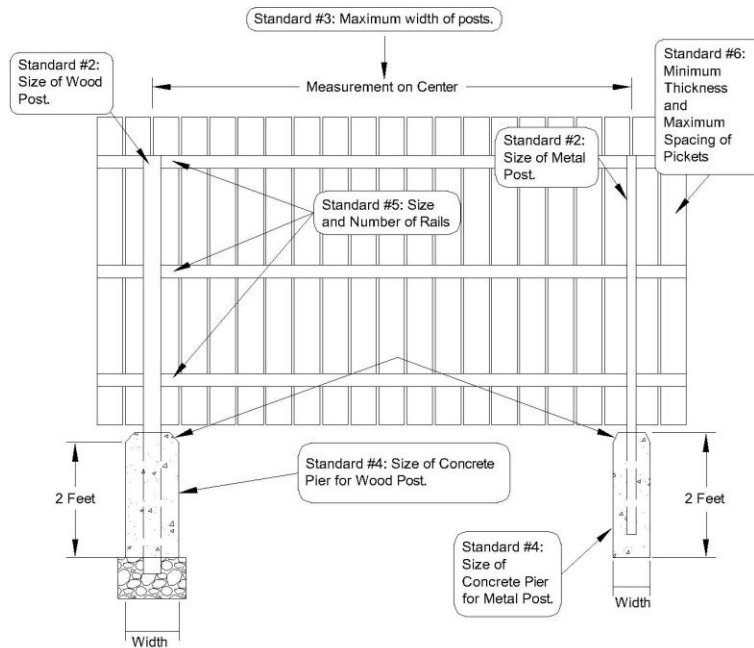


Fence Design Standards

Structural Standards Diagram for Wooden Fences 30-inches to 8-feet in height*



#1: All materials shall be treated wood, or wood of natural resistance to decay, hot-dip galvanized steel, or plastic materials. Installation and durability standards for plastic fencing material shall meet all manufacturer's standards and specifications, which standards and specifications must also meet all requirements for approval of fence materials under the City's Building Code. All wood shall be construction grade 2 or better.

#2: Fence posts shall consist of one of the following for a five- to 6 1/2-foot fence: four-inch by four-inch wood post or 1 7/8-inch diameter steel pipe with a wall thickness of 0.120 inches; or 1 7/8-inch square standard gauge steel pipe with a wall thickness of 0.120 inches. Fence posts shall consist of one of the following for a fence over 6 1/2 feet to eight feet: four-inch by four-inch or four-inch by six-inch wood post, or 2 3/8-inch diameter steel pipe with a wall thickness of 0.130 inches; or 2 3/8-inch square standard gauge steel pipe with a wall thickness of 0.130 inches.

#3: Fence posts for a five- to 6 1/2-foot fence shall be spaced a maximum of eight feet on center. Fence posts for a fence over 6 1/2 feet to eight feet shall be spaced a maximum of one of the following lengths: if a four-inch by six-inch wood post is used, the posts shall be spaced eight feet on center; or if a four-inch by four-inch wood post is used, the fence posts shall be spaced six feet on center; 2 3/8-inch diameter steel pipe or 2 3/8-inch square standard gauge steel pipe is to be spaced a maximum of eight feet on center.

#4: Four-inch by four-inch wood fences posts shall be set in a minimum ten-inch diameter concrete pier, extending a minimum of two feet deep. Metal posts shall be set in a minimum eight-inch diameter concrete pier, extending a minimum of two feet deep. Four-inch by six-inch wood fence posts shall be set in a minimum 12-inch diameter concrete pier, again extending a minimum of two feet deep.

#5: Any wooden stockade style fence five feet to 6 1/2 feet that is visually nontransparent shall have a minimum of three two-inch by four-inch rails. Any wooden stockade style fence over 6 1/2 feet to eight feet that is visually nontransparent will have a minimum of four two-inch by four-inch rails.

#6: Vertical wooden fence boards or pickets shall be a minimum of one inch in thickness and all pickets shall be spaced such that a sphere four inches in diameter cannot pass through.

*All measurements for fence materials are nominal measurements in accordance with generally accepted industry standards. Any masonry or concrete fence shall be reviewed by the City and constructed in accordance with the City's Building Code.

Thornton Municipal Code Requirements**

All fences over 30 inches in height **require a building permit.**

Fence height limits:

- Fences in the required front yard in residential areas may not exceed four feet in height.
- Fences adjacent to an arterial street or regional thoroughfare may be up to eight feet in height.
- Perimeter fences required by a Development Permit must be at least six feet in height.
- All other fences may not exceed six feet in height.
- Variations in height may be approved by the Development Permit and Appeals Board (Board).

Electrified or barbed wire may not be used for fencing unless the fence is in a nonresidential district, is at least six feet above grade and does not project beyond the property line. Electrified or barbed wire fences may also be approved during the Development Permit process for an agriculturally related use.

Fences constructed of **chicken wire, wafer or particle board, or plywood** are prohibited along any property line or in any required building setback where visible from a public street. Fences constructed of plastic netting or any types of plastic mesh are prohibited, except in connection with ongoing construction projects, street maintenance, or traffic and pedestrian control.

A fence may not be constructed parallel to or generally following another fence along a property line unless the fences are at least six feet apart.

Repair or replacement of fences:

- Double-sided fences along arterial streets or regional thoroughfares must be repaired or replaced with a double-sided fence.
- A building permit is typically required if more than 25% of a fence line must be replaced.

**The actual Municipal Code can be viewed at www.cityofthornton.net. Fence requirements are located in Section 18-456.

Additional Construction Recommendations (not required)

- The exposed framing for a single-sided fence should face the interior of the yard. This prevents others from climbing up the fence rails to view or access the enclosed property.
- Rails should be attached to posts with at least two minimum 5/16-inch diameter by 3.5-inch length bolts at each connection point. The use of bolts instead of nails increases the likelihood that the rails will remain in place.
- Wooden fence boards or pickets should be attached with at least two minimum 1.5-inch length screws at each rail, per board or picket. While nails tend to come loose over time, screws tend to remain in place, thus lessening the time spent making minor fence repairs.
- Fence posts must be set in a concrete pier (see reverse side of this document). It is recommended that the concrete extend from the fence post to finish grade and have a sufficient pitch to shed water away from the post. It is also recommended that the wood post extend three inches from the bottom of the pier into gravel or sand fill to allow the moisture to escape.
- When single-sided fences parallel to arterial streets or regional thoroughfares must be replaced, it is suggested that the replacement be with a double-side fence. Double-sided fences are more structurally sound and provide a better noise barrier to traffic.