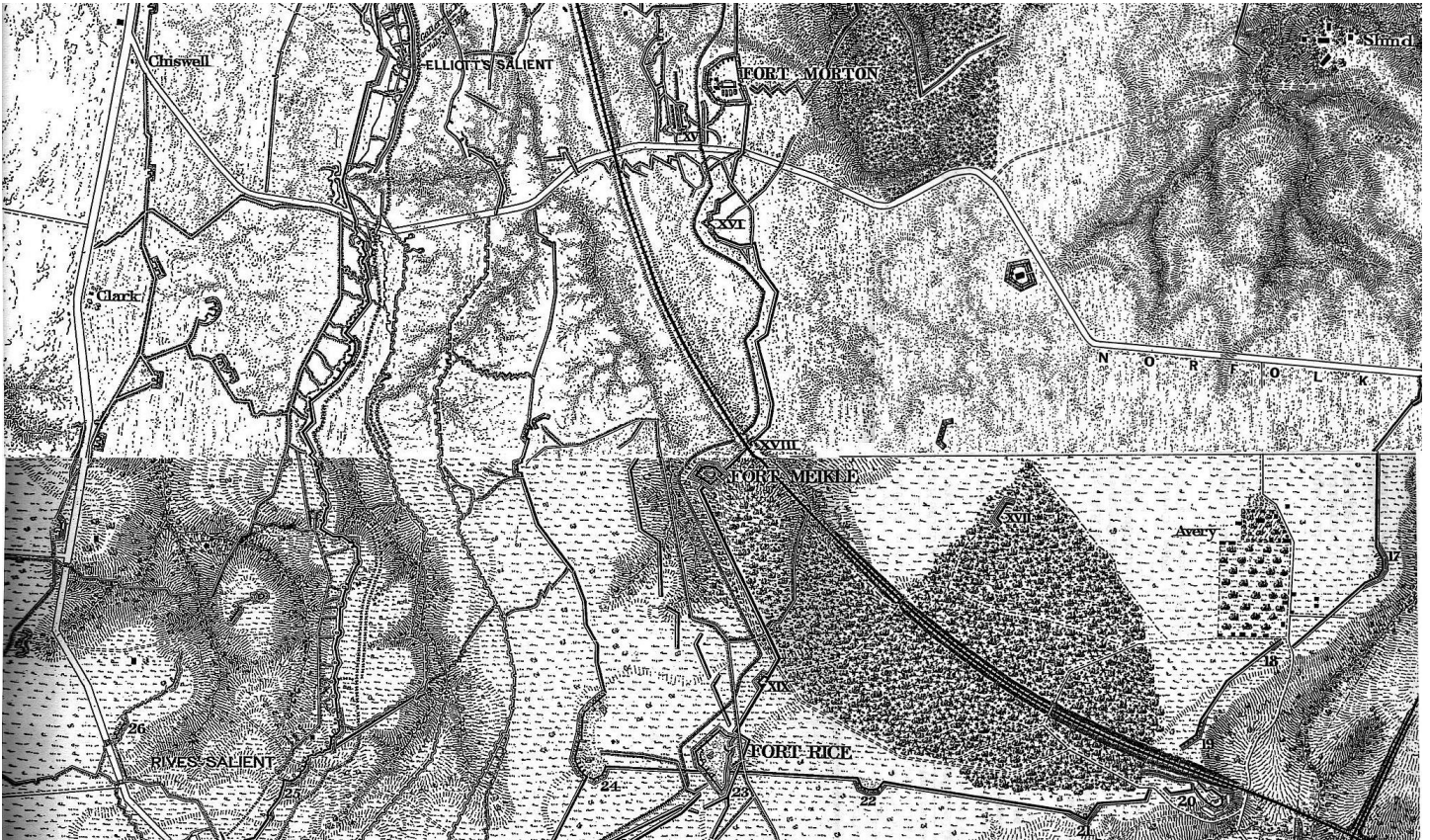


Analysis of Michler's Map of the Petersburg Siege Lines South of Baxter Road

I was studying the background view in the photos taken from Fort Morton, Battery XV, and Battery XVI, trying to figure out the many features that can be seen. I especially wanted to see the RR cut as it curved south of Baxter road and past Fort Meikle. The scene is very complex, and I was having trouble with the scale, the different and seemingly random colorations, etc. As usual, I was using a ruler on the postwar Michler maps to try to line features I couldn't identify with known features (Fort Meikle, Fort Rice, etc.). I was frustrated that I wasn't getting very far. I couldn't even match up these views with those taken from Battery 25 and Fort Sedgwick, which looked at the same ground from the opposite direction.

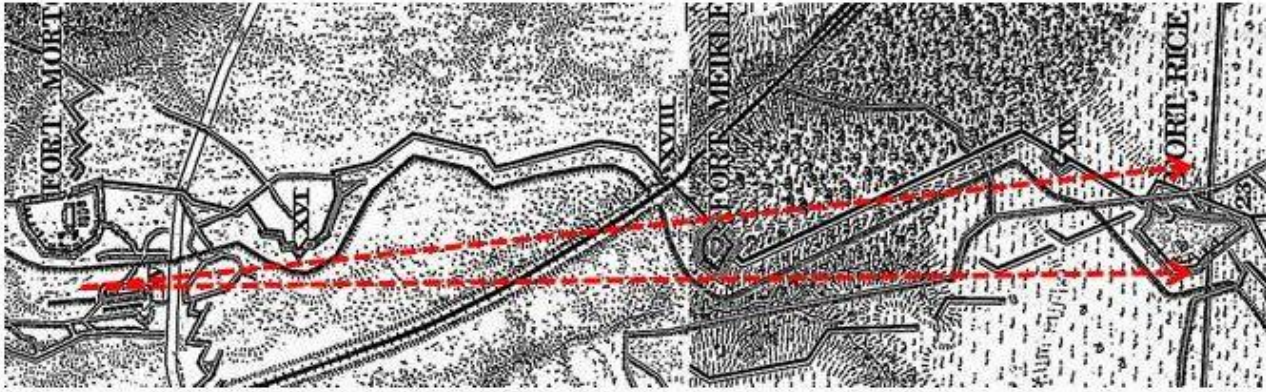


(Note: This map consists of two sheets, which I have fused together for easier use.)

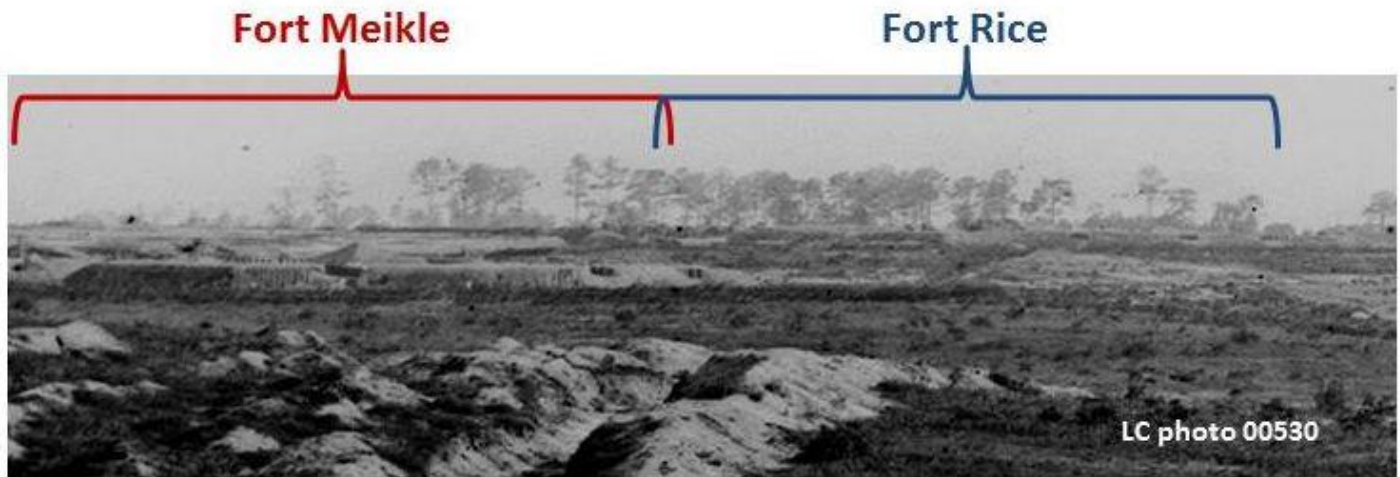
I finally realized that the Michler map contained significant errors. I realized something was wrong when I discovered that Forts Meikle and Rice did not line up properly in the views from Battery XV. (This is a bit embarrassing since years ago I used the alignment of those two forts to identify Battery XV in the first place!)

Forts Meikle & Rice from Battery XV

They should line up perfectly, according to the Michler map...



...but they don't.



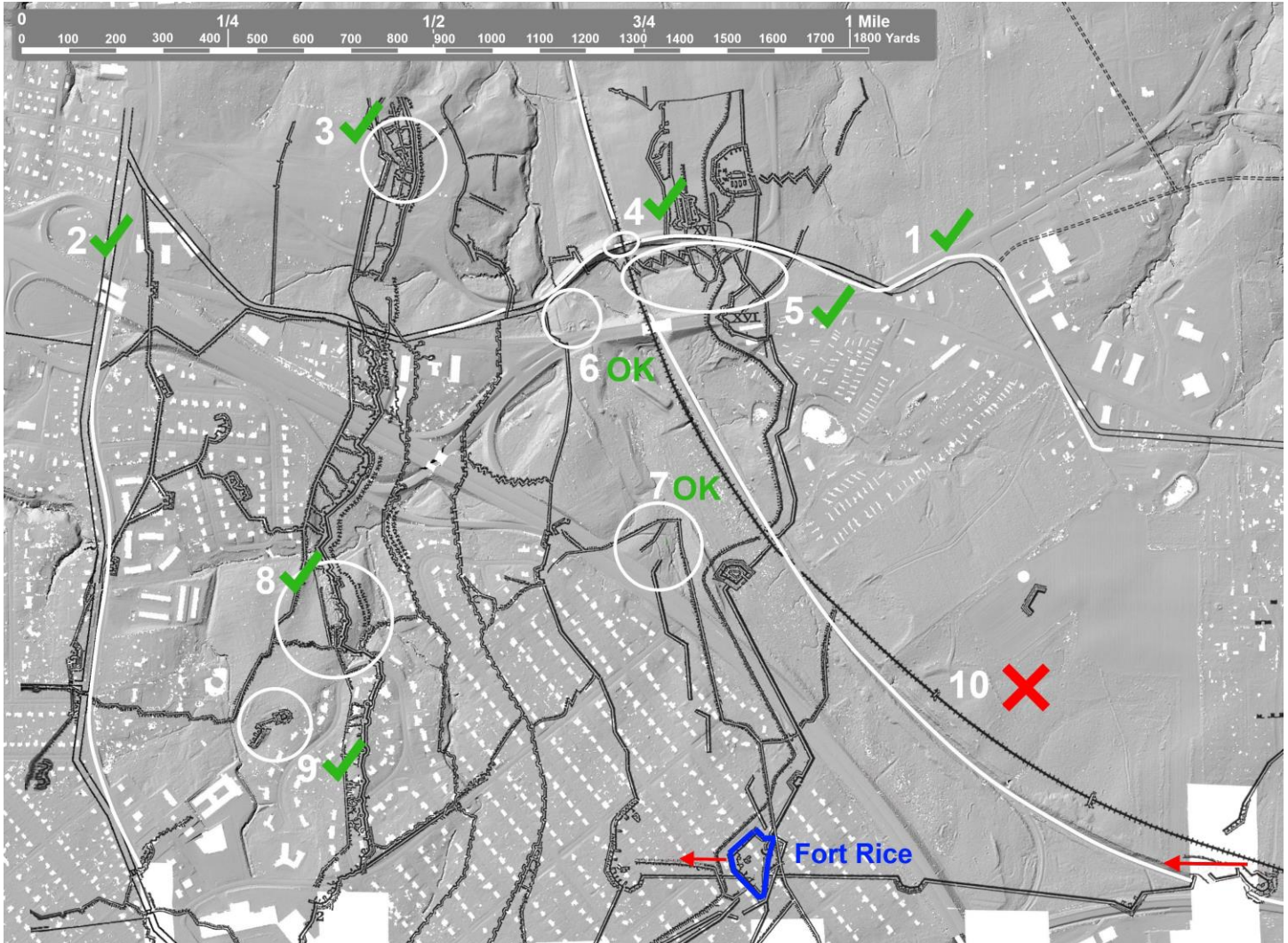
I also assumed Michler had messed up the terrain, as he had north of Baxter Road. For example, the placement of Battery XII is slightly too far to the north. We were able to trace these errors to the original survey, which did not run levels on much of the terrain and drew the creeks in which surveying them (or at least, not the ones that ran through woods, which would have been more time-consuming to survey). This left the cartographers who drew the finished maps to guess at details of the terrain. Generally, if a feature such as a creek or ravine was missing from the map, the cartographers assumed flat ground or even slopes, and drew the maps that way.

The LIDAR map gave us a means to check the accuracy of the original maps. It was absolutely foolproof, except in place where the terrain had been altered by development, with crests bulldozed, slopes landscaped, and creeks redirected or run underground so that they effectively disappeared. Unfortunately, this is in the case for probably about 98% of the Eastern Front south of Baxter Road. So determining the terrain in that area is especially challenging.

So I did an analysis of the Michler map by overlaying it on the LIDAR and lining it up on certain reference points, namely the very few surviving, easily identifiable features shown on the map, including these:



This is what I found:



The Confederate side of the map lines up perfectly with the reference points. However, the Union lines are messed up. The errors began at Baxter Road and grew progressively greater as the map proceeded southward from Baxter Road. At first the errors are relatively small, but about Ft. Meikle they become quite significant. (Fort Meikle was the dividing line between two sheets, which, because of the different styles of the maps and details included in them, were clearly surveyed by different surveying parties and drawn by different cartographers.) The worst mistake—and the most surprising—is in the depiction of the Norfolk and Petersburg railroad, which one think would be the easiest feature to survey. The curve is all wrong, and by the time it reaches the Dimmock line it is about 250 yards too far to the east—a bad error for professional surveyors. Fort Rice is probably out of place by as much as 100 yards, but Meikle may be out of place too.

I've tried to make a corrected version of the Michler map. Much of this is frankly just guesswork. It still needs further revision, but here is what I have. (The original is shown as faded lines for comparison):

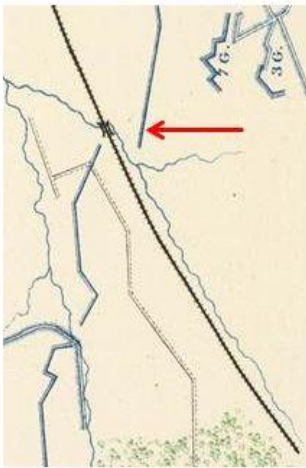


In general, it appears the surveyors spent much more time and took much more care on the Confederate side. Most of the surveying errors we've seen are on the Union side.

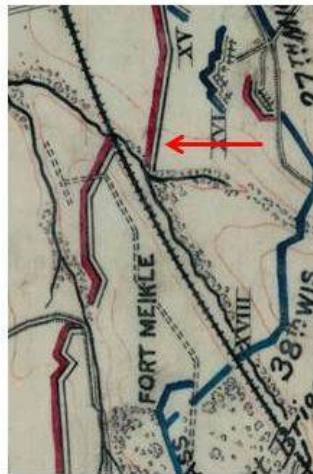
Also, they screwed up the terrain, in some cases badly. In general, I think the closer they came to the Confederate lines, the more accurate it becomes. On the Union side they missed key creeks and ravines (as at the Crater). For example, they missed the fact that the railroad crosses a creek just south of Battery XVI and then runs just parallel to it along a ravine past Ft. Meikle:

The Railroad and the Creek

These maps, including two from early in the siege, got it right.



OR Atlas, pl. 64, no. 2

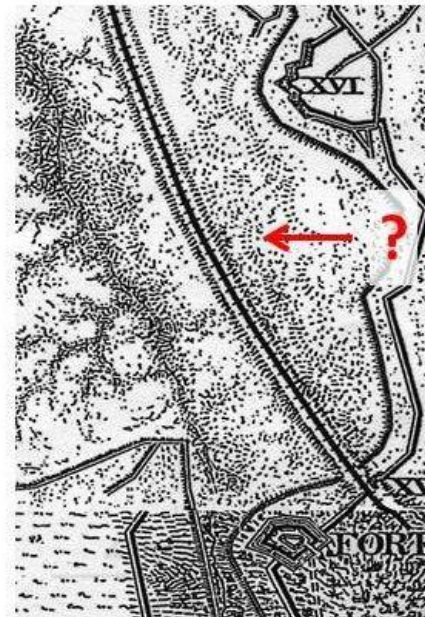


"Map 15"

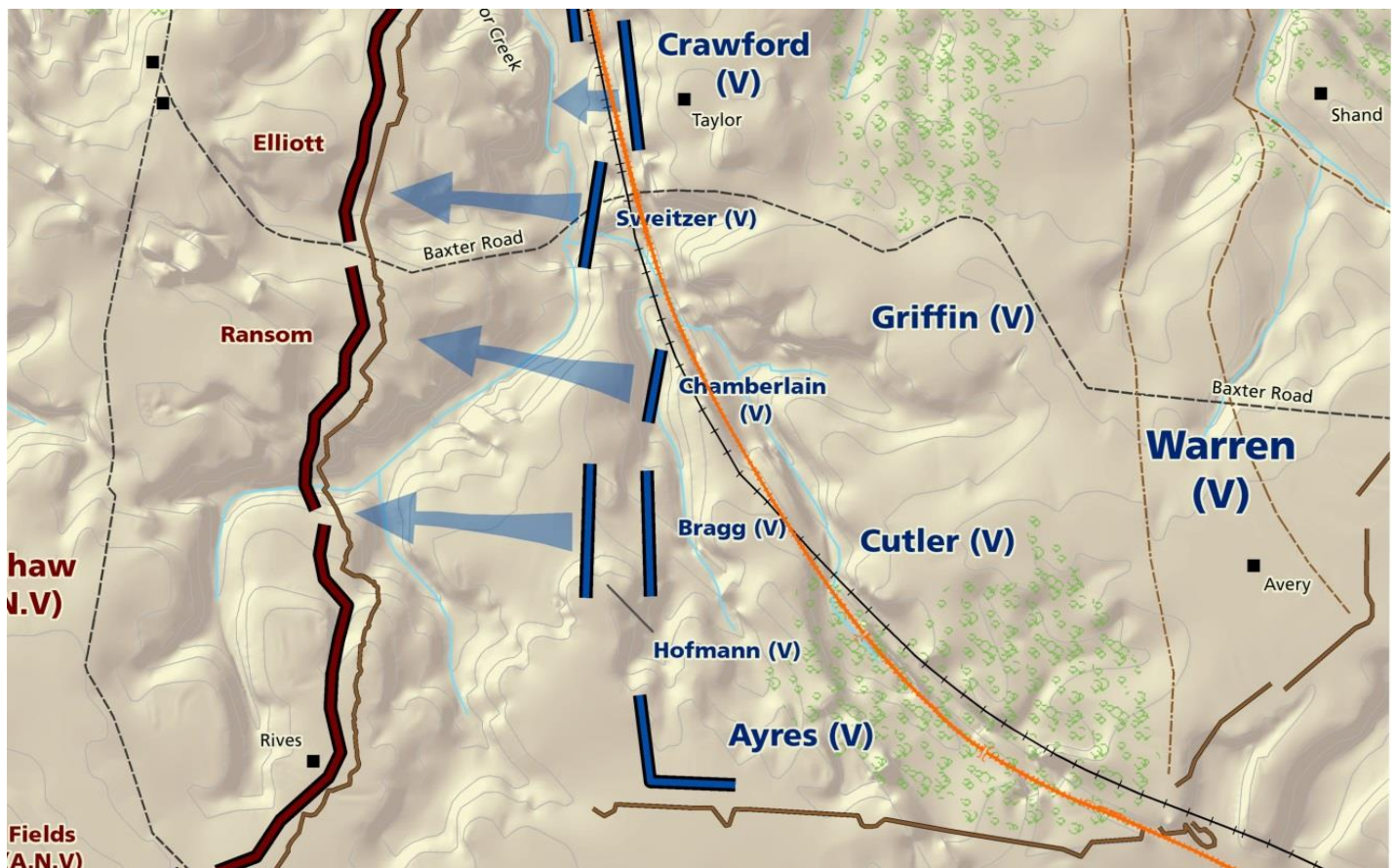


"Map 03"

Michler, however, got it very, very wrong.

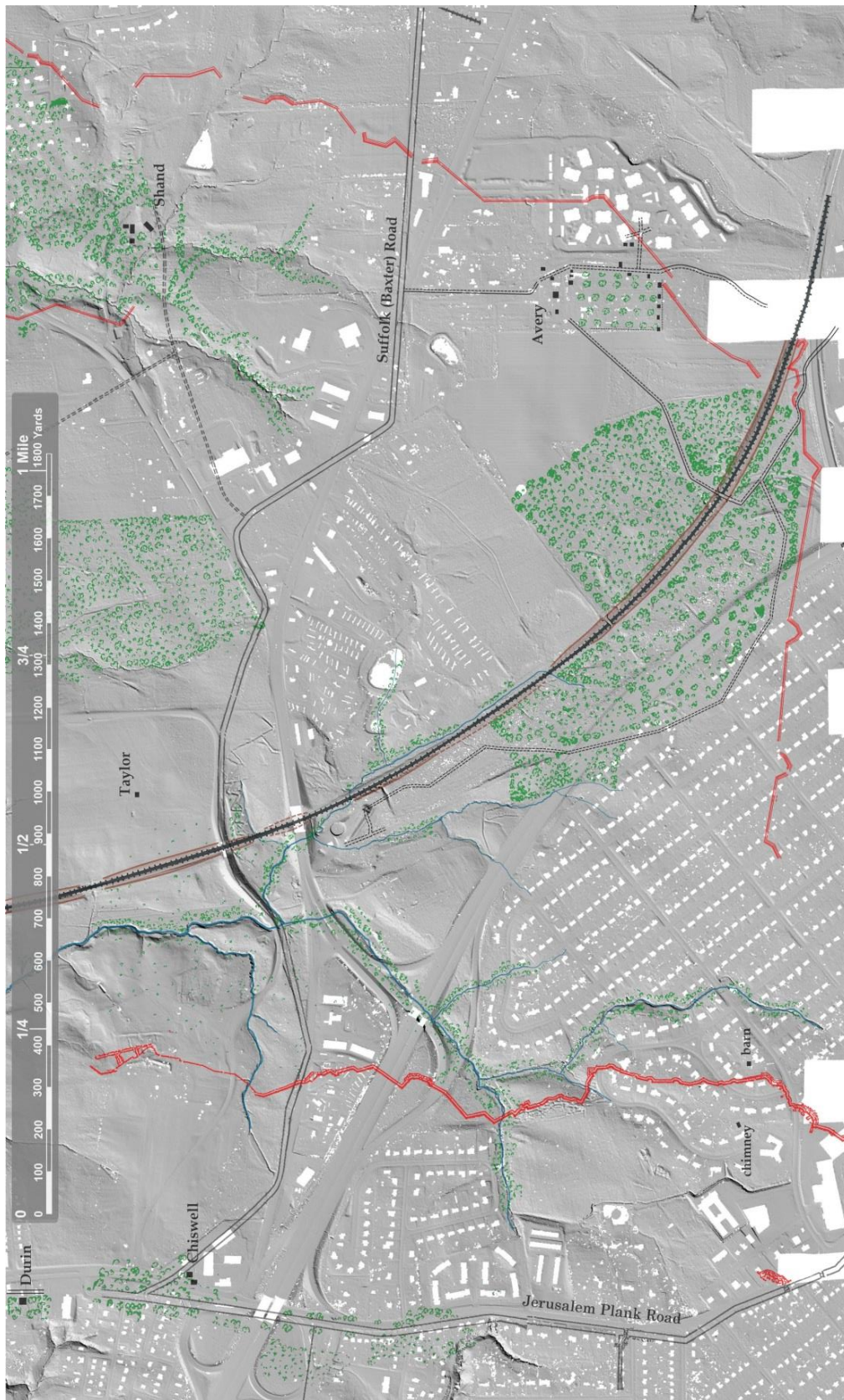


Most modern maps punt on the question of terrain for this area, but one map in particular deserves mention. This map of the June 18th assault, prepared by a National Park Service intern, Jon Mitchell, about 2012, apparently based on USGS topographical maps, appears to be quite accurate with regards to the terrain:



The only significant problems is that the map clearly relied on Michler's erroneous depiction of the railroad. (My correction is in orange.)

Again, using a base, I've tried to draw a corrected version with an accurate version of the terrain as it would have looked on June 18. To do this, I used the LIDAR map and some of the early siege maps, which, as noted above, did have some accurate elements. (I did not use old USGS surveys, which might be useful as well.) The result conforms closely to :



Understanding the failings of the various maps, and using a corrected version of Michler's, is making a difference in my photo analysis. Whether or not this provides the answers I seek remains to be seen.