

Residential Detached Garage Guide

Detached Garages require a permit.

Required Inspections

1. Setbacks & Footings
2. Underground plumbing/electric (if provided)
3. Rough electric/rough plumbing (if provided)
4. Pre-siding/sheer inspection (schedule as rough-frame) *-prior to installing building wrap*
5. Rough Frame
6. Insulation (only if garage is heated)
7. Final Inspections

Inspectors need to see all connections. Multiple rough frame inspections will need to be scheduled if using concealed connectors.

<https://www.fcgov.com/building/inspections.php>

Submittal Checklist (all documents must be in PDF format)

- Permit Application (Name PDF: *Apps – Address – v1*): include square footage of the deck and note if electrical work is included (lights, outlets).
 - Homeowner Affidavit (for homeowner builders)
- Site Plan (Name PDF: *Site Plan – Address – v1*)
- Plans (Name PDF: *Plans – Address – v1*)
 - Floor Plan
 - Section/side view
 - Structural drawings including connection details
 - At least 1 *before* photo showing where x will be located.
- [Construction Waste Management Plan](https://www.fcgov.com/recycling/constructiondebris) (Name PDF: *Env Docs – Address – v1*)
- Plan check fee is due at submittal
 - See step #6 [here](#)

Engineered and stamped structural plans or letter are required to be submitted for any of the following conditions:

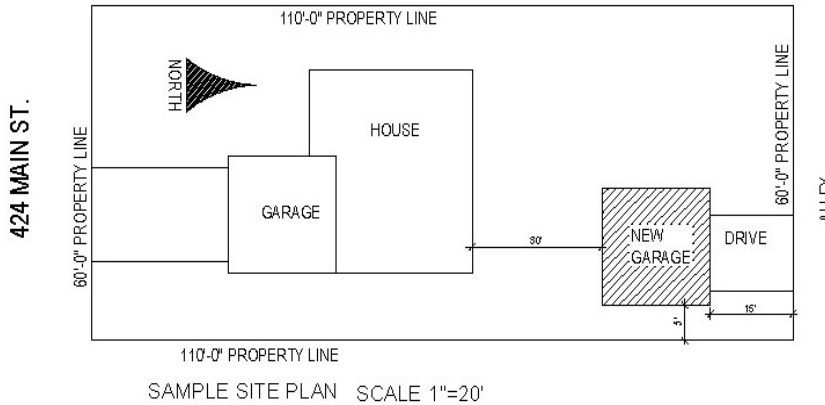
1. Ridge Beam Design (required for roof slopes less than 3:12)
2. Gusset plates (instead of ridge boards)
3. Barn/Gambrel shaped roofs
4. Wall height greater than 10ft
5. Prefabricated structures
6. Kits that do not meet prescriptive framing per this handout and the current International Residential Code
7. Foundations for lean-to shed additions that are attached to another building (submit as an Addition Permit)
8. Materials not addressed in code
9. Designs outside of those presented in code
10. Engineered signed and stamped foundation plans are required for or garages that also contain habitable space. R401.1 (amended).

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Provide the following drawings. All plans must be to scale. (example .: ¼ inch per foot). Can be hand-drawn, but PDF format

Site Plan

Site Plan Requirements:

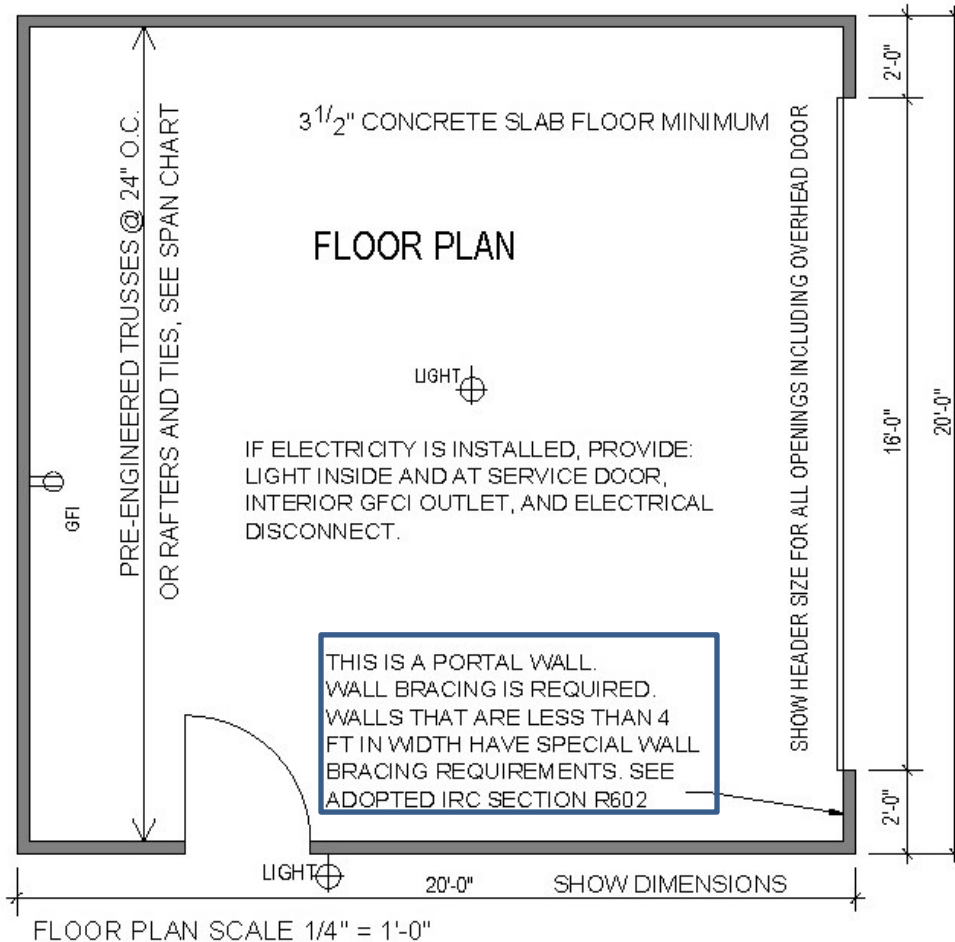


- Show location of the new garage in relation to the house
- Provide measurements from garage to property lines and other structures
- Show overall length and width of the garage
- Newer homes may have an existing site plan available through public records, which can be used to create the NEW site plan. <http://citydocs.fcgov.com/>

Floor Plan

Building Code Access:

<https://www.fcgov.com/building/codes.php>



*Denotes code updates per the 2021 IRC

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Section

7/16" OSB ROOF DECKING ENGINEERED TRUSSES OR RAFTERS @ 24" O.C.
 (Engineered stamped truss sheets shall be on site for inspection).

STICK BUILT ROOF:

1. Ridge Board: Same depth or greater than cut rafter end.
2. Rafter (see span chart)
- 3a. 1x4min Collar ties every 4ft on center or
- 3b. 1 ¼" x 20 gage min. ridge strap (3) 10d common nails per rafter
- 4a. Ceiling joists fastened to the top plate or
- 4b. Rafter ties, min. 2x4 at max. 24" o.c.
5. 7/16 OSB Roof decking, 15# felt underlayment
6. Class 4 impact resistant shingles and Class A Fire resistant roofing material.

SHOW THE FOLLOWING:
 WALL FRAMING: i.e.: 2X6 @16" O.C. 10FT HIGH MAX.
 WALL SHEATHING:
 7/16" OSB EXTERIOR SHEATHING
 EXTERIOR FINISH: LAP WOOD SIDING
 PROVIDE WALL BRACING:
 PER CURRENT IRC SECTION R602 (EXAMPLE: 4'x8' STRUCTURAL PANEL SHEATHING AT ALL CORNERS AND EVERY 25 FEET).

REDWOOD OR TREATED BOTTOM PLATE
 ANCHOR BOLTS EMBEDDED 7" @ 6FT O.C.

FOUNDATION METHOD 1:
 SHALLOW MONOLITHIC FOUNDATION CAN BE USED FOR UNHEATED GARAGES OF 600 SQ.FT. MAX AND EAVE HEIGHT 10' MAX. SEE BELOW.

Insulation and air tightness for heated garages

- Heated residential detached garages (non-habitable) must be insulated per the IECC R-section R402.2.12 and [building official interpretation](#). (Attic/Rafters: R24 min, Walls: R13 min, Foundation: R10, 48" deep).
- A blower door test is required for heated garages and must be submitted to buildingdocs@fcgov.com in order to complete/close out the permit.

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Foundation Options

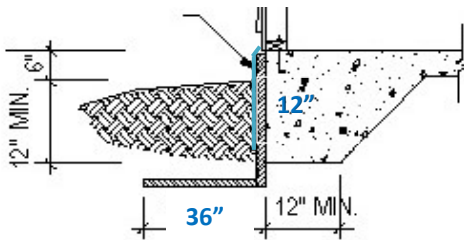
Foundation Method 1 is shown on section view of page 3

Foundation Method 2:

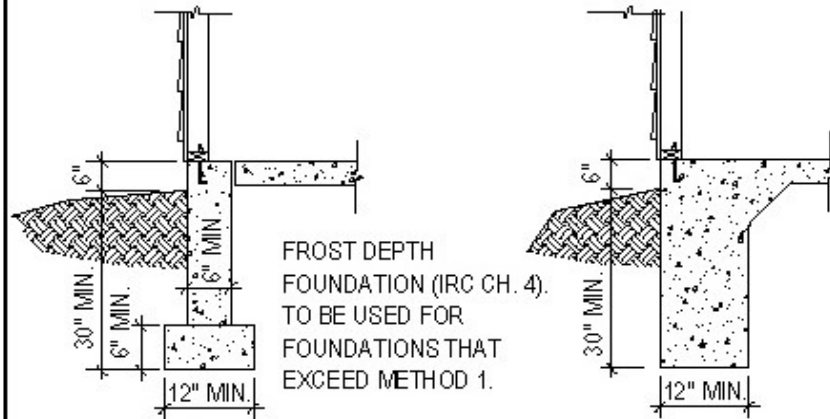
Shallow Monolithic Foundation *Larger than 600 sq ft* must be heated and insulated to current energy code.

2021 IECC

- R10 insulation 48" (i.e. 12" down and 36" outward)
- Protect insulation to 6" below grade (i.e. flashing)



Foundation Method 3: Unheated Garage



Code Access <https://www.fcgov.com/building/codes.php>

Span Charts

BEAM CHART *

Maximum Beam Span For HEM-FIR #2,
(feet and inches)

R602.7(1) Interpolated for a 35 PSF Snow Load,
SINGLE STORY BUILDING

Beam Size	Building Width Perpendicular to Beam (in feet)		
	12	24	36
2-2X6	5'-9"	4'-5"	3'-8"
2-2X8	7'-3"	5'-7"	4'-8"
2-2X10	8'-8"	6'-7"	5'-6"
2-2X12	10'-2"	7'-9"	6'-6"

ROOF RAFTER CHART *

Maximum Roof Rafter Spans for Hem Fir #2
(feet and inches)

R802.4.1(1) Interpolated for a 35psf ground snow load.
NO CEILING ATTACHED

Rafter Size	Center to center member spacing (in inches)		
	12"	16"	24"
2x4	8'-6"	7'-8"	6'-3"
2x6	12'-11"	11'-2"	9'-2"
2x8	16'-4"	14'-3"	11'-7"
2x10	20'-0"	17'-4"	14'-2"
2x12	23'-3"	20'-1"	16'-5"

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