SmartDirt

Rev. 5/2/2018

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Installation

Geo-Referencing Files

Basics

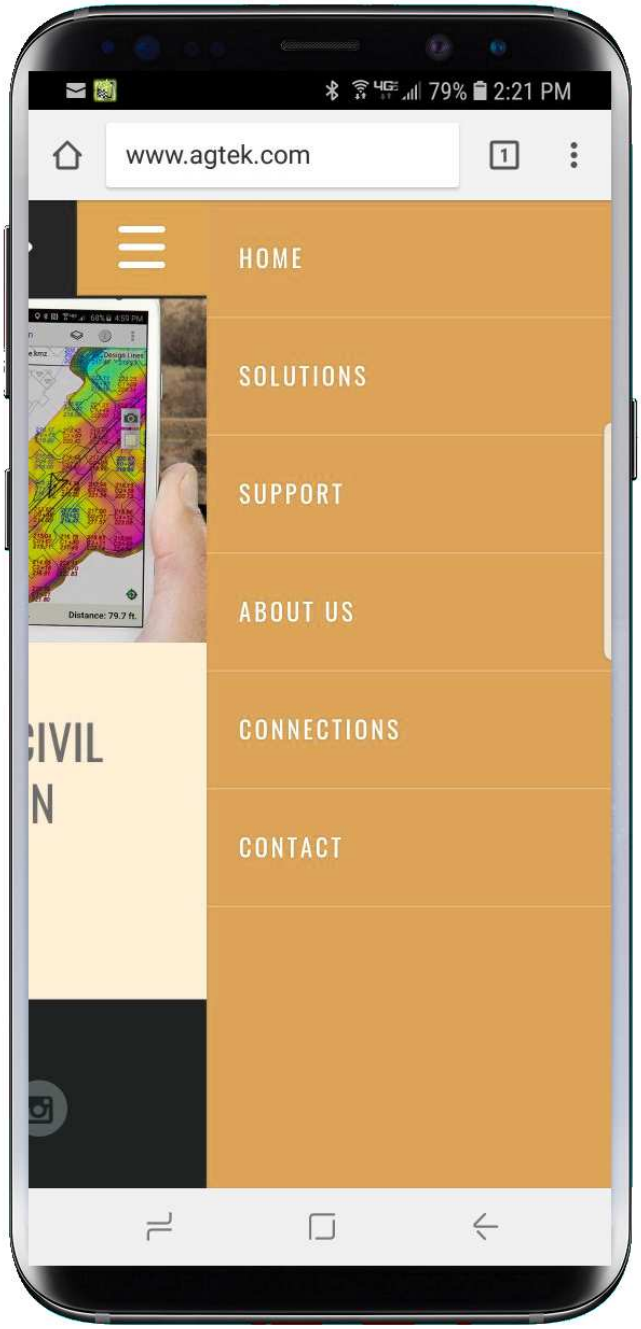
Section 1

Installation

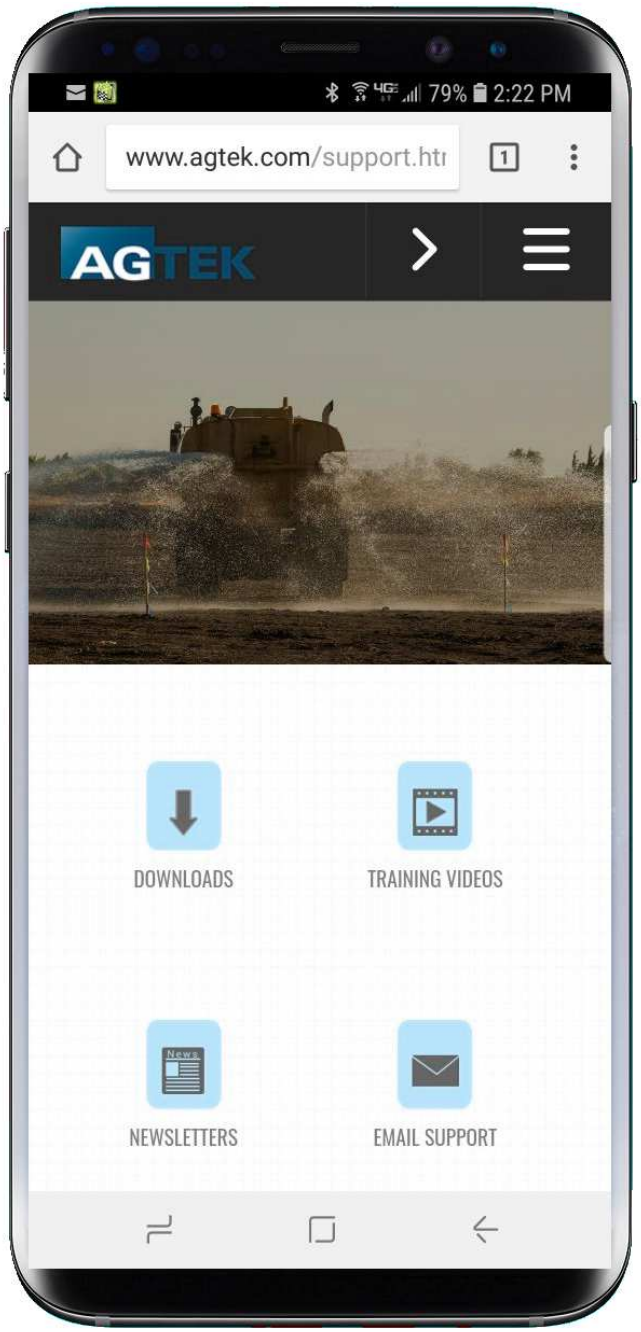
Welcome to SmartDirt

Instructions for Installing the AGTEK SmartDirt app on your Android phone or tablet.

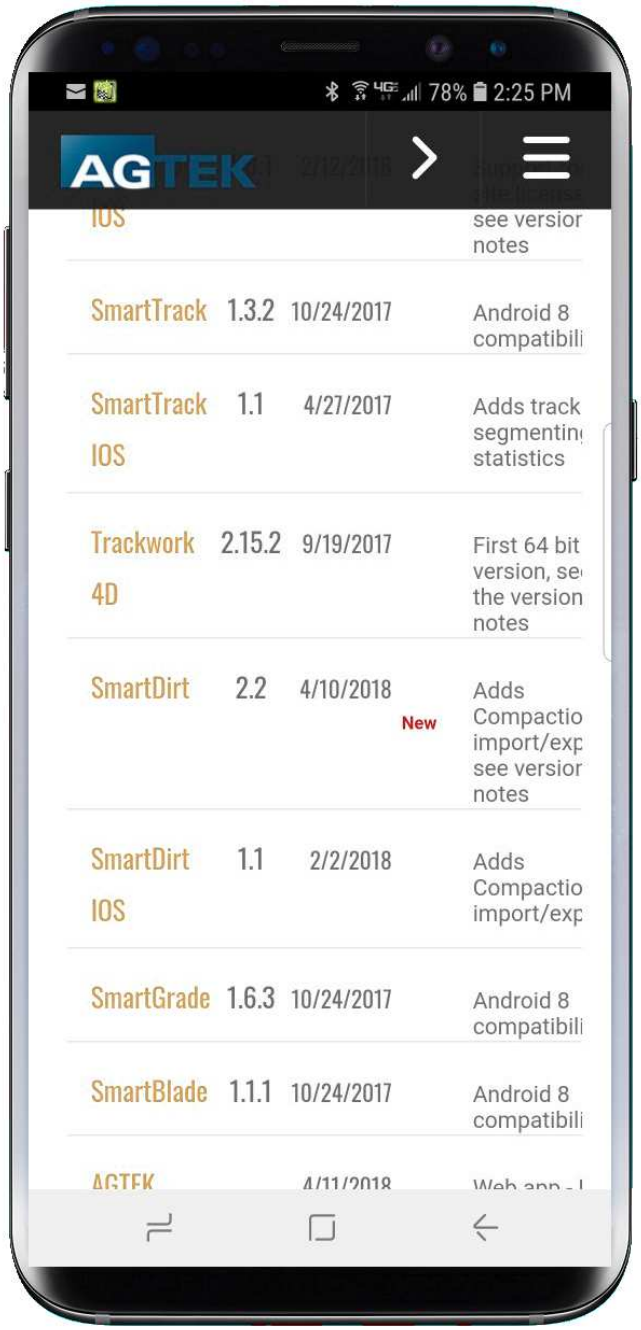
1. To install SmartDirt on your Android phone or tablet, visit our website at www.agtek.com. On the Home Page, tap the Menu bar and tap Support.



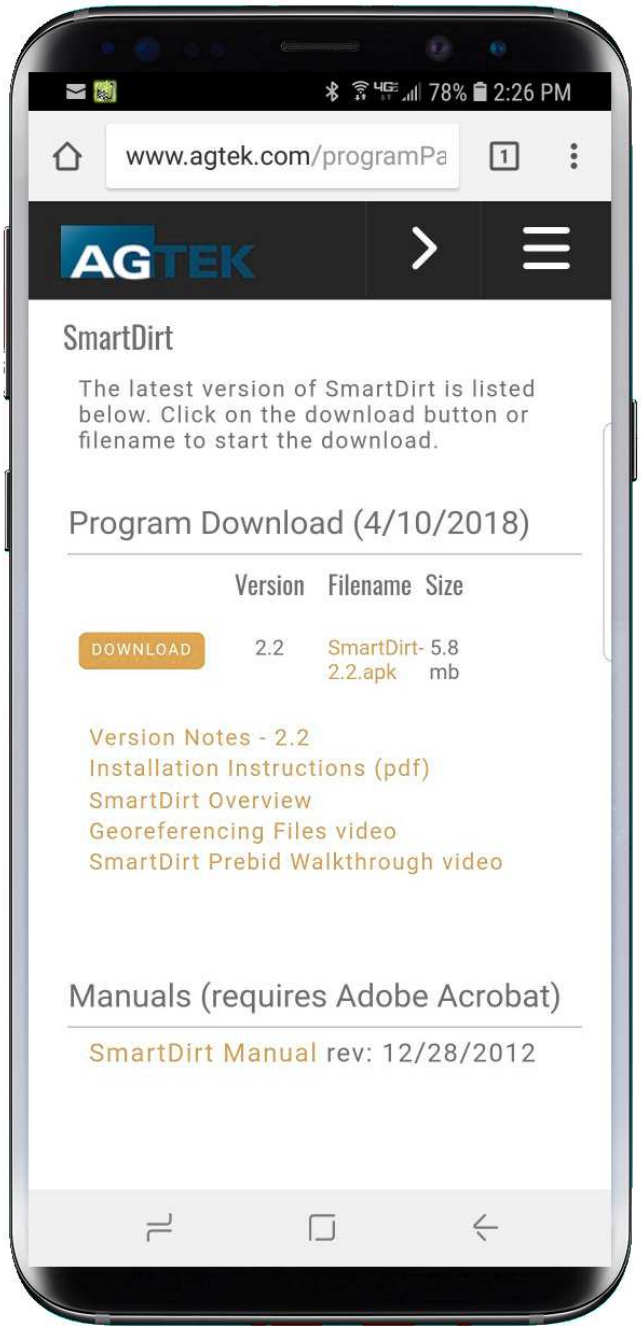
2. Tap Downloads.



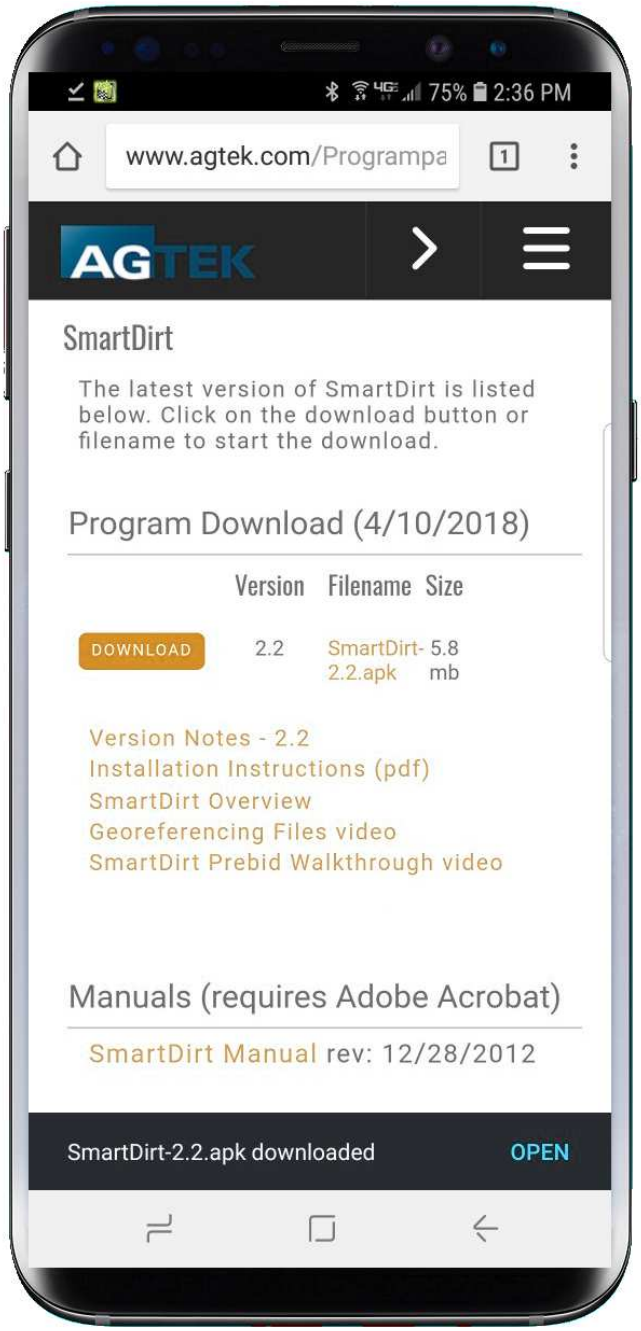
3. Scroll down to SmartDirt. Tap SmartDirt and enter your technical support login and password, You may need to get this information from your support contact.



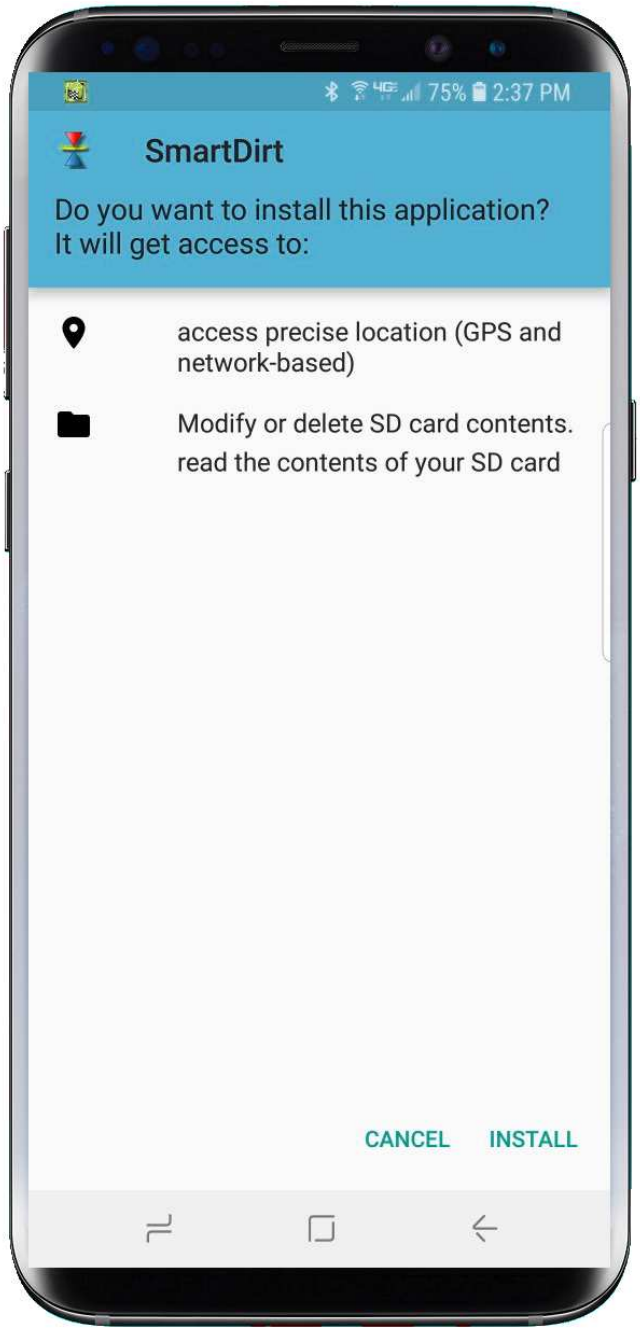
4. Tap Download to start the download process.



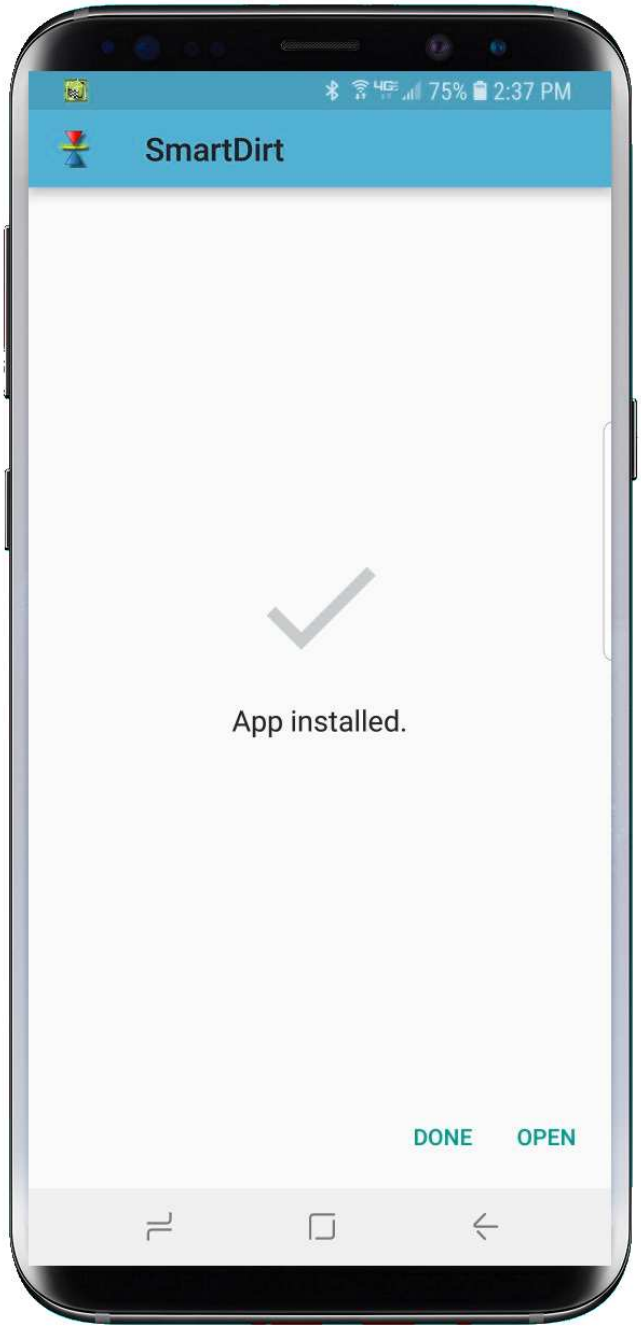
5. When the download is complete, tap Open at the bottom of the screen. Depending on your browser settings, you may need to swipe down from the top to view the download.



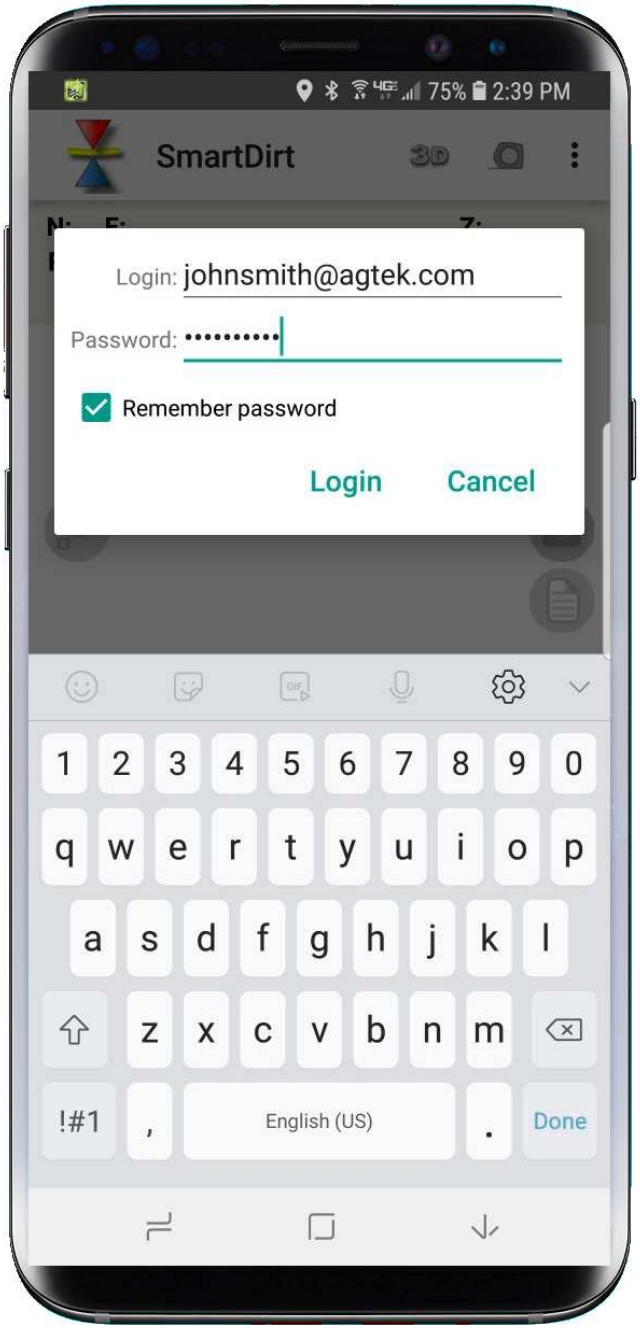
6. Tap Install to begin the installation.



7. When the installation is complete, tap Done to exit or Open to start SmartDirt.



8. Enter you Login and Password. Check Remember Password and tap Login.



9. To launch SmartDirt for future sessions, tap the SmartDirt icon in your Apps folder. You may move the icon to your main screen.

Section 2

Geo-Referencing Files

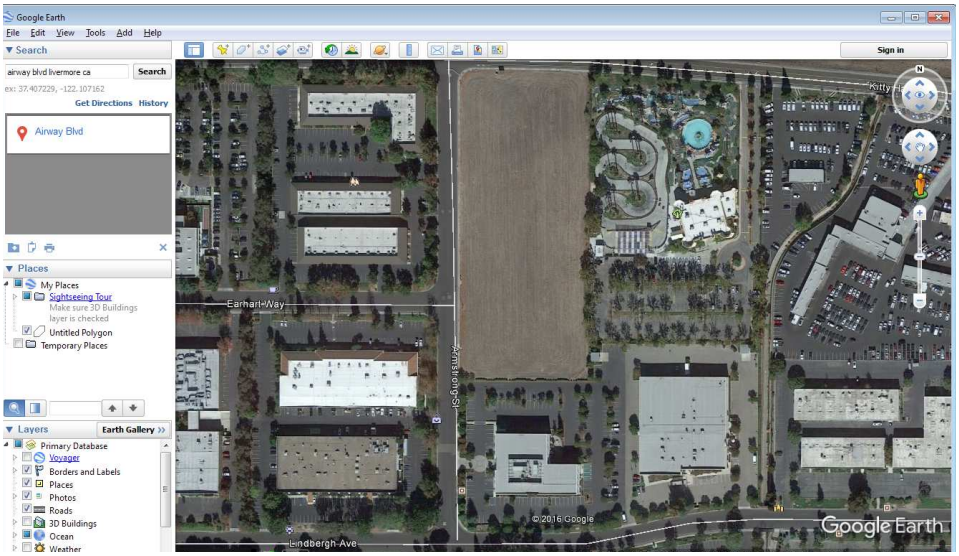
Earthwork 4D Geo-Referencing Files

Before you can use your earthwork takeoff in the field with SmartDirt, you must first enter two benchmarks with approximate latitude and longitude information. There are a couple ways to enter the benchmarks. If the takeoff was done from a PDF file, the benchmarks would need to be entered using Google Earth to establish the latitude and longitude. If the takeoff was done from a CAD file that is in state plane coordinates, you may use the Map Projection Settings utility.

Enter Benchmarks using Google Earth

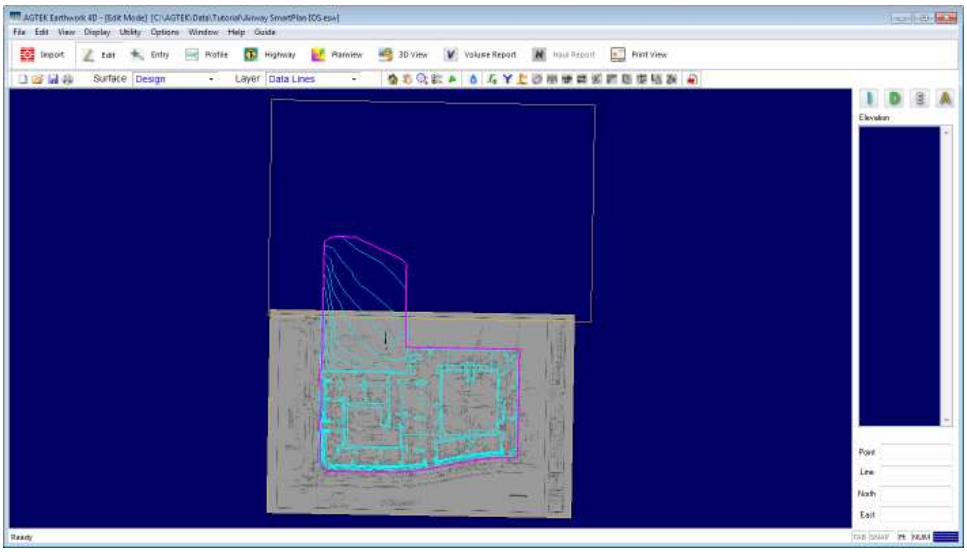
If the takeoff was completed using PDF plan sheets, we may use Google Earth to establish the benchmarks with approximated latitude and longitude.

1. Locate your job site on Google Earth.

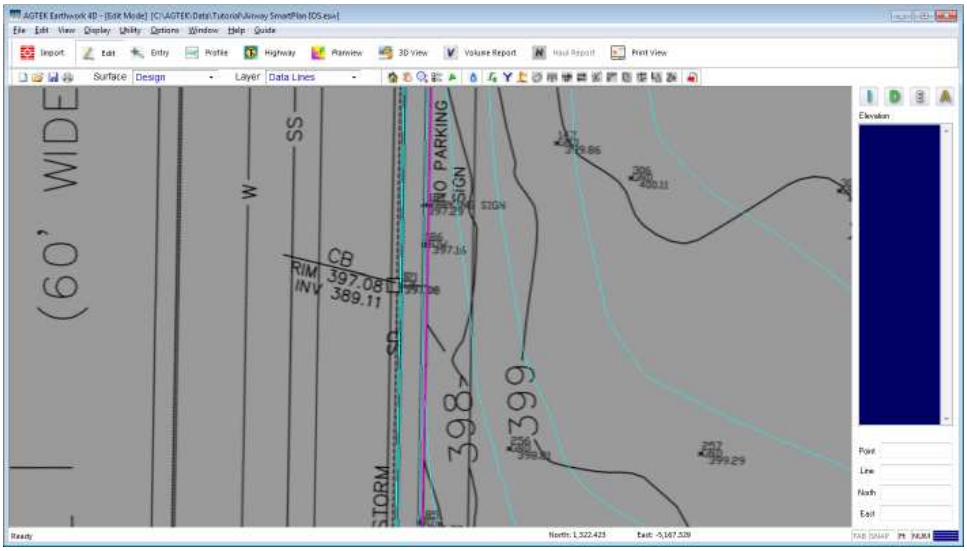


2. Identify some existing features that can be found on the plan sheets. Existing curb corners, catch basins, or street intersections are good examples.

3. Open the job file in Earthwork 4D.
4. Import the plan sheet containing the existing features located on Google Earth.



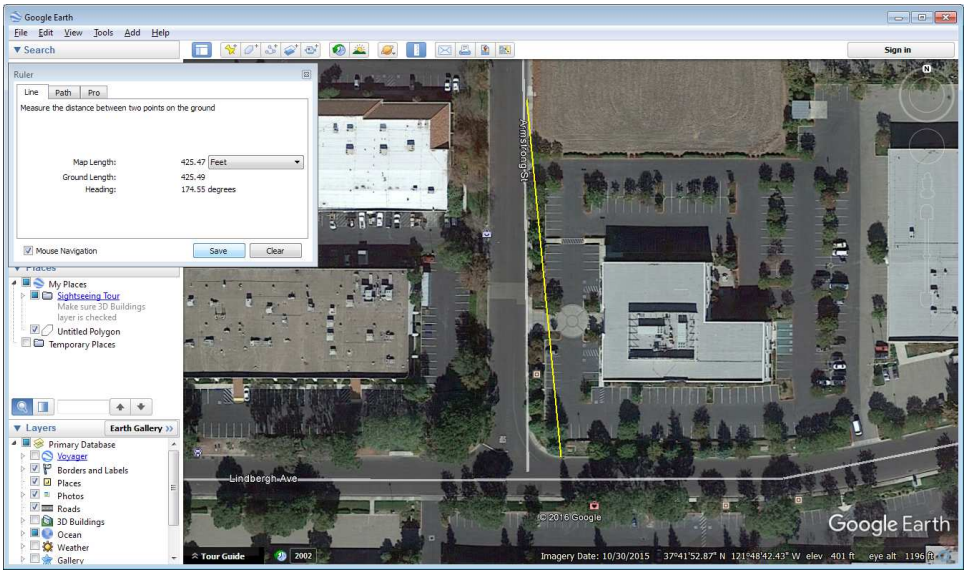
5. Locate the two common features found on Google Earth.



6. Minimize Earthwork 4D and return to Google Earth.

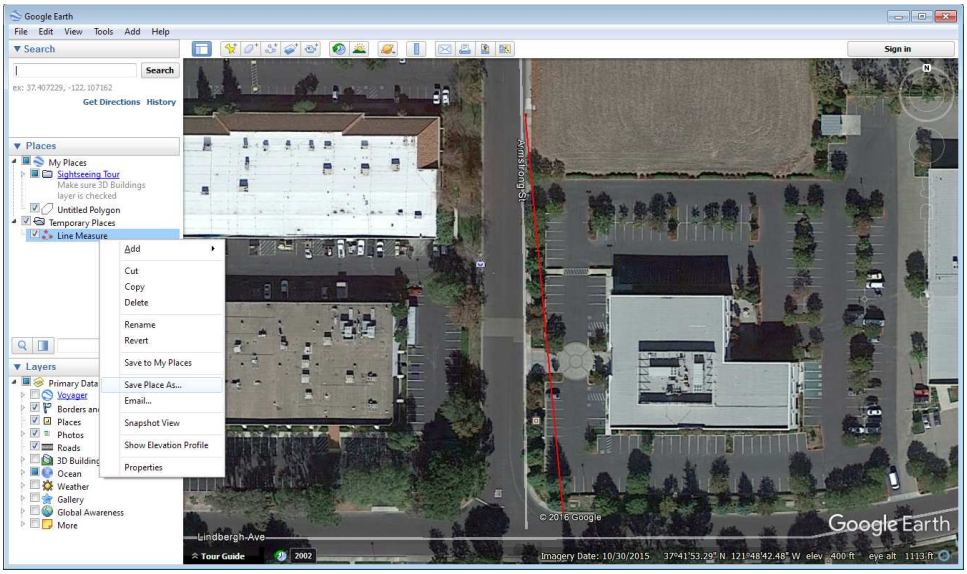
7. In Google Earth, select the Show Ruler icon, or select the Tools menu and select Ruler.

8. Draw a line connecting the two points. Click the Save button.



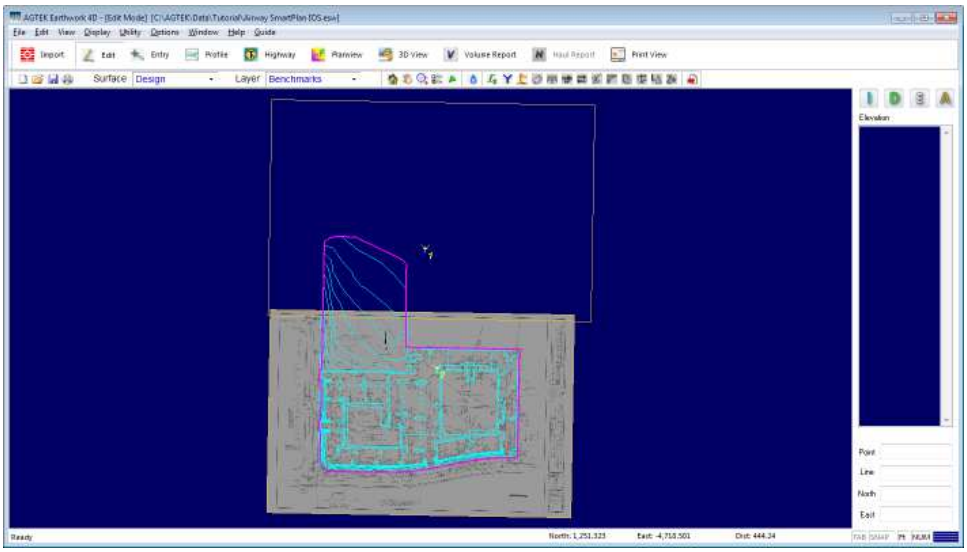
9. Keep the name Line Measure and click OK.

10. Right click on Line Measure under Temporary Places and select Save Place As.

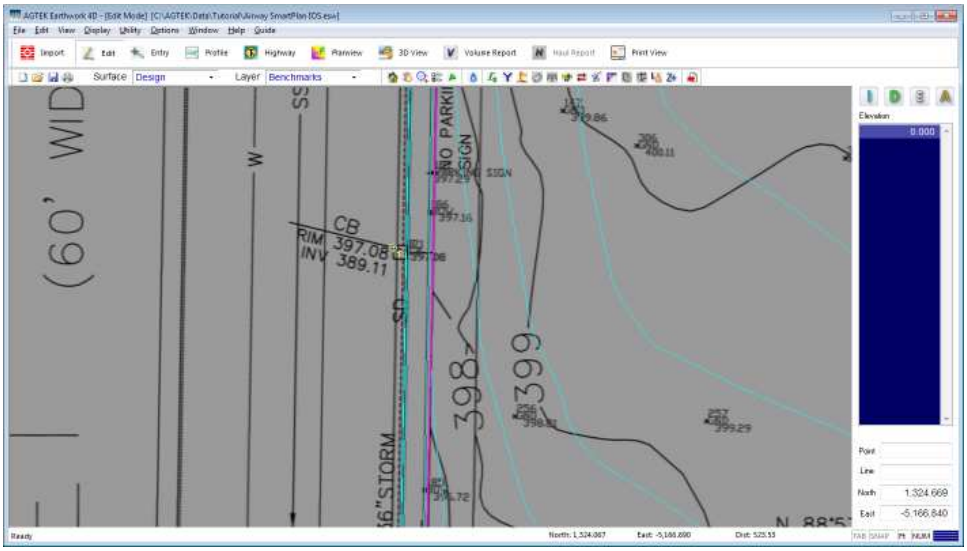


11. Save the file to the same file folder containing the Earthwork 4D job file.

12. In Earthwork 4D, right click and select Import File.
13. Select the Line Measure.KMZ file and click Import.



14. The Benchmarks will be inserted, however they will not be in the correct location.
15. Change the layer to Benchmarks.
16. Select one of the benchmarks. Position the tip of the arrow on the corresponding location on the plan sheet and press the F7 key to move the benchmark to the new location.

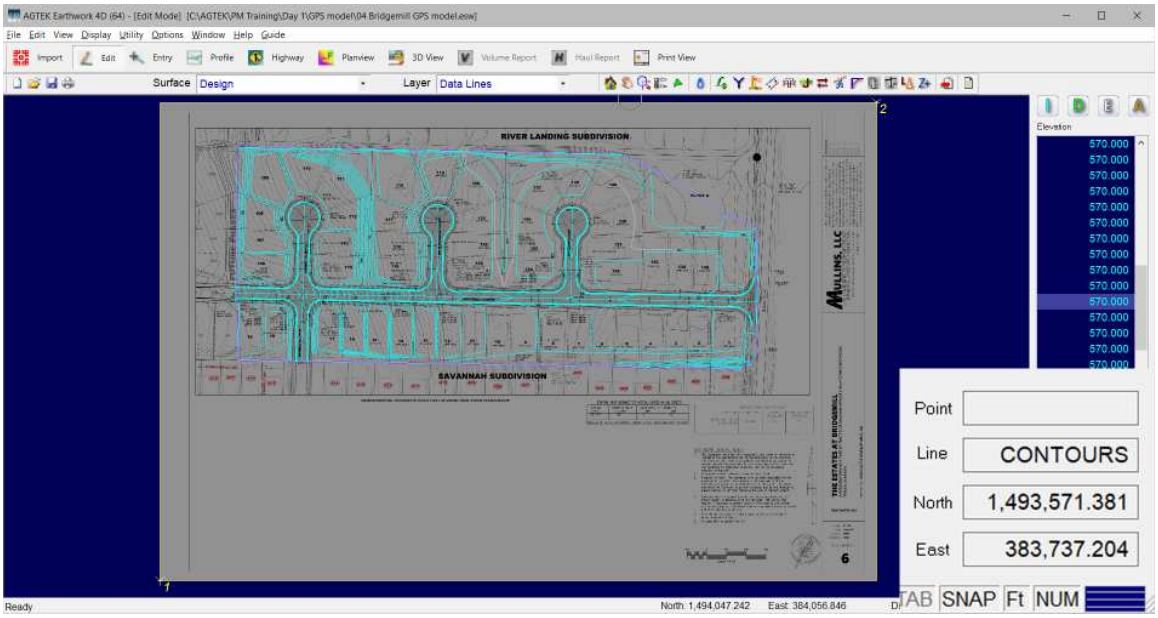


13. Repeat this process for the second benchmark.
14. The ADF file may now be exported.

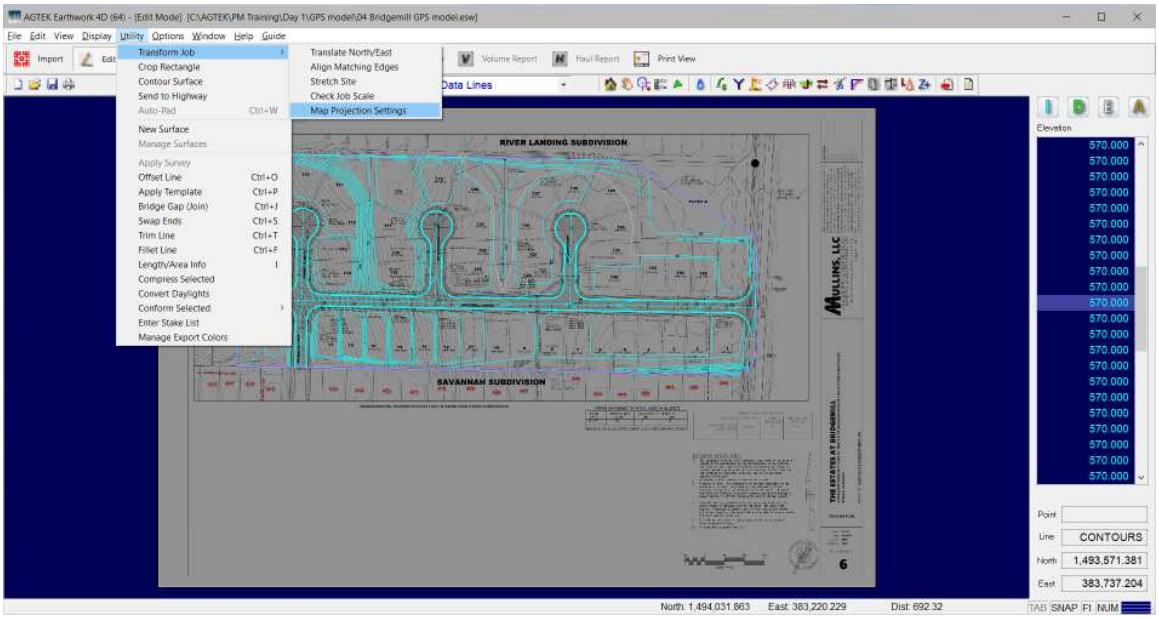
Enter Benchmarks using Map Projection Settings

If the takeoff was completed using CAD file that is in state plane coordinates, we may use the Map Projection Settings utility to establish the benchmarks with accurate latitude and longitude.

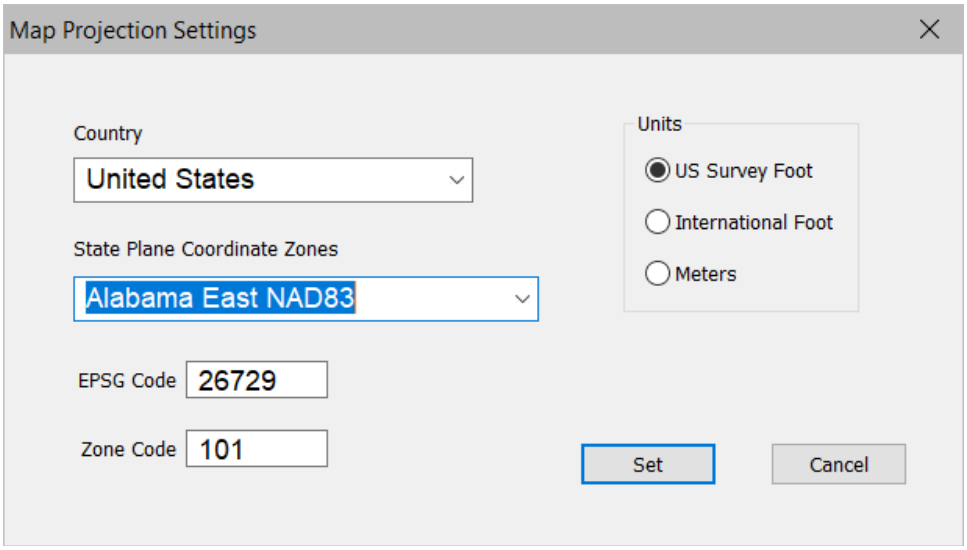
1. Before adding the benchmarks using Map Projection Settings, check the north and east coordinates to see if they are in state plane or a local coordinate system determined by the engineer. Typically if the coordinates are large values (millions and hundred thousands) they are state plane coordinates.



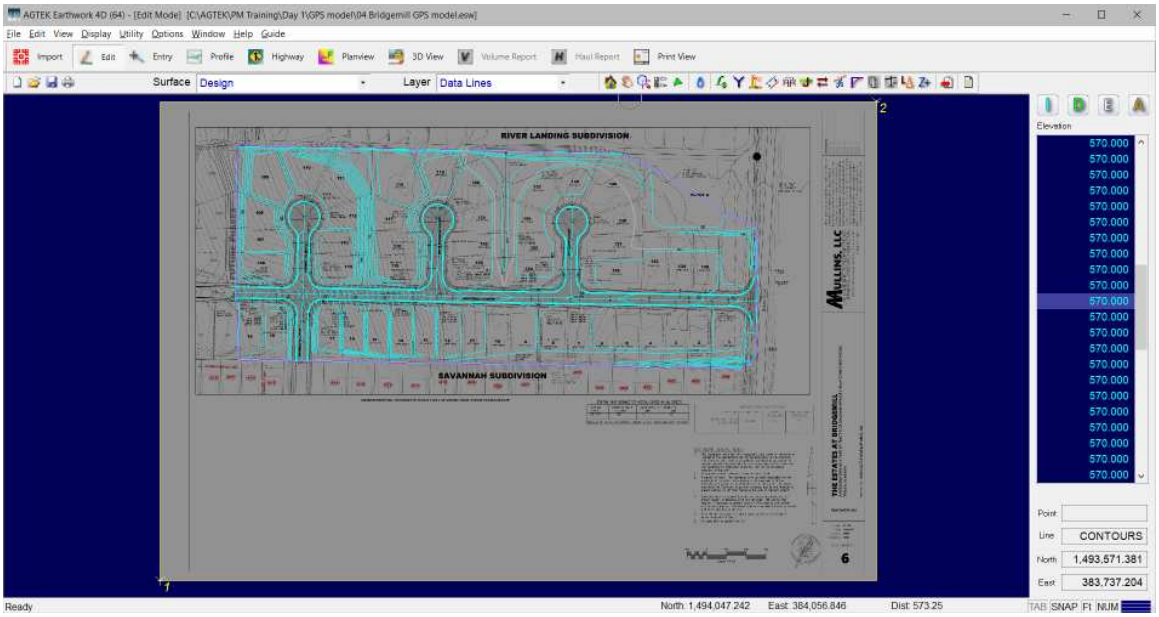
2. Select the Utility menu and select Transform Job > Map Projection Settings.



3. Select the desired State Plane Coordinate Zone. Check the proper Unit and click Set.



4. Two Benchmarks will be added at the extents of the job with the correct latitude and longitude. Again, the file must be in state plane coordinates for this utility to work properly.

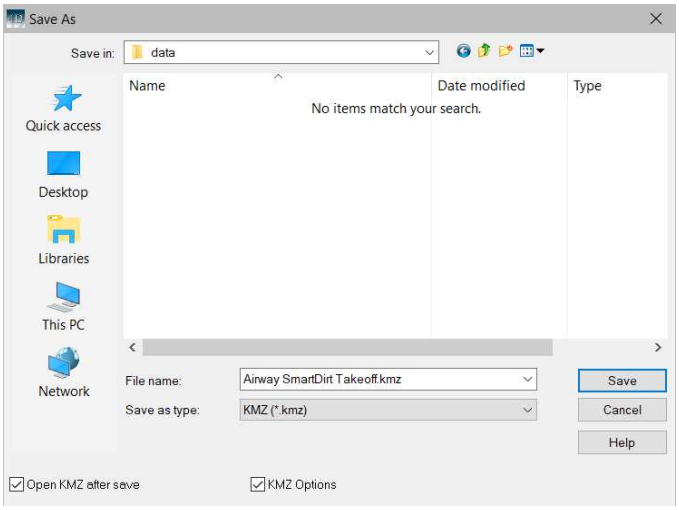


5. The ADF file may now be exported.

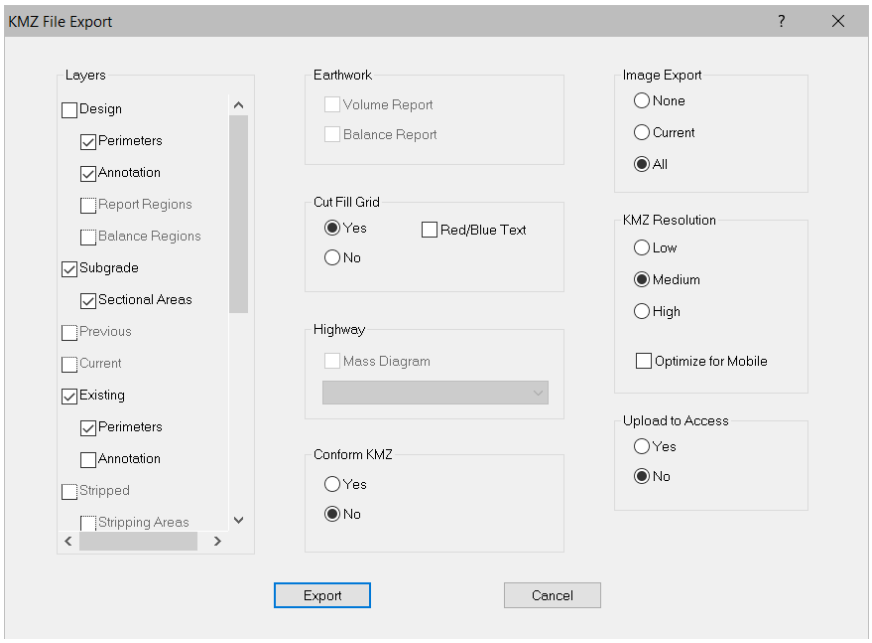
Save KMZ File

Before we save the ADF file for use with SmartDirt, we recommend exporting a KMZ file that may be viewed on Google Earth to verify the alignment of the project data is accurate. To export the KMZ file, select the Plan View mode icon on the toolbar.

1. Select File > Export KMZ File. The Save As dialog box displays.

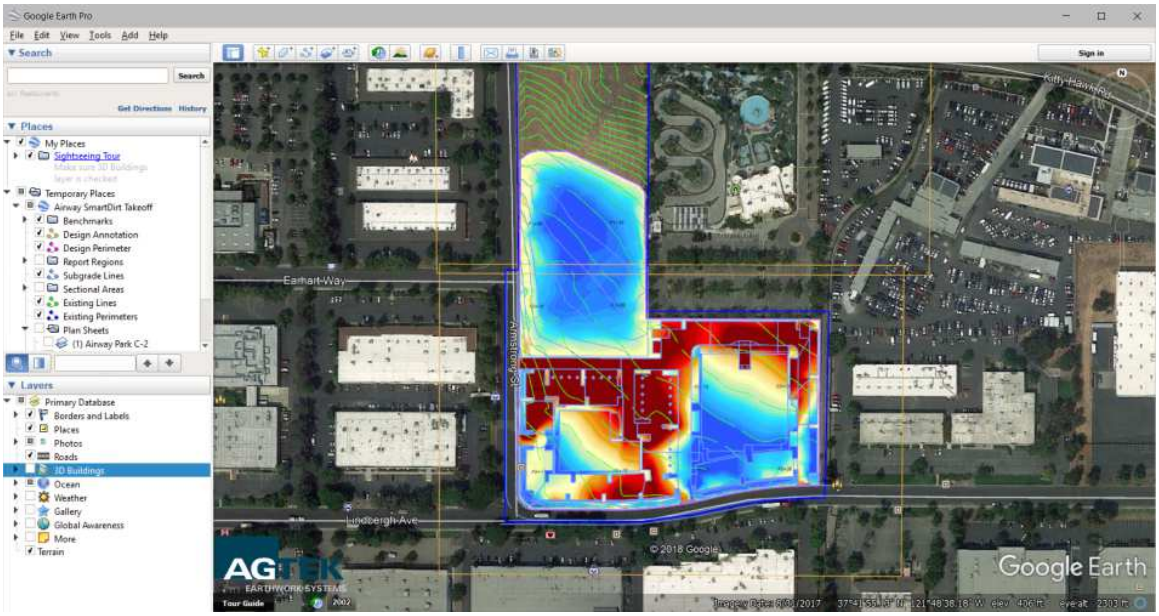


2. Enter a name for the KMZ file and click Save.
3. The KMZ File Export dialog will display.

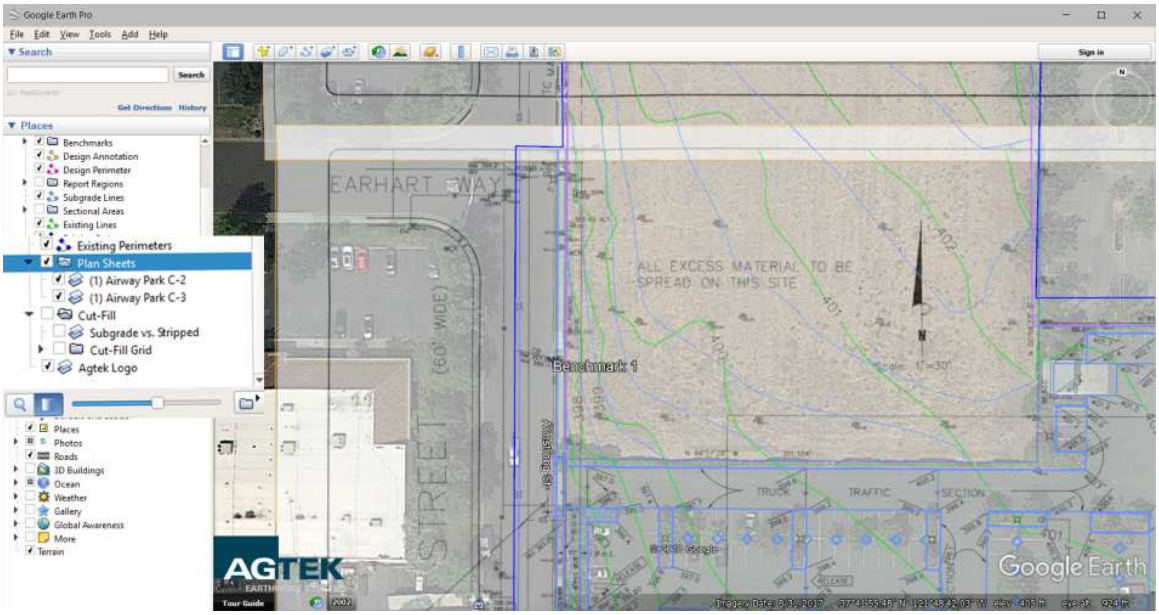


4. Select the desired layers to be saved to the KMZ file. Since we are only viewing this on Google Earth to verify the alignment, it is recommended to output the plan sheets and existing data lines. Check Existing under Layers and check All under Image Export. Click Export.

5. The KMZ file will open in Google Earth. It is recommended you view the KMZ file on Google Earth to verify the accuracy of the alignment to the job site.



6. The Cut/Fill Map will display by default. To view the plan sheets, check Plan Sheets on the left under Temporary Places.

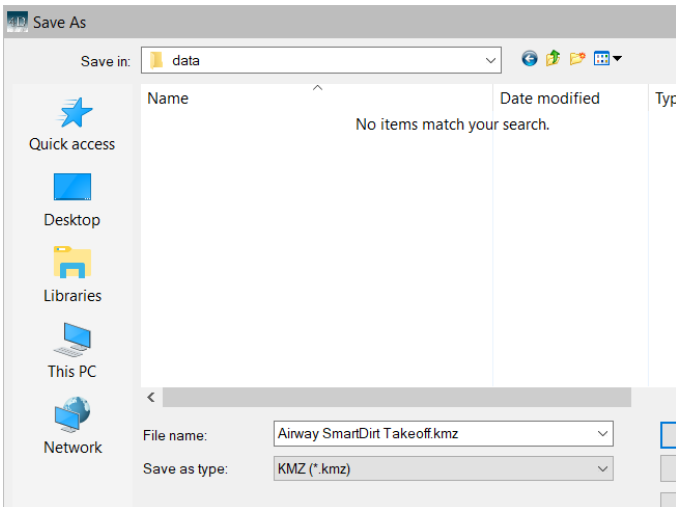


7. To verify the alignment is correct, you may change the transparency of the images. Select Plan Sheets under Temporary Places. Click the blue Zoom button and slide the bar to the left to see through the images. If the alignment is correct, we are ready to export the ADF file.

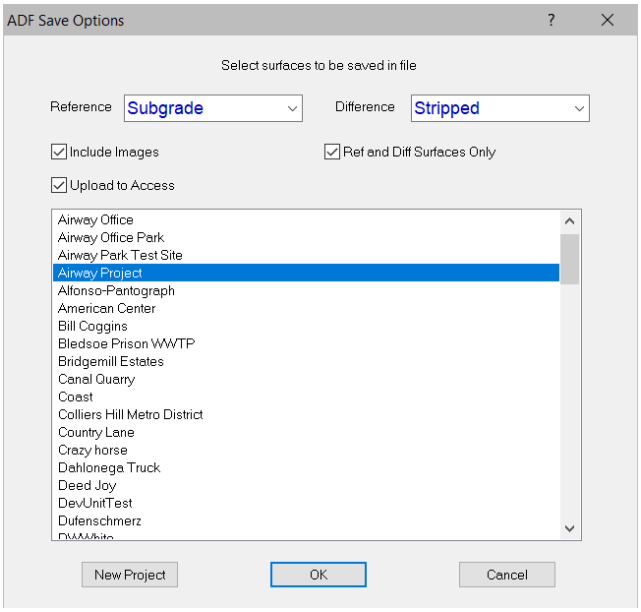
Save ADF File

After the alignment has been verified, we may now export the ADF file for use with SmartDirt.

1. In Sitework 4D, select the File > Save As. The Save As dialog box displays.



2. Click the Save as Type pulldown and select AGTEK Mobile Files (*.adf).
3. Enter a name for the ADF file and click Save.
4. The ADF Save Options dialog will display.



5. Select the desired Reference and Difference surfaces. Check Ref and Diff Surfaces Only to limit the size of the file.
6. Select the desired project folder. If no project folder exists, create a new project.
7. Check the boxes to Include Images and Upload to Access. Click OK.
8. The file will be uploaded to the project folder for use with SmartDirt.

Section 3

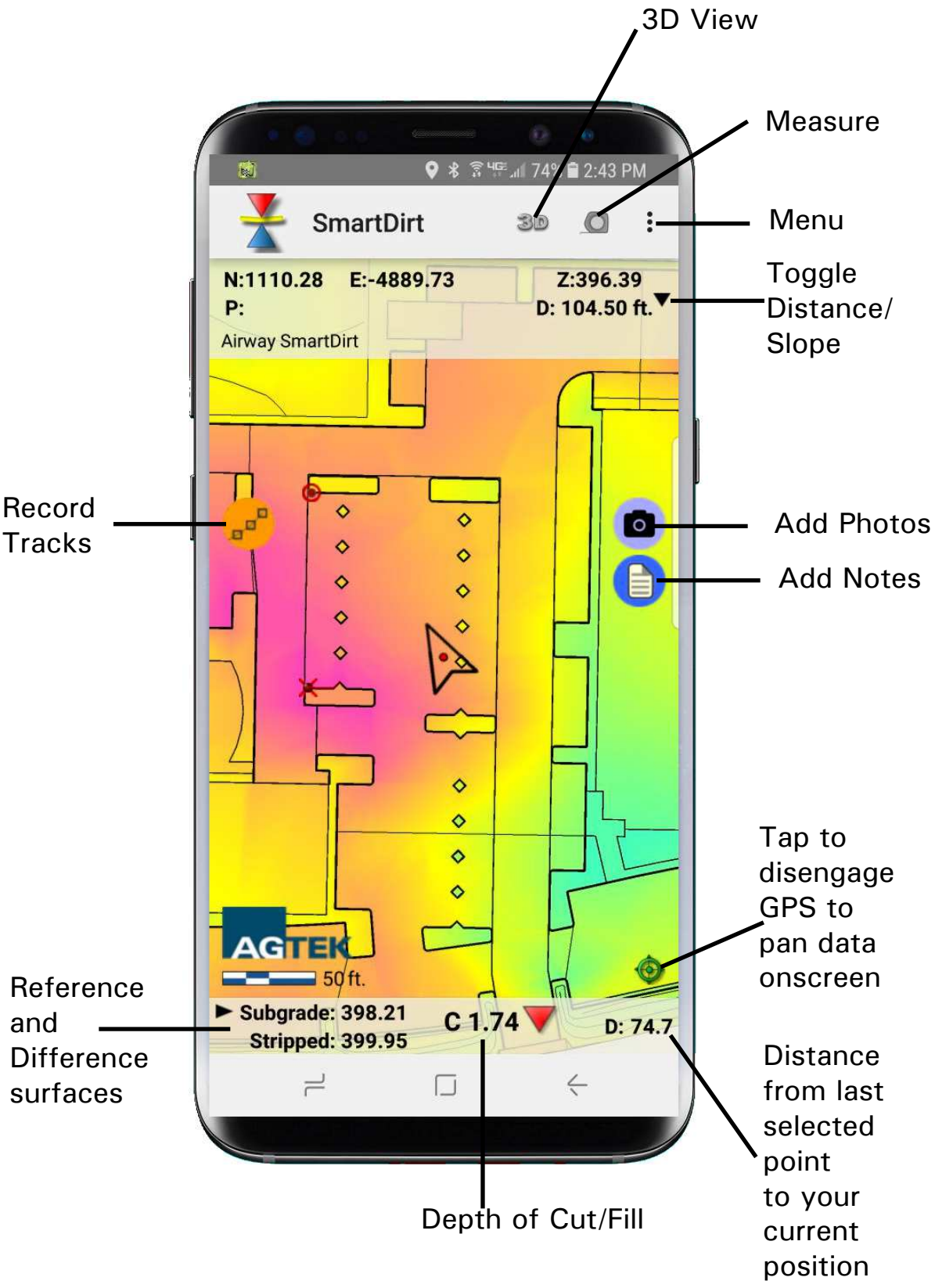
Basics

SmartDirt - Basics

SmartDirt geo-references your plan sheets, cut/fill maps, and takeoff quantities using the GPS positioning capability built into your IPhone or IPad. Geo-reference the file using the procedure described in the previous section.

1. Before launching SmartDirt, make sure the GPS feature is enabled on your phone. This procedure will vary with different phone versions.
2. To launch SmartDirt, locate the SmartDirt icon in your Apps. You may move the icon to your Home screen if desired.

3. Enter your Login and Password information. Check the box to Remember password and select Login.
4. Select any available SmartDirt Key.
5. If the file has not been saved locally to the phone, select AGTEK Access.
6. Locate the project folder and select the desired ADF file. The file will open and you will automatically be geo-referenced to the job site. The cut/fill color map will display.


3D View
Measure
Menu
Toggle Distance/ Slope
Record Tracks
Add Photos
Add Notes
Tap to disengage GPS to pan data onscreen
Reference and Difference surfaces
Distance from last selected point to your current position
Depth of Cut/Fill
2:43 PM
SmartDirt
N:1110.28 E:-4889.73 Z:396.39
P:
D: 104.50 ft.
Airway SmartDirt
AGTEK
50 ft.
Subgrade: 398.21
Stripped: 399.95
C 1.74
D: 74.7

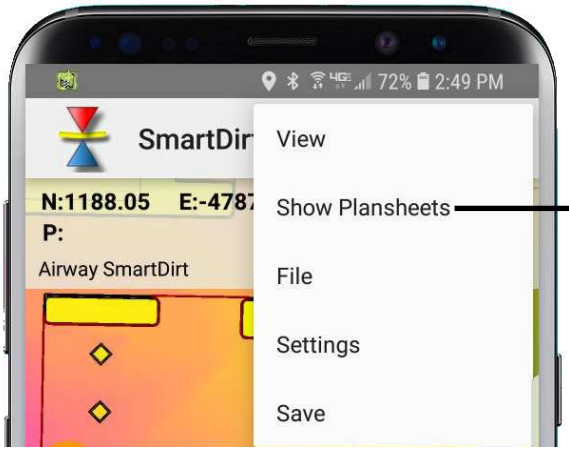
SmartDirt - Layer Controls

When using an ADF file, all data saved in the file is stored in separate layers. You may turn layers on and off by using the layer controls.

1. To change the displayed data, tap the menu and select View.

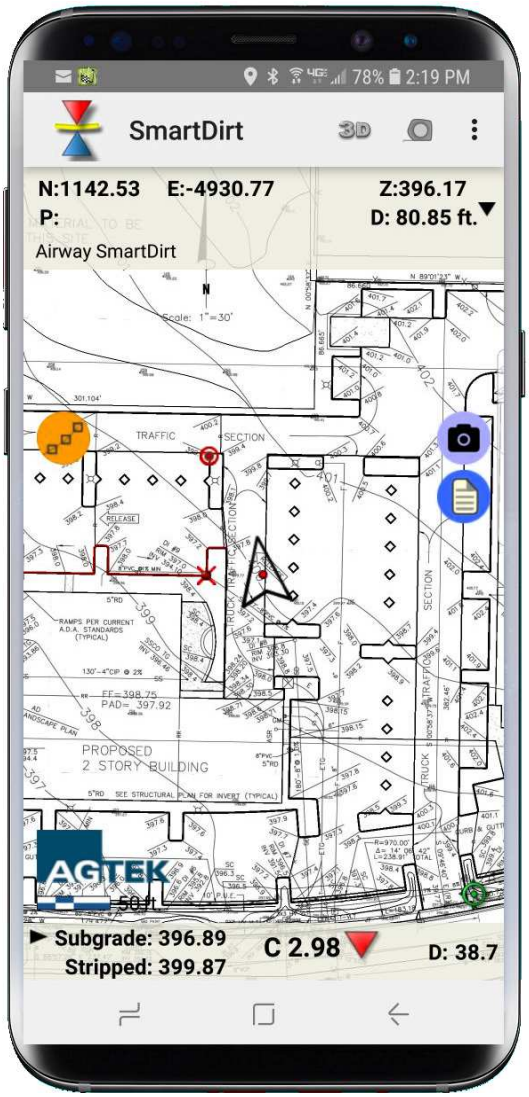
2. All data saved in the file will be listed at the bottom of the screen. Visibility is controlled by a check box. Check or uncheck the box to toggle the display of the layer.

3. To display the plan sheets, tap the Menu and select Show Plan Sheets **Plan Sheets.**



Toggle between Plan Sheets and Cut/Fill Map

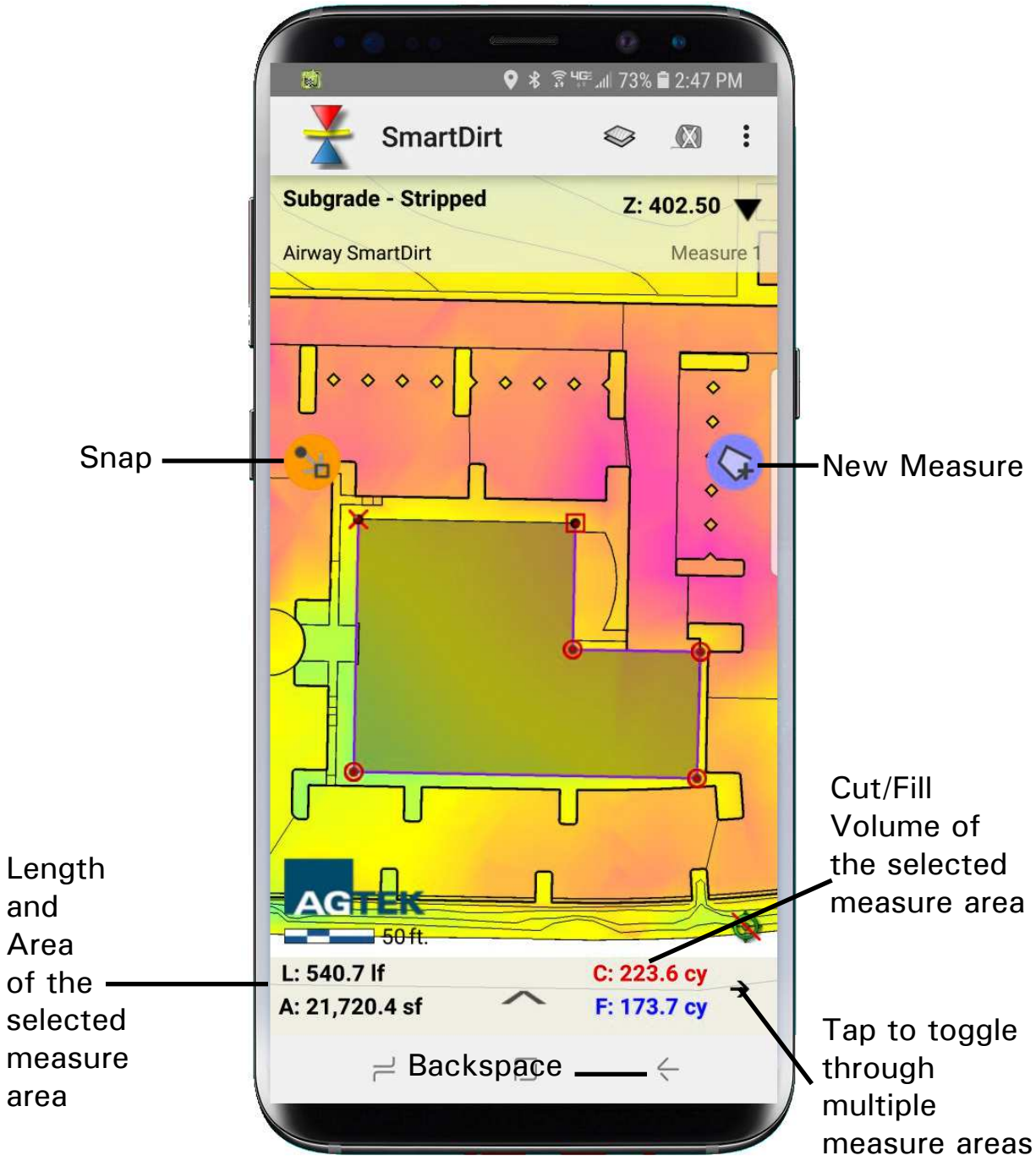
4. You will now be walking on the plan sheets. If plan sheets overlap, tap and hold on the sheet and select the desired sheet.



SmartDirt - Measure Mode

Measurements may be made using either the plan sheets or the job data.

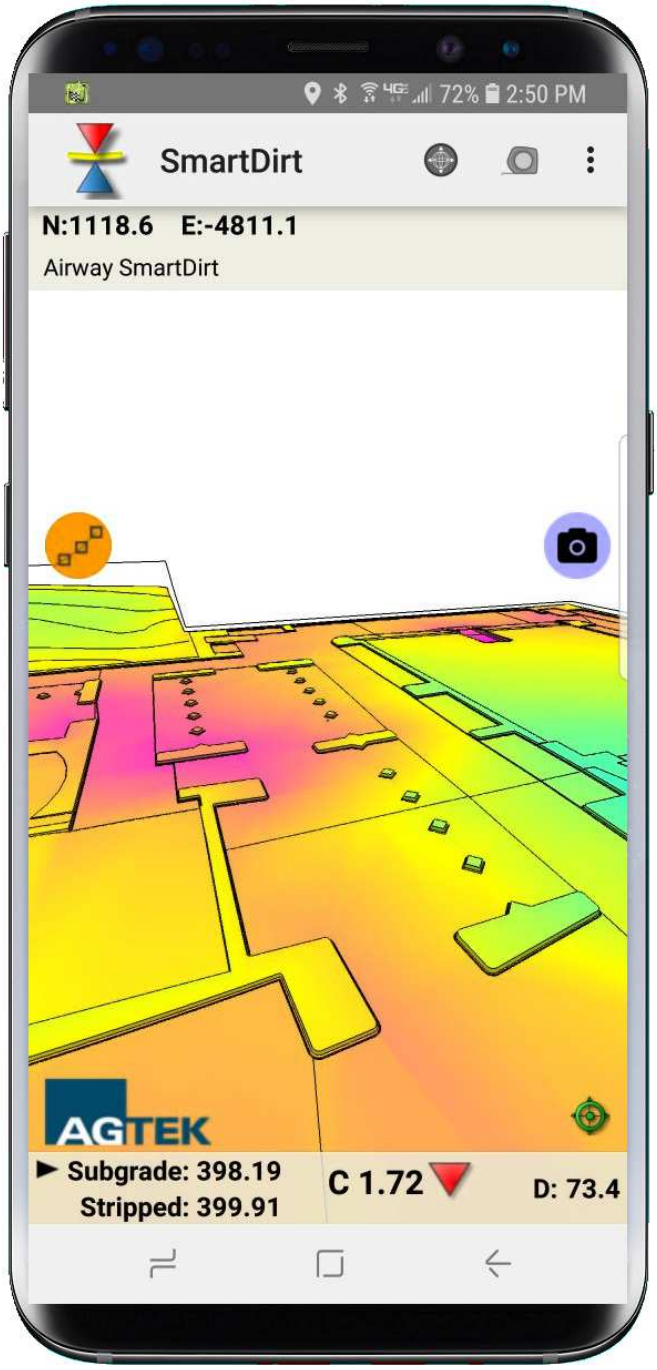
1. To enter Measure mode, tap the Tape Measure button.
2. Tap the screen to enter the points. The cut/fill volumes, length and area will be displayed at the bottom of the screen. The length is the accumulated length up to the last entered point. The area is the shaded area. To get the total length of the perimeter, you must enter a point back on the starting point. If you make a mistake, tap the Backspace button.



SmartDirt - 3D View

Tap the 3D button to view the 3 dimensional view of the reference surface.

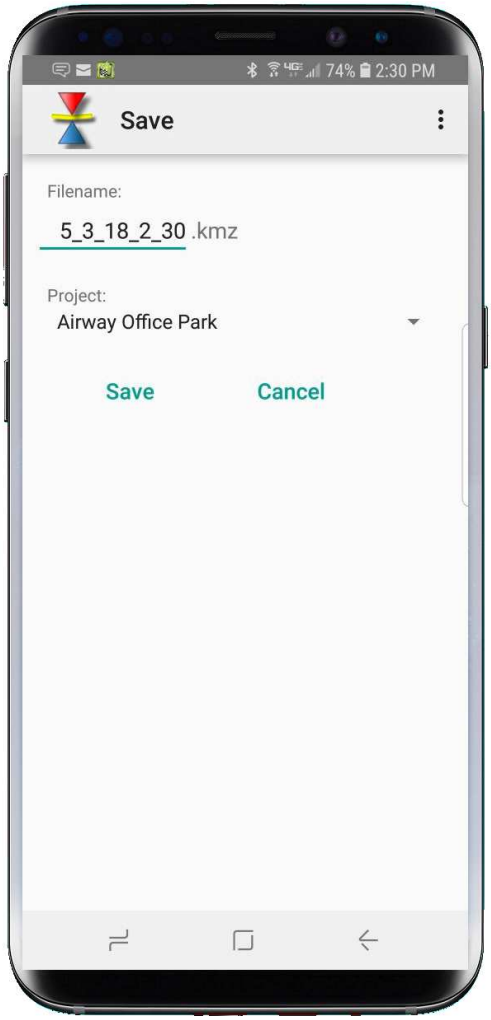
1. Use the pinch to zoom to zoom in and out on the view. Rotation is controlled by the compass in the phone or tablet.



2. Tap the 3D button again to exit the 3D view.

3. To upload all photos, notes, tracks and measure areas tap the menu and select Save.

4. Enter a name or keep the default time stamped filename and tap Save.

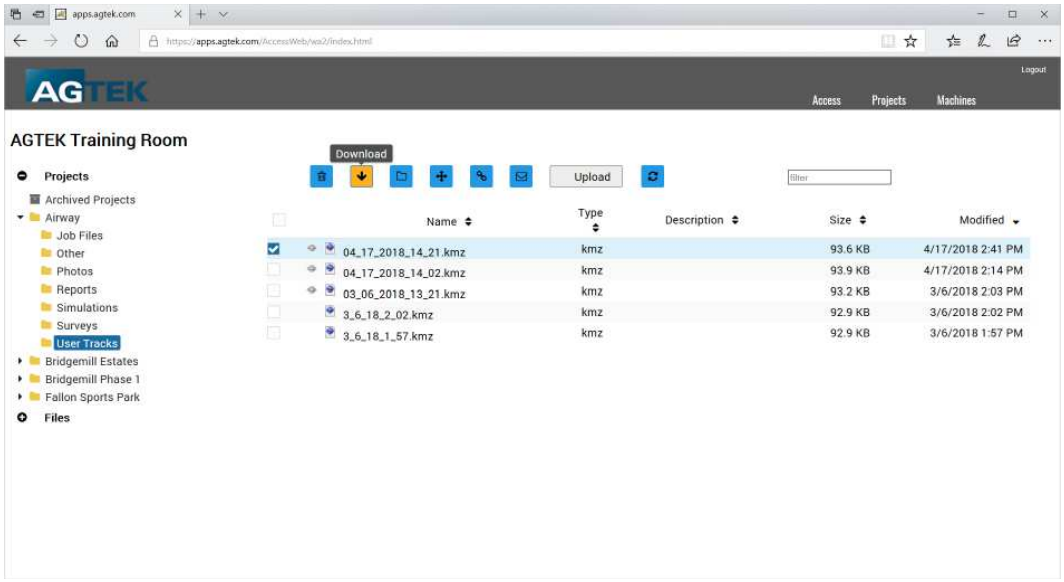


5. All user added data will be uploaded to AGTEK Access to be downloaded in the office.

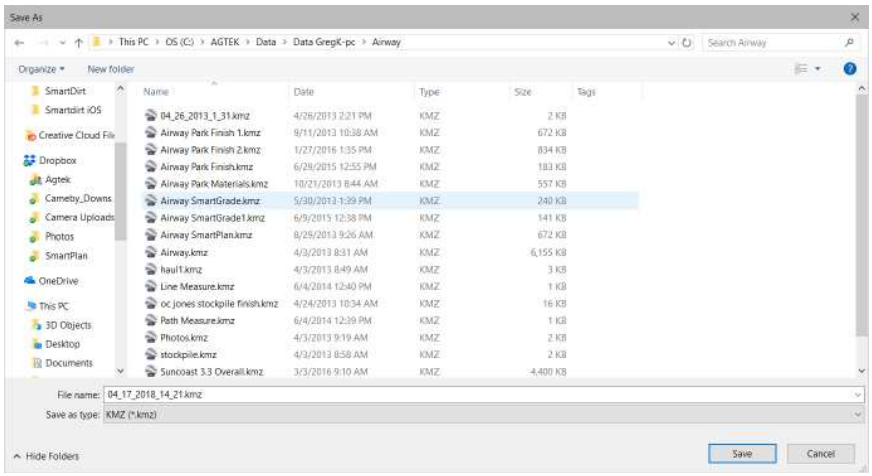
SmartDirt - Download Photos, Tracks, Notes and Measures

If photos, tracks, notes or measure areas were uploaded during the job site session, they may be downloaded to the office computer using AGTEK Access. AGTEK Access is a web based application.

1. From your web browser, visit Apps.agtek.com. Enter your login and password. It is recommended you bookmark this site for future sessions.
2. Open the Projects folder and locate the desired project.
3. Open the desired project folder.
4. Open the User Tracks folder to locate the KMZ file containing the tracks and photos. The individual photos will also be stored in the Photos folder.



5. Select the desired file and click Download.
6. Select the destination folder and click Save. Depending on your browser the file may automatically download to your Downloads folder.



7. The KMZ file may be opened in Google Earth to view the recorded photos,tracks, notes and measures.