



# FIRST NATION LAND MANAGEMENT RESOURCE CENTRE

## Training, Mentorship and Professional Development

### Capacity Building: Surveys

August 28-29, 2018 – Prince George – Courtyard by Marriott

#### Pre-Course Materials:

1. General definitions and notes
2. Role of a Land Surveyor
3. Surveyor General Branch (SGB) – Natural Resources Canada (NRCAN) Role and Locations

#### 1. General Definitions and Notes:

**Association of Canada Lands Surveyors (ACLS):** is the national licensing body for professionals surveying in the three Canadian territories, in the Federal parks, on Aboriginal reserves, on and under the surface of Canada's oceans. The exclusive title attributed to these professionals is that of Canada Lands Surveyor (CLS).<sup>1</sup>

To locate a CLS in your area: <https://www.acls-aatc.ca/find-a-surveyor/>

For surveys involving interior boundaries, a land surveyor has to be commissioned and licenced as a Canada Lands Surveyor (at a minimum). Where the survey involves a common boundary with Provincial lands, the land surveyor will also require a Provincial survey commission/licence to perform the survey.

**Canada Lands** are defined in the [Canada Lands Surveys Act \(CLS Act\)](#) as:

any lands belonging to Her Majesty in right of Canada or of which the Government of Canada has power to dispose that are situated in Yukon, the Northwest Territories or Nunavut and any lands that are

- (i) surrendered lands or **a reserve**, as those expressions are defined in the [Indian Act](#), other than reserve lands described in regulations made under section 4.1 of the [First Nations Commercial and Industrial Development Act](#),
- (ii) *Category IA-N land*, as defined in subsection 2(1) of the [Naskapi and the Cree-Naskapi Commission Act](#),
- (ii.1) *Category IA land*, as defined in subsection 2(2) of the [Cree Nation of Eeyou Istchee Governance Agreement Act](#),
- (iii) Sechelt lands, as defined in the [Sechelt Indian Band Self-Government Act](#), chapter 27 of the Statutes of Canada, 1986,
- (iv) settlement land, as defined in the [Yukon First Nations Self-Government Act](#), and lands in which an interest is transferred or recognized under section 21 of that Act,
- (v) lands in the Kanesatake Mohawk interim land base, as defined in the [Kanesatake Interim Land Base Governance Act](#), other than the lands known as Doncaster Reserve No. 17, or

<sup>1</sup> “Welcome to ACLS-AATC – Association of Canada Lands Surveyors (ACLS)” <https://www.acls-aatc.ca>, (2018)

(vi) Tliche lands, as defined in section 2 of the [Mackenzie Valley Resource Management Act](#); and

(a.1) any lands belonging to Her Majesty in right of Canada or of which the Government of Canada has power to dispose that are situated in any National Park of Canada or in the Rouge National Urban Park established by the [Rouge National Urban Park Act](#); and

(b) any lands under water belonging to Her Majesty in right of Canada or in respect of any rights in which the Government of Canada has power to dispose.

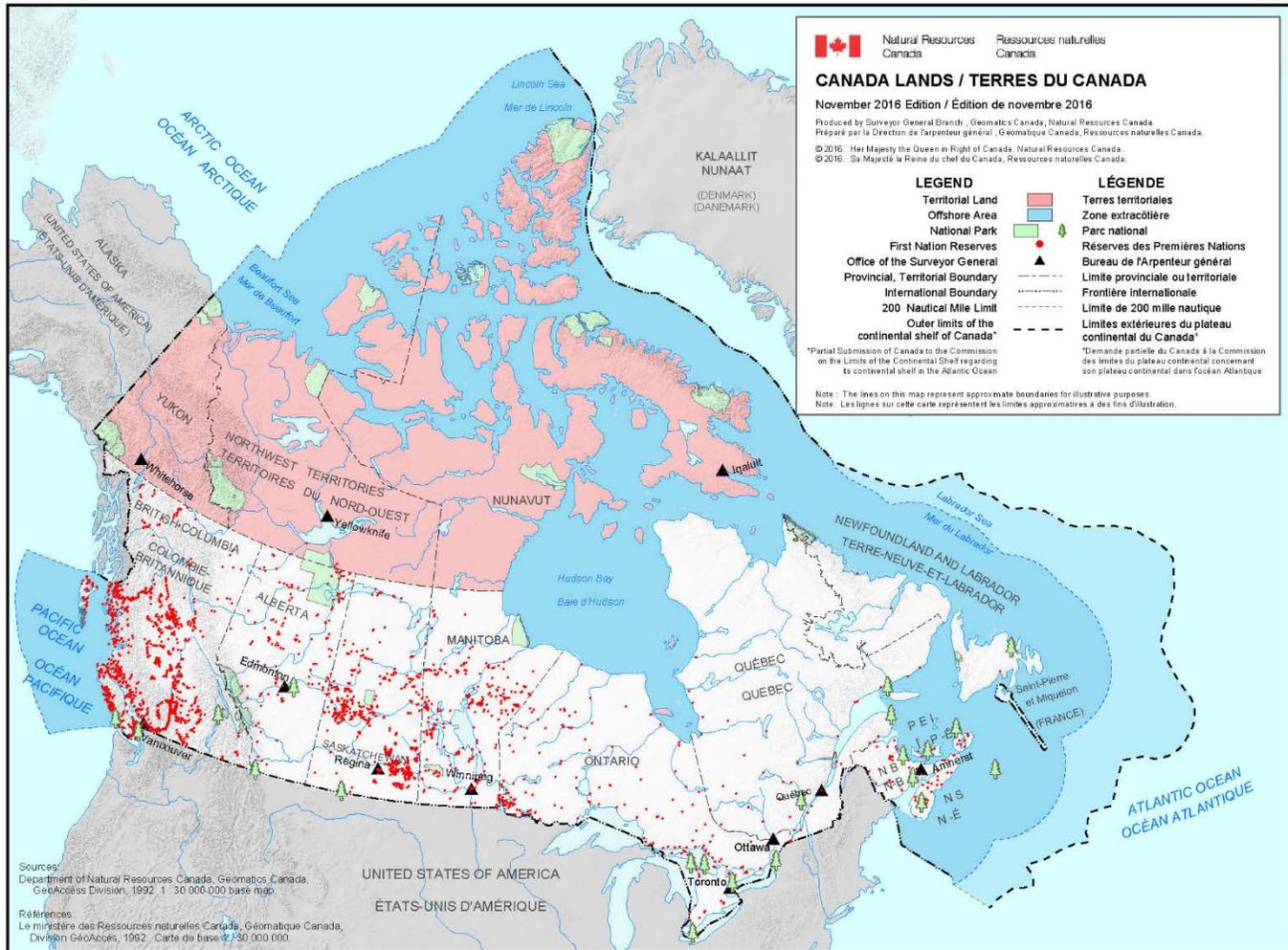


Figure 1: Map of Canada Lands (Natural Resources Canada)

[http://ftp.nrcan.gc.ca/ess/sgb\\_pub/sgb-maps-dag-carte/terre-canada-land/terre-canada-land\\_letter.jpg](http://ftp.nrcan.gc.ca/ess/sgb_pub/sgb-maps-dag-carte/terre-canada-land/terre-canada-land_letter.jpg)

A Reserve under a First Nation's Land Code is still considered to be **Canada Lands (a Reserve)**, and therefore still subject to the *Canada Lands Surveys Act*.

Section 4.1 of the *Framework Agreement on First Nation Land Management*:

Any **reserve** managed by a First Nation under a land code **will continue to be a reserve** within the meaning of the *Indian Act*

**Canada Lands Surveyor (CLS)**: "A person who holds a commission under the [Canada Lands Surveyors Act](#)."<sup>2</sup>

- "In order to practice cadastral surveying on **Canada Lands** or private lands in a territory an individual must have a Canada Lands Surveyors Commission, be a member in good standing of the Association and must obtain an ACLS licence."<sup>3</sup>

<sup>2</sup> *ACLS Practice Manual A professional guide for Canada Lands Surveyors* (ACLS, 2015), 3.

<sup>3</sup> *ACLS Practice Manual A professional guide for Canada Lands Surveyors* (ACLS, 2015), 6.

- Section 52 of the *Canada Lands Surveyors Act* states:

To obtain a licence, a member must also: have experience and practical training in surveying totaling at least two years during the previous five years; and comply with the licensing requirements prescribed by the regulations and by-laws

A licensed CLS is the only distinct person, legally authorized to conduct **cadastral surveys** on Canada Lands.

“**Cadastral surveying** is the branch of surveying that encompasses all activities related [to] establishing and defining the extent of a legal interest in land. These activities are also referred to as boundary or legal surveying.”<sup>4</sup>

A cadastral survey (boundary or legal survey) is different from a construction, topographic, engineering, etc. type of survey, as cadastral surveys define boundaries and these other types of surveys DO NOT.

A Canada Lands Surveyor is a **professional** in their field of study (similar to a lawyer, engineer, etc.). To become a Canada Lands Surveyor, requires formalized education in the field of surveying/geomatics, writing of professional exams and experience:

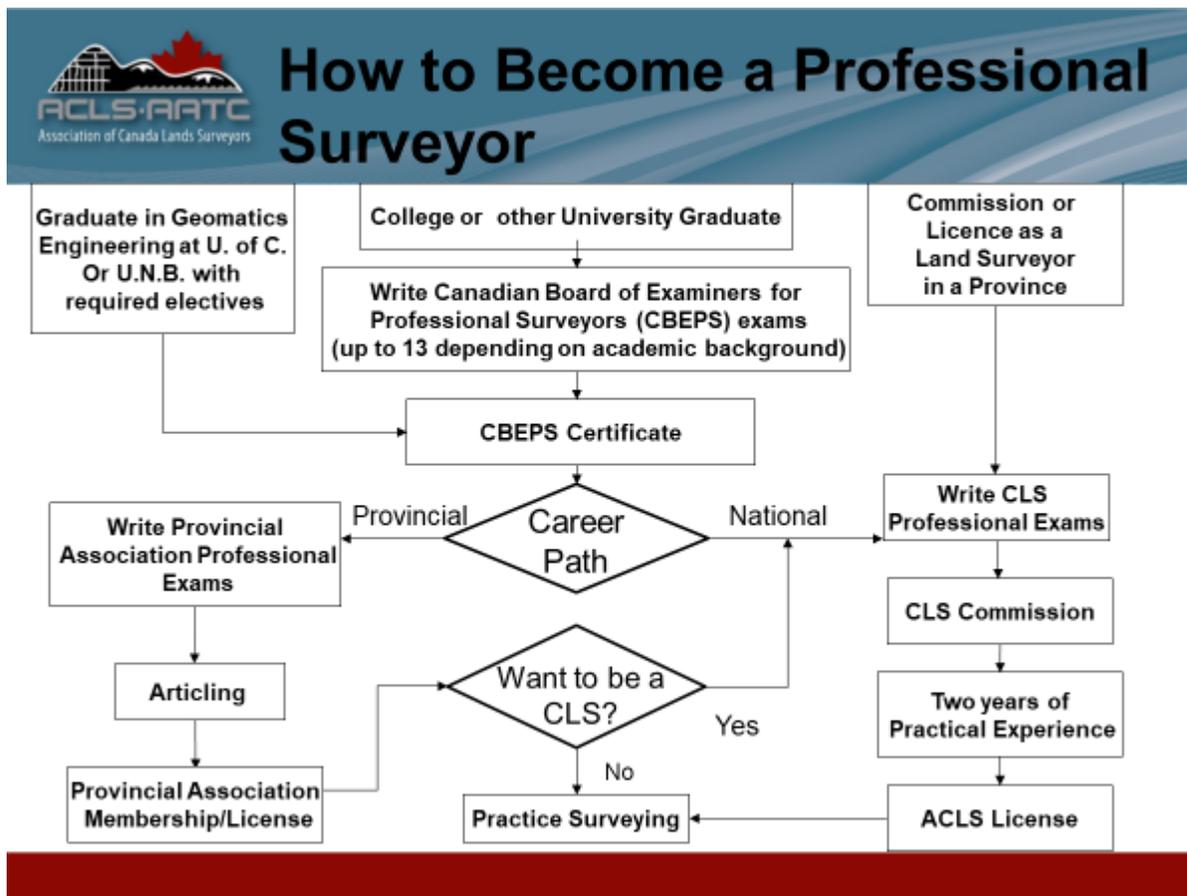


Figure 2: from the Association of Canada Lands Surveyors - Presentation “Becoming a Surveyor”

“**monument** means a post, stake, peg, mound, pit, trench or any other object, thing or device used under this Act or under the *Dominion Lands Surveys Act*, chapter 117 of the Revised Statutes of Canada, 1927, to mark a boundary of surveyed lands”<sup>5</sup>;

- Refer to Figures 3, 8 to 18 (inclusive) and 20, 21 & 22 for examples of monuments (identified by red figures and text)

“**Ancillary monumentation**: placed near the monument (a) making it easier to locate; (b) for the protection of the monument. It may be:

- Part of the actual survey monument such as pits and mounds or trenches;

<sup>4</sup> “What is a Canada Lands Surveyor (CLS)?” <https://www.acls-aatc.ca/what-is-a-canada-lands-surveyor-cls/>, 2018

<sup>5</sup> *Canada Lands Surveys Act*, Section 2(1) Interpretation

2. Reference devices such as bearing trees or reference posts which can be used to re-establish the position of the actual monument;
  3. Marker posts used to protect the monumentation from destruction and to make them easier to find, or to help locate the position of the boundaries.”<sup>6</sup>
- Refer to Figures 3 to 7 (inclusive), 18 & 19 for examples of ancillary monuments (identified by blue figures and text)

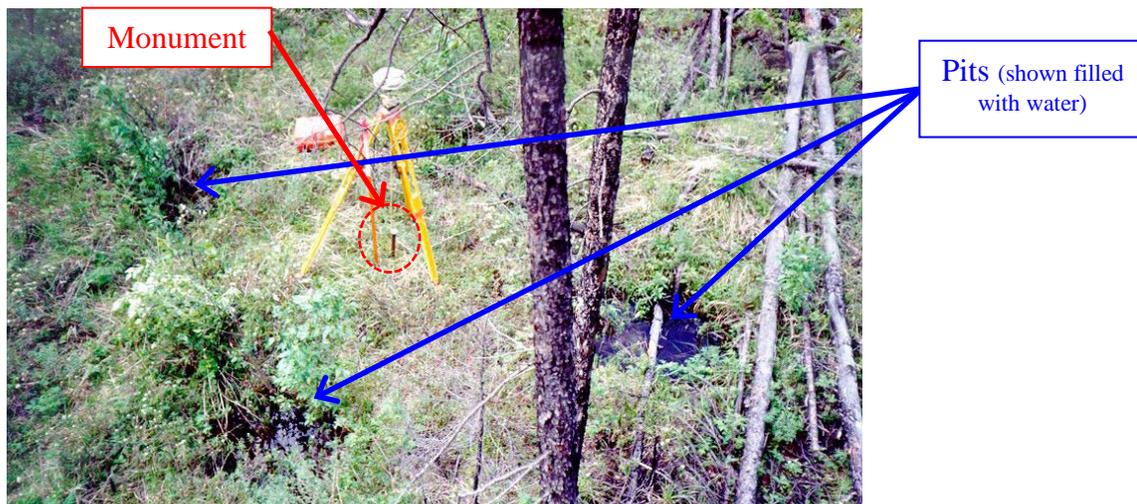


Figure 3: Photo from Saskatchewan Surveyor General Branch - Presentation “Information package for the Assiniboine Indian Reserve # 76”

In Figure 3, the **monument** marks the boundary, and the **pits** are **ancillary monumentation**.



Figure 4: Photo from Saskatchewan Surveyor General Branch - Presentation “Information package for the Assiniboine Indian Reserve # 76”

In Figure 4, the **monument** is not visible in the photo, the **t-bar/reference post**, **mound and trench** are **ancillary monumentation**.

<sup>6</sup> Legal Surveys Division, NRCan. “Legal Surveys 1997 Workshop”, 1997.



Metal reference post  
(shown with aluminum plate)

Metal Reference Posts



Figure 5: Photo courtesy of BC Surveyor General Branch Office

Figure 6: Photo from Harrington Industries Ltd. website (<http://www.harringtonindustries.com/survey.php>)



Bearing Tree  
(shown with distance of 15.2 to monument)

Figure 7: Photo from BC Surveyor General Branch - Presentation "Survey Evidence on the Ground"



Wooden Post marking

- a Reserve boundary;
- a Reserve boundary and 1/4 Section limit

Figure 8: Photo from Alberta Surveyor General Branch Office



CLS Standard Rock post

Figure 9: Photos courtesy of T.A. Bunker Surveying Ltd.

**BCLS Rock  
Post (Type 2)**



Figures 10 & 11: Photo courtesy of BC Surveyor General Branch Office



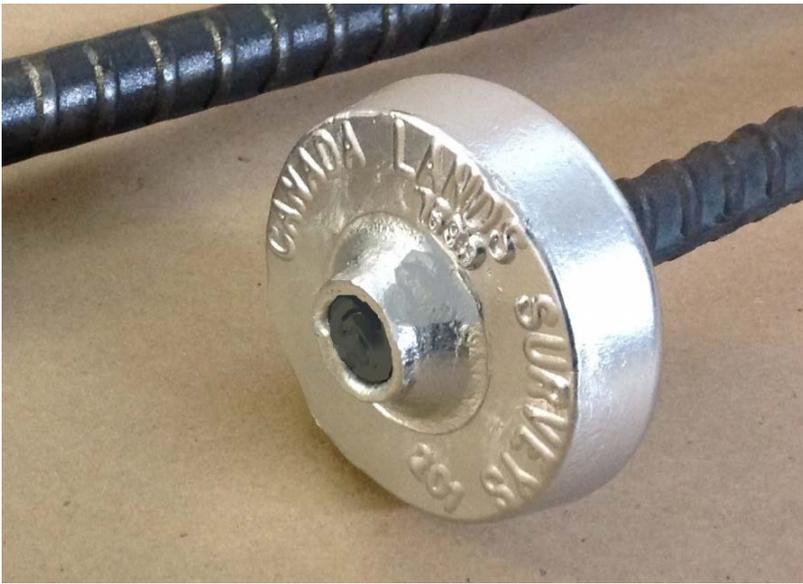
**CLS Standard Post**  
[marking the south-west corner of a  
Reserve (marked IR) and a Road  
(marked R)]  
Placed in 1971

Figure 12: Photo courtesy of T. Bigstone



**Dominion Land  
Surveys Post**

Figure 13: Photo courtesy of Calvin Bourassa (Altus Group)



CLS 69  
Standard Post

Figure 14: Photo from J.P. Morasse Inc. website (<http://www.morasse.com/en/products/surveying-products/aluminum-survey-markers/86-federal-survey-marker-cl69>)



CLS 69  
Standard Post  
Placed in 1979

Figure 15: Photo courtesy of Calvin Bourassa (Altus Group)



CLS 77  
Standard Post

Year of the survey is  
to be stamped on the  
post

Figure 16: Photo from J.P. Morasse Inc. website (<http://www.morasse.com/en/products/surveying-products/aluminum-survey-markers/89-federal-survey-marker-cl77>)



Figure 17: Photo courtesy of BC Surveyor General Branch Office

“A type 5 post, to be known as the standard iron post, must consist of a galvanized square iron bar that is not less than 1.2 cm across any face nor less than 75 cm long...”<sup>7</sup>



Figure 18: Photo courtesy of BC Surveyor General Branch Office

<sup>7</sup> Land, Land Survey, Land Title, Mineral Tenure, Petroleum and Natural Gas and Strata Property Acts - General Survey Instruction Regulation ([http://www.bclaws.ca/civix/document/id/loo60/loo60/229\\_2001#section4](http://www.bclaws.ca/civix/document/id/loo60/loo60/229_2001#section4))



Wooden Guard  
Post or Reference  
Post

Figure 19: Photo from Harrington Industries Ltd. website (<http://www.harringtonindustries.com/survey.php>)



Lead plug  
(Type 3)

Figure 20: Photo courtesy of BC Surveyor General Branch Office



Figure 21: Photo from Harrington Industries Ltd.

website (<http://www.harringtonindustries.com/survey.php>)

“A type 3 post, to be known as a lead plug, must consist of lead firmly set into and flush with the top of a hole that is drilled in rock or concrete.”<sup>8</sup>

<sup>8</sup> Land, Land Survey, Land Title, Mineral Tenure, Petroleum and Natural Gas and Strata Property Acts - General Survey Instruction Regulation ([http://www.bclaws.ca/civix/document/id/loo60/loo60/229\\_2001#section4](http://www.bclaws.ca/civix/document/id/loo60/loo60/229_2001#section4))



Figure 22: Photo courtesy of BC Surveyor General Branch Office

“A type 4 post, to be known as the standard capped post, must consist of a bronze post cap fitted on a pointed length of steel reinforcing bar that is not less than 15 mm in diameter and not less than 75 cm long.”<sup>9</sup>



Figure 23: Photo courtesy of Alberta Surveyor General Branch Office

<sup>9</sup> Land, Land Survey, Land Title, Mineral Tenure, Petroleum and Natural Gas and Strata Property Acts - General Survey Instruction Regulation ([http://www.bclaws.ca/civix/document/id/loo60/loo60/229\\_2001#section4](http://www.bclaws.ca/civix/document/id/loo60/loo60/229_2001#section4))

## 2. Role of a Land Surveyor:<sup>10</sup>

The land surveyor's practice is governed, not just by laws of three levels of government (Federal, Provincial and Municipal), but also by a fourth level, namely that of the professional association to which he/she belongs. Above all, he/she is governed by his/her own integrity and ethical standards.

The professional land surveyor is a public officer. He/she does not represent a single client in establishing the client's boundaries, but rather society at large. Every boundary monument marks a boundary between at least two unique properties. The surveyor, therefore must be fair and impartial to all parties; he/she cannot give undue consideration to his/her client's interests in disregard to the interests of his/her client's neighbor and potential adversary...

Essentially a land surveyor is a gatherer of facts. His/her duty is to determine the physical and topographical characteristics of a parcel of land, to establish the facts as to the positions of the boundaries on the ground. Based on these facts, he/she



must form an opinion as to the location of all boundaries and the extent and shape of the parcel. In searching for evidence of those boundaries, he/she is obligated firstly, to conduct an exhaustive search for the original location of the boundary monumentation; secondly, to document precisely all evidence and measurements defining those boundaries; and thirdly, to re-monument those boundaries for the benefit of future generations. In exercising these functions it is submitted that the land surveyor is acting in the capacity of an officer of the state – working to preserve and perpetuate the survey fabric which contributes to the identification of individual land parcels.

A land surveyor engaged to mark the boundaries between two or more properties must do a complete survey

searching for all available evidence of the original boundaries, marking them on the ground, preparing and filing any necessary plans or documents to record his/her work in a public repository where applicable. He/she must then be prepared to stand behind his/her work and defend it in a court of law if it is called into question. To do any less than a complete job is neglecting one's professional responsibilities.

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<sup>10</sup> This section was copied from Legal Surveys Division, NRCan. "Legal Surveys 1997 Workshop", 1997  
*Note: any references to he or his, was amended to he/she and his/her*

### 3. Surveyor General Branch (SGB or Branch) – Natural Resources Canada (NRCan) Role and Locations:

“The *Canada Lands Surveys Act* sets out that surveying Canada Lands is done in accordance with the Surveyor General's instructions. The Surveyor General has the legal responsibility, subject to the direction of the Minister of Natural Resources, to manage all surveys on Canada Lands and to maintain all the original plans, journals, field notes and other documents connected with those surveys. Additionally, more than 20 pieces of federal and territorial legislation set out property rights systems that rely upon the work of the Surveyor General.

These legal responsibilities are delivered through the [main offices of the Surveyor General Branch \(SGB\)](#) in Edmonton and Ottawa, and its regional offices in Amherst, Quebec City, Toronto, Winnipeg, Regina, Vancouver, Whitehorse, Yellowknife and Iqaluit. This regional structure allows SGB to be responsive to the needs of aboriginal groups, Aboriginal Affairs and Northern Development Canada, Parks Canada, Justice Canada, provincial and territorial governments, land administrators, land surveyors, land surveying associations and others who work with Canada Lands.

The Surveyor General also serves as the Canadian Commissioner of the [International Boundary Commission \(IBC\)](#) and as the Canadian member of the tripartite Alberta-British Columbia Boundary Commission.”<sup>11</sup>

“Through the survey registry program the Branch manages surveys on Canada Lands by: 1) establishing survey standards, 2) administering a regulatory process, 3) maintaining the Canada Lands Survey Records and 4) creating and disseminating digital cadastral data.

#### **Survey Standards**

The National Standards for the Survey of Canada Lands provide general instructions for Canada Lands Surveyors and ensure a high level of quality for legal surveys and survey products on Canada Lands. Historical general instructions are also available for reference.

#### **Regulatory Process**

Surveys of Canada Lands are regulated in two different ways. First, all surveys are required to be carried out by licensed Canada Lands Surveyors. The Association of Canada Lands Surveyors (ACLS) is responsible for licensing and ensuring professional competency of its members. Second, the Surveyor General ensures the quality of the completed surveys before approving and entering them in the Canada Lands Survey Records. This two-pronged regulatory approach has been streamlined in the SGB-ACLS collaborative web site, [MyCLSS](#).

#### **Canada Lands Survey Records**

The Canada Lands Survey Records is a registry of legal survey documents and contains survey plans, field notes, diaries, reports and other documents to support property rights on Canada Lands.

**Surveys** establish official boundaries defining the extent of ownership, or other rights in land. A legal survey generally consists of two parts:

- a demarcation on the ground of the boundaries (field survey);
- and a legally authorized document (the plan) depicting the location of the boundaries...

#### **Digital Cadastral Data**

The Branch creates and maintains three types of cadastral data designed and suited for Geographic Information Systems (GIS) applications. They are available to any parties with an interest in Canada Lands. They include the Canada Lands Digital Cadastral Data, Administrative Boundaries for Canada Lands and a KMZ Dataset for use with Google Earth.”<sup>12</sup>

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<sup>11</sup> “The Surveyor General” <http://www.nrcan.gc.ca/earth-sciences/geomatics/canada-lands-surveys/surveyor-general/10876>, December 27, 2017

<sup>12</sup> “The Survey Registry” <http://www.nrcan.gc.ca/earth-sciences/geomatics/canada-lands-surveys/federal-programs/survey-registry/10853>, March 26, 2018

Please have the following websites bookmarked on your laptop for the session:

SGB Survey Project Search website:

<http://clss.nrcan.gc.ca/clss/project-projet/search-recherche>

SGB Survey Plan Search website:

<http://clss.nrcan.gc.ca/clss/plan/search-recherche>

SGB Canada Lands Survey System – CLSS Map Browser:

<http://clss.nrcan.gc.ca/map-carte-eng.php>

SGB Data – Canada Lands Surveys:

<http://www.nrcan.gc.ca/earth-sciences/geomatics/canada-lands-surveys/11092>

National Standards for the Survey of Canada Lands:

<http://clss.nrcan.gc.ca/clss/surveystandards-normesdarcentage/>

(including Regional Chapters)

Interdepartmental Letter of Agreement:

<http://clss.nrcan.gc.ca/clss/surveystandards-normesdarcentage/agreements>

(down load the Interdepartmental Agreement related to the Cooperation in the Area of Surveys and the Specifications for Descriptions of Lands for Transactions on Reserve Lands, 2014)

Google Earth can be downloaded from:

[www.google.com/earth/](http://www.google.com/earth/)