The City of Vancouver

Customer Success Story

Autodesk® Design Review
Autodesk® DWF™ Viewer
Autodesk Map® 3D
Autodesk® Civil 3D®
Autodesk® Land Desktop

"With Autodesk Design Review, we don't have to rely on paper or buy design software licenses just to mark up designs."

Richard Johnson,
Business Team Lead,
Engineering Services Department,
The City of Vancouver

Fixing Leaks Faster and Improving Workflow

The City of Vancouver empowers field crews to respond as much as 50 percent faster.

Project Summary

The Information Services Branch in the Engineering Services Department (ESD) of the City of Vancouver, Canada, is responsible for delivering engineering, geographic information systems (GIS), and infrastructure design services to the city's public works branches within the ESD. Documenting and sharing infrastructure documentation is a key component of the department's mission. Until recently, the ESD had to share infrastructure information and conduct design reviews with non-CAD users using paper plans and verbal communication, slowing essential processes. But today, the ESD depends on Autodesk® Design Review software and DWF™ technology to speed design reviews and to give extended team members the ability to access and mark up infrastructure maps, helping the City of Vancouver to:

- Empower field crews to fix emergency water leaks as much as 50 percent faster
- Accelerate design reviews with non-CAD users
- Realize more value from its investment in Autodesk design and GIS software
- Improve the proactive leak detection process

The Challenge

Paper Documentation Slows Emergency Response

Responsible for engineering infrastructure, such as pipes and roads, that cover 114 square kilometers and serve more than 545,000 people, the ESD uses Autodesk Map® 3D, Autodesk® Civil 3D®, and Autodesk® Land Desktop software products to create and maintain vital asset data. With advanced design capabilities, these applications help the ESD's engineers and drafters keep productivity high as they work together on infrastructure projects. But prior to turning to Autodesk Design Review, the city contended with a slow process for soliciting and incorporating feedback on infrastructure designs. Oftentimes, design reviews require detailed comments and markups from an extended team, including people without CAD software experience. Non-CAD users had to write and circulate comments on paper printouts, preventing the ESD from instituting efficient all-digital design reviews.

In addition to struggling with cumbersome paper design reviews, the ESD also strove to deliver up-to-date infrastructure documentation to water leak detection field crews. Until recently, crews used paper water main infrastructure maps that

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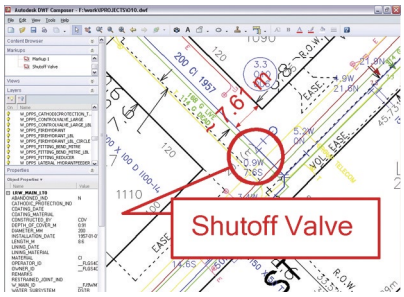

"Our crews are addressing emergency leak situations as much as 50 percent faster thanks to easy access to more complete information."

Richard Johnson,
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they carried in their trucks. Because the maps are reprinted approximately every two years, they were sometimes out of date, which at times forced the crew to return to their base for up-to-date underground infrastructure plans.

"There is so much underground and aboveground infrastructure that it is very difficult to represent it all on a single paper map," explains Phil Karlsson, the Vancouver's manager of waterworks operations. "Crews needed better information at their fingertips to respond to emergency situations faster. With the introduction of field laptops and Autodesk DWF files, we have enabled our first response emergency crew to have the up-to-date information in the field. The crew is able to start utility locating and site preparation while waiting for utility-location confirmation from our office."

The Solution

With the free Autodesk® DWF™ Viewer deployed across the organization and hundreds of active users throughout city departments, ESD knew that it could easily share design information using DWF files. When the ESD's engineers and designers create and update documentation using Autodesk design software, they publish the drawings as DWF files that are subsequently stored in a central database. Employees with no CAD experience then use the Autodesk DWF Viewer to access and view the files.

However, the ESD wanted field crews and reviewers to be able to do more than simply access, view, and print infrastructure maps. It wanted to upgrade the organization's review capabilities with the ability to mark up and measure elements within designs. The ESD turned to Autodesk Design Review to enhance DWF capabilities. Now, when non-CAD users need to review infrastructure or utility drawings, they open a DWF file of the design in Autodesk Design Review and mark it up digitally. CAD users can then overlay the comments on the original design in Autodesk Map 3D, Autodesk Civil 3D, or Autodesk Land Desktop.

According to Richard Johnson, the ESD's business team lead for information services, "With Autodesk Design Review, we don't have to rely on paper or buy design software licenses just to mark up designs. We prefer it to paper and PDF because DWF supports spatial data better. As reviewers zoom in and out of infrastructure documentation, the information is more accurately geo-referenced."

Enabling a Rapid Response

Ready access to DWF files of Vancouver's infrastructure maps is transforming the workflow for leak detection and repair field crews, empowering them to work faster and more independently. Each leak detection truck is equipped with a laptop containing DWF files of Vancouver's infrastructure maps. When the crews respond to an emergency situation, they find the relevant pipe and other underground asset drawings and call their base to verify that the underground utility information is correct. They can zoom in and out of design details and print the exact information needed. And when they detect other potential leaks in the area, they use Autodesk Design Review to mark up the map with the location for a follow up survey by the proactive leak detection team.

"The DWF files in our leak detection trucks are electronically updated and contain far more detailed information than paper maps," says Ravi Chhina, superintendent for breaks and leak detection in the ESD's waterworks operations department. "With fast access to more detailed information, our leak repair crews are responding to emergencies more quickly."

The Result

Resolving Emergencies Faster

Since turning to Autodesk Design Review, the ESD has seen measurable improvement in emergency leak response. At the same time, the department's engineers and drafters are collaborating with non-CAD users more efficiently. "Autodesk Design Review and DWF are easy to use and help us share more information in less time," reports Johnson. "Better information sharing to the field translates into increased safety for the citizens of the City of Vancouver. For example, our crews are addressing emergency leak situations as much as 50 percent faster thanks to easy access to more complete information."

For more information

Empower your field force with better information access. Find out how by visiting us on the web at: www.autodesk.com/designreview.

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