2015 IRC®
Performing Residential Plan Reviews
Based on the 2015 International Residential Code®
Objectives

- Upon completion of this course you will be better able to:
  - Perform steps in completing a residential plan review.
  - Apply the 2015 IRC to the plan review process.
  - Identify where minimum code requirements have not been met and cite applicable code sections.
Welcome

- Meet the instructor
- Participant introductions
- Why are you here?
William H. (Bill) Hudson, CBO, MCP
William H. (Bill) Hudson, CBO, MCP
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Standards Technical Panels:
STP 916, STP 1040 & STP 1715
Significant Changes to the
International Energy
Conservation Code and
ANSI/ASHRAE/IES
Standard 90.1
IECC 2012 Edition

ANSI/ASHRAE/IES 90.1-2010 Edition
Mack Wallace
Joseph Deringer
William H. (Bill) Hudson, C.B.O, M.C.P.

2018
ENERGY
CODE ESSENTIALS
Based on the 2018 International Energy Conservation Code®
STEPHEN KANIPE
SHAUNNA MOZINGO
WILLIAM H. (BILL) HUDSON
Basics

Exits
Toilet Rooms
Breaks
Lunch
Phones
Questions
Participation
WELCOME TO THE IRC RANCH
THE GATE AND FENCE
CHAPTER 1
THE TOOL SHED
CHAPTER 2
THE RANCH HOUSE
CHAPTER 3
FOUNDATIONS
CHAPTER 4
ROOF-CEILING CONSTRUCTION
ROOF ASSEMBLIES
CHAPTER 9
CHIMNEYS AND FIREPLACES
CHAPTER 10
MECHANICAL & FUEL GAS
CHAPTERS 12-24
ELCTRICAL
CHAPTERS 34-43
ENTIRE HOUSE
THE WELL
REF. STDS., APPENDICES &
INDEX
WELCOME TO THE IRC RANCH
Why Plan Review?
I hereby certify that these plans meet or exceed whatever code may be in place in whatever jurisdiction this may be. By construction documents.

Construction Documents

Nicky

My House

Field

By Construction Documents
Why Plan Review?

A good plan review will provide a level playing field, so that everybody knows what to expect during the project:

- The owner
- The contractor(s)
- The plan reviewer
- The inspector(s)

“Send a Fire Inspector out to tell us where the extinguishers go.”
Why Plan Review?

Long story short……
It fixes a whole lot easier with an eraser than it does with a Sawzall or jackhammer.
Why Plan Review?

SECTION R104
DUTIES AND POWERS OF THE BUILDING OFFICIAL

R104.2 Applications and permits. The building official shall receive applications, review construction documents and issue permits for the erection and alteration of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.
The Plan Review Process

Applicant Submits Permit Application and Construction Documents

Plan Identification Logged In

Perform Plan Review: Does Plan Review Item Apply?

YES

Item in Compliance

Write O.K. on Plan Review Record

Complete Plan Review Record

NO

Item Not in Compliance

Write N.A. on Plan Review Record

Note Item on the Correction List

Complete Plan Review Record

2015 IRC Performing Residential Plan Reviews
The Plan Review Process (continued)

Notify Applicant of Completion of Plan Review

- Plans Approved
  - Permit Issued
- Plans Approved in Part
  - Permit Issued for Approved Parts Only
- Plans Not Approved
  - Resubmit Construction Documents and Indicate Resolutions
Throughout this course, the IRC Plan Review Record will be used to acquaint you with the process of reviewing submissions.

Local jurisdictions use this form or may use their own form.
October 17, 2015

Re: Plan Review for: qq

CODiES REFERENCED:

BUILDING CODES
A. International Residential Code 2015 (with amendments)  
B. National Electric Code (NEC) 2014 (with amendments)  

VILLAGE CODES/ORDIANCES
A. Village of Oak Brook Zoning Ordinance

DRAWINGS REVIEWED:
qq sheets: 
Dated: qq
Your file #: qq
Received: qq

We are unable to approve your plans as submitted. Please incorporate the items listed below into revised drawings and resubmit, a minimum of two sets, for further review. All items requested in this review letter shall be addressed prior to approval.

If you choose to resubmit anything less than a complete set, please be prepared to disassemble and properly store.

As a matter of fairness, reviews are reviewed in a first-in-first-out order along with all other submittals. Resubmissions may be accepted in a pre-scheduled meeting, under the following conditions:

- Each discipline represented in the initial submittal must be re-presented. Regardless of whether connections were required within that discipline.
- The representative of each discipline is legally authorized to site/modify/review, sign and seal the construction documents. A valid Illinois license for the represented discipline is required.
- Owners, contractors, construction managers, expeditees...etc. may attend the meeting; in addition to all required attendees.
Miscellaneous thoughts

Applicable Building Codes:
- Residential Building Code: 2015 INTERNATIONAL RESIDENTIAL CODE w/ VILLAGE OF OAK BROOK AMENDMENTS
- Mechanical: 2015 INTERNATIONAL MECHANICAL CODE w/ VILLAGE OF OAK BROOK AMENDMENTS
- Electrical: 2014 NATIONAL ELECTRICAL CODE w/ VILLAGE OF OAK BROOK AMENDMENTS
- Plumbing: 2014 STATE OF ILLINOIS PLUMBING CODE w/ VILLAGE OF OAK BROOK AMENDMENTS
- Energy: 2015 ICC INTERNATIONAL ENERGY CONSERVATION CODE w/ VILLAGE OF OAK BROOK AMENDMENTS
- Zoning: VILLAGE OF OAK BROOK ZONING ORDINANCE
Miscellaneous thoughts

- The more they give you- the more you give back.
  - Please specify, detail, and/or note the foundation adequate for review.
  - Please specify, detail, and/or note the bolt pattern shown on the center of the roof assembly, Detail 3, Sheet A-1.
Miscellaneous thoughts
Miscellaneous thoughts

✓ Ctrl + F → Find
✓ Search for “QQ”
✓ Enter will advance through each occurrence
✓ Esc will leave you at the chosen location ready to replace
Miscellaneous thoughts

1. Type something
2. Highlight and Ctrl + C (Copy)
3. Click on Auto Correct
Miscellaneous thoughts

1. Type something
2. Highlight and Ctrl + C (Copy)
3. Click on Auto Correct
4. Make up a non-word i.e. “sdn"

Please refer to 2015 International Residential Code Section M1503.4. If the minimum hood size as calculated above is in excess of 400 CFM, please specify, detail, and/or note makeup air adequate to review for compliance with this section.

9. Sheet qq
   ff. Please specify, detail and/or note

10. Sheet qq

   gg. qq

11. Sheet qq

   hh. qq

12. Sheet qq
Miscellaneous thoughts

- sdn
Miscellaneous thoughts

- Please specify, detail, and note
Miscellaneous thoughts

- Rspu → Rake, sweep and pick up
Miscellaneous thoughts

- Rspu → Rake, sweep and pick up
Plan Review Steps

- Building Planning Review
- Foundation Review
- Floor System Review
- Wall Construction Review
- Wall Covering Review
- Roof/Ceiling Construction Review
- Roof Covering Review
- Chimney and Fireplace Review
Building Planning Review

- The purpose of a building planning review is to determine that the one- or two-family dwelling, as shown on building plans and in specifications:
  - Complies with applicable standards of construction.
  - Uses appropriate materials and methods.
  - is safe for people and property.
  - Complies with code requirements.
Building Planning Review

Subtasks

1. Design Criteria, Fire-resistant Construction, Light, Ventilation and Room Size Review
2. Sanitation Review
3. Glazing Review
4. Garage Review
5. Egress Review
6. Automatic Fire Sprinkler System Review
7. Smoke Alarm and Carbon Monoxide Alarm Review
8. Insulation and Interior Finish Review
9. Dwelling Unit Separation Review
10. Fire Protection of Floors Review
11. Moisture, Decay and Termite Protection Review
Step 1: Design Criteria, Fire-resistant Construction, Light, Ventilation and Room Size Review

1. Check for design loads on plans.
2. Compare design loads to criteria in Table R301.2(1).
3. Check for exterior wall rating and opening requirements.
4. Check for fire-resistant construction.
5. Check for required lighting.
6. Check for required ventilation.
7. Check for required heating.
8. Check for minimum room size.
9. Check for minimum ceiling height.
**Table R301.2(1)**

<table>
<thead>
<tr>
<th>GROUND SNOW LOAD</th>
<th>WIND DESIGN</th>
<th>SEISMIC DESIGN CATEGORY</th>
<th>WINTER DESIGN TEMP</th>
<th>ICE BARRIER UNDERLAYMENT REQUIRED</th>
<th>FLOOD HAZARDS</th>
<th>AIR FREEZING INDEX</th>
<th>MEAN ANNUAL TEMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed (mph)</td>
<td>Topographic effects*</td>
<td>Special wind region</td>
<td>Wind-borne debris zone*</td>
<td>Weathering*</td>
<td>Frost line depth*</td>
<td>Termite*</td>
<td></td>
</tr>
</tbody>
</table>

### Weather Probability Map for Concrete
- Past practice of jurisdiction; not addressed by code

### Termite Infestation Probability Map
- As required by Chapter 9 and/or history of local damage

### Flood Hazard Map
- Jurisdiction’s Flood Code

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For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index, “negligible,” “moderate” or “severe” for concrete as determined from Figure R301.2(3). The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, and C 73, C 90, C 129, C 145, C 216 or C 652.

b. The frost line depth may require deeper footings than indicated in Figure R301.2(4). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.

c. The jurisdiction shall fill in this part of the table to indicate the need for a separation depending on whether there has been a history of local subterranean termite damage.

d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map (Figure R301.2(4)A). Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

e. The outdoor design dry-bulb temperature shall be selected from the columns of 97½°F present winter design temperatures from Appendix D of the International Plumbing Code. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local experience as determined by the building official.

f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.1.3.

g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction’s entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the present numbers and dates of the currently effective FIRMs and FBE; or other flood hazard map adopted by the authority having jurisdiction, as amended.

h. In accordance with Sections R905.1.2, R905.4.3.3, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with “YES.” Otherwise, the jurisdiction shall fill in this part of the table with “NO.”

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (AFI-100) from Figure R403.3(3) or from the 100-year (99 percent) value on the National Climatic Data Center data table “Air Freezing Index-USA Method (Base 32°F).”

j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table “Air Freezing Index-USA Method (Base 32°F),”

k. In accordance with Section R301.2.1.2, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with “YES.” Otherwise, the jurisdiction shall indicate “NO” in this part of the table.

l. In accordance with Figure R301.2(4)A, where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with “YES” and identify any specific requirements. Otherwise, the jurisdiction shall indicate “NO” in this part of the table.

m. In accordance with Section R301.2.1.2.1, the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate “NO” in this part of the table.
For SI: °C = [(°F)-32] / 1.8.

FIGURE R301.2(1)
ISOLINES OF THE 97\(\frac{1}{2}\) PERCENT WINTER (DECEMBER, JANUARY AND FEBRUARY) DESIGN TEMPERATURES (°F)
## Village of Oak Brook Design Criteria

<table>
<thead>
<tr>
<th>Subject to Damage</th>
<th>Weathering</th>
<th>Frost Line Depth</th>
<th>Termite</th>
<th>MODERATE TO SEVERE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Snow Load</td>
<td>25 lb/ft²</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ultimate Wind Design</td>
<td>115 MPH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seismic Design Category</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter Design Temperature</td>
<td>-4°F, 97 ½%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer Design Temperature</td>
<td>89°F Dry Bulb, 2 ½%</td>
<td>76°F Wet Bulb, 2 ½%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ice Barrier Underlayment</td>
<td>REQUIRED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flood Hazards</td>
<td>FIRM # 170214</td>
<td>PANELS 0606H-0609H</td>
<td>12/16/2004</td>
<td></td>
</tr>
<tr>
<td>Air Freezing Index</td>
<td>1543 (°F-Days)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Mean Temperature</td>
<td>49.4°F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heating Degree Days (HDD)</td>
<td>6,155</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooling Degree Days (CDD)</td>
<td>942</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Table R301.5 Minimum uniformly distributed live loads

<table>
<thead>
<tr>
<th>USE</th>
<th>LIVE LOAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uninhabitable attics without storage&lt;sup&gt;b&lt;/sup&gt;</td>
<td>10</td>
</tr>
<tr>
<td>Uninhabitable attics with limited storage&lt;sup&gt;b,g&lt;/sup&gt;</td>
<td>20</td>
</tr>
<tr>
<td>Habitable attics and attics served with fixed stairs</td>
<td>30</td>
</tr>
<tr>
<td>Balconies (exterior) and decks&lt;sup&gt;e&lt;/sup&gt;</td>
<td>40</td>
</tr>
<tr>
<td>Fire escapes</td>
<td>40</td>
</tr>
<tr>
<td>Guardrails and handrails&lt;sup&gt;d&lt;/sup&gt;</td>
<td>200&lt;sup&gt;h&lt;/sup&gt;</td>
</tr>
<tr>
<td>Guardrail in-fill components&lt;sup&gt;f&lt;/sup&gt;</td>
<td>50&lt;sup&gt;h&lt;/sup&gt;</td>
</tr>
<tr>
<td>Passenger vehicle garages&lt;sup&gt;a&lt;/sup&gt;</td>
<td>50&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Rooms other than sleeping room</td>
<td>40</td>
</tr>
<tr>
<td>Sleeping rooms</td>
<td>30</td>
</tr>
<tr>
<td>Stairs</td>
<td>40&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
R302 Fire Separation

**EXTERIOR WALL MUST BE 1-HOUR RATED IF LOCATED LESS THEN 5'-0" FROM LOT LINE AND PENETRATIONS IN SUCH WALLS MUST BE IN ACCORDANCE WITH SECTION R302.4**

PORTIONS OF OVERHANGS LOCATED BETWEEN 2 AND 5 FEET OF THE LOT LINE MUST BE 1-HOUR RATED ON THE UNDERSIDE

OVERHANG PROJECTIONS NOT PERMITTED WITHIN 2 FEET OF LOT LINE

**LINE USED TO DETERMINE FIRE SEPARATION DISTANCE (LOT LINE OR IMAGINARY LINE)**

**SINGLE-FAMILY DWELLING**

OPENINGS ≥ 3' AND < 5' FROM LOT LINE ARE LIMITED TO 25% OF THE EXTERIOR WALL AREA

OPENINGS NOT PERMITTED LESS THAN 3 FEET FROM LOT LINE

**Partial Site Plan**

EXTERIOR WALL REQUIREMENTS BASED ON LOCATION TO LOT LINE

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
R302.11 Fireblocking

FIREBLOCKING. Building materials or materials approved for use as fireblocking, installed to resist the free passage of flame to other areas of the building through concealed spaces.
R302.11 Draftstopping

DRAFT STOP. A material, device or construction installed to restrict the movement of air within open spaces of concealed areas of building components such as crawl spaces, floor-ceiling assemblies, roof-ceiling assemblies and attics.
R303.1 Natural Light & Ventilation- Habitable Rooms

<table>
<thead>
<tr>
<th>Space</th>
<th>Minimum Glazing Size (for natural lighting)</th>
</tr>
</thead>
</table>
| All habitable rooms (e.g., living room, dining room, sleeping rooms, kitchen) | 8% of floor area for natural light  
4% of floor area openable for natural ventilation |
| Bathroom                           | 3 s.f. for natural light 1.5 s.f. for natural ventilation |

For SI: 1 square foot = 0.0929 m².

**Note:** Artificial light may be substituted in accordance with exceptions to Sections R303.1 and R303.3.
R303 Light, Ventilation & Heating

R303.1 Natural Light & Ventilation- Adjoining Rooms

| Adjoining room | • Combined area of room and adjoining room;  
|               | • One-half the area of common wall is open and unobstructed;  
|               | and  
|               | • Opening is a minimum of 10% of the floor area of the interior  
|               | room but not less than 25 square feet.  

For SI: 1 square foot = 0.0929 m².

**Note:** Emergency escape and rescue requirements of Section R310 must also be satisfied. Check if natural lighting is not in accordance with Section R303, then Sections R303.1, R303.3 and R303.6 require artificial lighting as follows:
R303.2 Natural Light for adjoining rooms

Adjoining Room Calculation:

- Floor area of bedroom = $14 \times 12 = 168 \text{ ft}^2$
- Total common wall area = $9 \times 10 = 90 \text{ ft}$.
- Open common wall area = $(3 \times 8) + (3.5 \times 5) = 41.5 \text{ ft}^2$

Room With Adjoining Room

NOTE: 8' CEILING HEIGHT, DOUBLE HUNG WINDOWS
Step 5: Check habitable rooms for minimum size

<table>
<thead>
<tr>
<th>Space</th>
<th>Minimum Area</th>
<th>Minimum Horizontal Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other habitable rooms</td>
<td>70 square feet</td>
<td>7 feet</td>
</tr>
<tr>
<td>Kitchen</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Bedrooms</td>
<td>70 square feet</td>
<td>7 feet</td>
</tr>
<tr>
<td>Bathroom</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m²

See IPMC for additional requirements based on occupancy.
R305 Ceiling Height Requirements

Baths - 6'-8"
Fixt = "used For intended Purpose."

BASEMENT CAN NOT BE FINISHED AND UTILIZED AS HABITABLE SPACE AT THIS HEIGHT

SLOPED CEILINGS LESS THAN 7'-0"
- MAX. OF 50% OF REQUIRED FLOOR AREA WITH NO POINT LESS THAN 5'-0"

For SI: 1 inch = 25.4 mm, 1 foot = 304.5 mm.
Building Planning Plan Review Activity

- Use the plan review record, (page 3), to begin to fill out the Building Planning portion for Design Criteria, Fire-resistant Construction, Light, Ventilation and Room Size using the set of plans.
Step 2: Sanitation Review Steps

1. Check bathrooms for proper type of fixtures.
2. Check bathroom for adequate clearances to fixtures.
3. Check kitchen area for sink.
4. Check for sewage disposal system.
5. Check for water supply system.
6. Check for non-absorbent wall surfaces.
Figure R307.1
Minimum Fixture Clearances
Figure R307.1
Minimum Fixture Clearances

- Water closet or bidet: 15 in. clearance from wall
- Tub: 21 in. clearance from wall
- Water closets: 21 in. clearance from wall
Sanitation Review Example

Please refer to 2015 IRC Section R307.1
Please specify, detail, and/or note Bath No. 1 floor clearance width from water closet centerline to shower adequate to review for compliance.
Use the plan review record, page 3, to fill out the Building Planning portion for Sanitation using the set of plans.
R308 Glazing

1. Check for safety glazing labeling requirements.
2. Check louvered window and jalousies.
3. Check hazardous locations for safety glazing.
4. Check skylight glazing materials.
5. Check skylight for protective screen.
6. Check for skylight roof curbs if the roof pitch is less than 3:12.
Safety Glazing

1. SAFETY GLAZING REQUIRED
2. SAFETY GLAZING NOT REQUIRED
   (SEE EXCEPTION 4)
Glazing Review Example

SPECIFICATIONS:
* SKYLIGHTS
  - 30" X 30"
  - DOUBLE GLAZED
  - TEMPERED GLAZING

For SI: 1 inch = 25.4 mm.
1 foot: 304.8 mm.

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Please refer to 2015 IRC Section R308.4. Please specify, detail, and/or note landing window safety glazing adequate to review for compliance.

Hall skylight top glazing edge more than 12 feet above surface and would require a screen, refer to R308.6.7 for screen requirements. R308.6.2, R308.6.5

Please refer to 2015 IRC Section R308.4. Please specify, detail, and/or note glazing in door types 1 (including sidelight), 2, 3, 5 and 6 adequate to review for compliance.
Glazing Review Example

- Glazing

Please refer to 2015 IRC Section R308.4. Please specify, detail, and/or note glazing in door types 1 (including sidelight), 2, 3, 5 and 6 adequate to review for compliance.
- Use the plan review record, page 3, to fill out the Building Planning portion for Glazing using the set of plans.
Building Planning
Plan Review Activity

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WEST ELEVATION

EAST ELEVATION

Light & Ventilation Schedule

<table>
<thead>
<tr>
<th>WINDOW</th>
<th>ROOM</th>
<th>AREA (SQFT)</th>
<th>PRICE (DOLLARS)</th>
<th>VENTILATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td><strong>300</strong></td>
<td>10.5 x 12</td>
<td>500</td>
<td>2.0</td>
</tr>
<tr>
<td>G2</td>
<td><strong>300</strong></td>
<td>8.0 x 10</td>
<td>400</td>
<td>1.5</td>
</tr>
<tr>
<td>G3</td>
<td><strong>220</strong></td>
<td>6.0 x 8</td>
<td>300</td>
<td>1.0</td>
</tr>
<tr>
<td>G4</td>
<td><strong>140</strong></td>
<td>4.0 x 6</td>
<td>200</td>
<td>0.5</td>
</tr>
<tr>
<td>G5</td>
<td><strong>90</strong></td>
<td>3.0 x 4</td>
<td>100</td>
<td>0.2</td>
</tr>
<tr>
<td>G6</td>
<td><strong>50</strong></td>
<td>2.0 x 3</td>
<td>50</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Notes:
- All windows are double-hung with low-e glass.
- Area calculations are approximate and subject to change based on actual measurements.
- Ventilation rates are estimated based on standard rates and may vary with installation.

2015 IRC Performing Residential Plan Reviews
Step 4: Garage Review

1. Check for openings between garage and sleeping rooms.
2. Check for proper door opening protection, duct and other penetrations.
3. Check for separation between garage and living spaces.
4. Check floor material.
5. Check for floor slope and drains.
6. Check for carport requirements.
7. Check automatic garage door openers are in accordance with UL 325.
Please refer to 2015 IRC Section R302.5.1
Please specify, detail, and/or note thickness of the solid core door from the hallway to garage & self-closing mechanism adequate to review for compliance.
For SI: 1 inch = 25.4 mm.

Please refer to 2015 IRC Table R302.6. Please specify, detail, and/or note the required dwelling-garage ceiling fire separation adequate to review for compliance.
Building Planning
Plan Review Activity

- Use the plan review record, page 4, to fill out the Building Planning portion for Garages and Carports using the set of plans.
SECOND FLOOR PLAN
Step 5: Egress Review Steps

1. Check sleeping rooms for means of emergency escape and rescue.
2. Check landings at egress doors.
3. Check for under stair protection.
4. Check hallway width.
5. Locate the required exit door.
6. Check the size and type of exit door.
7. Check stairways.
8. Check handrails.
9. Check stairway illumination.
10. Check any winder and circular stairways.
11. Check any spiral stairways.
12. Check ramps.
13. Check guards.
R310
Emergency Escape and Rescue Openings

Casement Window
R310
Emergency Escape and Rescue Openings

Double Hung Window

Min. area of opening is 5.7 sq.ft.

Height required to achieve area of 5.7 sq.ft.

Min. opening is 5.7 sq.ft.

24" min. height

38" width

Required to achieve area of 5.7 sq.ft.

Clear opening

20" min.

41"
R310.2
Window Wells

* Horizontal dimensions of window well must allow the window to open fully and have a minimum net clear area of 9 sq. ft. with minimum dimensions of 3'-0"
R310.2
Window Wells

* No ladder or steps required if depth is 44" or less.
If depth is greater than 44" then a ladder or steps are required.
Check for landings

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
R311.7
Stairways

Partial Stair Plan

6' - 8'' MINIMUM

10'' TREAD MIN.

7 3/4'' RISER MAX.
R311.2
Door Width

3'-0" Door

2'-9 15/16" clear
R311.2
Door Width
R311.7.8 Handrails

2" DIA. HANDRAIL

1 1/2" MIN. CLEARANCE

GUARD

13T @ 10"
R311.7.8
Handrails
Circular Stair

WINDER: ANY TREAD WITH NONPARALLEL EDGES (AS DEFINED IN CHAPTER 2)

10" MIN

12"

HANDRAIL/GUARD

MINIMUM 10" INCH
TREAD DEPTH
IS MEASURED
12" FROM NARROWER
END OF TREAD

UP 14 RISERS

6" MINIMUM TREAD DEPTH

For SI: 1 inch = 25.4 mm.
Spiral Stair

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
R311.7.8, R312.1.3
Handrails and Guards

4-3/8" SPHERE UNABLE TO PASS THROUGH

4" SPHERE UNABLE TO PASS THROUGH

6" SPHERE UNABLE TO PASS THROUGH

34" MIN
38" MAX

36" MIN.

> 30"
R312.2
Window Fall Protection

Approved emergency release window opening limiting device

Approved window fall prevention device conforming to ASTM F2090

Fixed glazing panel

4 in. sphere cannot pass through

Finish floor

Finish floor

Finish floor

≥24 in.

≥24 in.

≥24 in.

>72 in.

>72 in.

>72 in.

<24 in.

<24 in.

<24 in.

For SI: 1 inch = 25.4 mm.

Figure R312.2.1
WINDOW SILL HEIGHT
Please refer to 2015 IRC Section R310.1. Please specify, detail, and/or note Bedroom No. 1 window clear opening area adequate to review for compliance.

Please refer to 2015 IRC Section R311.6. Please specify, detail, and/or note hallway width adequate to review for compliance.

Please refer to 2015 IRC Section R311.7.4. Please specify, detail, and/or note tread and riser dimensions adequate to review for compliance.

Please refer to 2015 IRC Section R311.2 Please specify, detail, and/or note clear width of exit door adequate for review.
Please refer to 2015 IRC Section R311.7.8.1. Please specify, detail, and/or note handrail height adequate to review for compliance.

Please provide interior and exterior stairway illumination to comply with R311.7.8 code per Section R303.6.

Please refer to 2015 IRC Section R312.1.3 Please specify, detail, and/or note guardrail opening dimensions adequate to review for compliance.
Building Planning
Plan Review Activity

- Use the plan review record, page 4, to fill out the Building Planning portion for Means of Egress using the set of plans.
Step 7: Smoke Alarm and Carbon Monoxide Alarm Review Steps

1. Check for smoke alarm in each sleeping room.
2. Check for smoke and carbon monoxide alarms outside of and in vicinity of sleeping rooms.
3. Check for smoke alarms on each floor.
4. Check for smoke alarm near bathroom doors.
5. Check for smoke alarms in split level drawings.
6. Check for smoke alarms near cooking appliances.
7. Check for interconnection and installation.
8. Check power source.
9. Check for smoke alarms throughout dwelling, if addition or alteration.
Smoke Alarm and Carbon Monoxide Alarm Review

Placement of Smoke Alarms Within Dwelling
Smoke Alarm and Carbon Monoxide Alarm Review

Placement of Smoke Alarms Within Dwelling

2ND FLOOR PLAN

1ST FLOOR PLAN

BASEMENT PLAN

SA SMOKE ALARM

2015 IRC Performing Residential Plan Reviews
Smoke Alarm and Carbon Monoxide Alarm Review

Placement of Smoke Alarms Within Dwelling
Smoke Alarm and Carbon Monoxide Alarm Review Example

Please refer to 2015 IRC Sections R314.3, R315.1. Please specify, detail, and/or note smoke and CO adequate to review for compliance.

Please refer to 2015 IRC Section R314.4. Please specify, detail, and/or note interconnection adequate to review for compliance.

Please refer to 2015 IRC Sections R314.6 & R315.5. Please specify, detail, and/or note detector power source(s) adequate to review for compliance.
Building Planning Plan Review Activity

- Use the plan review record, page 4, to fill out the Building Planning portion for Smoke Alarm and Carbon Monoxide Alarm using the set of plans.
Step 8: Insulation and Interior Finish

Review Steps

1. Check for labeling and identification requirements for foam plastic.
2. Check for surface burning characteristics and thermal barrier requirements for foam plastics or details in accordance with Section R316.6.
3. Check wall and ceiling finishes.
4. Check flame spread of exposed insulating materials.
5. Check smoke-developed index of insulating materials.
Building Planning Plan Review Activity

- Use the plan review record, page 3-4 to fill out the Building Planning portion for Insulation and Interior Finish using the set of plans.
Step 9: Dwelling Unit Separation Review Steps

1. Check two-family dwelling for 1-hour separation wall (or ½-hour with sprinkler system).

2. Check townhouse construction for 1-hour exterior and common walls.

3. Check for continuity of separation.

4. Determine if townhouse walls require parapet.

5. Check townhouse construction for structural independence.
R302.3 Two-family Dwelling Separation

- OR -

Alternatively, if the ceiling and its supporting construction are protected with 5/8 inch Type X gypsum board, draftstopping in accordance with Section R502.12.1 may be utilized in lieu of the rated assembly in the attic space.
R302.3 Two-family Dwelling Separation

SUPPORTING CONSTRUCTION MUST BE 1-HOUR FIRE RESISTANCE RATED PER SECTION R317.1.1

DESIGN UL M500 OR GA FILE NO. FC 5420
Building Planning Plan Review Activity

- Use the plan review record, page 3, to fill out the Building Planning portion for Dwelling Unit Separation using the set of plans.
Step 10: Fire Protection of Floors

Review

1. Check that all non-rated floor/ceiling assemblies are provided with a 1/2 inch thick gypsum board ceiling or equal.

2. Check that all penetrations or openings for air or exhaust ducts, mechanical and plumbing vents, electrical outlets, lighting, wiring, etc. are properly sealed and protected to maintain the ceiling integrity.

3. Check whether the Exceptions of Section R302.13 apply.
Step 11: Moisture, Decay and Termite Protection Review Steps

1. Determine if a moisture vapor retarder is specified and code compliant.
2. Determine if minimum clearances are provided or if naturally durable or treated wood is used.
3. Check submerged or embedded posts, poles or columns for ground contact use.
4. Determine if termite protection is required.
5. Check for naturally durable or treated wood where the local jurisdiction has indicated so in Table R302.2(1).
R319.1 Locations Requiring Protection from Decay

Minimum Separation of Wood From Ground
R317 Decay Protection Review

Wood Siding or Sheathing

WOOD SIDING OR SHEATHING

SUBFLOOR

2 X 10 JOIST

6" MIN.

FOUNDATION WALL
R317
Decay
Protection
Review

Wood Sills on Exterior Foundation Walls

8" MIN.
Moisture, Decay and Termite Protection Review Example

Please refer to 2015 IRC Section R601.3 Please provide moisture vapor retarder details adequate for review.

Please refer to 2015 IRC Section R317.1 Item No. 5. The wood siding clearance from the ground is less than 6 inches. Please specify, detail, and/or note adequate for review.

Please refer to 2015 IRC Section R317.1 Item No. 2. Please specify, detail, and/or note preservative-treated or of decay-resistant wood for the 2 x 4 wood sill plate adequate for review.

Please refer to 2015 IRC Section R317, Item No. 4. Please specify, detail, and/or note the grout sealed built-up girder adequate for review.

Please refer to 2015 IRC Section 317.3.1. Please specify, detail, and/or note fasteners for preservative treated wood adequate to review for compliance.

All lumber that is pressure preservative-treated shall bear the quality mark of an approved agency. Provide details. R317, R317.2.1

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
Use the plan review record, page 3, to fill out the Building Planning portion for Moisture, Decay and Termite Protection using the set of plans.
NORTH ELEVATION

SOUTH ELEVATION
R319
Site
Address

✓ Contrast with background.
✓ Arabic numbers or alphabetical letters.
✓ Numbers shall not be spelled out.
✓ Not less than 4 inches in height with a stroke not less than 0.5 inch.
✓ Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure.
✓ Address identification shall be maintained.
R322
Flood Resistant Construction
R323
Storm Shelters
ICC 500 Shelter Design Wind Speed Map

Notes:
1. Values are nominal three-second gust wind speeds in miles per hour at 33 feet above ground for Exposure Category C.
2. Multiply miles per hour by 0.447 to obtain meters per second.
R324 Solar Energy Systems

- 324.2 Solar thermal systems - refer to 2015 International Fire Code Chapter 23

- 324.3 Photovoltaic systems
  - NFPA 70
  - UL 1703 ≤ 1,000 volts
R324 Solar Energy Systems

- R324.3 Photovoltaic systems
  - R324.4 Rooftop-mounted systems - R909
  - R324.5 Building-integrated systems - R905
  - R324.6 Ground mounted systems - R301 (structural)
    - R324.6.1 Fire separation distances - local
addition of door and stairs/landing to access upper level of detached garage

- Each step is 45" wide x 11/4" deep
- Each riser is 7" tall
- 6 steps total
- 4" clearance to floor from bottom of rail
- Floor of landing to ground is 42"
- Each balluster is 4" apart
- Landing is 48" x 45½" (2x10s)
- Landing is 51½" x 47½" with hang-over included

INSIDE GARAGE

- Upper level joists are 2x8 on 16" centers
- Flooring will be 4x8 ¾" plywood
- Intention is for storage of tools, Christmas tree, other lightweight objects
- Electricity was installed at time of construction

PERS. # 18-2-892

APPROVED: ____________________________
DATE: ____________________________

Subject to Ordinance 1. With specific regard to ordnance:
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1700 DOUGLAS ROAD
(630) 539-5000
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