# Prescriptive Design for Pole Barns

Using the Larimer County Prescriptive Handout

Building Department
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970-498-7700

## DEFINITIONS

### High Wind Areas

Those areas in Larimer County where Ultimate Design Wind Speeds equals or exceeds 140 mph.

### Non-High Wind Areas

Those areas in Larimer County where Ultimate Design Wind Speeds are less than 140 mph.

## Pole Barns
## For Non-High Wind and High Wind Areas

The Larimer County prescriptive design for pole barns is a basic plan only, not intended or allowed to be altered for other than a very basic barn. No changes of use, such as residential or commercial uses, are allowed without review by a Colorado registered engineer and County approval.

The pole barns must be constructed exactly as the handout indicates.

| Pole Barns – Non-High Wind | Pole Barns – High Wind |
|---|---|
| **Construction**<br>• Solid wooden columns[1]<br>• Engineered wood trusses that run column to column at **eight feet on center**<br>• Limited to 3,000 square feet and 35 feet in "truss direction" width. No side wings or lean to's are allowed under the basic handout design | **Construction**<br>• Solid wooden columns[1]<br>• Engineered wood trusses that run column to column at **six feet on center** depending on which handout is used<br>• Limited to 3,000 square feet and 35 feet in "truss direction" width. No side wings or lean to's are allowed under the basic handout design |
| **Modifications**<br>For Pole Barns that:<br>• Exceed the area in the handout<br>• Have columns other than solid treated wooden columns<br>• Use stick-built rafter framing<br>• Have hay lofts<br>• Have other design features such as wings or lean to's | **Modifications**<br>For Pole Barns that:<br>• Exceed the area in the handout<br>• Have columns other than solid treated wooden columns<br>• Use stick-built rafter framing<br>• Have hay lofts<br>• Have other design features such as wings or lean to's |
| The owner/applicant must have plans designed to Larimer County's wind and snow loads. All framing elements are to be designed in accordance with accepted engineering practice, or provide plans designed and stamped by a Colorado registered engineer or Colorado licensed architect. | The owner/applicant must have plans designed to Larimer County's wind and snow loads. All framing elements are to be designed in accordance with the accepted engineering practice, or provide plans designed and stamped by a Colorado registered engineer or Colorado licensed architect. |
| [1] The exceptions are approved engineered fabricated 3-2x6's laminated columns such as 'Gruen-Wald' or 3-2x6' treated Southern Yellow Pine #1 full length (no splices) glued or nailed per ANSI standards. | [1] The exceptions are approved engineered fabricated 3-2x6's laminated columns such as 'Gruen-Wald' or 3-2x6' treated Southern Yellow Pine #1 full length (no splices) glued or nailed per ANSI standards. |

# POLE STRUCTURE MINIMUM REQUIREMENTS

When applying for a building permit, submit two (2) complete sets of plans, one (1) copy of unstamped truss design (stamped truss design required for inspection) and three (3) site plans.

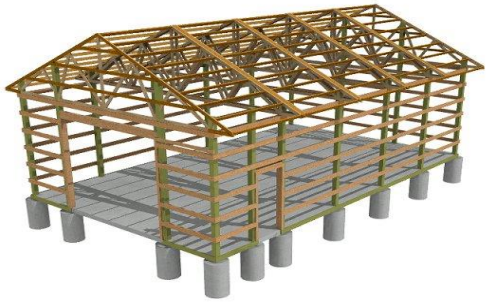
1. Site Plan of total parcel drawn to scale must have the following:
   A. Show all dimensions of all property lines
   B. Identify scale used. Minimum scale is 1 inch = 20 feet or 1/16 inch = 1 foot
   C. Direction north identified
   D. Easements for utilities
   E. Name of all adjacent roads and show driveway locations
   F. Section, Township, and Range (determined by your parcel number)
   G. Subdivision name, lot, and block number, and filing number (if applicable)
   H. Owner's name
   I. All existing structures labeled as to their use
   J. Proposed structure
   K. Distance from the proposed structure to ALL property lines and to the centerline of all adjacent roads. If an existing structure saddles the property line it must be shown on the site plan.
   L. Location and distance from any stream, lake, or body of water within 100 feet of the structure.

2. Floor Plan
   A. Plan view of pole location and spacing
   B. Framing plan should show direction, size, and spacing of roof system, purlins, girts, beams, and header sizes.
   C. Show sizes and locations of the overhead door, man door, and windows
   D. Maximum width is 35 feet.

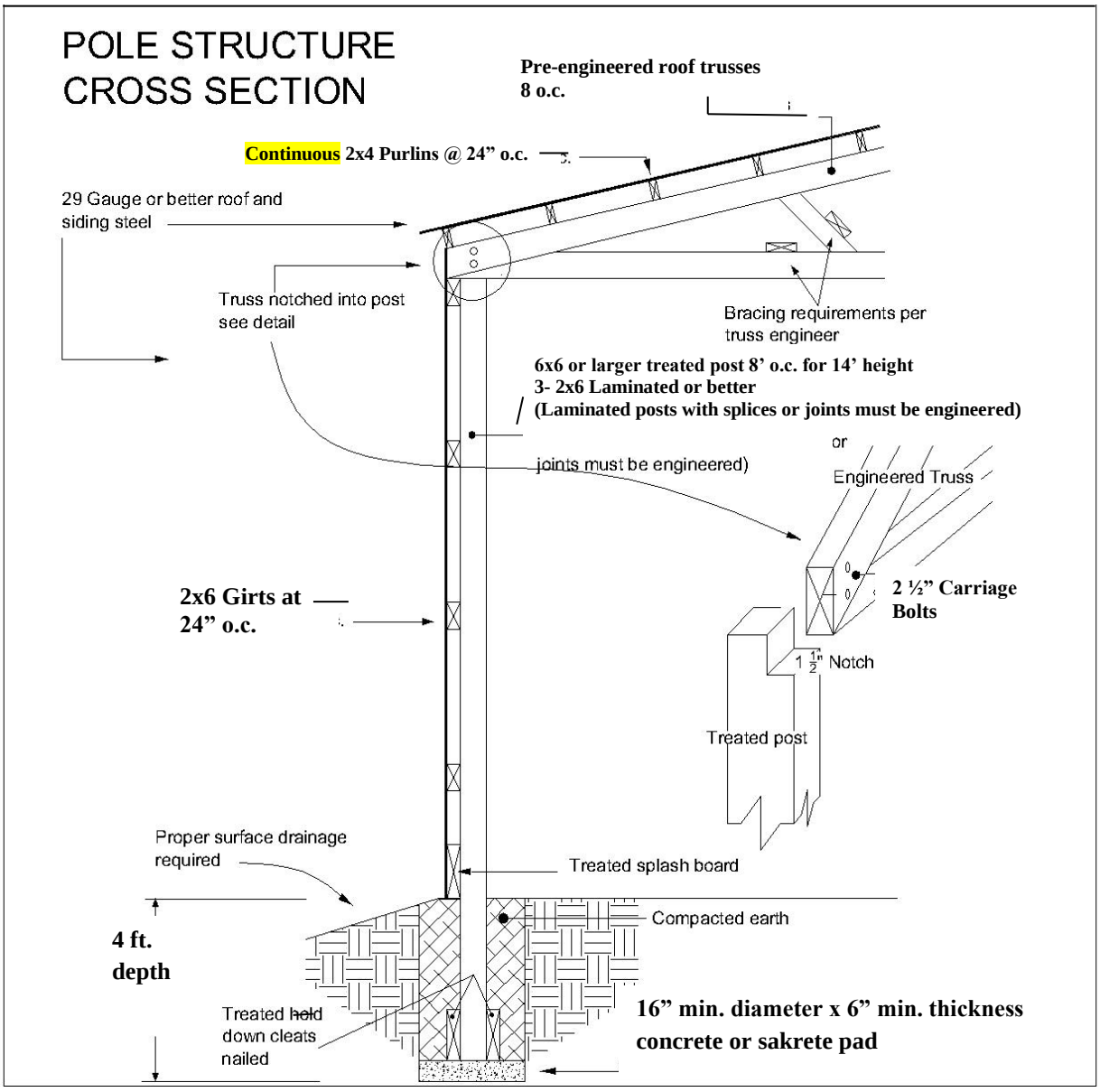
3. Exterior Elevation
   A. Front view – scale must be 1/4 inch = 1 foot
   B. Rear and both side views – scale at 1/8 inch = 1 foot
   C. Finished grade line at building
   D. Exterior wall finish material

4. Inspections Required
   A. Setback and Hole Inspections: should be inspected after holes are dug but before concrete is poured. If a survey certification was required, it must be supplied at this time.
   B. Electrical (as applicable): Underground prior to concealment, Meter Set, Rough, Final
   C. Framing Inspection: after building is up and before insulation or interior covering is installed. A final inspection could be done at this time if no further work is being done.
   D. Final Inspection: should be after all work is completed such as electrical, plumbing, heating, gas piping, insulation, and/or sheetrock. If any of these elements are included, they must be inspected prior to concealment. If a concrete slab is to be poured, that should be done prior to final inspection as well. Combustible insulation facings may not be left exposed. Do not occupy pole barn prior to final inspection approval.

****County-approved plans and permit cards need to be on-site at time of all inspections**

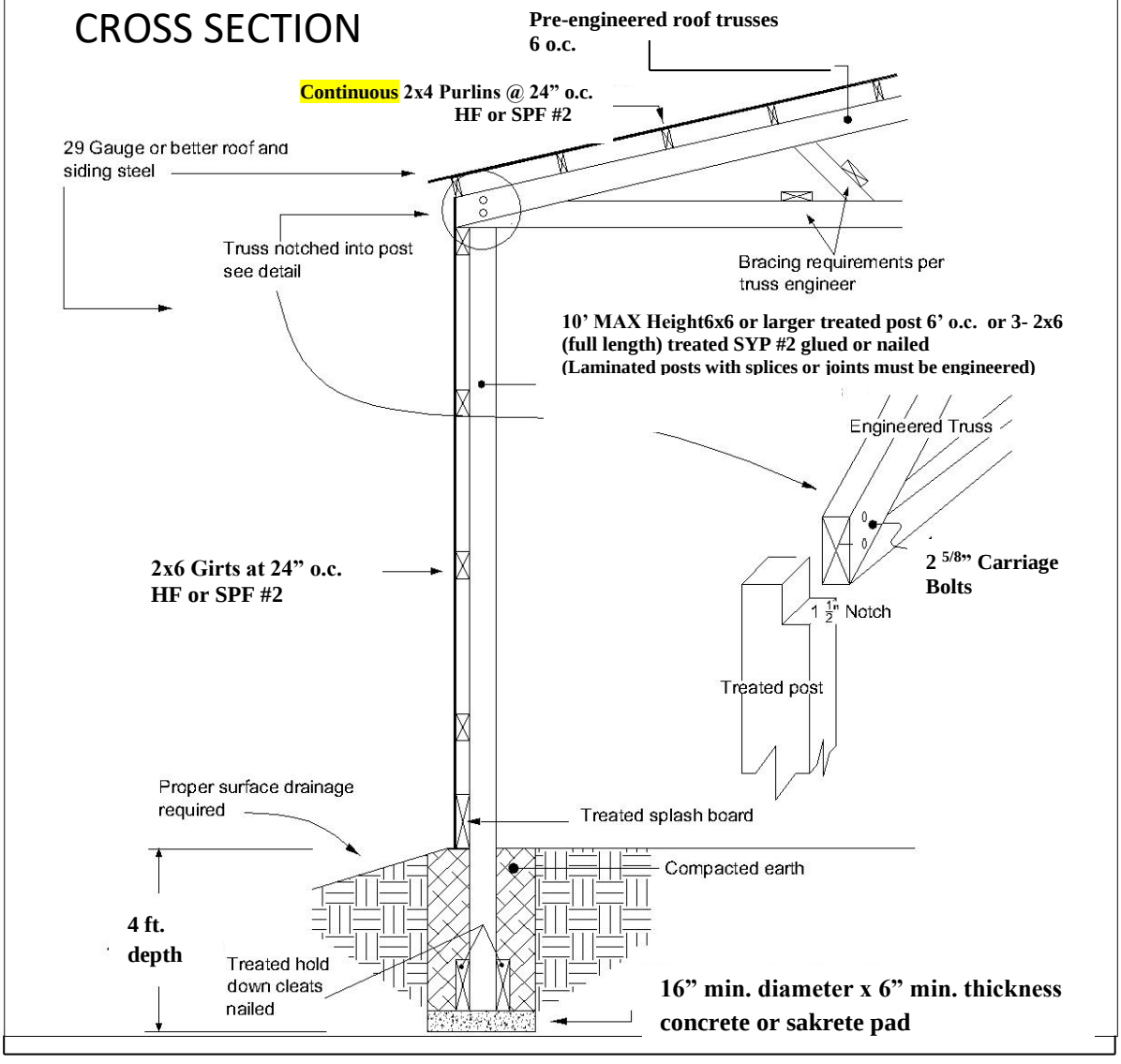


# POLE STRUCTURE CROSS SECTION




**For Elevations Below 6,000 feet**

# HIGH WIND
# POLE STRUCTURE
# CROSS SECTION




**For Elevations Below 8,000 Feet. For Higher Elevations, Engineered Design is Required**

# GABLE END DETAIL

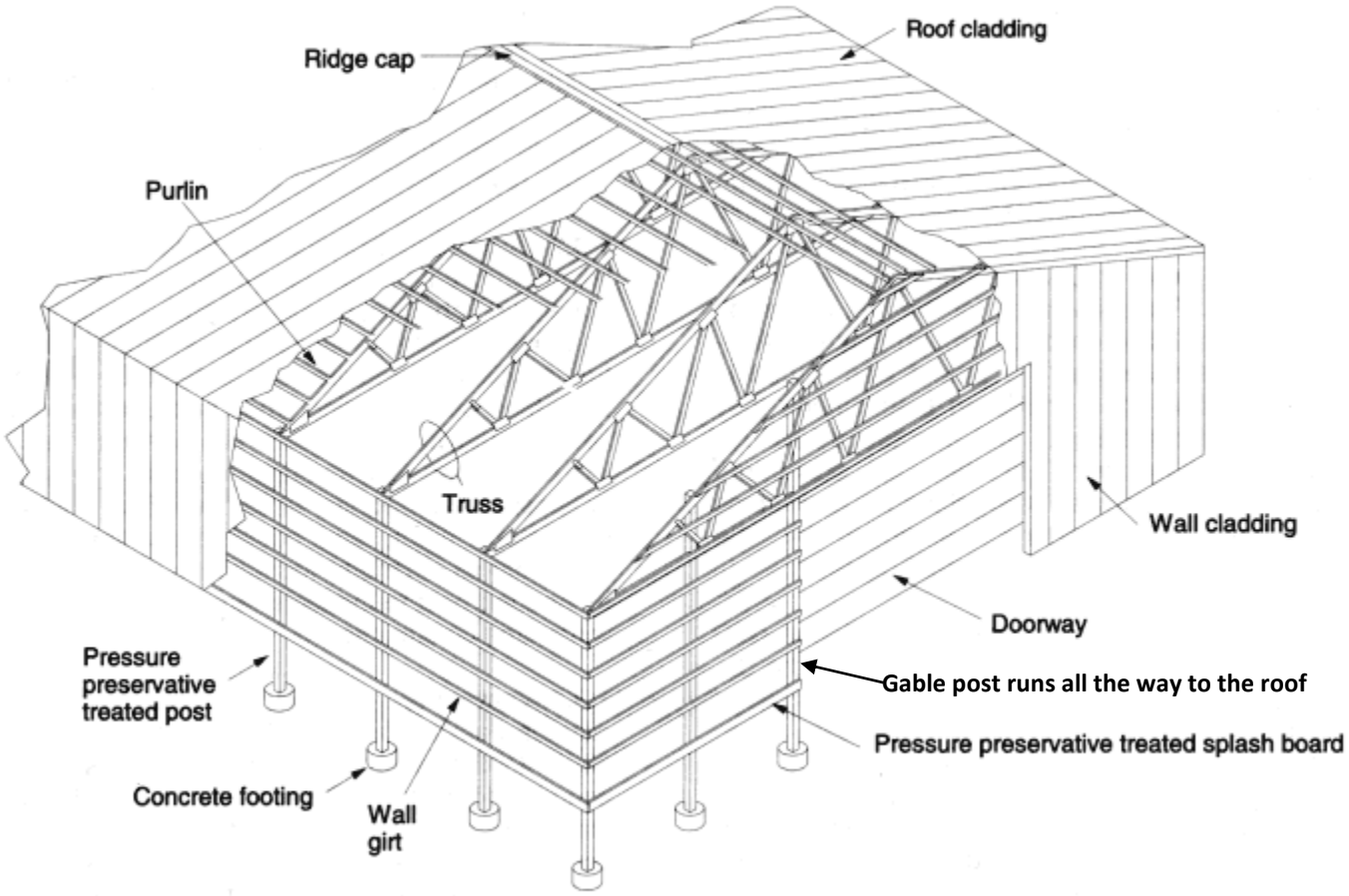
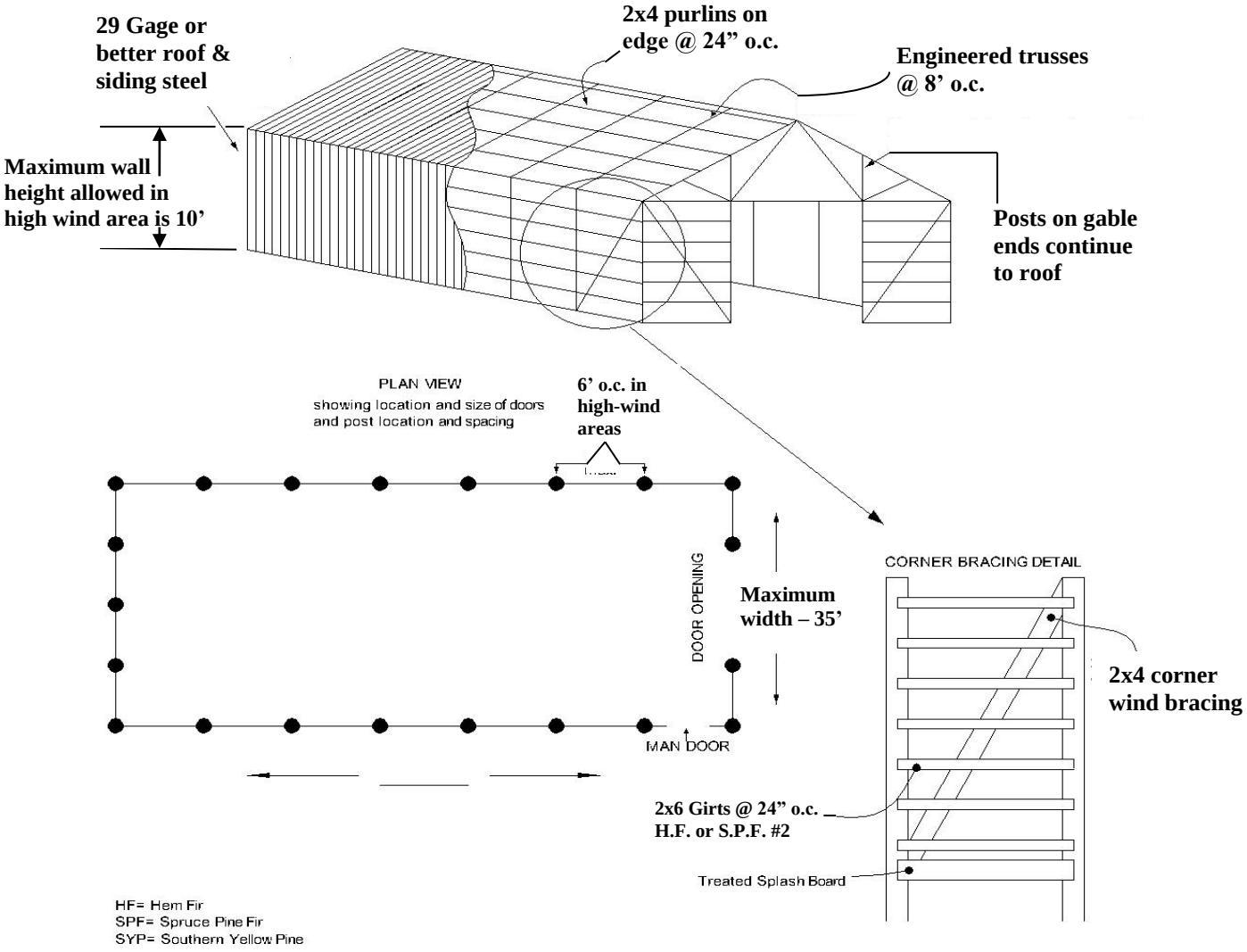



**Figure 1.1.** Simplified diagram of a post-frame building. Some components such as permanent roof truss bracing and interior finishes are not shown.

*SEE CROSS SECTION FOR MORE DETAIL

DRAWINGS TO BE TO SCALE WITH ALL DIMENSIONS INDICATED.

SCALE 1/4" = 1' PREFERRED




***NO CHANGES OF USE SUCH AS RESIDENTIAL OR COMMERCIAL USES ARE ALLOWED WITHOUT REVIEW BY A COLORADO REGISTERED STRUCTURAL ENGINEER AND COUNTY APPROVAL**