

How To Find Property Lines and Corners With Your Cell Phone GPS

Works with iOS and Android - Online and Offline

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FindPropertyLines.com (for cell phones/tablets)

PropertyLineMaps.com (for desktops/laptops)

1. Introduction

Would you like to:

- Walk your approximate property lines to look for existing survey markers?
- Find approximate corners for land that has not been surveyed?
- Follow your approximate property lines?

This article will show you how to do the above things with your cell phone or tablet. **You can do this whether or not there is good cell service, spotty cell service or no cell service on your land.** This article also shows you how to get the best possible GPS accuracy from your mobile device.

Note: If your land has not been surveyed and you need to know **exactly** where your property lines and corners are on the ground, then you need to contact a licensed land surveyor.

2. You have two options

First, you can use the **parcel line data maintained by most counties**. Apps such as LandGlide, Regrid, onX and others, display a **copy** of that county parcel data. County parcel line data is not a survey! Sometimes county parcel line data is reasonably good. However, there can be problems with this data such as the following.

- * County parcel line data does not show the location of any survey stakes along sections of your property lines that are straight or that have slight bends.
- * Entire areas can have parcel lines that are offset in any direction and as a result show parcel lines going through homes.
- * County parcel line data can be grossly wrong.

If the county parcel line data is bad then the LandGlide, etc apps are going to display that same bad data.

Second, you can use a **custom map made just for your property** and based on your legal description or survey. I provide a consulting service producing these maps for clients. These maps work on almost any device and display the **most accurate corner coordinates you can get without buying a land survey**. Maps are \$74.98 for most single parcels.

<https://FindPropertyLines.com> - Website for mobile users

<https://PropertyLineMaps.com> - Website for desktops/laptops

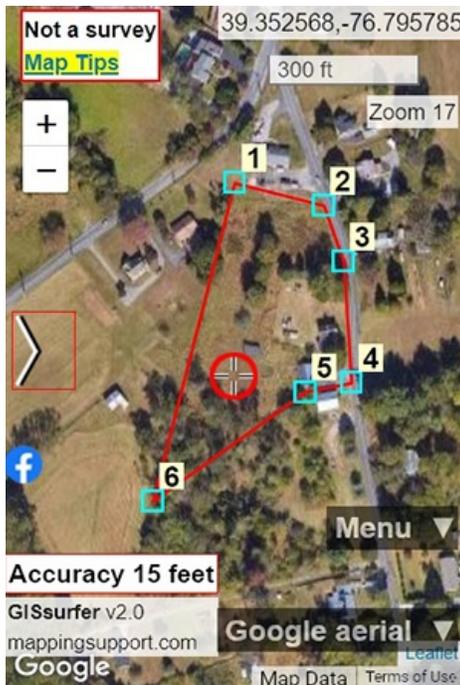
For maps showing examples of the problems with county parcel line data, open either of the above websites and look at the FAQ.

Each client receives a custom map link. Instructions are included showing how to use the map where there is spotty cell service or even no cell service at all. The map link starts map software that I developed called **GISsurfer** and displays your approximate property lines and corners on an aerial basemap. You can turn on a geolocation feature that shows where you are as you walk around. The map links will work with most browsers and on most devices from cell phones to desktop computers.

Below is an example of an actual custom map link that was delivered to a client. Note that the approximate corner coordinates are part of the link. (Clicking the following link will open a short Bitly link that will display the map.)

<https://mappingsupport.com/p2/gissurfer.php?data=//Not a survey Coordinates are approximate|description=plm2||label=on||line=on||39.353455,-76.795788^1||39.353334,-76.795159^2||39.353028,-76.795026^3||39.352357,-76.794969^4||39.352314,-76.79529^5||39.351716,-76.796352^6||39.353455,-76.795788^1>

Below are two cell phone screenshots taken after opening the above map. One screenshot shows the entire parcel and the other screenshot is zoomed in.



3. How to get the best GPS accuracy from your cell phone/tablet

If you just grab your cell phone and start playing with its GPS, yes it will display your location. However, that might not be the most accurate location that your device can display. Since your goal is to find 'lost' survey markers or approximate property corners, you want your cell phone to give you the most accurate location data possible. You can do this by following three easy steps.

Tip: Charge your phone since having the GPS ‘on’ drains the battery faster than if your GPS is ‘off’.

Step 1: Make sure the GPS in your phone is “on” and setup correctly.

iPhone users with iOS 14 and later.

- A. Go to Settings ==> Privacy. Make sure “Location services” are ‘on’.
- B. Next, tap “Location services” and scroll down to “Safari websites” and make sure it says “While using”.
- C. Tap “Safari websites”. If you see a setting for “Precise location” make sure it is turned ‘on’.

Android 11 (or later) users.

- A. Go to Settings ==> Location make sure it is ‘on’.
- B. Tap “App permissions” ==> Chrome - make sure it is set to “while using”.
- C. Go back to the "Location" screen and tap “Improve accuracy” - Both of those settings should be ‘off’. They provide no significant benefit when you are using the map link we send and will drain your battery faster.
- D. Go to Settings ==> Battery and device care ==> Battery - Power saving mode must be ‘off’.

Older versions of Android.

Open Settings and go to the screen where you turn location services on/off. If you see a setting for location “method” (also called “mode”) then set that to **“GPS only”**. If you use the so-called “High Accuracy” setting then data from cell towers can degrade the more accurate data from the satellites.

Step 2: Make sure your cell phone or tablet has current GPS almanac data.

GPS ‘almanac’ data forecasts where the satellites will be in the sky for the next few days. Current almanac data is required in order for your device to produce coordinates with good accuracy for your location. Usually cell phones will download current almanac data very quickly from the cell towers.

Open Google maps and allow the geolocation feature to find you. In a few seconds the geolocation symbol should appear on the screen. Your device should now have current almanac data.

However, if you open Google maps and the geolocation symbol never appears, then here is a different way that you can download the satellite almanac data. Place your phone in an upright position someplace that it has a reasonably good view of the sky. Your phone will download the almanac data from the satellites. Due to the very slow transmission rate, this takes about 20 minutes. After that time has passed, the geolocation feature on your phone should work fine.

Step 3: Use an online tool to pick a good time of day for GPS work. If you do your GPS work when the satellites are in a favorable position in the sky, then you will get better accuracy.

Several free online tools are available that can predict bad times and good times (i.e. a good satellite constellation) for you to use your GPS. For example, below is a link to a tool produced by the John Deere company. If you use this tool, be sure to (1) set the correct time zone and (2) put a checkmark by both GPS and GLONASS. This tool will show when your device should be able to ‘see’ the most satellites and that will be the best time to do GPS work

<https://satpredictor2.deere.com/>

4. Is there cell service on your land?

If (1) there is cell service on your land and (2) your cell phone has a current almanac for the satellites and (3) the satellites are in a favorable position (see the section above on GPS accuracy), then you are ready to use your cell phone to open the online map link we produced for you.

After the map opens, tap **Menu** ==> **“My location”** and grant permission to use the GPS. Now simply walk so that the location symbol comes to rest over one of your property corner symbols. As you get close to a corner you might want to zoom in more.

If your land was surveyed and the corners marked with long metal rods pounded into the ground, then you may need a metal detector (they can be rented). The tops of these rods often get covered with a bit of dirt, leaves, branches, etc. A small shovel or sturdy garden trowel is often useful. You may also want to carry flagging tape or spray paint to mark what you find. Once upon a time I found a beer bottle slipped over the top of a survey stake.

Tip: Touch any corner on your property line map and the approximate coordinates for that corner will be displayed.

5. Is there spotty cell service or no cell service on your land?

As you are driving to your land, stop someplace where there is cell service and you can open the map link we sent. After you open the map link, zoom in and drag the map around so it passes over all of your land. Those aeriels are temporarily saved on your phone. Continue driving to your land. When you arrive you can turn on the geolocation feature by tapping Menu ==> My location and walk around.

6. Compass

iPhones have a built-in compass app. It is a good idea to find that app on your phone and learn how to use it.

Android phones typically do not come with a compass app but there are plenty of android compass apps.

