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An Evolution in Land Information

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# TAKING FLIGHT

## VMR EXPANDS INTO NORTHERN CALIFORNIA

### Bill Swope Named Regional Manager of Sacramento Office



Our team at VMR has officially opened a new office in Northern California. Bill Swope has been named Regional Manager of Consulting and Development and he is now based out of our new Sacramento, Calif., office.

In this role, Bill will work with professionals in the civil engineering and surveying industries to develop new business relationships and manage new client accounts. He will also assist with the company's marketing efforts and reach out to utility companies and federal, county and state municipalities regarding their various land information needs. Prior to his position with VMR, Bill developed more than 15 years experience in educational software sales.

"Bill is a tremendous asset because he brings more than a decade of business development and sales experience to our team," says Kurt Okraski, CEO of VMR. "He's been based out of our Arizona office for the past year and we're looking forward to having him lead our expansion in the Sacramento area."

Bill earned his bachelor's degree from the University of Nebraska and he's a member of the Arizona Professional Land Surveyors and the Society for Marketing Professional Services. He also serves on Valley Partnership's Community Partnership Committee and is a past volunteer with the Literacy Volunteers of Maricopa County. He looks forward to continuing his professional development and philanthropic activities in the Sacramento area.

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## VMR MAPS I-710/LONG BEACH FREEWAY FOR TRANSPORTATION STUDY

18-MILE DIGITAL TERRAIN MODELING, DESIGN-SCALE TOPOGRAPHIC MAPPING AND COLOR ORTHOPHOTOGRAPHY PROVIDE DETAILED LOOK AT MAJOR CALTRANS HIGHWAY IMPROVEMENT PROJECT

Our team at Vertical Mapping Resources Inc. (VMR) recently completed an extensive mapping project of an 18-mile portion of the I-710/Long Beach Freeway corridor. The I-710 Corridor is a vital transportation artery, linking the Ports of Long Beach and Los Angeles to the Greater L.A. region and beyond. It is an essential component in the regional, statewide and national transportation system as it serves both commuters' needs and the need to efficiently distribute goods shipped into the ports. Over the years, the I-710/Long Beach Freeway has been overwhelmed with an increase in truck traffic and population growth. By the year 2020, it is expected that demand will exceed capacity on the I-710.

We provided color orthophotography, a digital terrain model with 1' contours and design-scale topographic

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I-710 Interchange near Los Angeles River

## ABOUT VERTICAL MAPPING RESOURCES, INC.

Vertical Mapping Resources, Inc. is a full-service geospatial information firm providing traditional and digital photogrammetric mapping, as well as state-of-the-art geotechnologies, 3-D imaging and land information consulting services. We specialize in A/E design-scale topographic and planimetric mapping, surface modeling and digital orthophotography, as well as city and county GIS basemapping and updating services. VMR integrates cutting-edge hardware and software systems through each phase of the photogrammetric process to achieve an efficient and seamless production workflow.

# ON THE MAPPING FRONT

## VERTICAL MAPPING RESOURCES' RECENT PROJECTS

### LOS ANGELES ZOO PARKING PROJECT

Our team recently completed a detailed mapping project of a portion of the Los Angeles Zoo as part of the Los Angeles Zoo Parking Project. We provided color orthophotography and utilized a field-collected digital terrain model to incorporate 1' contours in the design-scale topographic mapping. This process allows the engineering team to digitally view the parking lot and surrounding area as it exists today.

Currently, the Zoo is primarily served by a 33-acre asphalt parking lot at the east end of the site. Storm water runoff from the site has the potential to contribute trash, heavy metals, pathogens, oil, grease and gasoline to the storm drain system. Surface flow from



Los Angeles Zoo Parking Project

the parking lot drains to a storm drain, which empties directly into the Los Angeles River.

The goal of the Los Angeles Zoo Parking Project is to reduce pollutants entering the Los Angeles River by decreasing the amount of surface runoff from the Zoo's parking lot. To do this, project plans incorporate trash capture devices, porous pavement, gravel and vegetated swales, potential reclaimed water use, evapotranspiration controllers and drip irrigation, California-native drought-tolerant landscaping, a detention pond and a sand filtration system. Additionally, the project aims to include a "Demonstration on Environmental Sustainability" exhibit, adding an educational component to this high-capacity parking lot that will serve as a model for environmental conservation.

"Vertical Mapping Resources has participated in several mapping projects within the California region that are supporting environmental sustainability efforts," said Bret Okraski, Director of Consulting and Development for Vertical Mapping Resources. "The City of Los Angeles and those involved in this project are to be commended for incorporating a solution that's both environmentally sound and also educational at the same time."

The prime contractor and its team of engineers, architects, surveyors and technicians have been selected to complete pre-design, design and support services during the construction of the Los Angeles Zoo Parking Project, which is being facilitated and paid for by the City of Los Angeles, Department of Public Works, Bureau of Engineering (BOE).

The BOE and the team of contractors have been working closely with the Los Angeles Zoo and Botanical Gardens, the Bureau of Sanitation, the Department of Recreation and Parks, the Department of Water and Power, other city offices, government agencies and multiple community groups to maximize the project's success. The project is expected to be complete in early 2010.

### VMR MAPS I-70/LONG BEACH FREEWAY (Continued from page 1)

mapping for an 18-mile section of the I-710/Long Beach Freeway corridor. The complex project encompassed the detailed mapping of numerous highway and local street interchanges, including SR 1, I-405, SR 91, I-105 and the I-5 interchange.

"Our process included the acquisition of 300 color exposures, which were obtained utilizing a Cessna 310 equipped with airborne GPS and an Inertial Measurement Unit, both mounted on a state-of-the-art precision photogrammetric camera system," says Joseph Bartorelli, President of VMR. "All discernible terrain and non-surface specific features were collected per Caltrans standards to provide a detailed view of the I-710 corridor as it exists today."

The prime contractor and its team of engineers, surveyors and technicians have been engaged to complete a major corridor study of the I-710/Long Beach Freeway. This study will analyze traffic congestion and other mobility problems in this corridor and will support the development of timely, cost-effective transportation solutions.

The I-710 transportation study is being facilitated by, and in conjunction with, the Los Angeles County Metropolitan Transportation Authority, Gateway Cities Council of Governments, Caltrans, the Southern California Association of Governments, Port of Long Beach, Port of Los Angeles and the I-5 Consortium Cities Joint Powers Authority.

## 3-D LASER SCAN DEMO SHEDS LIGHT ON NEW TECHNOLOGY

Last spring, nearly 40 civil engineers, surveyors, project managers and other professionals gathered for a 3-D Laser Scanning Demonstration at VMR's Scottsdale Airpark headquarters. The goal of the event was to broaden awareness of our many capabilities, which extend beyond popular services such as orthophotography and topographic mapping.

To demonstrate 3D Laser Scanning, we scanned a 2003 100th Anniversary Harley Davidson V-ROD (see picture). Using Leica HDS3000 technology, the laser scan provides a quick and accurate method of digital feature collection. Similar to LiDAR, it can collect thousands of highly accurate measurement points per second. However, unlike LiDAR's aerial method of collection, the HDS3000 collects digital point matrices from a ground-based platform. The high density of the data points provides for 3D visualization and allows for compatibility with many other value-added mapping tasks.

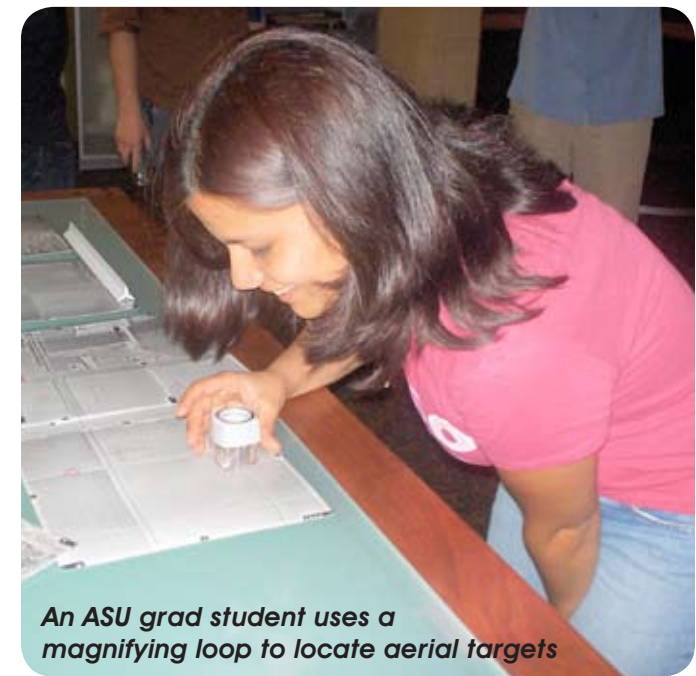
In our day-to-day operations, we incorporate 3D data buildings and bridges into surface models, orthophotography and planimetric maps. The versatility of this technology allows us to customize application depending on client needs. Prospective applications range from road alignments and volume calculations to 3D GIS planimetrics and supplemental uses in topographical mapping and digital terrain modeling deliverables.

In addition to 3D laser scanning, we also offer LiDAR technology, remote sensing, precision scanning, consulting services, as well as aerial and digital photography, photogrammetric mapping, GIS basemapping, digital terrain modeling and digital orthophotography.

"Thank you to all those who attended this informational networking event," says Bill Swope, Regional Manager of Consulting and Development at VMR and organizer of the event. "We hope to continue to engage professionals in our field and related fields about our team's many services and capabilities."



3D laser scan of a 2003 Harley Davidson V-ROD



An ASU grad student uses a magnifying loop to locate aerial targets

## ASU GRAD STUDENTS VISIT VMR TO LEARN MORE ABOUT GIS

Sixteen graduate students pursuing their Masters of Advanced Study in Geographical Information Systems (MAS-GIS) at Arizona State University visited our Scottsdale Airpark headquarters in the spring to learn how our team integrates photogrammetry and GIS basemapping on a daily basis.

The students, under the direction of Professors Robert Balling Jr., Ph.D., Chris Lukinbeal, Ph.D., and Soe Myint, Ph.D., have studied advanced and multivariate spatial statistics and spatial analysis techniques in pursuit of their MAS-GIS.

Upon graduation, they will work with GIS, a computer-based tool that provides map and database information, to create, maintain and manage basemaps. In a city setting, for example, this includes adding new subdivisions, re-plats, utility easements, right of way lines, flood zones, streets and schools.

When asked what his students took away from the experience, Professor Balling remarked, "Several of them are notorious shoplifters and I think they were able to take away several thousand dollars of equipment, a trunk full of software and two license plates from the parking lot!"

All jokes aside, he said his students "gained a sense of the professional atmosphere at Vertical Mapping Resources, the communication skills of VMR's leaders, the importance of organization, a realization of the earning potential for creative applications and a lot of good food!"