

VTN Consulting

Customer Success Story

AutoCAD® Civil 3D®

Autodesk® Vault

Autodesk® Impression

Autodesk® Design Review

Civil 3D and Autodesk Vault definitely give us a competitive advantage. Together, they help us share data faster, manage it better, and streamline all of our processes with fewer errors. They are undoubtedly a part of the future of this industry—and the strength of this firm going forward.

—Keith Warren
Building Information Modeling
Manager
VTN Consulting

Create and share data with confidence.

VTN Consulting delivers accountability and superior service with help from Autodesk Vault and AutoCAD Civil 3D.



Conceptual park and parking lot plan in Las Vegas. Image courtesy of VTN Consulting.

The Firm

Since 1960, the design professionals at VTN Consulting have provided a wide range of engineering, planning, and surveying services to public- and private-sector clients throughout the western United States. On every project, the firm's talented design professionals have earned a reputation for delivering innovative, high-quality projects within budget and on or ahead of schedule. To consistently achieve such ambitious results, VTN Consulting professionals have adopted a rigorous quality-control review process, and standardized on a variety of productivity-enhancing products, including Autodesk® Vault data management software and AutoCAD® Civil 3D® building information modeling (BIM) software. "We use these two products on virtually every job we do," says Keith Warren, BIM manager at VTN Consulting. Used separately, or in conjunction, these tools have helped the firm provide comprehensive design visibility, accountability, and superior service to its clients on approximately 30 major projects, including a large development project at a prominent casino hotel in Las Vegas, Nevada.

The Software

Within the fast-paced Las Vegas design community, VTN Consulting is known as an early adopter of BIM. "As soon as I saw it, I knew Civil 3D was going to help change the industry," says Warren. However, before the firm could move forward with a widespread implementation of the software, Warren had to obtain approval from the owner. Fortunately, in 2006 the owner called Warren into his office with a question about several resultant contours that conflicted with some of the spot elevations generated using the firm's existing software. "When I told him that Civil 3D could help provide a solution to this problem and prevent engineers from fudging early designs, he told me to implement it immediately."

After initially utilizing Civil 3D internally in several of its departments, VTN Consulting began using the software on pilot projects. Soon afterward, the designers recognized how useful it would be to have a dedicated application for sharing data among project team members.

Autodesk®

VTN Consulting encourages accountability by using Autodesk Vault to track what is done and who is doing it—at any time.

“Quality control requires accountability,” says Warren. “We want to be able to track what is being done and who is doing it—at any time.” Equally as important, the firm’s owner wants to be able to more securely store all project data and easily restore it in the event data is lost, corrupted, or modified. Autodesk Vault is the perfect solution.

Using more traditional methods, project teams had to enlist the help of the IT department to restore project data from a daily backup. “Using Autodesk Vault, we do not have to go to IT,” says Warren. “Because we track our projects by check-in times, we can easily restore the project to an earlier version from within Autodesk Vault. The time savings can be tremendous.”

Get Help from the Experts

For help implementing Civil 3D, VTN Consulting relied upon a collection of training DVDs from a third-party vendor, several classes with Autodesk reseller U.S. CAD, and the comprehensive webcast library available on the Autodesk website. “We also brought in specialists from Autodesk for a one-week course during the transition,” says Warren. “They provided significant help.” With additional assistance from Autodesk, VTN Consulting created an Autodesk Vault server, which assisted the firm’s design teams organize all of their engineering data in a centralized location and reduce the time needed to find, reference, and reuse design data.

The Challenge

In 2008, VTN Consulting began work on a large development project at a prominent casino hotel in Las Vegas. When complete, the new facility will include a nightclub, gaming tables, an amphitheater, a deck area for dining, and a large, multilevel pool. “It is a very complex project,” says Warren. At project’s end, VTN Consulting will deliver a 2D set of hard-copy engineering plans to its client, the local architectural firm tasked with designing the project.

In addition, if the firm’s planned purchase of Autodesk® 3ds Max® Design software occurs in time, VTN Consulting intends to supply the client with 3D site renderings. To complete this project, VTN Consulting utilized one of its advanced Civil 3D users, along with two junior designers who were still building skills with Civil 3D and Autodesk Vault.

The Solution

One of the first challenges the team tackled was surveying the complex, multilevel site. During this phase, the crew performed site verification using a point-cloud scanner to confirm that the pool and associated facilities had the necessary clearance to fit into the proposed site.

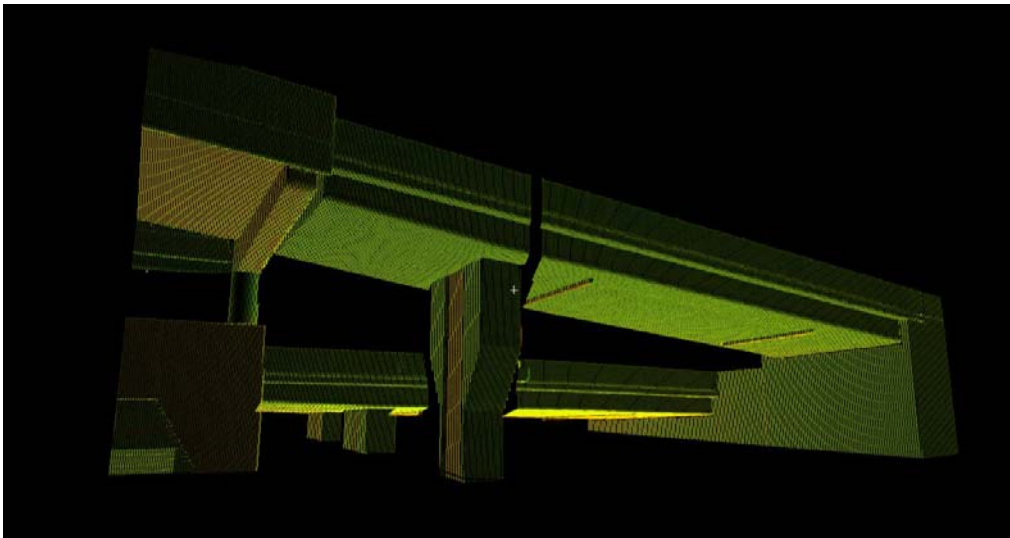
Once into the preliminary design phase, VTN Consulting began using Civil 3D. “On more traditional projects, we would just create a rough sketch or 2D design and give it to the client,” says Warren. “That’s what our two junior designers were used

The visualizations we created in Civil 3D helped everyone on the team see what was going on in real time, helping all of us make better design decisions and work more efficiently.

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to doing.” However, this project required them to create three separate Civil 3D models at the project outset and then tie all of the elevations and surfaces together into a single model within Autodesk Vault.

Using traditional methods, VTN Consulting designers had often been hampered by the inefficient and disjointed workflows associated with paper. “For example, when designing utilities our engineers would have to print a hard copy, mark it up, and pass it to the hydrologists, who would then reenter all of the data by hand into their software, modify it, reprint it, and mark it up before returning it to the engineers for manual reentry back into their system,” says Warren. “At every step, there was the risk of error.”



VTN Consulting uses Vault and Civil 3D on virtually every one of its projects. Image courtesy of VTN Consulting.

However, using Civil 3D and Autodesk Vault, the three designers could work simultaneously on the project and more easily share data with each other and other internal departments without interrupting their workflows or wasting valuable time re-entering data. “Both of our junior designers and the senior staff member could share data and track the other people’s changes in real time,” says Warren. “Everything happened within the model—and in a tenth of the time it used to take.” This has helped enable VTN Consulting to significantly reduce the staff required to perform many tasks.

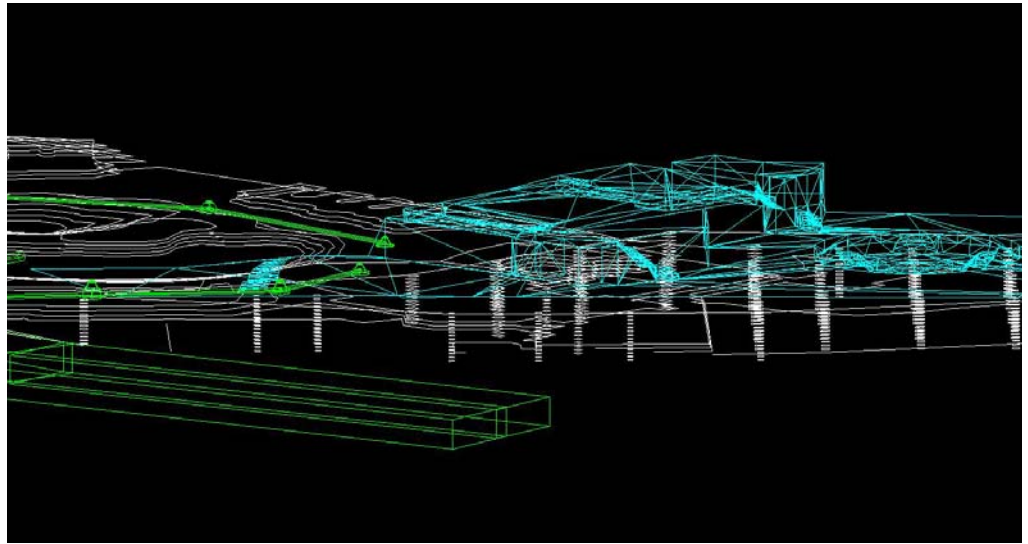
Using Autodesk Vault in conjunction with Civil 3D also helped VTN Consulting streamline project workflow. “Using more traditional tools, it was difficult to track who was responsible for what changes,” says Warren. “Once we began using Civil 3D and Autodesk Vault, we determined that one project manager could more easily oversee the entire job and delegate all new work—helping maintain maximum design accountability and credibility.”

Improve Coordination

Although the architects did not use a BIM solution, they appreciated the Civil 3D model of the multi-level site and its complex system of grading and drainage. “They loved that we could put the model on a laptop and were able to turn it sideways, spin it around, and zoom into different views of the site,” says Warren. “It gave them a better idea of what everything looked like and helped them produce more accurate and better-coordinated elevations.”



Image courtesy of VTN Consulting.



3D schematic of the development project in Las Vegas. Image courtesy of VTN Consulting.

The designers also shared the model with many of the other consultants, including the landscape architects and MEP and structural engineers. “In the past, managers could not fully visualize projects until they had plotted them out,” says Warren. “By contrast, the visualizations we created in Civil 3D helped everyone on the team see what was going on in real time, helping all of us make better design decisions and work more efficiently.”

The software also helped the designers at VTN Consulting make on-the-fly changes in project scope in response to feedback from the architects. “For example, during detailed design we had to retrofit the design several times to make their new ideas work within the limitations of clearance and space,” says Warren.

Autodesk Vault provided additional benefits. Throughout the project, VTN Consulting stored the entire database within Autodesk Vault. “Our owners mandate the use of Autodesk Vault on virtually every single job that we do,” says Warren. “As a result, our entire team had access to an online timeline of the entire project. At any given time, we could go back and see what had changed from one iteration to another.”

Autodesk Vault and Civil 3D also helped VTN Consulting standardize its styles. “Using traditional methods, we have had difficulty with employees wanting to use different font heights, styles, and

colors,” says Warren. Using Civil 3D and Autodesk Vault, VTN Consulting can standardize every aspect of the project—from directory structure and styles to access rights and workflows—helping save valuable setup time on every project. “In this economy, that savings of time and money can be critical.”

Share Information Freely

To create compelling presentation-ready graphics created directly from DWG and DWF™ files, VTN Consulting used Autodesk® Impression software. “That helped the client gain a better 2D understanding of the project,” says Warren.

For ongoing review of project DWF files, VTN Consulting encouraged its team members to use Autodesk® Design Review software. Warren conducted interoffice training in Autodesk Design Review, and, within a week, the entire office had implemented the software. “Everyone—from the project managers to the end users—was extremely excited about it,” says Warren. “I never had to show it, train it ever again. It has been an implementation dream.”

VTN Consulting uses AutoCAD Civil 3D and Autodesk Vault on virtually every project it undertakes.

The Result

The Las Vegas development project is currently under construction. VTN Consulting completed its appointed tasks on time, within budget, and to a high degree of quality. "We could have completed it even faster if we had not been simultaneously training the two designers," says Warren. "But it was a great learning experience for them."

VTN Consulting relies on Civil 3D and Autodesk Vault software. "Civil 3D and Autodesk Vault definitely give us a competitive advantage," says Warren. "Together, they help us share data faster, manage it better, and help streamline all of our processes with fewer errors. They are undoubtedly a part of the future of this industry—and the strength of this firm going forward."

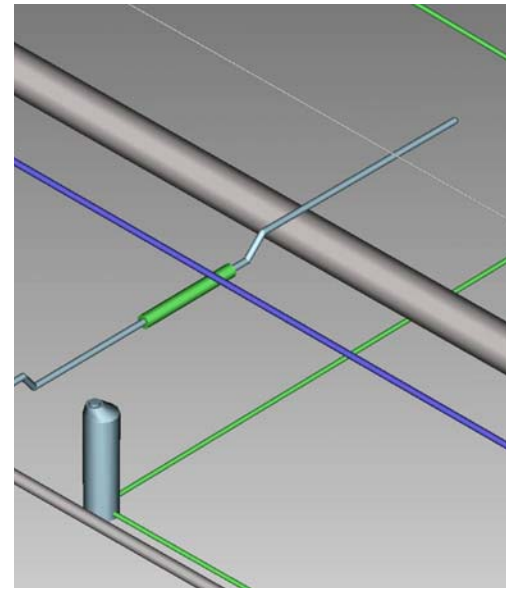
"Our long-term plan is to have all of our project managers using Civil 3D," says Warren. To reach this goal, VTN Consulting has begun training all of its engineer interns and junior project engineers in the new software, so that when they become project managers, they will have the skills—and the well-trained team members—to help them succeed.

In the coming years VTN Consulting has ambitious plans for expansion. "When that happens, we are

going to want an Autodesk Vault server in place in order to serve our clients more efficiently," says Warren. The firm's owners also hope to adopt a range of additional software products, including Autodesk 3ds Max Design, Autodesk® Navisworks® Manage software, Autodesk® Vault Collaboration software, and Autodesk® Revit® Structure software as well as Dynamite VSP, a civil engineering visualization solution from Autodesk partner, 3AM Solutions.

"Together, these solutions will help us create 3D renderings that will sell our story better—and hopefully drive greater adoption of BIM throughout Las Vegas," says Warren. "We are determined to lead the profession in that market and believe that these new products will open a lot of doors for us." In fact, VTN Consulting plans to create new departments and divisions—with their own budgets and workloads—that will take advantage of the capabilities provided by these new products.

"We have trained our staff in the use of Autodesk Vault and Civil 3D, and leveraged our relationship with Autodesk and our vendors, so that when the economy turns around, we will be able to hit the ground running and not miss a beat," says Warren. "We are excited about the future."



Water line dipping to clear high-pressure gas line, while maintaining proper sanitary sewer and storm clearance. Image courtesy of VTN Consulting.

For more information, visit www.autodesk.com/civil3d and www.autodesk.com/vault.

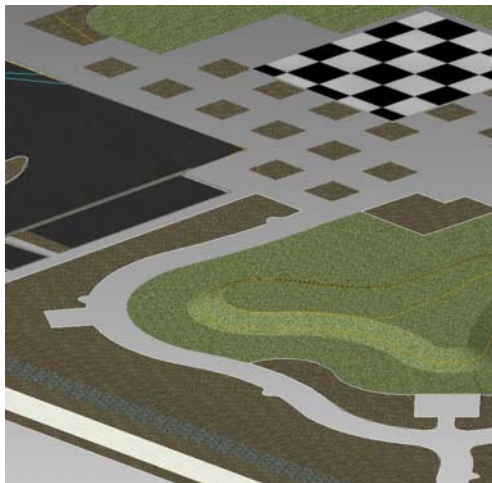


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