

### Permit Review Times

Please expect Safe Building to **begin** reviewing a submitted permit within 5 business days of receipt. Safe Building will complete its initial review of submitted permit materials within 3 business days of beginning the review. These lead times result in a total initial review time from receipt of 3-8 business days. Please anticipate this lead time when submitting a permit. If any of the materials listed below are missing or deficient this review period *will* be extended.

### Permit Application Requirements

- All permits require a complete, *signed*, permit application. The permit application is invalid if not signed by the permit applicant.
- The *minimum* supporting documents required in addition to the signed permit application are listed in the next column.
- All permit applications should include contact information for the permit applicant. Contact information includes phone number and e-mail address if available.
- The signed permit application must be submitted to the City Clerk.
- All required documents may be submitted electronically to the City Clerk.

### Required Supporting Documents

- **Site Plan** that includes:
  - setbacks from property lines
  - lot dimensions
  - house dimensions
- **House Plans** that include:
  - room areas
  - wall heights
  - window locations
  - door locations
  - exterior elevations
  - basement finishes (if any)
  - deck size (if any)
  - deck roof size (if any)
- **Mechanical System Design Documents**
  - ACCA manuals J, S, and D
  - a complete Residential Plans Examiner Review Form facilitates prompt review of these documents
- **2012 Iowa Energy Code** compliance path documentation
  - **Indicate one of the three paths chosen:**
    - Prescriptive: required insulation levels should be shown on house plans
    - UA alternative: RESCheck analysis
    - Performance: HERS rater pre-construction analysis



All new construction, remodels, additions, enlargements, repair, moving, removal, conversion, demolition, and alterations require a building permit, as well as decks, fences, signs, and sheds. A trade permit is required for all plumbing, electrical, and mechanical work.

The application for a building permit must be filled out completely including complete contact information and must include the following:

- A scalable set of building plans. Electronic plan files are acceptable and encouraged.
- Site plans that include property lines, existing structures, location of existing structures with measurements to property lines and other structures and location of proposed building or structure.
- Description of work to be performed.
- 2012 IECC Energy Compliance information: Prescriptive, Trade Off (ResCheck), Performance (HERS)
- Trade permits for any electrical, mechanical or plumbing work completed.

All work must conform to the applicable building code and/or City Ordinances.

Work must not commence until all associated fees are paid and an approved building permit issued. A preconstruction conference with the building official may be required prior to the issuance of the permit.

When all requirements have been met, a permit will be issued. A permit is valid for 1 year and work must commence within 180 days from date of issuance.

Required Inspections: (some circumstances may require additional inspections)

INSPECTION	NOTES
Footing .....	Prior to pouring concrete
Foundation .....	Prior to pouring concrete
Sewer/Water/Storm .....	According to City specifications
Groundwork Plumbing .....	Wet test required, weather permitting - Prior to pouring concrete
Plumbing .....	Prior to interior wall finish. Wet test required, weather permitting
Electrical .....	Temp pole prior to meter release, Rough in prior to insulation and meter release
Mechanical .....	Prior to insulation
Framing .....	Prior to insulation
Sidewalk/Approach .....	According to City specifications
Final .....	<b>No structure may be occupied until a Certificate of Occupancy is issued</b>

Work must not be completed beyond the point indicated in each inspection without first obtaining the approval of the building inspector. Any portions that do not comply must be corrected and not covered or concealed until authorized. The building inspector can require construction to be removed if the appropriate inspections were not completed.

**One business day notice is requested on all inspections.** Inspections will be completed by the end of the next business day if one day's notice is provided. All attempts will be made to accommodate same-day inspections, but a same-day inspection cannot be guaranteed. **It is the responsibility of the permit applicant to alert the building inspector and schedule necessary inspections or to cancel or reschedule an existing scheduled inspection for any reason.** A trip charge may be assessed if you are not ready at the time of the scheduled inspection and a reinspection is required.

**By following these guidelines, the proper inspections can be completed in a timely manner with minimal disruption of your work schedule. Please call Safe Building with any questions about this process, building code or inspection results.**

## CHAPTER 4 [RE]

# RESIDENTIAL ENERGY EFFICIENCY

### SECTION R401 GENERAL

**R401.1 Scope.** This chapter applies to residential buildings.

**R401.2 Compliance.** Projects shall comply with Sections identified as "mandatory" and with either sections identified as "prescriptive" or the performance approach in Section R405.

**R401.3 Certificate (Mandatory).** A permanent certificate shall be completed and posted on or in the electrical distribution panel by the builder or registered design professional. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall list the predominant *R*-values of insulation installed in or on ceiling/roof, walls, foundation (slab, *basement wall*, crawlspace wall and/or floor) and ducts outside conditioned spaces; *U*-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating,

cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be *listed* for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters.

### SECTION R402 BUILDING THERMAL ENVELOPE

**R402.1 General (Prescriptive).** The *building thermal envelope* shall meet the requirements of Sections R402.1.1 through R402.1.4.

**R402.1.1 Insulation and fenestration criteria.** The *building thermal envelope* shall meet the requirements of Table R402.1.1 based on the climate zone specified in Chapter 3.

**R402.1.2 *R*-value computation.** Insulation material used in layers, such as framing cavity insulation and insulating sheathing, shall be summed to compute the component *R*-value. The manufacturer's settled *R*-value shall be used for

TABLE R402.1.1  
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT<sup>a</sup>

CLIMATE ZONE	FENESTRATION U-FACTOR <sup>b</sup>	SKYLIGHT <sup>b</sup> U-FACTOR	GLAZED FENESTRATION SHGC <sup>b, c</sup>	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE <sup>e</sup>	FLOOR R-VALUE	BASEMENT <sup>f</sup> WALL R-VALUE	SLAB <sup>g</sup> R-VALUE & DEPTH	CRAWL SPACE <sup>g</sup> WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.35	0.55	0.25	38	20 or 13+5 <sup>h</sup>	8/13	19	5/13 <sup>f</sup>	0	5/13
4 except Marine	0.35	0.55	0.40	49	20 or 13+5 <sup>h</sup>	8/13	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.32	0.55	NR	49	20 or 13+5 <sup>h</sup>	13/17	30 <sup>e</sup>	15/19	10, 2 ft	15/19
6	0.32	0.55	NR	49	20+5 or 13+10 <sup>h</sup>	15/20	30 <sup>e</sup>	15/19	10, 4 ft	15/19
7 and 8	0.32	0.55	NR	49	20+5 or 13+10 <sup>h</sup>	19/21	38 <sup>e</sup>	15/19	10, 4 ft	15/19

For SI: 1 foot = 304.8 mm.

- a. *R*-values are minimums. *U*-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed *R*-value of the insulation shall not be less than the *R*-value specified in the table.
- b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.
- c. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.
- d. R-5 shall be added to the required slab edge *R*-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Climate Zones 1 through 3 for heated slabs.
- e. There are no SHGC requirements in the Marine Zone.
- f. Basement wall insulation is not required in warm-humid locations as defined by Figure R301.1 and Table R301.1.
- g. Or insulation sufficient to fill the framing cavity, R-19 minimum.
- h. First value is cavity insulation, second is continuous insulation or insulated siding, so "13+5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding. If structural sheathing covers 40 percent or less of the exterior, continuous insulation *R*-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used - to maintain a consistent total sheathing thickness.
- i. The second *R*-value applies when more than half the insulation is on the interior of the mass wall.