

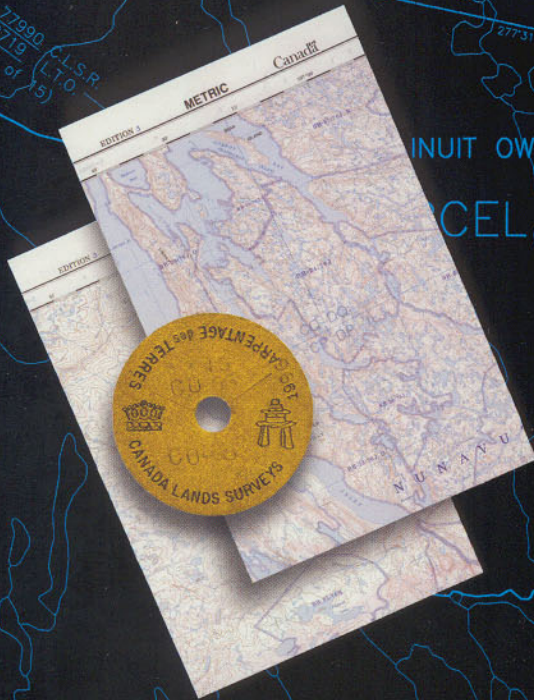
Geodetic

SURVEYING



Geodetic surveying is the science of locating and relating the position of objects on the earth relative to each other while taking into account the size, shape and gravity of the earth. A reference framework of survey points is used to relate objects to each other over very long distances. Geodetic surveys form the accurate foundation upon which land information services rely.

Measuring large tracts of land, such as those in native land claims, is an example of geodetic surveying. In this project, an Ontario Land Surveyor, with the aid of the Global Positioning System (GPS), was able to accurately locate and position parcel corners for a land claim in an isolated area that was only accessible by helicopter. Using specialized GPS receivers and sophisticated software, surveyors are capable of obtaining accurate measurements in a very economical fashion.



(Above) Geodetic surveys were a major component in the production of the maps shown here. The background image represents part of an actual survey where the parcel corners were marked with an official bronze monument.



(Left) A GPS station was set up on a parcel corner monument. This station received signals from orbiting satellites which allowed the Ontario Land Surveyor to accurately compute the precise location of the corner.

Geodesy

Ontario Land Surveyors have expanded their geodetic services by using new technology, such as specialized software and the Global Positioning System (GPS).

The Global Positioning System is a satellite-based navigation and positioning system comprised of more than twenty satellites orbiting the earth. A minimum of four "visible" satellites are used to determine the location of the observer. By recording, processing and analyzing the satellites' navigational messages with high-quality GPS receivers and geodetic software, the Ontario Land Surveyor can obtain relative positions on the earth to centimetre accuracy.

The Ontario Land Surveyor in your area has the knowledge and expertise to provide you with an economic geodetic survey solution to meet your project requirements.

Examples of Geodetic surveying applications include the following:

- Horizontal Control Surveys
- Vertical Control Surveys
- Precise Leveling
- Hydrographic Surveys
- Precise Alignment
- Topographic Surveys
- Geotechnical Surveys

GPS applications include:

- Three Dimensional Positioning
- Navigation Uses
- Deformation Monitoring
- Geodetic Surveys
- Engineering Surveys
- Topographic Surveys
- Hydrographic Survey Applications
- Utility Management/Inventory

