Markout guide for measuring Pool Steps

How do I measure Pool Steps?

1) Determine the Pool Style

Confirm the pool style before measuring. If you're not sure, check the "Markout guide to measuring Pool Liners".

For 2D pools use the 2D AB measuring method (See ABGAL Styles 1 & 2).
For 3D pools use the 3D Step method (see ABGAL Styles 3a, 3b & 4). If the step wall or riser is not vertical from top to bottom, the steps will need to be measured using a 3D method, i.e. photo measure or 3D laser survey.

2) Determine the Step Types

Is the step straight or shaped at the front edge (where the riser meets the tread)? This is important for getting the correct pricing.

Refer to Image 1 below for the correct terms used for each section of the step.

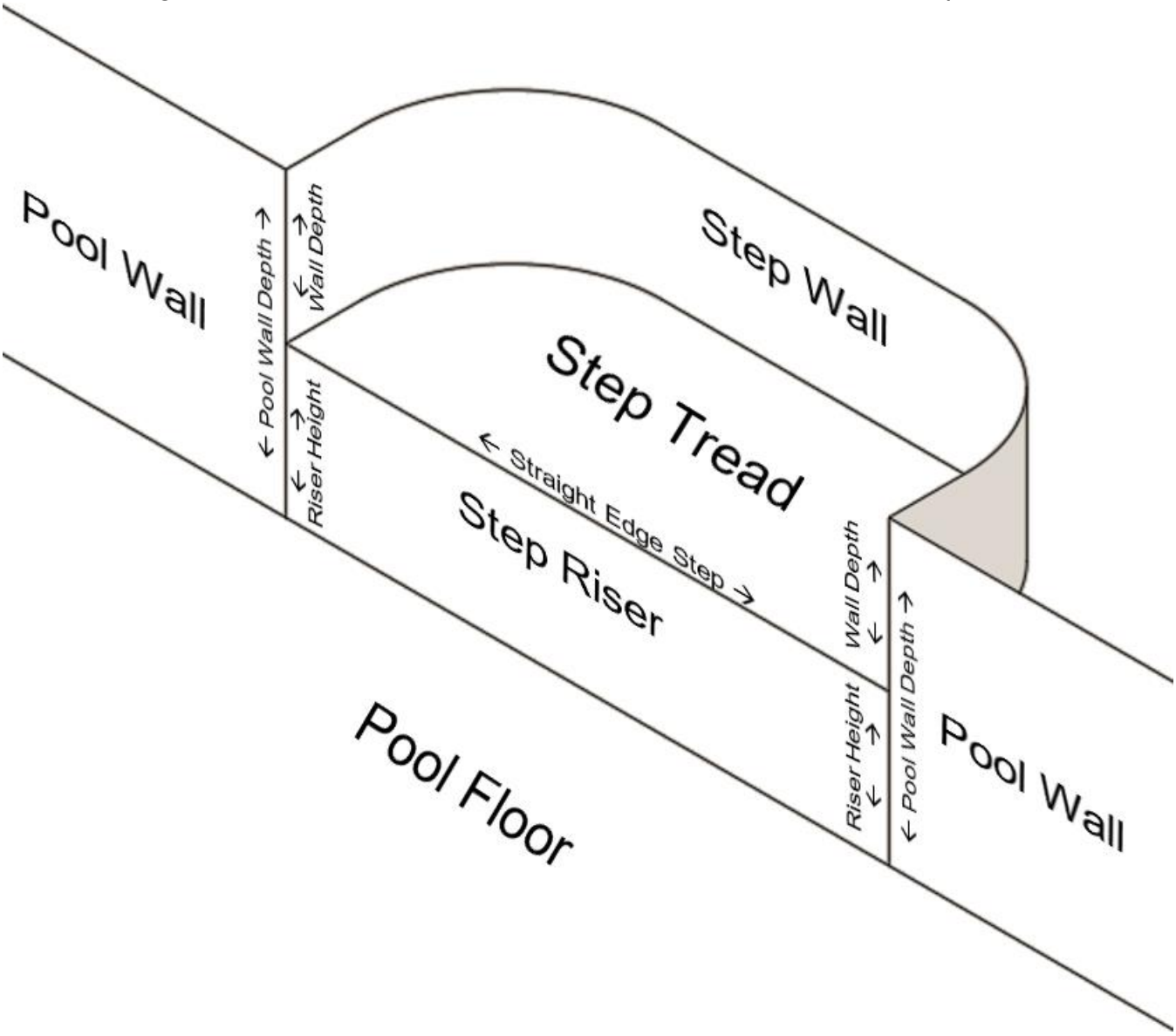

Image 1

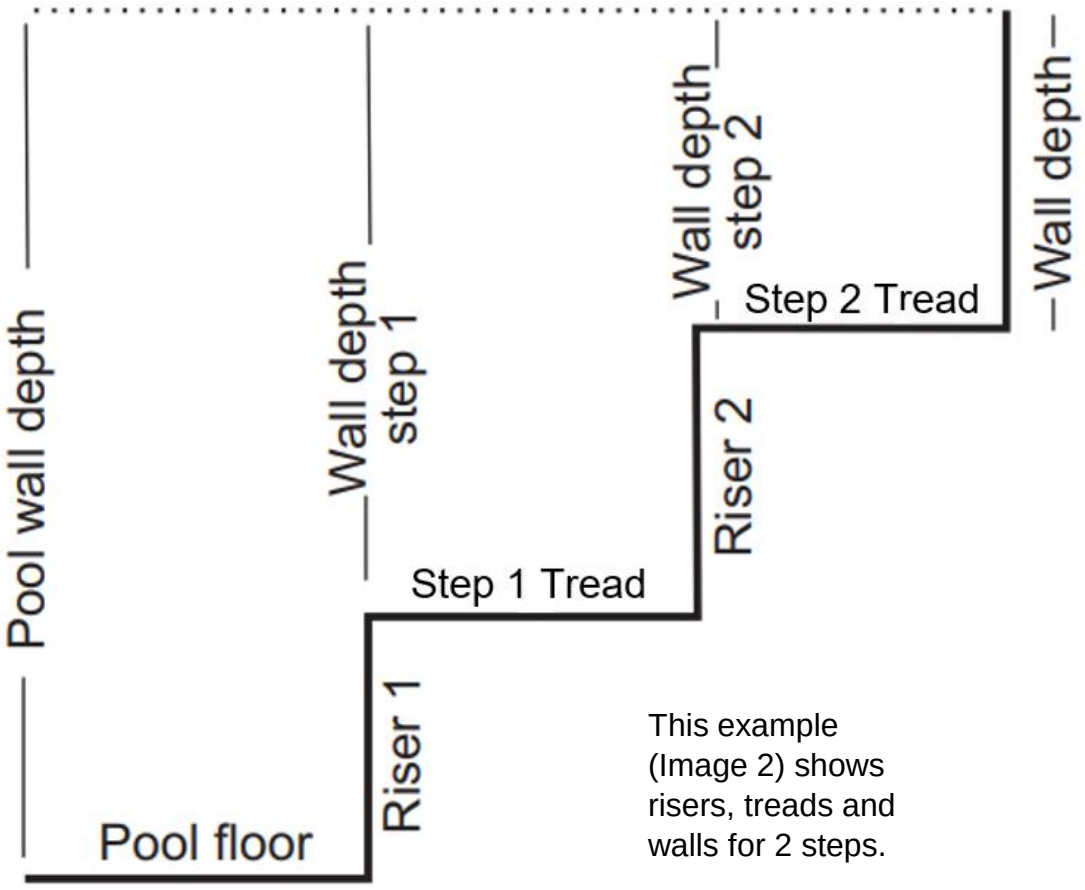

Image 2

If the front edge of the step from top view follows a straight line from where it starts at the wall to where it ends at the wall it is considered a straight step. Otherwise it is considered a shaped step. See Image 3 below for examples.

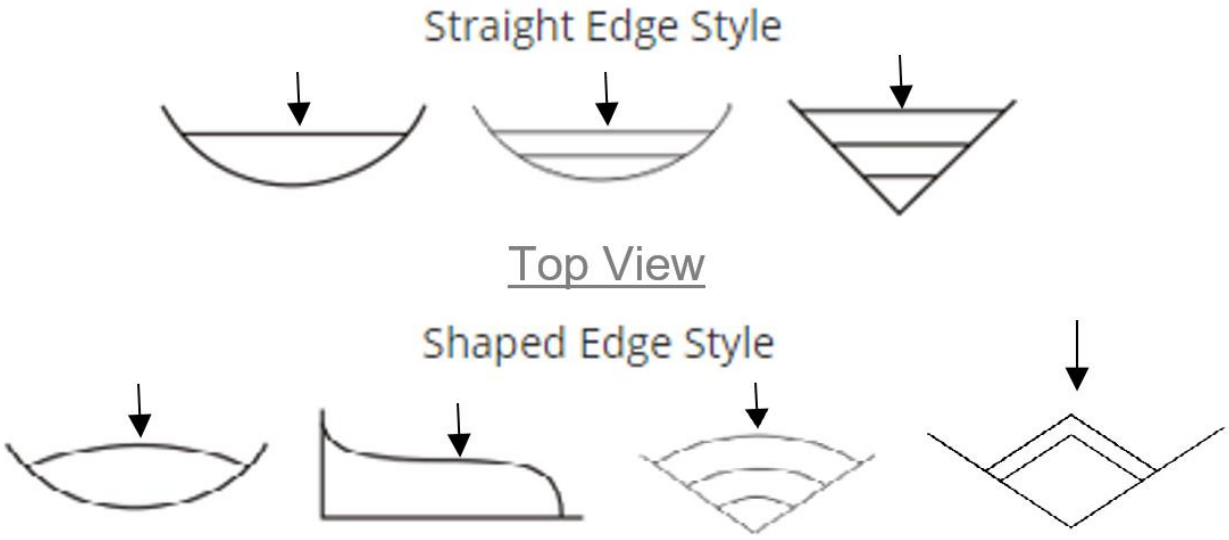

Image 3

Note – Some pools may have both types of steps.

3) Quoting / Pricing Pools with Steps

For pools with steps, we need to know:

i) Number of Sets of Steps
ii) Total Length of all steps
iii) Number of Straight Steps
iv) Number of Shaped Step

The quoting of pool with steps can be completed online via shop.abgal.com.au/measure-wizard.

4a) Measuring 2D steps

i) Use the appropriate measuring method (2D AB) and markout (Order Form No.1B).
ii) Each step is named separately (S1, S2, S3, etc.). See Image 4 below for example.

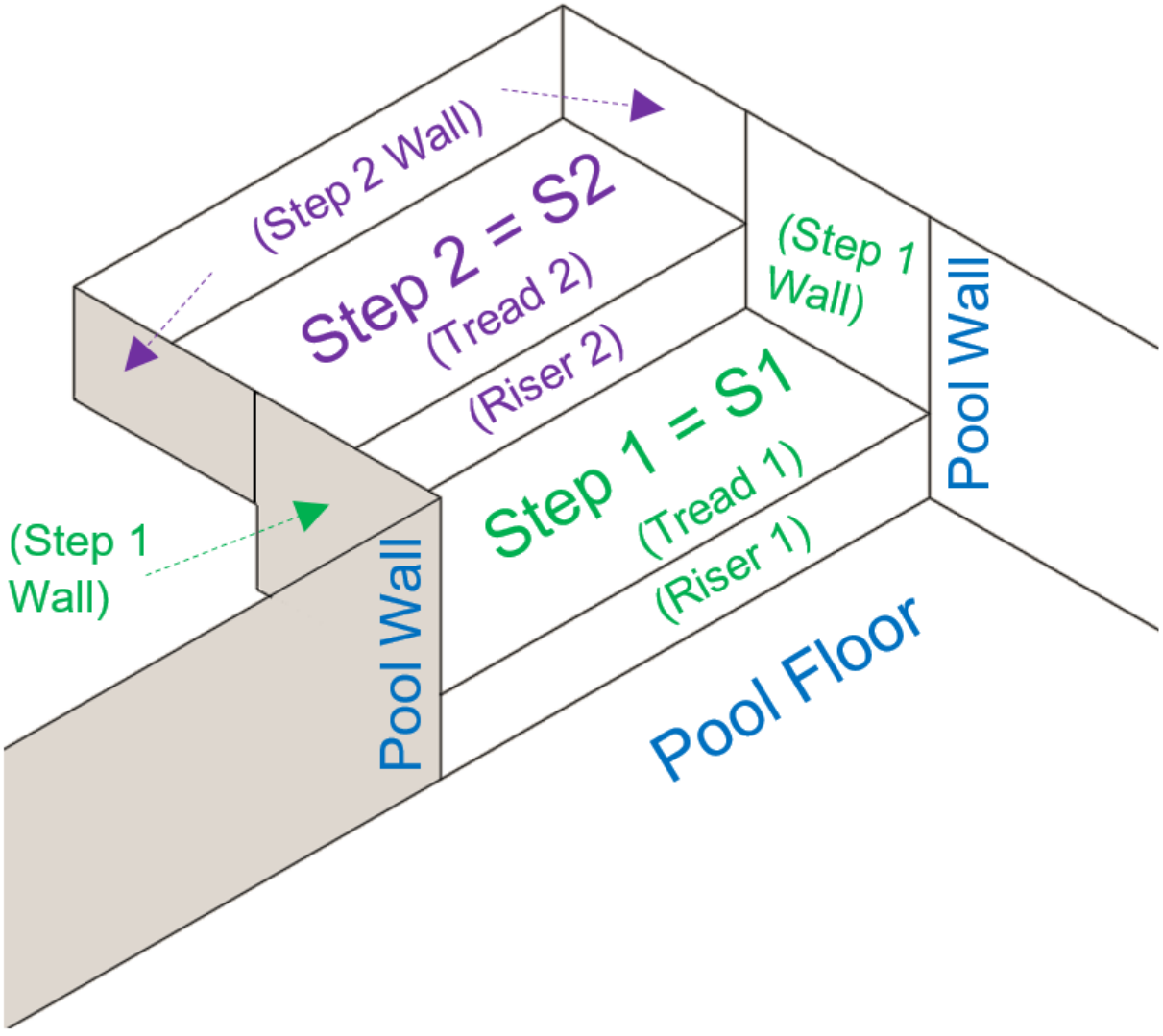

Image 4

iii) Using the standard point spacing (as per Table 1), divide and mark the steps with points. Do this for the perimeter of each step making sure to mark all important features and edges. Radius corners need at least 5 points. Square corners need points 100mm back from the corner on each side.

Wall Radius (mm)	Distance apart for Points (mm)
Straight	600
50 – 150	50
150 – 300	100
300 – 1000	300
1000 – 2500	450

Table 1: Step Mark Spacing

iv) All step points have a unique ID number (1, 2, 3, etc.). Mark up each step individually in a clockwise direction (from above) around the perimeter of the step starting from the front right.

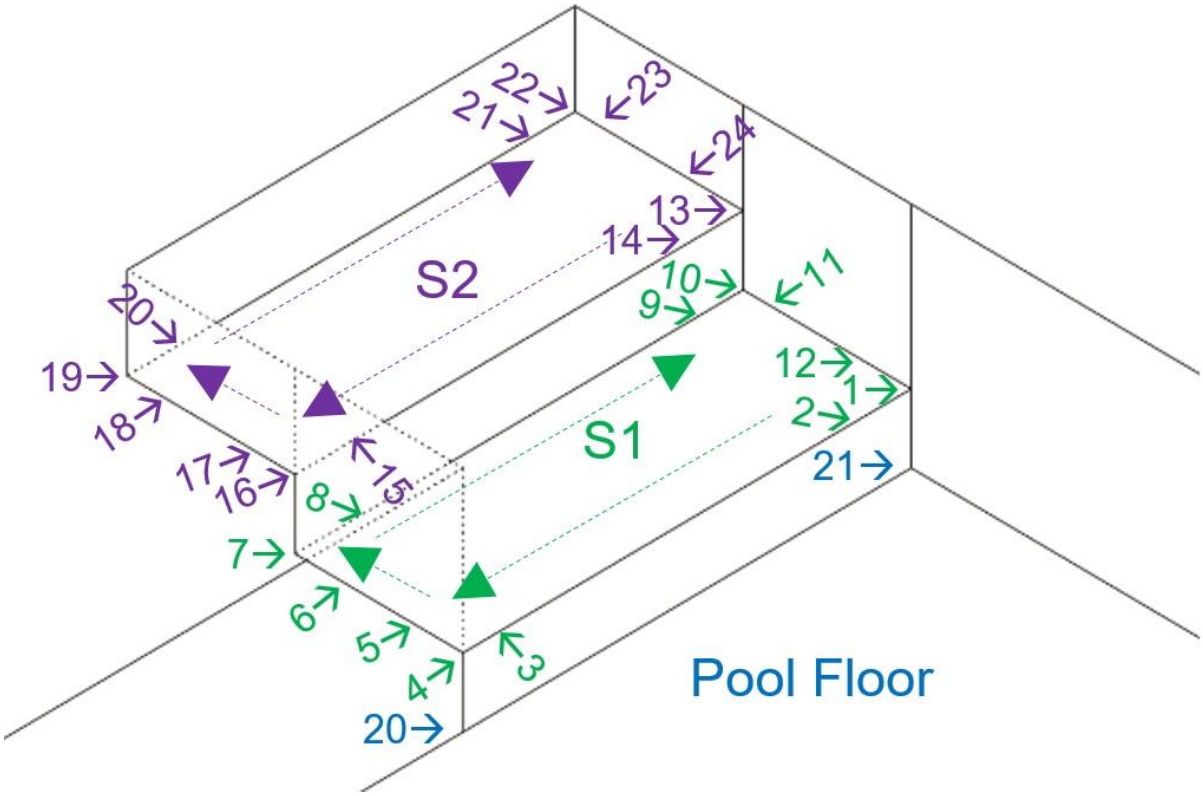

Image 5

Image 5 (above) shows two steps (S1 and S2) located between two points on the pool floor (20 & 21). You'll see the points on both steps have unique point IDs.
Step 1 has 12 points labelled 1 to 12 and step 2 has 12 points labelled 13 to 24.
As can be seen the steps have square corners and require a point 100mm on both sides away from the corner (e.g. points 2 and 12 are 100mm away from point 1).
We recommend you physically write the point ID's on the pool surface.

v) When marking out steps use a straight edge to mark step points that are related to other sections. In Image 6 lines are drawn between "linking" points.
Linking points include: base point 29 to point 10 on step 2; base point 28 to point 1 on step 1 to point 11 on step 2. This ensures the points are directly above each other from one step to the next.

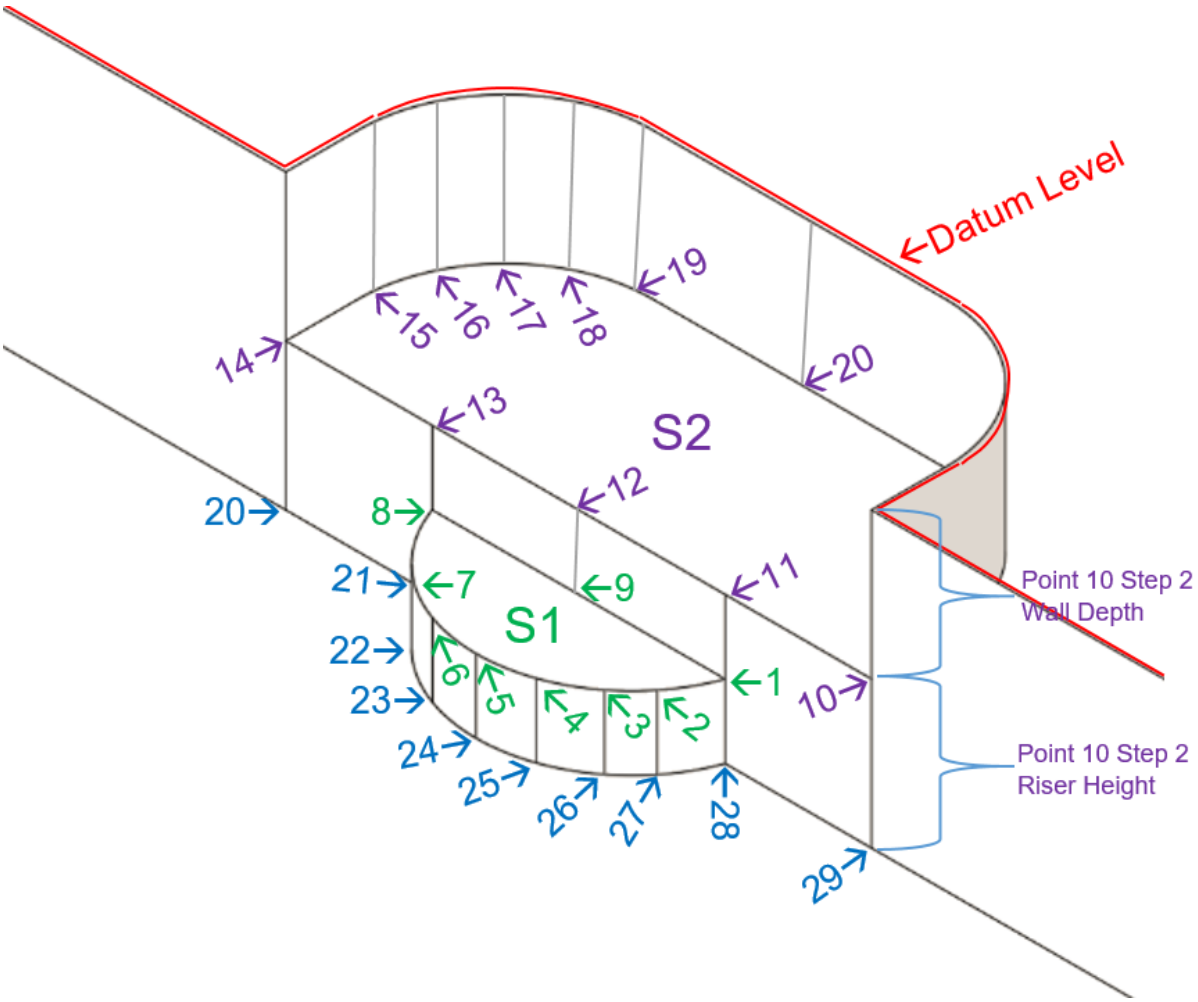

Image 6

The Datum level (shown above in red) is usually the taken from the liner fixing point on the extrusion.

The pool depth for the floor point 29 is measured vertically down from the datum level to the floor. The wall depth for point 10 of step 2 is measured vertically down from the datum level to the point located on the tread of the step. The riser height for point 10 of step 2 is measured from the step tread to point 29 on the pool floor.

vi) Step measurements are taken in a clockwise direction from the front right point of the step riser (shown in the previous image, starting at point 1 for step 1 and starting at point 10 for step 2). All points must have the following:

- Distance from A measurement,
- Distance from B measurement,
- Vertical depth from the pool datum,
- Vertical riser height for points on the tread/riser joints,
- An Above/Below designation.

vii) The alternate 3rd point method can be used for steps when there is a line-of-sight issue. Alternate 3rd points must be part of the main pool and cannot be taken from the same step. *See Markout order form No.1 on how to measure pools using AB methods.*

viii) Enter all measurements on paper using the “Order Form No.1B for Single Markouts” or via shop.abgal.com.au/measure-wizard. Please supply photos for reference when possible.

4b) Measuring 3D Steps

i) Use the appropriate measuring method (3D Photo Measure) and Reference Sheet.

ii) Using the standard point spacing (as per Table 2 below), divide and mark the steps with points. Do this for the perimeter of each step making sure to mark all important features and edges.

Wall Radius (mm)	Distance apart for Points (mm)
Straight	600
50 – 150	50
150 – 300	100
300 – 1000	300
1000 – 2500	450

Table 2 : Step Mark Spacing

iii) Curves, Reverse Curves and radius edges require 5 points & lines at a minimum.

iv) Note - if the pool floor below the step is curved with a radius of more than 100mm, each vertical line needs to have 5 lines drawn across. These mark the start and end of radius, and divide and mark the curve into quarters. See Image 7 Below.

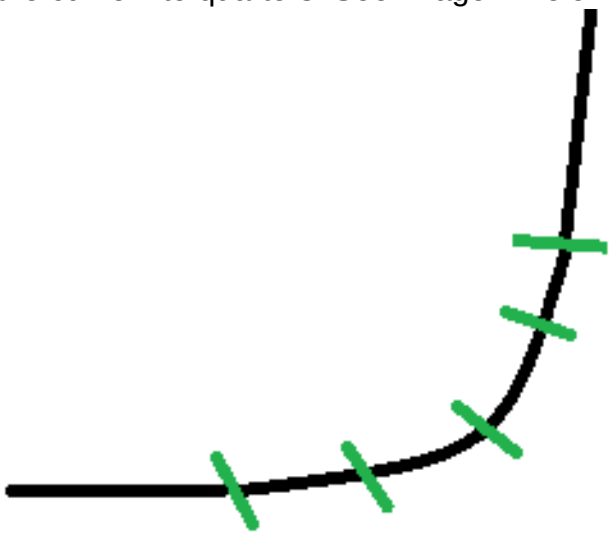

Image 7

v) If possible place one of the Photo Measure Targets on top of one step tread.

vi) The following example (Image 8) shows a step section with two steps.

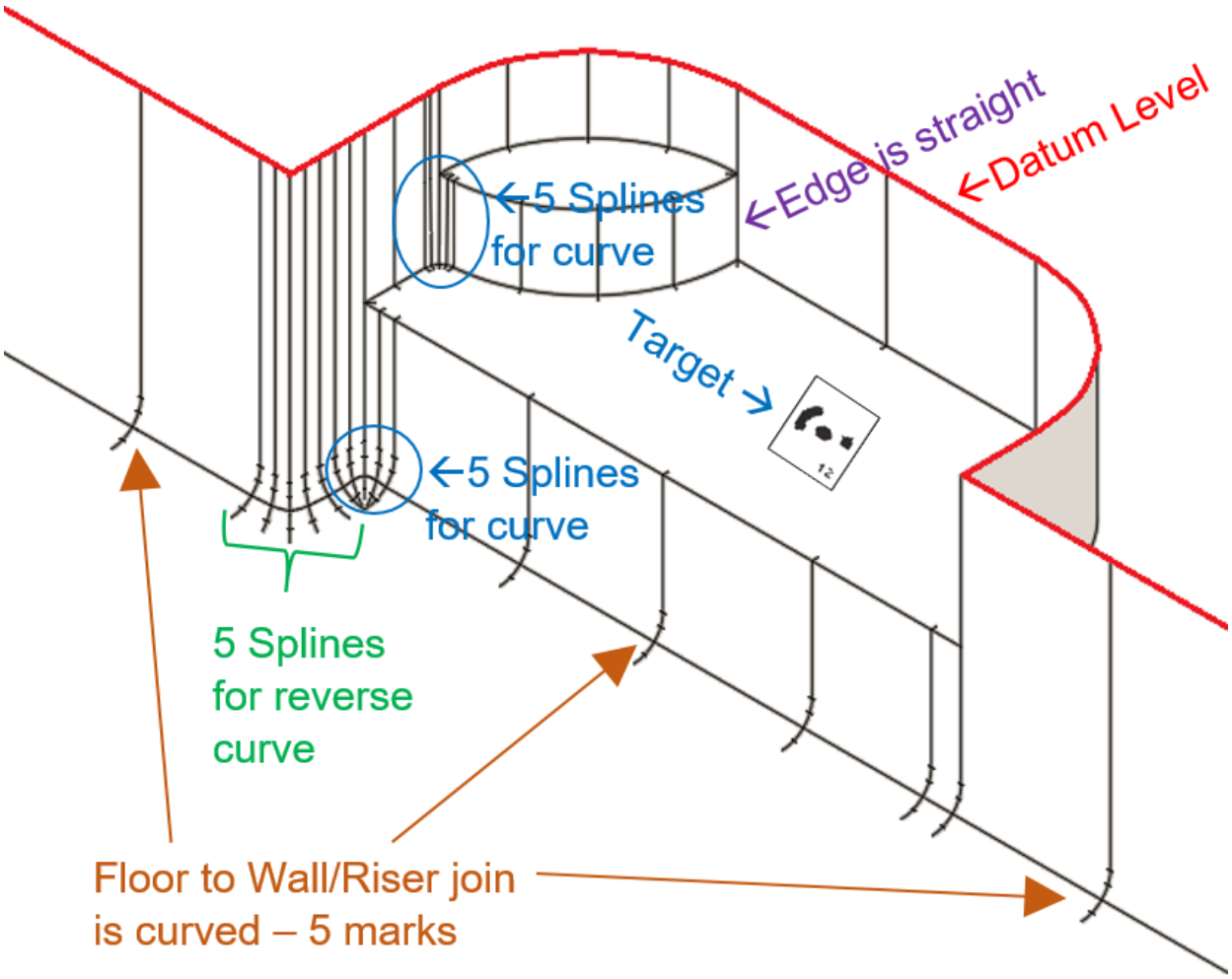

Image 8

vii) Continue marking out the rest of the pool as per standard Photo Measure instructions.