Three PNC Plaza, Pittsburgh, Pennsylvania

Wind Engineering Study

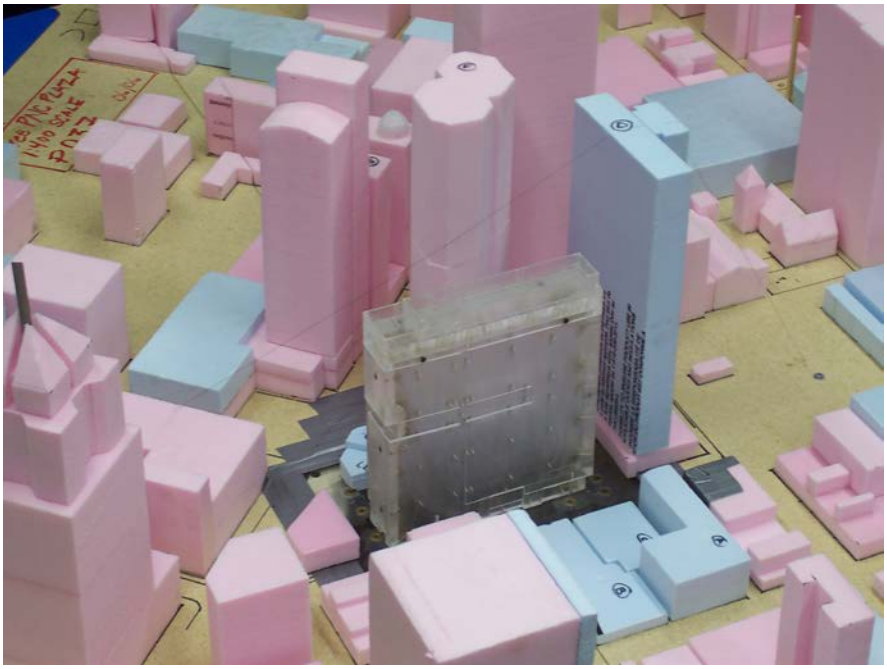

Image Credit: L D Astorino & Associates Ltd.

Client	*Structural Engineer*	*Architect*
L D Astorino & Associates Ltd.	L D Astorino & Associates Ltd.	L D Astorino & Associates Ltd.
Height	*Year Tested*	*Model Scale*
347 feet	2006	1:400

The Project

The Three PNC Plaza development in Pittsburgh, Pennsylvania consists of a 25-storey mixed-use tower. The site is located in downtown Pittsburgh and is bounded by Fifth Avenue and Market Street.

The building will include 320,000 square feet of office space spread over 11 storeys. The top 10 storeys of the tower will include 185 hotel rooms, along with 30 residential units.

The building will also accommodate a restaurant, retail space and three levels of underground parking.

The Wind Tunnel Studies

The wind engineering studies for Three PNC Plaza included a study of the wind-induced structural loads and responses, local cladding pressure loads and pedestrian level winds speeds.

The study of overall structural loads and responses was determined using the force balance technique.

A study of wind-induced cladding pressures was carried out for 360 measurement locations distributed over the tower.

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