



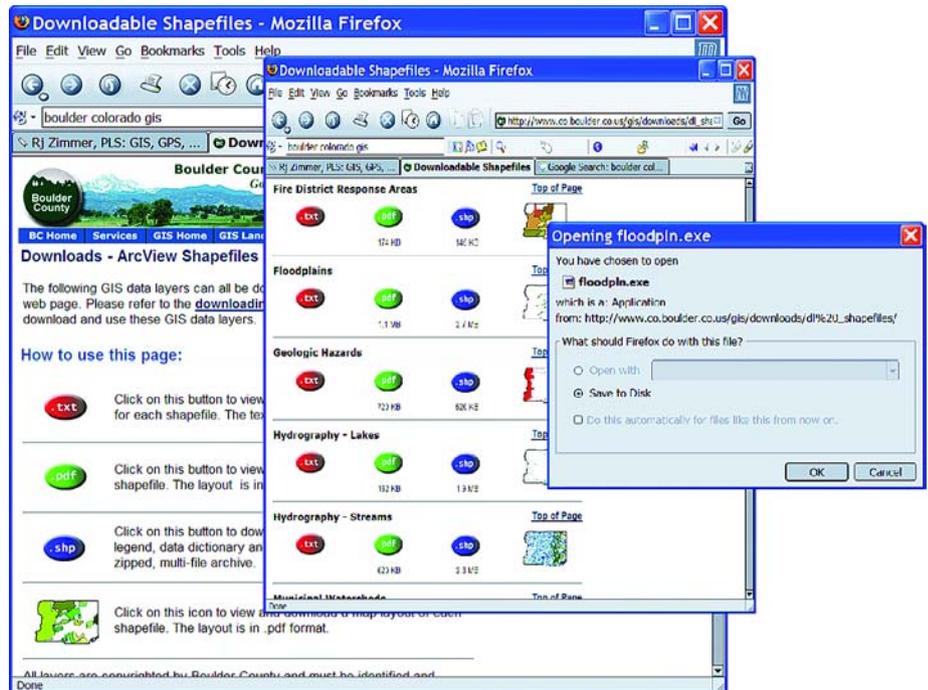
By Rj Zimmer, LS

Rj Zimmer is registered in Oregon and Montana, and has more than 25 years of surveying experience in the private and public sectors. He is the GIS Consultant & GIS Center Manager for the City of Helena – Lewis & Clark County Geographic Information Services Center in Montana.

GIS and the Surveyor's Bottom Line

Surveyors everywhere are coming to realize (if they had not already) the enormous benefits of GIS to the surveyor's bottom line, because GIS is good for the business of surveying. Although there are still those surveyors who are wary of GIS, for a variety of reasons, overall the profession has come to appreciate the undeniable power and economic advantage of GIS technology and data.

Fundamentally, the paradigm of GIS is to provide access to information so that data is readily shared and easy to use. Because surveyors depend on existing spatial information to do their work, improved access to and use of such data leads to time savings for information gathering, analysis, interpretation, and communication. Additionally, having more information available through GIS results in better decisions made in the field and in the office. Today ever more GIS data are available and GIS technology is more accessible. Therefore, surveyors who incorporate GIS into their work flow are saving time and money, while working more effectively.



GIS helps the surveyor to locate and use information about places. Information such as land ownership, terrain, rights of access, monumentation, survey control, elevations, waterways and

zoning, are now available and usable for the land surveyor, prior to and during the course of projects. This availability of useable information, par-
continued on page 56

Example Time Savings for Survey Research

Activity	Time without GIS (hours)	Time with GIS (mins)	Time Saved	Rate	Savings
Drive time to and from courthouse	0.75	0.0	.75	\$80.00	\$60.00
Plat look-up	0.33	10.0	.17	\$80.00	\$13.33
Land ownership look-up	0.50	3.0	.45	\$80.00	\$36.00
Corner record search	0.50	5.0	.42	\$80.00	\$33.33
Project Total (hours)	2.25	0.3	1.8	\$80.00	\$142.67
Yearly Total (6 projects/month)	162.0	21.6	140.4	\$80.00	\$11,232.00

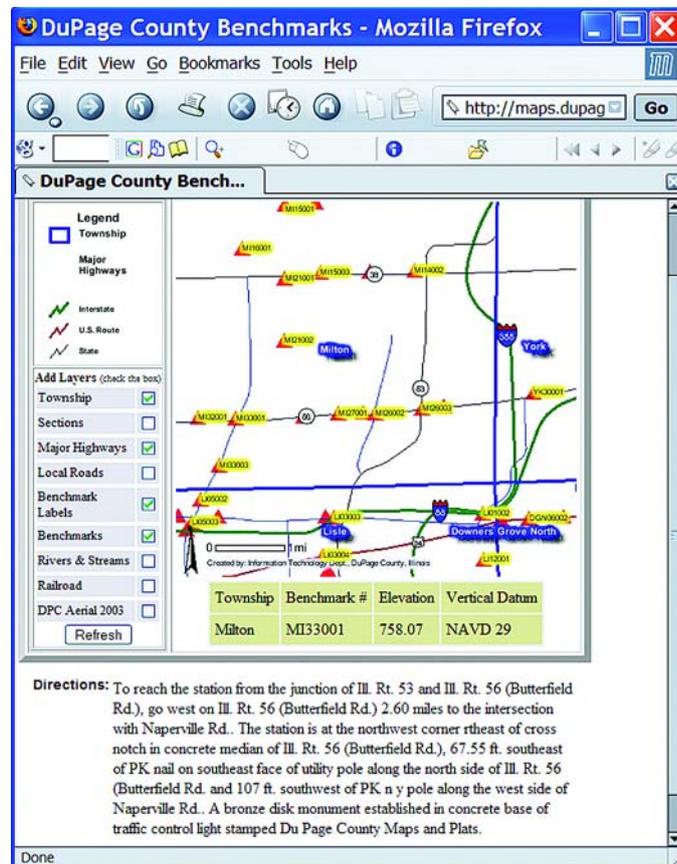
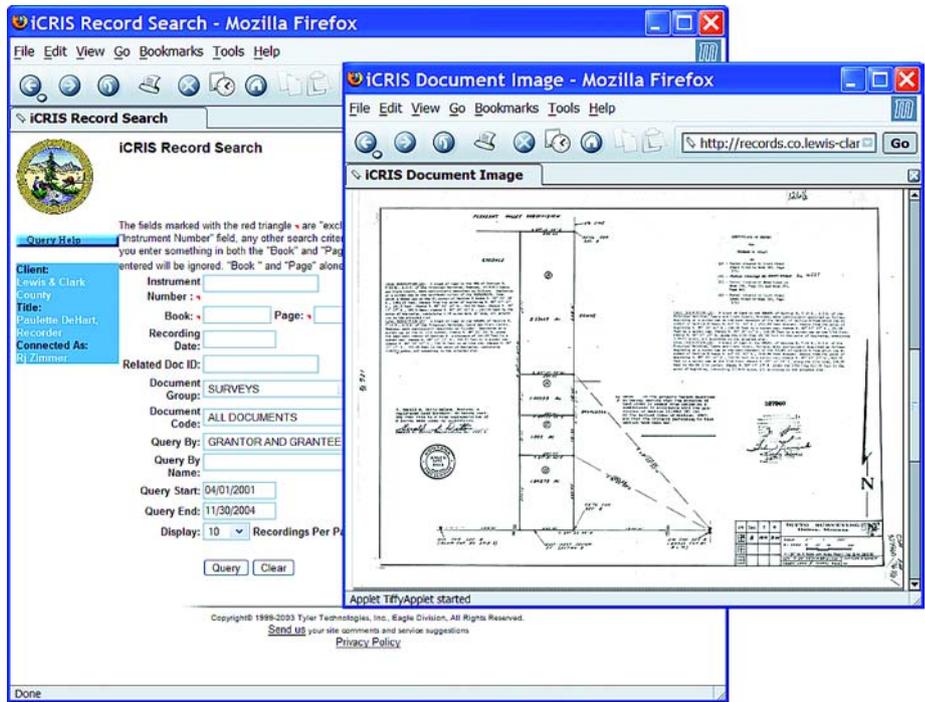
Zimmer continued from page 54

ticularly when the information is freely available online, saves enormous amounts of time for the land surveyor. The time required to research public records for land owner names and addresses, plats, aerial photography, zoning, existing infrastructure, and so forth has been reduced from hours (or days), to mere minutes, in areas where federal, state, and local governments have mature GISs. Additionally, copies of data sets on CD, online search, retrieval, download, and live connections to public data sets provide surveyors with opportunities to incorporate GIS data into survey projects for analysis, reports, and communication. By incorporating GIS data in project proposals, surveyors demonstrate to potential clients, their ability to integrate survey data with other client data.

Whether the client expects a GIS deliverable from the surveyor or not, the surveyor saves time by using GIS to acquire data for projects. In order for a surveyor to research and obtain copies of surveys, plats, and related public information for a project, time must be spent driving to the county courthouse; searching by hand through a list of records; making copies of the selected records; paying copy fees, and so forth. Such work could take a couple hours or even a couple days.

However, if those records are available online, searchable through a GIS interface, and downloadable or printable from the Internet (such as those shown in the accompanying figures), then the time required to search and retrieve the information could be reduced to perhaps as little as 20 minutes. For a single research event the savings can be an hour or two. Additionally, if at a later date or time, an additional document or documents must be obtained, they could be readily retrieved instead of requiring an additional trip to the courthouse. Over the course of a year even small savings like this can add up to satisfying savings in time and money, so that even for a small company using GIS can be quite profitable (See Time Savings chart).

The benefits of GIS access to data can also be realized within a survey organization that has "spatially-enabled" its own data. A survey or engineering company or agency can use the advantages of GIS to organize and manage data for internal use. Company data such as client data, project locations, surveys performed, cor-



ners set, control point data, digital terrain models and other information that is mapped, stored, and indexed in GIS can be readily retrieved and used. The ability to share information within an office, and between offices, as well as the ability to take data into the field, vastly increases the efficiency and the effectiveness of staff by providing ready access to the data used on projects. Communication among staff, office and field personnel is greatly

improved, time is saved, and misunderstandings minimized when all are sharing the same data.

With each passing day, as more GIS data becomes available and more data can be accessed online, the importance of GIS increases. GIS today is an essential tool for the land surveyor. GIS helps the surveyor to make informed decisions, to communicate effectively, and to save time and money.

A