

**Precise,
reliable
and safe**

**Geomatics /
Construction Survey**



wsp

Our Services

STRUCTURAL & CIVIL SURVEYING

Dimensional control surveying

Steel placement for buildings,
piping and modules

Pile installation

Concrete foundation surveying

Anchor bolt surveys

MINE & ENGINEERING SURVEYING

Road building for heavy
construction traffic

Dyke construction

Creek diversions

Volumetric surveys & monitoring

Topographic surveys

Checkout, commissioning
& startup assistance

HYDROMETRIC & BATHYMETRIC SURVEYING

High precision bathymetric surveys of
marinas, port facilities, rivers, lakes, oceans

Shoreline erosion monitoring

Dredging and underwater construction
monitoring and surveillance

Seabed imagery and mapping

Volume calculations

Topographic surveys and digital
terrain modeling

Current measurements
and sediment dynamics

Characterization of ice cover

Physicochemical monitoring

Characterization of ice cover

Hydrology and oceanography

PIPING & MECHANICAL SURVEYING

Above and below ground piping

Precision layout of pumps,
vessels, turbines

Our Projects

The Bow

Calgary, AB

WSP's applied survey methodologies that were unprecedented in a Canadian skyscraper project in order to meet the challenges of the buildings size and shape. These leading-edge methodologies included monitoring of building dynamics and correction of GPS-derived positions for building tilt, both implemented in real-time. WSP's involvement also included design, establishment and maintenance of a suitable control network to satisfy stringent layout requirements, keeping a demanding project schedule on-course. As well as, employment of sophisticated, state-of-the-art survey technologies such as precise digital inclination sensors.

Toronto-York Spadina Subway Extension

Toronto, ON

WSP is a member of a joint venture consortium, Spadina Link Project Managers, that has been awarded a \$100M Project Management services contract for the Toronto-York Spadina Subway Extension (TYSSE) by the Toronto Transit Commission (TTC). The \$2.63B TYSSE project is a TTC infrastructure initiative sponsored by three levels of government: Government of Canada, Province of Ontario, and City of Toronto and Region of York. The extension will be the first TTC subway network located outside the limits of the City of Toronto. It will extend the Spadina subway line by 8.6 km and add six stations, of which 2.4 km and two stations will be entirely within the Region of York. One station straddles the Region of York and City of Toronto boundary, while another will serve York University, with the terminus at Vaughan Centre.

K2 Wind Farm

Ontario

WSP provided geomatics services for the K2 Wind project, a 270-megawatt wind farm, consisting of 140 wind turbines over 90 properties. A local global positioning system (GPS) control network was established based on the existing provincial horizontal and vertical control monuments around the project site. Static GPS techniques were utilized to ensure a high accuracy network over the entire 200-square-kilometre project site. Mapping of features was completed using a combination of aerial photography with ground based topographic survey. GIS analysis services were undertaken using feature mapping and project constraints to ensure turbines met the minimum setback requirements. Final plans of survey for each site as well as lease sketches for land acquisition were also completed.

Making sure *your project is right the first time*

From the earliest human structures, surveyors play an integral role in the success of a project. As your construction project begins -- even before shovels hit the soil -- surveyors are on site, measuring and marking layouts and existing structures. During your project, surveyors accurately guide the construction progression, verifying and staking reference points. At the conclusion of your project, surveyors ensure and verify that specifications have been met.

From robotic total stations and latest GPS technology to 3D laser scanning and bathymetric multi-beam echo sounders, we use innovative tools and technology as well as specialized expertise to ensure that your projects are completed safely and efficiently.

With quality assurance and control procedures, coupled with custom mobile applications and tools, we can provide the best possible quality assurance and most efficient overall project management.

Safety is important to you and is a requirement on your construction site. Likewise, safety is a central component of our work, expertise and company culture. Our award-winning safety program embodies our commitment to ensuring safety management of the highest industry standard in our busy and unique work environments.





As one of the world's leading professional services firms, WSP™ provides technical expertise and strategic advice to clients in the Transportation & Infrastructure, Property & Buildings, Environment, Industry, Resources (including Mining and Oil & Gas) and Energy sectors, as well as offering project and program delivery and advisory services. Our experts include engineers, advisors, technicians, scientists, architects, planners, surveyors and environmental specialists, as well as other design, program and construction management professionals. With approximately 48,000 talented people in 550 offices across 40 countries — more than 8,000 in Canada and 9,500 in the U.S. — we are uniquely positioned to deliver successful and sustainable projects, wherever our clients need us.

