



Multi-Family Housing Moving Toward Structured Parking

While still not commonplace throughout the country, structured parking is making its mark on the multi-family housing sector. The trend is particularly pronounced along the east coast in larger metropolitan areas. The Consulting Engineers Group, Inc. has designed and detailed a significant number of parking structures servicing apartment complexes and condominiums, and felt the benefits of such a system would be of interest to many.

Although one might think that the decision of surface versus structured parking is as simple as comparing the cost of land devoted to surface parking to

the cost of adding a parking structure, the analysis is not quite that simple. A common rule of thumb applied in this debate is that structured parking becomes economically viable when the cost of land approaches \$30 per square foot. It seems simple enough, yet this rationale alone would rarely point a developer toward structured parking, so clearly there are other important factors at play.

One major contributing factor in deciding upon structured parking is that a "sense of place" is more easily established at the residential property. Too often the aesthetic appearance of an apartment complex is marred

by the volume of surface parking located at its entrance and surrounding the building units. By locating a parking structure at the core of the apartment or condominium community, the need for surface parking can be virtually eliminated which greatly enhances the appearance of the property (see Highpointe entrance photo above) and provides more space for landscaping, recreational activities, and rentable space. Moving to structured parking gives an owner more flexibility in determining the development density which can be critical in phased construction that frequently progresses with market demand. Additionally, the reduction in surface parking

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MAIN PHOTO: The roof of the centrally located parking structure serves as an ideal location for recreational activities. This rooftop at the highpoint complex in Baltimore, MD now houses tennis courts.

LOWER RIGHT INSET: Providing openness on portions of the exterior can eliminate the need for adding provisions for sprinklers and ventilation (which tends to dramatically increase the cost of the structure).

LOWER LEFT INSET: The precast concrete walls efficiently serve as fire separation from the "stick built" residential units that are constructed after the parking structure.

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can lessen the required provisions for stormwater run-off which helps offset the cost of the parking structure. Providing covered parking to all residents is easily achieved with structured parking and is a big selling point particularly in the Northeast. The rooftop of the structure becomes the ideal location for tennis and basketball courts that otherwise might be subject to use by neighborhood kids instead of residents.

Safety is another aspect of the development that can be greatly enhanced by structured parking. By pulling their patrons' most valuable and vulnerable possession (their car) into the core of the facility, which can be more closely monitored than the periphery of the property, developers are providing an additional level of safety that is hard to put a price on. A centralized parking facility equipped with controlled access can serve as the main point of entry for residents and their guests, and helps minimize the occurrence of unauthorized entry into common corridors.

Once it becomes apparent that the cost of structured parking is feasible, the question then turns to the type of construction. This is where precast concrete really stands out as a building material. Since the parking structure is often times at the center of the site, erection starts prior to the beginning stages of framing the residential units and the structure is ready for the residents' vehicles weeks sooner than if cast-in-place construction was chosen. As always, the inherent fire resistance of precast concrete is of great benefit as well and precast walls frequently provide the fire separation between the parking and the apartments that is required by code. The photos included with this article are of the Highpointe parking structure that was a project designed and detailed by CEG for Structural Concrete Products (SCP).

CEG recently completed a parking structure for the Concord Park at Russett development near Laurel, MD, which is our fourth collaboration with Structural Concrete Products (SCP) of Richmond, VA involving a multi-family housing complex.

The 7-story, 500 car structure at Russett serves approximately 330 apartment units. Each short end of this 2-bay structure consists of vertical shear walls with spandrel-column framing on the other two elevations. The apartments were set back from the structure and just enough openness was provided for the structure to be considered "open," which eliminated the need for ventilation and sprinklers at the elevated levels. The significant change in grade elevation across the site was aptly accommodated using a short speed ramp toward one end of the structure which fit in well with the chosen locations for interfacing with the apartments. Precast design and detailing was completed in the fall and erection was completed in early February.

CEG's Texas office is currently working on four more parking structures for multi-family housing complexes. It is becoming clear that developers are beginning to recognize the benefits of precast parking structures and this segment of the parking market is sure to grow in the years to come.

CEG Goes to School

Eastern Kentucky University is where “students and learning come first.” Soon, parking may be added to that list thanks to a Master Parking and Transportation Plan being developed by CEG. With a steady increase in the number of students, the University recognized the need to ensure that its parking program met their high standards for quality service – now and in the future decade. The staff of CEG, having years in parking planning experience, was selected to work with the University in developing a Master Plan that addresses a wide range of parking issues.

Eastern Kentucky University, founded in 1906, is located in Richmond, about 30 miles south of Lexington. The University offers a wide range of academic pursuits in the areas of Arts and Science; Business and Technology; Justice and Safety; and Health Sciences. Student enrollment is over 16,000 with about 2,800 faculty and staff. The campus has 8,200 parking spaces divided among 52 lots.

Early in the fall semester, Chuck Cullen, from our Cincinnati Office, began a careful process of evaluating



existing parking conditions, estimating future parking requirements, and preparing recommendations for implementation.

The process of developing the Master Plan involved considerable input from students, faculty, staff, and administration. Members of the campus community submitted a total of 2,387 surveys. Three public meetings and numerous meetings with representatives from all aspects of the campus were conducted over several weeks. Field observations of parking utilization and enforcement

were also included as part of our assignment. Greg Leean, from our Apple Valley Office, provided his expertise with a review of their shuttle service and related transportation issues.

The Master Plan will address parking organization, wayfinding, future parking requirements, shuttle service enhancements, improvements to equipment, and parking space allocation. The Master Plan will serve as a parking textbook for the University to follow over the next decade.



News Bites



The Consulting Engineers Group Inc.

- CEG is pleased to welcome **Justin Chamberlain** to our Florida office and **Luis Huertas** to our Texas office. Texas also welcomes **Larry DeLeon** back into the fold.
- Congratulations to the following employees who received service pin awards at their respective Christmas parties: **Paul Cardone** 20 years, **Lois Dobrowolski** 15 years, **Raul Cabello** 10 years, **Oscar Carielo** 10 years, **Jeremy Luera** 10 years, **Larbi Sennour** 5 years, **Tatyana Kirilenko** 5 years, **Dmitriy Kirilenko** 5 years.
- The International Parking Institute recently published *Parking Management – The Next Level*. **Chuck Cullen**, *Assistant Director of Parking and Transportation Planning*, authored the chapter “Writing Manuals for Parking Operation” that appears in the book.



“CEG CORPORATE MEETING 2005”
• MAIN PHOTO - Serious Illinois/Texas Collaboration
• UPPER RIGHT - CEG Goes to the Alamo

• LOWER LEFT - Dinner with the Gang
• LOWER MIDDLE - “Remember - NEVER EVER fall asleep on a plane with your co-workers!”
• LOWER RIGHT - CEG ESOP Presentation

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