

## The 1947 Swift Plat (Details and Issues) 9/28/20

By using highly accurate field survey data, a detailed and precisely drafted plat is a single scale two-dimensional representation of land. Using points, distances, and bearings providing directions, even complex large lots or subdivisions can easily be depicted. If carefully measured, it can be a powerful tool, allowing a surveyor to determine true field distances, without direct difficult further field work. However, if the plat has even small errors, the results obtained may appear correct, but will be invalid, misleading, and even surprising, when later actually surveyed in the field to establish accurate pins.

The 1947 plat was provided by Joshua Swift, with the understanding it is the original Swift plat surveyed and drafted by Emerson Swift in about 1947, and clearly subsequently amended. The plat indicates the main brook was surveyed, specified by points labeled with the lowercase alphabet. It seems these same points were used for at least 3 other documents (1967, 1970, and Bumps 1985). Two key points identified are j being the tip of the Southern bow, and l designating the "cascade at l". The cascade is a small, but obvious waterfall at some boulders, where the brook drops about 8' to 10', and has about a 90° short jog SW.

The plat also depicts a 53°<sup>1</sup> surveyed tie line, between the brook and the far side of the road, located well above both the "cascade at l", and the bend in the spring brook near the driveway. It is clear Emerson Swift used a relative scale of 75'/inch to draft the lots and back border. The Kent deed contains two distances not chosen or surveyed but obtained by measuring this plat. These are about 190' from F to E, and about 400' from the shore to E. Measuring this plat, the border from the brook is about 2.53", thus at 75'/inch, would be 189.75', or about 190', and the border from the lake is about 5.33", thus at 75'/inch, would be 399.75', or about 400'.

<sup>1</sup>In the 8/18/1947 Kent deed, the "3" looks like an "8", as it seems a "1" at some point was added over it. However, 53° is confirmed in the bill of sale.

At the relative scale of 75'/inch, the entire back border line from brook, to far edge of the gravel road, is 5.0", or about 375'. The distance of 375' is confirmed today, for the same 53° border, from the main brook at F, which passes "between the two boulders" to E, and 90' away to S, and ending at the edge of the far side of the gravel road. Point E being determined by using a 33° border in line with the summit of Mount Pisgah and passing through pin C. Note: Pin C was also clearly used by Swifts at some point to locate and then set pin D at 388.5'.

Careful analysis of the plat reveals at least two significant mistakes being made as it was created. While Emerson Swift did use a relative scale of 75'/inch, the brook was surveyed or plotted at a relative scale of 90'/inch. The location of the back border, having been a surveyed tie line, was known, as far as where it started in the brook (far above the cascade at l), to where it generally passed over the extremely rough land, to where it ended at the road. What was not exactly understood was, physically in the woods, where the 33° border from the lake intersected with this line. By using two scales, the Kent lot was artificially compressed on the plat, making it appear that more space was available for the Swift and Willis lots, than actually existed in the woods.

The flawed plat shows a Kent border of about 190', plus 90' for the Swift lot, plus an additional 85' to the near edge of the gravel road, or 90' to the center line, resulting in a total of 375' to the far edge, as mentioned above. By correcting for scale, it becomes clear there is a second, far less obvious error, confirmed by recent survey work. The brook at point F is drafted at a slightly incorrect bearing, relative to the 1947 center of the mouth of the brook, being off between about 3°- 4° (estimated 3.264°), resulting in about a 27' error (≈8.27' per °).

Correcting for scale and bearing, the true lengths of the Kent borders, using either a correctly drafted 1947 Swift plat, or in field surveying, based on the 33° border from C and a 53° border through S, are F to E of 2.61" x 90' ≈ 235', E to the shore of 5.27" x 90' ≈ 474', or -36' for E to C ≈ 438'. Therefore F to E of 235', plus 90' to S = 325', leaving only 40' to 45' for the Willis lot, or 50' to the far edge of the road, which is exactly what is still found from pin S today, forming a total border of 375', as originally surveyed and depicted on the 1947 Swift plat.