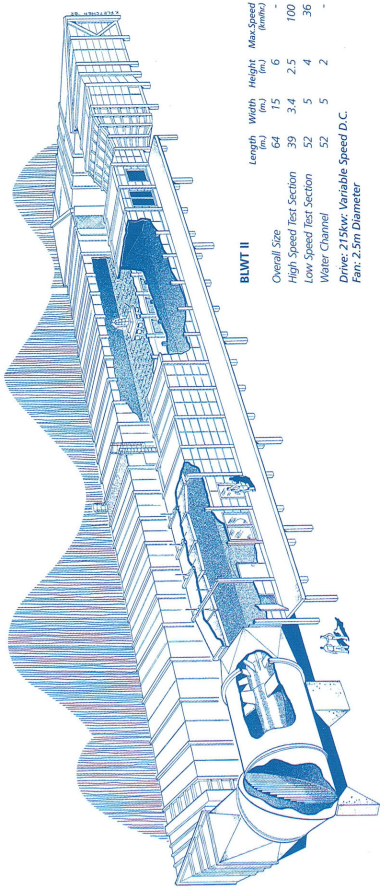

BLWT II

	Length (m.)	Width (m.)	Height (m.)	Max Speed (km/hr.)
Overall Size	64	15	6	-
High Speed Test Section	39	3.4	2.5	100
Low Speed Test Section	52	5	4	36
Water Channel	52	5	2	-

Drive: 215kw. Variable Speed D.C.
Fan: 2.5m Diameter

Significant Projects

Since its inception in 1965, the Laboratory has worked on over one thousand projects. From some of our earliest to our most recent, projects include:

Tall Buildings

World Trade Center, New York, N.Y., U.S.A., 1368 ft. / 417 m., 1362 ft. / 415 m.

Sears Tower, Chicago, Illinois, 1450 ft. / 442 m.

Bank of China Tower, Hong Kong, 1209 ft. / 369 m.

Shun Hing Square, Shenzen, China, 1066 ft. / 325 m.

Jin Mao Building, Shanghai, China, 1380 ft. / 421 m.

Mori Building, Shanghai, China, 1509 ft. / 460 m.

BDNI Center, Jakarta, Indonesia, 1048 ft. / 320 m.

Bridges

Bronx-Whitestone Bridge, 2300 ft. / 701m.

Sunshine Skyway Bridge, Tampa, Florida, 1200 ft. / 366m.

Storebaelt Bridge, Denmark, 5328 ft. / 1624 m.

Tsing Ma Bridge, Hong Kong, 4517 ft. / 1377 m.

Ting Kau Bridge, Hong Kong, 1470 ft. / 448 m. & 1558 ft. / 475 m.

Confederation Bridge, Prince Edward Island, Canada, 13 km. / 8.1 miles with 43 spans of 250 m. / 820 ft.

Towers, Masts, and Chimneys

Inco Chimney Stack, Sudbury, Ontario, 1200 ft. / 366 m.

CN Tower, Toronto, Ontario, 1815 ft. / 553 m.

St. Chrischona Tower, Basel, Switzerland, 817 ft. / 249 m.

Jakarta Tower, Indonesia, 1831 ft. / 558 m.

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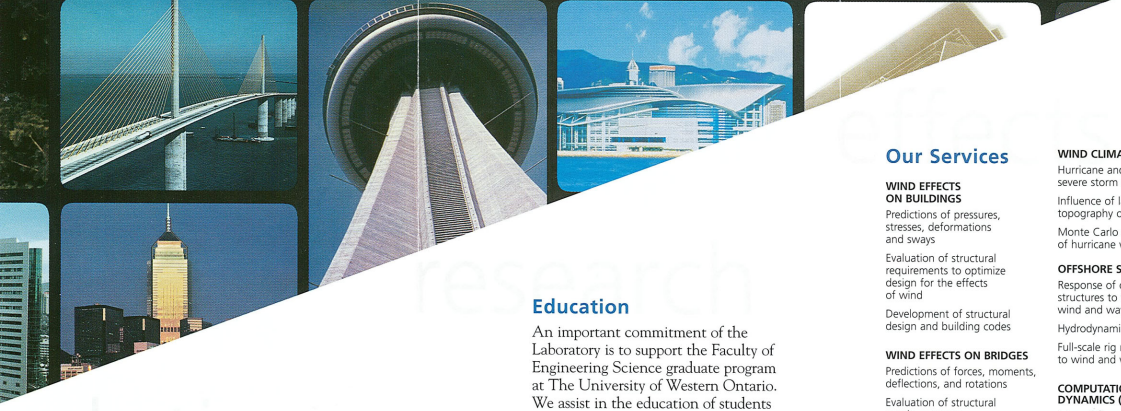
The Boundary Layer Wind Tunnel Laboratory



Mission

To develop innovative solutions to complex wind engineering problems while maintaining the highest standards in research, education, and engineering applications.

Research

Through direct involvement in construction projects around the world, our research focuses on all aspects of the effects of wind. We have developed many of, what are now, wind engineering's standard methods, such as the force balance measurement of loads on tall buildings. Further, experience with engineering applications reveals new research problems, and provides data bases upon which better code models can be developed to improve general industry practice.

Education

An important commitment of the Laboratory is to support the Faculty of Engineering Science graduate program at The University of Western Ontario. We assist in the education of students from around the world both in research and the application of wind engineering principles. In addition, we maintain strong links with other research institutions, including collaborative research programs with universities and government laboratories in several countries.

Engineering Applications

We have assisted in the design of some of the world's tallest buildings and structures, the world's longest bridges, and roofs of unusual construction and form. Due to the complexity of winds in the Earth's boundary layer (the first 1,000 metres or so of the atmosphere), many structures are modeled and examined in the Laboratory's state-of-the-art wind tunnels. Our work also extends to predicting site wind conditions, including the effects of severe wind storms such as hurricanes and tornadoes.

Our Services

WIND EFFECTS ON BUILDINGS

Predictions of pressures, stresses, deformations and sways

Evaluation of structural requirements to optimize design for the effects of wind

Development of structural design and building codes

WIND EFFECTS ON BRIDGES

Predictions of forces, moments, deflections, and rotations

Evaluation of structural requirements to optimize design for the effects of wind

Development of structural design specifications and bridge codes

WIND EFFECTS ON SPECIAL STRUCTURES

Stadia, airport terminals, convention centres, concert halls, portal and other large cranes, inflated structures and tents

ENVIRONMENTAL PROBLEMS

Winds in city streets and plaza areas

Dispersion of gaseous and particulate pollutants

Rain Penetration

FULL-SCALE MONITORING

Monitoring of wind response of full-scale structures

WIND CLIMATE STUDIES

Hurricane and severe storm effects

Influence of large-scale topography on wind patterns

Monte Carlo simulation of hurricane winds

OFFSHORE STRUCTURES

Response of offshore structures to the effects of wind and waves

Hydrodynamics of floating hulls

Full-scale rig response to wind and waves

COMPUTATIONAL FLUID DYNAMICS (CFD)

Internal flows

Rain wetting and runoff

Environmental / multiphase particle flows

DAMPING OF STRUCTURES

Estimation of inherent damping of buildings and structures

Visco-elastic, tuned mass and tuned liquid dampers, and other damping systems

SNOW ENGINEERING

Climatic studies of snowfall

Snow drifting and deposition on roofs

Sliding snow and ice problems

OTHER PROBLEMS

Aerodynamic efficiency of shapes and profiles

Turbulence and active flow control

Dynamics of foundations and structures

Wind hazard assessment

Fatigue and load cycle evaluation

Wind Energy

Wind effects on vehicles