

## 2020 MN Conservation Code for Existing Buildings – Structural Amendments

### 1311.0405 SECTION 405, STRUCTURAL.

IEBC section 405.2.4 is amended to read as follows:

**405.2.4 Substantial structural damage to gravity load-carrying components.** Gravity load-carrying components that have sustained substantial structural damage shall be rehabilitated to comply with the applicable provisions for all dead, live, or snow loads, including snow drift effects, in the International Building Code. Undamaged gravity load-carrying components that receive dead, live, or snow loads from rehabilitated components shall also be rehabilitated or shown to have the capacity to carry the design loads of the rehabilitation design.

(IEBC subsection 405.2.4.1 and the exceptions remain unchanged.)

### 1311.0502 SECTION 502, ADDITIONS.

Subpart 1. **Section 502.4 Existing structural elements carrying gravity load.** IEBC section 502.4 is amended to read as follows:

**502.4 Existing structural elements carrying gravity load.** Any existing gravity load-carrying structural element for which an addition and its related alterations cause an increase in design dead, live, or snow load, including snow drift effects, that increases the demand-capacity ratio to more than 105 percent shall be replaced or altered as needed to carry the gravity loads required by the International Building Code for new structures. The evaluation of demand-capacity ratios and calculation of design gravity loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction. Any existing gravity load-carrying structural element whose vertical load-carrying capacity is decreased as a part of the addition and its related alteration shall be considered an altered element subject to the requirements of IEBC section 503.3. Any existing element that will form part of the lateral load path for any part of the addition shall be considered an existing lateral load-carrying structural element subject to the requirements of IEBC section 502.5.

(The exception remains unchanged.)

Subp. 1a. **Section 502.5 Existing structural elements carrying lateral load.** The first exception to IEBC section 502.5 is amended to read as follows:

1. Any existing lateral load-carrying structural element for which an addition causes an increase in demand-capacity ratio to no more than 110 percent shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with IBC section 1609. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.

(The second exception remains unchanged.)

**311.0503** [Repealed, 39 SR 95]

### **1311.0503 SECTION 503, ALTERATIONS.**

Subp. 2. **Section 503.3 Existing structural elements carrying gravity load.** IEBC section 503.3 is amended to read as follows:

**503.3 Existing structural elements carrying gravity load.** Any existing gravity load-carrying structural element for which an alteration causes an increase in design dead, live, or snow load, including snow drift effect, that increase the demand-capacity ratio to more than 105 percent shall be replaced or altered as needed to carry the gravity loads as required by the International Building Code for new structures. The evaluation of demand-capacity ratios and calculation of design gravity loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased as a part of the alteration shall be shown to have the capacity to resist the applicable design gravity loads required by the International Building Code for new structures.

(The exceptions remain unchanged.)

Subp. 2a. **Section 503.4 Existing structural elements carrying lateral load.** The exception to IEBC section 503.4 is amended to read as follows:

**Exception:** Any existing lateral load-carrying structural element for which an alteration causes an increase in demand-capacity ratio to no more than 110 percent shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with IBC section 1609. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.

Subp. 4. **Section 506.4.1 Live loads.** The exception to IEBC section 506.4.1 is amended to read as follows:

**Exception:** Structural elements whose demand-capacity ratio considering the change of occupancy is not more than 105 percent of the demand-capacity ratio based on previously approved live loads need not comply with this section. For purposes of this exception, the comparison of demand-capacity ratios and calculation of design gravity loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.

### **1311.0706 SECTION 706, STRUCTURAL.**

IEBC section 706.2 is amended to read as follows:

**706.2 Addition or replacement of roofing or replacement of equipment.** Any existing gravity load-carrying structural element for which an alteration causes an increase in design dead, live,

or snow load, including snow drift effects, that increases the demand-capacity ratio to more than 105 percent shall be replaced or altered as needed to carry the gravity loads required by the International Building Code for new structures. The evaluation of demand-capacity ratios and calculation of design gravity loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.

**Exceptions:**

1. Buildings of Group R occupancy with not more than five dwelling or sleeping units used solely for residential purposes where the altered building complies with the conventional light-frame construction methods of the International Building Code.
2. Buildings in which the increased dead load is due entirely to the addition of a second layer of roof covering weighing 3 pounds per square foot (0.1437 kN/m<sup>2</sup>) or less over an existing single layer of roof covering.

**1311.0806 SECTION 806, STRUCTURAL.**

Subpart 1. **Section 806.2 Existing structural elements carrying gravity loads.** IEBC section 806.2 is amended to read as follows:

**806.2 Existing structural elements carrying gravity loads.** Any existing gravity load-carrying structural element for which an alteration causes an increase in design dead, live, or snow load, including snow drift effects, that increases the demand-capacity ratio to more than 105 percent shall be replaced or altered as needed to carry the gravity loads required by the International Building Code for new structures. The evaluation of demand-capacity ratios and calculation of design gravity loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased as part of the alteration shall be shown to have the capacity to resist the applicable design dead, live, and snow loads, including snow drift effects, required by the International Building Code for new structures.

(The exceptions remain unchanged.)

Subp. 2. **Section 806.3 Existing structural elements resisting lateral loads.** The exception to section 806.3 is amended to read as follows:

**Exception:** Any existing lateral load-carrying structural element for which an alteration causes an increase in demand-capacity ratio to no more than 110 percent shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with IBC section 1609. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.

**1311.1006 SECTION 1006, STRUCTURAL.**

The exception to IEBC section 1006.1 is amended to read as follows:

**Exception:** Structural elements whose demand-capacity ratio considering the change of occupancy is not more than 105 percent of the demand-capacity ratio based on previously approved live loads. The evaluation of demand-capacity ratios and calculation of design gravity loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.

### **1311.1103 SECTION 1103, STRUCTURAL.**

Subpart 1. **Section 1103.1 Additional gravity loads.** IEBC section 1103.1 is amended to read as follows:

**1103.1 Additional gravity loads.** Any existing gravity load-carrying structural element for which an addition and its related alterations cause an increase in design dead, live, or snow load, including snow drift effects, that increases the demand-capacity ratio to more than 105 percent shall be replaced or altered as needed to carry the gravity loads required by the International Building Code for new structures. The evaluation of demand-capacity ratios and calculation of design gravity loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased as part of the addition and its related alterations shall be considered to be an altered element subject to the requirements of section 806.2. Any existing element that will form part of the lateral load path for any part of the addition shall be considered to be an existing lateral load-carrying structural element subject to the requirements of section 1103.3.

(The exceptions remain unchanged.)

Subp. 2. **Section 1103.2 Lateral force-resisting systems.** The exceptions to IEBC section 1103.2 are amended to read as follows:

**Exceptions:**

1. Buildings of Group R occupancy with no more than five dwelling or sleeping units used solely for residential purposes where the existing building and the addition comply with the conventional light-frame construction methods of the IBC.
2. Any existing lateral load-carrying structural element for which an addition causes an increase in demand-capacity ratio to no more than 110 percent shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with IBC section 1609. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.

Subp. 3. [Repealed, 44 SR 487]

### **1311.1402 SECTION 1402, REQUIREMENTS.**

Subpart 1. **Section 1402.3 Wind loads.** IEBC section 1402.3 is amended to read as follows:

**1402.3 Wind loads.** Buildings shall comply with International Building Code wind provisions, as applicable.

**Exceptions:**

1. Detached one- and two-family dwellings and Group U occupancies where wind loads at the new location are not higher than those at the previous location.
2. Structural elements whose demand-capacity ratio is not increased to more than 110 percent. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.

Subp. 2. **Section 1402.5 Snow loads.** IEBC section 1402.5 is amended to read as follows:

**1402.5 Snow loads.** Structures shall comply with International Building Code snow loads as applicable where snow loads at the new location are higher than those at the previous location.

**Exception:** Structural elements whose demand-capacity ratio is not increased to more than 105 percent. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design gravity loads, forces, and capacities shall account for the cumulative effects of additions and alterations since original construction.