CUSTOMER STORY

GIS-Centric Software Improves Operating Efficiency for Calleguas Water District

PROJECT HIGHLIGHTS

- **Integrated GIS and field work management solution improves efficiency for water district**
- **Modular software suite enables phased implementation**
- **Accurate time and activity tracking enables district to recoup more than $387,000 in maintenance fees**
- **More than 20,000 electronic work orders generated in one year**

PROJECT: GIS and Field Work Management Solution

Since its inception in 1953, the Calleguas Municipal Water District has had one purpose: to provide a reliable supply of high quality supplemental water to one of the fastest-growing regions in California. But as the population of Ventura County continues to grow, quadrupling over the past four decades and currently exceeding 600,000 residents, Calleguas officials have been forced to find a way to do more with less.

In this case, that means implementing Trimble's Fieldport enterprise software suite in conjunction with ESRI Geographic Information System (GIS) software to streamline work processes for the company's field crews across Ventura County.

As a wholesale water provider, Calleguas delivers treated water through 130 miles of large-diameter pipeline to local water agencies and companies for ultimate delivery to area residents and businesses.

Rapid population and economic growth has placed increasing demands on the district, resulting in an increase in annual deliveries from 9,000 acre feet to more than 115,000 acre feet per year. An acre-foot is equal to water covering one acre at a depth of one foot.

To help meet increasing demand and decreasing water storage options, Calleguas officials, in partnership with the Metropolitan Water District of Southern California (MWD), developed an aquifer storage and recovery well field, which enables them to store water below ground and retrieve it during peak periods of use. Although the well field began to solve the issue of where to store the district's water, the new facilities created additional maintenance, monitoring and management responsibilities for district staff.

"With the rapid population growth and increasing demands for water in the region, we were facing a large increase in our daily workload, and we knew we needed to provide the tools that would enable our staff — from payroll to field crews — to work more efficiently," said Donald R. Kendall, Ph.D., P.E., general manager of Calleguas. "Everything at the district had been done on paper; our maps, work orders, even time sheets, and it was becoming clear that an electronic solution would be a lot more effective."

After searching for a solution that would enable them to more efficiently map and manage district assets, track the time and activities of field workers and create a system for invoicing MWD for maintenance on the shared well field, Calleguas officials decided to implement Trimble's Fieldport enterprise software suite.

Fieldport is a modular, GIS-centric Web based and wireless software suite designed to help streamline workflows for utility industry field service management and location-based mapping.

"We knew we were taking on a big project and were looking for a solution that we could implement over time," said Eric Bergh, manager of resources at Calleguas and project manager for this effort. "From the beginning, we knew that that Fieldport software and GIS technology had the functionality to meet all of our needs."

Calleguas officials took a phased approach to implementing the software, starting with a work management module to better track the activities of the field crews and the time spent on each project.

The Fieldport solution implemented at Calleguas operates on mobile devices and a state-of-the-art WiFi high-speed wireless data communications network for the easy transfer of data from the field to the office, and vice versa.

The software suite consists of a server and Web-based software, which was installed on each field crew laptop. Using the work

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management module, each worker can now populate a set of fields on his laptop to indicate each activity worked on and the amount of time spent, all while in the field.

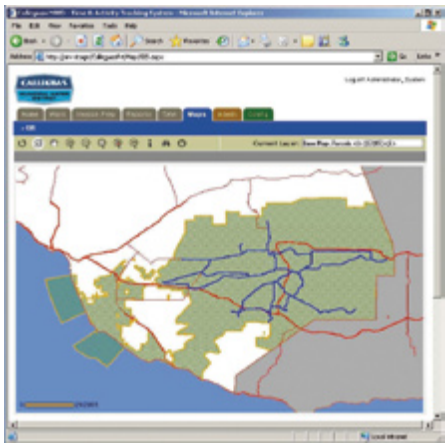
By implementing a timesheet and reporting module, officials at Calleguas are able to have a two-way flow of information into and out of the company's finance and payroll systems, which means timesheet data entered in the field can be automatically retrieved and calculated for activity-based cost reporting back in the office.

"The time and activity tracking capabilities for asset maintenance are extremely important to us," said Kendall. "Because we share responsibility for the well field with MWD, it's important to quantify the time and resources we put into maintaining that facility. Now that we have accurate record, we're able to recoup some of our cost by billing them back for the time we spend on well field maintenance. It has created another source of revenue for us."

The timesheet and reporting feature also provides a fully automated timekeeping system for all personnel. Timesheet data is entered in the laptops in the field and via a Web-browser in the office, and timesheets are automatically routed to the appropriate supervisor back in the office. With the click a button, the timesheet is approved and automatically routed to payroll for processing.

In 2005 alone, more than 1,500 time sheets were processed electronically at Calleguas; work that was previously completed by having people walk sheets of paper around the office obtaining the required signatures. Even more importantly, in 2005 the company was able to track maintenance and construction work completed and its subsequent cost, recouping more than $380,000 in maintenance fees from MWD for work completed on shared facilities.

In addition to the time and activity tracking modules, Calleguas also implemented Fieldport's asset management module,



which allows the system to automatically generate work-orders for maintenance on specific assets. Using the asset management functionality, workers are now able to access an automatically-generated to-do list each morning, which is based on schedules in the system. In 2005, more than 20,000 work orders were generated electronically.

"Implementing a Fieldport software solution was a great business decision for us, and we're continually looking for new ways to use it," said Kendall. "Our IT costs have remained below the industry average throughout the entire process, and we are operating much more efficiently now."

As a next step, Calleguas plans to extend the functionality of the company's Fieldport system by implementing the existing technology for additional users, adding mobile GIS redlining and field revision management, as well as putting more of the existing maintenance manuals, as-built drawings and maps into Fieldport's web and mobile GIS modules. Once in the Fieldport GIS, documents can be accessed quickly and easily by field teams.

THE EQUIPMENT USED ON THIS PROJECT INCLUDES

- Trimble's Fieldport enterprise software suite
- ESRI GIS software

Trimble Long Beach
5001 Airport Plaza Drive
Suite 210
Long Beach, CA 90815
USA
+1-562-420-3200 Phone
+1-562-420-3522 Fax

Trimble Navigation Limited
10355 Westmoor Drive
Suite #100
Westminster, CO 80021
USA
+1-720-587-4574 Phone
+1-720-587-4878 Fax

Fieldport-Sales@trimble.com

YOUR LOCAL TRIMBLE OFFICE OR REPRESENTATIVE

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www.trimble.com