

AutoCAD® Map 3D
Autodesk® Infrastructure
Map Server
AutoCAD® Utility Design

Quality data helps to contribute to better decisions and time saved in the field, where it can improve service to customers. The web component will help us share more accurate data in a more useful format. Accuracy and access—those are the areas where we expect to see the biggest returns on our investment.

—Ray Pearce
GIS Project Manager
Anchorage Municipal
Light & Power

Managing for quality.

Alaskan power utility saves time and increases data quality with help from Autodesk design and management solutions.



Project Summary

Serving the commercial and high-density residential areas of Anchorage, Alaska, Anchorage Municipal Light & Power (ML&P) delivers electricity over an area of 19.9 square miles. With many of Alaska's leading businesses depending on ML&P, the utility understands that providing reliable, high-quality electric service is vital to the state's economy. ML&P has a strong track record of delivering that service, but is always looking for opportunities to enhance quality. The utility's design process helps by supporting maintenance and new construction with efficient, standards-based network designs. To make the way it manages and shares network data just as efficient, ML&P decided to implement AutoCAD® Map 3D software and Autodesk® Infrastructure Map Server software. By designing, managing and sharing network information with Autodesk utility solutions, ML&P expects to:

- Extend productivity and efficiency across design workflows
- Minimize duplicate work by integrating design and asset management processes
- Make more informed asset management and operations decisions
- Enhance availability and usability of asset information
- Better support the quality and accuracy of asset data that informs asset management decisions

The Challenge

A few years ago, ML&P adopted AutoCAD® Utility Design software. The software lets the utility use an AutoCAD-based interface to develop designs more quickly. By helping to enforce ML&P's design standards and by enabling integration with purchasing and work order systems, AutoCAD Utility Design helps the utility complete designs 10 to 15 times faster.

Having improved their design workflows, next ML&P decided to address the entire design to asset management workflow. One goal was to reduce duplicate work, such as redrawing facilities in stand-alone asset and records management systems.

"When as-builts came to our mapping department, we had to redraw everything and encode asset data into our legacy property records system," says Ray Pearce, ML&P's geographic information system (GIS) project manager. "It was time consuming and error-prone, and led to inefficiencies for departments that relied on the data. For instance, our finance department had to use tabular information to track assets by location for tax purposes."

Utility increases data accuracy and reduces redrawing with AutoCAD Map 3D.

Pearce adds that questionable data quality had the potential to impact the utility's operations even more in the future. He says, "We're moving more of our distribution system underground every year. With underground distribution, it's important that data related to asset types and locations be accurate because you can't just drive around to confirm a connection or type of transformer. So we felt it was time to enhance the quality and availability of our asset information."

The Solution

ML&P chose to implement AutoCAD Map 3D software to help manage its asset data. The GIS software includes a number of features that attracted the attention of ML&P's decision makers. As a model-based application, it helps the utility to align its data to its standards. And like its AutoCAD Utility Design application, AutoCAD Map 3D is based on AutoCAD® software. This is very important to the utility because it has an AutoCAD-trained workforce. The familiarity of the new solution helps to keep training time and costs to a minimum. The software also gives ML&P the ability to store spatial data into an Oracle® database to enable integration with other business systems and processes. Finally, with AutoCAD Map 3D and Autodesk Infrastructure Map Server, it is easier to share asset maps throughout the organization on browser-based maps.

"In AutoCAD Map 3D, we saw that we could integrate our asset design and management processes," says Pearce. "We'd be able to start a project in AutoCAD Utility Design and then manage data in AutoCAD Map 3D. We could use our familiarity with AutoCAD from start to finish to create, edit, and manage data."

Design to Manage—More Seamlessly

ML&P's new design-to-manage workflow will be transformed by AutoCAD Map 3D software. The utility's designers will create designs that conform to ML&P's standards with help from AutoCAD

Utility Design, just as they have done for years. New projects will be moved to AutoCAD Map 3D and assigned a pending status—with no redrawing necessary. When projects are complete, ML&P will add any as-built information and incorporate the data into the active asset management database. Workflows within AutoCAD Map 3D can help to both streamline the quality check process and support verifying that the information conforms to the utility's preferred design data model.

"We expect to see a significant improvement in the quality of data we use to manage assets," explains Pearce. "Despite all our efforts through the years, we've lacked confidence that our maps are truly accurate. By improving the whole process and adding more automated quality control steps, we'll gain a new degree of trust in our data."

Pearce points to the difference that confidence in data accuracy will make on a day-to-day basis: "We'll be able to do things like visualize every service connection without having to refer to tabular data. How does that help? For one thing, you can calculate loads on individual transformers more easily and reliably. And field crews can know exact equipment types and locations. That's huge, especially when it comes to maintaining our underground network."

Better Asset Accounting

Autodesk Infrastructure Map Server will make the information managed with AutoCAD Map 3D and stored in Oracle available on ML&P's intranet. Authorized employees will be able to dynamically create maps that show the information they request. For instance, finance employees will be able to quickly identify assets by tax district—a task which previously required hours to complete and couldn't be verified visually.

"We need to know what assets we're using, when they were installed, and where they are for tax



purposes," says Pearce. "That's an incredibly tedious and time-consuming process using tabular data. It required our finance people to match new and retired assets manually. AutoCAD Map 3D will track the information more automatically by location, and Autodesk Infrastructure Map Server will deliver the data more quickly and accurately."

The Result

While the timesaving resulting from any reduction of redrawing will be welcome, ML&P is most excited about having more accurate data thanks to the electric industry data model within AutoCAD Map 3D software. "We are going to be spending less time moving information from designs and onto our asset maps," says Pearce. "But that's not at the top of our list in terms of benefits. More accurate data is. Quality data helps to contribute to better decisions and time saved in the field, where it can improve service to customers. The web component will help us share more accurate data in a more useful format. Accuracy and access—those are the areas where we expect to see the biggest returns on our investment."

Learn More

Do more with high-quality asset data and more accurate, available network maps. Visit www.autodesk.com/map3d to learn more.



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