

Key staff members of McGoodwin Williams & Yates have conducted and managed, a wide variety of both engineering and land surveying projects over the life of the firm.

Our in-house survey crew is experienced with conducting services for Right-of-Way and Easement purposes. Our Survey Manager, Gary Denzer, has nearly 40 years experience in conducting surveys, 20 years of which have been with MWY.

A brief description of our resources, job samples and references are included in this section.

Rights-Of-Way and Easements

MWY has extensive experience in determining project right-of-way requirements and preparing legal descriptions for all types of municipal improvements. We have managed right-of-way acquisition on numerous major projects in Northwest Arkansas and throughout the state.

Equipment

MWY has always utilized state-of-the-art equipment as a part of surveying operations. Today, we utilize both Global Positioning and conventional "total station" electronic surveying equipment complete with field data recorders. Data collected in the field can be entered directly into computer software within minutes so analysis, design, and generation of CAD drawings can begin immediately without manual processing of field data.

Our surveyors are trained in the use of the State Plane Coordinate System and are equipped with "Astro-Rhomb" software for quick, accurate determination of azimuth from solar observations. They are skilled in the use of global positioning equipment topographic, route and control surveys for mapping projects. They are equipped with Trimble 4700 GPS units, Trimble Pathfinder Pro XRS Mapping Grade GPS Unit, a Sokkia Set 3 total station, Zeiss Ni2 Optical levels, laptop computers for field use and an Olympus Camedia D580 digital camera.



Digital Base Mapping

MWY has completed digital base mapping for the Cities of Green Forest, Lowell, Mountain Home, and Springdale. The mapping utilized aerial photography controlled by a system of conventional and global positioning surveys. Multiple layers of zoning, drainage,



topography, infrastructure and other municipal data have been added to these computer resident maps to meet a variety of administrative needs. MWY maintains digital based zoning maps for several municipalities. These maps are easily updated or rescaled using computer aided drafting software and ArcView G.I.S. Software.

City of Springdale, Arkansas

In 1993 MWY performed photo-grammetric mapping services for the city of Springdale for a 64 square mile area, which included the existing city limits and outlying areas in the city's jurisdiction. The final product consisted of a 1" = 200' scale map with 2' contours. The map consisted of a digital base map drawn in AutoCad format and presented in 64 separate files showing approximately one square mile.

In 1999 the city mapping was updated using photogrammetry. The final product consisted of scaled accurate digital photo images with 2' contours. This mapping product was used to create additional GIS products for a wide range of uses throughout the city departments.

City of Lowell, Arkansas

In 1998 MWY created an update of the 1993 digital base mapping using scaled accurate digital aerial photo images. The digital photo images covered 15 square miles of the city with additional Mylar aerial photographs covering a balance of 29 square miles planning jurisdiction.

Engineering Surveys

Our field surveys are closely integrated with engineering design operations. Our familiarity with the existing infrastructure in the region guides our surveys to insure that all pertinent data is collected. MWY survey personnel have extensive experience in the careful observation, measurement and description necessary for engineering surveys. Lead personnel have balanced experience in drafting and construction inspection.

Site Surveys



The boundary and topographic surveys for parking facilities to serve the Fayetteville Walton Arts Center were done by MWY. Site surveys for some of the major municipal capital improvements and facilities in Northwest Arkansas have also been the responsibility of our company. Our familiarity with local land records and field monumentation enables us to determine boundaries quickly and accurately. Our

total station surveying equipment and efficient use of photogrammetry produce topographic data expeditiously, enabling planning and design to proceed on schedule.

Surveying References

PROJECT: City of Gravette, Northwest Area Rural Water Lines

In 2003, MWY the survey team designed and observed a GPS network to provide ground control for digital orthographic imagery covering a 72 square mile area. Thirteen existing NSRS marks in three states were recovered and included in the network. The final constrained network achieved a horizontal accuracy of +/- 1.5 cm and +/- 4.5 cm vertical accuracy at a 95 percent confidence level.

REFERENCE:

Junior Hartley

Director of City Services
119 East Main Street
Gravette, AR 72736
(479) 787-5757

PROJECT: Beaver Water District, Site Control

In 2000, our survey personnel established a network of control monumentation for Beaver Water District based on GPS control established earlier by MWY for the municipal mapping programs of the cities of Springdale and Lowell. This site control covers an area of approximately 25 square-miles around the water district plant. The positional values obtained from the GPS mission were checked with solar observations and conventional traverses to NSRS control. Over the last five years this precise network has been densified and used for a variety of purposes including construction of a large plant expansion and water transmission line, an extensive boundary survey in rugged, forested terrain, and location of land application sites for compliance with state regulations. These surveys have employed a variety of surveying techniques including static and RTK GPS, convention traverses with a SET 3 Total Station, and precise leveling using Zeiss Ni-2 Optical Levels.

REFERENCE:

Mr. Larry Lloyd, PE

Operations Manager
Beaver Water District
P.O. Box 400
Lowell, AR 72745
(479) 756-3651