



Duchesne County
Department of Building Safety

734 North Center St., P.O. Box 317
Duchesne, Utah 84021-0317
Phone (435) 738-1153
Karl D. Mott
Building Official



BUILDING PERMIT PROCESS

DOCUMENTS TO BE SUBMITTED TO THE DUCHEсне COUNTY DEPARTMENT OF BUILDING SAFETY FOR THE BUILDING PERMIT APPLICATION PROCESS

1. Submit name, address and phone number of the owner of the project and property. Submit all of the contractor's names, business addresses, phone numbers, Utah State license numbers and copy of their business license that will be working on the project. If the project is to be an owner builder project, an owner builder exemption form will be required.
2. Legal description of property and proof of ownership. This can be a Tax Notice, Recorded deed or a Notarized Purchase Contract. The documents must include proof of legal deeded access to property from a public right of way.

NOTE: If access is from a Duchesne County maintained road/highway, an approach permit from the Duchesne County Road Department may also be required. Contact the Duchesne Road Department at (435)738-2468. If access is from a State maintained highway, an approach permit from the Utah State Department of Transportation may also be required. Contact a representative from the Region Three Field office at (801) 227-8000.

3. Plot plan showing where home is to be placed on property. Plans must have accurate dimensions showing distances (setbacks) from property lines, location of septic tank, drain field, building sewer lines, culinary water lines as well as all underground or overhead electrical lines. All building sites must meet minimum zoning requirements prior to the issuing of any building permit. Plot plan may be required to be a surveyed site plan for the issuance of a legal address.

Note: If the building site is a division off of a larger parcel of land, Minor Subdivision Approval will be required. For more information about County zoning laws, contact:

Department of Planning, Zoning & Community Development
Mike Hyde AICP, Community Development Administrator
Duchesne County Administrative offices
(435) 738-1151 or (801) 363-9029 ext. 1151

4. Proof of a legal connection to an approved sewer treatment facility or a copy of an onsite Waste Water Disposal Permit from the Tri-County Health Department confirming that the building site will sustain its' own individual waste water disposal system. Contact:

Cindy Austreng at the
Tri-County Health Department
281 East 200 North
Roosevelt, Utah 84066
(435) 722-6310
Vernal Office (435) 247-1160

Building Permit Process Continued

5. For Residential or Business uses, evidence of an approved culinary water source / supply will be required. (Utah State 2012 IRC Amendment (24), A new IRC, Section P2602.3, is added and 2012 IPC amendment (15) IPC, Section 602.3

P2602.3 Individual water supply. Where a potable public water supply is not available, individual sources of potable water supply shall be utilized provided that the source has been developed in accordance with Utah Code, Sections 73-3-1 and 73-3-25, as administered by the Department of Natural Resources, Division of Water Rights. In addition, the quality of the water shall be approved by the local health department having jurisdiction. This can be proven by;

- A A receipt for connection to a State approved culinary water system.
 - B Proof of an existing culinary water well or existing connection to a State approved culinary water system. Wells may require an inorganic test which will take from **4-6 weeks** for the results. Contact the Tri-County Health Department to pick up a sample kit. The sample then needs to be taken to the Utah State Health Department Lab.
 - C A permit for a new culinary water well.
(For a water well permit or questions concerning water wells contact the State Engineers Office at (435) 247-1514.)
 - D Submitted design for an individual culinary water cistern system. Design for cistern systems will be reviewed for minimum health and water supply requirements prior to approval by the Building Official.
6. Indicate what type of use the building is for and the approximate valuation, excluding land cost, of the project. Identify and describe the work that is to be covered by the permit. This will require the following;
- Submit two (2) sets of plans showing the following:
- a. Plot plan showing setbacks from property lines, right-of-ways, and location of roads and utilities. Scale 1" = 60' preferred.
 - b. Footing and foundation plan and details, showing reinforcement, ventilation, water proofing, etc.
 - c. Floor plans showing room size and use, location of window and door with sizes and types, attic and crawl space access location and size, location of furnace and water heater.
 - d. Elevations of all four sides of buildings. Elevations should indicate exterior finish material to be used.
 - e. Framing detail plans for floor and roof showing size and spacing of framing members, details and cross sections adequate to show structural integrity of building and insulation type and R-values. Typical details scale 1/2" = 1'-0"
 - f. Electrical plan showing wiring methods and size and number of outlets on each circuit along with the fixture, outlet and distribution panel locations. Building load calculations and service sizing may also be required.
 - g. Plumbing layout showing number of fixtures on each line and vents.
 - h. Details of stair cross section, fireplace cross section, and other special features. Typical details scale 1/2" = 1'-0"

All plans are to be drawn to scale large enough to determine accuracy of the design. Typically, building plans scale 1/8" = 1'-0", 3/16" = 1'-0" or 1/4" = 1'-0" with 1/4" scale preferred. Plans submitted in Electronic form must be AutoCAD dwg. or Adobe PDF format.

Building permit process continued

Section 15.06.011 Duchesne County Code Information on Construction Documents.

Construction documents shall be dimensioned and drawn upon suitable material. Electronic media documents are permitted to be submitted when approved by the building official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the building official.

A plan review will be conducted on the above plans to confirm compliance with the provisions of the adopted minimum building safety standards. If the plans do not show compliance, they will be returned for revision. **NOTE: Any structural items that are not in compliance with the 2012 edition of the International Residential Code and /or the Utah State Foundation Amendment will be required to be designed by a Utah Licensed Engineer.** Plans that indicate compliance will be stamped approved. One set will be returned for onsite inspection use and must be present during all inspections. The other will remain a record in this office for a period of one year after project completion or permit expiration.

PERMIT FEES

Building permit fees are based on an estimated construction cost valuation. This will be determined by the Counties adopted construction valuation schedule. Using the construction valuation schedule, the project valuation for a typical 1500 Square foot single level home with 700 square foot attached garage is \$197,070.00. The building permit fee this project would be \$1,320.37. Other additional fees would be a 1% state surcharge required on all issued building permits and a plan review fee of not less than 35% and up to as much as 65% of the building permit fee. This example plan review fee would be \$462.13.

EXPIRATION OF PERMIT

Every permit issued by the Department of Building Safety under the provisions of the adopted minimum safety standards shall expire by limitation and become null and void if the building or work authorized by such permit is not commenced within 180 days from the issue date of such permit, or if the building or work authorized by such permit is suspended or abandoned at any time for a period of 180 days after the work has commenced.

EXTENSION OF PERMIT TIME

Any person holding an unexpired permit may apply for an extension of the time within which work may commence under that permit when the permit holder is unable to commence work within the time required for a good and satisfactory reason. The Building Official may extend the time for action by the permit holder for a period not exceeding 180 days on written request by the permit holder showing that circumstances beyond the control of the permit holder have prevented action from being taken.

INSPECTION REQUIREMENTS

ALL BUILDINGS OR STRUCTURE SHALL BE INSPECTED according to the approved plans. Any changes to the approved plans or substitute of materials shall be submitted to the building official for approval by the owner, builder and/or architect / engineer prior to any changes being incorporated in the structure.

INSPECTION NOTIFICATION

Due to the area coverage size, a minimum 24-hour notice will be required for any afternoon inspections and a 48-hour notice will be required for any morning inspections. **Conformation of appointment day will be given, however time of inspection will not be guaranteed.**

INSPECTION SCHEDULING AND CONFIRMATION

For inspection scheduling and confirmation please call Glenna in Duchesne at (435) 738-1150 or from S.L.C. at (801) 363-9029 ext. 1150 **NOTE: Messages left on voice mail will not be considered notice**, however a message must be left for our office to return your call to schedule and confirm an inspection appointment.

APPROVAL REQUIRED

No work shall be done on any part of the building or structure beyond the point indicated in each successive inspection without first obtaining an inspection and approval of the code official.

INSPECTIONS

Pre-site Inspection; This inspection may be required due to property conditions. The purpose of this inspection would be to determine if special soil conditions exist, any Wild Land Urban Interface Code requirements that affect the property or any other unusual conditions that may exist. Property lines must be identified by a minimum of survey stakes at the corners at this inspection.

The Following Inspections are required:

1. **Footings;** for confirmation of reinforcement placement when required and footing form size. Also confirms location of building on parcel.
2. **Foundation;** for confirmation of reinforcement placement, anchoring provisions, basement window/door or crawl space access locations, proper under-floor vent sizing and locations and form shoring.
 - a. **Bond beams;** for masonry foundation wall or masonry wall construction only.
3. **Foundation waterproofing** when required. (below grade livable space, Masonry foundation walls).
4. **Underground utility;** building sewer line from home to septic tank or sewer, water line from home to water source, any underground gas lines and any underground electrical lines.
5. **Under floor slab;** building drain line installation and pressure test, any electrical, any heat ducts and insulation, any required reinforcement and any required moisture barrier.
6. **Floor framing prior to sheathing;** to confirm proper joist size for span, proper lumber grade and proper connections to sill plate.
7. **Roof and wall sheathing prior to finish coverings;** to confirm proper nailing and joint offsets, proper panel usage and to determine if moisture barrier will be required.
8. Utah Amendment **R109.1.5 Weather-resistive barrier and flashing inspections.** An inspection shall be made of the weather-resistive barrier as required by Section R703.1 and flashings as required by Section R703.8 to prevent water from entering the weather-resistant exterior wall envelope.
- * 11. **Rough electrical;** wire and box installation and distribution panel location.
- * 12. **Rough plumbing;** pressure test and installation of DWV piping, gas piping, water piping.
- * 13. **Rough mechanical;** duct and vent installation and sizing and fire blocking.
- * 14. **Rough framing** prior to insulation or any other coverage.
15. **Insulation and moisture barrier installation;** confirm insulation R values and window U values for compliance with the Energy Code requirements.
16. **Dry wall;** confirm fire barriers, tile backers and brace wall installation prior to plastering.
- ** 17. **Final electrical.**
- ** 18. **Final plumbing.**
- ** 19. **Final mechanical.**
- ** 20. **Final.**
- ** 21. **Final exterior grading** for drainage and access to building.

*The above items with one asterisk can be conducted at the same time.

**The above items with two asterisks can be conducted at the same time.

OCCUPANCY REQUIREMENTS

THERE SHALL BE A FINAL INSPECTION AND APPROVAL, AND A CERTIFICATE OF OCCUPANCY SHALL BE ISSUED ON ALL BUILDINGS AND STRUCTURES PRIOR TO THEIR BEING OCCUPIED OR USED.

**GENERAL DESIGN INFORMATION FOR RESIDENTIAL SINGLE FAMILY DWELLING
CONSTRUCTION**

For determining minimum Building Safety Standards, Utah State and / or Duchesne County have adopted the following:

- The International Building Code (IBC) 2012 edition,
- The International Residential Code (IRC) 2012 edition for one and two family dwelling,
- The International Plumbing Code (IPC) 2012 Edition,
- The International Mechanical Code (IMC) 2012 edition,
- The International Fuel Gas Code (IFGC) 2012 edition,
- The International Energy Conservation Code (IECC) 2012 edition
- The International Fire Code (IFC) 2012 edition,
- The National Electric Code (NEC) 2012 edition, 2014 edition after July 1, 2015
- The Utah Wildland-Urban Interface Code 2006 edition.

Some of the general provisions for residential construction are as follows;

**TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**

GROUND SNOW LOAD	WIND DESIGN		SEISMIC DESIGN CATEGOR Y f	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP e	ICE SHIELD UNDER-LAYMENT REQUIRED h	FLOOD HAZARDS g	AIR FREEZING INDEX i	MEAN ANNUAL TEMP j
	Speed d (mph)	Topographic effects k		Weathering a	Frost line depth b	Termite c					
Note 1	90	No	C / D1	Severe	30"	Slight to Moderate	-2°	Yes	Note 2	2841	45°

For SI: 1 pound per square foot = 0.0479 kN/m², 1 mile per hour = 1.609 km/h

- 1- Ground snow load will vary due to elevation. See Utah State IBC amendment 1608.1.1.
- 2- Duchesne city and Myton city have FEMA flood plan maps available. The rest of Duchesne County has to be evaluated on a site specific basis.

R302.5 DWELLING/GARAGE OPENING/PENETRATION PROTECTION.

R302.5.1 Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1-3/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 1-3/8 inches (35 mm) thick, or 20-minute fire-rated doors.

R302.5.2 Duct penetration. Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other approved material and shall have no openings into the garage.

R302.6 Dwelling/garage fire separation. The garage shall be separated as required by Table R302.6. Openings in garage walls shall comply with Section R302.5. This provision does not apply to garage walls that are perpendicular to the adjacent dwelling unit wall.

**TABLE R302.6
DWELLING/GARAGE SEPARATION**

SEPARATION	MATERIAL
From the residence and attics	Not less than 1/2-inch gypsum board or equivalent applied to the garage side
From all habitable rooms above the garage	Not less than 5/8-inch Type X gypsum board or equivalent
Structure(s) supporting floor/ceiling assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

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

SECTION R309 GARAGES AND CARPORTS

R309.1 Floor surface. Garage floor surfaces shall be of approved noncombustible material. The area of floor used for parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.

R309.2 Carports. Carports shall be open on at least two sides. Carport floor surfaces shall be of approved noncombustible material. Carports not open on at least two sides shall be considered a garage and shall comply with the provisions of this section for garages.

Exception: Asphalt surfaces shall be permitted at ground level in carports.

The area of floor used for parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.

R309.3 Flood hazard areas. For buildings located in flood hazard areas as established by Table R301.2(1), garage floors shall be:

1. Elevated to or above the design flood elevation as determined in Section R322; or
2. Located below the design flood elevation provided they are at or above grade on at least one side, are used solely for parking, building access or storage, meet the requirements of Section R322 and are otherwise constructed in accordance with this code.

R309.4 Automatic garage door openers. Automatic garage door openers, if provided, shall be listed in accordance with UL 325.

SECTION R303 LIGHT, VENTILATION AND HEATING

R303.1 Habitable rooms. All habitable rooms shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms. Natural ventilation shall be through windows, doors, louvers or other approved openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated. See section 303 of the IRC for Exceptions.

R303.2 Adjoining rooms. For the purpose of determining light and ventilation requirements, any room shall be considered as a portion of an adjoining room when at least one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room but not less than 25 square feet. See section 303.2 for Exception.

R303.3 Bathrooms. Bathrooms, water closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet, one-half of which must be openable.

Exception: The glazed areas shall not be required where artificial light and a mechanical ventilation system are provided. The minimum ventilation rates shall be 50 cfm for intermittent ventilation or 20 cfm for continuous ventilation. Ventilation air from the space shall be exhausted directly to the outside.

R303.6 Stairway illumination. All interior and exterior stairways shall be provided with a means to illuminate the stairs, including the landings and treads. Interior stairways shall be provided with an artificial light source located in the immediate vicinity of each landing of the stairway. For interior stairs the artificial light sources shall be capable of illuminating treads and landings to levels not less than 1 foot-candles (11 lux) measured at the center of treads and landings. Exterior stairways shall be provided with an artificial light source located in the immediate vicinity of the top landing of the stairway. Exterior stairways providing access to a basement from the outside grade level shall be provided with an artificial light source located in the immediate vicinity of the bottom landing of the stairway.

Exception: An artificial light source is not required at the top and bottom landing, provided an artificial light source is located directly over each stairway section.

R303.6.1 Light activation. Where lighting outlets are installed in interior stairways, there shall be a wall switch at each floor level to control the lighting outlet where the stairway has six or more risers. The illumination of exterior stairways shall be controlled from inside the dwelling unit.

Exception: Lights that are continuously illuminated or automatically controlled.

R303.8 Required heating. When the winter design temperature in Table R301.2(1) is below 60 degrees F, every dwelling unit shall be provided with heating facilities capable of maintaining a minimum room temperature of 68 degrees F at a point 3 feet above the floor and 2 feet from exterior walls in all habitable rooms at the design temperature. The installation of one or more portable space heaters shall not be used to achieve compliance with this section.

SECTION R304 MINIMUM ROOM AREAS

R304.1 Minimum area. Every dwelling unit shall have at least one habitable room that shall have not less than 120 square feet of gross floor area.

R304.2 Other rooms. Other habitable rooms shall have a floor area of not less than 70 square feet.
Exception: Kitchens.

R304.3 Minimum dimensions. Habitable rooms shall not be less than 7 feet in any horizontal dimension.
Exception: Kitchens.

R304.4 Height effect on room area. Portions of a room with a sloping ceiling measuring less than 5 feet or a furred ceiling measuring less than 7 feet from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required habitable area for that room.

SECTION R305 CEILING HEIGHT

R305.1 Minimum height. *Habitable space*, hallways, bathrooms, toilet rooms, laundry rooms and portions of *basements* containing these spaces shall have a ceiling height of not less than 7 feet (2134 mm). See section R305 of the IRC for Exceptions.

R305.1.1 Basements. Portions of basements that do not contain habitable space, hallways, bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches (2032 mm).

Exception: Beams, girders, ducts or other obstructions may project to within 6 feet 4 inches (1931 mm) of the finished floor.

SECTION R306 SANITATION

R306.1 Toilet facilities. Every dwelling unit shall be provided with a water closet, lavatory, and a bathtub or shower.

R306.2 Kitchen. Each dwelling unit shall be provided with a kitchen area and every kitchen area shall be provided with a sink.

R306.3 Sewage disposal. All plumbing fixtures shall be connected to a sanitary sewer or to an approved private sewage disposal system.

(Note: Private sewage disposal system must be approved by the TriCounty Health Department)

R306.4 Water supply to fixtures. All plumbing fixtures shall be connected to an approved water supply. Kitchen sinks, lavatories, bathtubs, showers, bidets, laundry tubs and washing machine outlets shall be provided with hot and cold water.

(Note: Private water supplies must be approved by TriCounty Health Department)

SECTION R307 TOILET, BATH AND SHOWER SPACES

R307.2 Bathtub and shower spaces. Bathtub and shower floors and walls above bathtubs with installed shower heads and in shower compartments shall be finished with a nonabsorbent surface. Such wall surfaces shall extend to a height of not less than 6 feet above the floor.

SECTION R310 EMERGENCY ESCAPE AND RESCUE OPENINGS

R310.1 Emergency escape and rescue required. *Basements*, habitable attics and every sleeping room shall have at least one operable emergency escape and rescue opening. Where *basements* contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room. Where emergency escape and rescue openings are provided they shall have a sill height of not more than 44 inches (1118 mm) above the floor. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with Section R310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. Emergency escape and rescue openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with Section R310.2. Emergency escape and rescue openings shall open directly into a public way, or to a *yard* or court that opens to a public way.

Exception: *Basements* used only to house mechanical *equipment* and not exceeding total floor area of 200 square feet (18.58 m²).

R310.1.1 Minimum opening area. All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet.

Exception: Grade floor openings shall have a minimum net clear opening of 5 square feet.

R310.1.2 Minimum opening height. The minimum net clear opening height shall be 24 inches.

R310.1.3 Minimum opening width. The minimum net clear opening width shall be 20 inches.

R310.1.4 Operational constraints. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools or special knowledge.

R310.2 Window wells. The minimum horizontal area of the window well shall be 9 square feet (0.84 m²), with a minimum horizontal projection and width of 36 inches (914 mm). The area of the window well shall allow the emergency escape and rescue opening to be fully opened.

Exception: The ladder or steps required by Section R310.2.1 shall be permitted to encroach a maximum of 6 inches (152mm) into the required dimensions of the window well.

R310.2.1 Ladder and steps. Window wells with a vertical depth greater than 44 inches (1118 mm) shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position. Ladders or steps required by this section shall not be required to comply with Sections R311.5 and R311.6. Ladders or rungs shall have an inside width of at least 12 inches (305 mm), shall project at least 3 inches (76 mm) from the wall and shall be spaced not more than 18 inches (457 mm) on center vertically for the full height of the window well.

R310.3 Bulkhead enclosures. Bulkhead enclosures shall provide direct access to the basement. The bulkhead enclosure with the door panels in the fully open position shall provide the minimum net clear opening required by Section R310.1.1. Bulkhead enclosures shall also comply with Section R311.5.8.2.

R310.4 Bars, grills, covers and screens. Bars, grills, covers, screens or similar devices are permitted to be placed over emergency escape and rescue openings, bulkhead enclosures, or window wells that serve such openings, provided the minimum net clear opening size complies with Sections R310.1.1 to R310.1.3, and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the escape and rescue opening.

R310.5 Emergency escape windows under decks and porches. Emergency escape windows are allowed to be installed under decks and porches provided the location of the deck allows the emergency escape window to be fully opened and provides a path not less than 36 inches (914 mm) in height to a yard or court.

SECTION R311 MEANS OF EGRESS

R311.1 Means of egress. All dwellings shall be provided with a means of egress as provided in this section. The means of egress shall provide a continuous and unobstructed path of vertical and horizontal egress travel from all portions of the dwelling to the exterior of the dwelling at the required egress door without requiring travel through a garage.

R311.2 Egress door. At least one egress door shall be provided for each dwelling unit. The egress door shall be side-hinged, and shall provide a minimum clear width of 32 inches (813 mm) when measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). The minimum clear height of the door opening shall not be less than 78 inches (1981 mm) in height measured from the top of the threshold to the bottom of the stop. Other doors shall not be required to comply with these minimum dimensions. Egress doors shall be readily openable from inside the dwelling without the use of a key or special knowledge or effort.

R311.3 Floors and landings at exterior doors. There shall be a landing or floor on each side of each exterior door. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel. Exterior landings shall be permitted to have a slope not to exceed 1/4 unit vertical in 12 units horizontal (2-percent).

Exception: Exterior balconies less than 60 square feet (5.6 m²) and only accessible from a door are permitted to have a landing less than 36 inches (914 mm) measured in the direction of travel.

R311.3.1 Floor elevations at the required egress doors. Landings or floors at the required egress door shall not be more than 1-1/2 inches (38 mm) lower than the top of the threshold.

Exception: The exterior landing or floor shall not be more than 7-3/4 inches (196 mm) below the top of the threshold provided the door does not swing over the landing or floor.

When exterior landings or floors serving the required egress door are not at grade, they shall be provided with access to grade by means of a ramp in accordance with Section R311.8 or a stairway in accordance with Section R311.7.

R311.3.2 Floor elevations for other exterior doors. Doors other than the required egress door shall be provided with landings or floors not more than 7-3/4 inches (196 mm) below the top of the threshold.

Exception: A landing is not required where a stairway of two or fewer risers is located on the exterior side of the door, provided the door does not swing over the stairway.

R311.6 Hallways. The minimum width of a hallway shall be not less than 3 feet.

R311.7 Stairways.

R311.7.1 Width. Stairways shall not be less than 36 inches in clear width at all points above the permitted handrail height and below the required headroom height. Handrails shall not project more than 4.5 inches on either side of the stairway and the minimum clear width of the stairway at and below the handrail height, including treads and landings, shall not be less than 31.5 inches where a handrail is installed on one side and 27 where handrails are provided on both sides.

R311.7.2 Headroom. The minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches measured vertically from the sloped plane adjoining the tread nosing or from the floor surface of the landing or platform.

UTA R311.7.4 Treads and risers.

R311.7.4.1 Riser height. The maximum riser height shall be 8 inches (203 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

R311.7.4.2 Tread depth. The minimum tread depth shall be 9 inches (228 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Winder treads shall have a minimum tread depth of 10 inches (254 mm) measured as above at a point 12 inches (305 mm) from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point. Within any flight of stairs, the greatest winder tread depth at the 12-inch (305 mm) walk line shall not exceed the smallest by more than 3/8 inch (9.5 mm).

R311.7.4.3 Profile. The radius of curvature at the leading edge of the tread shall be no greater than 9/16 inch (14.3 mm). A nosing not less than 3/4 inch (19 mm) but not more than 1 1/4 inches (32 mm) shall be provided on stairways with solid risers. The greatest nosing projection shall not exceed the smallest nosing projection by more than 3/8 inch (9.5 mm) between two stories, including the nosing at the level of floors and landings. Beveling of nosing shall not exceed 1/2 inch (12.7 mm). Risers shall be vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees (0.51 rad) from the vertical. Open risers are permitted, provided that the opening between treads does not permit the passage of a 4-inch diameter (102 mm) sphere.

Exceptions.

1. A nosing is not required where the tread depth is a minimum of 10 inches (254 mm).
2. The opening between adjacent treads is not limited on stairs with a total rise of 30 inches (762 mm) or less."

R311.7.5 Landings for stairways. There shall be a floor or landing at the top and bottom of each stairway.

Exception: A floor or landing is not required at the top of an interior flight of stairs, provided a door does not swing over the stairs.

A flight of stairs shall not have a vertical rise greater than 12 feet between floor levels or landings.

The width of each landing shall not be less than the stairway served.

Every landing shall have a minimum dimension of 36 inches measured in the direction of travel.

R311.7.7 Handrails. Handrails shall be provided on at least one side of each continuous run of treads or flight with four or more risers.

R311.7.7.1 Height. Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm).

Exceptions:

1. The use of a volute, turnout or starting easing shall be allowed over the lowest tread.
2. When handrail fittings or bending's are used to provide continuous transition between flights, the transition from handrail to guardrail, or used at the start of a flight, the handrail height at the fittings or bending's shall be permitted to exceed the maximum height.

R311.7.7.2 Continuity. Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1 1/2 inch (38 mm) between the wall and the handrails.

Exceptions:

1. Handrails shall be permitted to be interrupted by a newel post at the turn.
2. The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread.

R311.7.7.3 Grip-size. All required handrails shall be of one of the following types or provide equivalent grasp ability.

1. Type I. Handrails with a circular cross section shall have an outside diameter of at least 1 1/4 inches (32 mm) and not greater than 2 inches (51 mm). If the handrail is not circular, it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than 6 1/4 inches (160 mm) with a maximum cross section of dimension of 2 1/4 inches (57 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).
2. Type II. Handrails with a perimeter greater than 6 1/4 inches (160 mm) shall have a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of 3/4 inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least 5/16 inch (8 mm) within 7/8 inch (22 mm) below the widest portion of the profile. This required depth shall continue for at least 3/8 inch (10 mm) to a level that is not less than 1 3/4 inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1 1/4 inches (32 mm) to a maximum of 2 3/4 inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

R311.7.7.4 Exterior wood/plastic composite handrails. Wood/plastic composite handrails shall comply with the provisions of Section R317.4.

R311.7.9.1 Spiral stairways. Spiral stairways are permitted, provided the minimum clear width at and below the handrail shall be 26 inches (660 mm) with each tread having a 7 1/2-inch (190 mm) minimum tread depth at 12 inches (914 mm) from the narrower edge. All treads shall be identical, and the rise shall be no more than 9 1/2 inches (241 mm). A minimum headroom of 6 feet 6 inches (1982 mm) shall be provided.

R311.7.9.2 Bulkhead enclosure stairways. Stairways serving bulkhead enclosures, not part of the required building egress, providing access from the outside grade level to the basement shall be exempt from the requirements of Sections R311.4.3 and R311.5 where the maximum height from the basement finished floor level to grade adjacent to the stairway does not exceed 8 feet, and the grade level opening to the stairway is covered by a bulkhead enclosure with hinged doors or other approved means.

R302.7 Under-stair protection. Enclosed accessible space under stairs shall have walls, under-stair surface and any soffits protected on the enclosed side with 1/2-inch (12.7 mm) gypsum board.

SECTION R312 GUARDS

R312.1 Where required. Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a guard .

R312.2 Height. Required guards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches (914 mm) high measured vertically above the adjacent walking surface, adjacent fixed seating or the line connecting the leading edges of the treads.

Exceptions:

1. Guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
2. Where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

R312.3 Opening limitations. Required guards shall not have openings from the walking surface to the required guard height which allow passage of a sphere 4 inches (102 mm) in diameter.

Exceptions:

1. The triangular openings at the open side of a stair, formed by the riser, tread and bottom rail of a guard , shall not allow passage of a sphere 6 inches (153 mm) in diameter.
2. Guards on the open sides of stairs shall not have openings which allow passage of a sphere 4-3/8 inches (111 mm) in diameter.

R312.4 Exterior woodplastic composite guards. Woodplastic composite guards shall comply with the provisions of Section R317.4.

R612.2 Window sills. In dwelling units, where the opening of an operable window is located more than 72 inches (1829 mm) above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches (610 mm) above the finished floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4 inch (102 mm) diameter sphere where such openings are located within 24 inches (610 mm) of the finished floor.

Exceptions:

1. Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position.
2. Openings that are provided with window fall prevention devices that comply with Section R612.3.
3. Openings that are provided with fall prevention devices that comply with ASTM F 2090.
4. Windows that are provided with opening limiting devices that comply with Section R612.4.

R612.3 Window fall prevention devices. Window fall prevention devices and window guards, where provided, shall comply with the requirements of ASTM F 2090.

R612.4 Window opening limiting devices. When required elsewhere in this code, window opening limiting devices shall comply with the provisions of this section.

R612.4.1 General requirements. Window opening limiting devices shall be self-acting and shall be positioned to prohibit the free passage of a 4-in. (102-mm) diameter rigid sphere through the window opening when the window opening limiting device is installed in accordance with the manufacturer's instructions.

R612.4.2 Operation for emergency escape. Window opening limiting devices shall be designed with release mechanisms to allow for emergency escape through the window opening without the need for keys, tools or special knowledge. Window opening limiting devices shall comply with all of the following:

1. Release of the window opening-limiting device shall require no more than 15 pounds (66 N) of force.
2. The window opening limiting device release mechanism shall operate properly in all types of weather.
3. Window opening limiting devices shall have their release mechanisms clearly identified for proper use in an emergency.
4. The window opening limiting device shall not reduce the minimum net clear opening area of the window unit below what is required by Section R310.1.1 of the code.

SECTION R314 SMOKE ALARMS

R314.1 Smoke detection and notification. All smoke alarms shall be listed in accordance with UL 217 and installed in accordance with the provisions of this code and the household fire warning equipment provisions of NFPA 72.

R314.2 Smoke detection systems. Household fire alarm systems installed in accordance with NFPA 72 that include smoke alarms, or a combination of smoke detector and audible notification device installed as required by this section for smoke alarms, shall be permitted. The household fire alarm system shall provide the same level of smoke detection and alarm as required by this section for smoke alarms. Where a household fire warning system is installed using a combination of smoke detector and audible notification device(s), it shall become a permanent fixture of the occupancy and owned by the homeowner. The system shall be monitored by an approved supervising station and be maintained in accordance with NFPA 72.

Exception: Where smoke alarms are provided meeting the requirements of Section R314.4.

R314.3 Location. Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story of the dwelling, including basements and habitable attics but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

When more than one smoke alarm is required to be installed within an individual dwelling unit the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit.

R314.3.1 Alterations, repairs and additions. When alterations , repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings , the individual dwelling unit shall be equipped with smoke alarms located as required for new dwellings .

Exceptions:

1. Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or replacement of windows or doors, or the addition of a porch or deck, are exempt from the requirements of this section.

2. Installation, alteration or repairs of plumbing or mechanical systems are exempt from the requirements of this section.

R314.4 Power source. Smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. Smoke alarms shall be interconnected.

Exceptions:

1. Smoke alarms shall be permitted to be battery operated when installed in buildings without commercial power.
2. Interconnection and hard-wiring of smoke alarms in existing areas shall not be required where the alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for hard wiring and interconnection without the removal of interior finishes.

SECTION R315 CARBON MONOXIDE ALARMS

R315.1 Carbon monoxide alarms. For new construction, an approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units within which fuel-fired appliances are installed and in dwelling units that have attached garages.

R315.2 Where required in existing dwellings. Where work requiring a permit occurs in existing dwellings that have attached garages or in existing dwellings within which fuel-fired appliances exist, carbon monoxide alarms shall be provided in accordance with Section R315.1.

R315.3 Alarm requirements. Single station carbon monoxide alarms shall be listed as complying with UL 2034 and shall be installed in accordance with this code and the manufacturer's installation instructions.

SECTION R317 PROTECTION OF WOOD AND WOOD BASED PRODUCTS AGAINST DECAY

R317.1 Location required. Protection of wood and wood based products from decay shall be provided in the following locations by the use of naturally durable wood or wood that is preservative-treated in accordance with AWPA U1 for the species, product, preservative and end use. Preservatives shall be listed in Section 4 of AWPA U1.

1. Wood joists or the bottom of a wood structural floor when closer than 18 inches (457 mm) or wood girders when closer than 12 inches (305 mm) to the exposed ground in crawl spaces or unexcavated area located within the periphery of the building foundation.
2. All wood framing members that rest on concrete or masonry exterior foundation walls and are less than 8 inches (203 mm) from the exposed ground.
3. Sills and sleepers on a concrete or masonry slab that is in direct contact with the ground unless separated from such slab by an impervious moisture barrier.
4. The ends of wood girders entering exterior masonry or concrete walls having clearances of less than 1/2 inch (12.7 mm) on tops, sides and ends.
5. Wood siding, sheathing and wall framing on the exterior of a building having a clearance of less than 6 inches (152 mm) from the ground or less than 2 inches (51 mm) measured vertically from concrete steps, porch slabs, patio slabs, and similar horizontal surfaces exposed to the weather.
6. Wood structural members supporting moisture-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, unless separated from such floors or roofs by an impervious moisture barrier.
7. Wood furring strips or other wood framing members attached directly to the interior of exterior masonry walls or concrete walls below grade except where an approved vapor retarder is applied between the wall and the furring strips or framing members.

R317.1.1 Field treatment. Field-cut ends, notches and drilled holes of preservative-treated wood shall be treated in the field in accordance with AWPA M4.

R317.1.2 Ground contact. All wood in contact with the ground, embedded in concrete in direct contact with the ground or embedded in concrete exposed to the weather that supports permanent structures intended for human occupancy shall be approved pressure-preservative-treated wood suitable for ground contact use, except untreated wood may be used where entirely below groundwater level or continuously submerged in fresh water.

R317.1.4 Wood columns. Wood columns shall be approved wood of natural decay resistance or approved pressure-preservative-treated wood.

Exceptions:

1. Columns exposed to the weather or in basements when supported by concrete piers or metal pedestals projecting 1 inch (25.4 mm) above a concrete floor or 6 inches (152 mm) above exposed earth and the earth is covered by an approved impervious moisture barrier.
2. Columns in enclosed crawl spaces or unexcavated areas located within the periphery of the building when supported by a concrete pier or metal pedestal at a height more than 8 inches (203mm) from exposed earth and the earth is covered by an impervious moisture barrier.

R317.2 Quality mark. Lumber and plywood required to be pressure-preservative-treated in accordance with Section R318.1 shall bear the quality mark of an approved inspection agency that maintains continuing supervision, testing and inspection over the quality of the product and that has been approved by an accreditation body that complies with the requirements of the American Lumber Standard Committee treated wood program.

R317.2.1 Required information. The required quality mark on each piece of pressure-preservative-treated lumber or plywood shall contain the following information:

1. Identification of the treating plant.
2. Type of preservative.
3. The minimum preservative retention.
4. End use for which the product was treated.
5. Standard to which the product was treated.
6. Identity of the approved inspection agency.
7. The designation "Dry," if applicable.

Exception: Quality marks on lumber less than 1 inch (25.4 mm) nominal thickness, or lumber less than nominal 1 inch by 5 inches (25.4 mm by 127 mm) or 2 inches by 4 inches (51 mm by 102 mm) or lumber 36 inches (914 mm) or less in length shall be applied by stamping the faces of exterior pieces or by end labeling not less than 25 percent of the pieces of a bundled unit.

R317.3.1 Fasteners for preservative-treated wood. Fasteners for preservative-treated wood shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper. Coating types and weights for connectors in contact with preservative-treated wood shall be in accordance with the connector manufacturer's recommendations. In the absence of manufacturer's recommendations, a minimum of ASTM A 653 type G185 zinc-coated galvanized steel, or equivalent, shall be used.

Exceptions:

1. One-half-inch (12.7 mm) diameter or greater steel bolts.
2. Fasteners other than nails and timber rivets shall be permitted to be of mechanically deposited zinc coated steel with coating weights in accordance with ASTM B 695, Class 55 minimum.

MINIMUM MATERIAL STANDARDS

SECTION R502 WOOD FLOOR FRAMING

R502.1 Identification. Load-bearing dimension lumber for joists, beams and girders shall be identified by a grade mark of a lumber grading or inspection agency that has been approved by an accreditation body that complies with DOC PS 20. In lieu of a grade mark, a certificate of inspection issued by a lumber grading or inspection agency meeting the requirements of this section shall be accepted.

SECTION R602 WOOD WALL FRAMING

R602.1 Identification. Load-bearing dimension lumber for studs, plates and headers shall be identified by a grade mark of a lumber grading or inspection agency that has been approved by an accreditation body that complies with DOC PS 20. In lieu of a grade mark, a certification of inspection issued by a lumber grading or inspection agency meeting the requirements of this section shall be accepted.

SECTION R604 WOOD STRUCTURAL PANELS

R604.1 Identification and grade. Wood structural panels shall conform to DOC PS 1 or DOC PS 2. All panels shall be identified by a grademark or certificate of inspection issued by an approved agency.

SECTION R605 PARTICLEBOARD

R605.1 Identification and grade. Particleboard shall conform to ANSI A208.1 and shall be so identified by a grade mark or certificate of inspection issued by an approved agency. Particleboard shall comply with the grades specified in Table R602.3(4).

SECTION R802 WOOD ROOF FRAMING

R802.1 Identification. Load-bearing dimension lumber for rafters, trusses and ceiling joists shall be identified by a grade mark of a lumber grading or inspection agency that has been approved by an accreditation body that complies with DOC PS 20. In lieu of a grade mark, a certificate of inspection issued by a lumber grading or inspection agency meeting the requirements of this section shall be accepted.

SECTION N1102 BUILDING THERMAL ENVELOPE

N1102.1 Insulation and fenestration criteria. The building thermal envelope shall meet the requirements of Table N1102.1 based on the climate zone specified in Table N1101.2.

Prescriptive insulation requirements for one and two family dwellings in climate zone 6 per 2012 IRC, TABLE N1102.1

Fenestration U-Factor	Skylight U-Factor	Glazed Fenestration SHGC	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement Wall R-Value	Slab R-Value and depth	Crawl Space wall R-Value
0.35	0.60	NR	49	19 or 13 + 5 a	15 b	30	10/13 c	10, 4ft	10/13 c

Table Note:

a. 13 + 5 is R-13 in the cavity and an R-5 continuous sheathing on the outside.

b. Log walls are about R-1 per inch of average log thickness. It may be better to use ResCheck to show compliance for log homes. c.

10 = an R-10 continuous type drape or ridge foam board installation. 13 = a furred cavity type installation.

Note: Insulation values may vary pending quality of materials and components used for construction. Compliance may also be determined by using the RES Check software program. <http://www.energycodes.gov/>

FOUNDATION REQUIREMENTS

Utah State Amendment to Section 1807 of the 2012 International Building Code.

1807.1.6.4 Empirical Concrete Foundation Design. Group R, Division 3 Occupancies three stories or less in height, and Group U Occupancies, which are constructed in accordance with Section 2308, or with other methods employing repetitive wood-frame construction or repetitive cold-formed steel structural member construction, shall be permitted to have concrete foundations constructed in accordance with Table 1807.1.6.4.

TABLE 1807.1.6.4
EMPIRICAL FOUNDATION WALLS (1, 7, 8)

Max Height	Top Edge Support	Min Thickness	Vertical Steel (2)	Horizontal Steel (3)	Steel at Openings (4)	Max Lintel Length	Min Lintel Depth
2' (610 mm)	None	6"	(5)	2-#4 Bars	2- #4 Bars above; 1- #4 Bar each side 1- #4 Bar below	2' (610 mm)	2" for each foot of opening width; min. 6"
3' (914 mm)	None	6"	#4 @ 32"	3- #4 Bars	2- #4 Bars above; 1- #4 Bar each side 1- #4 Bar below	2' (610 mm)	2" for each foot of opening width; min. 6"
4' (1,219 mm)	None	6"	#4 @ 32"	4- #4 Bars	2- #4 Bars above; 1- #4 Bar each side 1- #4 Bar below	3' (914 mm)	2" for each foot of opening width; min. 6"
6' (1,829 mm)	Floor or roof diaphragm (6)	8"	#4 @ 24"	5- #4 Bars	2- #4 Bars above; 1- #4 Bar each side 1- #4 Bar below	6' (1829 mm)	2" for each foot of opening width; min. 6"
8' (2,438 mm)	Floor or roof diaphragm (6)	8"	#4 @ 24"	6- #4 Bars	2- #4 Bars above; 1- #4 Bar each side 1- #4 Bar below	6' (1829 mm)	2" for each foot of opening width; min. 6"
9' (2,743 mm)	Floor or roof diaphragm (6)	8"	#4 @ 16"	7- #4 Bars	2- #4 Bars above; 1- #4 Bar each side 1- #4 Bar below	6' (1829 mm)	2" for each foot of opening width; min. 6"
Over 9' (2,743 mm), Engineering required for each column							

Dated July 1, 2010

Footnotes:

1. Based on 3,000 psi (20.6 Mpa) concrete and 60,000 psi (414 Mpa) reinforcing steel.
2. To be placed in the center of the wall, and extended from the footing to within three inches (76 mm) of the top of the wall; dowels of #4 bars to match vertical steel placement shall be provided in the footing, extending 24 inches (610 mm) into the foundation wall.
3. One bar shall be located in the top four inches (102 mm), one bar in the bottom four inches (102 mm) and the other bars equally spaced between. Such bar placement satisfies the requirements of Section 1805.9. Corner reinforcing shall be provided so as to lap 24 inches (610 mm).
4. Bars shall be placed within two inches (51 mm) of the openings and extend 24 inches (610 mm) beyond the edge of the opening; vertical bars may terminate three inches (76 mm) from the top of the concrete.
5. Dowels of #4 bar at 32 inches on center shall be provided in the footing, extending 18 inches (457 mm) into the foundation wall.
6. Diaphragm shall conform to the requirements of Section 2308.
7. Footing shall be a minimum of nine inches thick by 20 inches wide.
8. Soil backfill shall be soil classification types GW, GP, SW, or SP, per Table 1610.1. Soil shall not be submerged or saturated in groundwater.