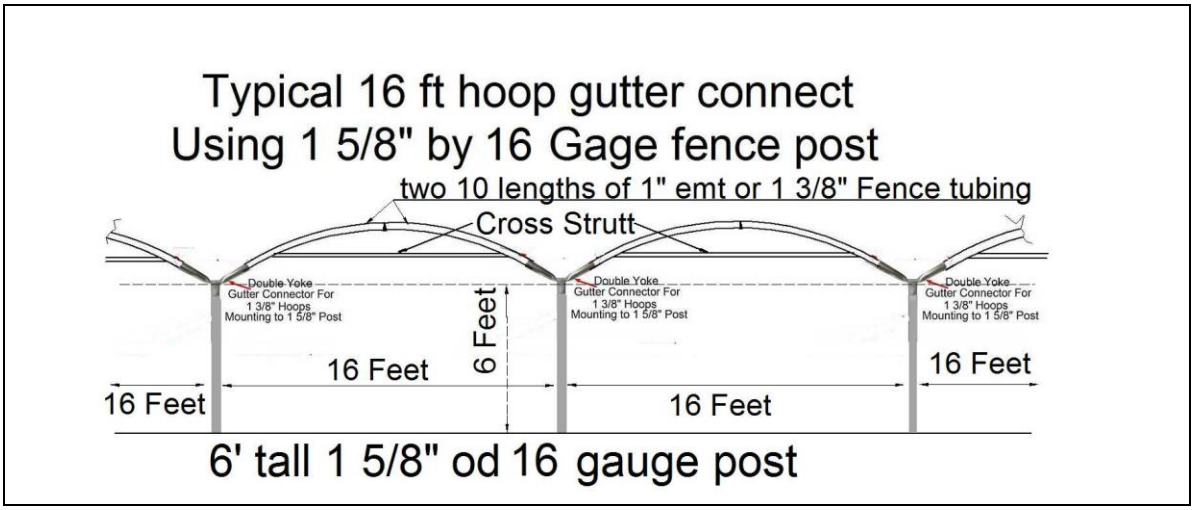
Gutter Connecting Greenhouses

16’ to 20’ Bay Sections



DO NOT SET OR INSTALL POST UNTIL AFTER YOU COMPLETE THE TEMPLATE & FIRST HOOP

Ground preparation is important! Any low areas that could hold water must be eliminated!

If possible ground should slope to one side or in two or even four directions from the center.

1. We encourage you to bend several hoops before proceeding with the post layout & installation. Through years of experience I’ve learned a great deal about the physical properties of metal tubing. It may look the same, it may be the same metal type, thickness, outside diameter, inside diameter and shiny just like all the other tubing you used in the past, But it may not produce the exact same width hoop you intended too or have made in the past.

The reason for this is the one bit of information they don’t put on the labels, “The value of the ALLOY” that determines how much the tubing springs back after being bend on my bending tools. All different batches of tubing vary some degree in hardness.

Most of the time it’s not much but it can sometimes make a big difference in the finished hoop width. You may choose 16 feet for your target hoop width because that the title I use “right”, but you get a beautiful 15’ 6” hoop instead! Wow now what do I do? I already set my post at 16 feet? “Solution” You could resize the hoops following my resizing instructions or move your post and gutter yolk’s inward for 15’ 6” wide hoops.

Or perhaps your hoops bend out at 17’ 6”? “Solution” You can cut hoop down to 16 or move the post and Yolk’s outward. ***These are the reasons we build the first hoop and template before we set the post.*** You cannot make the hoop smaller or larger by starting or stopping at a

different place on the tubing?" These benders are fixed radius, starting or stopping at different places does nothing to change the curved hoop width. Trust me on this one and you will build a great greenhouse.

For 16' to 17" bays we recommend our C-20 hoop bender or the upgrade to the PF-20.

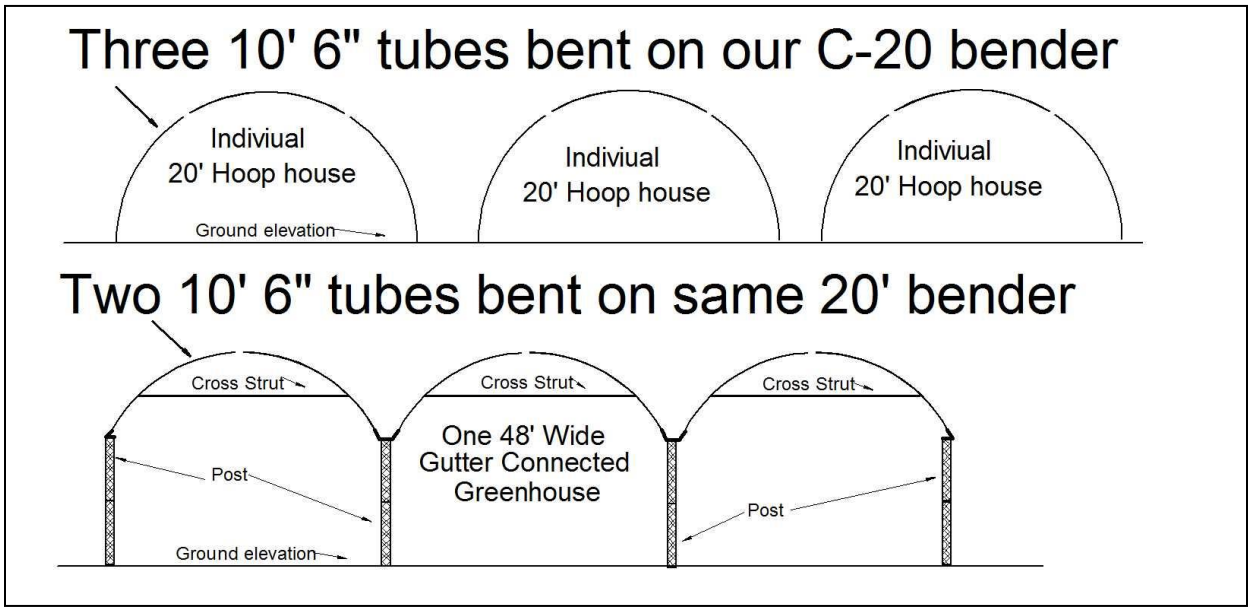
For 18' to 20' bays we recommend our C-24 hoop bender or the upgrade to the PF-24

Yes we are using larger benders for these smaller gutter connect units. Even though you are building a different hoop than the bender was designed to bend you must still follow the bending instructions for the respective hoop bender, your simply bending and using less tubing for each hoop..

Using C-20, PF-20, follow the bending steps for All 20' benders. *But only bend 2 tubes per hoop.*

Using C-24, PF-24, follow the bending steps for All 24' benders. *But only bend 3 tubes per hoop.*

The illustration below is an example of two different styles of greenhouse made using the same bender.



Building The Template First:

Review the bending instructions for all 20 ft hoop benders if your intent is to build 16 to 17 ft hoop gutter connect, be sure you understand the bending steps. If you are building the wider 18 to 20 ft gutter connect review the bending steps for all 24 ft. hoop benders before proceeding. Failure to do so may add extreme & excessive time and waste of materials. The next drawing is of the template you must build. This template is built flat on the ground. The view is laying flat on reasonably level ground. This template is critical to constructing this greenhouse design, skipping this template may and most likely will result in the less than desirable outcome.

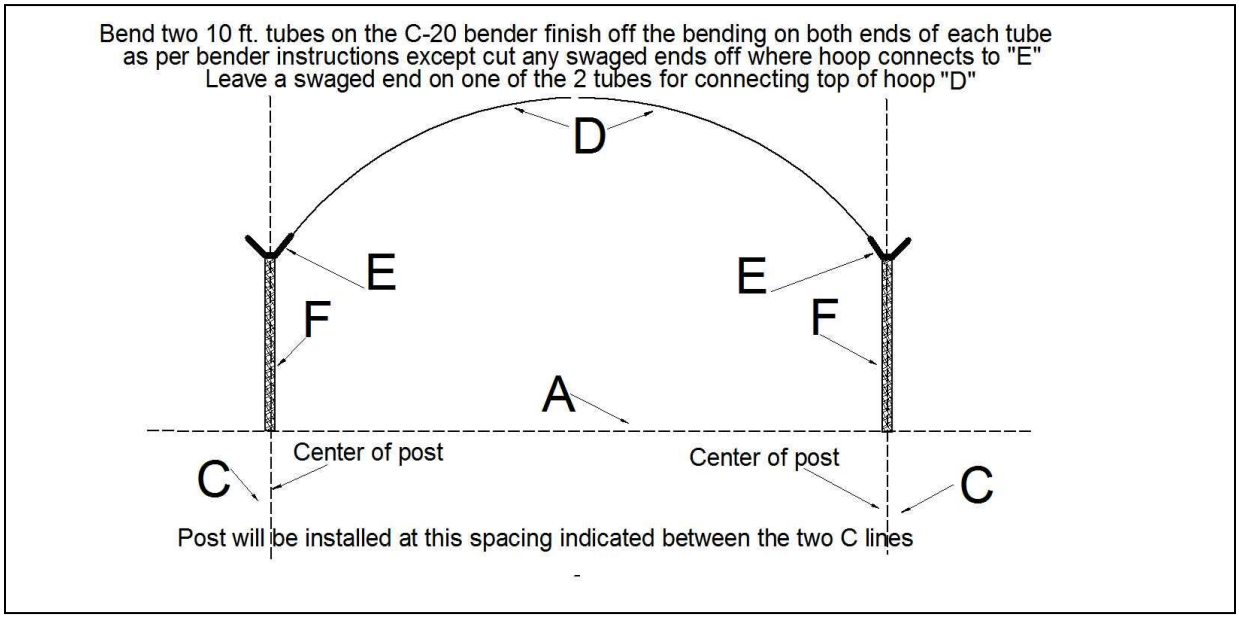
First it establishes the optimum width hoop, your tubing will produce after bending.

Second it establishes the exact connection angles the ***Gutter Connect Adapters*** must be set at for all the remaining ones in advance.

Third it provides a clear view of how the post hoops and connectors will appear in your greenhouse when completed.

Fourth it allows you ample time to make any corrections if necessary before beginning the installation of post and provides a fixed template for build the hoops so they are all identical.

Once the prototype template is completed the post can be installed in the vertical position into the earth at the width established by the template between the two lines indicated by the letter “C”



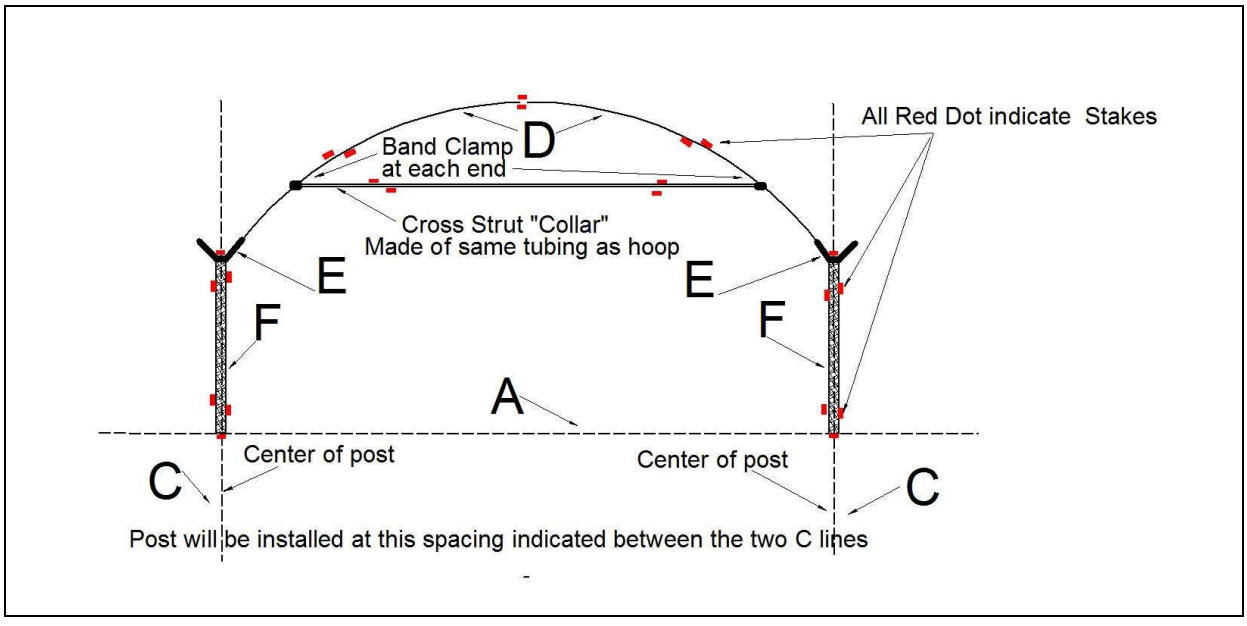
“F” = Post either wood or metal tubing depending on which Post Adapters you purchased.

“C” = the distance between the centers of post. This distance is established after the tubes are bent forming the hoop; connected together then lay down on the ground. With the adapters installed on top of each post. Position the post with “E” (adapter) resting on top of the ends of the hoop “D”. Insert the lever bar (it came with the bender) over the post adapter and bend it up or down to match the angle of the end of the hoop. **Caution!!!** Ensure that the post remains at 90 degrees to the base line “A” at all times. Then do the other end of hoop “D” the same. NOTE only the half of the two adapters matching the hoop angle will be correct, I will show you how to finish setting the angle on the two remaining outside arms of the adapter in a moment. Next insert the ends of the hoop over the end of adapter *(if using 1 3/8” hoops)* into the adapter if using *1” emt hoops*. Now that the arms connecting to the hoop are set and inserted onto the hoop and the two post are set at 90 degrees to base line “A”. Remember you only have to build one template Sooo take your time and get it right. To hold this first hoop in place drive some short wood or metal stakes on both sides of the post and hoop leave the stakes about 3 or 4 inches above the ground. Don’t forget to put a stake at the bottom of post & top of the post/adapter to ensure no part of the template does not move. Do not remove the post or hoop from this template.

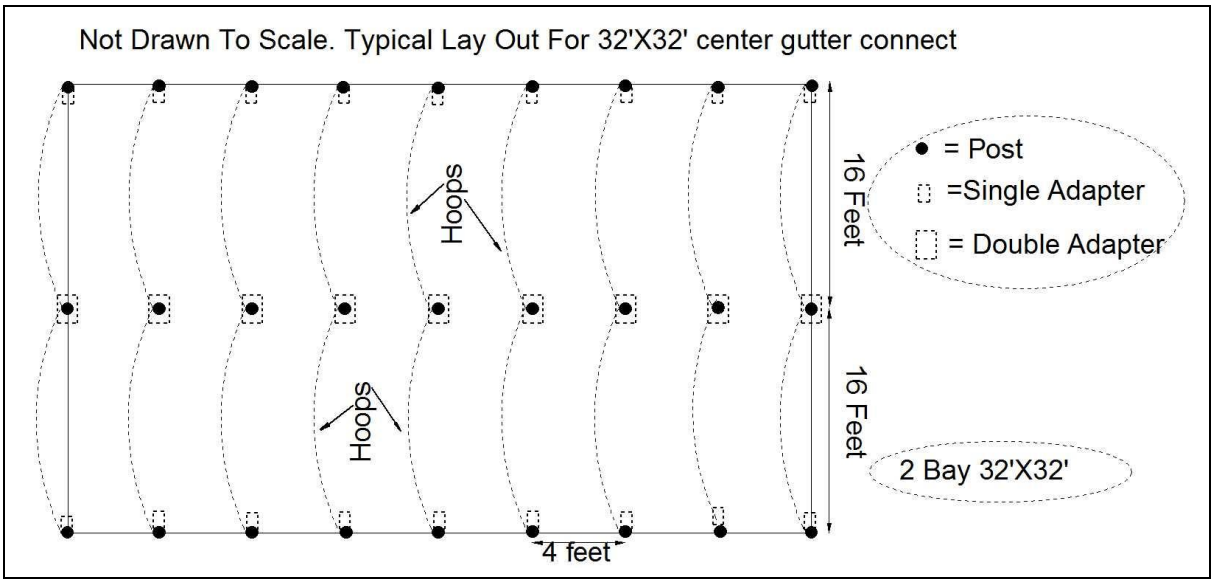
Bend all other gutter connectors to match the ones on the template. Install all post in the ground at the width determined by the template. Bend and cut if necessary all other hoop sections to match the length of the template hoop.

Next step is to install the cross strut or “collar brace”

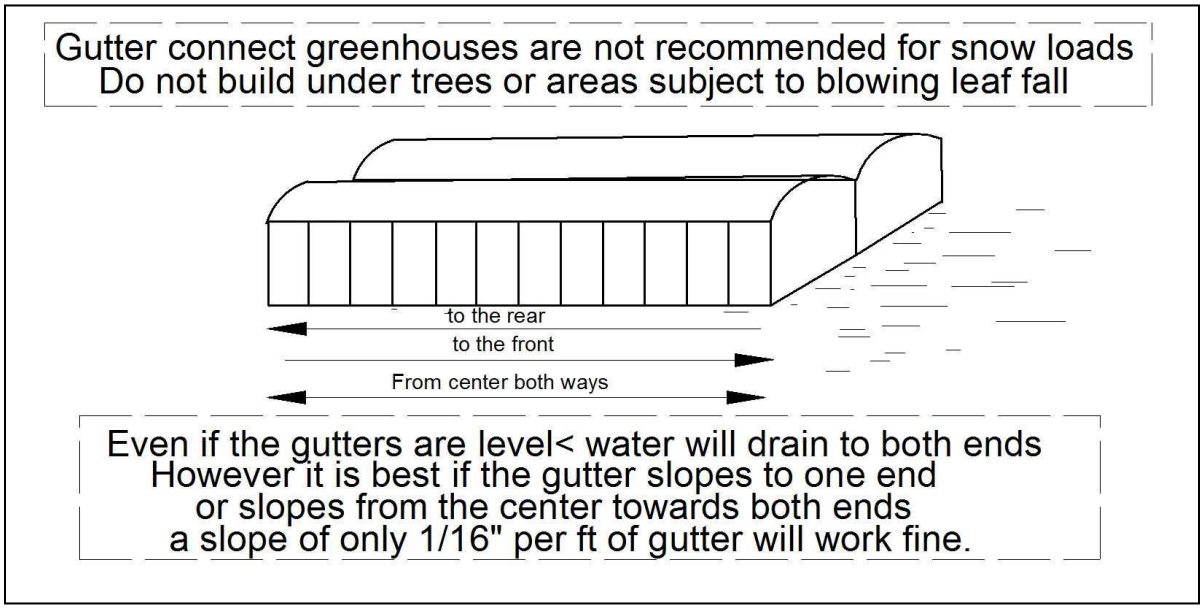
This is how the template is made with the first hoop.

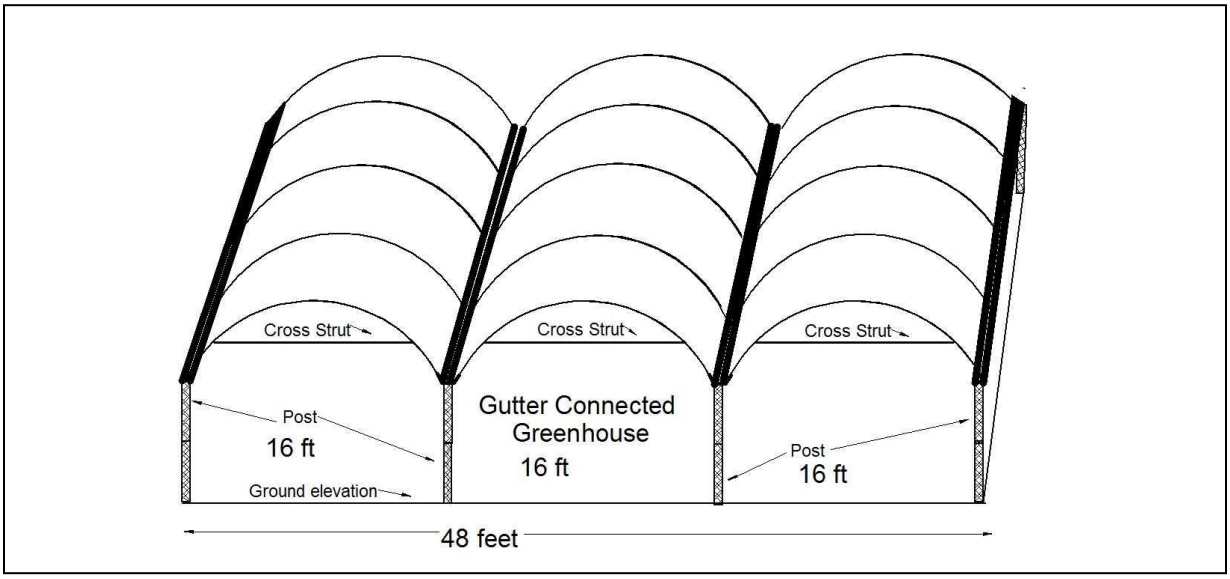


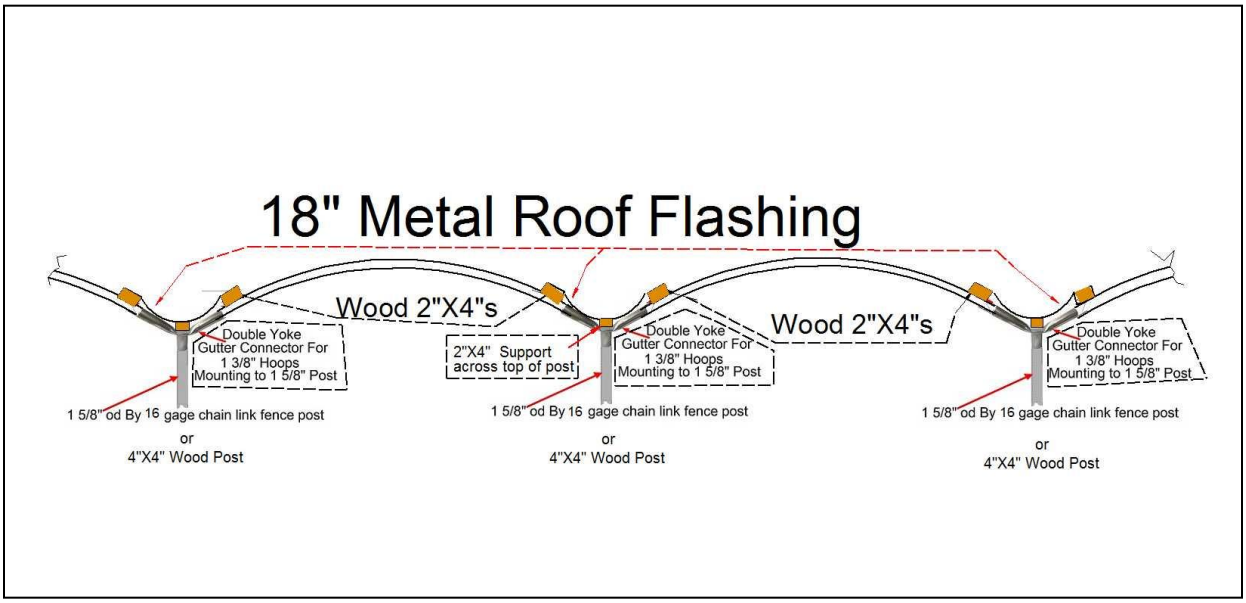
Typical Post Lay Out



Water Shed




Cross Strut
Cross Strut
Cross Strut
Post
16 ft
Ground elevation
Gutter Connected
Greenhouse
16 ft
Post
16 ft
48 feet


18" Metal Roof Flashing
Wood 2"X4"s
Wood 2"X4"s
Double Yoke
Gutter Connector For
1 3/8" Hoops
Mounting to 1 5/8" Post
2"X4" Support
across top of post
Double Yoke
Gutter Connector For
1 3/8" Hoops
Mounting to 1 5/8" Post
Double Yoke
Gutter Connector For
1 3/8" Hoops
Mounting to 1 5/8" Post
1 5/8" od By 16 gage chain link fence post
or
4"X4" Wood Post
1 5/8" od By 16 gage chain link fence post
or
4"X4" Wood Post
1 5/8" od By 16 gage chain link fence post
or
4"X4" Wood Post