



## Wood Wall Bracing – Construction Document Review

This edition of the Code Outreach Program intends to provide CEOs with guidance on the review of the braced wall design information found in the 2020 Residential Code of New York State (2020 RCNYS). Braced wall design information is required to be included on construction documents that are submitted as part of a building permit and CEOs are required to validate that the appropriate information is provided.

Buildings constructed and designed using light-frame wood construction are required to utilize braced wall design to resist lateral loads such as wind loads and seismic loads. In this issue, we are focusing on the provisions of Section R602.10 of the 2020 RCNYS, but there are other ways to achieve code-compliant wall bracing design and construction, such as:

- When a building, or a portion of a building, does not comply with one or more of the bracing requirements in Section R602.10, then *“those portions shall be designed and constructed in accordance with Section R301.1”* \* (see Section R602.10).
- Section R602.12 provides a simplified, prescriptive approach. If this prescriptive approach is used, then the *“entire building shall be braced in accordance with this section,”* and *“the use of other bracing provisions of Section R602.10, except as specified [therein], shall not be permitted”* (see Section 602.12).

In order to complete the review of the wall bracing, the reviewer will need to know some, if not all, of the following: the ultimate design wind speed, exposure category, and seismic design category, as established in Section 301, as well as roof eave-to-ridge height and the story height; they should also review the definitions of *braced wall line* and *braced wall panel*, which are found in Chapter 2 of the 2020 RCNYS. Submitted construction documents for buildings braced in accordance with Section R602.10 shall include any documentation required by the CEO and, at a minimum, the information listed in Section R602.10 and expanded upon as follows:

1. The location of *braced wall lines*.  
*Braced wall lines* are used to represent *“the amount and location of bracing required in each story level of a building”* (see Section R602.10.1). *Braced wall lines* on construction documents may look similar to the drawing in Figure R602.10.1.1.
2. The spacing of *braced wall lines*, including any offset of the *braced wall panel* line.  
The maximum spacing between parallel *braced wall lines* shall be no greater than the distances provided in Table R602.10.1.3, with a few exceptions. Provisions for offsets along *braced wall lines* are found in R602.10.1.2.
3. The *braced wall line* end conditions.  
End conditions apply only when a continuous sheathing method of bracing is used, not for intermittent bracing methods. When applicable, one of the conditions of Figure R602.10.7 must be met.
4. The location and length of *braced wall panels*.  
Section R602.10.3 sets the requirements for determining the *“required length of bracing along each braced wall line.”* The bracing along each *braced wall line* may consist of multiple *braced wall panels*. The provisions for the minimum lengths of *braced wall panels*, and how to determine if the length of the panel can be used for full or partial credit toward the required length of bracing along each *braced wall line*, are found in Section R602.10.5.
5. The *braced wall panel* uplift load.  
A *braced wall panel’s* uplift load (wind load) shall be resisted in accordance with Section R602.3.5. In general, *“the bracing lengths in Table R602.10.3(1) apply only when uplift loads are resisted in accordance with Section R602.3.5”* (see Section R602.10.2.1).
6. The construction method for *braced wall panels*, including connections to floor framing and foundations.  
Construction methods are provided in Section R602.10.4; the designer may combine construction methods in accordance with Section R602.10.4.1. The provisions for *braced wall panel* connections to floor framing and foundations are found in Section R602.10.8.

The requirement of Section R602.10 to include bracing information on submitted construction documents is reinforced by Section R106.1.3. Moreover, Section R106.1.3 applies to *“all buildings and structures [governed by 2020 RCNYS] utilizing braced wall design,”* therefore, bracing information shall also be submitted when using the simplified bracing method in Section R602.12, and any other braced wall design approaches.

\* For information about alternative design see COP issue 2020-12 [“Alternative Materials, Designs, and Methods of Construction.”](#)