

December 2007

**P-07-03-NPC 05**  
(Replaces IB P-02-03 dated April 2003)  
Page 1 of 2  
(File Number 16090-P01)

**PROTECTION OF THE DRAINAGE SYSTEM**

**Subject: EXPANSION AND CONTRACTION**

This bulletin has been jointly developed by Safety Services and the Plumbing Technical Council to inform the plumbing industry of the requirements associated with the installation of expansion joints to protect the drainage and venting systems in multi-storey buildings.

**Designers, Installers and Safety Codes Officers** are reminded that expansion joints are required to reduce the probability of damage to the piping system in wood framed multi-storey buildings. Expansion, contraction or shrinkage of building framing that is **not** accounted for could lead to leakage and/or breakage of drainage systems, venting systems and water distribution systems. Piping system failure could lead to a health risk, where microbiological growth or exposure to waste products could occur or result in major property damage.

The design and installation of every piping system shall include a means to accommodate expansion and contraction in accordance with **Article 2.3.3.9** of the National Plumbing Code of Canada (NPC) 2005.

The Installer shall confirm the expansion rates for the piping materials being installed in accordance with good engineering practice and by using the linear expansion table in Appendix A of the NPC. In addition, experience has shown that shrinkage can be as much as  $\frac{3}{4}$  of an inch per floor depending on the moisture content and height of the wood framing.

As a result, the installation of plastic piping supported with a single riser clamp on alternate storeys would require an expansion joint on alternate floors (see attached drawing). However, this is contingent on the piping design and the method of fire stopping. If riser clamps are installed on the top and bottom of each floor, an expansion joint will be required on each floor.

The purpose of this notice is to clarify responsibilities under the *Safety Codes Act*. The **Designers and Installers** shall ensure that the design and installation of plumbing systems in all buildings complies with the *Act* and in accordance with the regulations.



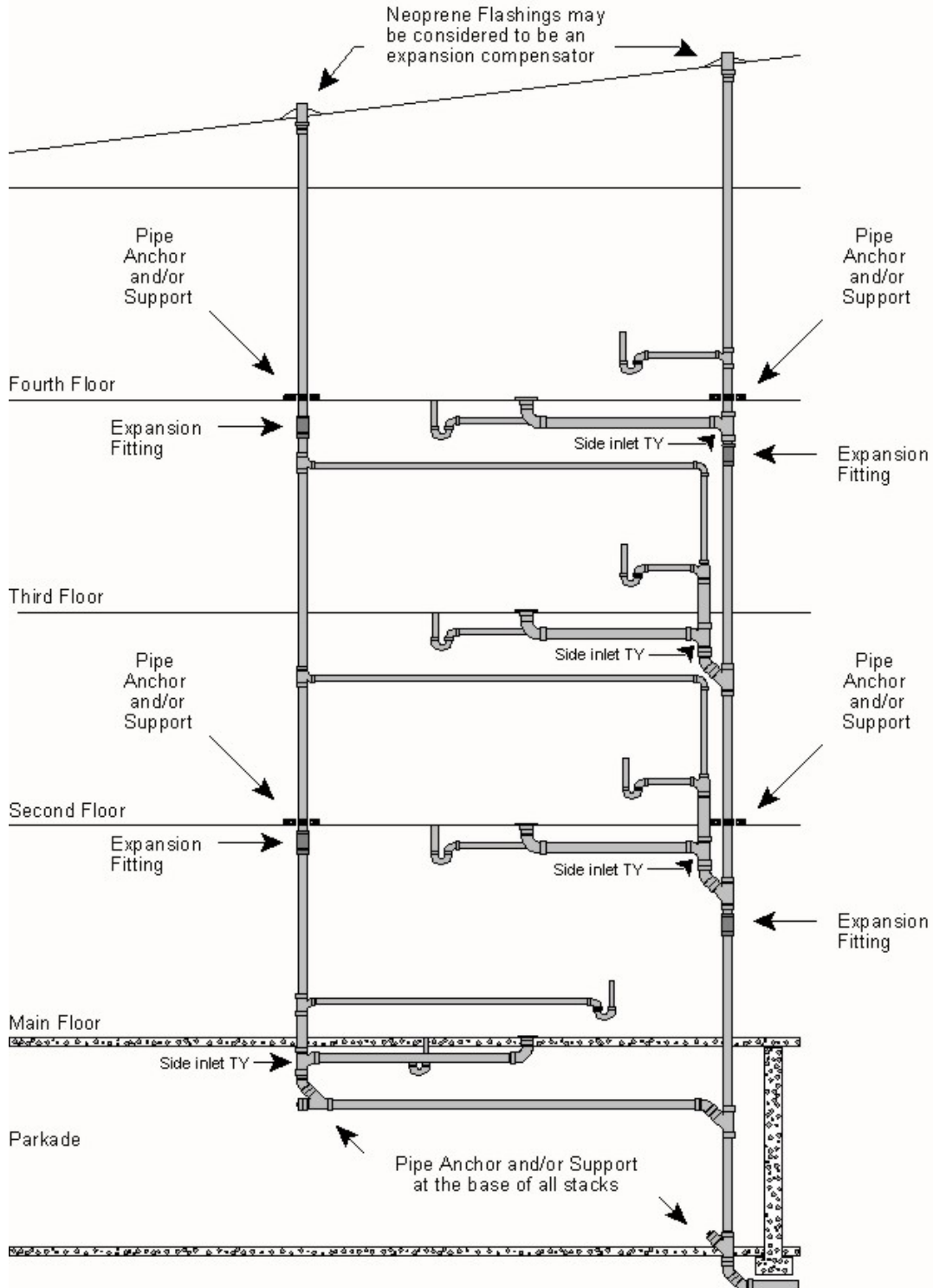
Issue of this STANDATA is authorized by  
the Administrator

[Original signed]  
Carey LaRose



*SAFETY CODES COUNCIL*

## Expansion/Contraction Compensation



**NOTE:** This typical drawing is of a general nature and does not necessarily include the allowances that must be taken into account in each specific installation.