



### **University of Maryland Garage #5**

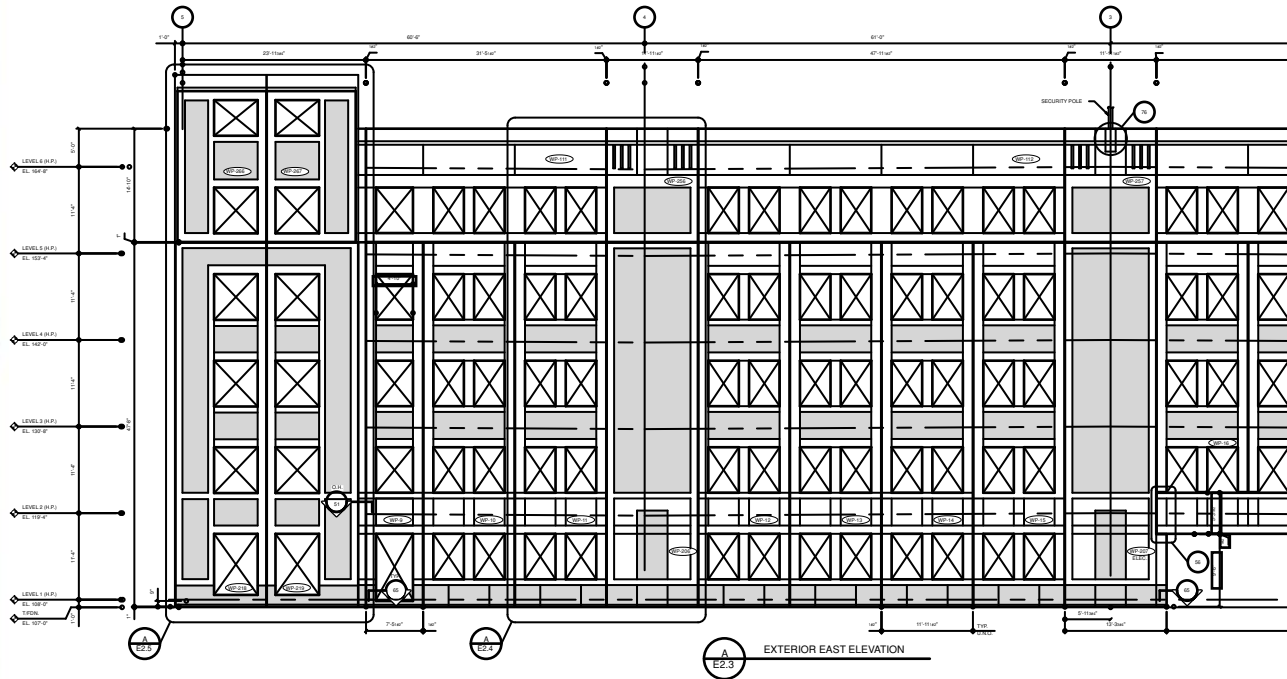
Parking on a college campus is almost always a challenge. At the University of Maryland in College Park the combination of over 35,000 students and faculty coupled with an historic campus founded in 1856 means that the addition of a parking garage is not a project to be taken lightly. A stellar design-build team led by Opus East and including The Consulting Engineers Group (CEG) and Tindall Corporation's Virginia Division gave the University exactly what they

needed, an economic, 1700 car garage that contexturally blends within historic campus surroundings.

CEG wore many hats on the design team, from precast specialty engineer to revenue control system expert to signage consultant. The first task was the design and detailing of the garage proper. The interior of the garage uses typical precast components and framing while the exterior facades are completely framed using load

bearing wall panels. The use of the panel system on the exterior not only allowed for the application of intricate field installed brick and granite, but also allowed the garage to take on a "building" appearance as opposed to that of an ordinary parking garage. While the brick and granite detailing was quite intricate, the overall repetition of the garage components was very good as can be seen in the East Elevation illustration. With over 520,000 square feet of parking on 5 elevated levels

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on a 5-acre site, the garage has become a prominent addition to campus.

Once the garage was designed, the next major undertaking involved ensuring its operational success. CEG prepared specifications for all operational aspects of the garage, including revenue and access control, cashier booths and directional and way-finding signage.

CEG prepared specifications for a fully automated revenue control system that would integrate with the current system at other University of Maryland garages and lots. New features were also added to the specified requirements.

One new technology that was added to the system is automatic ticket retraction. This feature causes the system to automatically swallow and cancel a “back-out” ticket, one that is ejected for a vehicle attempting entry, but is not taken when the car backs away and never enters the facility. In older systems, this ticket would have remained in the throat of the ticket dispenser and would then be taken

by the next vehicle to enter, even though the ticket could have been stale for anywhere from several minutes to several hours, causing that patron to pay a higher fee to exit.

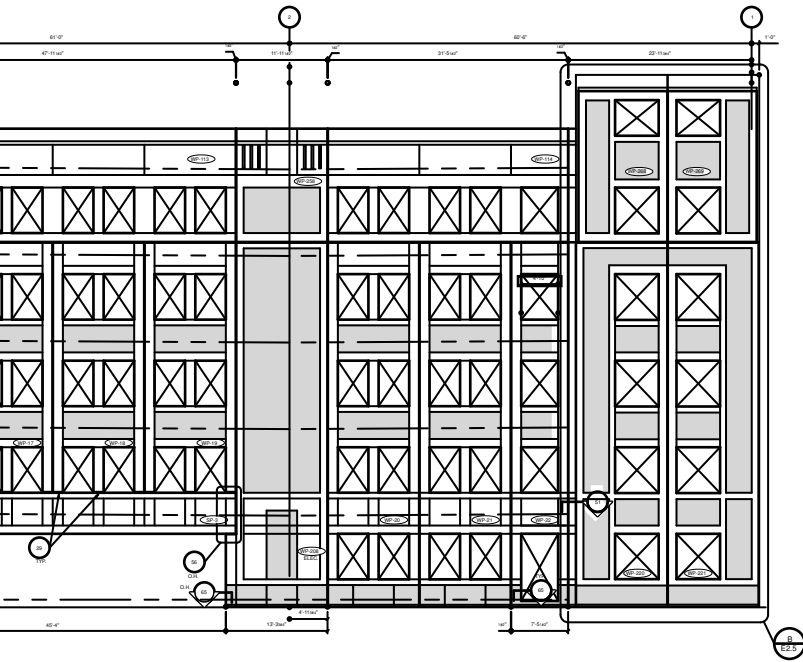
Magnetic stripe technology for rate encoding and calculation systems was also specified. Far more accurate than bar code or hole punch technology, the system includes card access control for faculty assigned to park in the garage and is integrated into the revenue control and gate system. Standard arrays of audit reports were required to assure proper audit trail and revenue control practices are in place.

Cashier booths were required at the exits at opposite ends of the facility. Specifications were written for four cashier booths that included heat and air conditioning, restroom facilities, office facilities in one oversized booth, bullet resistant glass, and a cashier drawer system to prevent theft and discourage hold-up attempts. Specifications also detailed insulation factors, degree of window tint, electrical load centers and exterior architectural design and color.

Entry signage outside the facility was designed for the versatility of reversible lanes entering and exiting the garage. These lanes serve as entry lanes during the morning rush of incoming cars and change to exit lanes during mass exodus at the end of classes for the day.

Signage required for the interior of the facility included a grid system for row identification, directional signs for exit traffic and re-entry signs for those still searching for a parking space. Patron signage for stairs and elevators was also included in the scope of work. Traffic control signs were typically installed overhead and used a standardized color format throughout the facility.

Row and level identification include a separate color sign background for each level. In addition to the large numeral designator, the separate color per floor provides a secondary level of patron identification for the floor on which they parked. Colors for sign backgrounds were presented to the University Transportation Management staff to be sure that proper contrast between sign background



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and the level and row identifiers was achieved and additionally to insure that none of the background colors too closely mimic the colors of rival schools.

Designing a multi-story parking garage is something CEG has a proud history of accomplishing. We also understand the complexity of operational issues once a garage is built. Using the latest designs for revenue control, space counts, directional signage and interactive signage to direct patrons to open parking stalls, our consultants, that have actually run large parking facilities, know what works and what you need to fully control your facility. Our goal is to work with our clients to assure their patrons the best parking experience possible and assure our clients a well-controlled operation that allows for the accounting of every transaction and every dollar.

## CEG Opens Office in Lake Mary, Florida



Chris Ray

Mark Kraft

CEG is proud to announce the opening of our new office in Lake Mary, Florida located 12 miles northeast of Orlando, Florida. **Chris Ray** and **Mark Kraft** have recently joined CEG and will be heading up efforts at this new office. Their primary emphasis will be to our clients in Florida and the southeast, as well as our ever-increasing involvement as the engineer of record on projects.

A degreed and registered engineer, Chris has experience designing office buildings, parking structures, retail buildings, educational facilities, warehouses, as well as other structures as both the engineer of record and precast engineer of record. "There is a great deal of excitement here at

this new office," Chris notes, "and I am glad I have the chance to be here in continuing the tradition of service CEG has provided to their clients, and to the precast industry. This is also a great opportunity for me to work with such a creative team of people that integrates such a diversity of projects and disciplines. With CEG you can find parking consultants, structural engineering, precast engineering, architecture, management consulting and more all within one company to provide the most value to our customers." In addition to his responsibilities as project manager/engineering manager, Chris will handle all business development for this office with special attention on repeat business and long standing customers. Chris will only add to our arsenal of engineering and precast experience, and we are proud to have him working with CEG. Before coming here, he most recently served as Vice President of Braga Engineering Solutions, Inc. in Orlando, Florida.

Mark Kraft joined CEG bringing 18 years of service to the architectural, engineering and precast industry. In the past some of Mark's responsibilities

have included project coordination for both architectural and structural precast projects in addition to providing training and management for both the drafting and IT departments of several national precast manufactures. "I am excited about being part of the CEG family. They have such a strong history and commitment to our industry," Mark points out, "This coupled with a staff focused on customer satisfaction says a lot about our desire for quality. This is a great environment for me to be in to help provide our clients with the best service possible as well as to continue to learn about the precast industry from such an experienced group of people." Mark will be project coordinator for projects going through the Lake Mary office and he will also continue to provide the training and management for the drafting and IT department for this new office. Mark is a natural fit for our business focus, and we are pleased to have him on board.

Chris or Mark can be reached at: 801 International Parkway, 5th Floor Lake Mary, Florida 32746. p.(407) 562-1968 f.(407) 562-1768

# News Bites



The Consulting Engineers Group Inc.

- CEG is pleased to welcome **Paul Bedi, Joan Fon, Arvie Manahan, and Greg Papuga** to our Illinois office and **Yuri Sapozhinsky, Alberto Sustaita, and Van Diep** to our Texas office. Texas would also like to welcome back Mark Salazar.
- CEG Texas has recently acquired some much need office space. Our address remains the same with our suite number changing to 230. 2455 NE Loop 410, Suite 230, San Antonio, Texas 78217.

## Continental Garage Wins PCA Award

The Continental Airlines Terminal C Parking Garage at **Newark Liberty International Airport** (Spring 2003 CEG Newsletter) was one of only five projects to recently win a Portland Cement Association (PCA) Concrete in Transit Award. The third annual biennial competition honors excellence in the design and construction of public transit facilities. Entries were judged on creativity, transferability, aesthetics, economics, and functionality. The winners will be recognized at the American Concrete Institute's Fall Convention.



A four-story, freestanding precast/prestressed concrete structure, the garage contains 3,400 parking spaces. The structure has a curved shape in plan to conform to the curve in the adjacent airport roadways. For the security of pedestrians, two 40' wide light wells are carved into the floors to allow daylight to penetrate to all floors in the garage. Two glass-enclosed stairways descend into each light well. The project architect stated: "No other building material could match precast concrete's functional and economic advantages when it comes to building parking structures." Durability, low maintenance, aesthetic flexibility, high quality, and swift construction in all weather conditions were benefits that precast concrete provided to the project. The project architects found the right elements to fit together for this economic solution including the great use of the light wells, stated the award judges.

## Richard Bebee Retires From CEG

**Dick Beebe** retired from CEG on June 30, 2004. Dick came to CEG in 1993 to start our Parking and Transportation Division. During Dick's eleven years at CEG, the parking consulting business flourished with jobs throughout the country and the establishment of two satellite offices in Cincinnati and Minneapolis.

As is the case with all CEG retirees, no one actually gets to stop working. Dick will still be consulting from his new digs in New Port Richey, Florida.

*From all of us at CEG – enjoy your time in the sun!*

Web site: [www.cegengineers.com](http://www.cegengineers.com)

**Main Offices:**  
55 East Euclid Avenue  
Mt. Prospect, IL 60056  
Tel: 847-255-5200  
Fax: 847-255-5271  
800-755-5201

2455 NE Loop 410  
San Antonio, TX 78217  
Tel: 210-637-0977  
Fax: 210-637-1172  
800-827-1906

**Other Offices:**  
Apple Valley, MN  
Tel: 952-240-1101  
Fax: 952-423-5061

Fort Lauderdale, FL  
Tel: 954-523-8347  
Fax: 954-523-1831

Lake Mary, FL  
Tel: 407-562-1968  
Fax: 407-562-1768

Bella Vista, AR  
Tel: 501-855-4563  
Fax: 501-855-4599

Cincinnati, OH  
Tel: 513-519-7979  
Fax: 513-231-6977

Horseshoe Bay, TX  
Tel: 830-598-6100