Building Guide
Colorado Chapter of the International Code Council

Single Family Residential
One Story Detached Garage

How to Use this Guide
Provide two sets of plans, drawn to scale and complete the following (hint: use graph paper with ¼” squares. Example: ¼” = 1’): Check with your jurisdiction for additional requirements.

1 Complete this Building Guide by filling in the blanks on page two and four, and indicating which construction details will be used.

2 Provide 2 Plot Plans (site plan) showing dimensions of your project and its relationship to existing buildings or structures on the property and the distance to existing property lines, drawn to scale. See page 3.

3 Fill out a building permit application.

The majority of permit applications are processed with little delay. The submitted documents will help determine if the project is in compliance with building safety codes, zoning ordinances and other applicable laws.

The Colorado Chapter of the International Code Council is a professional organization seeking to promote the public health, safety and welfare to building construction. We appreciate your feedback and suggestions. To obtain a master copy of this building guide, please write to the Colorado Chapter of the International Code Council, P.O. Box 961, Arvada, CO 80001. http://www.coloradochaptericc.org

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Directions
1. Fill in the blanks on pages 2 and 4 with dimensions and materials which will be used to build the structure. Please print legibly.
2. Indicate in the check boxes on page 4 which details from page 5 will be used.

Note: Heated garages will require insulation, such as ceilings, walls, and foundation.

Floor Plan

- Dimension

Locate and detail bracing

- Check one

☐ Garage is heated
☐ Garage is not heated

Show door and window header sizes and location and size of landing in front of door

- 3½" minimum concrete slab

- (example: (2) 2 x 12 header)

Note:
If roof trusses or rafters bear on header, special header design may be required

- Double 2x4 or 2x6 trimmers each end of overhead door header

- Garage door opening width

Address:

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Note: For roofs with slopes less than 4:12, follow manufacturer's instructions for low slope application of roofing material.

- Truss or 2x__ rafters spaced ____" O.C.
  (example: Put checkmark in box - or - 2 x 10 rafters Spaced 24"

Minimum 1x__ ridge board
  (example: 1 x 12)

Sheathing (example: 1/2" exterior plywood)

Roof covering (example: Class A 3 tab shingles)

Underlayment (example: 1 layer #15 felt)

Provide roof tie downs
Solid 2x blocking between rafters that are 2x12 or greater

Diagonal wind bracing or braced wall panels @ corners and each 20' of wall.

Span

Note: Pre-engineered roof trusses w/truss clips may be used in lieu of roof structure shown.

Concrete Encased Ground required for new service

Max. 10' wall height

12 pitch

Ceiling Insulation
  (If heated - example: R-38)

2x__ ceiling joists @ ____ O.C.
  (example: 2 x 8 @ 24" O.C.)

Double 2x__ top plate
  (example: 2 x 6)

Span
  (example: 23' 5")

Ceiling height
  (example: 8')

Siding
  (example: lap or T-111)

Wall sheathing (example: 1/2" exterior plywood)

2x__ studs @ ____ O.C.
  (example: 2 x 6 @ 24" O.C.)

Cont. 2x__ sill plate
  (example: 2 x 6)

Wall Insulation
  (If heated - example: R-20 Fiberglass Batts)

Foundation Insulation
  (If heated - example: R-10)

Footing size__ x
  (example: 8" x 16")

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### Foundation Detail A

- **Max. 10' wall height**
- Lap siding over foundation a minimum of 1".
- **Finished grade**

**Note:** Check with local building department for swelling soils. Caissons may be required.

- **3 1/2" Minimum Concrete Slab**

### Foundation Detail B

- **1/2" x 10" steel anchor bolts 6'-0" O.C. max., 7" min. penetration max. 12" from corner and 12" from each end of plate (min. 2 bolts per plate).**
- **Bottom plate shall be treated or be separated from concrete by an impervious moisture barrier and be 8" above grade.**

**Note:** Check with local building department for swelling soils. Caissons may be required.

### Braced Wall Panel Detail [figure 602.10.6.2]

- **Extent of header with double portal frame (two braced wall panels)**
- **Extent of header with single portal frame (one braced wall panel)**
- **2' - 18' Finished width of opening for single or double portal**

**Min. 3" x 11.25" Net Header**

- **1,000 lb. strap opposite sheathing**
- **Fasten top plate to header with two rows of 16D sinker nails at 3" O.C. typ.**
- **Fasten sheathing to header with 8D common or galvanized box nails in 3" grid pattern as shown and 3" O.C. in all framing (studs, blocking, and sills) typ.**

**Min length of panel per table R602.10.5**

**Min. 2x4 framing**

- **3/8" min. thickness wood structural panel sheathing**

**Min. 4,200 lb. tie-down device (embedded into concrete and nailed into framing)**

**Min. 1,000 lb. tie down device**

See Section R602.10.6.2

**Typical portal frame construction**

- **For a panel splice (if needed), panel edges shall be blocked, and occur within 24" of mid-height.**
- **One row of typ. sheathing-to-framing nailing is required. If 2x4 blocking is used, the 2x4's must be nailed together with 3 16D sinkers**

**Min. 3/8" wood structural panel sheathing**

**Fiberboard expansion joint**

- **Provide #4 rebar vert. @ 4'-0" O.C. Insert rebar into concrete footing or key way**

**Bottom plate shall be min. 8" above grade, or be treated wood or decay resistive wood**

**Finished grade**

**6" min. 36" min.**

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