

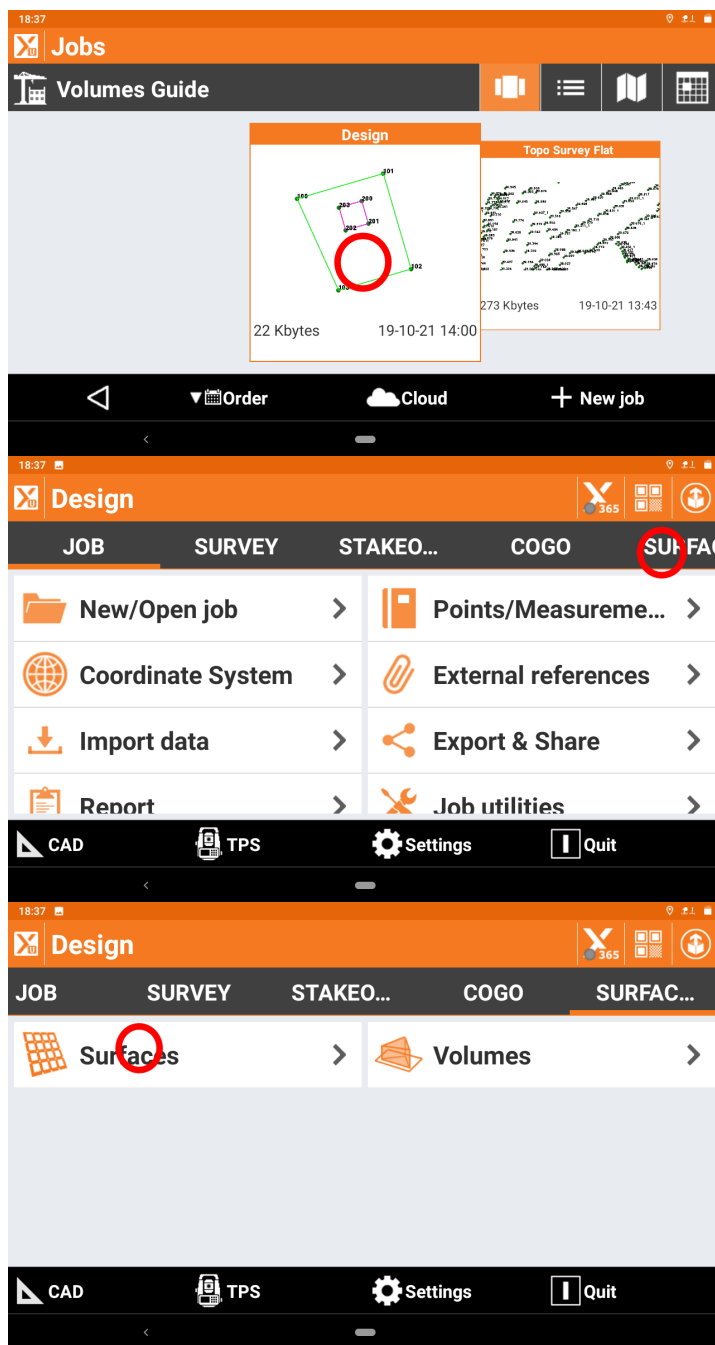
## How To Calculate Volumes In X-PAD

**Notebook:** Quicksheets  
**Created:** 19/10/2021 11:28  
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**Tags:** Surface, Volume, Xpad, Xpad Ultimate  
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## How To Calculate Volumes In X-PAD

Created: 20211019\_DL



To calculate the volumes you will need:

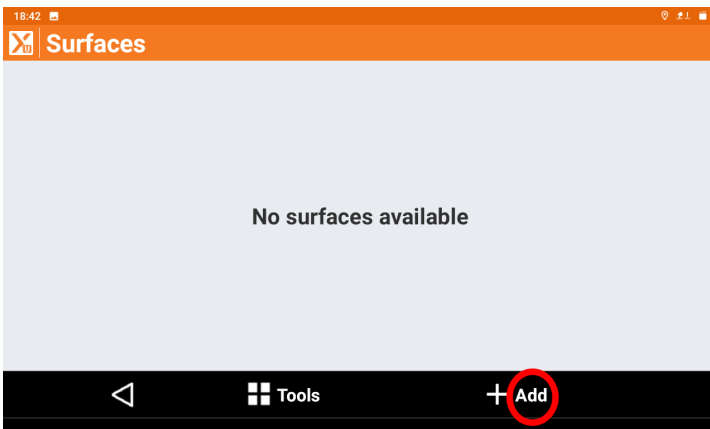
- design drawing (if required)
- topographical survey of the terrain
- ideally design and topo survey are in separate jobs (like in our example)

There are few different ways to calculate volumes. The most advanced is the case of calculating volumes between two separate surfaces and that will be covered in this guide.

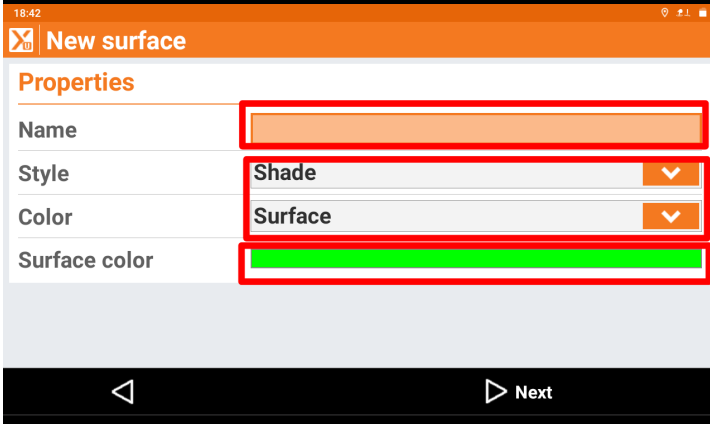
The most important thing is to create surface(s) at first.

To start open one of the jobs where you're going to define the first surface.

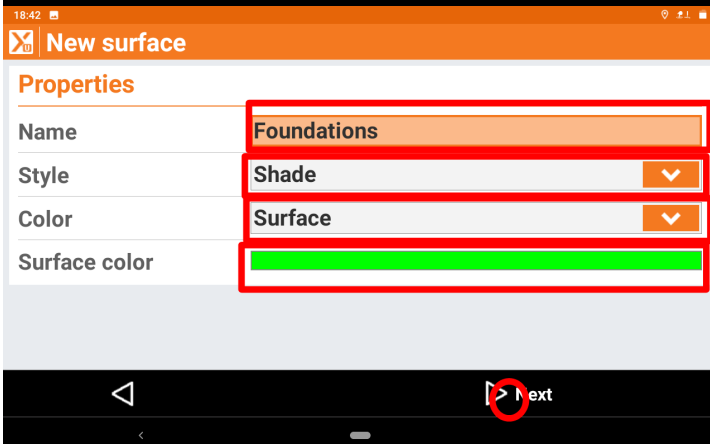
[Head to the Surfaces](#)



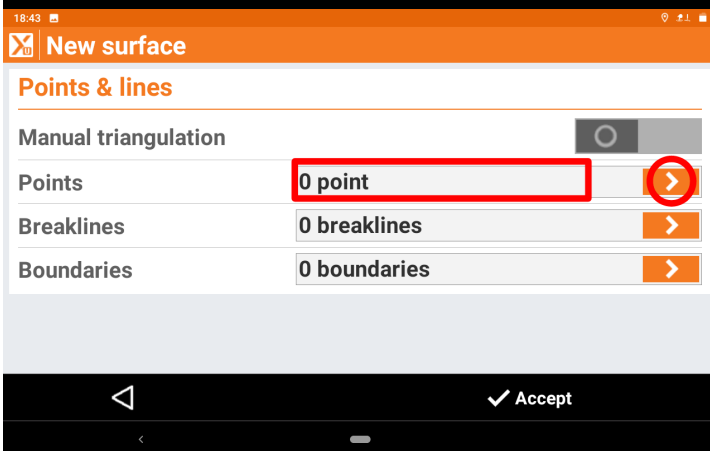
You may have some surfaces created here. You can choose one or create the new surface.  
We will cover new surface creation.



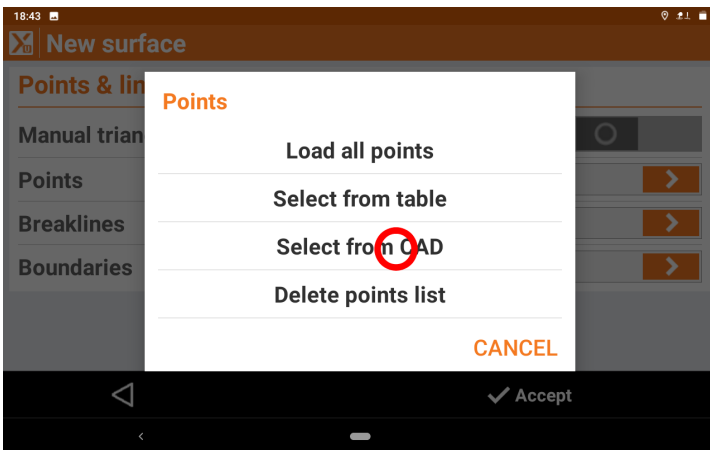
Name your surface.  
Leave Style and Color settings as default.  
Tap on the colour rectangular to change the colour of the surface



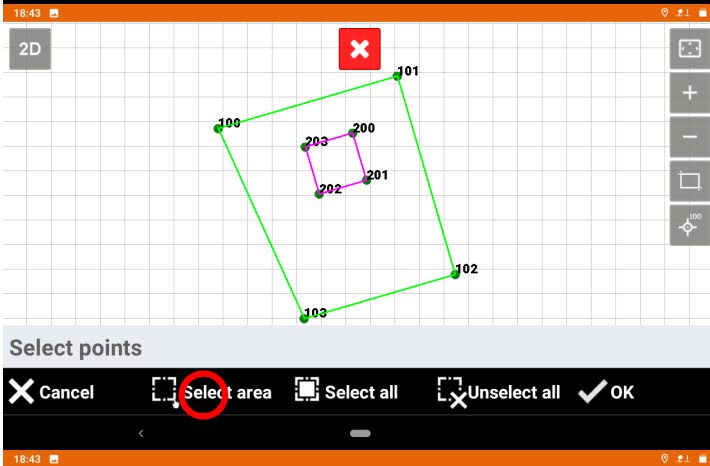
Check the name, style, colour and surface colour.  
Tap next to go to the next screen.



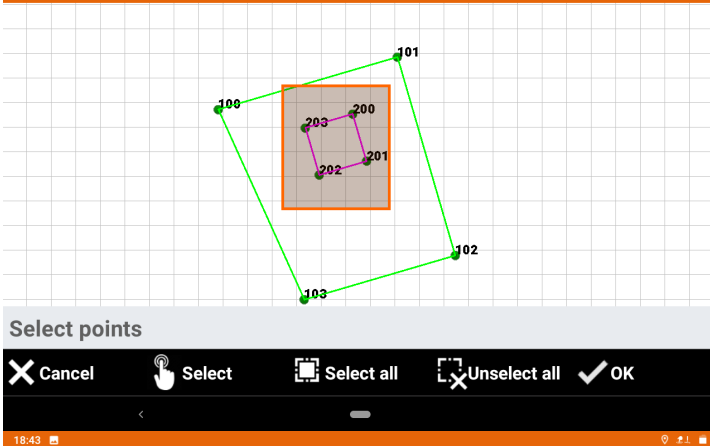
Load the points



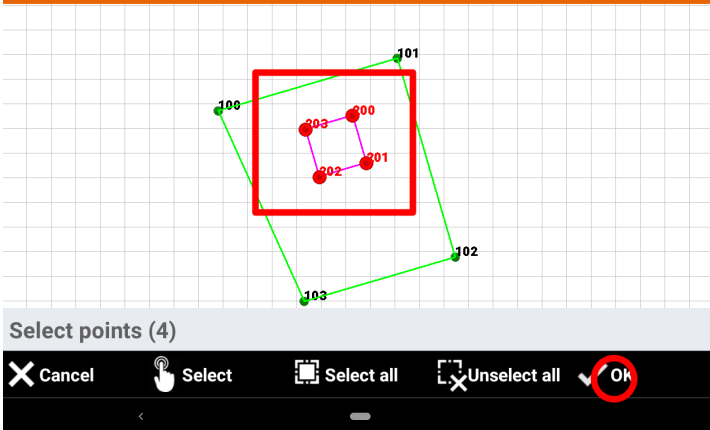
As the design drawing is clear in our case we will use CAD to choose the points



Tap and drag diagonally on the screen to draw rectangular to select the points you want to use for the surface.

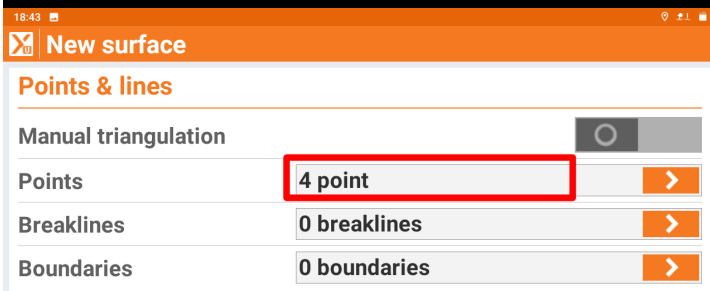


Note the selected points - they are marked with red circles. Confirm by tapping OK

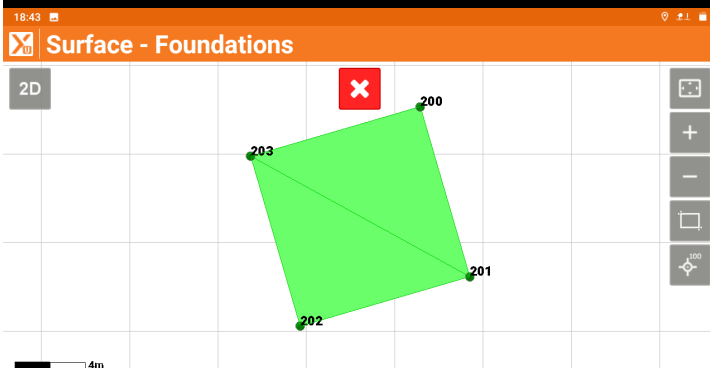
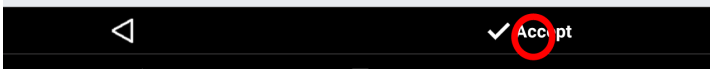




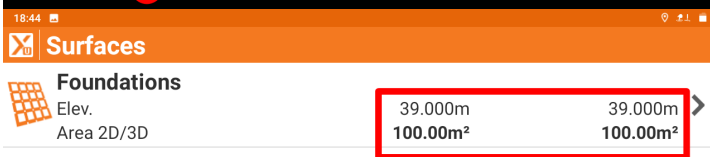
If necessary review the list of points.  
Confirm with **Accept**



Note that Points field is not 0 anymore.  
**Accept**

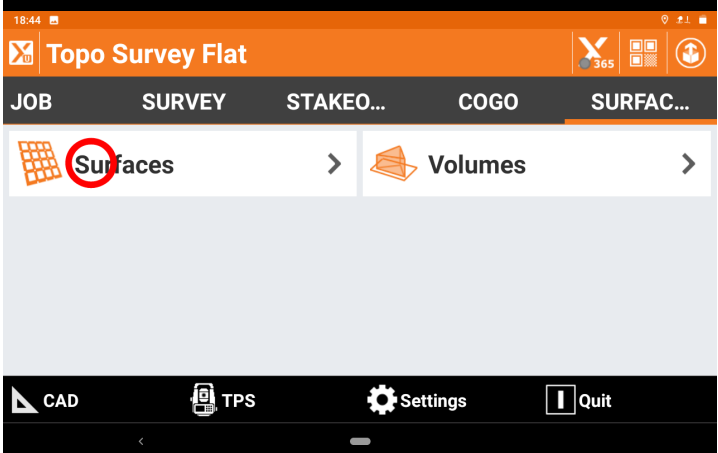
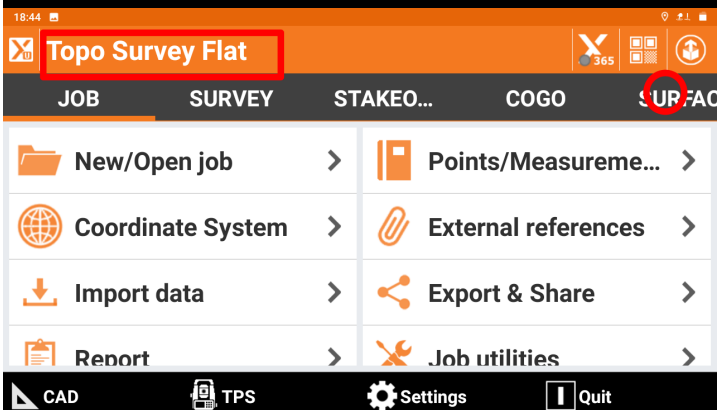
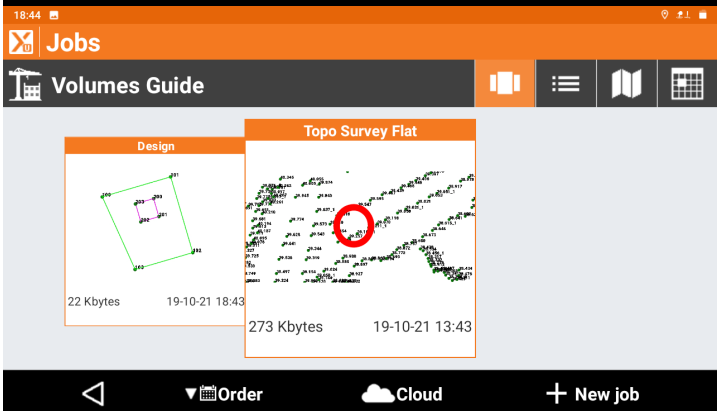
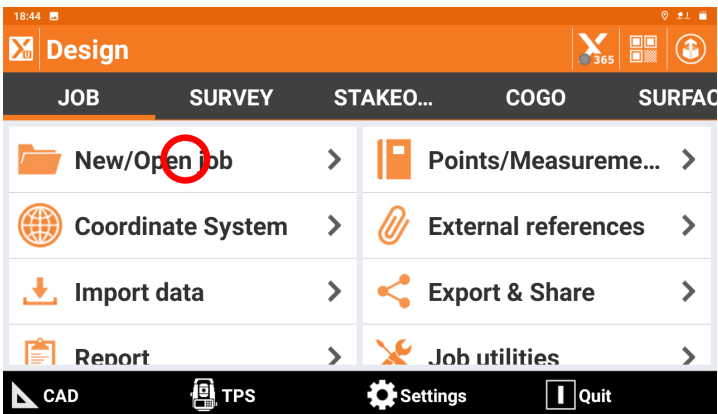


View the surface.  
To close the view tap **Back Arrow**

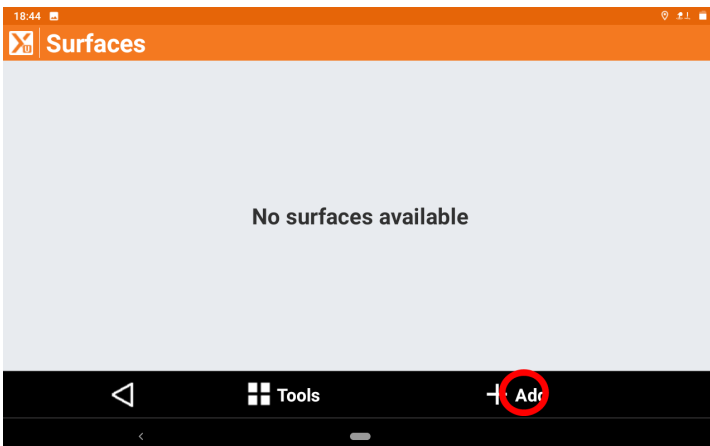


Review the elevation and area.  
Go back to prepare the other surface.

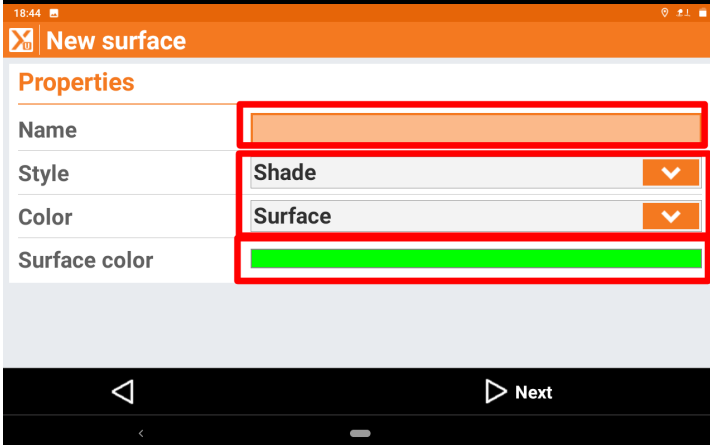




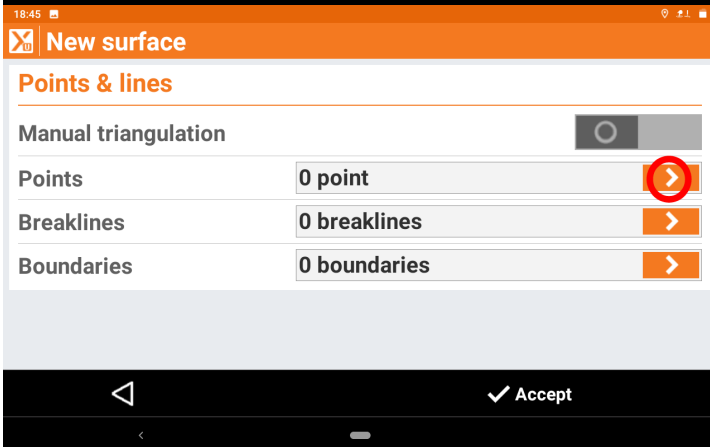
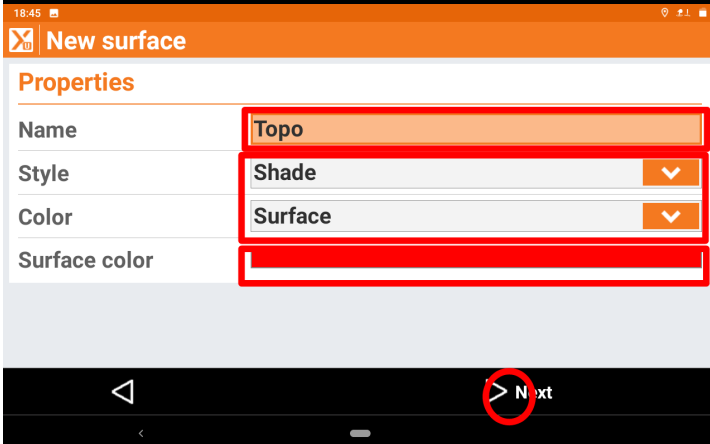
The name of the opened job is displayed in top left corner.  
Go to Surfaces

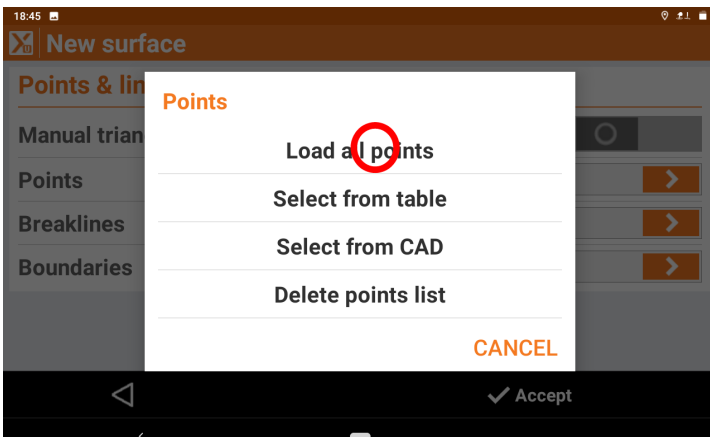


Same as before, you may have some surfaces here and you can choose one if necessary. We will create new surface.

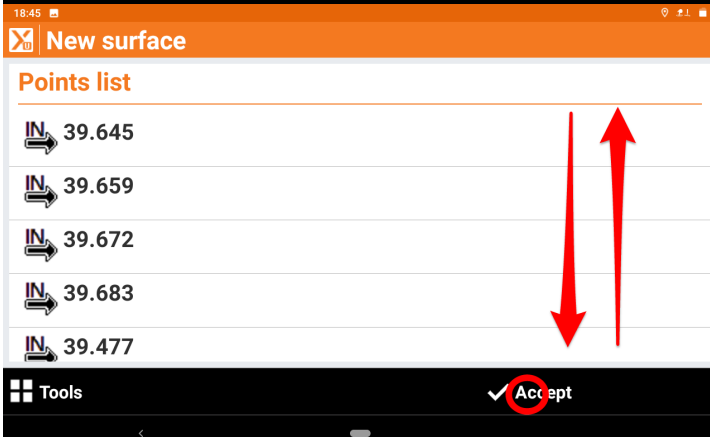


Name the surface, leave the options as default, choose colour for your surface. Tap Next to go to the next screen.

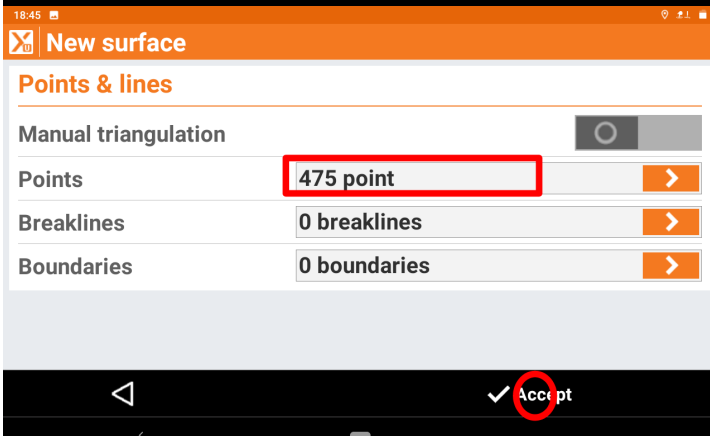




As the entire job includes only topographical survey of the terrain we will load all the points.



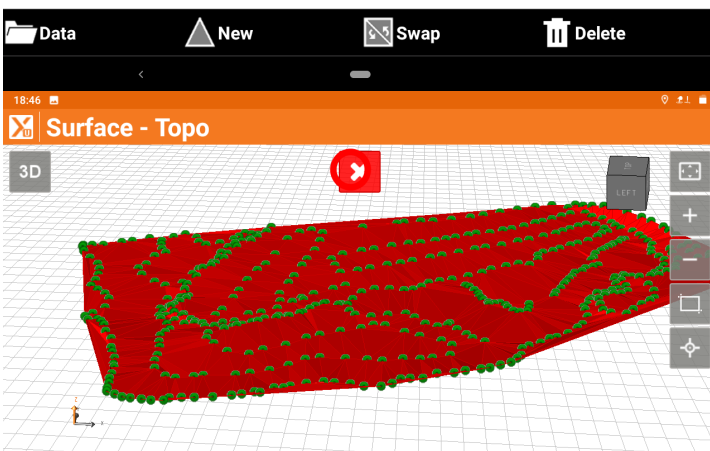
Scroll up or down if you need to review the points. Accept.



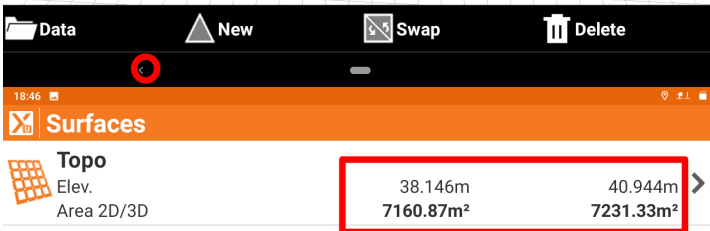
Review the surface, to make the drawing more clear you can switch off the points description. Tap on the Back Arrow or Red Cross to close the Surface View screen.



To view the surface in 3D tap on 2D to show the view menu.



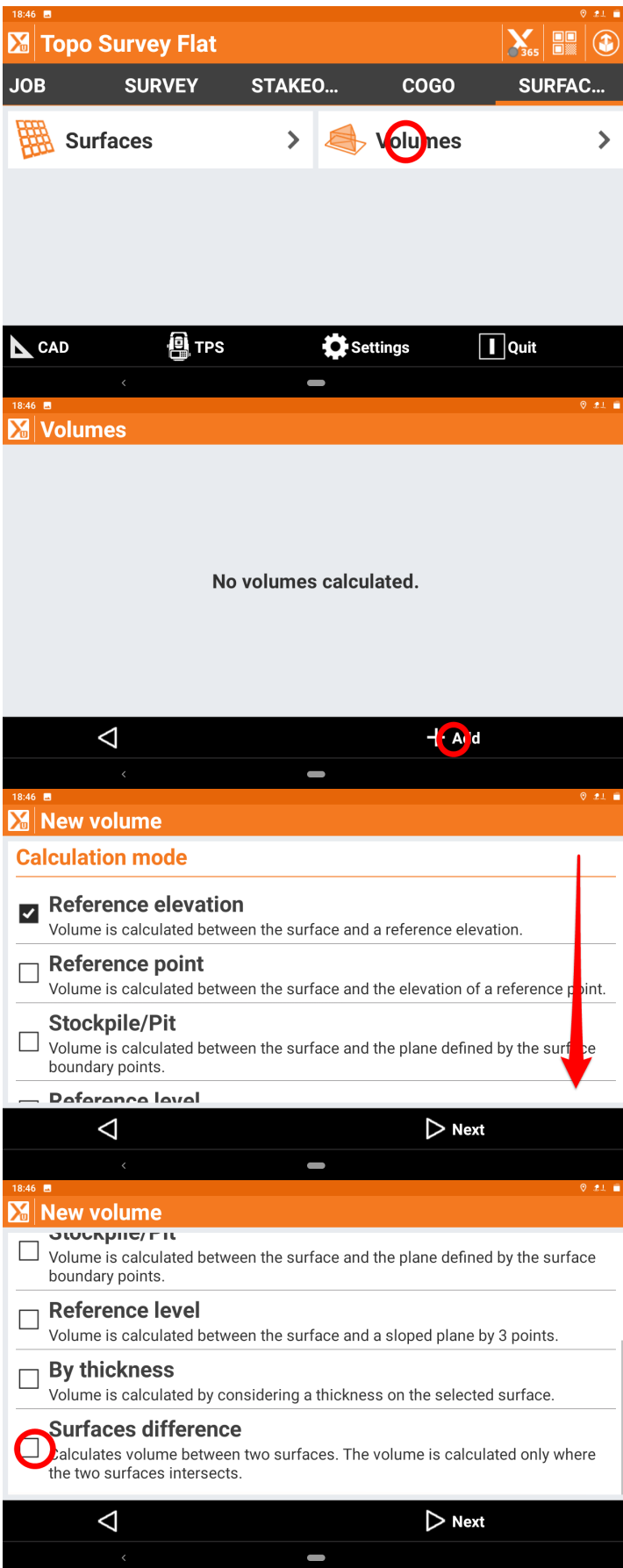
Drag your finger across the screen to rotate and move the view. Use Red Cross or Back Arrow to close the view.



Review elevation and area if necessary. Tap on Back Arrow.







Scroll down for more options.

Choose Surface Difference to calculate volumes between two surfaces.

Review other options - each of them is very well described and the procedure for calculation is very similar (you need only 1 surface for all other options). X-PAD will guide you step by step through the calculation - the most important thing is to HAVE THE SURFACE ALREADY CREATED.

18:46

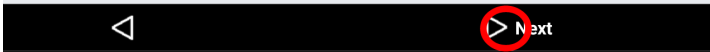
**New volume**

**Stockpile Fit**  
Volume is calculated between the surface and the plane defined by the surface boundary points.

**Reference level**  
Volume is calculated between the surface and a sloped plane by 3 points.

**By thickness**  
Volume is calculated by considering a thickness on the selected surface.

**Surfaces difference**  
Calculates volume between two surfaces. The volume is calculated only where the two surfaces intersect.



18:47

**New volume**

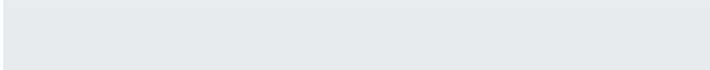
**Surface 1**

Surface 1 **Topo**

**Surface 2**

Source **Current job**

Surface 2



18:47

**New volume**

**Surface 1**

Surface 1 **Topo**

**Surface 2**

Source **Select another job**

Reference job **Design**

Surface 2 **Foundations**



18:47

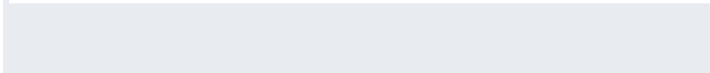
**New volume**

**Volume properties**

Name **Surfaces difference**

Cut swell factor **1.000**

Calculate weight



Check the Surface 1 (as default last created surface in the current job).  
Choose the surface 2 - we will use other job as we created the surface in job named Design.

Change the name if necessary.  
Accept.

18:47

Volume - Surfaces difference

DETAILS VIEW

Description	Surfaces difference
Type	
Surface	Topo
Cut swell factor	1.000
Volume	

Scroll up or down to review the results.  
Tap on Report to get the report file for further sharing.

18:47

Volume - Surfaces difference

DETAILS VIEW

Area 2D	87.10m <sup>2</sup>
Area 3D	87.28m <sup>2</sup>
Fill areas	
Area 2D	12.82m <sup>2</sup>
Area 3D	12.87m <sup>2</sup>

Report

Report

Report type

Volumes (complete)

Show points

CANCEL Ok

18:48

Volume - Surfaces difference

DETAILS VIEW

Area 2D	87.10m <sup>2</sup>
Area 3D	87.28m <sup>2</sup>
Fill areas	
Area 2D	12.82m <sup>2</sup>
Area 3D	12.87m <sup>2</sup>

Report

Report type

ASCII format

Excel CSV

Excel XML

PDF document

HTML format

CANCEL

Choose preferred format.  
We will go with PDF.

18:48

Volume - Surfaces difference

DETAILS VIEW

Area 2D	87.10m <sup>2</sup>
Area 3D	87.28m <sup>2</sup>
Fill areas	
Area 2D	12.82m <sup>2</sup>
Area 3D	12.87m <sup>2</sup>

Report

Report

Prepare report in progress...

File name

Topo Survey Flat.pdf

Save to

Device/Cloud

Share file

Open with

Save / Share or Open the file.



Accept

VOLUME REPORT

Project Info

Project:	Topo Survey Flat
Date:	19-10-21 18:47:59
Description:	Surfaces difference
Type:	Topo
Surface:	1.000
Cut swell factor:	
Volume	
Cut:	14.25m <sup>3</sup>
Fill:	0.43m <sup>3</sup>
Surface	
Area 2D:	99.95m <sup>2</sup>
Area 3D:	100.15m <sup>2</sup>
Cut areas	
Area 2D:	87.16m <sup>2</sup>
Area 3D:	87.28m <sup>2</sup>
Fill areas	
Area 2D:	12.82m <sup>2</sup>
Area 3D:	12.87m <sup>2</sup>

