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Santa Barbara County Public Works Surveyor's Office

From Paper to Digital Efficiency: How Visus Led the Digital Transformation of Santa Barbara County Surveyor's Office

SNAPSHOT

ORGANIZATION

The Santa Barbara County Surveyor's Office provides services that include reviewing and approving maps and project documents that surveyors and property owners and their agents submit.

CHALLENGE

Modernize old processes that required paper-based submission, processing and review of maps from surveyors and property owners. Enable the office to offer online payment submission for its customers. Eliminate the need for expensive storage of physical maps and paper documents.

STRATEGY

Use Microsoft Azure PaaS, Azure SQL, Azure File Storage, Azure Function Apps and ASP.NET Core to develop a custom, web-based system that allows clients of the county to submit surveyor projects online and enables office staff to review and process maps and documents digitally. Deploy a cloud-based file storage system using Microsoft Azure. Implement online payment submission and processing using Heartland Payment Services.

RESULTS

Clients of the county can now submit maps and surveyor projects online, eliminating paper and removing the need to mail or hand-deliver projects, increasing productivity. Review cycles between the office and its clients are quicker and easier, saving over 200 hours a year and shortening project cycle duration by 15%. The system automatically formats projects, reducing administrative efforts and streamlining project tracking. Physical storage of projects is no longer necessary. This saves up to $30,000 per year in commercial storage costs since Surveyor's Office storage is completely full.

With offices in downtown Santa Barbara and Santa Maria, California, the Santa Barbara County Public Works Department comprises several divisions that provide essential services for residents and organizations in Santa Barbara County. Divisions include Water Resources, Transportation, Surveyors, and more.

The Surveyor's Office provides services that include reviewing and approving maps and project documents that surveyors and property owners and their agents submit. Professionals at the office review projects for compliance with California state, county and local laws and ordinances to meet specific requirements. The office works closely with other departments and divisions including the Planning and Development Department and typically manages the final steps in projects that require confirmation of property boundaries and subdivisions for residential and commercial use.

Previously, the department could only accept paper maps to process and review. Customers were required to bring land survey maps to the county engineering building in person or mail them to the office. The largest maps could be multiple copies of 20 sheets, 18 inches by 26 inches. Some projects such as Certificates of Compliance could include hundreds of printed pages. Projects required multiple versions of maps to be mailed back and forth or hand delivered as Public Works professionals, property owners and surveyors iterated on the review and approval process.

The department needed to organize incoming projects on paper and then physically store maps and copies of documents. Incoming project submittals would often be incomplete, with no standardized format. The project intake process was time consuming, cumbersome, and expensive, considering the storage space in downtown Santa Barbara being at a premium price. Payment processes were similarly outdated, offering users to pay with checks or cash for the required fees. Payment was received by staff and then delivered to the county treasurer.

"We had been providing more and more customer services online as we worked toward a goal of digital transformation," says Aleksandar Jevremovic, Santa Barbara County Surveyor. "We wanted to modernize and streamline project intake and communication with our customers. Doing markups by hand on paper maps and physically mailing copies back and forth or employing courier services was outdated. Our clients expected a more up-to-date experience. We were also reaching storage limits for paper maps, which we are required to archive. Our goal of digital transformation was to eliminate paper from our workflow."

Leaders at the County Surveyor's Office engaged the professionals at Visus LLC for help. "Visus had already worked successfully with other departments in Santa Barbara County," Jevremovic explains. "Because of that, it was easy to connect with them and to assure county decision makers of the viability of working with them."

Following a competitive selection process, the county implemented a fully digital web-based solution developed by Visus called Surveyor Digital Intake and Review System (DIRS) that allows clients of the county – typically property owners and surveyors – to upload digital copies of maps online. Processing and review of maps is all digital, and

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payment can be submitted online. DIRS eliminates tasks such as scanning submittals, accepting checks and handing them off to the accounting department, creating paper folders, moving paper around the office, and mailing reviews. This vastly increases operational efficiency and productivity for the department and provides a quicker and easier experience for clients.

> "The experts at Visus spent a lot of time mapping the workflow process with us at the outset, going through all the details together with us so there were no surprises during the phases of project development. They invested the time to learn about our business, our workflow and our processes so they could create a custom solution to fit our needs."
>
> – Aleksandar Jevremovic, Santa Barbara County Surveyor

"Together with the team at Visus we created a solution that fully modernizes our workflow," Jevremovic says. "It is very intuitive to use for our staff and our clients. The Visus team spent a lot of time mapping the workflow processes with us at the outset, going through all the details together with us so there were no surprises during the phases of project development. They invested the time to learn about our business, our workflow and our processes so they could create a custom solution to fit our needs."

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Many government agencies are currently spending on digital transformation projects in an attempt to improve operational efficiency and enhance the customer experience. "We have heard about surveyor offices in other counties around California that attempted to modernize by using out-of-the-box software solutions," Jevremovic explains. "But those are not very flexible, so users are frequently frustrated that these stock solutions don't fit their needs.

The system that we designed and developed with Visus is perfectly fine-tuned for the way we need it to work. It streamlines project submittal, review and payment processes and integrates with other Santa Barbara County systems. Our work looks more professional now that we don't have handwritten notes on paper maps. It provides customers with a better experience of doing business with the county."

Modern System Streamlines Surveyor Projects for Staff and Clients

The new DIRS system gives professionals at the surveyor's office the ability to digitally review project submittals and provide feedback to customers. This saves the office up to 200 hours per year, or more than a person-month per year. It shortens project cycle duration by 15 percent. Iterations in the review cycle are now instantaneous. Communication between the office and its clients is vastly improved and errors due to manual processes are virtually eliminated.

"We now have the ability to efficiently track all projects," Jevremovic says. "People often brought maps and documents to us that were disordered and unformatted. Our staff had to arrange and classify all the elements of a project. Now when a project is submitted to us, the system that we developed with Visus automatically provides a standardized format, making it much easier for us and for our clients to track all projects. Clients are much happier now due to the convenience and ease of use of the new digital system"

The new system integrates Heartland Secure Pay Service payment processing, a cloud-based solution that enables customers to make payments online instead of writing checks, as was previously required. "DIRS made it so much easier for us to accept payments," Jevremovic says. "It eliminates a lot of administrative effort and complications for the county treasurer's office and provides a level of customer service that our clients expect."

At the outset of the project and through the phases of development, the Visus and county teams worked closely together. "We started pretty much from scratch with our expectations about the project," Jevremovic says. "We met with Visus staff in person and on Zoom or Teams to collaborate. We are satisfied with the 4D Process that Visus uses. That methodology works extremely well."

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Visus adheres to its 4D process to ensure success on all of its projects.

Define

- Understand the vision
- Assess existing systems and processes
- High-level requirements gathering

Design

- Joint design sessions and analysis
- Solution architecture and technical specifications
- Data model

Development

- Development and testing of the application

Deployment

- Configure production environment
- Deploy to production server
- Go live, support and enhance

The DIRS system was developed in Microsoft ASP.NET Core technology using C#.NET Razor Pages and Entity Framework Core. It is hosted in Microsoft Azure PaaS cloud computing platform, with cloud database storage in Azure SQL Database. Uploaded files are housed in Azure File Storage. Azure Function Apps automate processes so projects are automatically tracked and updated as they progress through the review and approval cycles. SendGrid cloud-based mail service provides email notifications automatically to alert professionals at the office about critical details.

Applicants can self-register on the DIRS portal to begin submitting projects to the county. Each project type such as Parcel Map, Record of Survey, and Corner Record has a custom set of mandatory and optional document types. Applicants are not required to have all necessary documents to begin a project submission. They can save projects and return to the system as they gather additional elements. Once all the required documents have been uploaded to DIRS, applicants can submit the project to the county office. If a project requires submission of supplemental material, applicants can submit the new documents without needing to re-submit all the elements of the project.

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Documents are stored in Microsoft Azure File Storage and are always available for county employees to review. Jevremovic estimates that digital storage saves the department up to $30,000 per year in commercial storage costs since the Surveyor's Office storage is completely full. County employees can drop simple text review files directly into Azure File Storage. These files contain comments and directives that can direct the system to enact various actions such as to adjust a balance. Azure reads the review files and automatically updates the project status and balance on a payment due. The system notifies the county, the applicants, and any other listed parties through the process. The portal automatically directs applicants to Heartland Payment Services for secure payment processing. Heartland sends a confirmation of payment to the DIRS system, which updates the project records.

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> – Aleksandar Jevremovic, Santa Barbara County Surveyor

Jevremovic says he was surprised how collaborative the design and development process was while working with Visus. "I thought we would just hire them and they would deliver. But the process was very interactive and engaging. It's a two-way process. Their approach helped us navigate various stages from design through development effectively."

"The Visus team was professional and responsive," he concludes. "And they didn't over-promise. That is a very important point for us. They were realistic about expectations and costs and they stuck to the plan. Their project managers and programmers are very knowledgeable.

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They delivered on time and on budget. Now that the system is live, we are self-sufficient with it. Our team and our customers learned how to use it easily – even one-time customers. We have an ongoing relationship with the Visus team. They are always available if we need anything or have questions. We anticipate continued collaboration with them when it is time for system upgrades and enhancements. We are extremely happy with the engagement."

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