Laying out the Grid

Laying out an accurate grid pattern in the sand is very important in order to get the columns and rows straight and true. As of this writing, the plot is 72 feet wide by 156 feet deep which will accommodate 650 crosses. As the number of casualties grows, you will have to add additional rows or columns. The crosses are 3 feet apart from side to side and 6 feet apart from front to back.

We use 24-inch metal construction stakes for the four corners (any stout stake will work). Drive them deep into the sand so that they won't move. For this description, the “rows” go from side to side and the “columns” go from front to back. Standing in front of the plot looking at it, start with the right, front corner. Drive the first stake there. Hook the end of a 100-foot **measuring tape** to that stake and pull it out to the left. At 72 feet, drive in the second (left, front) stake. With the tape pulled straight and lying on the sand, plant one cross every three feet being careful not to move the **measuring tape** with the crosses or the line will be crooked. **When finished, the front row of crosses will be in. Note**: Leave all four of the metal corner stakes in place until the very end.

To lay out the columns, use a 3/8-inch diameter polypropylene **rope** on a spool. Pre mark the **rope** every 6 feet with a piece of red electrical tape. Tie a loop at the starting end of the **rope** before you begin measuring and applying the red tape marks so that there is 6 feet from the starting loop to the first red tape mark. Hook the end of the **rope** over the first (right, front) metal corner stake and spool out the rope in the direction of the right rear corner. Square the first corner using the 6-8-10 rule. If you can imagine the front row being one side of a right triangle and the right column being other side of that triangle, you can make a square corner by setting the diagonal to the proper length. With the first (right, front) stake as the corner of the triangle, measure 6 feet to the left of the corner stake and make a mark. Then from the same corner, measure 8 feet down the right column and make a second mark there. The diagonal between those two marks should measure 10 feet if the corner is square. To be more accurate you can make the triangle 60 feet by 80 feet with a 100-foot diagonal (same thing only bigger). Pulling the tape marked **rope** straight, let it relax and lie down on the sand (if you hold too much tension on it, it will stretch and throw your measurements off). At the last tape mark (156 feet or 25 tape marks) drive in the right, rear metal corner stake. Then plant a cross in at each tape mark down the right side column being careful not to move the rope with the crosses. **When finished, the right most column of crosses will be in. Note**: We use the tape marked rope for convenience but a long tape measure will work just as well.

Then unhook the 100 foot measuring **tape** from the right front corner stake and walk it all the way to the back and hook the end of the measuring tape to the right rear corner stake and pull it tight across the back. Then unhook the **rope** from the right front corner stake and walk it to the left front corner stake. Hook it over the left, front corner stake and pull the rope out toward the back. Pulling the 100-foot measuring **tape** and the **rope** straight, where the 72 foot mark on the measuring tape intersects with the last red tape mark on the **rope** (remember not to stretch the rope) that's where the last corner stake will go. **When finished, all four corner stakes will be in.** Then, with the measuring **tape** pulled straight and lying on the sand, plant one cross every three feet being careful not to move the **tape** with the crosses (just the same way as the front row). **When finished, the back row of crosses will be in.** Do the same thing with the **rope,** planting a cross in at each red tape mark to make your left most column. **When finished, the entire perimeter of crosses will be in.**

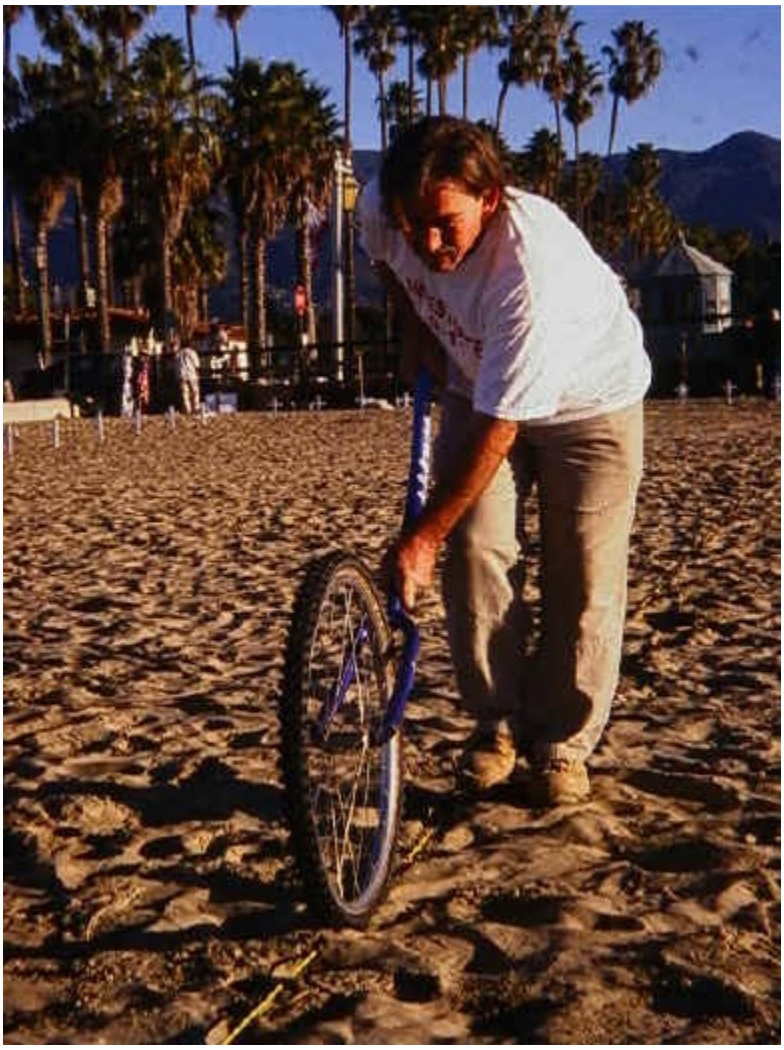
If you are installing your crosses on surfaces OTHER THAN SAND, see the instructions for "Surfaces Other Than Sand" below.

Note: When you are through with the measuring **tape,** roll it up carefully while wiping the sand off to avoid sand getting inside the case and jamming up the mechanism. An open reel tape (usually available in 300 foot length) would eliminate the problem of sand getting in the tape housing.

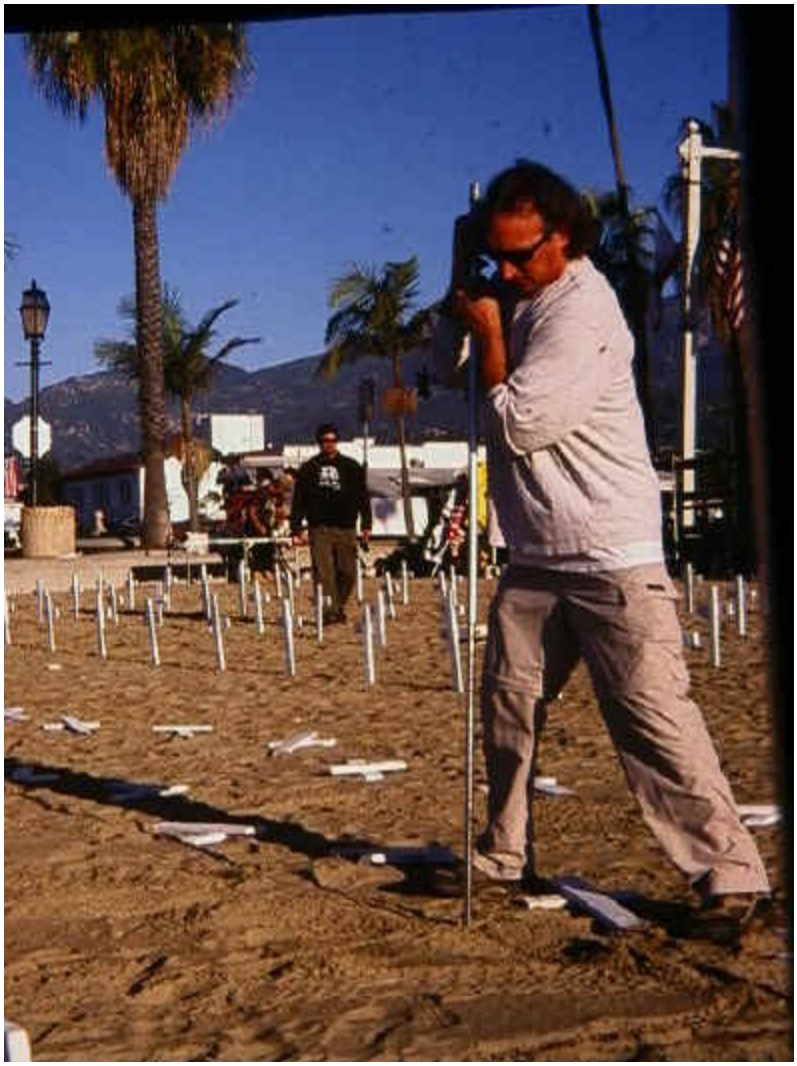
Now you are ready to lay out the grid.

Unhook the **rope** from the left front metal corner stake and with a person holding each end of the **rope**, lift it up, move it over and lay it down at the base of the next cross column to your right (front and rear). With the **rope** pulled very tight and straight, press the **rope** into the sand over its entire length. This can be accomplished by carefully walking on it (use two people walking from each end and meeting in the middle and then on the next one walking

from the middle back to the ends, alternating on each line) or by rolling a bicycle wheel with the air let out of the tire, over the **rope** to press the **rope** into the sand. This is faster than walking on the **rope**. Repeat this process until you have made a line for every one of the columns. Then simply lift the **rope** up, swing it around and use the same procedure for all the perpendicular rows. Everywhere two perpendicular lines intersect (rows and columns), plant a cross. Your columns and rows should be straight and true. Finally remove the four corner stakes and replace them with crosses



We sometimes use a 3/4 inch steel rod to make holes in the sand to make the crosses go in easier on each mark. If you ram the rod in and wiggle it side to side the cross will go in easier. The wetness of the sand will determine what method is best. The rods double as flag poles



Note: These techniques work best if there is some moisture in the sand. With dry, powdery sand, things are a little more challenging. **Remember** to use **rubber mallets** to drive in the crosses because metal hammers will tear up the ends and can split the wood. You only need to drive the crosses in far enough to stand up (about 6 or 8 taps with a mallet). You can paint the crosses as they are standing in the sand or pre paint them off site. It takes more time to paint the crosses than to build them. Use cheap exterior water base latex paint (no primer).

Surfaces Other Than Sand

If you are installing your project on surfaces other than sand (such as grass) you will lay out the perimeter of your plot exactly the same way as described above. However, you will not be able to make a grid pattern with **rope** impressions as in sand. So, after the perimeter is complete, simply have two people hold each end of the 100 foot **tape measure**, and move it back to the second row and hold it tightly in place as other volunteers place one cross every three feet until the entire second row is in. Then repeat the process, moving the **tape measure** back one row at a time until all the crosses are in.

Stacking and Transporting

We have developed a system of stacking and transporting the crosses that takes up less

space and makes the bundles of crosses easier to handle and transport. For purposes of this description, we call the side of the cross with the short horizontal piece the “face” side. Stack 4 crosses, side by side and put them down in the sand with the face side up. Then, place the next stack of 4 crosses face down on top of the first stack with the pointed ends of the first stack in the opposite direction so that the two stacks of 4 interlock with each other. Now you have a pack of 8 crosses, face to face with the smooth (back) sides of each stack facing out. Repeat this process until you have a second pack of 8. Stack those two packs together to make a pack of 16. We call this a “Dexter Pack” after Ron Dexter who came up with the idea. To make things even easier, we tie each Dexter Pack with a piece of cord to keep it together and make it easier to move around and load into a van or trailer.

The Crew (#45)
Good luck.