

Staking EFT Terrace/ Waterway Surfaces

Overview: Stakeout a surface model exported from EFT. Stake points of the surface model by exporting that information as a .csv file or .txt file.

- Export the surface model from EFT as a landXML file.
- Export EFT points to .csv files or .txt files.
- Determine the details of any Control Points that you will need. They can be linked from the original survey or a coordinate text file of control points can be uploaded to the Trimble unit.

Equipment: Trimble TSC7 or Trimble T10, Total Station or GNSS receiver, Trimble Access v2022.01

Exporting a Surface Model from Engineering Field Tools (EFT)

In EFT:

1. *File... Export... Surfaces*
2. Browse to your preferred location to save this new file (e.g. *C:\Users\yourfirstname.lastname\My EFT Files\eft\Customer Name\Project Name*). Input a unique name for your design surface (e.g. *T1234Terraces*) and Click Save. A popup message should read: *Surfaces were written successfully! Click OK*. You may now close out of EFT.

On your computer:




3. Browse to *Q:\Design Tools\Spreadsheets* and Open *Update EFT Surface Export units.xlsm*
4. Follow the spreadsheet instructions.

Optional: Use the **HowTo - Stakeout EFT Terrace Waterway Alignment 2023** instructions to create stakeout points for your surface.


Use the **HowTo - Transfer Files Between Windows Devices 2023** instructions to transfer the Surface file to the controller. Save the file under - *\Trimble Data\nrcs*

Setting up Job for Stakeout of a Surface Model

Link Uploaded .txt or .csv file to Job on TSC7 or T10 controller

1. Tap the **Trimble** button  or Tap Start... Trimble Access.
2. Tap an existing Project and Tap Open or Tap New, Input a new project name and Tap Create.
3. Tap on *Jobs... New Job*
4. Input the new *Job name*
5. Set Template as **NRCS-GPS (or nrcs-tstat for a Total Station)**
6. Verify that the *Coordinate system* and *Units* are correct.
7. Tap Accept.
8. Tap *Layer manager*  ... *Point files*
 - a. Checkmark the file or job with your control points (e.g. **Smith Control.txt**).
 - b. A check mark inside a square  indicates the points in the file are visible and selectable.
9. Tap *Map files*

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- a. Checkmark the shapefile you uploaded (e.g. *Smith.shp*).
- b. Checkmark the surface you uploaded to see it in the Map (e.g. *Smith Excavation.xml*).
- c. A check mark inside a square  indicates the points in the file are visible and selectable.

10. Tap *Accept*.
11. Tap *Accept*.
12. Tap *Open*.

Begin Survey

13. Tap on *Measure...*
 - a. For total station, Tap *VX & S Series... Measure Points*
 - b. For GPS, Tap *IaRTN_R12...Measure Points*
14. Continue with normal setup of survey and set a TBM or control point or check an existing one.

Stakeout Surface Model

16. In Trimble Access Tap *Stakeout... IaRTN_R10/12/12i... DTMs...*
19. As-Staked Name: Enter a "Point Name" that will be given to the as-staked survey shot
20. *DTM*: Tap the down arrow to select the name of the surface model exported from C3D or EFT.
21. A Vertical Offset can be entered if desired (used for staking sub-grade, etc)
22. Tap *Start*
 - a. Use the shapefile in the Map to navigate to the linework of the surface
 - b. Use the points in the Map to navigate the stations of the surface
 - c. Use the surface in the Map to provide instantaneous cut/fill information anywhere on the surface
23. Once the Target is at acceptable location Tap *Measure*.
24. Input a Point name (e.g. *SO1004*) and a Code (e.g. *SR*).
25. Tap *Measure*
26. Tap *Store*
27. When done with Stakeout Press *ESC*.

Quit out of Survey

28. Tap *Measure... Measure points* to take a topo shot on a known benchmark or turning point as a final check.
29. When survey is completed, Escape to main menu, & Tap *Survey... End Survey*
30. Tap Yes to Power down Instrument. Tap Ok & Disconnect the power.
31. Tap Exit. Tap Yes to Power Off.