


# York Hospital's

## New Parking Structure –

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**P**arking planning and design at hospitals is a sensitive issue which should be given a significant amount of consideration. Although parking is often the first thing that people experience when visiting a hospital, it is most likely the last thing that they are thinking about. Hospital parking facilities should not only create a good first impression, but they must also provide safe, convenient, and adequate parking options for employees, patients, and visitors.

York Hospital is a 558-bed community teaching hospital in south central Pennsylvania. The hospital serves a population of more than 520,000 and employs more than 3,400 people. As a result of a large expansion project, including the construction of a new 300,000 square-foot Patient Care Tower, the hospital needed to increase parking capacity significantly, and planned to construct a new 1500-space parking facility.

The new facility called for the demolition of an existing 680-space garage, and nearly tripled the existing parking capacity on campus. However, throughout the design and construction of the structure, the hospital was faced with a number of complex issues which required creative and effective solutions to overcome.

As planning for construction of the garage began, it became evident that patients, visitors, physicians, volunteers, employees and others, including vendors, would be impacted considerably. Plans were made at the onset of the project to help alleviate some of these concerns and provide effective solutions. There were also a number of issues discovered during the construction process which seriously affected the possibility of this project meeting its budget and scheduled goals.

From the beginning, the design and construction of the York Hospital parking structure were extremely complicated. Since an existing parking structure needed to be demolished to make room for the new garage, the already tight parking situation on campus was impacted even further. During the 18-month construction process, the hospital needed to come up with an effective plan to make up for the large amount of displaced parking.

To accommodate patient and visitor parking on the hospital campus, an extensive interim program was put into place to meet the hospital's parking needs throughout the construction of the new garage. This plan included asking employees to park at nearby offsite locations and either walk onto campus or use shuttles buses. The project also required temporarily installing stops and shelters on campus to be added to a local transit system route. With a goal of maintaining levels of service and revenue, the York Hospital Parking Committee successfully provided convenient parking alternatives for hospital patrons.

Another complex issue which needed to be addressed during this project was that the parking structure was sited on a steep side hill, in which the elevation of the site changes up to 40 feet. This issue was related to the fact that the main hospital access road is located on top of this hill.

This unique challenge resulted in the need to implement creative design strategies. As a result, the garage was designed on the east and south sides using a permanent earth retention system with soldier piles, tie backs and timber lagging. The terraced site also allowed for the functional circulation with separate and dedicated entries for physicians, staff, patients, and visitors.

Parking at grade is provided for physicians; staff parking is located at the second and third levels; and patient and visitor parking is located on the fourth and fifth levels. The top level is reserved for overflow parking. This nesting

# Creative Solutions to Complex Design and Construction Issues



of different users was implemented through the use of state-of-the-art technology in parking access control and a color-coded wayfinding signage system.

Construction of the York Hospital garage hit another major road block when an unanticipated layer of rock was discovered during digging. As schedule was an important factor to this project, the traditional solution of ripping the rock using conventional methods was avoided. Instead, to keep the project on track, the rock needed to be blasted.

Obviously, the idea of using explosives to blast through rock on a hospital campus could be a controversial issue. Not only does blasting create a significant amount of unwanted noise and dust, but for this project, it was anticipated that blasting would cost an extra \$1.5 million which had not been planned. The hospital recognized the importance of the project and maintaining the schedule, and made arrangements to allow for blasting once a week. As a result, only one month of blasting was required before the rock was dissolved and construction could proceed.

breaching an existing areaway on one side, as well as an existing permanent earth retention system on the other. Solutions implemented by the project team and the hospital helped to pave the way for an efficient and effective resolution, without straining the project's budget.

The many challenges and issues presented throughout the entire design and construction process of the York Hospital parking structure would have been difficult to anticipate. Despite all of these issues, the project was still able to be completed on time. In addition, the project also came in \$2 million below the original estimate of \$25 million. The development of creative solutions was critical to the success of this project. In addition, the flexibility and support from York Hospital were essential to helping the project team successfully overcome these issues and complete the project.

The new parking structure at York Hospital significantly increased the amount of parking available to employees,

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Finally, another challenge which was presented during this project was limited vehicular access to the new parking facility. The old structure, with only 680 spaces, had only one access point to and from the main roadway. Nearly tripling the parking capacity at this location required that another access point be installed to create a more efficient parking system.

As a result, a one-way alley road which runs next to the site needed to be expanded. This alley was widened,

visitors, and patients, providing safe and convenient parking for the expanding campus. The structure also provides a positive first impression to the hospital, attractively complementing the environment of the surrounding rural campus. ↩

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