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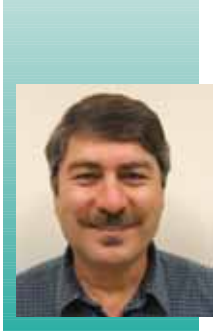

By: Francis "Frank" D. Romano, Jr., PLS

***Frank** works for Caltrans District 12 (Orange County). Caltrans now uses Google Earth Enterprise which utilizes the State's own data servers and provides a more flexible, secure platform along with additional tools and capabilities not found in the free version.*

Right Tool for the Job

In 1999, I went to work for the California Department of Transportation (Caltrans), District 12, Right of Way Engineering in Orange County. Shortly thereafter, my supervisor, Greg Grant, LS, asked me to take on the role of Relinquishment Coordinator. At the time, I had no idea what a relinquishment was, let alone how to coordinate one. As with any large governmental organization, there were plenty of references, manuals and, even, state laws that I could look to for answers.

What is a relinquishment anyway?

A relinquishment is a type of quitclaim usually involving the preparation of a Relinquishment Map – a form of exhibit. (**Figure 1**) When Caltrans widens a freeway, it can purchase land from neighboring property owners in order to reconfigure or create surface streets, frontage roads and/or cul-de-sacs. As the project nears completion, any right, title, or interest, in and to, these areas are passed on, or *relinquished*, to the local agency (i.e. city, county, transportation authority, etc.) Our District currently has over four hundred filed relinquishments and more than twenty proposed relinquishments within District 12.

Figure 1

How do you keep track of all those maps?

In 2001, Caltrans decided to have all of their Right of Way (R/W) maps (including relinquishments) in District 12 converted to a digital format. Each map was scanned at 200dpi. Each image was saved as an uncompressed TIF image file and a compressed SID image file (These were later converted to PDF files as Adobe Acrobat's compression technology improved.) They were cataloged and linked to a Microsoft Access database along with information about each map.

In order to find a scanned relinquishment map when researching, the system required one or more of the following pieces of information: the map scan number, route number, post mile, city or project number. With only had general information like the nearest cross street, it became a little more complicated. This would require looking at a Thomas Guide marked with the limits of each R/W map that was kept in the District map file room. Having identified the correct R/W Map number for the area in question, a look at the R/W map would show the relinquishment number.

There has got to be a better way.

In 2005, another tool came along, Google Earth. I had a little prior experience with ESRI's ArcGIS (an extremely powerful and useful GIS tool); however, my experience with ArcGIS was a program with a high learning curve with use and data retrieval dependent upon having an experienced user and costly software. Google Earth, on the other hand, was easy to learn and use, accessible to anyone with a computer that had internet access, and . . . it was free!

As I mentioned, we had over four hundred filed relinquishment maps in our District. I decided it would be more productive to index them in Google Earth. In addition to indexing the existing relinquishments, it made sense to start tracking new relinquishments in Google Earth as well. Since there are a number of personnel and departments involved in the relinquishment process, such a system would not only allow them instant access to existing relinquishment maps, documents and data, but also to information, data and preliminary maps of proposed relinquishments in progress.

An old dog learns new tricks.

I commenced learning the basics of Google Earth. These included learning the KML language; how to insert

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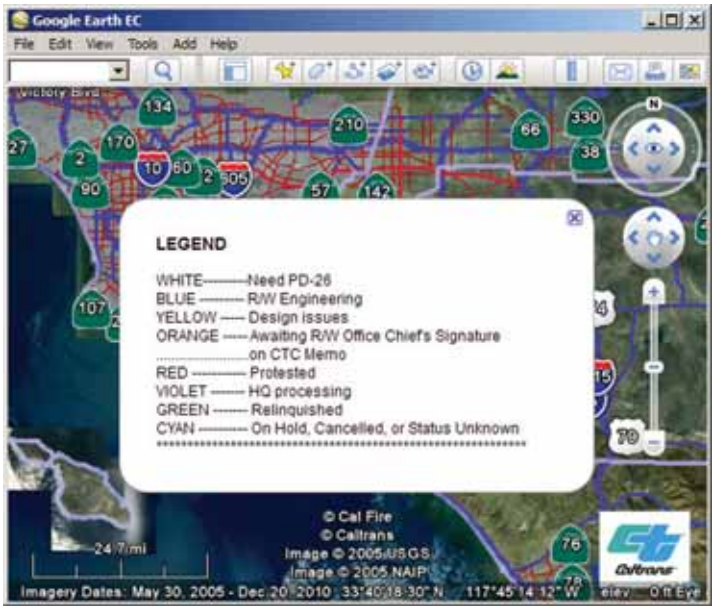

Figure 2

placemarks, populate information balloons, and insert image overlays; and create links to the map overlays and the PDF files containing the map and documents. (It is not as hard as it sounds since there are many good tutorials and discussion groups on the internet.)

The end product was a file that had a placemark for every relinquishment that had been recorded within District 12 along with those that were currently in-progress. Each placemark was color-coded according to a Legend, for quick and easy status recognition (i.e. YELLOW - Design issues, RED – Protested, GREEN - Relinquished, etc. See **Figure 2**). Maps in progress contained information regarding the location, local agency, current status and a link to view the preliminary map in Acrobat. A link to where the actual project files are located on the network server was also added. (**Figure 3**) Anyone who works for a large organization can appreciate how nice such a link is verses searching here and there on this network drive or that one, trying to discover which folder or subfolder the files were stored in.

For maps that had been recorded, a link to view the map and recorded document was created, along with links to view the image overlays. (**Figures 4 & 5**) A folder was created with links to the current relinquishment Status Report (generated monthly from an Access database), the Relinquishment Guide (a guide for Design Engineers and Project Surveyors outlining the complete relinquishment process) and to a link with information for contacting our department regarding questions or comments about the file. (**Figure 6**)

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Right Tool for the Job

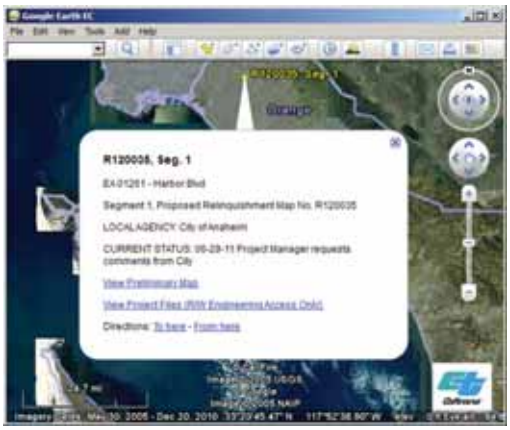

Figure 3

Figure 4

Figure 5

The final outcome was a simple, easy to access, easy to use, GIS system for locating any relinquishment within our district. A system that provides instant access to up-to-date data along with the status of any relinquishment currently being processed or previously recorded. All of this is stored as one Google Earth KMZ file which can be network linked to the Google Earth software on each employee's computer. Whenever new data is added or updated, it is saved to this one KMZ file.

Taking it to the next level.

This proved to be such a great organizational and research tool that I later added layers for Right of Way Maps, Vacation & Abandonments, Record of Survey Maps, and a layer with links to Training Videos. (**Figure 7**)

Over the years, I have come to learn that there any many tools in a surveyor's toolbox, some more sophisticated than others, some easier to use, some with a higher price tag, some even free. Some are old school, some are new, some are traditional, and some are high-tech. In the end you have to answer the question, "What is the right tool for the job?" In this case it was an, easy, free, accessible form of technology . . . Google Earth.❖

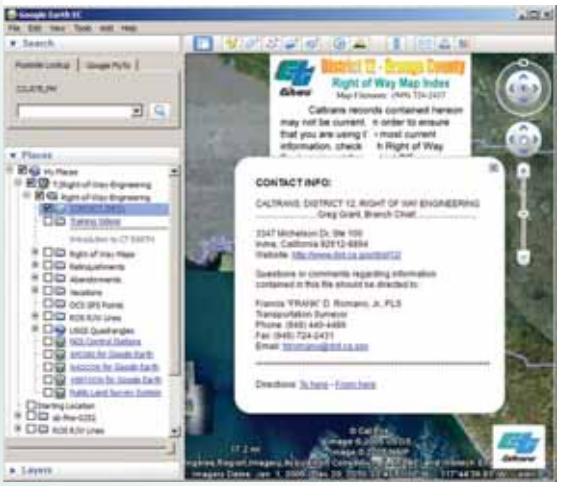

Figure 6

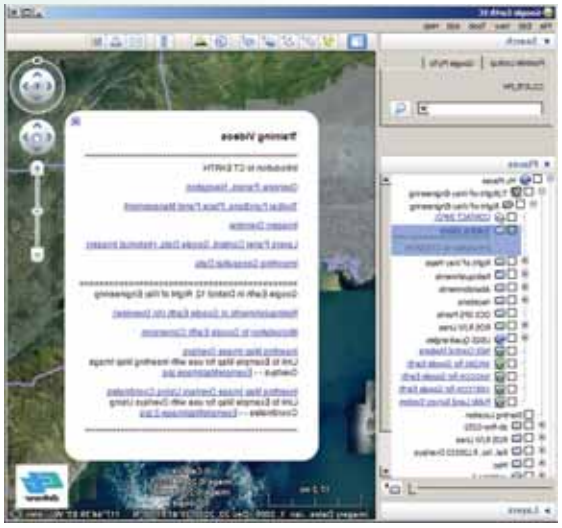

Figure 7