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**SUBJECT: Cleanouts for Drainage Systems**

This bulletin has been jointly developed by Safety Services and the Plumbing Technical Council to inform the plumbing industry of the minimum requirements associated with the installation of **Cleanouts in a Plumbing System**.

**Designers, Contractors and Safety Codes Officers** are reminded that drainage systems require a means of clearing blockages with minimum disruption to the plumbing system and the building structure. This is to reduce the probability that, as a result of the design or installation of the *cleanout*, the building will be exposed to an unacceptable risk of damage due to leakage of *sewage* and a health risk due to unsanitary conditions. **Every cleanout** shall be so located that it remains **readily accessible** for use, cleaning and maintenance.

The design and installation of *cleanouts* shall be located to accommodate cleaning in the direction of flow in accordance with the current **National Plumbing Code of Canada (NPC)** as adopted by the **Plumbing Code Regulation (119/2007)**:

- Every sanitary system and storm *drainage system* shall be provided with *cleanouts* that will permit cleaning of the entire system.
- Every *building drain* shall be provided with a *cleanout* fitting that is located as close as practical to the place where the *building drain* leaves the *building*.
  - A backwater valve at this location may also serve as a *cleanout*.
  - *Cleanouts* shall be located within 4-inches of the finished floor level or install suitable means of access to accommodate cleaning and maintenance.
- The size and spacing of the *cleanouts* shall be determined by the size of the pipes in the *drainage system* in accordance with the Table as shown on the following page.



Issue of this STANDATA is authorized by  
the Administrator

*[Original Signed]*  
Sidney Manning



SAFETY CODES COUNCIL

Permitted Size and Spacing of Cleanouts

| Size of Drainage Pipe, inches | Minimum Size of <i>Cleanouts</i> | Maximum Spacing 1-Way Rodding | Maximum Spacing 2-Way Rodding |
|-------------------------------|----------------------------------|-------------------------------|-------------------------------|
| Less than 3                   | Same size as pipe                | 25 ft (7.5 m)                 | 50 ft (15 m)                  |
| 3 and 4                       | Same size as pipe                | 50 ft (15 m)                  | 100 ft (30 m)                 |
| Over 4                        | 4-inch                           | 85 ft (26 m)                  | 171 ft (52 m)                 |

**Note:** Except for a food receptacle or a kitchen sink, the change of direction (in degrees) in the *building drainage* system is no longer utilized to determine the installation of *cleanouts*.

- Every *soil-or-waste stack* shall be provided with a *cleanout* fitting
  - At the bottom of the stack
  - Not more than 10 ft (3 m) upstream of the bottom of the stack, or
  - On a Y fitting connecting the stack to the *building drain* or branch (See illustrations).
- A *cleanout* shall be provided adjacent to an *interceptor* to accommodate the cleaning of the piping downstream of an *interceptor*.
- Except for a food receptacle or a kitchen sink with a change of direction of more than 90<sup>0</sup>, a *fixture drain* may be cleaned through the *fixture trap* and that fixture trap must have a removable trap dip.
- *Cleanout* shall be installed so that the cumulative change of direction is not more than 90 degrees between *cleanouts* in a drip pipe from a food receptacle **or** in a *fixture drain* serving a kitchen sink.
- A horizontal portion of a *vent* below the *flood level rim* of any *fixture* served by that *vent* (flat vent), which could contain *sewage* in the event of a stoppage in a drain or *trap*, shall be graded back towards the drain pipe and shall be fitted with a *cleanout*.
- A water closet may serve as a *cleanout* only in a residential application.

**Location of Cleanouts:**

- *Cleanouts* and access covers shall be located so that their openings are readily accessible for drain cleaning purposes.
- A *cleanout* shall not be located
  - in a floor assembly in a manner that may constitute a hazard, or
  - in a manner that it could be used as a floor drain.

*Cleanouts* shall be located within 4-inches of the finished floor level or install suitable means of access to accommodate cleaning and maintenance.
- There shall be no change of direction between a *cleanout* fitting and the *trap* that it serves.

- The piping between a *cleanout* fitting and the drainage piping or vent piping that it serves shall not change direction by more than 45°.

**Warning:** The use of compounds with thermoplastic piping systems shall be those materials recommended by the pipe manufacture. The use of pipe dope or other sealants on the threaded *cleanout* plugs may damage the system and void the warranty.

### **Protection from hazardous substances**

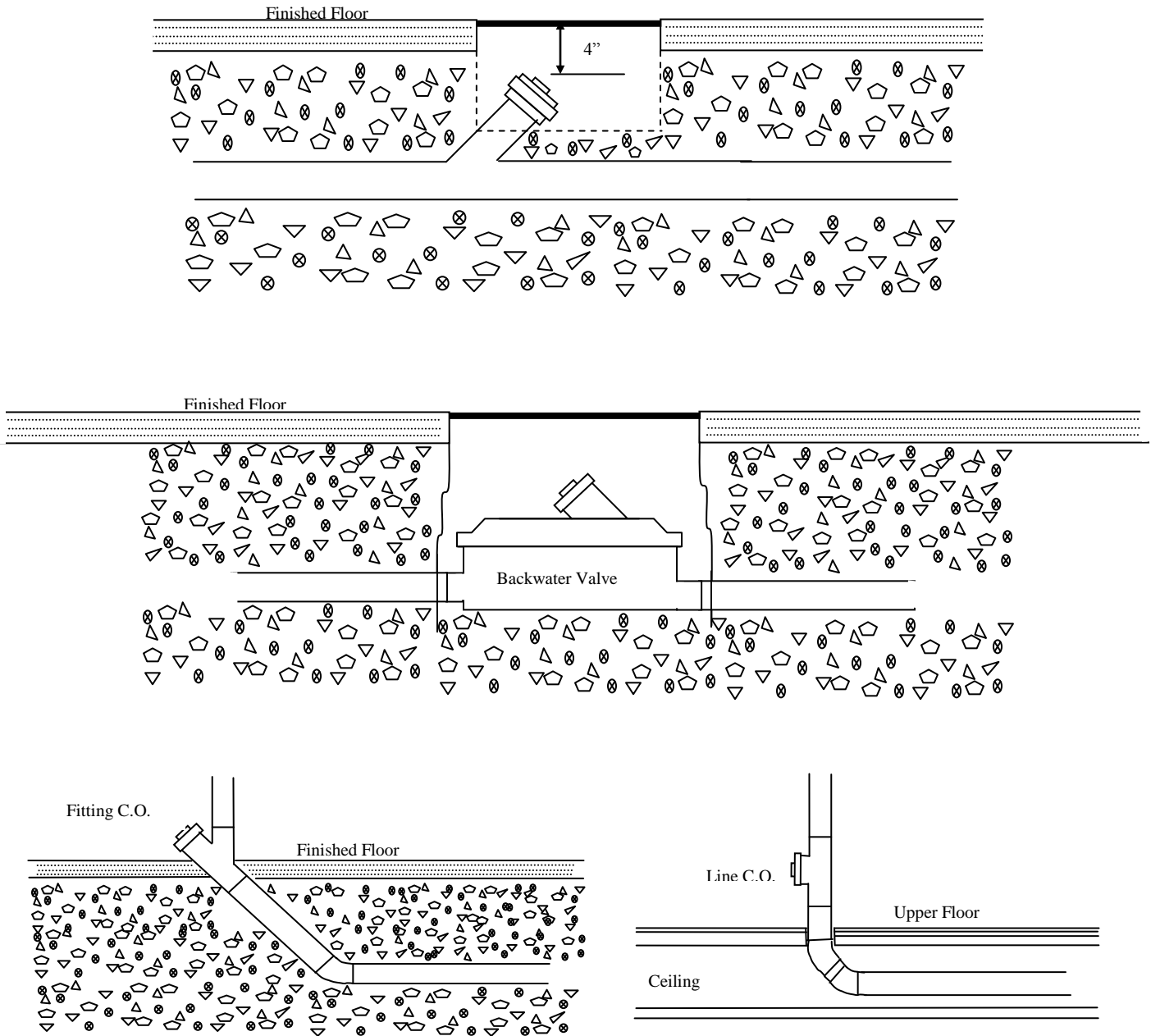
- *Cleanouts* serving *fixtures* in health care facilities, mortuaries, laboratories and similar *occupancies*, where contamination by body fluids is likely, shall be located a minimum of 6-inches (150 mm) above the *flood level rim* of the *fixture*.

**Note:** Where it is not practicable to have the *cleanout* and its access above the *fixture* in a health care facility an alternate location for this *cleanout* may be in the drop ceiling space immediately above the *fixture*.

### **Building Sewer**

- A *building sewer* shall not change direction or slope between the *building* and public *sewer* or between *cleanouts*, except that pipes not more than 6-inches (150 mm) in size may change direction
  - By not more than 5° every 10 ft (3 m), or
  - By the use of fittings, spaced at not less than 12-inches (300 mm) apart, with a cumulative change in direction of not more than 45°; and
  - The pipe and fittings shall be installed without any misaligned at the joints and in accordance with the pipe manufacturer's instructions.
- Where a *cleanout* is required on a *building sewer* 8-inches (200 mm) or larger in size, it shall be a manhole.
- The spacing between manholes serving a *building sewer*
  - 24-inches (600 mm) or less in size shall not exceed 300 ft (90 m), and
  - over 24-inches (600 mm) in size shall not exceed 500 ft (150 m).
- The *developed length* of a *building sewer* between the *building* and the first manhole to which the *building sewer* connects shall not exceed 250 ft (75m).
- Where a *building sewer* connects to another *building sewer* other than by a manhole, the *developed length* between the building and the *building sewer* to which it connects shall not exceed 100 ft (30m).
- Where a *building sewer* connects to a public *sewer* or *private sewage disposal system* other than by a manhole the *developed length* between the *building* and the *sewer* to which it connects shall not exceed 100 ft (30m).

**Illustrations**



The purpose of this notice is to ensure that **Designers** and **Installers** are aware of the provisions in the NPC for the installation and location of *cleanouts*. The objectives of these requirements are for Safety, Health and Protection of the *building* or facility from sewage damage.