



Hart InterCivic Geo-content

## CASE STUDY

### Geo-enabled Document Management

The Bureau of Reclamation's Phoenix Area Office is up against a document management challenge with a century's documents filed in multiple formats, multiple offices, and multiple storage schemes.

#### FINDING THE RIGHT DOCUMENT IN A FOREST OF FOLDERS

*("I know where the project is located, but I don't remember where the reports are filed.")*

Addressing the ongoing competition for limited water supplies in the arid Western United States requires collaboration—and document sharing—among numerous state, local, and tribal government agencies. The Federal Bureau of Reclamation (Reclamation) is charged with the effective, efficient, and environmentally responsible management of water resources throughout the nation's 17 western states, in collaboration and consultation with the states and other interested stakeholders. With its start in 1902, Reclamation has a long history—and a lot of documents to chronicle that history.

The Bureau of Reclamation's Phoenix Area Office oversees water resource management in central Arizona. Putting your hands on the right documents at the right time can be a challenge, even within the confines of the Phoenix Area Office. A multitude of disciplines come in to play in the large, complex task of managing Reclamation's assets here. Archeologists, biologists, hydrologists, soil scientists, engineers, contracts and finance specialists, and others—all may be involved in separate projects that overlap in a single geographic area.

Because each individual or department maintains project documents separately, it's no simple matter to locate the docu-


ments that pertain to a project you're working on. If you are, say, a biologist studying the effect of invasive plant species on small mammals within a section of land, how will you find the original environmental impact study and subsequent studies conducted for that section? How will you know that the Archeology department is currently working on a site there?

Considerable time and money can be spent searching for documents that are relevant to a project or a dispute. Even more can be spent reproducing research and documentation that has already been created.

Another problem lends urgency to solving the challenge of document sharing in the Phoenix Area Office. Many of the Office's subject matter experts, highly knowledgeable about past projects and the associated documentation, will retire within five to ten years. A wealth of institutional knowledge will go out the door with these Reclamation long-timers, unless that information is captured.

#### GEO-ENABLED DOCUMENT RETRIEVAL *(Help is on the way!)*

Carol Erwin, Area Manager for the Phoenix Area Office, recognized that a collaboration tool was needed for sharing documents. She pictured staff members being able to click on a map to pull up all the documentation associated with a particular area. GIS System Security Manager Jeremy Dandron championed the cause of finding a cost-effective, geo-enabled document



*The Bureau of Reclamation (Phoenix) manages a vast store of documentation for the Central Arizona Project and other Reclamation holdings. They leveraged their GIS investment to improve efficiency and decision-making by providing anytime, anywhere access to location-based documents.*



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Jeremy Dandron, GIS System Security Manager

repository tool. Dandron knew the map-based interface would be key to the success of a document repository for the Office. He states, “Probably 99 percent of our documents refer to a location.”

In 2007, the Phoenix Area Office selected DocAtlas™ from Hart InterCivic as the solution to its document management challenges. This selection was the outcome of extensive research to find the software product that best met the Office’s business needs. DocAtlas provides bi-directional linkage between geospatial information stored in a GIS database and electronic documents stored in a Microsoft® SharePoint™ repository. This means that users can intuitively choose an area on the DocAtlas map interface and quickly retrieve all the documents that match selection criteria they specify (irrigation districts, township/ranges, USGS drainage areas, and other criteria). DocAtlas also allows users to display a map for a document they are viewing.

**QUEST FOR THE RIGHT TOOL** (“It was just great timing that the same idea I had, [Hart] was actually doing.”)

Jeremy Dandron describes the quest leading up to the DocAtlas purchase. “When I began searching for an appropriate document management system, there wasn’t a company that was doing this on a small scale for a small office. I wanted a tool that would fit a small environment, 150 users max.” Dandron discovered that Farragut Systems (later acquired by Hart InterCivic) had developed such a product. Dandron says, “It was just great timing that the same idea I had, [Hart] was actually doing.”

Dandron is delighted he didn’t have to build the product; nor does he have to support it. The SharePoint platform is ideal for the Phoenix Area Office. It’s a secure, Web-based document management environment that can provide anytime, anywhere access for authorized users, even those at

Reclamation’s regional and national levels.

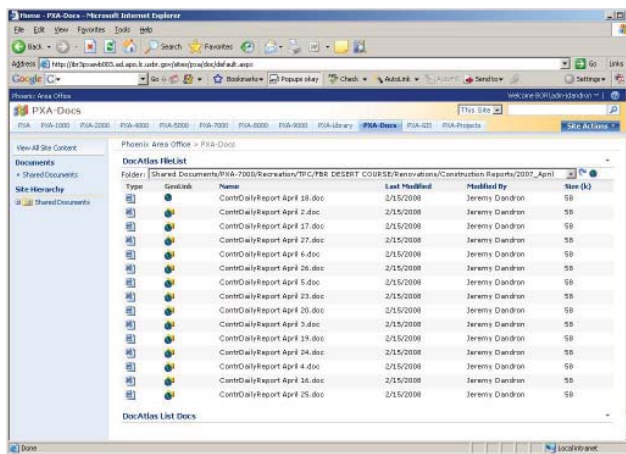
Because the Phoenix Area Office was already using Microsoft Windows products, SharePoint blends well into the existing IT environment. Dandron says, “SharePoint is very versatile. It completely integrates into Active Directory, and it doesn’t cost me anything. Our users are accustomed to using Office products. And DocAtlas provides an extra snap-in, so everything fits together nicely in a single, easy-to-use solution.”

The setup is optimal from an ease-of-management standpoint, as well. The database for the repository resides in a central location. It can be managed remotely, because it is set up in a virtual environment. According to Dandron, “What I like about the virtual environment is that I don’t have to have the server sitting here; I can ship it up to our regional office if we move system support.”

The various departments in the Phoenix Area Office are currently loading documents into the SharePoint repository, after which the GIS department will geographically link the documents to mapped features. The system is expected to be fully operational within six months.

**MORE EFFICIENT, MORE PRODUCTIVE** (“I don’t want to spend 20 minutes on a project that should take two.”)

According to Jeremy Dandron, DocAtlas will improve operational efficiency and team productivity by providing reliable access to all documents associated with a Reclamation project. “In the past, when people left, there wasn’t always an easy way to retain what they had been working on. A document could be on their desk or on a CD, and you might never find it. The possibility of losing vast amounts of historical information was significant,” he says. “With DocAtlas, we’re able to systematically store, organize, and maintain documents for the long term.”



DocAtlas users can retrieve location-based documents using Office-specific selection criteria.

*“We’ve moved four times in the last 10 years. Had we had something like DocAtlas, we could have quickly retrieved those documents any time we needed them.”*

*Russ Bryant, IT Manager*

“The Phoenix Area Manager doesn’t want employees to spend 20 minutes on a project that should only take two,” Dandron explains. His director, IT Manager Russ Bryant, is a strong advocate of geo-linking documents. “Not that the old way was bad,” says Bryant. “People focused on a project. When that project was done, they dutifully bound up all of their paperwork and set it aside to start the next project. We’re finding that typically, every 10 or 12 years, we want to come back and look at documentation again—either for a lawsuit, or for other studies in the area.”

### CAPTURING INSTITUTIONAL KNOWLEDGE

*“Had we had something like DocAtlas all that time, we’d be able to pull that information up.”*

The Central Arizona Project (CAP) is a case in point. The CAP is a 336-mile-long aqueduct that flows from Lake Havasu to a point southwest of Tucson, providing water to communities throughout central and southern Arizona. Built by Reclamation during a 20-year period that began in the early 1970s, the CAP has a profound effect on the region. While the CAP is operated by a quasi-state organization, Reclamation owns the land and most of the associated equipment. The Phoenix Area Office continues to supply information needed for the CAP’s ongoing operation, such as ownership documents, previous agreements, and historical studies.

The Office was recently called upon to pull up a set of documents produced early in the construction of the CAP—a study assessing the feasibility and cost of building retention ponds at its terminus. Russ Bryant explains, “For decades, the City of Tucson has talked about terminal storage. Through the recent drought and the other political realities that have

occurred, Tucson’s looking for a more plentiful, reliable water supply. Suddenly that project’s reviving.”

Bryant continues, “Now that the project’s active again, a guy in the office tried to retrieve those documents, but he never could find them. That’s the other problem with records management. We’ve moved four times in the last 10 years. Had we had something like DocAtlas, we could have quickly retrieved those documents any time we needed them.”

“We have lots of contractual agreements, lots of engineering drawings, lots of operational information that we’ve agreed to over the years,” says Bryant. “And a lot of that information is in different files and it’s known by these people who’ve been doing this for 30 years. Well, the time’s coming up for them to retire. We’re very afraid that when they leave, the information will just disappear into a forest of folders.”

Jeremy Dandron adds, “That’s why there’s an urgency to capture the information, because if one person retires, that could be years’ worth of studies gone. And that’s happening all over the government.”

**NEXT STEPS** *(What lies ahead for DocAtlas in Reclamation’s Phoenix Area Office and beyond?)*

Russ Bryant believes the time is right for adopting geospatial technology with a tool such as DocAtlas. He says, “The tools now have gotten to the point

where they’re sophisticated, but they’re simple enough that there’s not a steep learning curve. You can make queries in a simple, straightforward way. Before, even five years ago, using GIS technology required GIS specialists—and it still does. But now the GIS specialists can put this information in an application like DocAtlas, and commoners like me can retrieve it. This way, we can reuse information, which saves us significant time and costs.”



“Probably 99 percent of our documents refer to a location.” Hart’s DocAtlas helps the Phoenix Area Office manage a vast store of documentation for the Central Arizona Project and other Reclamation holdings.



*“Government is starting to realize they can get this information in a different way. What’s leading the charge is Google Earth and Microsoft Virtual Earth; now the public has their hands on GIS tools, and they want their government to provide information in similar formats.”*

*Jeremy Dandron, GIS System Security Manager*

Bryant anticipates that DocAtlas will provide unforeseen methods of retrieving documents. “The end goal will be in two years, three years, five years down the road, we’ll be able to retrieve information in ways that we didn’t expect. We’ll be able to ask the system questions and use the information in the repository in unexpected ways. That’s when we’ll know we’ve made it: when someone comes back and says, ‘I had this question, and I did some research, and I found all the documents I needed.’”

As with most government agencies, Reclamation is called upon to do more with less. Jeremy Dandron foresees that DocAtlas will help bridge the gap between increasing demand for water and hydroelectric power and a shrinking Reclamation workforce. “We’re not replacing people one-to-one. Within the Phoenix area office, it’s been about a one-to-two relationship. It’s important to apply the efficiency this technology offers to keep up with the work ahead.”

Additionally, DocAtlas will enable the Phoenix Area Office to meet new requirements for information management. “The federal government is being pushed to do more and more electronic management of documents to make them available to the public,” says Dandron. “Once we’re more mature with DocAtlas, we see the product as a way to organize the data simply so we can share it as appropriate. Between SharePoint, GIS, and the data management DocAtlas provides, we should be able to make that work fairly soon.”

Jeremy Dandron sees the need for DocAtlas in other government offices, both within Reclamation and outside. The difficulties the Phoenix Area Office faces in sharing documents are common to these other collaborative environments. Many of the difficulties are addressed when team members can pull documents out of an electronic repository, based on a geographic location. Dandron says, “Government is starting to realize they can get this information in a different way. What’s leading the charge is Google Earth and Microsoft Virtual Earth; now the public has their hands on GIS tools, and they want their government to provide information in similar formats.”

In February 2008, Dandron delivered a presentation to all the area managers within the Bureau of Reclamation, explaining how the Phoenix Area Office is using DocAtlas to link GIS with SharePoint. He comments, “DocAtlas made the leap to get to where we want to be.”



DocAtlas will enable the Phoenix Area Office to:

- » Increase efficiency by reusing information
- » Easily retrieve land-related documents
- » Improve decision-making and collaboration
- » Prevent loss of institutional knowledge
- » Access documents any time, anywhere
- » Share documents securely
- » Provide appropriate public access to documents

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