

HUMBOLDT COUNTY
CITY OF WINNEMUCCA
BUILDING DEPARTMENTS

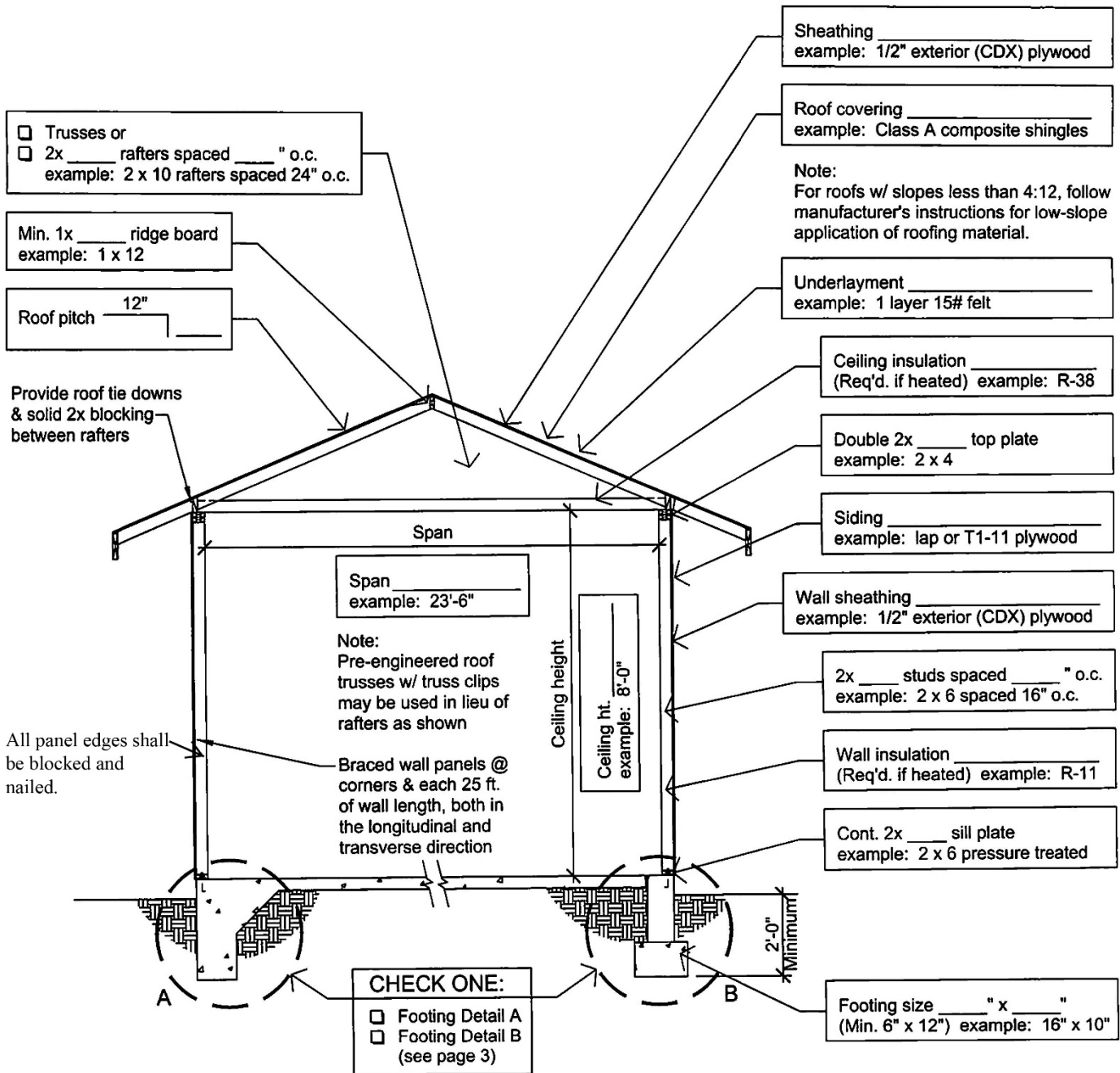
SINGLE FAMILY RESIDENTIAL ONE STORY DETACHED GARAGE AND STORAGE BUILDINGS

This handout was developed as a basic plan submittal under the 2018 International Residential Code. It is not intended to cover all circumstances

How to Use this Guide

1. Complete Building Guide by filling in the blanks. Provide a floor plan in addition to page two indicating doors, windows, header sizes, electrical (if installing) & braced wall locations.
2. Submit a site plan indicating the location of the garage, distance from residence, property lines, sewage disposal system and any other buildings on the property.

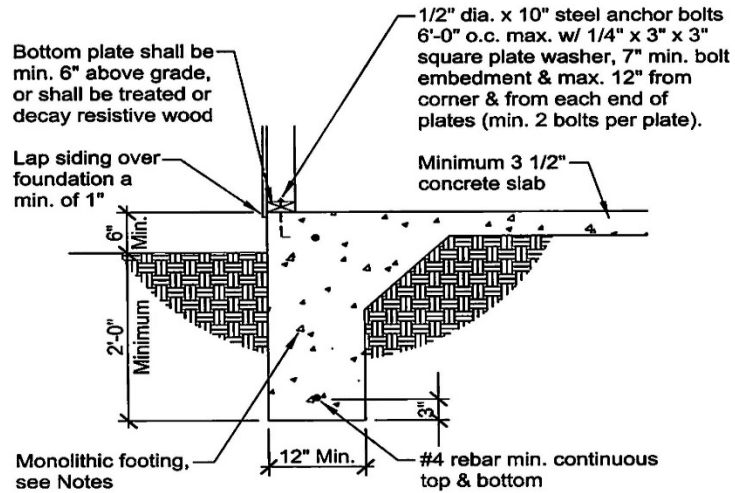




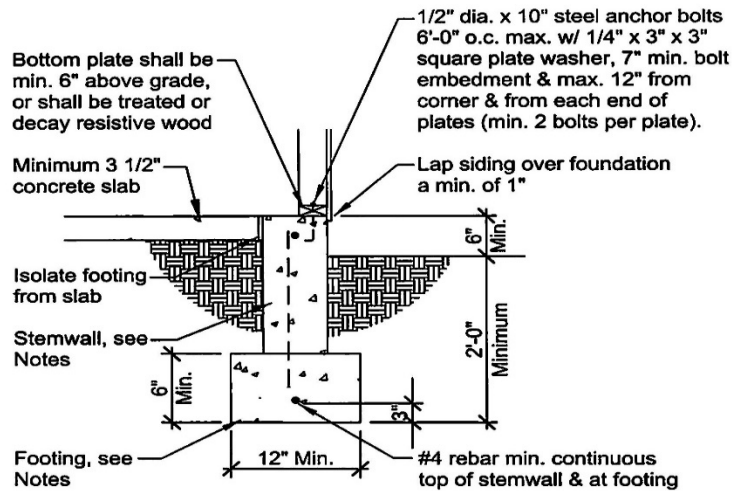
Building Section

Foundation Notes:

1. A soils suitability letter may be required after visual inspection of soils during footing inspection.
2. Footings & foundations shall be constructed of masonry, concrete, or treated wood in conformance with the International Building Code (IBC) and shall in all cases extend below the Frost Line. The Frost Line referred to shall be defined as 24" below finished grade. Footings of concrete & masonry shall be of solid material. Foundations supporting wood shall extend a minimum of 6" above the adjacent finish grade.
3. Minimum footing dimension shall be specified in IBC Table 1805.4.2. There shall be a min. of one (1) #4 continuous reinforcing bar (rebar) in the top 1/3 of all foundation stemwalls, and one (1) #4 continuous rebar in the footing. When the footing & stemwall are placed separately or when the stemwall exceeds 24" in height, #4 vertical bars @ 48" o.c. (32" o.c. with concrete block) shall be used to connect the footing with the foundation stemwall. When engineering data is provided, the footing & stemwall steel requirements may be reduced.



Detail A



Detail B

Additional Notes:

1. Garages & storage buildings 600 square feet or less can be constructed without frost protected footings. Edges of slab shall be deepened to 12" in order to install anchor bolts.
2. Storage buildings 400 square feet or less can be constructed on pressure treated skids.

HUMBOLDT COUNTY BUILDING DEPARTMENT
 CITY OF WINNEMUCCA BUILDING DEPARTMENT
 HEADER SCHEDULE – 2018 INTERNATIONAL RESIDENTIAL CODE

EXTERIOR LOAD BEARING HEADERS – ROOF & CEILING ONLY (2018 IRC TABLE 602.7(1))

BUILDING WIDTH						
SIZE	12'		24'		36'	
	SPAN	# OF JACK STUDS	SPAN	# OF JACK STUDS	SPAN	# OF JACK STUDS
1-2X6	4'0"	1	3'1"	2	3'5"	2
1-2X8	5'1"	2	3'11"	2	3'3"	2
1-2X10	6'0"	2	4'8"	2	5'2"	2
1-2X12	7'1"	2	5'5"	2	4'7"	2
2-2X4	4'0"	1	3'1"	1	2'7"	1
2-2X6	6'0"	1	4'7"	1	3'10"	1
2-2X8	7'7"	1	5'9"	1	4'10"	2
2-2X10	9'0"	1	6'10"	2	7'8"	2
2-2X12	10'7"	2	8'1"	2	6'10"	2
3-2X8	9'5"	1	7'3"	1	6'1"	1
3-2X10	11'3"	1	8'7"	1	7'3"	2
3-2X12	13'2"	1	10'1"	2	8'6"	2
4-2X8	10'11"	1	8'4"	1	7'0"	1
4-2X10	12'11"	1	9'11"	1	8'4"	1
4-2X12	15'3"	1	11'8"	1	9'10"	2

INTERIOR LOAD BEARING HEADERS – ROOF & CEILING ONLY (2018 IRC TABLE 602.7(2))

BUILDING WIDTH						
SIZE	12'		24'		36'	
	SPAN	# OF JACK STUDS	SPAN	# OF JACK STUDS	SPAN	# OF JACK STUDS
2-2X4	4'1"	1	2'10"	1	2'4"	1
2-2X6	6'1"	1	4'4"	1	3'6"	1
2-2X8	7'9"	1	5'5"	1	4'5"	2
2-2X10	9'2"	1	6'6"	2	5'3"	2
2-2X12	10'9"	1	7'7"	2	6'3"	2
3-2X8	9'8"	1	6'10"	1	5'7"	1
3-2X10	11'5"	1	8'1"	1	6'7"	1
3-2X12	13'6"	1	9'6"	2	7'9"	2
4-2X8	11'2"	1	7'11"	1	6'5"	2
4-2X10	13'3"	1	9'4"	1	7'8"	1
4-2X12	15'7"	1	11'0"	1	9'0"	1

HUMBOLDT COUNTY BUILDING DEPARTMENT
 CITY OF WINNEMUCCA BUILDING DEPARTMENT
 RAFTER SPAN TABLES
 2018 INTERNATIONAL RESIDENTIAL CODE

Rafter Spans for Douglas Fir-Larch #2 – Ceiling not attached to rafters (R802.5.1(1))

Rafter Spacing	2x4	2x6	2x8	2x10	2x12
12" o.c.	10'10"	16'7"	21'	25'8"	*
16' o.c.	9'10"	14'4"	18'2"	22'3"	25'9"
19.2 o.c.	8'11"	13'1"	16'7"	20'3"	23'6"
24" o.c.	8'0"	11'9"	14'10"	18'2"	21'0"

*Span exceeds 26 feet in length

Rafter Spans for Douglas Fir-Larch #2 – Ceiling attached to rafters (R802.5.1(2))

Rafter Spacing	2x4	2x6	2x8	2x10	2x12
12" o.c.	9'10"	15'6"	20'5"	25'8"	*
16' o.c.	8'11"	14'1"	18'2"	22'3"	25'9"
19.2 o.c.	8'5"	13'1"	16'7"	20'3"	23'6"
24" o.c.	7'10"	11'9"	14'10"	18'2"	21'

*Span exceeds 26 feet in length

Rafter Ties:

Where ceiling joists are not parallel to rafters, the rafters shall be tied to 2"x4" minimum size rafter ties and installed in accordance with the connection requirements in Table R802.5.1(9) or connections of equivalent capacities will be provided. (R802.3.1)

Collar Ties:

Collar ties or ridge straps to resist wind uplift shall be connected in the upper third of the attic space in accordance with Table R602.3(1). Collar ties shall be a minimum of 1"x4", spaced not more than 4 feet on center. (R802.3.1.)

General Notes

- ❑ **Square footage** – Maximum square footage is 3,000 square feet without installing firewalls.
- ❑ **Foundations** – all garage foundations shall comply with the minimum County standards as designated by the International Residential Code. See Humboldt County handouts for minimum foundation details.
- ❑ Footings shall be continuous on the perimeter of the building and under garage door openings.
- ❑ All framing shall comply with minimum County standards as designated by the International Residential Code. See Humboldt County handout for minimum wall framing. Provide fire blocking per IRC Section 602.8. 10' max. wall stud height.
- ❑ Install positive connections on each truss or rafter at the double plate.
- ❑ **Wall Bracing** – IRC Section R602.10.1. 4' at corners & every 25'. All panel edges shall be blocked and nailed. See IRC for additional requirements.
- ❑ **Beams – Versalam beams shall be enclosed with weather resistant materials and shall be sized by the manufacturer/Lumber Company**
- ❑ **Doors** – a man door shall be provided in addition to the garage doors. This exit doorway shall be of a size as to permit the installation of a door not less than 3 feet in width and not less than 6'8" in height. Exit doors shall be capable of opening so that the clear width of the exit door is not less than 32". IRC Section R311.2. Exit doors shall have all weather landings min. 36"x36"
- ❑ **Fire Protection**
 - ❑ Exterior walls shall be protected by a (1) hour fire resistive rating (approved assembly) when less than (5) feet from property line or (3) feet to another building. IRC R302.1
 - ❑ Openings shall not be permitted in exterior walls with a fire separation distant of less than 3 feet. IRC Section R302.1. Openings in exterior walls shall be ¾ hour rated and provided with a self-closure.
 - ❑ All drywall joints shall be taped.
 - ❑ Where a breezeway separates a single-family dwelling and a garage, the interior wall and gable end wall of the garage adjacent to the dwelling shall be protected by one layer of ½" sheetrock from the floor to the underside of the roof sheathing.
- ❑ **Garages Adjacent to a Manufactured Home**
 - ❑ Under floor vents must be closed off with concrete/grout if enclosed inside the garage and on the firewall between the house and the garage.
 - ❑ No openings are permitted except for an approved 20-minute rated door. Appliance access doors must also be rated & combustion opening must comply
 - ❑ Bedrooms shall not be accessible from the garage.
 - ❑ Dyer ducts must be ducted to the outside of the garage with rigid metal pipe supported and complying with maximum length of the code with an elbow.
 - ❑ All over flow and condensate lines must be terminated to the outside with elbow turndowns.
 - ❑ The door from the house to the garage is a required exit from the house per Manufactured Housing and the man door from the garage must be in close proximity to the man door from the house.
 - ❑ Garage shall be independently supported from the manufactured house. Dormers may be constructed to provide an attachment. The size and construction of dormer will determine if engineering is required.
 - ❑ Existing appliance vents, exhaust ducts and plumbing vents must extend thru the new roof and terminate per minimum code requirements.
 - ❑ You may be requested to obtain Nevada Division of Manufactured Housing approval if attachment to the manufactured home is in questions.
 - ❑ Egress windows must be maintained from existing bedrooms in a manufactured house.
 - ❑ Two exits are required from a manufactured house and must be maintained.
 - ❑ Egress may pass thru an awning, garage or addition if directly accessible to an exterior door from the room.

Electrical

- ❑ Owner shall verify service size is adequate for an additional electric load. Only one service permitted on a residential lot. A permit is required for an electrical service upgrade.
- ❑ Submit number of fixtures including switches, lights, and outlets.
- ❑ This office recommends an owner not familiar with electrical installation of the NEC obtain a simple wiring booklet, which is written to comply with the 2017 National Electric Code. This type of book will contain more specific information regarding wiring methods, wiring sizes, supports, sub panels, overcurrent protection, connections, fixtures, working space, safety precautions, grounding, branch circuits, etc. There are various requirements that cannot be covered in a handout.
- ❑ All garage outlets shall be GFI (ground fault circuit interrupter) protected. See NEC Code for specific exceptions.
- ❑ Exterior outlets shall have weather tight covers, which will remain weather tight when a plug is inserted. (Bubble covers are required). NEC 406.9(2)
- ❑ All exposed wiring shall be securely stapled or protected.
- ❑ If installing romex wiring (nonmetallic sheathed cable) wiring shall be protected from damage
- ❑ Provide individual ground rod and ground wire when more than (1) circuit is provided in garage. If a four-wire system is run from the service a ground rod is not required. (NEC 250.24)
- ❑ A disconnecting means and overcurrent protection shall be provided per NEC. Overcurrent protection requires the breaker to be rated for the amperage of the wire. #12 wire/20 amp breaker, #10 wire/30 amp breaker. See NEC for further information.
- ❑ Ground wire and neutral wires shall be separated/isolated as per NEC 250.32(B)(1).
- ❑ Feeder wires for the garage shall not be serviced from the manufactured/mobile home unless approved by Manufactured Housing Division.
- ❑ Schedule 80 (PVC) rigid nonmetallic electric conduit is required to protect above ground conductors. NEC Art. 230.50(B)(1)
- ❑ All wiring used underground shall be listed for wet location or underground use when installed in conduit. NEC 310.10(C)
- ❑ Contact NV Energy 800-962-0399 or Harney Electric at (775) 272-3336 for their requirements.

Plumbing

- ❑ Locate your septic system before planning the garage construction. A minimum of 8 feet is required to the nearest portion of the septic tank.
- ❑ Permits are required for all plumbing fixture installations.
- ❑ A permanent source of heat is required in the area that plumbing is installed.

Heating/Mechanical (Including woodstoves/pellet stoves)

- ❑ Permits are required for all mechanical installations.
- ❑ All gas appliances shall be installed to manufacturer's installation instructions and to Uniform Mechanical Code requirements.
- ❑ Heating & cooling equipment located in a garage and which generates a glow, spark or flame capable of igniting flammable vapors shall be installed with the pilots and burners or heating elements and switches are at least 18 inches above floor level. UMC Section 305.1
- ❑ Appliances located in a garage or carport shall be protected from impact by automobiles. UMC 308.1.1
- ❑ Exhaust fans in bathroom are required or a window shall be installed. IRC Section R303.2

Safety Glass

- ❑ Safety glass shall be provided at all hazardous locations, including doors, sidelights, windows within 18" of walking surface.