

Chapter 28 - Backyard Fence

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This chapter details the building of the backyard fence including:



- Fence Posts
- Fence Rails
- Fence Pickets
- Gates

Things to Consider

- Post on either side of a gate must be plumb and secured with extra concrete.

Safety Issues

- Call OPUS before digging post holes!
- If pickets will be installed with a framing nailer, ensure the area inside the fence is clear.

Timing & Prerequisites

- The fence cannot be installed until the flatwork is complete and the shed has been built.
- The top soil can be added after the fence is built.

Materials Needed

Fence Posts, Railings, Pickets, and Gate

- 4x4s Posts (along fence rows)
- 4x6s Posts (either side of gates) (*UPDATED*)
- 60# bags Quikrete
 - (1.5) bags per regular posts
 - (2) bags per gate post
- 2x4x8
 - (3) rails per section $\leq 8'$
 - (1) per gate
- 2x4x10'
 - (3) rails per section $> 8'$
- 6' pickets (# of feet of fence * 12 / 11)
- (2) gate kits
- (2) Through latches
- (4) Handles (*UPDATED*)

Organize the Lumber

Critical Issues

1. Keep lumber flat and dry to prevent warping.
2. Keep cement covered and dry until ready to use.

Fence Layout (Habitat)

Habitat Staff will mark the layout for the fence. The layout will depend on:

- the size of the house
- the location of the parking pad
- the location of the shed
- any landscaping items in the way

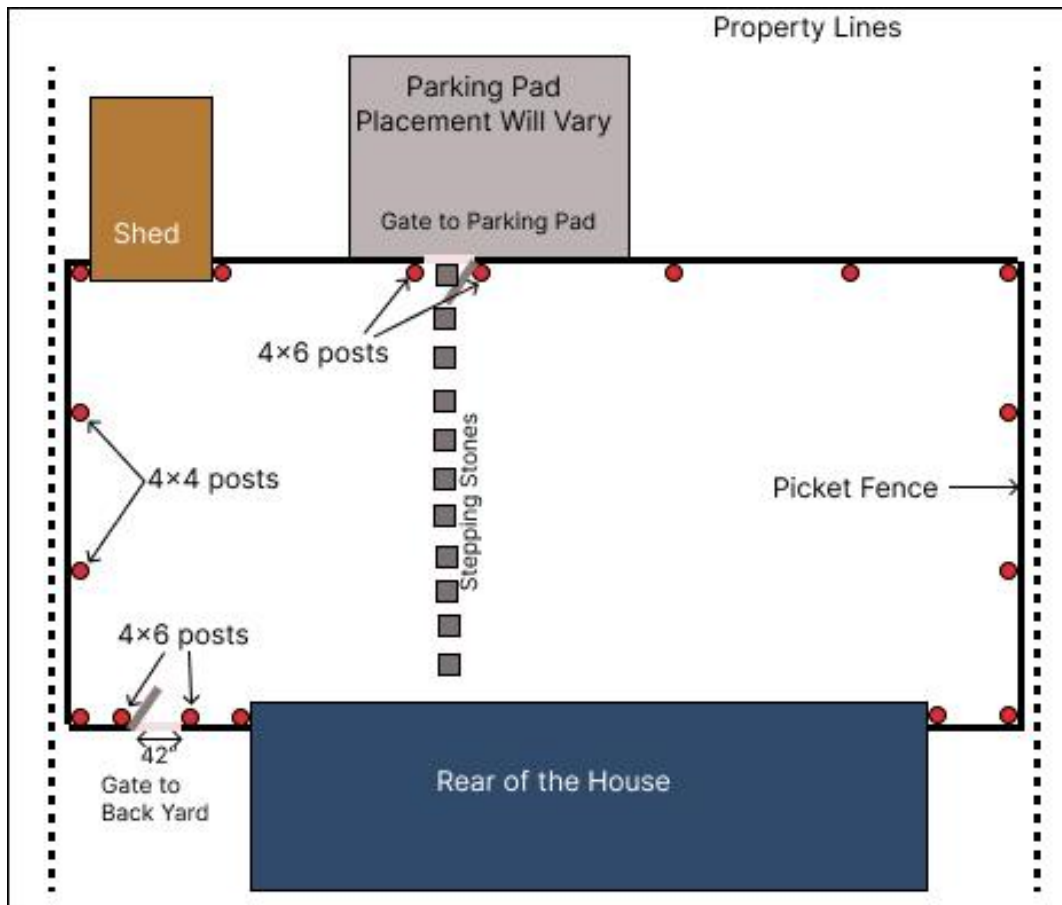
They will mark locations for posts as follows:

- One post will be located on each side of the house. Leave a small gap between the siding and the posts.
- One post will be located on each side of the shed.
- Two posts will be located in front of the parking pad and near the center for the gate. The gate will be 42” wide but can be adjusted to a smaller size.
- Two posts will be located in the fence on either side of the house for the gate into the backyard from the front.
- One post will be in each corner of the fence.
- String a line between to post locations to align the middle posts.
- Locate the middle posts by dividing the sides into sections of 8’ or less. (8’ sections work best.). When necessary, sections can be larger, not to exceed 10’.

Fence Posts Holes (Habitat)

Habitat Staff will drill holes for the posts above.

- Using an auger they will drill a 30” deep hole at each location above; except the two holes next to the house and the two holes next to the shed. These holes must be dug by hand.
- The holes will be covered with pieces of OSB until the posts are installed.



Fence Posts (Volunteers)

Install a 4x4 pressure treated posts in each post hole along the fence line. Install a 4x6 pressure treated post in the holes on either side of the gate location. It is important that each post is plumb.

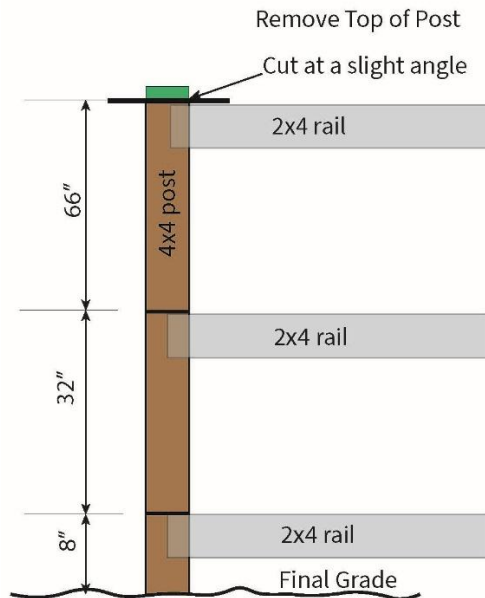
1. Clean out the hole of any dirt which has fallen in since the hole was dug.
2. Dry fit the post in the hole. Ensure the spacing between post and the alignment of the post is correct. Adjust the holes size as needed.
3. Place a small amount of gravel in the bottom of the hole. Add enough gravel to set the hole depth to a maximum of 30"
4. Set the post in the hole; plumb it; and brace it.
5. Add 1 1/2 bags of concrete; 2 bags should be used on the gate posts.
 - a. If the cement will be mixed before placing in the hole, follow the instructions on the bag. The mix should be sloppy but not too wet.
 - b. If the cement will be added dry, add water in the hole before adding the cement. Mix as you go.
6. Allow the concrete to set up for 2 hours before continuing with the rails.

Fence Rails

The sections of fence can be installed several ways, depending on the grade of the yard. Sections can be installed:

- Level from post to post. This works best with yards which are fairly level. Care must be taken to ensure a small gap between the pickets and the ground below.
- Parallel to the grade. This works best with yards with a moderate grade change.
- Staggered. This will be required with yards with a large grade change.

Three (3) 2x4 rails will be installed for each section of fence. For Level and Parallel installations, the rails for all sections of the fence should be aligned with each other. The tops of the rails should be 8", 32" and 66" above the final grade.



1. Create layout marks.

a. Level Installation

- Make marks at 8", 32", and 66" above the final grade on the corner post at the lowest level.
- Use an 8' level to transfer these marks to the next post in the section. Repeat for the remaining sections.

b. Parallel Installation

- Make marks at 8", 32", and 66" above the final grade on the posts at each corner
- String a line between top marks on the end post and mark the middle posts where the line intersects them. Repeat the process for the middle and bottom marks.

- c. Staggered Installation
 - Make marks at 8", 32", and 66" above the final grade on each post.
 - Use an 8' level to transfer these marks to the adjacent posts in each section.
2. Crown the lumber for the rails as described in the "Framing Techniques" in Chapter 4 "Framing Materials, Tools, and Techniques". Discard severely bowed lumber. Place cupped side up and out.
3. Cut (3) 2x4 for the rails in each section.
 - a. For sections with a corner post, extend the rails from the outside of the corner post to the middle of the next post.
 - b. For middle sections, extend the rails from middle of one post to the middle of the next post.
2. Align the top edge of the 2x4 rails with the marks made above and secure in place with 3 ½" exterior screws; two (2) screws into each post.
 - a. Predrill the holes in the rails to prevent splitting.
 - b. 2x4s in each section should align with the 2x4s in the previous section.
3. Cut the posts off even with the top of the top rail.

Cut the Posts

- After the rails are installed, cut the tops of the posts off even with the top of the top rail. Cut them at a slight angle to allow rain to run off.

Fence Pickets

- The pickets are 6' in length and 5 ½" wide.
- They should be installed with the top of the picket 7" above the top rail. The bottom of the picket will be 1" above the grade.
- They should be installed without a gap between them. Over time, they will shrink leaving a 1/4" gap.
- Ensure pickets do not extend to within 1" of the soil below. Cut them is necessary.
- Pickets on either side of a gate should be full width.

Pickets Installation

1. Nail the pickets in place with 2" nails, one nail on either side of the picket about 3/4" in, and one nail in the middle of the picket a little bit lower than the two side ones, per rail. This means a total of 9 nails per picket. They say this helps prevent warping.

2. Position the pickets with a 7” piece of 2x4 to be used as a gauge. Place the gauge on top of the top rail; hold the top of the picket even with the gauge; plumb the picket; and nail in place.

Fence Gates



- Follow manufacturer installation instructions for installing the gates.
- Do not use the latch provided with the gate. Habitat will provide a “through latch” to be used.
- Install two (2) handles to the inside and outside of each gate.