

## A-B PLOT TRIANGULATION.

An A-B plot is a method using triangulation to define complex pool shape (for e.g. Kidneys, Humpback Kidneys, and other freeform shapes). This should not be used for standard pool shapes such as Rectangles, Lazy L's and Octagons, for these shapes use the standard measuring pages provided in the Latham Splash Canada Inc. measuring booklet.

### STEP 1, THE SET-UP PROCESS

Position two stakes (12" long nails or a piece of 1/2" steel bar or similar) at least 10ft apart as illustrated in figure 1a. When positioning the stakes be certain that they are parallel to the centerline or the longest length of pool depending on the shape and a minimum distance of 3ft away from the edge of the pool. The stake placement shown on the side of the reverse radius is the ideal position to measure a pool of this nature. Sometimes due to landscaping, this is not possible and a different stake

position has to be used as shown in the back radius of the pool in figure 1a.

If this is still not possible, the stakes can be moved to almost any position around the pool with some basic rules to follow. Figure 1b illustrates several positions for stake placements, two are okay and the other two are not. The broken lines (-----) represent the stakes (direction A towards B) if they were extended in either directions.

Position 1 and 2 must be avoided; when the lines are extended they intersect with the pool perimeter as shown in the illustration and this normally causes numerous problems. The stakes must also never be placed where it lies across any part of the pool.

Once the stake positions have been established measure the distance between them (minimum 10') and record this measurement in the appropriate box on the measuring sheet.

#### TIP:

- i. *Make sure the when measuring the tapes are held at the same level as the deck of the pool.*

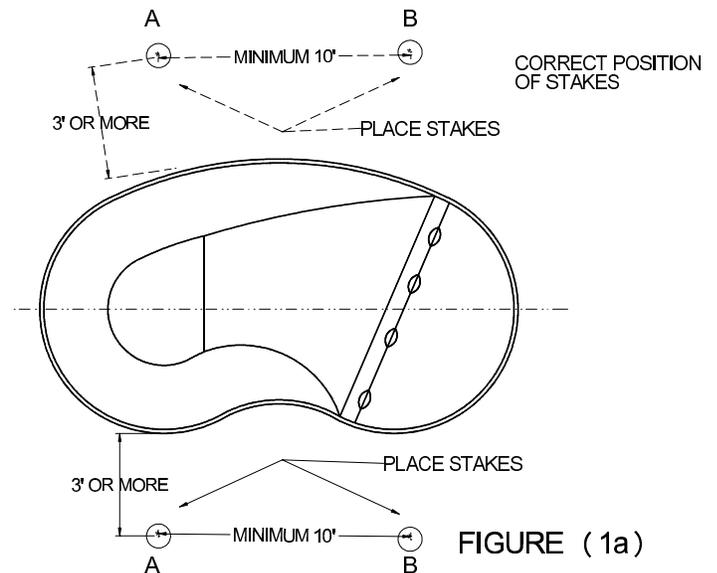


FIGURE (1a)

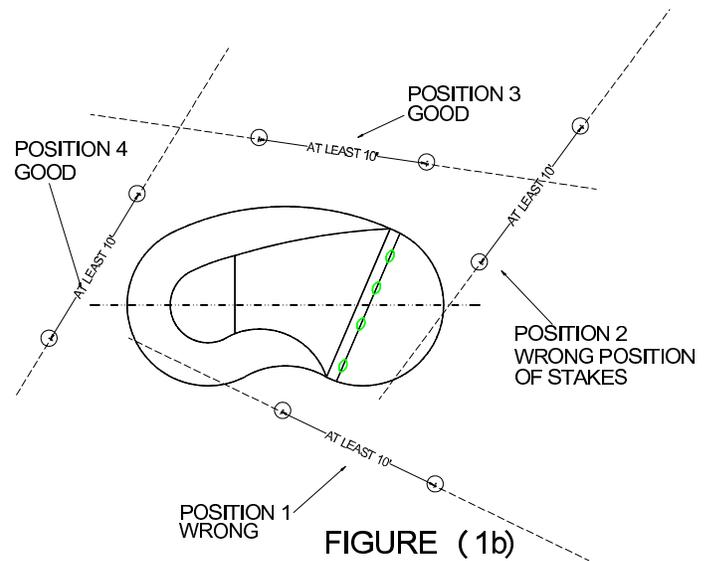
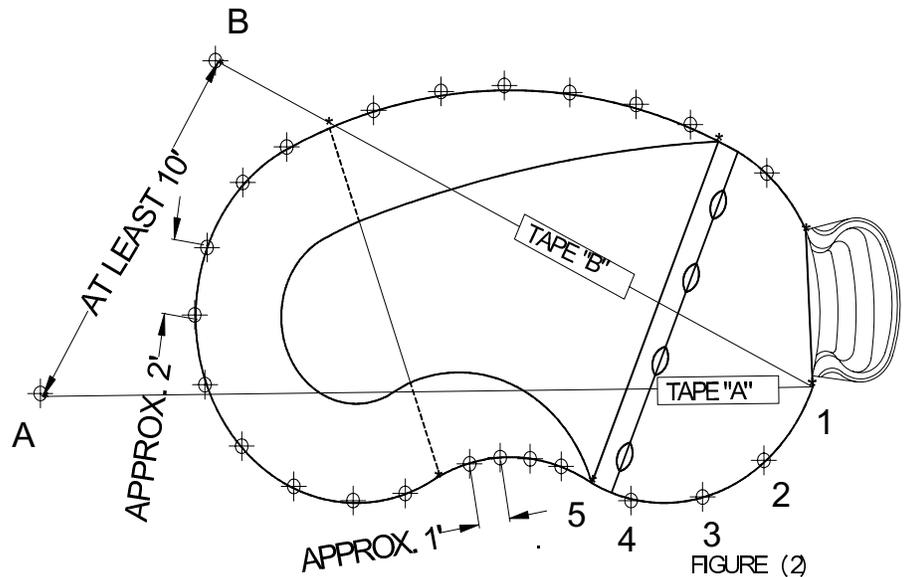


FIGURE (1b)

## STEP 2, TAKING THE POINTS

Once the stakes are placed, attach the tapes, one to each of the stakes. At this point choose which stake is A and which is B as shown on the *Manufacturers measuring sheet*. Note the color of the tape that is attached to each of stake so that they are not changed during the measuring process. It is Very important to specify where the stakes are placed if the position is different from the position shown on the measuring sheet.



A consistent method of starting is normally from the edge of a step or a defined point such as the break-off. When accounting for steps in these pools only the start and end is needed, because it is almost impossible to take accurate measurements across the face of the step. It is very important to note on the measuring sheet if the step is straight or curved and the manufacturer if possible.

With the ends of the tapes fixed to the stakes, stretch the both tapes to the edge of the step (this becomes point “1” on the measuring page). Taking both measurements at the same time ensures accuracy. Record the measurement for “A” length and for “B” length making sure they correspond to the “A” and “B” on your measuring sheet. Be careful not to switch the tapes, if this occurs, the measurements provided will not give a proper result and there is no way of telling if this happened. The pool must be measured again until an accurate result is obtained.

There are several things to remember when measuring to a point on the pool. Firstly measure as accurately as possible ( $\frac{1}{4}$ ” is fine) and do not try to adjust numbers or they become inaccurate. **To make the job easier** (less measurements to record) when moving to the next point (2) which is only approximately 2 feet (does not have to be measured and marked, this is time consuming) away from the first point make the “A” measurement an equal foot or inch. For example if I slide the tape along approx. 2 feet and the reading was ( $32'-2\frac{1}{2}$ ”), move tape back or forward along the panel until the measurement became ( $32'$  or  $32'-2$ ”) respectively. Then take the B measurement to the  $\frac{1}{4}$ ” accuracy (e.g.  $34'-5\frac{3}{4}$ ”). If this is done throughout the entire triangulation process with all the A measurements as an even foot or inch and all the fractions taken on the B measurements one can notice if the tapes were switched during the measuring process.

Continue moving along the perimeter of the pool taking the points approximately 2 feet apart in the large radius sections and approximately 1 foot apart in the smaller radius sections. This increases the accuracy representing the reverse and very small radius corners, which is very important in the design stage.

Another mistake to avoid when using this triangulation method is not measuring to the correct point (on the pool wall). In some pools the coping (or other obstructions) over hang the steel wall panel, which can vary in distance. For this reason, one must be careful to average where the pool wall is in relation to coping (or obstructions) as illustrated in figure 4.

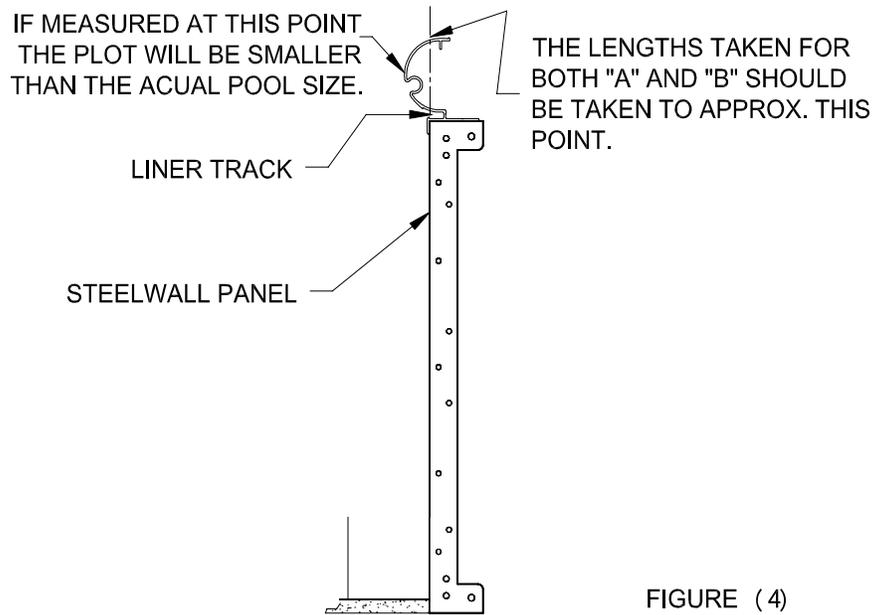


FIGURE (4)

### STEP 3, DEFINING THE PAD AND BREAK.

The Break-off and Pad must be defined when the pool is measured. The Break-off can be easily measured because of the defined transition line but the pad can be sometimes difficult to measure. To measure the pad of a pool an imaginary line has to be taken from one side of the pool through the back of the pad to the opposite side as shown in figure 5. This measurement should be taken at the pool wall and not at the floor of the pool. It is almost impossible to

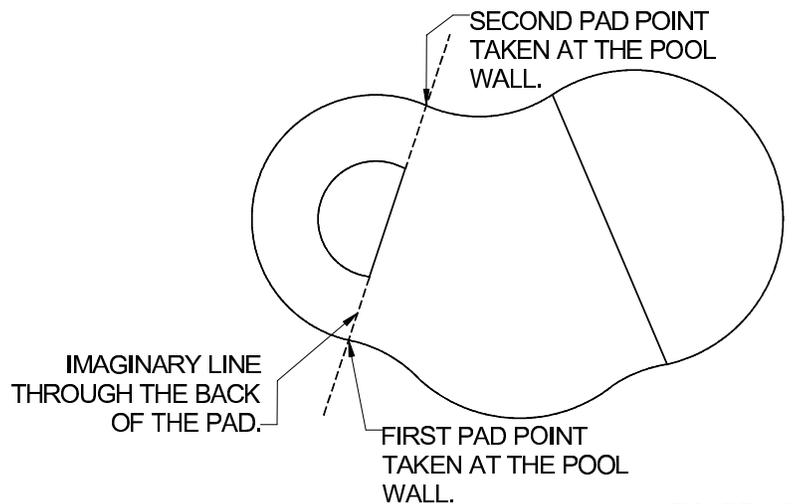


FIGURE (5)

take the measurement of the pad on the floor of the pool because all measurements must be taken level to the deck and not sloping into the pool. If the pad cannot be easily distinguished, fill the pool with six inches of water to form a pad at the bottom of the pool then use this water line to determine the pad measurements. Record these measurements in the boxes provided on the measuring sheet.

## STEP 4, PERIMETER

After the Pool, Pad and Break-off points are measured and recorded the perimeter ***must*** also be measured. This measurement is *Mandatory* on all *Shaped pools* and the liner order cannot be processed if missing. Perimeter is important in both the design and production of any pool liner when measured with the triangulation method. The perimeter measurement supplied is used to verify the perimeter determined by the plot.

To measure the pool perimeter use a 100ft fiberglass tape. Start at a defined point (Step, panel or Break-off) sliding your hand along just below the bead receptor all the way around the pool wall. Avoid the use of a walking wheel. Although it seems easier it has proven to be very inaccurate when used to measure the pool perimeter. If the wrong measurement is provided you may have to double check the reading causing the liner to be delayed.

### **WHAT TO DO IF THE LINER DOES NOT FIT.**

In the event the liner does not fit, ***Do not fill the pool with water or cut in any fittings.*** It is very important to keep the liner *Clean and Dry* in the event the liner needs to be altered. (If the liner needs to be returned, it must be properly folded and placed in its original carton). Check the liner carton to ensure the correct liner was shipped for that pool. The liner serial tag (located at the vertical wall seam) should match up with the serial number on the carton. The serial number is also printed on the panel label, located on the underside of the pool liner.

On some rare occasions it may be possible to have installed the liner incorrectly (deep end in the shallow end, shallow end in the deep end.) To verify this, check the underside of the liner for the panel labels. "A" will always be the first shallow end panel followed by panels "B", "C" etc. If the liner was installed correctly and is still not fitting properly, ***call your Customer Service Representative.***

**Tips:** Ensure that you have good suction (we recommend a professional air machine or at least two industrial ShopVacs). These air machines must be placed in the right location to provide adequate suction (at the shallow end break off). To create good suction, tape all openings. For example: skimmers, returns, panel joints & where the liner track meets the pool wall (tape complete perimeter). The liner should be wrinkle free before filling the pool, do not assume the water pressure will remove all wrinkles. Some wrinkles may be worked out as the pool is filling. Do not "Kick" the liner into place, scuffing or punctures may occur and these are not covered under warranty. In some instances, shifting the liner in either direction by only a few inches can make all the difference.

**NEVER WEAR SHOES INSIDE THE POOL LINER DURING INSTALLATION.**