, through water coolers or faucets, equipment or devices providing purified water, other than such faucets, equipment or devices located in restrooms and equipment or devices that dispense water in individual bottles, one bottle at a time, such water coolers, faucets, equipment or devices

shall be permitted to be substituted for not more than 50 percent of the required drinking fountains.

§2. This local law shall take effect on January 1, 2011, except that the commissioner of buildings shall take such actions as are necessary for its implementation, including the promulgation of rules, prior to such effective date.

LS # 990  
6-7-10 2:15 pm  
DB  
HT 20

By Council Member Lander, Barron, Brewer, Chin, Vann and Williams

A LOCAL LAW

To amend the administrative code of the city of New York, in relation to preventing water waste in buildings.

Be it enacted by the Council as follows:

Section 1. Statement of findings and purpose. Leaks and equipment malfunctions have the potential to waste a tremendous amount of water in New York City buildings and they can persist undetected for years. The Council therefore finds that sub-meters attached to major water-using equipment will help building managers quickly detect such leaks and malfunctions, and save significant amounts of water from being wasted.

§2. Section 606.5.4.1 of the New York city plumbing code, as added by local law number 33 for the year 2007, is amended to read as follows:

**606.5.4.1 Water piping control and location.** Water inlets to gravity house tanks shall be controlled by a ball cock or other automatic supply valve or emergency electrical cut-off so installed as to prevent the overflow of the tank in the event that the pumps filling the tanks do not shut off at the predetermined level or the street pressure rises to a point where it can fill the tank. The water inlet to a suction tank shall be controlled by a ball cock or other automatic supply valve. The inlet shall be terminated so as to provide an accepted air gap but in no case shall it be less than 4 inches (102 mm) above the top of the overflow. The outlet from a gravity tank to the distribution system shall be equipped with a strainer located at least 2 inches (51 mm) above the tank bottom to prevent solids from entering the piping system. All down-feed supplies from a tank cross connected in any manner with distribution supply piping in a building supplied by

direct street or pump pressure, shall be equipped with a check valve on the main cold water down supply to prevent backflow of water into the roof tank. All roof tanks shall be provided with a high water level alarm, at or slightly below the overflow, designed to activate when the ball cock, automatic supply valve, or emergency electrical cut-off fails.

§3. Section 606 of the New York city plumbing code, as added by local law number 33 for the year 2007, is amended by adding a new section 606.7 to read as follows:

**606.7 Equipment and area sub-meters.** Water sub-meters from a list promulgated by the department of environmental protection shall be installed on the makeup water lines for the following:

1. evaporative cooling towers
2. commercial cooking facilities
3. commercial laundry facilities
4. commercial gyms and spas
5. swimming pools

Exception: Swimming pools accessory to Group R-3 occupancies

§4. Section 608.16.2 of the New York city plumbing code, as added by local law number 33 for the year 2007, is amended to read as follows:

**608.16.2 Connections to boilers.** The potable supply to the boiler shall be equipped with a backflow preventer with an intermediate atmospheric vent complying with ASSE 1012 or CAN/CSA B64.3. Where conditioning chemicals are introduced into the system, the potable water connection shall be protected by an air gap or a reduced pressure principle backflow preventer, complying with ASSE 1013, CAN/CSA B64.4 or AWWA C511. Makeup water supplies to boilers serving buildings greater than six stories shall be equipped with a water sub-



meter from a list promulgated by the department of environmental protection along with inlet and outlet isolation valves.

§5. This local law shall take effect on January 1, 2011, except that the commissioner of buildings shall take such actions as are necessary for its implementation, including the promulgation of rules, prior to such effective date.

LS # 995  
6-4-10 12 pm  
DB  
WE 3

Int. No. 271

By Council Member Lappin, Brewer, Gonzalez, Lander, Recchia, Van Bramer, Vann and Williams

A Local Law

To amend the New York city plumbing code and the administrative code of the city of new York, in relation to enhancing water efficiency standards.

Be it enacted by the Council as follows:

Section 1. Section PC 202 of the New York city plumbing code is amended by adding certain definitions to be placed in appropriate alphabetical order to read as follows:

**DUAL FLUSH TOILET.** A toilet that enables the user to select a high flush for solid waste or a reduced volume, low flush for liquid waste.

**NON-WATER URINAL.** A urinal that discharges into the sanitary drainage system but is not supplied by a water distribution system.

§2. Section 419.1 of the New York city plumbing code is amended to read as follows:

**419.1 Approval.** Urinals shall conform to ASME A112.19.2M, CSA B45.1 or CSA B45.5. Urinals shall conform to the water consumption requirements of Section 604.4. Urinals shall conform to the hydraulic performance requirements of ASME A112.19.6, CSA B45.1 or CSA B45.5. Non-water urinals shall conform to ANSI/ASME A112.19.19.

§3. Section 604.4 of the New York city plumbing code is amended to read as follows:

**604.4 Maximum flow and water consumption.** The maximum water consumption flow rates and quantities for all plumbing fixtures and fixture fittings shall be in accordance with Table 604.4.

Exceptions:

1. Blowout design toilets [3.5 gallons (13 L) per flushing cycle].

- 2. Vegetable sprays.
- 3. Clinical sinks [4.5 gallons (17 L) per flushing cycle].
- 4. Service sinks.
- 5. Emergency showers.

§4. Table 604.4 of the New York city plumbing code is amended to read as follows:

TABLE 604.4  
MAXIMUM FLOW RATES AND CONSUMPTION FOR PLUMBING FIXTURES AND  
FIXTURE FITTINGS

PLUMBING FIXTURE OR FIXTURE FITTING	MAXIMUM FLOW RATE OR QUANTITY <sup>b</sup>
Lavatory, private	[2.2]1.5 gmp at 60 psi
Lavatory, public (metering)	0.25 gallon per metering cycle
Lavatory, public (other than metering)	0.5 gpm at 60 psi
Shower head <sup>a</sup>	[2.5]2.0 gpm at 80 psi
Sink faucet	[2.2]1.5 gpm at 60 psi
<u>Service sink</u>	<u>2.5 gpm at 60 psi</u>
Urinal	[1.0]0.5 gallon per flushing cycle
Toilet	[1.6]1.28U gallons per flushing cycle or <u>equivalent dual flush<sup>c</sup></u>

For SI: 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m,

1 pound per square inch = 6.895 kPa.

- a. A hand-held shower spray is a shower head.
- b. Consumption tolerances shall be determined from referenced standards.
- c. A dual flush toilet where the average of the high flush and the low flush is less than or equal to 1.28 gallons per flush.

§5. Chapter 13 of the New York city plumbing code is amended by adding a reference to ASME standard A112.19.19 to immediately follow the reference to ASME standard A112.19.14 to read as follows:

A112.19.19-2006 Vitreous China Nonwater Urinals.....419.1

§6. Section C102 (Waterless Urinals) of the New York city plumbing code is deleted.

§7. Subdivision 1 of section 20-689 of the administrative code of the city of New York is amended to read as follows:

(1) It shall be unlawful for any person to distribute, sell, offer for sale, buy, offer to buy, cause any person to buy or sell or import any plumbing fixture which does not [meet the standards of subdivision P.104.2 of section P.104.0 of reference standard RS-16 of the appendix to chapter one of title twenty-seven of this code] comply with the water consumption requirements of section 604.4 of the New York city plumbing code.

§8. This local law shall take effect on January 1, 2011, except that the commissioner of buildings and the commissioner of consumer affairs shall each take such measures as are necessary for its implementation, including the promulgation of rules, prior to such effective date.

JH  
6-9-10 11 am  
WE 1

**402.3 Sheet copper.** Sheet copper for general applications shall conform to ASTM B 152 and shall not weigh less than 12 ounces per square foot (3.7 kg/m<sup>2</sup>).

**402.4 Sheet lead.** Sheet lead for pans shall not weigh less than 4 pounds per square foot (19.5 kg/m<sup>2</sup>) coated with an asphalt paint or other approved coating.

**SECTION PC 403**  
**MINIMUM PLUMBING FACILITIES**

**403.1 Minimum number of fixtures.** Plumbing fixtures shall be provided for the type of occupancy and in the minimum number shown in Table 403.1. Types of occupancies not shown in Table 403.1 shall be considered individually by the commissioner. The number of occupants shall be determined by the New York city building code. Occupancy classification shall be determined in accordance with the New York city building code.

**TABLE 403.1**  
**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES**  
(See Sections 403.2 and 403.3)

NO.	CLASSIFICATION	OCCUPANCY <sup>1</sup>	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410.1)	OTHER
				MALE	FEMALE	MALE	FEMALE			
1	Assembly (see Sections 403.2, 403.5 and 403.6)		Theaters usually with fixed seats and other buildings for the performing arts and motion pictures	1 per 70 for the first 210 and 1 per 125 for the remainder exceeding 210	1 per 35 for the first 210 and 1 per 65 for the remainder exceeding 210	1 per 200		-	1 per 500	1 service sink
			Nightclubs, bars <sup>2</sup> , taverns, dance halls and buildings for similar purposes	1 per 75 <sup>1</sup>	1 per 40 <sup>1</sup>	1 per 75		-	1 per 500	1 service sink
			Restaurants <sup>3</sup> , banquet halls and food courts	1 per 75	1 per 75	1 per 200		-	1 per 500	1 service sink
			Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums	1 per 70 for the first 210 and 1 per 125 for the remainder exceeding 210	1 per 35 for the first 210 and 1 per 65 for the remainder exceeding 210	1 per 200		-	1 per 500	1 service sink
			Passenger terminals and transportation facilities	1 per 500	1 per 500	1 per 750		-	1 per 1,000	1 service sink

		Places of worship and other religious services, Churches without assembly halls	1 per 150	1 per 75	1 per 200	:	1 per 1,000	1 service sink
--	--	---	-----------	----------	-----------	---	-------------	----------------

**TABLE 403.1—continued**  
**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES**  
(See Sections 403.2 and 403.3)

NO.	CLASSIFICATION	OCCUPANCY <sup>1</sup>	DESCRIPTION	WATER CLOSETS (URINALS, SEE SECTION 419.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410.1)	OTHER
				MALE	FEMALE	MALE	FEMALE			
			Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,500 and 1 per 60 for the remainder exceeding 1,500	1 per 200	1 per 150	:	1 per 1,000	1 service sink
			Stadiums, amusement parks, bleachers and grandstands for outdoor sports and events	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,500 and 1 per 60 for the remainder exceeding 1,500	1 per 200	1 per 150	:	1 per 1,000	1 service sink
2	Business (see Sections 403.2, 403.4 and 403.6)		Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses	No. of persons each sex 1-15 _____ 1 16-35 _____ 2 36-55 _____ 3 56-80 _____ 4 81-110 _____ 5 111-150 _____ 6 1 fixture for each additional 40 persons	No. of fixtures 1-20 _____ 1 21-40 _____ 2 41-60 _____ 3 61-90 _____ 4 91-125 _____ 5 1 fixture for each additional 45 persons			:	1 per 100	1 service sink
3	Educational		Educational facilities		1 per 50	1 per 50		:	1 per 100	1 service sink
4	Factory and industrial		Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 100		1 per 100		(see Section 411)	1 per 400	1 service sink
5	Institutional		Residential care	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
			Hospitals, ambulatory nursing home patients <sup>b</sup>	1 per room <sup>c</sup>		1 per room <sup>c</sup>		1 per 15	1 per 100	1 service sink per floor
			Employees, other than residential care <sup>b</sup>	1 per 25		1 per 35		:	1 per 100	:
			Visitors, other than residential care	1 per 75		1 per 100		:	1 per 500	:
			Prisons <sup>b</sup>	1 per cell		1 per cell		1 per 15	1 per 100	1 service sink
			Reformatories, detention centers, and correctional centers	1 per 15		1 per 15		1 per 15	1 per 100	1 service sink
	Adult daycare and childcare <sup>b</sup>	1 per 15		1 per 15		1 per 15 <sup>d</sup>	1 per 100	1 service sink		

*(continued)*

**TABLE 403.1—continued**  
**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES**  
(See Sections 403.2 and 403.3)

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS, SEE SECTION 419.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410.1)	OTHER
				MALE	FEMALE	MALE	FEMALE			
6	Mercantile (see Sections 403.2, 403.5 and 403.6)		Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 per 500		1 per 750		—	1 per 1,000	1 service sink
7	Residential		Hotels, motels, boarding houses (transient)	1 per guestroom		1 per guestroom		1 per guestroom	—	1 service sink
			Dormitories, fraternities, sororities and boarding houses (not transient)	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
			Apartment house	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit, 1 automatic clothes washer connection per 20 dwelling units.
			One- and two-family dwellings	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit, 1 automatic clothes washer connector per dwelling unit <sup>a</sup>
			Residential care/assisted living facilities	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
8	Storage (see Sections 403.2 and 403.4)		Structures for the storage of goods, warehouses, storehouse and freight depots. Low and Moderate Hazard.	1 per 100		1 per 100		1 per 1,000	See Section 411	1 service sink

- a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated. Any fraction of the number of persons requires an additional fixture. The number of occupants shall be determined by the New York city building code.
- b. Toilet facilities for employees shall be separate from facilities for inmates or patients.
- c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient rooms shall be permitted where such room is provided with direct access from each patient room and with provisions for privacy.
- d. For day nurseries, a maximum of one bathtub shall be required.
- e. For attached one- and two-family dwellings, one automatic clothes washer connection shall be required per 20 dwelling units.
- f. Use a calculation based on 1 person/125 net square feet.
- g. For the purposes of this table only, "Bar" shall mean a business establishment or a portion of a non-profit entity devoted primarily to the selling and serving of alcoholic beverages for consumption by the public, guests, patrons, or members on the premises and in which the serving of food is only incidental.
- h. The total number of occupants for a single establishment comprising a restaurant with an accessory bar shall be considered as a restaurant for the purposes of determining the minimum number of plumbing fixtures.
- i. As per the New York city building code.
- j. The requirements for the number of water closets for a total occupancy of 150 persons or fewer shall not apply to bars except that there shall be at least one water closet for men and at least one water closet for women or at least two unisex toilet rooms.

**403.2 Separate facilities.** Where plumbing fixtures are required, separate facilities shall

