

## 10x12 Garden Tool and Lawn Tractor Storage Shed Plans



This solid, permanent 2x4 stud-frame shed, on a concrete slab foundation, has convenient lofts for additional storage.

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## **DESIGN CRITERIA**

These plans were designed to meet general standards and average weather and soil conditions. They should be reviewed and adapted by a local building professional for suitability to the actual site and for compliance with current codes, ordinances and standards.

The building was planned as a non-habitable utility or accessory building. It must be built at a distance of more than 5' from any adjacent combustible building. It was designed to exceed the requirements for an A.S.C.E. Category 1 building with the following criteria: 50psf Ground Snow Load (Reduced to 30psf Design Snow Load per A.S.C.E 7-95); 10psf Roof Dead Load; 20psf Loft Live Load; 10psf Loft Dead Load; 90mph Wind Load (10psf plus wind force); 1,500psf Soil Bearing Strength.

The Loft is intended for light storage, typical of a residential attic.

## **DESIGN CHANGES**

These plans are intended for use with various finish materials and with other sizes and locations of doors and windows. The materials, windows and doors shown are suggested as reasonably inexpensive and available nationwide. For best appearance, the building should be finished and detailed to match or complement adjacent buildings on the site. Different or additional windows and doors may be installed using conventional framing methods. All changes should be coordinated by a local building professional before the start of building.

## **SIDING**

Any of a variety of siding materials may be used on this building. Follow manufacturers' or suppliers' recommendations for the installation and finishing of siding. Siding should be applied over 1/2" exterior grade plywood.

## **ROOF MATERIALS**

Any of a variety of roof materials may be used on this building. They should be applied over a minimum 1/2" exterior grade plywood deck. The plywood deck is an important structural element and should be installed regardless of the roof material used. Metal roofing should be installed to the manufacturer's specifications on sleepers or fasteners applied to the roof deck. Wood shingles should be nailed to wood sleepers above the plywood deck. For slate, clay or ceramic tile roofs, use 3/4" exterior grade plywood for the roof deck and decrease the roof rafter spacing to 12" on center. Follow manufacturer's or supplier's recommendations for the installation and finishing of roofing.

## **WINDOW TRIM**

This design calls for a prefab window. For best appearance, window casing should match the trim on the shed and doors with 1x3 side casing, a 1x3 below the sill and 1x6 head casing with a drip cap.

## **SITE DESIGN**

The building should be plotted on its site by a surveyor or building professional. It must be located at least 5' away from any other combustible building. Review local ordinances for required setbacks. If the building is intended to shelter

animals, review local Health Department regulations for required distances from wells and residences.

## **DRAWING NOTES**

Lumber sizes shown on these drawings are nominal unless marked as "true." Lumber marked "P.T." is to be pressure treated.

## **CONSTRUCTION RESOURCES**

### **1. Engineering:**

**[www.ncees.org/licensure](http://www.ncees.org/licensure)**

These plans are designed to work for average conditions in some areas of the United States. To comply with specific local building codes, ordinances and weather conditions and for the best quality of construction these plans should be reviewed, and modified as necessary by a Professional Engineer.

These drawings should be reviewed and modified for higher wind resistance, for earthquake resistance, for higher snow loads and for sites with poor or poorly drained soil conditions.

California, Pacific Coast and Rocky Mountain locations may necessitate modifications for earthquake resistance. High mountain locations and sites in northern states may require higher snow load resistance. Florida, Long Island, coastal areas, high mountain areas and some other locations will require higher wind load resistance. Many northern locations will require deeper footings because of deeper frost penetration. The states of Florida and Nevada, and some other jurisdictions require that drawings be prepared or reviewed by an in-state architect or engineer. Some local building officials will waive some requirements if the building is planned for agricultural use or for property that is zoned as Agricultural. Some local building officials will waive some requirements for small buildings like the one shown on these plans.

### **2. Cupolas:**

**[www.abetterbarn.com](http://www.abetterbarn.com)**

An optional cupola for this design should be a minimum of 18" wide on each face of its base and a minimum of 24" in height above the building's ridge. It should be centered on the ridge.

## **GENERAL SPECIFICATIONS**

1. **Codes:** All work must comply with current codes, ordinances and industry standards.
2. **Permits:** The builder is responsible for obtaining and paying for all necessary permits, scheduling all required inspections and obtaining a Certificate of Occupancy.
3. **Scope of Work:** The builder should provide all materials, labor and equipment required to complete the building in reasonable time. The builder should provide, supervise and coordinate all necessary subcontractors. All workmanship and materials must be of the best quality. Materials and equipment must be installed or applied to the manufacturers' and suppliers' specifications.
4. **Work by Owner/Others:** All work required for a complete and finished building should be provided by the builder, except as acknowledged by the owner at the time of the contract agreement.
5. **General Conditions:** The building contract will be governed by standards outlined in the "General Conditions of Contract" published by the American Institute of Architects unless comparable published standards are mutually accepted by the owner and the builder.
6. **Site Work:**
  1. Clear the building site of all shrubs, trees, rocks and stumps. Remove and store topsoil. Protect all other landscaping, paving and structures from damage by this construction.
  2. Excavate for footings to the depth shown on drawings or deeper, if necessary, to reach solid stone or undisturbed soil that's entirely free of backfill.  
Excavate as required for all planned drives, walks, parking areas and utility lines.
  3. Provide clean gravel fill as shown on the drawings and as necessary to allow a flat, well drained building subfloor.
  4. Grade the building site so that water flows away from the building.

Replace topsoil to a minimum of 3" deep. Rake to remove all surface rocks, roots and debris, and seed and mulch as required.

### **7. Concrete:**

1. All concrete must be a minimum of 3000 psi and must be handled and installed to the American Concrete Institute's standards.
2. Concrete slabs must be a minimum of 4" thick, reinforced with 6x6 (#10) wire mesh. Slope floor slab toward the largest door at 1/8" per foot. Provide a smooth, trowel or brush finish.

### **8. Carpentry:**

1. All framing lumber must be structural grade, with a min. 1,200 psi bending stress rating.
2. All framing must be plum, level and true and must be properly nailed, screwed or bolted.
3. Roof decking and wall sheathing must be min. 1/2" CDX plywood.

### **9. Structural Connections:**

1. Follow manufacturers' nailing or bolting specifications for all metal connectors.
2. Rafter to Roof Plate Connections: Birdsmouth each rafter for minimum 2" bearing surface. Anchor all rafters at the top plate with steel framing anchors, Simpson Strong Tie #H1 or equal. Follow manufacturer's nailing specifications.
3. Additional wind resistance can be added with metal strapping and ridge-to-rafter connectors. Follow manufacturers' specifications for nailing or bolting.
4. Plywood: Nail all plywood to rafters and studs with 8d Common Nails or 10D Box Nails - 6" on center for all outside edges and 12" on center on the plywood panel field.
5. Wherever metal connectors, anchors, fasteners, bolts, screws or nails are in contact with pressure treated wood, they must be hot dip galvanized or stainless steel. Follow recommendations of wood suppliers and connector manufacturers.

### **10. Roofing:**

1. Roofing shall be as selected by the owner, and installed to the manufacturer's or supplier's standards.
2. Any roof valleys, intersections and protrusions must be flashed with solidly backed aluminum or copper sheeting and must be entirely weatherproof.

3. Provide metal drip edging at all rakes and eaves.

### **11. Windows and Doors:**

1. All prefabricated windows, doors, hardware and accessories must be as selected by the owner, and must be installed and finished to the manufacturers' specifications.
2. The builder must make every effort to build custom doors that are straight, true, serviceable and durable.
3. Provide durable drip caps above all windows, doors and framed openings.

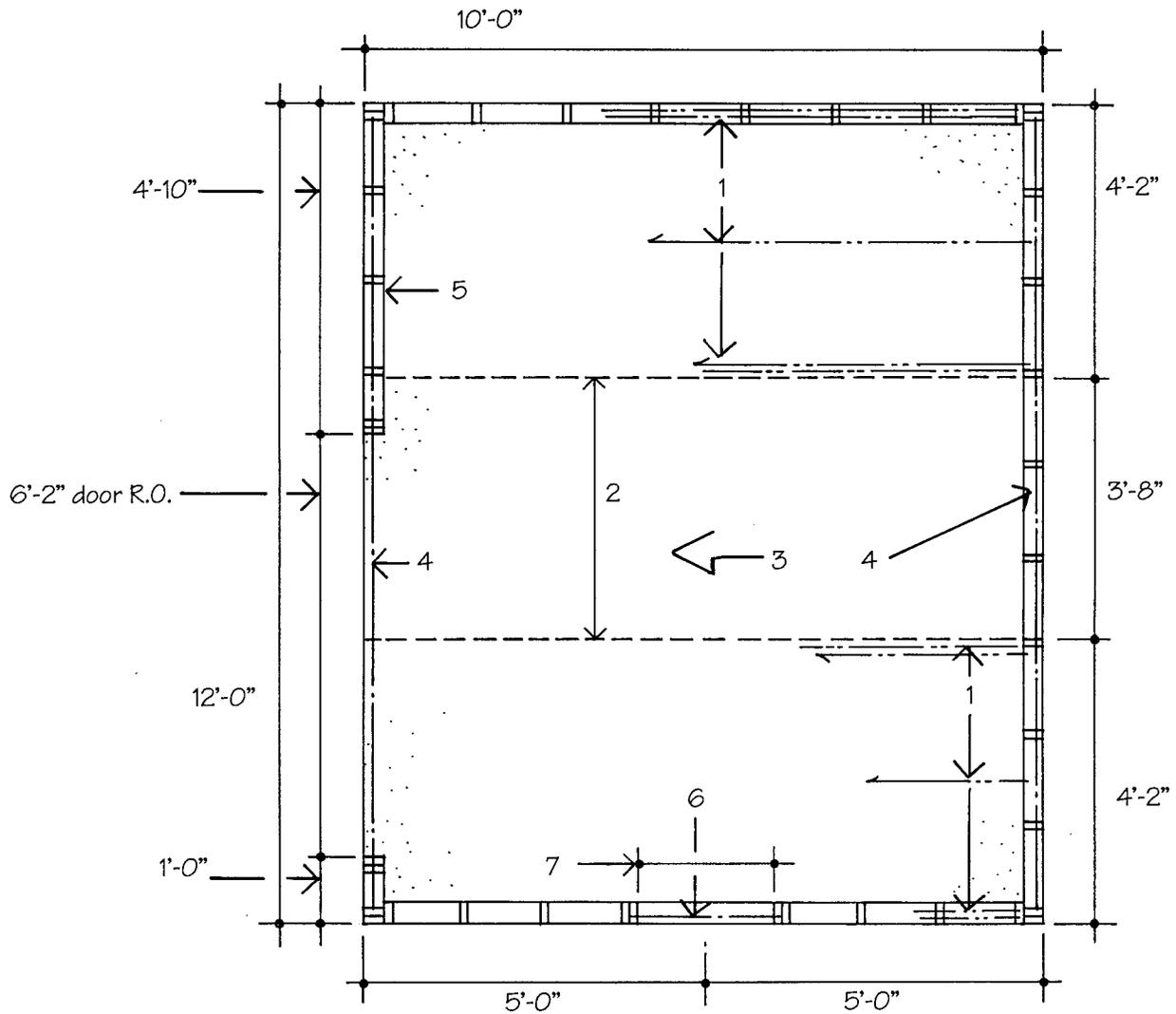
### **12. Finishes:**

Paint, stain or finish as selected by the owner and to the manufacturers' specifications.

### **13. Plumbing and Electrical:**

If required by the owner and the intended use of the building, provide a plumbing system and an electrical system in accord with all state and local ordinances. The builder must secure all necessary design, permits, inspections, approvals and Underwriter's certificates.

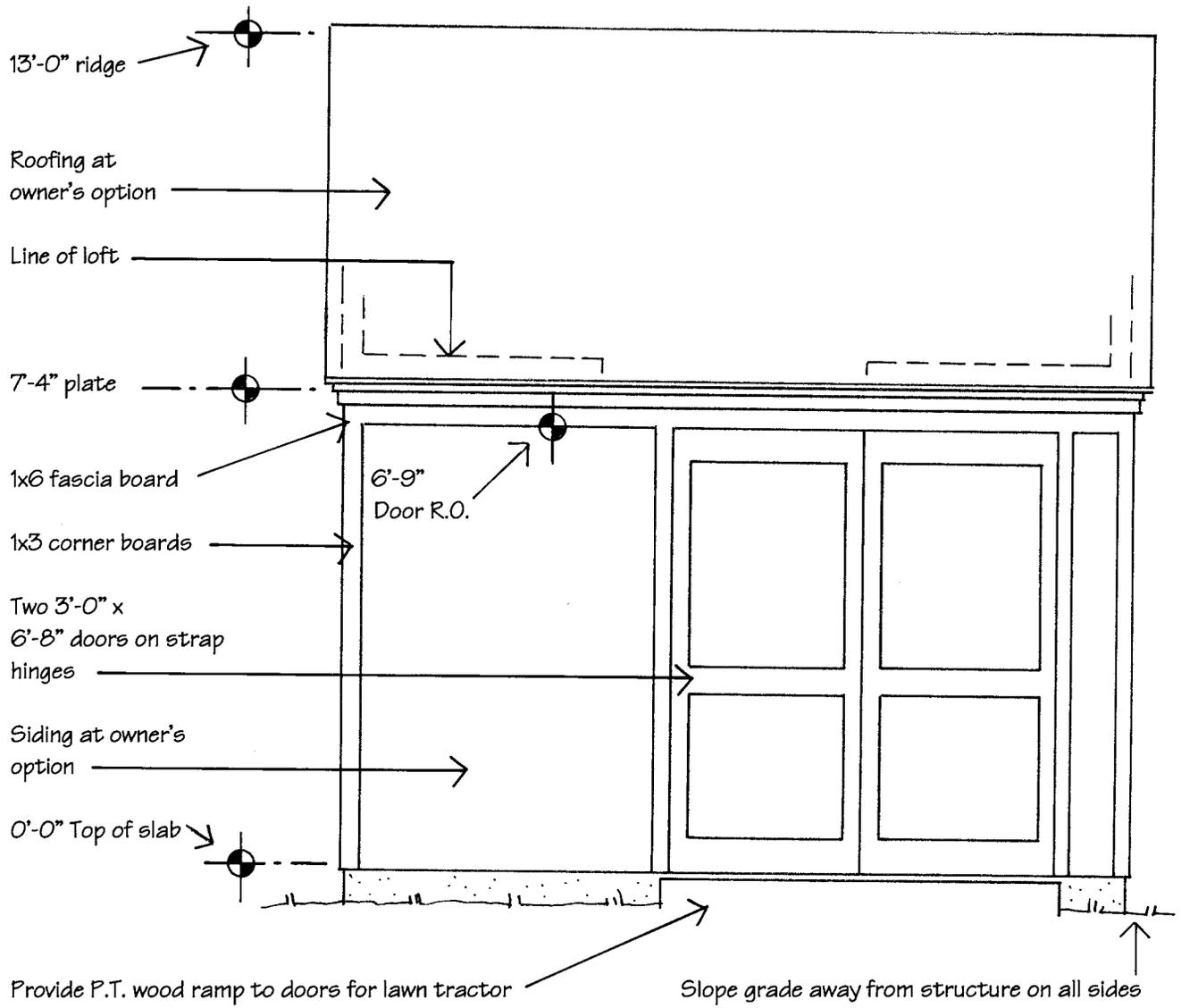
A building material list for this design can be found at [www.TodaysPlans.com](http://www.TodaysPlans.com)



1. 2x6 loft floor joists above – double joists at front edges of lofts and at gable ends of shed
2. Front edges of lofts above
3. Concrete slab – slope towards doors at 1/8" per foot
4. Double 2x6 girder along eave side wall serves as door header
5. 2x4 stud walls – studs at Max. 16" O.C. - double studs at corners, door bucks and window opening
6. Double 2x6 window header
7. Refer to manufacturer's specifications for window R.O. dimensions

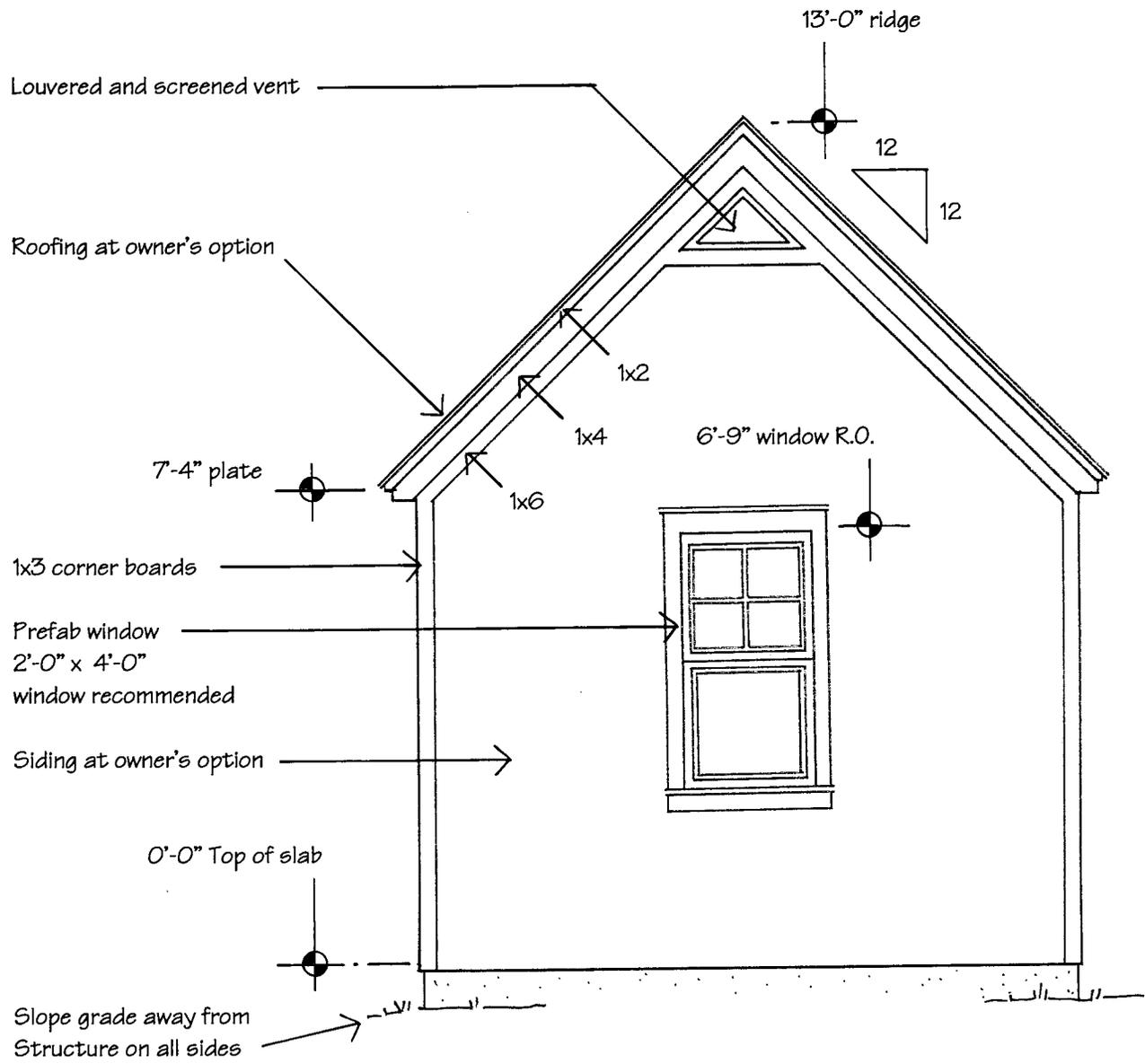
## FRAMING PLAN

3/8" = 1'-0"



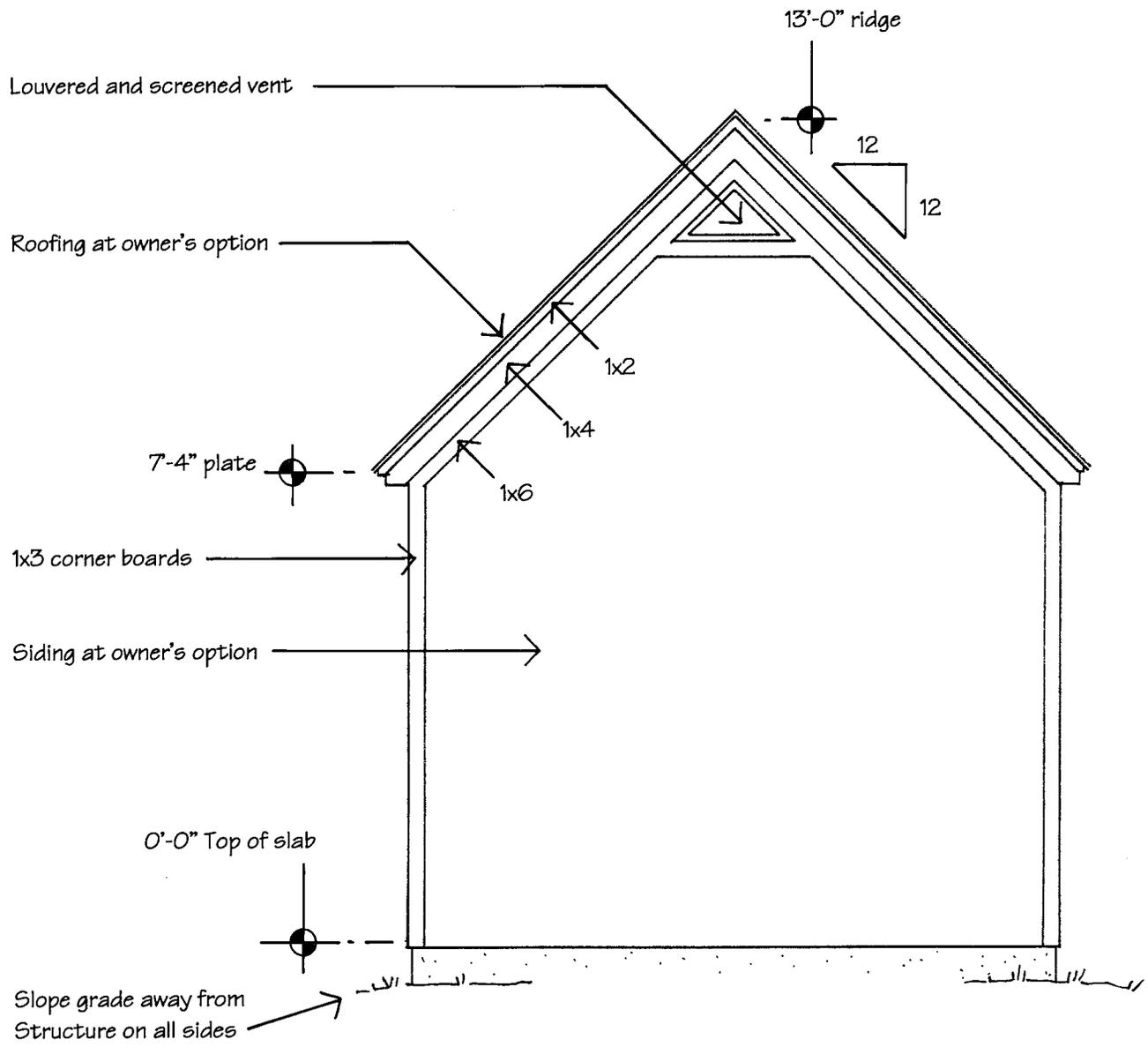
**FRONT ELEVATION**

3/8" = 1'-0"



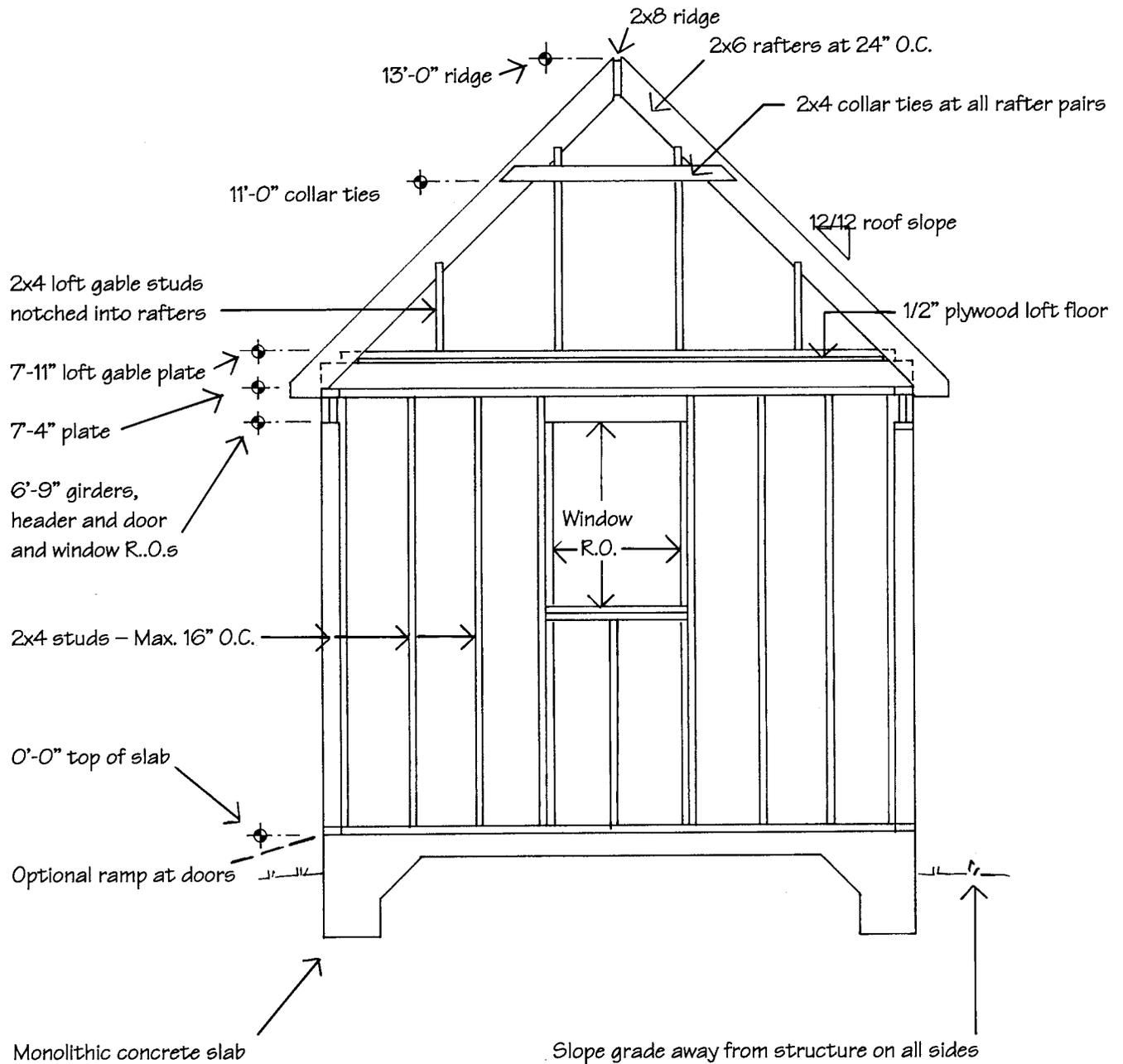
**RIGHT SIDE ELEVATION**

3/8" = 1'-0"



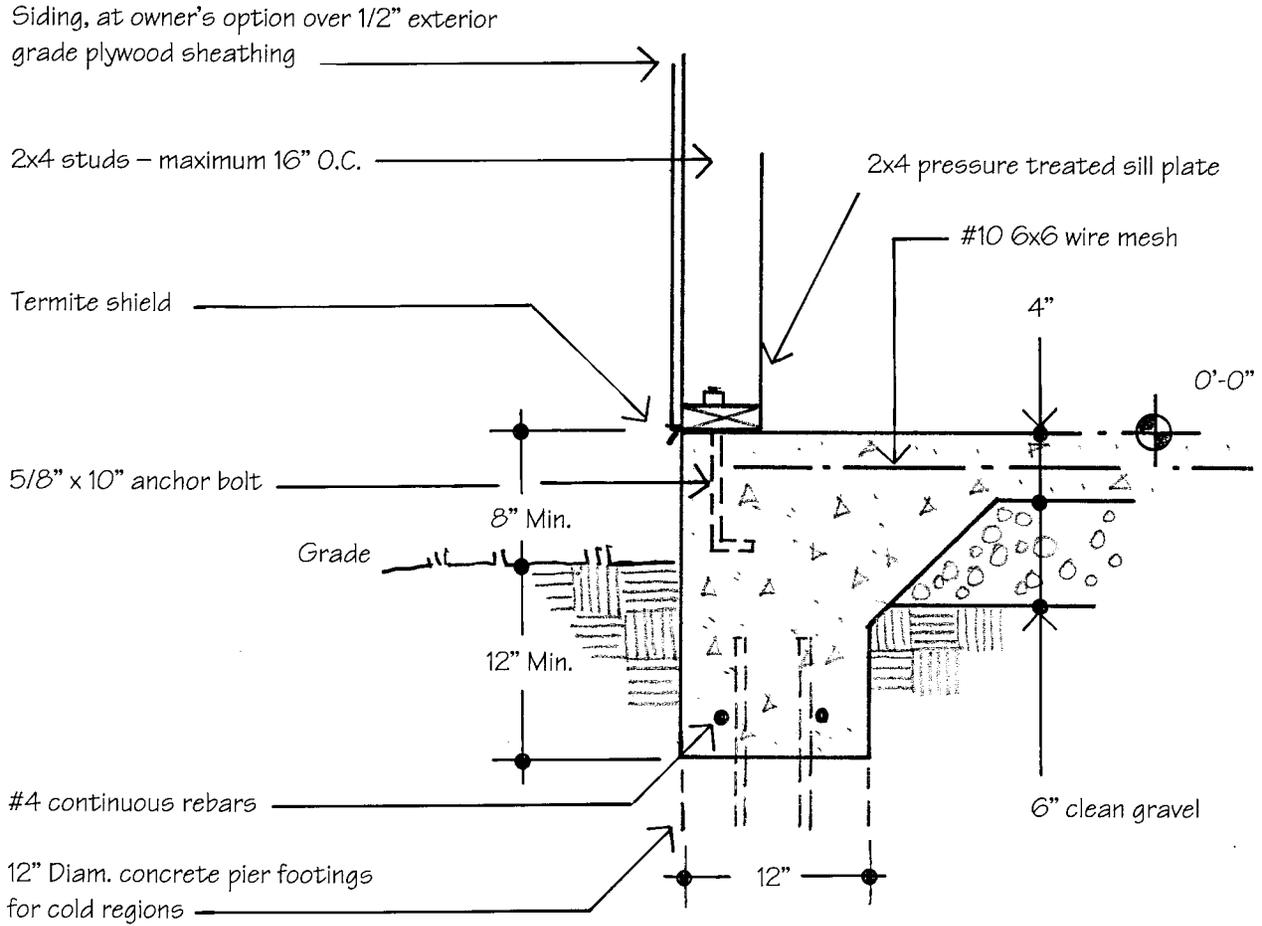
**LEFT SIDE ELEVATION**

3/8" = 1'-0"



### FRAMING SECTION

3/8" = 1'-0"



Provide anchor bolts within 12" of all corners and sill plate ends, and at a maximum of 6' O.C.

This foundation is intended for use in areas where frost penetration is less than 12" below grade. In colder regions, provide 12" Diam. concrete pier footings at all corners of the structure and at the midpoint of the eave sides. The bottom of the concrete piers must be below the local frost line. Tie each concrete pier footing to the monolithic slab with two #4 rebars running the full height of the pier and 12" into the slab base.

## SECTION OF CONCRETE MONOLITHIC SLAB FOUNDATION

1 1/2" = 1'-0"

Roofing, at owner's option, over 1/2" exterior grade plywood deck

2x6 roof rafters at 24" O.C. – birdsmouth for 2" bearing at plate – secure to plate with Simpson Strong Tie #H1 or equal metal tie-down

1/2" plywood loft floor

2x6 loft floor joists at 24" O.C. maximum – nail to adjacent roof rafters

Metal drip edge

1x2  
1x4

1/4" plywood soffit

1x6

2x4 stud wall

Siding, at owner's option over 1/2" exterior grade plywood sheathing

7'-4"

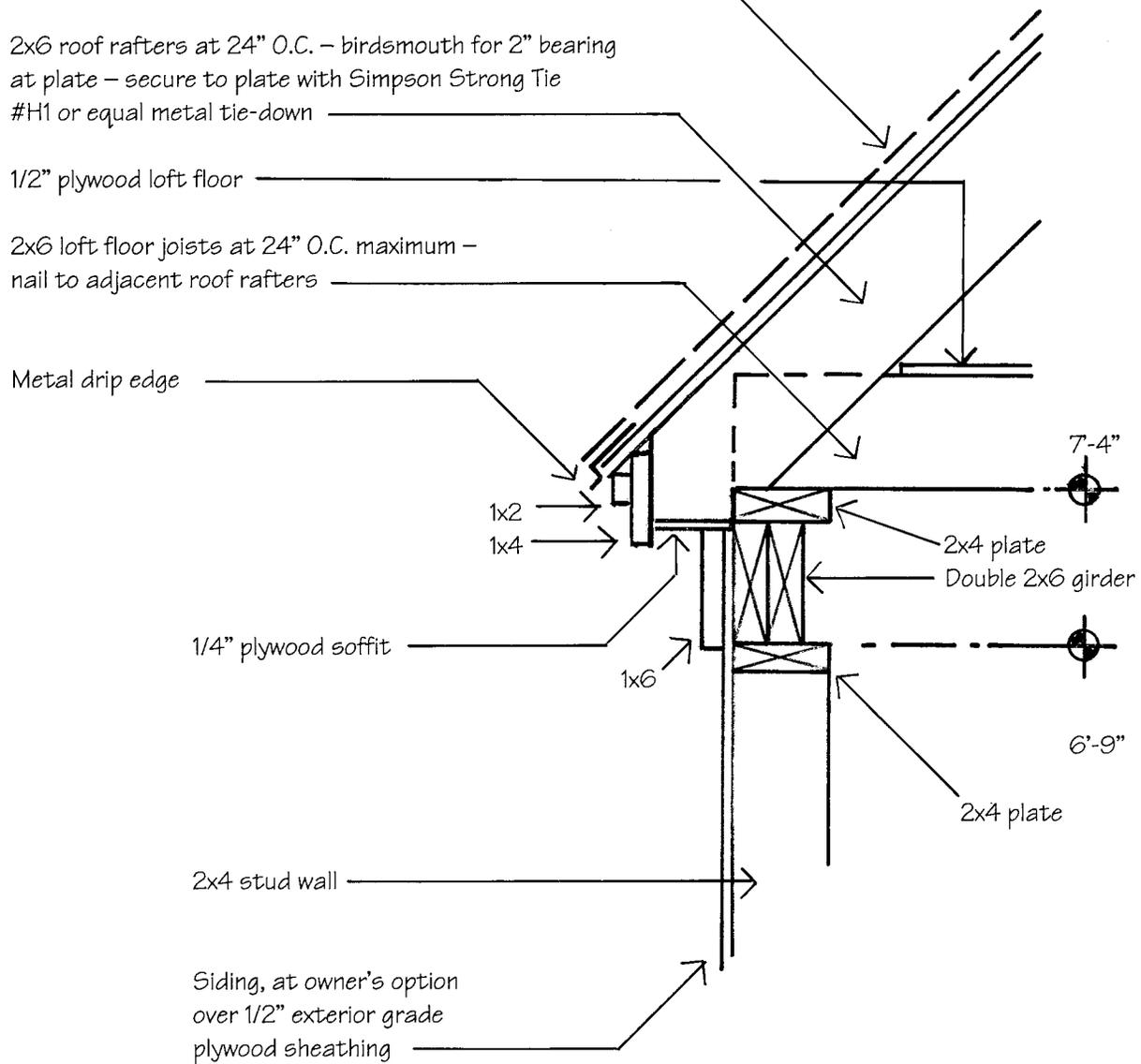
2x4 plate  
Double 2x6 girder

6'-9"

2x4 plate

## UPPER SECTION OF EAVE SIDE WALL

1 1/2" = 1'-0"



Roofing, at owner's option, over 1/2" exterior grade plywood deck

Metal drip edge

Double 2x4 barge rafters

1x2

1x4

2x6 roof rafters at 24" O.C.

1x6

2x4 studs at 24" O.C. - notch at rafters

Siding, at owner's option over 1/2" exterior grade plywood sheathing

2x4 plate

2x6 loft floor joists at 24" O.C. - double outside joists

2x4 plate

Double 2x6 window header

Window

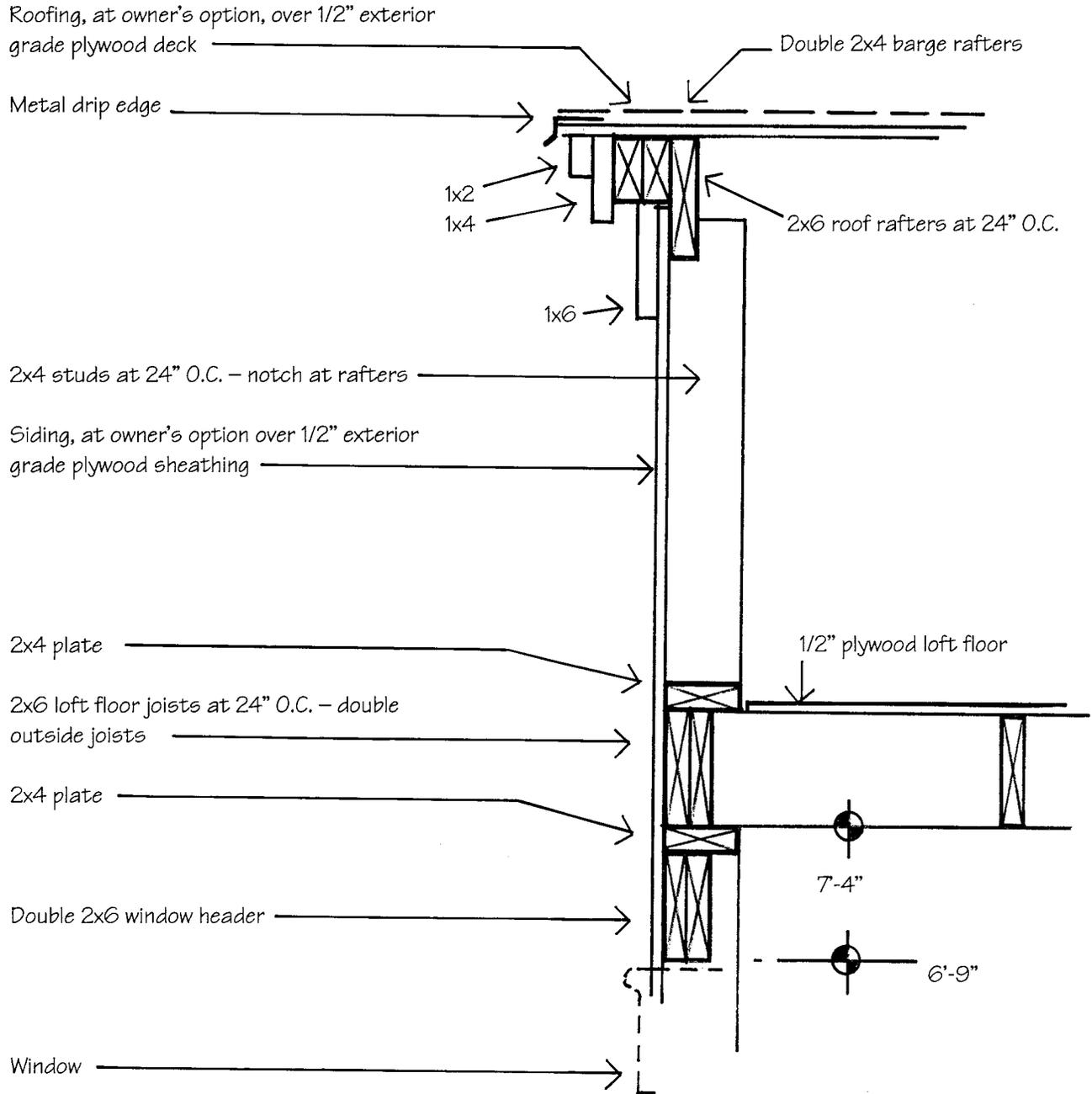
1/2" plywood loft floor

7'-4"

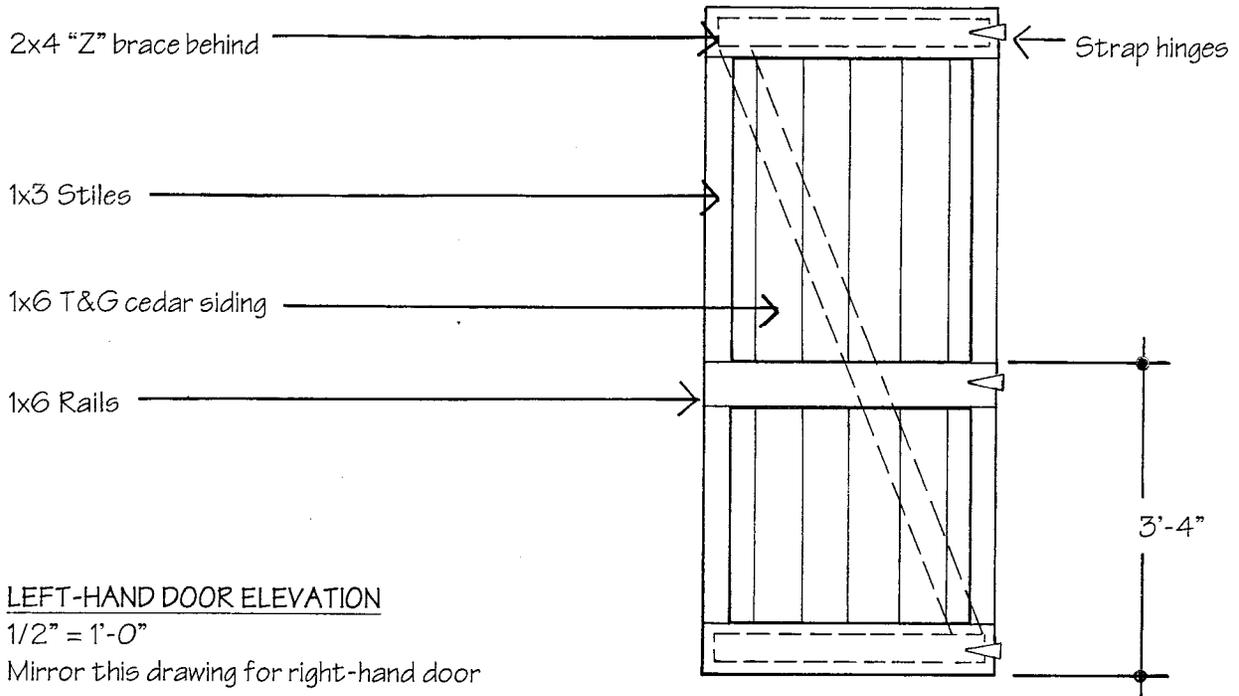
6'-9"

## UPPER SECTION OF GABLE END WALL

1 1/2" = 1'-0"



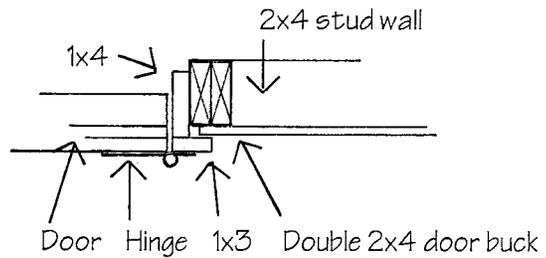
1. Cut stiles and rails
2. Lay stiles and rails face-down on a flat surface.
3. Nail stiles and rails together with corrugated nails.
4. Cut and rip T & G cedar to match the door size.
5. Screw T&G cedar to stiles and rails.
6. Cut 2x4 braces.
7. Screw 2x4 braces to T&G cedar.
8. Screw 2x4 braces through T&G cedar and into stiles at 4" O.C.



LEFT-HAND DOOR ELEVATION

1/2" = 1'-0"

Mirror this drawing for right-hand door  
See Elevations for door dimensions



PLAN AT DOOR BUCK

Not To Scale

DOOR DETAILS