2021 Amendments to the Chicago Plumbing Code

Modernizing Chicago’s Construction Codes Initiative

Goal
To better align the City of Chicago’s construction requirements with up-to-date model codes and standards used in other major U.S. jurisdictions while maintaining longstanding local requirements that are adapted to unique conditions in Chicago.

Outcomes
- Streamline permitting processes
- Reduce barriers to cost-effective construction
- Enhance public safety
- Promote energy efficiency and sustainability
- Facilitate innovative design and construction
- Benefit from national code development efforts

Code Amendments—Guiding Principles

EQUITY: Remove barriers to investment in INVEST South/West corridors for both residential and commercial development:
- Encourage reuse and refurbishment of existing buildings.
- Assist small businesses, especially restaurants.

ENVIRONMENT: Remove barriers to energy efficient design and decarbonization.

HEALTH AND SAFETY: Eliminate code requirements that create health risks (lead poisoning; water borne pathogens, restroom access).

TRANSPARENCY: Reduce need for project-specific approvals and variances; eliminate “Chicagoisms” with no technical benefits; and continue to align with latest national model codes and standards.
1. **September 2021:** 6 substantive interim amendments to 2003 Mechanical Code, plus coordination and cleanup.

2. **October 2021:** 9 substantive interim amendments to 2001 Plumbing Code, plus coordination and cleanup.

3. **Both:** streamline license requirements for related construction trades.


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### Interim Plumbing Code Amendments

1. Expand allowance for PVC drain pipes for residential uses in low- and mid-rise buildings based on data from 4-year pilot program.


3. Align terminology in requirements for minimum plumbing fixtures with the 2019 Building Code and standardize requirements for very small occupancies.

4. Align requirements for protecting sewer system from grease with national standards.

5. Clarify requirements for water-conserving plumbing fixtures.

(continued)

### Substantive Plumbing Code Amendments


   * Allows PVC and other materials for residential occupancies in buildings up to 60 feet in building height.

   * Includes building sewer.

   * No change in materials for taller buildings and non-residential occupancies.


   * Based on best practices from Vancouver (2014) and Denver (2019).

   * Requires enhanced privacy in individual stalls.

   * Will be among first in US to adopt clear requirements not requiring variance or “looking the other way.”
3. Align terminology for minimum plumbing fixtures with 2019 Building Code and provide relief for very small occupancies.
   Provides relief for spaces with 30 or fewer occupants.

4. Align requirements for protecting sewer system from grease with national standards.
   Modernizes requirements for commercial food establishments, consistent with current national standards.
   Eliminates requirement for multi-family residential grease basins, which is no longer supported by building science.

5. Clarify requirements for water-conserving plumbing fixtures.
   Clarifies inconsistent water usage requirements.
   Consistent with 2016 amendment, all fixtures that are subject to US EPA’s WaterSense standard will be required to meet this standard.

6. Strengthen and clarify requirements to protect drinking water.
   Restates commitment to enforcing lead-free standards in new plumbing in clearer language.
   Clarifies requirements for installation of copper water pipe and allowances for short lengths of flexible non-metallic hose at connection points.

7. Adopt the latest technical standards for plumbing fixture performance and safety.
   Recognizes newer designs of faucets, toilets, showerheads, hot water heaters, steam generators, etc. without special approvals.

8. Align with state (IDPH) requirements for public swimming pool safety.
   Defers to state for highly-specialized technical requirements for public swimming pools.
   Eliminates overlapping and inconsistent regulations for private residential swimming pools.
9. Streamline drainlayer license administration.
Consolidates responsibility for training, licensing, renewal and discipline in Department of Buildings.
Simplifies licensing provisions by not requiring highly-trained plumbers to obtain an additional license.
Transitions from calendar year license to rolling 365-day license (2023).

1. Administration

Ordinance p.1

Details
Administration

- Plumbing work is subject to the general permitting requirements in Chapter 4 of the Chicago Construction Codes Administrative Provisions. (18-29-106)
- Plumbing work is subject to the licensing requirements for plumbers (and apprentices), plumbing contractors, and drainlayers. (18-29-107)
- Violations of the Plumbing Code are subject to the general enforcement and penalty provisions in Chapter 3 of the Chicago Construction Codes Administrative Provisions. (18-29-107)

2. Definitions

Ordinance p.2
• Definitions are better coordinated across the Chicago Construction Codes. (18-29-201.3, 18-29-202)
• "Approved" does not have the same meaning as in the other titles of the Chicago Construction Codes. (18-29-202)
• Definitions to coordinate energy efficiency and water conservation: (18-29-202)
  • Circulating hot water system
  • Demand recirculation hot water system
  • Dual flush device

• Definitions related to grease: (18-29-202)
  • Flow control
  • Grease interceptor
  • Grease-laden waste
  • Grease removal device (GRD)
• Definitions of “private” and “public.” (18-29-202)
• Definitions related to product testing and certification. (18-29-202)

• Definitions of “toilet facility” and “single-user toilet room.” (18-29-202)
• Definition of “residential occupancy.” (18-29-202)
• Definitions related to fixtures and fixture fittings: (18-29-202)
  • Drinking fountain, water cooler, water dispenser
  • Emergency floor drain
  • Fill valve
  • Fixture fitting
  • Full-open valve
  • Group wash fixture
  • Water heater

• Clarify that plumbing is restricted in stair/exit enclosures and electrical rooms. (18-29-301.6)
• If conflicts between code and manufacturer’s requirements, stricter requirement applies. (18-29-301.7)
• Materials must be listed and labeled to ensure conformance with manufacturing standards. (18-29-303)
• Coordination to prevent damage to plumbing and damage to the building from plumbing work. (18-29-304, to -309, -315)
• Construction worker toilet facilities per OSHA. (18-29-311)
• Equipment efficiencies (esp. water heaters) must meet requirements in Energy Conservation Code. (18-29-313)
• Condensate drainage/disposal for mechanical equipment must be per Plumbing Code. Must be handled on site or sent down drain, cannot drain to public way. (18-29-314)

4 Fixtures, Faucets and Fixture Fittings

Ordinance p.16

Details
General Regulations

- Minimum plumbing fixture table terminology updated, requirements the same. New details in notes. (Table 18-29-403.1)
- New details for calculating and configuring toilet facilities. (18-29-403)
- Updated details for clearances and partitions. (18-29-405.3)

Details
Fixtures, Faucets and Fixture Fittings

- Updated requirements for automatic clothes washers. Waste may discharge through air break into laundry sink. (18-29-406)
- Updated requirements for dishwashing machines – commercial and residential. (18-29-409)
- Updated requirements for drinking fountains and allowances to substitute alternative sources of free drinking water. (18-29-410)
- Updated requirements for floor and trench drains. (18-29-412)
- Updated requirements for food waste disposers. (18-29-413)

Details
Fixtures, Faucets and Fixture Fittings

- Updated requirements for floor and trench drains. (18-29-412)
- Updated requirements for food waste disposers. (18-29-413)

Details
Fixtures, Faucets and Fixture Fittings

- Updated requirements for lavatories, including provisions for group wash fixtures and movable (height adjustable) lavatories. (18-29-416)
- Updated provision on urinal substitution. (18-29-419.2)
- Updated provision on water closet seats. (18-29-420.3)
- Updated requirements for floor and trench drains. (18-29-412)
- Updated requirements for food waste disposers. (18-29-413)
- Requirements for temporary toilet facilities now covered in Table. (Table 18-29-403.1)

Details
Fixtures, Faucets and Fixture Fittings

- Updated requirements for footbaths and pedicure baths. (18-29-423)
- Updated standards for faucets and fixture fittings. (18-29-424)
- Add standard for floor sinks. (18-29-426)
• Three types of toilet facilities
  • Single-user toilet room
  • Separate (male/female) facilities
  • Nonseparate facilities (all gender)

• Determine occupant load
  • Start with occupant load for egress
  • Separate rule for Mercantile (Group M) (18-29-403.1.1, ex. 3)
  • Reduce: nonsim. use or access ctrl.

• Determine occupancy and use for Table 18-29-403.1

Coming Soon

• Separate facilities (male / female)
  • Fixtures / partitions
  • Accessibility (5% each type)
  • Signage
  • Door locks
  • Access / location

• Nonseparate facilities
  • Fixtures / partitions
  • Enhanced privacy at partitions
  • Accessibility (5% each type)
  • Signage
  • Door locks
  • Proximity to single-user toilet room
  • Urinals

• Other issues
  • Urinal substitution in toilet facilities
  • Drinking fountains
  • Service sinks

5 Water Heaters

Ordinance p.36
- Water heaters must be third-party certified and labeled as meeting acceptable standard. (18-29-501.5)
- Plastic pans allowed for non-gas-fired storage hot water heaters. (18-29-504.8)
- Installation of pan drain not required as part of water heater replacement work. (18-29-504.8.2)
- Tank insulation requirements consistent with Energy Conservation Code. (18-29-505.1)

- Clarify roles and responsibilities of DOB and DWM. (Art. 6)
- Inspections and enforcement per Chicago Construction Codes Administrative Provisions. (18-29-601)
- Updated language regarding water services. (18-29-603)
  - Water service for domestic use sized per plumbing code.
  - CFD is responsible for sizing for fire protection, not DWM or DOB.
  - Separation language updated to match IEPA regulations. (recognition of PVC sewer pipe and “impractical” not “impossible”)
- Updated fixture flow rates. (18-29-604.4)

- Additional methods recognized for joining copper pipe (incl. brazed, mechanical, threaded, welded) (18-29-605.14)
- Testing of distribution pipes no longer requires plumbing inspector to be present. (18-29-605.6)
- Hot water supply language completely updated. (18-29-607)
• Updated materials for pipe. (18-29-702)
• Additional materials recognized for areas of residential occupancy in building up to 60 feet in building height.
• PVC also allowed for underground and building sewer.
• No change to materials recognized in larger buildings and non-residential occupancies.
• If existing sanitary drainage is substantially modified, portions to be reused must be internally examined by the owner/contractor and DOB may disallow reuse. (18-29-703.4)
• Updated drainage fixture units (DFUs). (Table 18-29-709.1)

Details
Sanitary Drainage

• Exception for 3-inch stack with water closets modified. (18-29-710.1.2)
• Minimum size for underground/underfloor drainage reduced. (18-29-710.3)

5 Steps for Checking Materials and Installation Requirements for DWV Pipe

1. Determine building height.
2. Identify areas of “residential occupancy.”
3. Identify recognized pipe material standards.
4. Check for pipe protection and support (notes).
5. Check for penetration firestopping (notes).

5 Steps for Checking Materials and Installation Requirements for DWV Pipe

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Building Height

Step 1
Building Height

A broader range of plumbing materials is allowed in residential occupancies in buildings up to 60 feet in building height.

Step 1 Building Height

Building height must be indicated on the construction documents for new construction. Building height can be determined by a design professional for rehab work.

Step 2 Residential Occupancy

RESIDENTIAL OCCUPANCY. A building or portion of a building classified as a Group I-1 or R occupancy in accordance with the Chicago Building Code together with areas of the same building providing amenities primarily for residents and their guests.
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RESIDENTIAL OCCUPANCY: A building or portion of a building classified as a Group I-1 or R occupancy in accordance with the Chicago Building Code together with areas of the same building providing amenities primarily for residents and their guests.

OK:
- Resident parking
- Lounge/common area
- Resident fitness ctr.
- Resident storage
- Management office
- Resident services

NOT OK:
- Public parking
- Public gym
- Public storage
- Retail open to public
- "Gray" or "white" box

Step 2 Residential Occupancy

18-29-702.11 Mixed-occupancy buildings. Where the plumbing system in a mixed-occupancy building uses both combustible and noncombustible drainage and vent pipe materials... the noncombustible pipe material shall extend as least 4 inches beyond the fire-resistance-rated assembly separating the residential occupancy from other areas of the building that are not eligible to use combustible pipe materials.

Step 3 Recognized Materials

Step 4 Pipe Support and Protection

Notes on drawings for:
- Protection against contact: 18-29-305.1
- Protection against freezing: 18-29-305.6
- Shield plates required: 18-29-305.8
- Pipe material exposed within a plenum: 18-29-307.6
- Hangar spacing: 18-29-308.5
When pipe (combustible or noncombustible) penetrates a wall, floor, or ceiling required to have a fire-resistance rating, that penetration must be protected to prevent the spread of fire in accordance with Section 714 of the Chicago Building Code.

**Details**

**Indirect/Special Waste**

- Requirements for indirect waste connections reworded. Retains exception from Illinois Plumbing Code. (18-29-802)
- Additional detail on requirements for air breaks and air gaps. (18-29-802.3)
- Additional detail on requirements for waste receptors. (18-29-802.4)

**Vents**

- Vents must terminate at least 7 feet above an occupiable rooftop within 10 feet horizontally. (18-29-904.1.2)
- Additional restrictions on sidewall vents near lot lines and below soffit vents. (18-29-904.1.4)
- Restrictions on vents in relation to openings adjusted. (18-29-904.5)
- Vent pipe sizing provisions revised. (18-29-916)
• Reduce minimum size of basement floor drains. (18-29-1002.1.4)
• All requirements for interceptors/separators in code, no separate standards in DWM regulations. (18-29-1003.1)
• Interceptors/separators or AGRDs only required for commercial food preparation areas. (18-29-1003.3)
• Can be required by DWM for other types of buildings (except 1-6 unit residential) where the wastewater has a significant concentration of FOGs or the building sewer has a visible accumulation of FOGs. (18-29-1003.3.1)

Storm Drainage

• Where downspouts disconnection allowed, cannot drain across property lines, including on to street/alley. (18-29-1101.2.1)
• When designing roof structure, assume all primary means of roof drainage are blocked. (18-29-1101.7)
• **Note:** design rain load updated to 4.03 in/hr in 2020 based on new data from the Illinois Water Survey (14B-16-1611.1)

Swimming Pools

• Most swimming pools are "nonprivate" and primarily regulated by IDPH. (18-29-1201.1)
• Private residential swimming pools, greater than 4 feet deep, have Chicago-specific requirements. (18-29-1201.1,-1204)
• Requirements for nonprivate pools and bather prep facilities are largely aligned with 2014 IDPH regs. (18-29-1202,-1203)
• Private residential pools have Chicago-specific setback, security, and operational requirements. (18-29-1204)
• As a transitional measure, may use referenced standard listed in Art. 13 of the Chicago Plumbing Code or newer edition listed in Ch. 15 of the 2021 International Plumbing Code or the Illinois Plumbing Code
• If a standard is not listed in Art. 13, refer to Ch. 15 of the 2021 International Plumbing Code for applicable edition

Details
Referenced Standards

Coordinating Amendments

• Drainlayer license records transferred from DWM to DOB
• Drainlayer license will transition to rolling renewal in 2023
• Plumbing contractor can do drainlayer work without paying additional license fee
• Fee waiver for owner-initiated lead service line replacement (up to $3,100) available to owners of all buildings 1/1/2022.

Implementation and Effective Date

Drainlayer changes effective January 1, 2022
Other ordinance changes become optional October 19, 2021 (when ordinance was signed by Mayor Lightfoot)
Ordinance changes are mandatory for permit applications started on or after March 1, 2022
Department rules and regulations which conflict with the changes made by the ordinance are superseded.

Thank you.