

A PATH FORWARD FOR KEY PIPELINE PROJECT

As part of a major pipeline initiative that is projected to transport up to 85,000 barrels of refined product every day between Western Pennsylvania and Ohio, STV's Energy Services Division developed a unique solution that made a very critical right-of-way acquisition process more efficient and streamlined for the client and stakeholders. ►

STV's unique solution that streamlined the right-of-way process helped usher a major pipeline project into the construction phase.



► In 2012, STV was contracted by a major energy firm to perform planning, engineering, surveying, permitting and construction phase services for a 160-mile pipeline project that includes new construction and upgrades to existing facilities throughout the corridor. Early in the design stage, the project team discovered there were significant challenges in how landowner parcel data was being tracked and reported. Information was being gathered by two separate firms with no unified format and landowner negotiations were constantly changing the right-of-way document. As a result, requests for land-use variances and exceptions were being submitted to the project team at a very high frequency. STV's response time to the variance requests was critical, as the acquisition of right-of-way established the critical path schedule for the project.

"We quickly realized that standard methods used on most other projects, such as updating a common spreadsheet, would not afford the design and project management team the ability to handle the vast amount of data we were being asked to track," said project

manager Bradley Bonner. "We needed to come up with a cross-platform solution that would be able to quickly process and unify this information and permit immediate responses."

Bonner called in his multifaceted project team, which included James Cunningham, a geographical information systems specialist with a background in relational database management software, and Christopher Skorny, who has extensive experience in surveying and civil design software.

From there, the team created a two-tiered database architecture that utilized Microsoft Access database management software, SQL Reporting, to store and retrieve data upon request, and ArcGIS for mapping and geographic information.

All of this data was then linked to Google Earth software to create a visual reporting tool. A proposed pipeline route was superimposed on aerial photography and mapping to facilitate identification of constraints, evaluation of construction requirements, and establishment

of right-of-way-needs. Local tax maps were accessed to identify parcels and number of tracts, in order to generate the preliminary right-of-way list. STV then mobilized pipeline engineers and environmental scientists to conduct a field verification effort to visually inspect the prime route option. Route refinements and adjustments were made as a result of field investigation activities.

Right-of-way documentation and data was seamlessly transmitted among three firms, enabling right-of-way acquisition and the project to move forward. A similar system was also developed to manage data from multiple subconsultants for STV projects in its other core divisions.

The pipeline project is currently under construction and is expected to be completed by the end of 2014.

"By putting all of our resources together and using a number of software tools in concert with each other, we supported the client and developed a clear and concise path forward for this very vital energy infrastructure initiative," Bonner said. "In return, STV's effort and ingenuity was recognized as we were awarded additional project assignments from this client." ■



Construction crews work on a piece of pipeline as part of a major initiative in Pennsylvania and Ohio.