

Deed Calls - Grid - Stakeout

Help Document

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Overview

The **Deed Calls - Grid - Stakeout** universal application software will let you digitize Points, Lines and Area Features, create a Line or Area Feature by entering **deed calls**, as well as create **Grid Points** or **Grid Lines** over an Area Feature.

This app also provides the **Point Stakeout** and **Line Stakeout** functions to help you approach a point or move along a line or the boundary of the area.

You might be a forester interested in collecting timber cruising data at the sampling points on a grid of given dimensions. Or, you might be a scientist wanting to collect soil samples at the evenly spaced grid points. The app will let you easily create a square or rectangular grid in the orientation that you specify. If you wish to see the grid lines, you could have those created instead of the grid points.

If your iOS device has **GPS** capability, you could pick the GPS position to use as a node for the Area Feature that you are digitizing. You could use the GPS device in conjunction with the stakeout functions to help you get to the desired grid point or walk or drive along a grid line.

A drawing will be automatically created on the screen for the digitized Features or for the deed calls that you enter. The deed plot can be converted to a Line or Area Feature. You can then create the grid points over an Area Feature. You can also view the area and perimeter of an Area Feature. You may also elect to have an Area Feature labeled with segment lengths and corner angles when feasible.

The Features could be displayed over a **Map** when the latter is available.

The **Deed Calls - Grid - Stakeout** app will let you measure distances on the displayed map. You will also be able to tap around the boundary of a region and measure its area.

When you start the **Deed Calls - Grid - Stakeout** app, you will see a number of tool icons displayed across the top of the screen. Other tool icons may be displayed on various screens, depending on the function being used.



Main Menu (pull-down list)

Tap the Main Menu icon to display the list of functions on the Main Menu:

Job
Export to PDF
Export to DXF
Map
Email Files
Setup
Help
About Deed Calls - Grid - Stakeout



Tools Menu (pull-down list)

Tap on the inverted arrowhead to show the tools provided. The **deed calls** function is placed on this menu.



Create Grid



Measure Distance/Area Tools



Zoom-Fit



GPS Menu

Turn GPS On/Off
Stakeout Setup
Position Info
Point Stakeout
Line Stakeout



Feature Properties

On-screen Keyboard

An on-screen keyboard will automatically pop up when the focus is on a data entry field, such as the **Grid Scale**. After entering data, tap the **Return** button on the pop-up keyboard. To hide the keyboard, tap the **Hide Keyboard** icon on the keyboard, or tap in an area outside the keyboard.

When entering numeric data, you will notice that there is a Special Key showing several symbols on it. To enter a distance value with a fractional part, tap this key to put in the decimal point.

To enter angles in **DMS** (Degrees-Minutes-Seconds), if your data value will not fill in all the places, then tap the special key after entering the desired value. For example, to enter the longitude of 91°09'26.082"W, you could type in

0910926.082W. Or, you could type 91, tap the special key, type 9, tap the special key, then enter 26.082W.

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Open a Job File

Tap the **Main Menu** icon, select **Job**, select **Open Job**, then select an existing job file to open, such as **test.pmp**.

To create a new job file, first tap on the **New** button. You may accept the default file name or enter a unique file name then tap the **OK** button. (Yes, it's okay to type over the displayed file name.)

Whenever you open a Job file, the app will automatically close the previously opened file.

To cancel out of the screen for opening a file, simply tap the **Exit** button.

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Setup

Before the first-time use, please select the distance and angle units to be used. You may also specify how the Feature labels should be displayed as well as the default parameters for creating a grid.

Unit and Angle System

Select the **Unit and Angle System** under **Main Menu - Setup** to specify the desired length unit for displaying line segments. The areas will be computed in the metric or British system accordingly.

Available choices for displaying angles are **Azimuth** and **Bearing**. If Azimuth is chosen, also specify the **Angle System**: North or South. Angles will be displayed in Degrees, Minutes and Seconds (DMS).

Feature Labels

This app gives you the option of labeling the line segments, areas and corner angles for the selected Feature when feasible.

You can define the font color and size for the labels after selecting **Feature Labels** under **Main Menu - Setup**.

Mark the **Show white background** checkbox if you wish to have the labels displayed on a white background to make them stand out better over a satellite map.

Default Grid

You may use the Default Grid Setup page to define the orientation, the grid


spacings and the grid color to be used as default values for creating a new grid. You can still change the grid parameters on the fly when creating a new grid.

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Display Map

Whenever you are connected to the Internet and your location can be determined, Map can be displayed as the background map for your job data.

You may select one of the following view modes after tapping the **Main Menu**

icon  then choosing **Map**:

Show Standard - Show a map of streets and landmarks.

Show Satellite - Show satellite photos.


Show Hybrid - Show street names on satellite photos.

To turn off the Map display, tap **Close Map** on the Map menu.

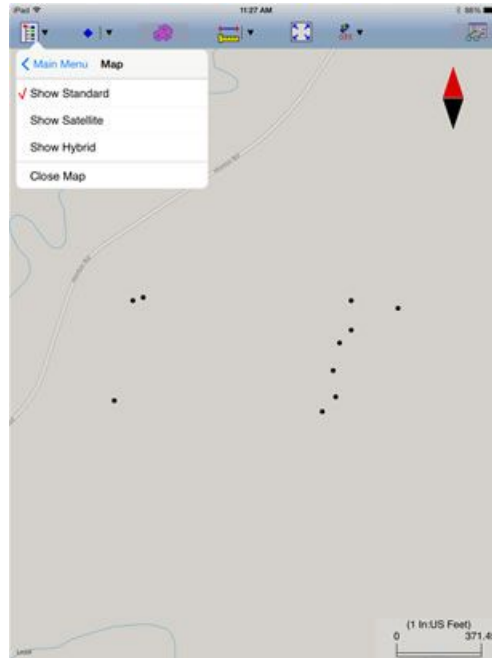
Where am I?

When you start a new job, the app does not know where you are. If you have the Map turned on, you can find your continent then zoom in to your country, your city, hence your neighborhood. You may zoom into or zoom out of portions of the graphical view by using your fingers to pull or pinch on the display, respectively.

If your device is equipped with GPS or has Location Service, then you can tap the

GPS Menu icon  and select **GPS ON** to turn on GPS. This will permit the app to immediately zoom to your location. (Make sure the **Location Service** is turned on for the Deed Calls - Grid - Stakeout application software.)


To nail down your location, you will need to digitize at least one node. If you open the job named "**test.pmp**", you will see that a few Point Features have been added to the map. Go ahead and turn on Map in the **Show Standard** mode so you will see a map similar to that on the following screen.



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Create an Area Feature


This app provides two ways of creating an Area Feature. This section discusses the method of creating an area by digitizing. The other method is by entering deed calls, which will be discussed in a later section.


Tap on  from the Tools Menu to get to the screen for digitizing an **Area Feature**.


The **Deed Calls - Grid - Stakeout** app will let you create one or more Area Features. (However, you may only create a grid on one Area Feature at a time.)


Digitizing involves tapping on the screen to drop a node for the Area Feature. For example, if you wish to make a triangular shape, you would tap the screen at its three corners.

When the **Add** icon  is lit, you will be able to digitize the Area Feature. To work with the standard touch-screen mode to zoom or pan the map, first tap the **Add** icon  to turn it off.

When the **Snap to Node** icon  is lit, you may only tap on an existing node to include it in the Area Feature.

If you don't want to snap to a node then turn off the **Snap to Node** icon  by tapping on it and making sure it is not lit. Then you will be able to tap anywhere on the screen to drop a node.

When you need to place a node precisely, tap on the donut-shaped **Node tool** . A larger donut with crosshairs at its center will be displayed on the map. Touch on the purple area of this tool and drag the crosshairs to the desired location. Then tap once in the donut hole to drop the point. You could also keep holding down on the purple donut and use another finger to touch outside of the donut area to drop the point.


If your device has GPS capability, you could use the GPS position as a node for the Area Feature that you are digitizing. With GPS turned on, tap the **Pick GPS** icon  to add such a node.


If you made a mistake in digitizing, you may tap the **Undo** button to back-step.

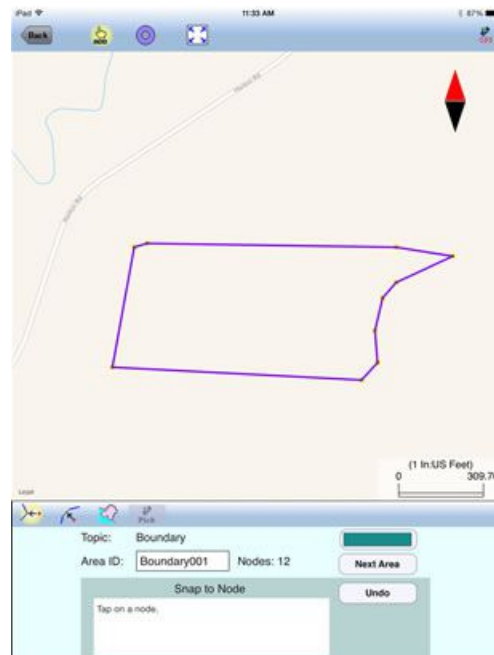
To fit the drawing to the screen, simply tap the **Zoom-Fit** icon. You may wish to zoom into a map to make it easier to place your node more accurately. When **Map** is turned on, you may not be able to zoom to a really small scale. In that case, turn off the Map then pull to zoom into the map.


All of the sample screens in this document display the distances in **US Survey Feet**.

Digitizing an Area Feature

Let's create an Area Feature by joining the Point Features in **test.pmp**. First open this job then tap on  on the Tools Menu.

With the **Snap to Node** icon  turned on, tap on each of the Point Features displayed on the map. You do not need to tap on the first node again.



Tap the **Add** icon  to turn it off if you need to zoom or pan. The above screen shows that we have turned off the Add icon and zoomed in somewhat.

Tap the **Undo** button to back-step, if necessary. The app will report the length of the line segments as well as the area of the Area Feature.

When you tap the **Back** button and confirm to end the Feature, you will see the completed Area Feature in the map.

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Add Points or Lines



Besides creating an Area Feature, you could also add one or more Point Features or Line Features to the map.


To add a new Point, first tap on the **Add Point** icon . This is one of the tools provided on the **Tools** menu.


Tap on the screen twice to add two points as shown below:




Whenever you need to place a Point precisely, tap on the **Node tool**  then use the crosshairs to zero-in on the desired location.


If you wish to have the Point Feature snap to a node on the boundary of an Area Feature, then tap on the **Snap to Node** icon  before tapping in the vicinity of the target node. Tap on  again to see the placement of the new Point Feature.

Tap the **Add** icon  to turn it off when you need to zoom or pan.

If your device has GPS capability, you could tap the **Pick GPS** icon  to add a Point.


To remove a Point that you have just added, tap on on the **Undo** icon .

Tap the **Back** button to exit this screen.

Similarly, to add a Line Feature, first tap on the **Add Line** icon  provided on the **Tools** menu. Tap on the screen to drop the nodes for the Line Feature.

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Add Point by Coordinates

If you know the geographic coordinates of a point, you can add the point to the map by entering its coordinates after tapping on the Digitizing Tools Menu then selecting **Add Point by Coordinates**. If the Add Point by Coordinates icon  is already displayed then simply tap on that icon to display the data input screen.

Enter the known coordinates then confirm the screen. Make sure you specify the correct North or South Latitude, and the correct East or West Longitude. Otherwise a point may be created very far away from your job site.

You may tap on the **Pattern** button to select a different symbol and color for the Point Feature to be created.


The Orthometric height is the elevation based on mean-sea-level. The ellipsoidal height is based on the ellipsoid.

Tap on **Cancel** if you decide not to create the new point.


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Move Node


The **Move Node** tool on the Digitizing Tool Menu will let you adjust the position of an existing Point Feature or a node on an Area Feature.

To move a node on a Feature, first tap on the Feature to select it. Then tap on the Digitizing Tool Menu and select **Move Node**. If the Move Node icon  is already displayed, then simply tap on that icon to get to the Move Node screen.


Drag the **Crosshairs** to the node you wish to move. Tap once in the center of the donut to mark the node to be moved.

If you've tapped on the wrong location, you may tap the **Reset tool** icon  to reset the selection then select the correct location.

Then drag the **Crosshairs** to the new position and tap once in the center of the donut to affix the node there.

Turn on the **Snap to Node** icon  if you wish to place the node exactly on an

existing point or exactly on a node of an existing Area Feature.

You may tap on the **Hint** icon  **HINT** to hide or show the hint message.

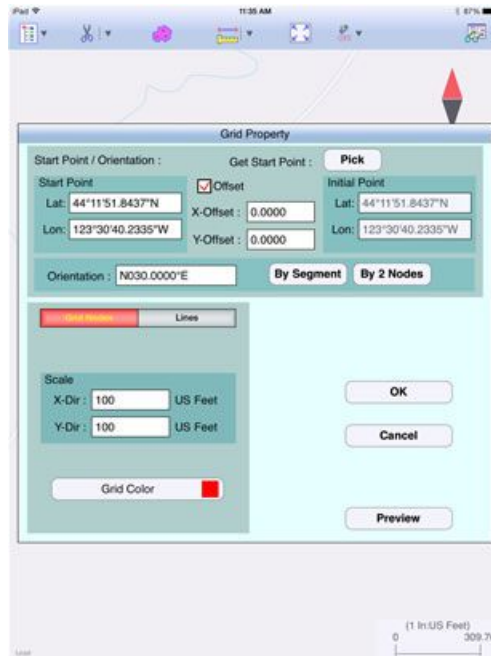
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Create Grid

This app will let you create **Grid Points** or **Grid Lines** for the selected Area Feature.

Suppose we wish to make an array of sampling Grid Points in the Area Feature that we have created in **test.pmp**. The grid points are to be separated by 100 ft both ways, and the grid direction will be parallel to an imaginary line joining the two Points that we have previously added.

Tap on the Area Feature then tap the **Create Grid** icon to display the **Grid Property** screen.




The first thing to do is to select a starting point for the grid. Tap the **Pick** button then tap on the displayed map to select a starting point for the grid.



If you tapped the wrong location, you may tap on the correct location, and the wrong one will be automatically removed.

The above example shows that we have selected the lower-left corner of the Area Feature to be the starting point for the grid.

Please turn on the **Snap to Node** icon  so you will be able to easily snap to the exact location of the corner node by tapping in its vicinity.

Tap the **Back** button to close this screen.

If you want the grid to be somewhat offset from the Start Point, then mark the **Offset** checkbox and enter the offset values. The Initial Point location will be recomputed.

You could specify the grid orientation by entering the desired angle value. Or you could tap the **By Segment** button and select one of the line segments of the Area Feature and have the grid created parallel to that line segment.

For our example, we will select the **By 2 Nodes** option and select the 2 Points located to the north of the Area Feature.

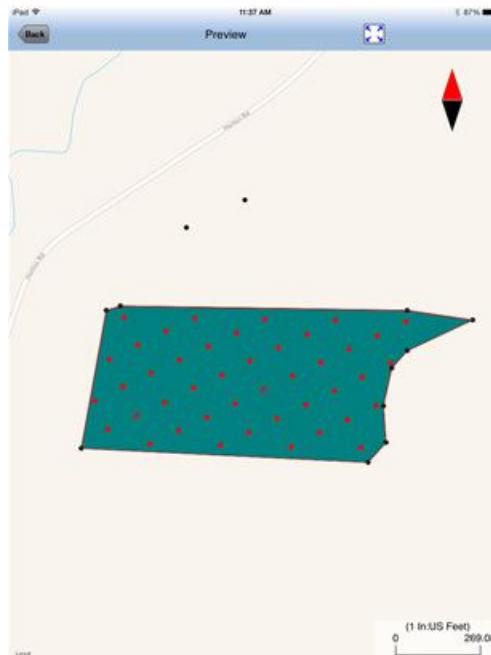


If you selected the wrong node, you may tap on that node again to unselect it.

Tap the **Back** button to return to the **Grid Property** screen.

Enter a grid spacing of 100 ft in the X and Y directions. You may enter different grid spacing for the X and Y directions, if you wish. You may select a different grid point color after tapping on the **Grid Color** button.

Tap the **Preview** button to see if the grid looks like what you want. If so, tap the **Back** button then tap the **OK** button in the **Grid Property** screen to actually create the grid as shown below. Note that the initial point is indicated by a tiny triangular symbol.



If you open **Example2.pmp**, you will see a grid oriented at 30° north azimuth. You may choose to have the grid lines run in both directions, as in this example, or just in the X direction or the Y direction.




In the above screen we have set Map to **Show Satellites**.

Please note that each Job may contain only one grid at a time. After a grid has been created for an Area Feature, if you attempt to create a grid for another Area Feature, you will be asked whether you no longer need the existing grid.

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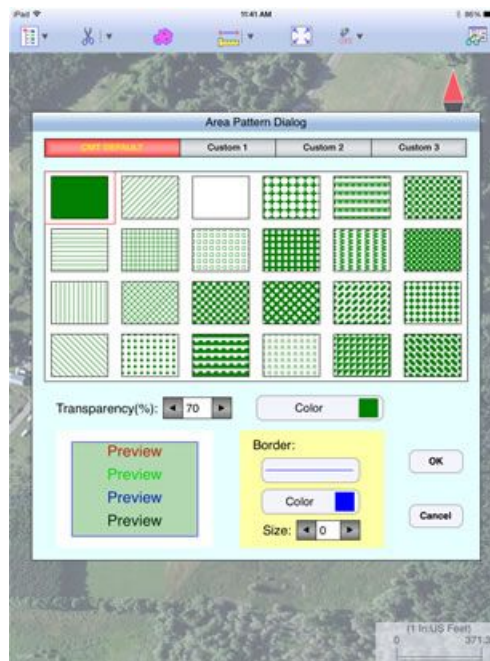
Feature Properties



To view the properties of an Area Feature, a Point Feature, a grid point or a grid line of interest, first tap that item on the map screen then tap on .

The Feature Properties screen will show the coordinates of the selected **Point Feature** or **Grid Point**, the coordinates of the selected **Line Feature**, or the perimeter and area of the selected **Area Feature**.



You may change the symbol for the selected digitized Point or Grid Point, the line style for the selected Line Feature, or the area pattern for your Area Feature by tapping the **Pattern** button in the Feature Properties screen. Select the desired symbol or pattern from the built-in symbols library and select the desired color and size. For the Area Feature, you may also adjust its level of **Transparency**.



If you wish to delete a Feature, first return to Map View, select that Feature then tap the **Tools Menu** icon  and select the **Delete Feature** tool .

Please note: Deleting the Area Feature will also remove the associated grid points or grid lines. **Once an item has been deleted, it cannot be recovered.**

Show Segment, Area and Corner Angle Labels

For Line and Area Features, you may opt to have the segment, area and corner angle labels displayed on those Features when feasible. On the **Coordinates** page, mark the checkbox for the labels you wish to see:

Show Corner label

Show Segment label


Show Area label (for Area Features only)


Display Area and Length


For Line and Area Features, you may view the size of the area and the length of the perimeter by tapping on the **Area/Length** tab.


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Measure Distance

If you would like to know the distance between two or more map locations, first tap on the **Measure Distance** icon  on the **Measure Tools** pull-down menu. Then tap on the map locations to have the distance calculated. The total distance as well as the length and direction of the last segment added will be displayed.

Whenever you need to place a node precisely, tap on the **Node tool**  then use the crosshairs to zero-in on the desired location.

Turn on the **Snap to Node** icon  if you wish to place the next node on an existing node.


You may use the **Undo** tool  to backstep or use the **Reset** button to erase all segments that you have entered so far.


Please note that the Measure Distance tool will not retain the **temporary** shape you have digitized for computing the distance.

When you no longer need the displayed information, tap the **Back** button to close this screen and discard the temporary shape.


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
Measure Area


The **Measure Area** tool  on the **Measure Tools** pull-down menu will compute the area enclosed within a boundary that you form by tapping on the map.

Whenever you need to place a node precisely, tap on the **Node tool**  then use

the crosshairs to zero-in on the desired location.

Turn on the **Snap to Node** icon  if you wish to place the next node on an existing node.

You may use the **Undo** tool  to backstep or use the **Reset** button to erase all segments that you have entered so far.

Please note that the Measure Area tool will not retain the **temporary** shape you have digitized for computing the area. If you want to digitize an **Area Feature** that will be saved to the job then use the **Add Area** tool .

When you no longer need the displayed information, tap the **Back** button to close this screen and discard the temporary shape.

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Save the Job File

To save the data in the currently open file, tap the **Main Menu**, select **Job** then select **Save**. The file extension will be ***.pmp**.

To save the data under a different file name, tap the **Main Menu**, select **Job** then select **Save As**. Enter the new file name. The file extension will be ***.pmp**. For example, if you wish to keep the example files intact, you could open each of them then save it under a new file name.

Whenever you open another job, the program automatically saves the data in the current job and closes the current job.

The *.pmp files will reside in the **Documents** folder for the application. To access your *.pmp files outside of the application, first sync your device with the iTunes® program. Select your device then scroll down to the **File Sharing** section. Click on the **Deed Calls - Grid - Stakeout** app name. After a while, the data files associated with this app will show up on the right-hand side.

Please note:

Before updating to a new version of **iOS**, first back up all you apps and data files. Also, should you decide to remove an application software for some reason, beware that all the associated data files will be deleted. If you wish to save the data files, please save a copy to your desk-top computer before removing the app.

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Export to PDF

To export the Point Features, Area Feature and grid data to a PDF file, first


tap the Zoom-Fit icon to fit the map elements to the screen, then tap the **Main Menu** icon, select **Export to PDF**.

To export to a new PDF file, tap on the **New** button. Rename the file, if you wish then tap on **OK** to confirm.

The contents of the PDF file will be displayed. The first page will show the map drawing. The following page(s) will show the boundary coordinates and area of the digitized Feature as well as the coordinates of the Point Features and grid points or the starting and ending nodes of the grid lines. (If you wish to have all Features included in the drawing then first zoom out sufficiently to have the Features displayed on the screen before exporting to PDF.)

If you wish to overwrite an existing PDF file, then select that file from the list. **Beware that doing so will erase all the existing contents of the selected PDF file when you tap on OK.**

To make sure you really want to overwrite an existing PDF file, tap on the **View File** check box then select the file you wish to view. In this mode, instead of the **OK** button, you will see a **View** button. Tap the **View** button to display the contents of the highlighted PDF file. Then tap the **Back** button to return to the File Dialog. When you are ready to overwrite the file, unmark the **View File** check box then tap on **OK** to overwrite the file.

If you have an AirPrint Printer, you may tap on the **Printer** icon  then confirm to print the contents of the PDF to that printer.

The exported PDF files will reside in the Documents folder for the application. To access the PDF files exported from the application, first connect to the iTunes® program then look in the Documents folder for the **Deed Calls - Grid - Stakeout** app.

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Export to DXF

The Features in the working job file may be exported to a DXF file. The exported DXF file will reside in the **Documents folder** for this app. The DXF file can be used with external programs such as PC-GIS PRO and AutoCAD® .

To export the Features to a DXF file, select **Export to DXF** from the **Main Menu** .

Select the name of the file into which to export the Feature data then tap on the **OK** button. If you wish to export the data into a new file then tap on the **New** button. You may confirm the displayed new file name or overwrite it with your own new file name.

The Feature data will be exported in LLA WGS84(1150)/ITRF00 and Epoch 01/01/2014.

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Email the Files

You may email a Job file (*.pmp), a PDF file (*.pdf), a DXF file (*.dxf) or a Deed Calls file (*.dcf) by tapping the **Main Menu** icon then selecting **Email Files**.

To output a file to email, first enter the destination email address, select the file type, mark the checkbox for the files you wish to send, then tap the **Send** button.

When the email is displayed with the attachment, tap the **Send** button at the top to send the email, or tap **Cancel** to cancel the action.

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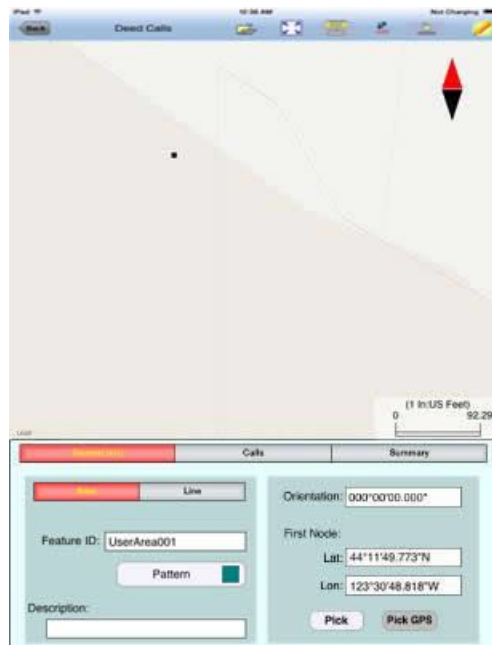
Set First Node and Symbolism

To access the **Deed Calls** screen, first tap the drop-down arrow of the Tools Menu then select **Create Deed Calls**.


Please note: If an existing Line or Area Feature is highlighted when you tap the drop-down arrow of the Tools Menu, then you will see **View Deed Calls** instead. The **View Deed Calls** function will generate deed calls for the selected Feature for you to view or edit.

We are interested in creating an Area Feature by entering Deed Calls. Therefore, we will not highlight any existing Line or Area Feature in Map View. After selecting **Create Deed Calls**, you will see the **Feature Info** page displayed. The **Area** tab is highlighted. (If you were to create a Line Feature by entering deed calls, then tap on the **Line** tab.)

You may specify the starting point, called **First Node**, in one of the following ways:



a) Tap the **Pick** button then tap a location on the screen to use it as the first node. If you just want to see what the deed plot will look like, you may select any spot on the screen as your initial node. However, if you wish to place the deed plot on a geographic location then turn on **Map** then pan and pull to display the map area showing your location. Then tap the spot that best represents the point of beginning for your deed plot.

You could make use of the donut-shaped Node Tool  to place the point more precisely on the Map. To do so, first tap on the **Node tool**. A larger donut with crosshairs at its center will be displayed on the screen. Touch on the purple area of this tool and drag the crosshairs to the desired position. Now tap once in the donut hole to drop the point. You could also keep holding down on the purple donut and use another finger to touch outside of the donut area to drop the point.

b) If you know the coordinates (**Latitude and Longitude**) of the first node, then enter these into the corresponding fields to pinpoint the first node.

If you don't know the location of the point of beginning at the time you are entering the deed calls, you may just tap a location on the screen and use it as the first node for the drawing. Later, when you have the exact coordinates of the first node, you may tap the First Node tab and enter that information. In that case, the entire Deed Calls drawing will be automatically moved to the new location.

c) If you are using an iPad® equipped with GPS and doing the angle and distance measurements on the spot, you could tap the **GPS** icon to turn on the GPS to help you position yourself at the point of beginning. Tap the **Pick GPS** button to use the GPS position as the First Node. Enter the measurements as they are made, and you will have a completed drawing on the spot. (Make sure the **Location Service** is turned on for the Deed Calls - Perimeter - Area application software.)

If your deed document refers to the magnetic north, you could enter the magnetic declination into the **Orientation** field then enter the deed calls. Alternatively, you could enter the calls with Orientation set to 0 then enter the magnetic declination into the **Orientation** field to rotate the plot.

You may optionally enter a **Description** for the deed drawing you are about to create.

You may also specify the line style and area pattern for your deed drawing by tapping the **Pattern** button then selecting the desired symbols and colors. The area pattern will be used to represent closed areas only.

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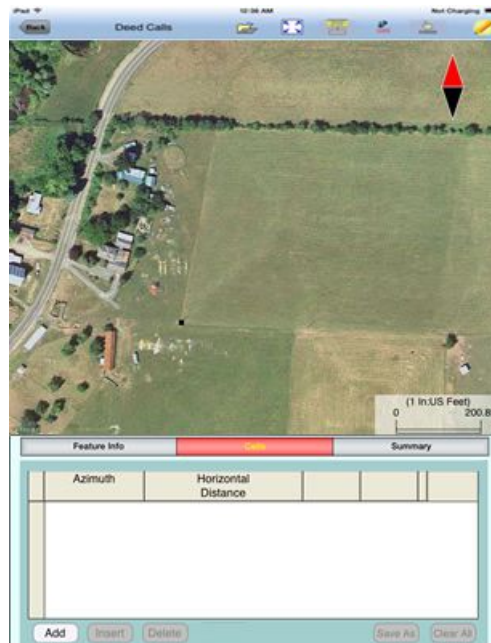
Enter Deed Calls

The following example illustrates the procedure for entering bearing and distance calls for each segment of a boundary to create the deed drawing.

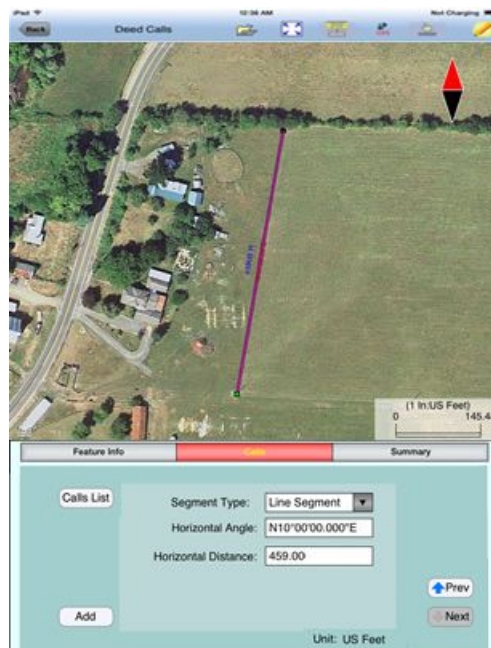
Assume that we have picked a location on a Map screen as the **First Node** for our deed drawing.

We have set US Feet as the length unit, and we will be entering DMS angles in the BEARING mode.

Now tap the **Calls** tab to go to the page that lists the existing deed calls records. Initially there are no records shown.



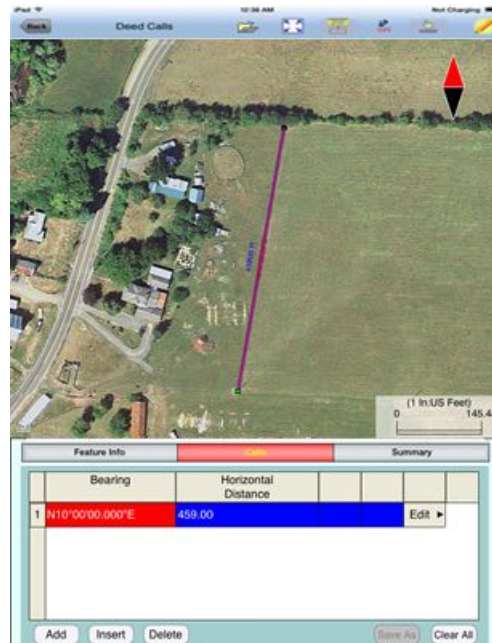
Tap the **Add** button to add a new call record and display the data entry screen.



First, specify the type of segment you will be adding. Choose between **Line Segment** for straight lines or **Arc Segment** to define an arc.

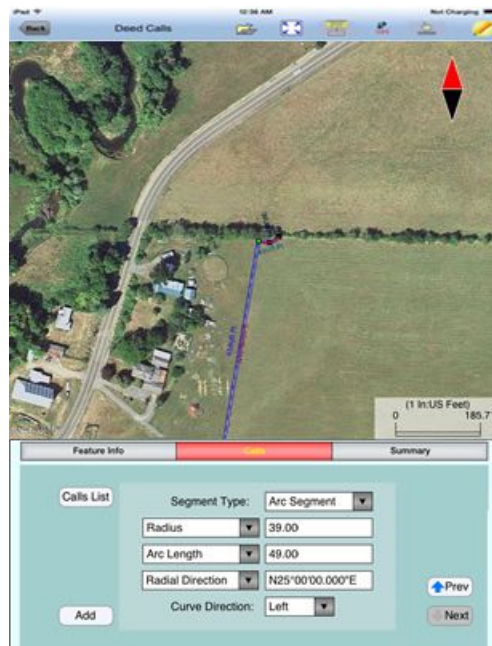
Our first call is a straight **Line Segment**. We enter the horizontal distance of 459 US Ft from the **green** starting point and also specify the bearing of N 10 E.

Tap the **Calls List** button to return to the listing of the Deed Calls records.



If you need to change the data entered for any record, simply double-tap on the record to call up the data entry screen then enter the correct data.

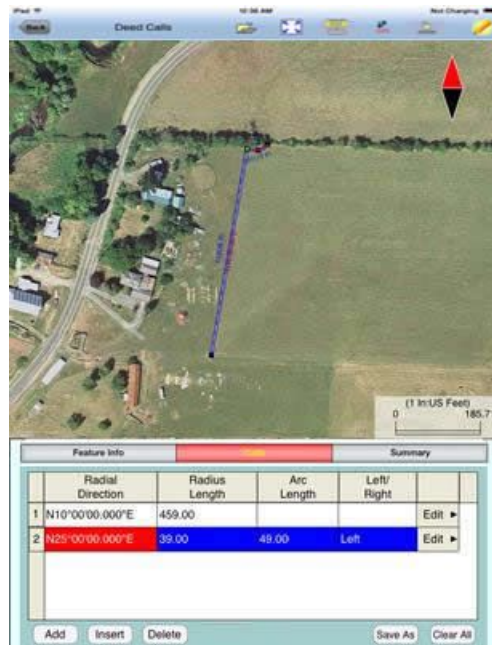
Tap **Add** and enter an Arc Segment as shown below. Tap the pull-down arrow for each field to select the appropriate option.



For an Arc Segment, specify the size and length of the arc by entering a combination of the **Radius** and one of the following: **Arc Length**, **Chord Length**, **Central Angle**. Also specify the orientation of the curve by entering the **Chord Direction**, the **Tangent Direction** or the **Radial Direction** (from the first node of arc to the center of the circle, of which the arc is a part). Select the **Continuous** option if the curve is to continue in the direction of the last defined curve or line segment. Finally, specify the **Curve Direction** to indicate whether the arc turns left

or right.

Tap the **Calls List** button to return to the listing of the Deed Calls records.

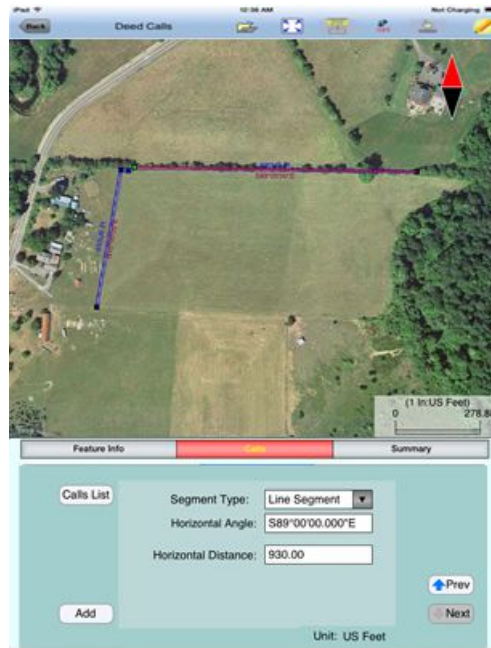


The last entered segment is highlighted in red in the graphical view.

You may zoom into or zoom out of portions of the graphical view by using your fingers to pull or pinch on the display, respectively. To fit the drawing to the screen, simply tap the **Zoom-Fit** icon. When **Map** is turned on, you may not be able to zoom to a really small scale. In that case, turn off the Map then pull to zoom into the map.

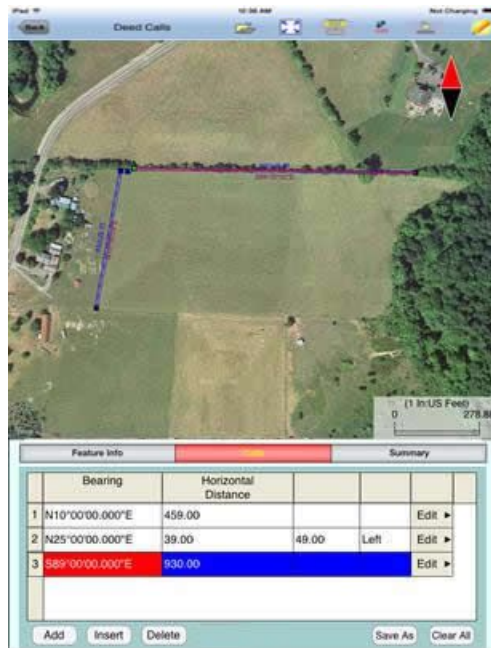
As there could be line segments as well as curve segments in your deed drawing, please note that the column titles for the list of deed calls records correspond to the highlighted record.

Now tap the **Add** button to add a Line Segment as shown below:




The **Add** button on this screen lets you quickly add one segment after another without having to go back to the Calls List screen.

We will tap the **Calls List** button to review all the records that we have stored so far:



Whenever the Deed Calls records are displayed, you may tap the **Insert** button to insert a record before the highlighted record, tap the **Delete** button to delete the highlighted record, or tap the **Clear All** button to clear all existing deed calls from the list and start a new deed call drawing.

Caution: Make sure you really want to delete a record or clear all records before confirming to do so. Deleted records cannot be recovered.

When you tap the lit **Edit** icon  to turn it off, any drawing you have made so far

will be displayed in **full screen**.

Complete the drawing by entering the following data:

Line Segment

Horizontal Distance: 172

Horizontal Angle: S82°00'00.000"E

Line Segment

Horizontal Distance: 120

Horizontal Angle: S60°00'00.000"W

Arc Segment

Arc Length: 170

Radius: 200

Chord Direction: S58°00'00.000"W

Curve Direction: Left

Arc Segment

Arc Length: 188

Radius: 170

Continuous

Curve Direction: Left

Arc Segment

Arc Length: 185

Radius: 90

Continuous

Curve Direction: Right

Line Segment

Horizontal Distance: 864

Horizontal Angle: N88°230'00.000"W

Tap the **Summary** button to see the closure errors and the perimeter and area that you would get when the figure is closed.

To save the deed calls to a file, tap on the **Save As** button on the **Calls** page then specify the name of the new file to which to save the deed calls. The file extension will be ***.DCF (Deed call file)**.

When you tap on the **Back** button, you will be prompted to create a Feature based on the deed calls. Tap on **Yes** to create the new Feature.

As an Area Feature will automatically close, you do not need to enter the last call of an area plot if you are unsure about it.

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View/Edit Deed Calls

To view or make changes to a deed call that you have already entered, first tap the

Calls tab then double-tap the deed call of interest from the list of deed calls to bring up the data entry screen. You may change the data as appropriate or simply tap the **Calls List** button to return to the list of deed calls records.

If the data viewed is not the first or the last deed calls record, the **UP** (Prev) and/or **DOWN** (Next) arrows will be active. You may tap the appropriate button to view or change the corresponding data record, if you wish.

If you are at the last deed calls record, you may tap the **Add** button to add a new call.

Tap the **Insert** button if you wish to insert a record before the currently highlighted record.

Tap the **Delete** button to delete the currently highlighted record. **Beware that deleted data cannot be recovered.**

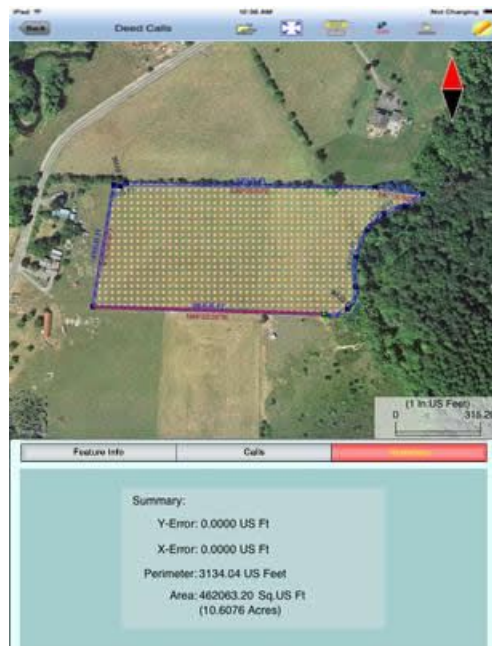
To save the deed calls data to a different file, tap the **Save As** button and specify the new file name.

To return to the list of deed calls records, tap the **Calls List** button.

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View the Summary

After entering the deed calls you can tap on the **Summary** tab to view the closure error, the perimeter and the enclosed area.



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Save the Deed Calls File

To save the deed calls that you have entered into a .dcf file that you can later open to review, tap the **Save As button** in the **Deed Calls** screen. The file extension will be ***.DCF (Deed Call file)**. This is an ASCII text file which may be opened and viewed with any text editor.


The *.DCF files will reside in the Documents folder for the application. To access your *.DCF files outside of the application, first connect to the iTunes® program then look in the Documents folder for the app.

The *.DCF files created by this app are compatible with the current releases of the PC-GIS X, PC-GPS, PC-MAPPER and CMT-SURVEY mapping software produced by Corvallis Microtechnology, Inc.

Please note: Before updating to a new version of iOS, first back up all you apps and data files. Also, should you decide to remove an application software for some reason, beware that all the associated data files will be deleted. If you wish to save the data files, please save a copy to your desk-top computer before removing the app.

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Open an Existing Deed Calls File

From within the **Deed Calls** screen you can tap the **Open File**  icon then select an existing deed calls file (*.dcf) to review the deed calls.

You may modify the deed calls then tap the **Save As** button in the **Calls** window to save the data to a .dcf file.

After viewing or editing the deed calls, when you tap the **Back** button, you will be asked If you wish to create a Feature based on the deed calls information. If you do not wish to add the new Feature to the active job job, then select "No".

When asked if you wish to abandon the entered data, if you select "Yes", you will be returned the main Map View. If you select "No", then you will stay in the Deed Calls screen to continue working with the deed calls.

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Output Deed Calls Data

Export to DXF

After a deed plot has been converted to a Feature, the Feature shape can be exported to a DXF file just like any other Point, Line or Area Feature.

Export to PDF

To save the Deed Calls drawing and data records to a PDF file, tap the **Export to**


PDF icon  from within the **Deed Calls** screen.

To export to a new PDF file, tap on the **New** button. Rename the file, if you wish then tap on **OK** to confirm

The first page shows the deed drawing. The following page(s) will show the deed calls, the closing errors, the perimeter and the enclosed area.

If you wish to overwrite an existing PDF file, then select that file from the list. **Beware that doing so will erase all the existing contents of the selected PDF file when you tap on OK.**

To check the contents of an existing PDF file, tap on the **View File** check box then select the file you wish to view. In this mode, instead of the **OK** button, you will see a **View** button. Tap the **View** button to display the contents of the highlighted PDF file. Then tap the **Back** button to return to the File Dialog. When you are ready to overwrite the file, unmark the **View File** check box then tap on **OK** to overwrite the file.

If you have an AirPrint Printer, you may tap on the **Printer** icon  then confirm to print the contents of the PDF to that printer.

The exported PDF files will reside in the Documents folder for the application. To access the PDF files exported from the application, first connect to the iTunes® program then look in the Documents folder for the **Deed Calls & Stakeout** app.

Email the Files

You may email one or more files by tapping the Main Menu icon then selecting **Email Files**. Select the DCF, PDF or DXF file type then mark the files you wish to email.

Enter the recipient's email address then tap the **Send** button. The selected files will be attached to the email. Optionally add a message then tap the **Send** button to send out the email.

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Point Stakeout

The **Point Stakeout** function in conjunction with GPS can help you locate a Point Feature or a node on a Line or Area Feature.

As this app will let you enter the coordinates of the first node, you could use this capability to locate an old survey marker on your property. You could use the same method to locate an old well overgrown by bushes if you have a record of its coordinates. For this reason, it is helpful to use GPS to record the coordinates of important locations or structures for future reference.

The accuracy of the stakeout will depend on the accuracy of the GPS receiver used.


Keep in mind, though, that GPS elevation errors are usually twice or three times the horizontal position errors.

You must activate GPS before you can access the Point Stakeout function. Tap the GPS menu icon  then select **GPS ON** to turn the GPS on. From the same menu, select **Point Stakeout**.



Select a Feature from the map when the **Target Feature** field is highlighted. Alternatively, you can tap the **Browse** button then select from the listed Features.

If you have selected a Grid Line or an Area Feature, you may select which Node you would like to stakeout. Type in the desired Node #, or tap the little right arrow button to change the Node # to another node in the same Feature.

Tap the  icon to turn it off when you need to perform gestures on the screen. Tap this icon to turn it back on when you wish to select a Target Feature from the screen.

In the **Antenna Height** field, enter the height of your antenna above the ground.

Click the **Settings** button to setup how the stakeout will be graphically displayed. In the **Stakeout Setup** screen you may turn off the Navigation Beep if the constant beeping bothers you.

You may also specify the **Tolerance** range as well as the type of notification you wish to receive when you get within the tolerance range of the target.

If you mark the checkbox for **Display Message**, then when you are inside the target range, the "Target!" message will flash on the screen.

If you mark the checkbox for **Target Beep**, then when you are inside the target

range, beeps will be sounded.

To use the tolerance range for checking only the horizontal distances, select **2D** for **Stakeout Mode**. If the the tolerance range is to be applied for checking the elevation, then select **3D**.

You can also specify how to keep the screen focused on your location by selecting an option for the **Stakeout Zoom Mode**. In the **Autoscroll** mode, the job map will scroll to keep your position displayed on the screen while you are moving along. The map scale will not change. In the **Autozoom** mode, when you hit the border of the screen, the app will automatically zoom out to let you see more of the job map.

Your position is represented by the GPS marker on the screen. The app will report your GPS position in relation to the target location.

Bearing or **Azimuth** is the direction from your GPS location to the specified Target Stake Point or Node.

Range is the direct distance from the GPS location to the Target Stake Point or Node.

Cut or **Fill** is the difference in elevation from the current location to the Target Stake Point or Node. "Cut" indicates that your current position is higher than the Target. "Fill" indicates that your current position is lower than the Target.

You may use the values displayed in the **Go** field to help ou reach the target. On the GPS marker, the solid grey arrow points in the direction you are moving, and the hollow blue arrow points in the direction of the Target. When you are moving in the right direction, these two arrows will coincide.


After you have successfully reached your target location, you can drive a stake into the ground at this location.

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Line Stakeout

You may use **Line Stakeout** to find your position relative to a Line Feature or the boundary of an Area Feature. This function will come handy when you need to lay out fences along the property boundary or move along a grid line. The accuracy of the stakeout will depend on the accuracy of the GPS receiver used.


You must activate a GPS Receiver before you can access the Line Stakeout

function. Tap the GPS menu icon  then select **GPS ON** to turn the GPS on. From the same menu, select **Line Stakeout**.

Select a Grid Line or an Area Feature for the **Target Feature** field.



Select or enter the **From Node** and **To Node** on the target Feature.

Tap the  icon to turn it off when you need to perform gestures on the screen. Tap this icon to turn it back on when you wish to select a Node from the screen. Please note that you can only select a node when the cursor is in the Stakeout Node field.

If you are interested in the direct line between the beginning and ending nodes, then select **Direct** for the **Mode** field, as shown in the above screen. On the other hand, if you are interested in the line segment on the Area Feature, then select **Path**.

Your position is represented by the GPS marker on the screen. The **Target** for Line Stakeout is the projection of your GPS position on the selected line segment. As you move along in the vicinity of the Grid Line or Area Feature, you will see information displayed about your position relative to the target line segment. Such information will not be displayed if your position cannot be projected onto the target line segment.

In the **Antenna Height** field, enter the height of your antenna above the ground.

Click the **Settings** button to setup how the stakeout will be graphically displayed. In the **Stakeout Setup** screen you may also specify the **Tolerance** range as well as the type of notification you wish to receive when you get within the tolerance range of the target.

If you mark the checkbox for **Display Message**, then when you are inside the target range, the "Target!" message will flash on the screen.

If you mark the checkbox for **Target Beep**, then when you are inside the target range, beeps will be sounded.

To use the tolerance range for checking only the horizontal distances, select **2D** for

Stakeout Mode. If the the tolerance range is to be applied for checking the elevation, then select **3D**.

You can also specify how to keep the screen focused on your location by selecting an option for the **Stakeout Zoom Mode**. In the **Autoscroll** mode, the job map will scroll to keep your position displayed on the screen while you are moving along. The map scale will not change. In the **Autozoom** mode, when you hit the border of the screen, the app will automatically zoom out to let you see more of the job map.

The first stakeout location on the target line segment is called the **Initial Station**. Enter the distance of this initial station from the From Node.

The **Range** field shows your perpendicular distance from the line segment, ie. the distance between your GPS and the Target. Therefore, you could use the Line Stakeout function to help ensure that you are always moving parallel to a line or boundary at the desired distance.

Station is the distance between the From Node and the Target.

Distance is the distance between the Initial Station and the Target.

Cut or **Fill** is the difference in elevation from the GPS location to the target. "Cut" indicates that your current position is higher than the target. "Fill" indicates that your current position is lower than the target.

Again, if the GPS location cannot be projected on the target Line or Area Feature, then the data fields on the Message page will be blank.

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