

Orange County Sanitation District

Customer Success Story

Autodesk Infrastructure Solutions
Autodesk Map® 3D
Autodesk® Raster Design
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"With Autodesk Map 3D, we never have to worry. We can always translate our CAD design and geospatial data with consistency and very little effort."

Doug Rulison,
Engineering Data Management Specialist,
Orange County Sanitation District

Integration Acceleration

Orange County seamlessly integrates CAD design and geospatial data

Project Summary

The Orange County Sanitation District (OCSD) is responsible for safely collecting, treating, and disposing of wastewater generated by the more than 2.3 million residents of northwest Orange County, California. With a 470-square-mile service area, the OCSD depends on its geographic information system (GIS) to store location-based information and provide analysis capabilities to decisionmakers. But the district also depends heavily on CAD design data to populate the district GIS with accurate information and to publish online asset atlases and hard copy maps. Autodesk Map 3D® provides an easy way for the district to transfer CAD design data to and from its GIS while maintaining data integrity. With Autodesk Map 3D, OCSD:

- Maintains asset data with half the effort
- Works with data in a variety of common spatial formats
- Delivers better service and more accurate information to customers
- Updates enterprise GIS datasets
- Streamlines data transfer processes

The Challenge

Eliminating Duplicate Data

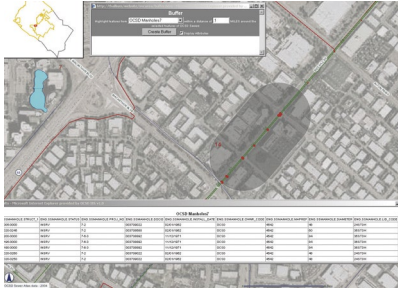
In terms of people served and land covered, the OCSD is one of the largest sanitation districts west of the Mississippi River. As an organization, it focuses on delivering exceptional service to customers and protecting water quality—priority goals that attract district attention and resources. Both geospatial and design data contribute to these objectives, however redundant processes for maintaining separate geospatial and CAD data waste valuable time and resources. Moreover, the manual process of creating and editing data in CAD and GIS software reduces data fidelity and erodes the quality and integrity of information. The OCSD set a goal of integrating both types of data as efficiently and effectively as possible.

"Many organizations have wasted an incredible amount of time maintaining redundant CAD and GIS datasets," says Doug Rulison, engineering data management specialist for the OCSD. "We did not want to do that. The math is simple: it takes longer to capture the same data twice in both CAD and GIS. And let's face it—redundant and manual processes tend to be more error prone."

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The OCSD uses Autodesk Raster Design to update and maintain scanned record drawings in its document management system. Before turning to Autodesk Raster Design, updating scanned record drawings was very time-consuming: a designer had to locate the archived Mylar original, manually edit the Mylar, plot and rescan the document, and upload it into the document management system. Having to rescan the image added an additional process of recreating the hyperlink to the updated record drawing with a new document ID number. But with Autodesk Raster Design, the designer checks out the scanned image from the document management system, makes the changes in CAD, and merges the edits directly to the image itself, maintaining the existing hyperlinks.

“Before, cycling through our record update process took one or more days,” says Yvonne Dake, an engineering assistant with the OCSD. “Autodesk Raster Designs allows us to make complex modifications in just a few hours. During the editing process, we can even improve the quality and readability of our scanned record drawings without interrupting the existing linkages to scanned images.”

The Solution Effective CAD Design and Geospatial Data Integration

Like many large organizations, the OCSD depends on Autodesk software to design infrastructure and ESRI software for traditional GIS functions. However, the OCSD's CAD design and GIS software are highly interdependent because the district uses both to maintain assets proactively. Taking the OCSD's facility atlas, which maintains data related to treatment facilities, as an example, most of the OCSD's CAD design data originates with outside consultants contracted to perform design work. Upon completion, the consultants deliver CAD design data to the district's engineering department, where staff engineers check for accuracy, completeness, and adherence to design and precision standards. Then the data goes to the engineering data management group for uploading into the district's GIS using Autodesk Map 3D and a custom toolset designed for data capture.

The process is basically seamless, according to Rulison. He says, “Making ESRI data work with CAD design data is essential to us. Autodesk Map 3D allows us to work with both data formats efficiently. Map 3D translates CAD design data into our GIS and from our GIS to CAD in minutes. The process maintains GIS data and schema integrity and conforms to our CAD standards.”

Always on the lookout for time-saving technology, the OCSD recently tried a CAD/geospatial data integration tool from ESRI. The results were disappointing. “The ESRI extension product would let us view our AutoCAD data, but it couldn't read or write to the object data, making the tool ineffective,” explains Rulison. “With Autodesk Map 3D, we never have to worry. We can always translate our CAD design and geospatial data with consistency and very little effort.”

Approaching 100% Accuracy

Beyond facilitating data integration, Autodesk Map 3D also helps the OCSD streamline the maintenance of CAD design data in its sewer atlas, which maintains data related to wastewater

collection. Autodesk Map 3D references location-based information with object data and annotations in the atlas. OCSD field crews can access record drawings directly through the district's online sewer atlases. When an error is found in the documentation of an asset in either the online atlas or the record drawing, the field crews alert the engineering department, which then uses Autodesk Map 3D to make the correction.

“We're constantly working towards 100 percent accuracy of asset data, and we want to encourage our field crews to inform us of discrepancies they find in the field,” says Rulison. “Our process is designed to make it easy for them to submit an identified discrepancy and easy for us to make the correction. Autodesk Map 3D enables us to make the correction once in CAD and transfer the CAD object and the object data to our GIS data sets, while still maintaining the desired CAD standards.”

The Result Twice as Fast

By using Autodesk Map 3D to streamline CAD design and geospatial data management, the OCSD has been able to save a significant amount of time on key processes. Just as importantly, the district is improving the accuracy of asset data, which helps it to serve customers better. “Autodesk Map 3D enables us to use the applications we prefer for CAD design and GIS analysis and to replicate our CAD data in a single Oracle database,” notes Rulison. “This allows us to maintain our facility and sewer atlases more efficiently and to update our sewer atlas twice as fast. Whether we're helping customers with permits or making environmentally-sound asset management decisions, our asset data is allowing us to deliver better service more efficiently.”

For more information

Find out how Autodesk Map 3D and Oracle database technology help public agencies deliver better service by visiting us on the web at www.autodesk.com/infrastructure