



## INTRODUCTION

### *Project Team*

Owner:	Dauphin County General Authority <a href="http://www.thegeneralauthority.com">www.thegeneralauthority.com</a>
Architects:	<i>Primary -</i> L. Robert Kimball & Associates <a href="http://www.lrkimball.com">www.lrkimball.com</a> <i>Associate -</i> Thompson, Ventulett, Stainback, and Associates <a href="http://www.tvsa.com">www.tvsa.com</a>
Structural Engineers:	DeSimone Consulting Engineers <a href="http://www.de-simone.com">www.de-simone.com</a>
MEP Engineers:	L. Robert Kimball & Associates <a href="http://www.lrkimball.com">www.lrkimball.com</a>
Electrical Engineers:	L. Robert Kimball & Associates <a href="http://www.lrkimball.com">www.lrkimball.com</a>
General Contractor:	Dick Corporation <a href="http://www.dickcorp.com">www.dickcorp.com</a>

### *General Project Information*

<i>Building Name:</i>	Hyatt Regency Hotel and Conference Center
<i>Location and Site:</i>	Pittsburgh International Airport 1111 Airport Boulevard Pittsburgh, PA 15231
<i>Building Occupant Name:</i>	Global Hyatt Corporation
<i>Occupancy or Function Types:</i>	Primary Occupancy: Hotel Secondary Occupancy: Conference Center
<i>Size:</i>	275,000 Sq. Ft.
<i>Number of Stories Above Grade:</i>	11 Story Main Tower (+1 level partially below grade) 1 Story Conference Center (+1 level partially below grade)
<i>Dates of Construction:</i>	Planned – November 1998 - July 2000 Actual – November 1998 - May 2000
<i>Costs:</i>	Building Cost – approx. \$ 30 million Soft Costs – approx. \$ 3 million
<i>Project Delivery Method:</i>	Construction Manager at Risk



HYATT REGENCY  
PITTSBURGH INTERNATIONAL AIRPORT  
PITTSBURGH, PA



***Building Overview***

The Hyatt Regency is located adjacent to the Pittsburgh International Airport’s Landside Terminal and is the only hotel on airport property. The 12-story tower houses 336 guest rooms, including 11 suites, designed make guests’ stay comfortable and convenient. The Hyatt features a coffee bar, health club, indoor pool, sauna, and Mediterranean restaurant among other amenities. The conference center features 20,000 sq. ft. of function and 7,400 sq. ft. of pre-function space and the largest hotel ballroom outside of downtown Pittsburgh. The hotel is approximately 17,000 sq. ft. per floor with typical floor to floor heights of 10’-0”. The main level has a 20’-0” height to accommodate a spacious lobby.



**Figure 1.** – Exterior of Building Tower (left) and Conference Center (right)



**Figure 2.** – Interior of Typical Hotel Guest Room



## *General Existing Conditions*

### *Architecture:*

The building's architecture is designed to compliment that of the terminal buildings. The tower's exterior is a combination of pre-cast concrete panels and a glass and aluminum curtain wall. The conference center is clad with pre-cast concrete, spandrel glass, and metal paneling. At entrance level, around the main lobby, a curved glass curtain wall welcomes guests to the Hyatt.

### *Structural:*

The structural system is divided into two independent parts: the main tower and the low-rise conference center. At ground level, both parts of the building use 6" slab on grade with 6x6 W2.0x2.0 WWF reinforcement. Concrete reinforcement is specified by ACI 318-89. All bolted steel connections are A325 or A490 slip critical, 3/4" long bolts. Lateral resistance is typically provided with steel braced moment frames in the conference center and concrete moment frames in the main tower.

Main Tower: The main tower is primarily a cast-in-place concrete structure with an exterior curtain wall. The tower's foundation consists of piles spaced on an approximately 27' x 20' grid. The pile caps extend from the top of shale to between 1' to 21' below the main level based on changes in grade. The concrete columns are typically sized at 22" x 28" or 22" x 32". Typical floor composition is an 8" filigree floor system consisting of a 2 1/4" precast slab, 3 1/2" voids, and 2 1/4" cast-in-place concrete. Typical column strips are 6'-0" with no voids. The perimeter of the building has 18" deep drop-beams with varying widths.

Low-rise Conference Center: The conference center is a steel structure consisting of average bay sizes of approximately 25' x 25'. The ballroom adds a large bay size of approximately 72' x 130'. The conference center's foundation consists of various sized spread footings and grade beams. Spread footings range in size between 5'x5'x12" to 14'x14'x27". Grade beams range in size from 18"x24" to 26"x40". Typical column sizes range from W10x33 to W10x49. Beams are typically W21x44 to W24x76, depending on span. The roof is a standard 3"-18 GA. roof decking.

### *Construction:*

The Hyatt was constructed in accordance to the FAA regulations to building height in proximity to an airport. The design phase of the building started in March 1998 and Dick Corporation, the General Contractor, was permitted to move on site in



November 1998. Construction was completed in May 2000. The project was delivered via. construction manager at risk. The total building cost totaled \$32 million.

#### *Fire Protection:*

The building is classified as ‘fire-resistive’ based on the Pennsylvania L & I Fire and Panic Code. It has been designed with 2 hour fire rated walls around the elevators and stairs. The other rooms including guest, mechanical, and storage rooms have 1 hour fire rated walls. All areas have automatic sprinkler systems installed. The automatic sprinklers and 2½-inch fire department hose valves are supplied by a 1250 gpm diesel fire pump located in the North-West corner of the low-rise section.

#### *Mechanical:*

A total of 13 main air handling units (AHU) provide air throughout the building. Each AHU is routed to a VAV box, supplying approximately uniform cfm to various spaces. Additionally, there is a make up air unit supplying 11,500 cfm to the kitchen. The tower incorporates 3 rooftop heat recovery fresh air units providing around 12,000 cfm of fresh air each, approximately 1200 cfm to each floor. In addition, supply fans provide 4510 cfm (410 cfm per floor) to pressurize and ventilate the stairwells.

4 gas-boilers in the mechanical room supply hot water to the building, while 2 cooling towers located on the roof of the low-rise section provide chilled water. The boilers are set atop 4” concrete pads, below the AHUs in the mechanical penthouse located above. Each water supply (condensed, chilled, and heated) is distributed through 2 pumps with 1 additional stand-by pump for backup.

#### *Lighting/Electrical:*

The primary electrical supply is an exterior 2500kVA, 480/277V transformer. From the main transformer, feeders distribute the supply to various transformers through feeders ranging from: 4-wire, 3 inch down to 3-wire, 1¼ inch. The electrical system is backed up by a 600A, 400kW, 480Y/227V emergency generator. Each floor of the tower has a transformer to step down from 480Y/227V to 208/120V to meet lighting and receptacle power requirements. Power is then distributed to 3 switchboards per floor with a 4 wire, 2½ inch feeder.

The conference rooms, lobbies, and ballroom are typically illuminated with 150W incandescent lighting; while the ballroom also has multiple series of 7 cable suspended pendant luminaires totaling 330W each. The guest rooms and hallways in the main tower also have incandescent lighting. Service areas including housekeeping, mechanical rooms, electrical rooms, and offices use fluorescent lighting.