BOULDER COUNTY BUSINESS REPORT

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Will GIS do away with need for land surveys?

In a word, no.

Geographic Information Systems, along with Global Positioning Systems, are among the marvels of the 21st Century. For example, you may have tried using the satellite images and the locating technology on Google Earth to zoom in on your own property – and to zoom back out to see your tiny presence on this huge planet. The vast quantity of data, the capabilities of processing that data, and the instant gratification of the internet have all come together to make that exercise possible. Within a few years, we may be able to use a GPS-enabled wristwatch to find a location that is accurate to within the diameter of a pencil point, and to give you every detail about that point and on what parcel of land it lays.

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It is tempting to conclude, therefore, that you will also be able to download an extremely accurate map of your property with the associated GIS data, thus eliminating surveys and costly property line disputes forever. It's tempting, but untrue. Here's why.

Property lines are invisible on satellite images or three-dimensional topographic maps of the earth. Those lines exist through a network of reference points (usually markers or "monuments" buried underground) and surface measurements between those points. This is what surveyors call "ground evidence," or legal boundary data.

GIS is composed of hardware, software, information and end users, from a variety of sources and with varying degrees of accuracy. There are currently no legal standards at the state or national level to regulate the quality or uniformity of such data, or the methods used to accumulate it.

Property law has evolved over the past few hundred years to deal with the legal disputes that arise over the precise location of property boundary lines. It is based on the origination and use of legal boundary data, established over time by the land surveying process. Surveying has legal requirements for the methods used to gather information and the way it is represented. Surveyors are required by law to meet standards for experience and to pass examinations in order to be licensed. These laws are, in effect, consumer protection laws that ensure property rights and public safety.

Some merging of survey data with GIS data is beginning to occur, such as the practice by some municipalities of using survey principles to establish GIS reference points on maps. And land surveyors are now using satellite-based positioning devices for faster and more productive measurements.

GIS databases are assembled from a variety of often disparate sources, and the data can be out of date. Addresses, the existence and locations of physical features, and zoning can change since the GIS data was collected. Reliance on such data carries some risk. Therefore, locating your property lines on the ground will still require the preparation of a current survey from a reputable, professional land surveyor.

If you want to avoid potential conflicts with your adjacent property owners that might lead to litigation, a proper land survey provided under the duties and obligations of professional licensure is still your best insurance.

JB Guyton is president of the Professional Land Surveyors of Colorado, a nonprofit organization, and Chairman of Flatirons Surveying, Engineering & Geomatics,Inc. For more information regarding the costs and benefits of a monumented survey, please visit the Web site of Flatirons Surveying at www.flatsurv.com.

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