

Understanding how "As-applied" works

When moving earth there are three states:

- 1. What you started with.**
- 2. What you intended to do.**
- 3. What you actually did.**

You start with the original field surface. You intend to end up with the field surface matching your design. An "As-applied" (or "As-built") map is a record of what you actually did.

More than that, the "As applied" map is a constantly updating record of what you have done, and what still remains to be done. At the start of a job no work has been done. Therefore the "As-applied" map will be exactly the same as the original surface. At the end of a job the field surface will match the design surface. At this point the "As-applied" map should match the design map. Between starting and ending the job the "As-applied" map will be somewhere between the original and the design surfaces (as will the actual real world field surface).

The "As-applied" map is constantly updated by keeping track of cuts and fills as they occur. The software tracks the blade constantly. At the beginning of a job all it knows is that the field matches the original surface map. Any time the blade goes below

this surface it knows that a cut has taken place. It tracks this cut and updates the “As-applied” map accordingly. At this point the “As-applied” map is no longer the same as the original surface map. As the blade continues to cut lower and lower the map will continue to be updated.

The nice thing about cuts is that there is no way for the blade to go lower than a previous cut without the new cut level being the new true earth surface. So our cut measurements will tend to be quite accurate. But what about fills? Just because the blade is above the surface does not mean any dirt is actually coming out of the scraper pan. The implement could be simply moving from one location in the field to another location. So measuring the fills using blade height is a bit problematic. We deal with this in a number of clever ways, taking into account whether or not the design calls for a cut (or a fill) and where the blade is relative to the design height. But fill measurements *will not be perfect*.

It is important to understand that the T3RRA software tracks activity over time. It is constantly surveying the current status of the job surface.

Important: T3RRA software has no way of knowing what other equipment is doing. If another machine is operating in the same work area as you, your “As-applied” map will not be accurate. You can only track your own activities.

Important: T3RRA software has no way of knowing what work has been done in a field prior to your arrival. If the original surface

map is not representative of the true state of the terrain when you arrive (because another operator has already done part of the job) then the “As-applied” map will not be accurate. If you want to make it accurate you will need to drive over the entire surface again to calibrate the as-applied map. It only knows what it has surveyed.
