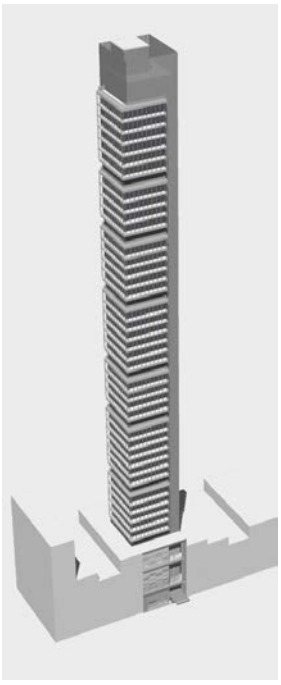
22 East 23rd Street, New York, NY

Wind Engineering Study



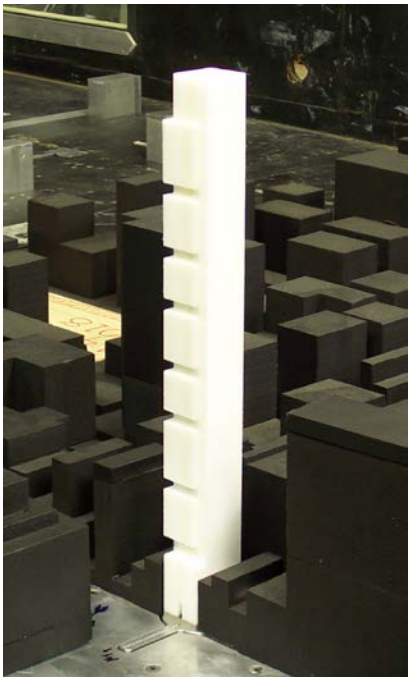


Photo Credit: Cetra Ruddy Architects

Client	*Structural Engineer*	*Architect*
Slazer Enterprises LLC	WSP Cantor Seinuk Group	Cetra Ruddy Architects
Height	*Year Tested*	*Model Scale*
597 feet	2006	1:400

The Project

The project consists of a residential tower rising approximately 597 feet above street level. The project site is located on the south side of East 23rd Street across from Madison Square Park.

The tower is nominally 60' x 60' in plan area, which translates to a width to height ratio of 1:10 making it one of the most slender residential towers in the world.

The tower features balconies on the north and east façades of the tower. The balconies coincide with full floor units on the 10th, 17th, 22nd, 28th, 33rd, 39th and 46th floors.

The Wind Tunnel Studies

The wind engineering studies on the 22 East 23rd Street tower included a study of the overall structural loads and responses on the building, the local external and differential pressure loads.

The study of overall structural loads and responses made use of the force balance and 2-D aeroelastic techniques. The aeroelastic study was commissioned to investigate the effects of the wind-induced motion of the loads.

Local cladding pressures were measured at 245 locations over the tower. Due to the very small footprint of the model, three pressure models were constructed and tested to sufficiently cover the external surfaces of the tower.

The Boundary Layer Wind Tunnel Laboratory

Western

The Boundary Layer Wind Tunnel Laboratory
The University of Western Ontario
Faculty of Engineering, London, Ontario
Canada, N6A 5B9 Tel: (519) 661-3338 Fax: (519) 661-3339
Internet: www.blwtl.uwo.ca E-mail: info@blwtl.uwo.ca

FSTB/ 298 /September, 2006 / DJG
Last Printed: March, 19, 2009