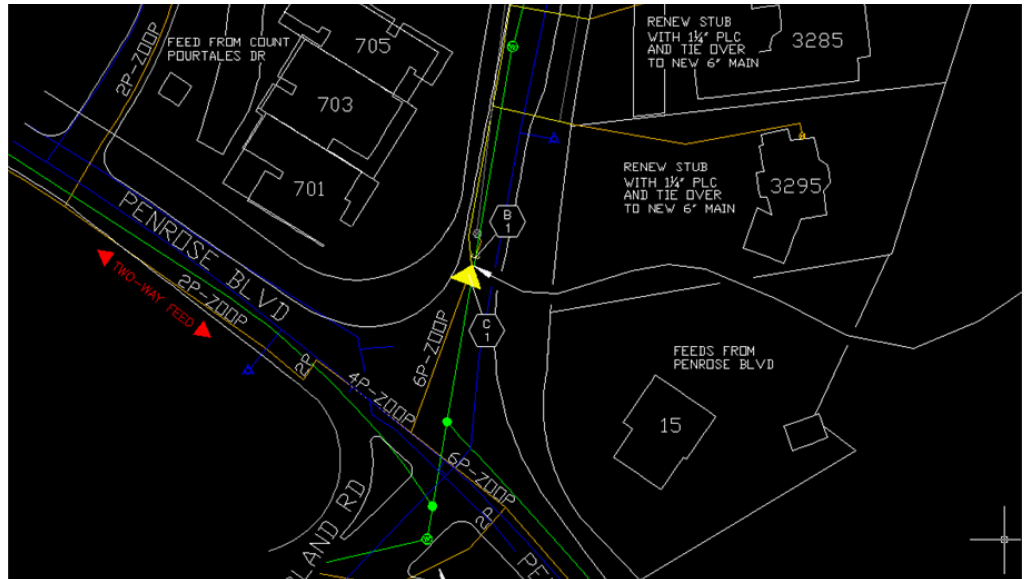


Autodesk Utility Design helps enable us to get more done, more effectively. From designers to purchasers to field crews, everyone saves time and there is less risk of data entry errors. It all adds up to better service to customers.

—Bob Buchan
Senior Project Manager
Colorado Springs Utilities

Better utility designs—faster.

Colorado Springs Utilities accelerates its gas and electric design processes with help from Autodesk Utility Design.



Project Summary

A publicly owned utility, Colorado Springs Utilities provides electric, natural gas, water, and wastewater services to customers in Colorado Springs, Colorado. The company was founded in 1926 with a mandate to provide low rates and excellent customer service. Each of the company's employees and departments contributes to realizing those goals. As part of the Field Engineering Department, teams of field engineers work to design—as efficiently as possible—effective distribution networks and other facilities that the utility needs. Just as important, they must ensure their designs are sufficiently concise and detailed for the field crews who will construct them.

Colorado Springs Utilities recently added Autodesk® Utility Design software to its design workflow. The solution is helping the utility's designers complete their work better and more efficiently. "Autodesk Utility Design puts more capabilities into the hands of our designers," explains the company's Field Engineering North Supervisor Tim Benedict. "Everything from engineering calculations to equipment selection is more automated and standardized. We're saving time while making it easier to produce clearer, more consistent designs."

The Challenge

Colorado Springs Utilities has relied on AutoCAD® software as its primary design tool for many years. To streamline electric distribution system designs, the company developed an application that integrated the designs from AutoCAD with the utility's work management systems and helped designers track material choices. Field engineers performed engineering calculations manually or by using calculation tools not integrated with AutoCAD software. While engineering calculations were time consuming, the overall process served fairly well—except that the in-house application required specialized IT support to maintain.

"We were using a seven-year-old version of AutoCAD software, and it was difficult to enhance our in-house application with timesaving features, such as more automatic calculations," says Bob Buchan, a Senior Project Manager in Colorado Springs Utilities's IT department. "An efficient process doesn't stay efficient. It's important to have the ability to keep getting better and faster, but we were stuck. It was time to move to a system that allowed for more integration and automation."

On the gas distribution side, Colorado Springs Utilities saw room for improvement as well. "Our gas distribution system design processes were even more manual," adds Benedict. "Designers wrote their own bills of materials (BOMs) and entered them into the work management system. So much of the process was based on experience and familiarity with our standards that it took a long time to train designers."

More integration across systems—less duplicate data entry.

The Solution

Colorado Springs Utilities decided to find a new utility design solution. A selection team examined several solutions that offered more process automation and standardization along with the potential for better integration with the utility's work management and GIS solutions. Following a meticulous evaluation process, the company selected Autodesk Utility Design. It offered improved design productivity as well as training advantages. Because the new utility software is based on AutoCAD, the utility's drafters were already familiar with much of the interface.

"We felt Autodesk Utility Design would help us automate our current processes while promoting more consistent standards," explains Buchan. "With this software built on AutoCAD, our people can focus on mastering the enhanced functionality instead of learning an entirely new tool or new process. Hiring is easier, too. We can hire people with AutoCAD skills and get them ramped up on Autodesk Utility Design more quickly."

Increased Automation

Colorado Springs Utilities's electric design workflow advances more quickly since implementing Autodesk Utility Design. A designer retrieves the relevant base map to get started. As the design takes shape, embedded standards within the software help associate the correct equipment sizes to the linework and symbols selected. Engineering calculations take place within Autodesk Utility Design—designers no longer need to perform flicker, voltage drop, or other types of calculations manually.

"Virtually every aspect of our design process is faster and better," notes Benedict. "Autodesk Utility Design helps engineers select the right equipment and materials for the job. That can save money by helping to prevent over-engineering, and save time by helping crews bring the right material quantities

to job sites. Construction documentation is more consistent as well. Field crews can more easily see what they need to do, leading to fewer questions and delays."

Workflow Transformation

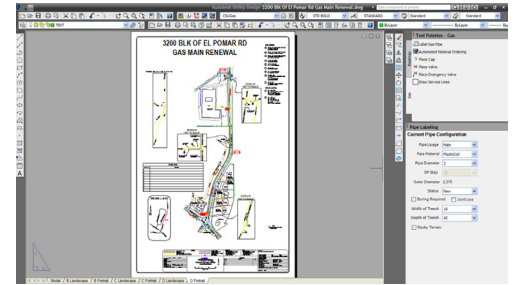
After successfully implementing the new software on the electric side, Colorado Springs Utilities turned to its gas distribution system design processes. Autodesk Utility Design brought similar capabilities—calculations, embedded standards, and automated BOMs—to the gas system designers.

Benedict explains, "For gas design, virtually everything was manual before. Now, automation and standardization help guide the process. As we become more familiar with Autodesk Utility Design, we anticipate that we may see design timesaving of as much as 50 percent."

With designers able to follow industry and the company's standards for gas and electric design more easily, the utility will be better able to allocate resources. "Our gas design process was so manual before that it took a long time to train new people," adds Benedict. "It was difficult to shift resources between gas and electric designs. Getting someone ramped up on the latest materials standards for one or a few jobs didn't make sense. Autodesk Utility Design helps designers follow standards we've configured into the software, so it's easier to move between different types of projects."

Work Management and GIS Integration

Colorado Springs Utilities has integrated this new software with its Maximo® Asset Management system. Information flows from Autodesk Utility Design into the Maximo system, making BOM and work order generation more automated for both designers and field crews. Going forward, Colorado Springs Utilities plans to better leverage the information being passed from Autodesk Utility



Design to Maximo by automating the creation of location and asset records that include detailed attribution from the design drawing. After this is complete, the company will extend its existing Maximo and GIS integration to enable the GIS to access the data associated with the records.

"End-to-end data integration helps get data where it needs to go without duplicate data entry," says Buchan. "Even with electric designs—where we did have some integration with our in-house tool—we're enjoying more seamless integration with Maximo."

The Result

As a publicly owned utility, Colorado Springs Utilities believes its technology investments should deliver benefits to customers. By that measure, Buchan counts the move to Autodesk Utility Design as a success. He says: "Autodesk Utility Design helps enable us to get more done, more effectively. From designers to purchasers to field crews, everyone saves time and there is less risk of data entry errors. It all adds up to better service to customers."

Learn More

Join the utilities that are making their design processes more automated with Autodesk Utility Design. Visit www.autodesk.com/utility to find out how.



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—Tim Benedict
Field Engineering North Supervisor
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Images courtesy of Colorado Springs Utilities.

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