Implementing issues - T3RRA

Bi-Directional error in T3RRA.

Symptoms:

The implement consistently cuts when heading in one direction and fills in the other direction. Final grade is never achieved. If T3RRA software is halted and iGrade is run in 'Plane Control' only the problem goes away.

Cause:

There is a slight time lag from when a GPS location is measured to when the blade actually actuates to seek the desired target elevation. If the look-ahead time is set incorrectly, when going up a slope this causes the cutting edge to be consistently low, and when going down a slope it causes the cutting edge to be consistently high.

The key to understanding this problem is to realize there is a slight time delay from when iGrade first sends the T3RRA software a position, and when the T3RRA software returns a target elevation value to iGrade. In this time the tractor has moved a certain distance and the target elevation is technically out of date. It is intended for a position in the field that is now some distance behind the cutting blade. If the tractor is traveling down a slope this will result in the blade being higher than it should be. If the tractor is traveling up a slope this will result in the blade being lower than it should be. The problem is

repeatable and the vertical offset is always in the same direction (relative to whether you are going uphill or downhill). If you understand why the problem occurs it is normally quite simple to adjust for this time delay and nullify the issue.

Solutions:

Refer to the Machine tab section of the Setting chapter of the Operator's manual for more information.

Tractor position icon is far above or below the surface.

Symptoms:

When implementing the position icon appears to be a long way above or below the surface (the tractor icon will normally rise to surface height if it is below the surface, but as-applied cuts will be far too deep).

Cause:

The zero value has been incorrectly set, or the base station elevation has changed since zeroing.

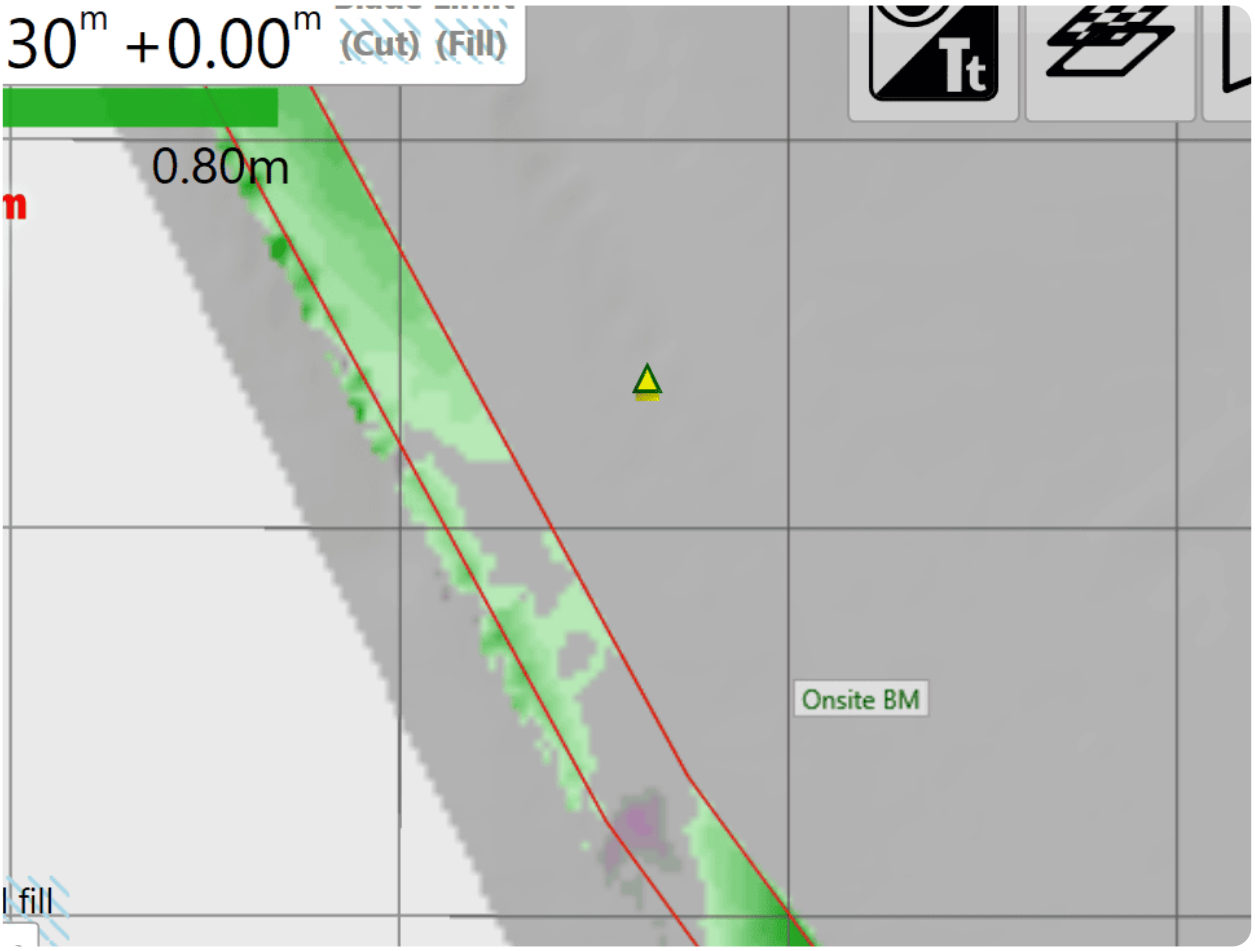
Solutions:

1. **Re-zero the T3RRA software**
2. **Check to see that the base station coordinates have not changed. If they have, return them to the original coordinates (latitude, longitude, height).**
3. **Be sure to save your project if you believe you will need to finish implementation at a later date in order to retain the zero value.**

Tractor position icon does not adjust when you zero against a benchmark.

Symptoms:

You are parked over a physical benchmark and want to adjust the map location so that the related on-screen benchmark icon matches the location on the tractor icon. However when you perform the “Zero using a marker” action nothing changes. The icons for the benchmark and the tractor remain separated.

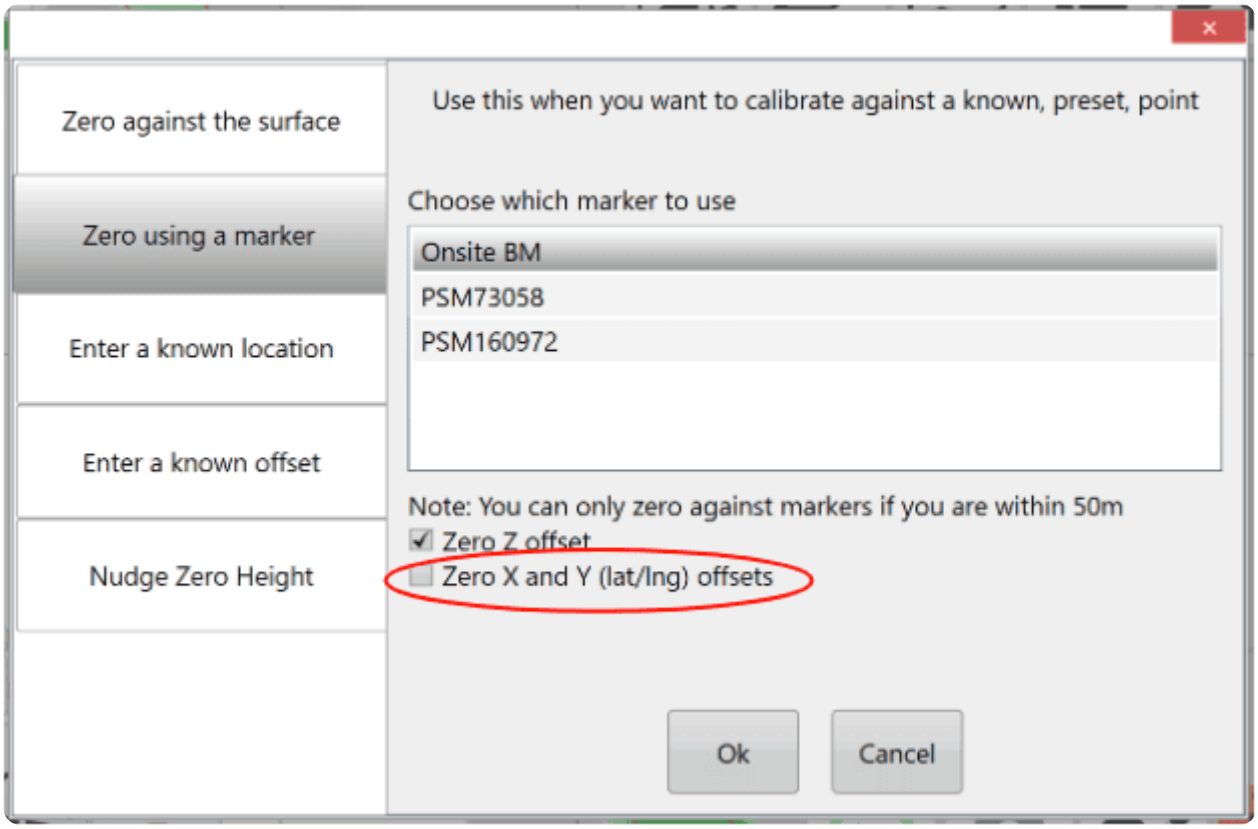


Cause:

You have forgotten to check the “Zero X and Y (lat/lng) offsets” box.

Solution:

Check the “Zero X and Y (lat/lng) offsets” box before pressing the Ok button.



Map icon on the T3RRA software screen lags behind the actual field position.

Symptoms:

The screen update appears to be “laggy”. When you turn a corner and are back on a straight path you may see that the position icon on the screen is still turning the corner.

Cause:

This normally indicates that the software is having to do a lot of calculations, or that there are insufficient resources (CPU, HDD, Memory) available on the tablet.

Solutions:

1. **Check for updates online. There may have been performance enhancements included in newer versions of code.**
2. **Check that the tablet you are running meets our minimum specifications.**
3. **Do any Windows updates that are pending.**
4. **Make sure that your tablet has no other applications running. Close any unneeded applications.**

5. **Divide the work area in your project into smaller areas. Having to process a smaller data set should result in better performance.**
6. **Surface your elevations with a larger pixel size. Larger pixel sizes result in smaller data sets and this will result in a performance increase.**

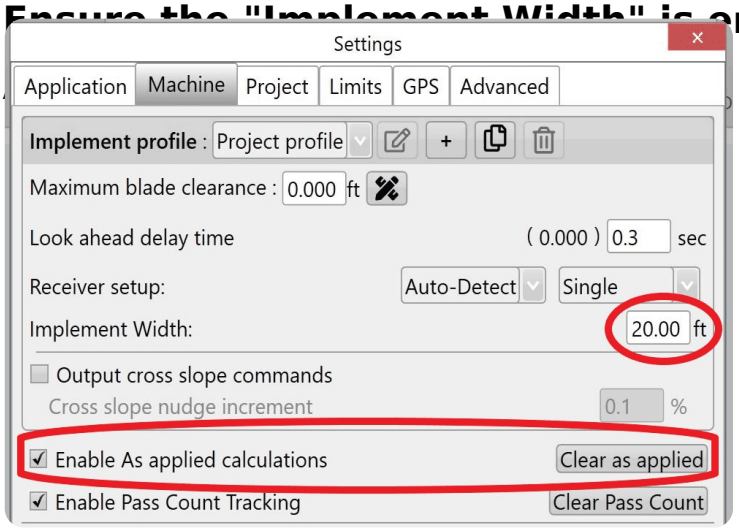
‘As-Applied’ not updating correctly

Symptoms:

When on the implementation screen, the “As-Applied” Cut/Fill map was not updating as per pass on the field.

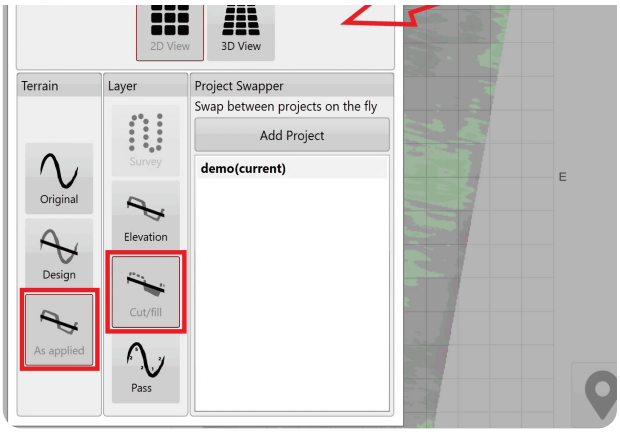
Cause:

Ensure the "Implement Width" is entered and they have "As -



Solution:

If "Implement Width" is entered and "As -Applied'' is enabled, make sure you have selected in "View Settings" the "Terrain" As-Applied and "Layer" Cut/Fill maps. If ‘As Applied’ button is unavailable, it is a good indication that As Applied is disabled in Settings.


2D View
3D View
Terrain
Layer
Project Swapper
Swap between projects on the fly
Add Project
demo(current)
Original
Survey
Elevation
Design
Cut/fill
As applied
Pass
E

Project has moved N/S or E/W.

Symptoms:

When you return to an existing job the map is no longer aligned with the position of the tractor. The project surface has moved North/South or East/West.

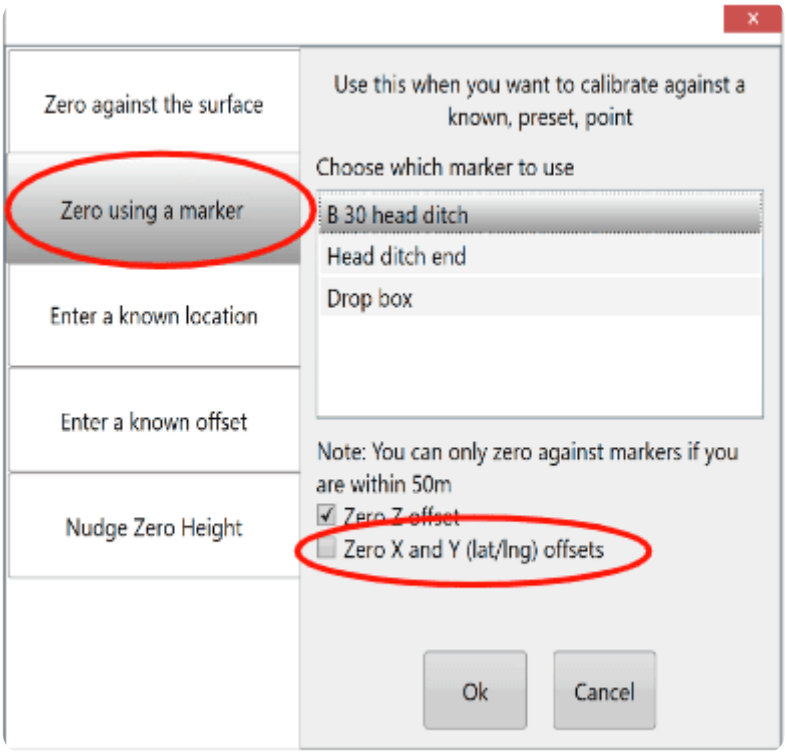
Cause:

- **Previously entered offsets have been cleared under the Machine tab in settings.**
- **The Base station has been moved.**
- **The Base station is configured as a Quick survey and has been power cycled or reset.**

Solution:

1. **Keep a record of any horizontal offsets you have used for a project in case you need to re-enter them. If you look back in the project ‘activity log’ you may be able to find previously entered ones there (depending on version).**
2. **Always use a Base configured as ‘Absolute Base’ where possible**
3. **Reference any newly established base station from a “dealer network” or permanent base network where possible**

4. **If using a ‘Quick Survey’ have it connected to a permanent and always-on power source for the entire duration of a job.**
5. **Never move a Base station position during a job.**
6. **Establish permanent “benchmark” locations to check against and re-align the job. You can use the regular ‘Zero’ button in the implementation screen for this.**



7. **Use T3RRA software offsets to re-align the map.**

My drain design is no longer present in the ‘Apply’ wizard step.

Symptoms:

The Cut/fill map of drain surface in the Apply step is representing no cut and no fill.

The profile view in the Apply step of the drain is a solid red line.

Causes:

A drain design was created for one or more of the multiple drains in one project and the user went back to the Collect step and recorded another drain survey within the same project.

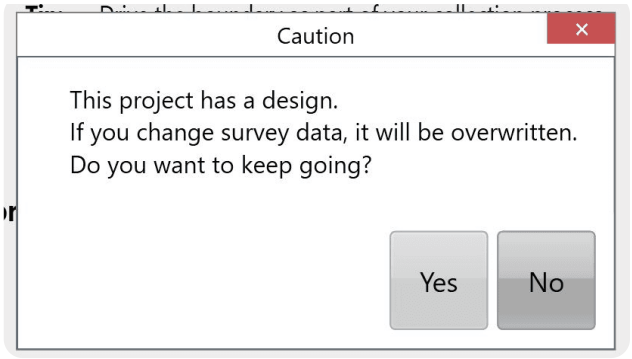
All drain designs were ‘overwritten’ when returning to Collect step to add more drains to the same project.

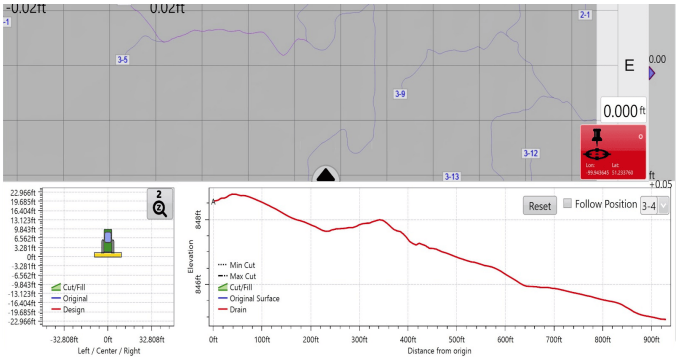
Solutions:

Design and Implement one drain at a time saving each as one project file.

Design and Implement each drain completely within one project before adding more drains.

Survey all drains, design them, and finally implement them without returning to add more drains.


Caution
This project has a design.
If you change survey data, it will be overwritten.
Do you want to keep going?
Yes
No


-0.02ft
0.02ft
E
0.000 ft
Reset
Follow Position
Min Cut
Max Cut
Cut/Fill
Original Surface
Drain
Elevation
Distance from origin
Left / Center / Right

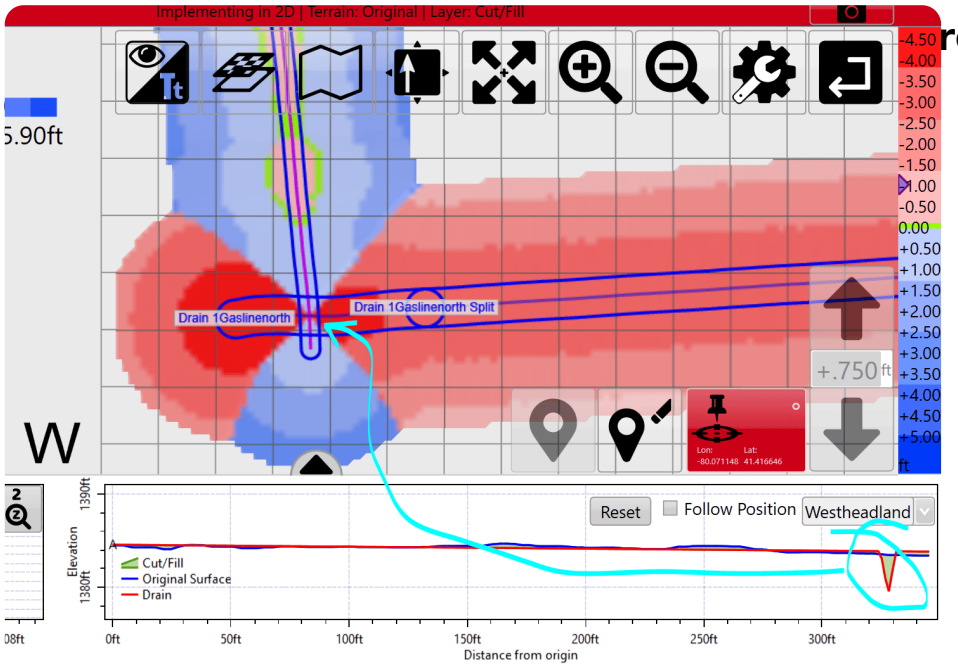
My drains have ‘bumps’ in them that weren’t present when I designed them.

Symptoms:

A drain line was created with a set profile but when implementing it seems to have unexpected deviations.

Cause:

Multiple drains were designed and have overlapping sections. The rofile of a subsequent



Solution:

Design and implement one drain at a time. That way you will get exactly what is shown in the design step (if you always implement

on the original surface for instance)

In the design step apply each drain individually rather than choosing the 'Apply all' option. Each subsequent drain should use the 'Design surface' as the surface to apply on rather than the original surface. In this way you are designing the drain profile on a surface that accounts for the effect of previous drain lines. Note that the order of drain design matters in this case.

Drive survey of drains individually instead of driving one drain to inevitably need to ‘split’ the drain where overlapping another drain.

Implement is offset a large amount after 'zeroing'

Symptom:

Your implement is offset by a large amount when you zero before implementing.

Possible causes:

1. A value has been entered into the Blade clearance causing the zeroed amount to be higher than normal.

Solutions: