

SiteLines



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B2A Extends Carroll's Reach in Experience, Geography

B2A Consultants, a Carroll Engineering Company, not only provides its Warrington, Bucks County-based parent firm with a physical presence in New Jersey. It also enriches the surveying resources that will be employed company-wide in service to all Carroll's commercial, industrial, residential and municipal clients.

Originally named B2A/SURVSAT, the Hillsborough, Somerset County, firm was established in 1982 as a surveying and civil engineering consulting firm. In 1989 it was selected by *Inc. Magazine* as one of the 500 fastest growing companies in the nation. (See sidebar, this page.)
Matthew M. Garber,

new branch manager and Carroll vice president, estimates that currently about 60 percent of the 14-person office's \$1.5 million annual revenues is from its surveying services. "The rest comes



from engineering—primarily land planning and site design—for commercial, industrial and residential clients."

The new manager is responsible for the day-to-day functions and operations of the office, including marketing, financials, business development, quality control and human resources. Garber has almost 20 years' experience in all computer-related aspects of the civil engineering and Geographic Information Systems industries. He has extensive management and technical experience in four main areas: Geographic Information Systems, Information Technology, Computer Visualization, and Computer-Aided Drafting and Design.

A new future


Garber succeeds B2A's founder and president, Bruce R. Blair, PLS, PP, and former vice president William R. Buzby Jr., PE, PLS. Blair now serves the B2A office as senior surveyor and business development specialist; Buzby is chief engineer.

GPS Innovators

Known for its cutting edge technology, B2A was the first private firm to utilize GPS—global positioning systems—for surveying via satellite communications. It purchased its first units from Trimble Navigation Limited, Sunnyvale, Calif., major distributors of and leading innovators in GPS technology, in 1985.

B2A currently employs two basic types of GPS units. Its GIS-grade (for "geographic information systems") set-up uses a backpack-style handheld receiver that communicates directly to the satellite and is accurate within

1 to 3 meters. By use of an on-board "beacon," this is improved to sub-meter precision. "Survey grade" uses a stationary base station and is self-correcting for accuracy of 1 centimeter or better.

"Use of the federal Online Positioning User Service (OPUS) allows B2A to access the National Spatial Reference System (NSRS) to process data with respect to three national base stations. This provides quick and precise values within our client area," says Matt Garber, B2A manager. 

"Our focus at present," says Garber, "is to work on our transition of workflow processes and our new identity. Then we will explore expansion. Right now, the central New Jersey area and along the I-78 and I-287 corridors provide us with many private survey and engineering opportunities. And we have the potential



Bruce Blair with 1985 GPS

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From My Chair



Harry J. Barford Jr., PE

It has continually been a priority of mine and of this company to give back to the community in which we live and from which we derive our livelihood. For that reason, I am both moved and deeply gratified when my coworkers step forward to make a difference in the lives of others.

On September 25, the CEC family was well represented at the America's Walk for Diabetes held at Tyler State Park. Sixteen of our staff members took to the trails, strolling the two- and four-mile routes that loop through the park at the Pennsylvania Guild of Craftsmen site off Route 322 outside of Newtown, Bucks County, Pa.

This year's effort was especially close to our hearts, since a family member and some of our employees here at Carroll have been diagnosed with diabetes.

Because of CEC's commitment, it matched the pledges raised by participants, increasing the impact of the Carroll walkers to nearly \$6,000. These funds will help to prevent and cure diabetes and improve the lives of all those affected by the disease.

Immediately after hurricane Katrina, Carroll Engineering and its employees also donated a substantial sum to the American Red Cross "2005 Hurricane Relief Fund" to assist the many families and individuals whose lives were devastated by Katrina. ☞

Major Project Calls on B2A's Skills

Although "under cover of darkness" sounds sinister, B2A's three-person survey team had only good intentions when it spent two nights working in the falling waters of a massive air-conditioning system last August.

While many surveying projects require services prior to construction, this one needed the B2A skills to determine if the failing system—just five years into its expected lifetime of 20 years—had been built according to specifications.

"There are two different kinds of surveying, one before a project is built and one done after construction," notes Bruce R. Blair, PLS, PP, senior surveyor and business development specialist for Carroll's new Hillsborough, Somerset County, N.J., office. "The 'after' is conducted to determine if the project was built according to specifications.

"In this case, the system started to deteriorate soon after it was built around five years ago. We needed to get in and take as-built measurements to enable a redesign of the system. We measured the size of ceiling evaporation grids, the size of pipes and where they came in, the size and gradient of the channels that circulate the water."

Major rehab, major system

Half a decade ago, the cooling tower cost about \$4 million, Blair estimates.

Today, the rehab will run between \$1 million and \$1.5 million.

The difficulties B2A encountered went beyond what can be expected when surveying an existing structure, according to Blair. A main cooling tower for an air-conditioning system in a massive office complex in Mercer County, N.J., it stretches

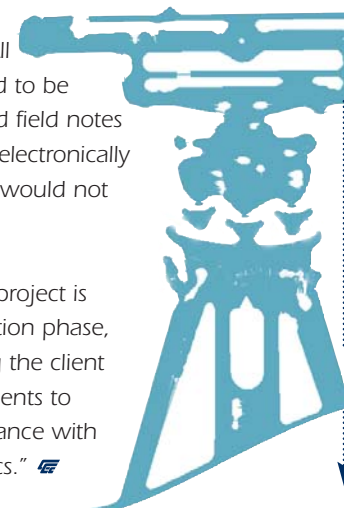
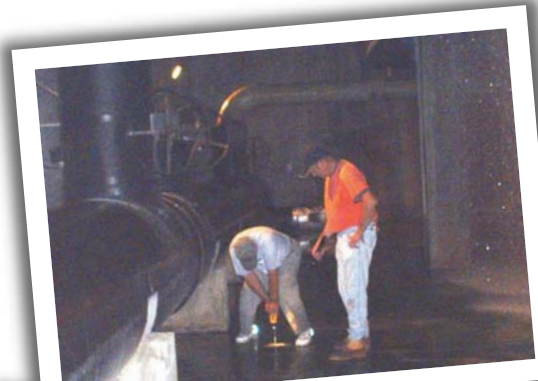
across some 90 acres and cools 20 buildings housing functions including administration, research and manufacturing.

"Because we couldn't bring the system offline in August during the day, the only time we could gain access was at night when a skeleton staff was on duty and some of the buildings could be shut down. It took us two nights in the dark and wet, under very difficult circumstances,

to take our initial measurements."

Each surveyor received special safety training and security clearance to be onsite in the off-hours. All instruments had to be waterproof, and field notes were collected electronically because paper would not have held up.

"Now that the project is in the construction phase, we're providing the client with measurements to confirm compliance with the design specs." ☞



Habitat Project Looking for Green Light

With no variances needed and a favorable response from the local municipality for the conceptual plan, the nine-home building project for the Raritan Valley Habitat for Humanity appears to be moving forward smoothly with the assistance and direction of BZA Consultants, a Carroll Engineering Company.

"Because this is Habitat for Humanity, we are offering our services at a reduced rate," says William R. Buzby Jr., PE, PLS, chief engineer for Carroll's new branch office in Somerset County. Buzby has also agreed to donate some of his time on the project.

BZA is providing all engineering and surveying services for the major subdivision on 6.8 acres along Southside Avenue in Bridgewater Township, Somerset County, N.J. Each of the single-family,


one- and two-story homes is situated on a 10,000-square-foot parcel around a new cul-de-sac.

In addition, the subdivision design incorporates a stormwater management plan, utilities including sanitary sewer and water, and wetlands considerations.

Part of the property, which backs up to the Raritan River, is in the flood plain, "and that part will probably be sold to the county for open space,"

Buzby notes. BZA will work with a consultant to address wetlands and

wetlands transition areas, and it will apply for the various state Department of Environmental Protection permits that are required.

Buzby expects the design phase to be completed by February 1, 2006. RVHFH hopes to purchase the proposed acreage soon and begin construction on the \$3 million project in 2007. 



Habitat Group Keeps Building


Raritan Valley Habitat for Humanity, chartered in 1992, serves Hunterdon and Somerset counties and is one of 25 New Jersey affiliates—among 1,600 across the U.S.—of Habitat for Humanity International. RVHFH has built 19 homes including its first, dedicated in 1994. That's housing for 77 central New Jersey residents, including 51 children.

The formula for building a RVHFH home calls for construction by skilled volunteers and a partner family. Homeowners must provide 250 hours of "sweat equity" on a Habitat project; they must also have good credit and work history and be in genuine need. Once in the program, they receive zero-percent-interest mortgages as well as credit and budget counseling.

For more information on RVHFH, please contact Pam Ely, executive director, at 908.704.0016 or director@rvhabitat.org.

Carroll Sponsors Exelon Golf

The 2005 Exelon Invitational, hosted by U.S. Open champion Jim Furyk, was won by Retief Goosen in a sudden-death chip-off. Held June 7 at Hartefeld National in Avondale, Pa., it also featured the Gala on the Green live auction and

cocktail party, which raised \$100,000 for the Boys & Girls Clubs of Philadelphia. 

Courtesy 2005 Exelon Invitational



Retief Goosen



Dan Mullin, RLA; U.S. Open champ and tournament host Jim Furyk; Steve Murphy, PLS; Greg Mellett, RLA



Exchange Puts Richland Police in New Home

Bartering used to be a conventional way of doing business, especially in the cash-poor economies of previous centuries. And whenever people are able to envision the advantages of negotiation and the *esprit* it helps build, bartering comes back into vogue.

The inspiring barter negotiated over the past four years by the County of Bucks and Richland Township's supervisors recently made possible the township police force's move into new, modern facilities. At the same time, it literally paved the way for new county district court and government services buildings in the near future and a new Richland Township municipal facility much further down the road.

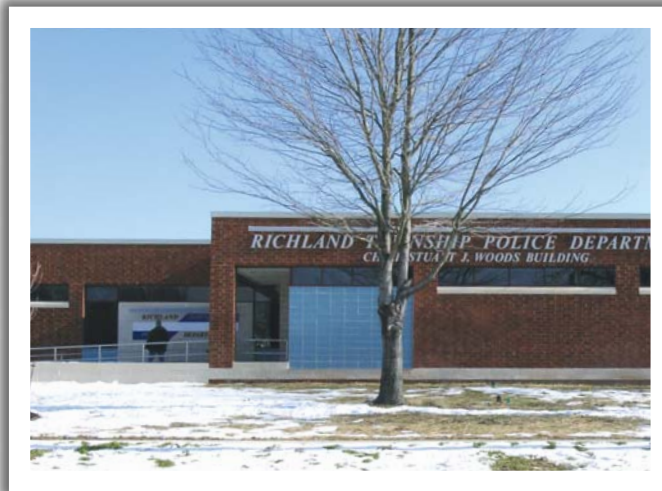
The swap

The township and county structured an agreement that gave Richland the former James A. Michener Branch of the Bucks County Public Library system, along with about five acres. In exchange, Richland would provide all site improvements for the remainder of the 21-acre parcel along California Road where the county will break ground for its projects as soon as late 2006.

In under a year, Richland converted the former library into an 11,486-square-foot facility, adding a garage and sallyport,

evidence storage area and holding cells. On November 1, Richland Township's police department moved into the renamed Stuart J. Woods Building at 229 California Road, Quakertown.

The building renovations were about \$1.775 million of the \$2.7 million total price tag. The remaining \$925,000 covered all site work, including the "bartered" improvements to the county's




portion of the municipal complex: parking areas, site grading, provisions for utilities, stormwater detention and piping, exterior lighting and sidewalks. Richland funded the project with a bond issue and from its accumulated surplus, and CEC designed the site plan and oversaw construction of the site improvements.

Looking back, looking ahead

At the other end of California Road sits Richland's current municipal building. Behind it was a modular unit that housed police functions.

"The core of the township building—a garage—has been there quite a while," says Stephen Sechriest, township manager. A meeting room addition and other renovations over the years have adapted the facility to the needs of the times.

Although there are no studies conducted, no plans in place and no open discussions of what, when or how much, there *is* a spot already reserved where Richland Township can build new municipal quarters.


And when that happens, CEC will bring its expertise to the project. 

B2A Extends Carroll's Reach in Experience, Geography

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to expand into sectors that are new for B2A by displaying our full capabilities and extending our excellent Pennsylvania reputation to this side of the river."

A significant portion of the transition for Garber and CEC is learning the standards and practices for New Jersey. For example, in New Jersey, state law requires that a land surveyor place permanent markers at all property corners where none currently exist.

"We're already collaborating on projects, using the full scope of CEC and B2A resources as they are now configured." 

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