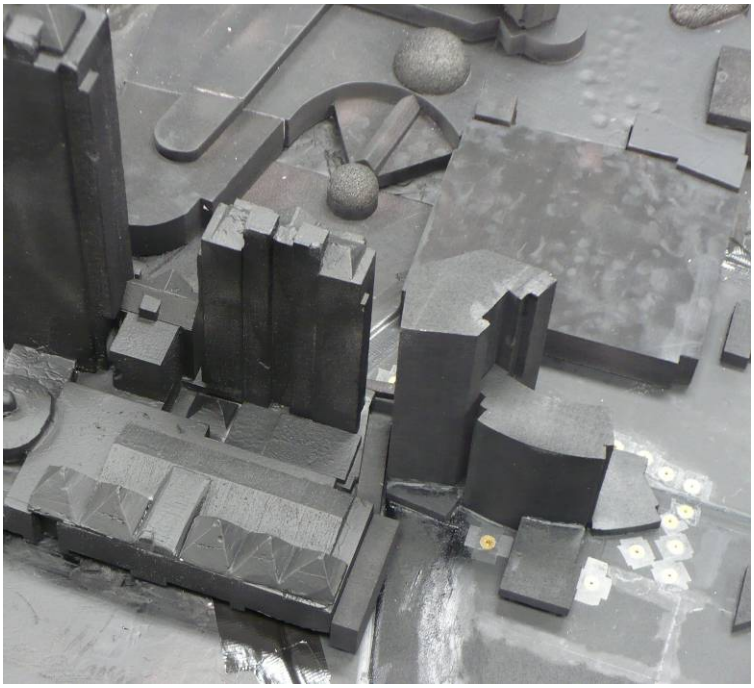
Fallsview Hotel Niagara, Niagara Falls, Ontario

Wind Engineering Study



Client	*Structural Engineer*	*Owner*
M.A. Steelcon Engineering Niagara Falls	M.A. Steelcon Engineering Niagara Falls	Fallsview Group Niagara Falls
Building Height	*Year Tested*	*Model Scale*
160 & 100 m	2008 ~ 2009	1:400

The Project

The project site is on the southeast corner of Fallsview Blvd. and Dixon Street, Niagara Falls, Ontario

This study was conducted for three different designs:

1) with two 50 storey towers to the south of the existing Fallsview Hotel;

2) with an additional 30 storey tower on the north end of the Fallsview Hotel and including an extension of the existing low-rise building to the south; and

3) with the new 30 storey Hampton Hotel across from the Fallsview Hotel.

A new swimming pool is planned to be constructed above the parking area and attached to the rear of the existing Fallsview Hotel.

The Wind Tunnel Studies

The wind engineering studies for the Fallsview Hotel project included a wind climate analysis for Niagara Falls, Ontario. The experimental study of the wind-induced structural loads and responses of the two proposed 50 storey towers was performed using the force balance model technique. Pedestrian level winds were determined at the site which also included investigations of the effects of various planting arrangements of trees on the project site. A flow visualization study was also conducted to investigate the overall airflow characteristics and locate regions of flow separation, re-attachment and vortex formation

To determine the effect of the nearby Niagara Gorge in the study, separate experiments were performed. Measurements of wind speed were taken at the site with and without the Niagara Gorge present in the upwind position.

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/ 368 /June 2013 / LK
Last Printed: June 5, 2013