Proposed Change as Submitted

Proponent: Paul Coats, PE, CBO, American Wood Council (pcoats@awc.org)

Revise as follows:

2308.7 Girders. Girders for single-story construction or girders supporting loads from a single floor shall not be less than 4 inches by 6 inches (102 mm by 152 mm) for spans 6 feet (1829 mm) or less, provided that girders are spaced not more than 8 feet (2438 mm) o.c. Spans for built-up 2-inch (51 mm) girders shall be in accordance with Table 2308.9.5 or 2308.9.6. Other girders shall be designed to support the loads specified in this code. Girder end joints shall occur over supports. Where a girder is spliced over a support, an adequate tie shall be provided. The ends of beams or girders supported on masonry or concrete shall not have less than 3 inches (76 mm) of bearing.

2308.9.1 Size, height and spacing. The size, height and spacing of studs shall be in accordance with Table 2308.9.1 except that utility-grade studs shall not be spaced more than 16 inches (406 mm) o.c., or support more than a roof and ceiling, or exceed 8 feet (2438 mm) in height for exterior walls and load-bearing walls or 10 feet (3048 mm) for interior nonload-bearing walls. Studs shall be continuous from a support at the sole plate to a support at the top plate to resist loads perpendicular to the wall. The support shall be a foundation or floor, ceiling or roof diaphragm or shall be designed in accordance with accepted engineering practice.

Exception: Jack studs, trimmer studs and cripple studs at openings in walls that comply with Table 2308.9.5 Section 2308.9.5.2.

2308.9.5.1 Headers. Headers shall be provided over each opening in exterior-bearing walls. The spans in Table 2308.9.5 are permitted to be used for one- and two-family dwellings. Headers for other buildings shall be designed in accordance with Section 2301.2, Item 1 or 2. Headers shall be of two or more pieces of nominal 2-inch (51 mm) framing lumber set on edge as permitted by Table 2308.9.5 and nailed together in accordance with Table 2304.9.1 or of solid lumber of equivalent size.

2308.9.5.2 Header support. Wall studs shall be designed to support the ends of the header in accordance with Table 2308.9.5. Each end of a lintel or header shall have a length of bearing of not less than 1/2 inches (38 mm) for the full width of the lintel.

2308.9.6 Openings in interior bearing partitions. Headers shall be provided over each opening in interior bearing partitions as required in Section 2308.9.5. The spans in Table 2308.9.6 are permitted to be used. Wall studs shall support the ends of the header in accordance with Table 2308.9.5 or 2308.9.6, as appropriate Section 2308.9.5.2.

| TABLE 2308.9.5 |
| HEADER AND GIRDER SPANS* FOR EXTERIOR BEARING WALLS |
| (Maximum Spans for Douglas Fir-Larch, Hem-Fir, Southern Pine and Spruce-Pine-Fir and Required Number of Jack Stubs) |

| TABLE 2308.9.6 |
| HEADER AND GIRDER SPANS* FOR INTERIOR BEARING WALLS |
| (Maximum Spans for Douglas Fir-Larch, Hem-Fir, Southern Pine and Spruce-Pine-Fir and Required Number of Jack Stubs) |

Reason: Deletion of Table 2308.9.5 and Table 2308.9.6 without replacement is proposed because of limited applicability of the tabulated header spans resulting from the exclusion of detached one- and two-family dwellings from the scope of 2308 and the live
load limitation of 40 psf per 2308.2. In addition, the species-based header spans are subject to being dated should design values change. Design value-based prescriptive engineered options for header spans are available from other sources. For example, header spans for conditions covered by Table 2308.9.5 and Table 2308.9.6, as well as support of headers by use of jack studs providing full bearing, can be found in the WFCM.

Specific reference to “one- and two- family dwellings” from 2308.9.5.1 is deleted to coordinate with the exclusion of detached one-and two-family dwellings from the scope of 2308. Other text sections are revised to coordinate with removal of the Tables.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action: Disapproved

Committee Reason: The committee believes that the header span tables are needed in the conventional construction provisions. Outside of Southern Pine, there was no testimony to justify the removal of other wood species. Where there are problems the committee would like to see them fixed. Also adding requirements for “to be designed” is not appropriate for conventional construction.

Assembly Action: None

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Paul D. Coats, American Wood Council, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

2308.7 Girders. Girders for single-story construction or girders supporting loads from a single floor shall not be less than 4 inches by 6 inches (102 mm by 152 mm) for spans 6 feet (1829 mm) or less, provided that girders are spaced not more than 8 feet (2438 mm) o.c. Spans for built-up 2-inch (51 mm) girders shall be in accordance with Table 2308.9.5 or 2308.9.6. Other girders shall be designed to support the loads specified in this code. Girder end joints shall occur over supports. Where a girder is spliced over a support, an adequate tie shall be provided. The ends of beams or girders supported on masonry or concrete shall not have less than 3 inches (76 mm) of bearing.

2308.7.1 Allowable girder spans. The allowable spans of girders fabricated of dimension lumber shall not exceed the values set forth in Tables 2308.9.5 and 2308.9.6

Table 2308.9.5

HEADER AND GIRDER SPANS FOR EXTERIOR BEARING WALLS

(Maximum Spans for Douglas Fir-Larch, Hem-Fir, Southern Pine and Spruce-Pine-Fir and Required Number of Jack Studs)

GIRDER SPANS AND HEADER SPANS FOR EXTERIOR BEARING WALLS (Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir and required number of jack studs)

EXTRACT TABLE R502.5(1) (except 70 psf snow load columns) of the International Residential Code

Table 2308.9.6

HEADER AND GIRDER SPANS FOR INTERIOR BEARING WALLS

(Maximum Spans for Douglas Fir-Larch, Hem-Fir, Southern Pine and Spruce-Pine-Fir and Required Number of Jack Studs)

GIRDER SPANS AND HEADER SPANS FOR INTERIOR BEARING WALLS (Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir and required number of jack studs)

EXTRACT entire TABLE R502.5(2) of the International Residential Code

Commenter’s Reason: The spans in the girder tables in the IBC and IRC are identical, and buildings that qualify for conventional construction in the IBC have loading limitations commensurate with residential buildings—buildings within the scope of the IRC. It is also our intent to propose adjustments to spans in the IRC code which will automatically update the spans in these tables in the IBC.
In this way species-specific spans for girder and headers will be automatically correlated between the two codes, even though the codes themselves are developed in separate code change cycles.

To facilitate the maintenance of these tables by the IRC committee, a new section of charging text, identical to the charging text for these tables in IRC Section R502.5, has been added and the existing charging text in 2308.7 has been deleted.

Further information about this change is posted at: http://www.awc.org/Code-Officials/2012-IBC-Challenges.

**Analysis.** The result of this public comment if successful would be to extract the span tables from the 2012 IRC and, in order to achieve consistency between the IBC and IRC, would also include any changes made to the subject IRC span tables during the 2013 Code Change Cycle. Any changes to code change committee responsibilities in future code development cycles are not part of this code change, but are the responsibility of the ICC Code Correlation Committee.

<table>
<thead>
<tr>
<th>S281-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Action:</td>
</tr>
</tbody>
</table>
Proposed Change as Submitted

Proponent: Paul Coats, P.E. CBO, American Wood Council (pcoats@awc.org)

Revise as follows:

2308.8 Floor joists. Spans for floor joists shall be in accordance with Table 2308.8(1) or 2308.8(2). For other grades and species, refer to the AF&PA Span Tables for Joists and Rafters.

<table>
<thead>
<tr>
<th>TABLE 2308.8(1)</th>
<th>FLOOR JOIST SPANS FOR COMMON LUMBER SPECIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Residential Sleeping Areas, Live Load = 30 psf, L/Δ = 360)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE 2308.8(2)</th>
<th>FLOOR JOIST SPANS FOR COMMON LUMBER SPECIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Residential Living Areas, Live Load = 40 psf, L/Δ = 360)</td>
<td></td>
</tr>
</tbody>
</table>

2308.10.2 Ceiling joist spans. Allowable spans for ceiling joists shall be in accordance with Table 2308.10.2(1) or 2308.10.2(2). For other grades and species, refer to the AF&PA Span Tables for Joists and Rafters.

<table>
<thead>
<tr>
<th>TABLE 2308.10.2(1)</th>
<th>CEILING JOIST SPANS FOR COMMON LUMBER SPECIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Uninhabitable Attics Without Storage, Live Load = 10 pounds psf, L/Δ = 240)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE 2308.10.2(2)</th>
<th>CEILING JOIST SPANS FOR COMMON LUMBER SPECIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Uninhabitable Attics With Limited Storage, Live Load = 20 pounds per square foot, L/Δ = 240)</td>
<td></td>
</tr>
</tbody>
</table>

2308.10.3 Rafter spans. Allowable spans for rafters shall be in accordance with Table 2308.10.3(1), 2308.10.3(2), 2308.10.3(3), 2308.10.3(4), 2308.10.3(5) or 2308.10.3(6). For other grades and species, refer to the AF&PA Span Tables for Joists and Rafters.

<table>
<thead>
<tr>
<th>TABLE 2308.10.3(1)</th>
<th>RAFTER SPANS FOR COMMON LUMBER SPECIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Roof Live Load = 20 pounds per square foot, Ceiling Not Attached to Rafters, L/Δ = 180)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE 2308.10.3(2)</th>
<th>RAFTER SPANS FOR COMMON LUMBER SPECIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Roof Live Load = 20 pounds per square foot, Ceiling Attached to Rafters, L/Δ = 240)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE 2308.10.3(3)</th>
<th>RAFTER SPANS FOR COMMON LUMBER SPECIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Ground Snow Load = 30 pounds per square foot, Ceiling Not Attached to Rafters, L/Δ = 180)</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE 2308.10.3(4)</th>
<th>RAFTER SPANS FOR COMMON LUMBER SPECIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Ground Snow Load = 50 pounds per square foot, Ceiling Not Attached to Rafters, L/Δ = 180)</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 2308.10.3(5)
RAFTER SPANS FOR COMMON LUMBER SPECIES
(Ground Snow Load = 30 pounds per square foot, Ceiling Attached to Rafters, L/Δ = 240)

TABLE 2308.10.3(6)
RAFTER SPANS FOR COMMON LUMBER SPECIES
(Ground Snow Load = 50 pounds per square foot, Ceiling Attached to Rafters, L/Δ = 240)

Reason: Species- and grade-specific span tables are subject to becoming dated if design values for specific species or grades change, and therefore it is proposed to directly reference the AWC Span Tables for Joists and Rafters. The design value format of the tabulated spans in Span Tables for Joists and Rafters is not sensitive to design value changes for specific species and grades. Span Tables for Joists and Rafters is currently included as a reference in IBC 2306.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action: Disapproved

Committee Reason: Similar to S281-12 if there is a problem with the span table, the committee feels it should be fixed rather than removed since Sectin2308 should be a cook book approach.

Assembly Action: None

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Paul D. Coats, American Wood Council, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

2308.8 Floor joists. Spans for floor joists shall be in accordance with Table 2308.8(1) or 2308.8(2). For other grades and or species, refer to the AF&PA AWC Span Tables for Joists and Rafters.

Table 2308.8(1) FLOOR JOIST SPANS FOR COMMON LUMBER SPECIES (Residential Sleeping Areas, Live Load = 30 psf, L/Δ = 360)

EXTRACT Table R502.3(1) from the International Residential Code (do not extract footnote a)

Table 2308.8(2) FLOOR JOIST SPANS FOR COMMON LUMBER SPECIES (Residential Living Areas, Live Load = 40 psf, L/Δ = 360)

EXTRACT Table R502.3(2) from the International Residential Code (do not extract footnote b)

2308.10.2 Ceiling joist spans. Spans for ceiling joists shall be in accordance with Table 2308.10.2(1) or Table 2308.10.2(2). For other grades and species, and for other loading conditions, refer to the AF&PA AWC Span Tables for Joists and Rafters.

Table 2308.10.2(1) CEILING JOIST SPANS FOR COMMON LUMBER SPECIES (Uninhabitable Attics Without Storage, Live Load = 10 pounds psf, L/Δ = 240)

CEILING JOIST SPANS FOR COMMON LUMBER SPECIES (Uninhabitable attics without storage, live load = 10 psf, L/Δ = 240)

EXTRACT Table R802.4(1) from the International Residential Code

Table 2308.10.2(2) CEILING JOIST SPANS FOR COMMON LUMBER SPECIES (Uninhabitable Attics With Limited Storage, Live Load = 20 pounds per square foot, L/Δ = 240)

(Uninhabitable attics with limited storage, live load = 20 psf, L/Δ = 240)

EXTRACT Table R802.4(2) from the International Residential Code
2308.10.3 Rafter spans. Allowable spans for rafters shall be in accordance with Table 2308.10.3(1), 2308.10.3(2), 2308.10.3(3), 2308.10.3(4), 2308.10.3(5) or 2308.10.3(6). For other grades and species and for other loading conditions, refer to the AF&PA AWC Span Tables for Joists and Rafters. The span of each rafter shall be measured along the horizontal projection of the rafter.

**TABLE 2308.10.3(1) RAFTER SPANS FOR COMMON LUMBER SPECIES** *(Roof Live Load = 20 pounds per square foot, Ceiling Not Attached to Rafters, \(L/\Delta = 180\)) RAFTER SPANS FOR COMMON LUMBER SPECIES *(Roof live load = 20 psf, ceiling not attached to rafters, \(L/\Delta = 180\))

*EXTRACT Table R802.5.1(1) from the International Residential Code*

**TABLE 2308.10.3(2) RAFTER SPANS FOR COMMON LUMBER SPECIES** *(Roof Live Load = 20 pounds per square foot, Ceiling Attached to Rafters, \(L/\Delta = 240\)) RAFTER SPANS FOR COMMON LUMBER SPECIES *(Roof Live Load = 20 psf, ceiling attached to rafters, \(L/\Delta = 240\))

*EXTRACT Table R803.5.1(2) from the International Residential Code*

**TABLE 2308.10.3(3) RAFTER SPANS FOR COMMON LUMBER SPECIES** *(Ground Snow Load = 30 pounds per square foot, Ceiling Not Attached to Rafters, \(L/\Delta = 180\)) RAFTER SPANS FOR COMMON LUMBER SPECIES *(Ground Snow Load = 30 psf, ceiling not attached to rafters, \(L/\Delta = 180\))

*EXTRACT Table R803.5.1(3) from the International Residential Code*

**TABLE 2308.10.3(4) RAFTER SPANS FOR COMMON LUMBER SPECIES** *(Ground Snow Load = 50 pounds per square foot, Ceiling Not Attached to Rafters, \(L/\Delta = 180\)) RAFTER SPANS FOR COMMON LUMBER SPECIES *(Ground Snow Load = 50 psf, ceiling not attached to rafters, \(L/\Delta = 180\))

*EXTRACT Table R803.5.1(4) from the International Residential Code*

**TABLE 2308.10.3(5) RAFTER SPANS FOR COMMON LUMBER SPECIES** *(Ground Snow Load = 30 pounds per square foot, Ceiling Attached to Rafters, \(L/\Delta = 240\)) RAFTER SPANS FOR COMMON LUMBER SPECIES *(Ground Snow Load = 30 psf, ceiling attached to rafters, \(L/\Delta = 240\))

*EXTRACT Table R803.5.1(5) from the International Residential Code*

**TABLE 2308.10.3(6) RAFTER SPANS FOR COMMON LUMBER SPECIES** *(Ground Snow Load = 50 pounds per square foot, Ceiling Attached to Rafters, \(L/\Delta = 240\)) RAFTER SPANS FOR COMMON LUMBER SPECIES *(Ground Snow Load = 50 psf, ceiling attached to rafters, \(L/\Delta = 240\))

*EXTRACT Table R803.5.1(6) from the International Residential Code*

**Commenter’s Reason:** The spans for joists and rafters in the conventional construction provisions of the IBC and IRC are identical, and buildings that qualify for conventional construction in the IBC have loading limitations commensurate with residential buildings—buildings within the scope of the IRC. It is also our intent to propose adjustments to spans in the IRC code which will automatically update the spans in these tables in the IBC. In this way species-specific spans for joists and rafters will be automatically correlated between the two codes, even though the codes themselves are developed in separate code change cycles.

To facilitate the maintenance of these tables by the IRC committee, the sections containing the charging text have been modified to read exactly like the corresponding sections in the IRC. Footnotes to the IRC tables that would not apply will not be extracted, as indicated in the public comment.

Further information about this change is posted at: http://www.awc.org/Code-Officials/2012-IBC-Challenges.

**Analysis.** The result of this public comment if successful would be to extract the span tables from the 2012 IRC and, in order to achieve consistency between the IBC and IRC, would also include any changes made to the subject IRC span tables during the 2013 Code Change Cycle. Any changes to code change committee responsibilities in future code development cycles are not part of this code change, but are the responsibility of the ICC Code Correlation Committee.

**S283-12**

**Final Action:** AS AM AMPC D