

General Description:

- **Location:**
Pittsburgh, PA
- **Profile:**
Parking structure
- **Project:**
Restoration

Services Provided:

- Evaluation
- Design Development
- Field Quality Assurance

Challenges:

- Potential safety hazards
- Blistered/delaminated coating
- Functioning parking structure with leased spaces

Solutions:

- Restoration and weatherproofing
- Remove and replace coating
- Concrete restoration
- Full depth concrete repairs

University of Pittsburgh Medical Center

Western Psychiatric Institute and Clinic

The Western Psychiatric Institute and Clinic of the University of Pittsburgh Medical Center (UPMC) has been facing many structural problems with their parking structure. The parking structure consists of five levels which were erected in 1964. Although many repairs had been previously completed, significant deterioration had occurred to the original and also to the repaired concrete.

The Western Psychiatric Institute and Clinic parking structure presented StructureTec with many challenges. One of the primary challenges was prevalent on levels two, three and four of the parking struc-

ture. There was the potential for fall/life safety hazards from spalled/cracked concrete, which required immediate attention.

The spalled and cracked concrete needed to be removed, and restoration and weatherproofing of concrete needed to be performed to prevent additional deterioration. In order to restore the structure back to original sound materials, other procedures like routing and sealing of cracks, exposing and coating corroded embedded steel reinforcement, and providing concrete repair were crucial for these levels.

On level five, full depth



Overview of University of Pittsburgh Medical Center - Western Psychiatric Institute & Clinic parking deck



Overview of Western Psychiatric Institute & Clinic parking structure level 2



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Horizontal Restoration - Institution

repairs were required to address the deteriorated concrete, which resulted in significantly corroded reinforcing steel. In addition to the extensive concrete deterioration, the primary challenge on level five was the blistered/delaminated coating on the parking deck driving surface. As a result, the existing traffic-bearing coating was completely removed and replaced.

The challenges for StructureTec were with technical components and the scheduling of work. To complete the work, multiple levels needed to be closed. However, many of the parking spaces were leased, requiring the Western Psychiatric Institute & Clinic to relocate the lessors. Therefore, the project was fast-tracked to minimize disruption to Western Psychiatric Institute & Clinic and the parking spot lessors.

In conclusion, StructureTec was able to address the causes of the problems and, although many of the procedures done to the parking structure were extensive, this will allow Western Psychiatric Institute and Clinic to maximize the life of their parking structure. ■



Partial overview of level 5 of the parking structure

FEATURES	BENEFITS
Fast-tracked project	Construction documents written for parking structures
Shear connectors	Efficient use of on-site time
Concrete patch repairs	Close coordination
Team of trained and experienced personnel	



Western Psychiatric Institute & Clinic parking structure construction



StructureTec® Project Profile

Solutions for the Built Environment

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