

The Dominion Land Survey: Mapping Western Canada

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You are likely familiar with using longitude and latitude to help you locate and describe places on a map. In Western Canada, the government decided to use a grid system called the *Dominion Land Survey* to describe parcels of land. The *Survey* was started in 1871, and was designed primarily for agricultural purposes. It is similar, but not identical, to the system used in the United States. A totally different system is used in Eastern Canada.

Meridians

A *meridian* is a longitudinal line circling the globe and passing through the North and South Poles. In the Dominion Land Survey, there are seven meridians, with the *First* (or Prime or Principal) *Meridian* located just west of Winnipeg (Figure 1). Note that this meridian is not to be confused with the Prime Meridian found in Greenwich, England. All land in Manitoba is either W1 (west of the Prime Meridian) or E (east of the Prime Meridian).

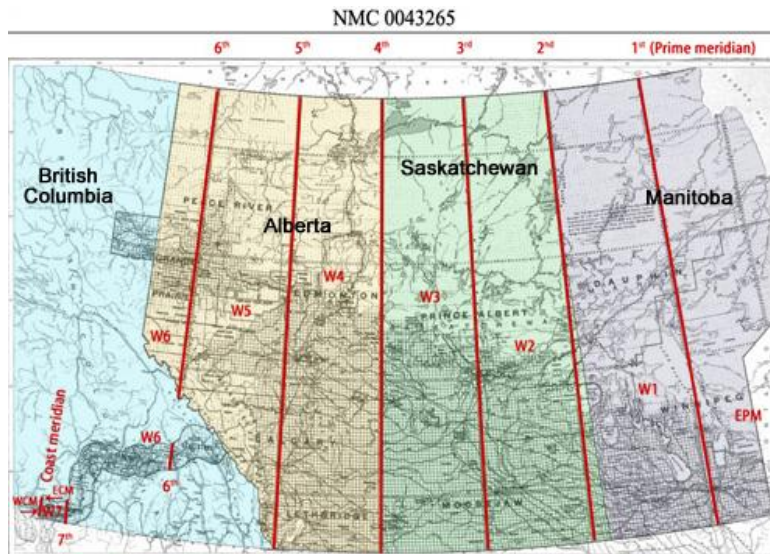


Figure 1. The seven meridians of the Dominion Land Survey. Diagram from Canadian Libraries and Archives (www.collectionscanada.gc.ca) with adaptations by Lianne Kruger (http://ifamilyhistory.blogspot.ca/2012_08_01_archive.html)

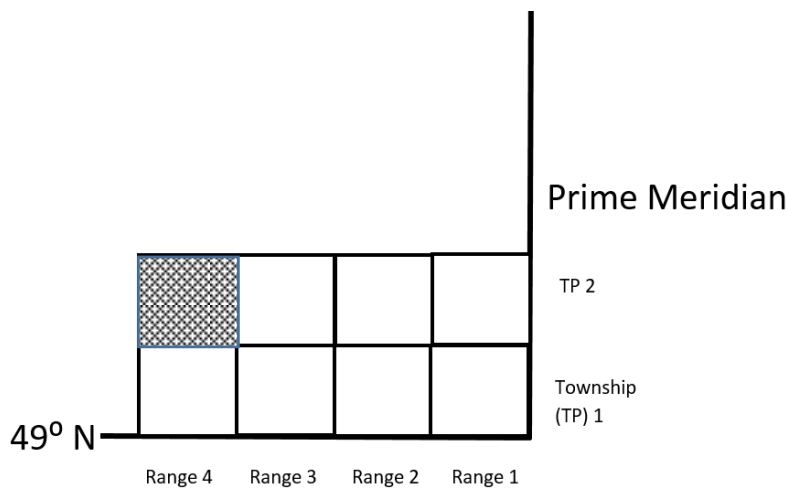


Figure 2. The basic grid layout.

The Grid Layout

The basic grid is formed by east-west *township lines* and north-south *range lines*. Ideally, the lines would create squares of equal area; however this is impractical due to the spherical shape of the earth. The grid is measured using the imperial system of measurement, due to the age of the survey.

Township lines are measured from the border with the United States at the 49th

parallel. Each township line is 6 miles apart. Townships are numbered consecutively going north beginning at the border with the United States (Figure 2).

Range lines are measured along east-west *baselines*. Each range line is 6 miles apart along the baseline. Because range lines are longitudinal, they get closer together as they go north. Consequently, range lines are exactly 6 miles only at the baselines. Ranges to the west of the Prime Meridian are numbered consecutively going west from a meridian until the next meridian is reached (Figure 2). The counting system then restarts at one. Ranges to the east of the Prime Meridian are numbered consecutively going east.

Townships

When range lines and township lines intersect, they create square areas of land that are 36 square miles (6 miles by 6 miles). Each of these parcels of land is called a *township*. This can be confusing as both the parcel of land and the east-west lines are known as townships! As a convention, east-west lines are referred to by the abbreviation *tp* and the parcels of land are referred to by the full name *township*.

To identify a township, the coordinates are written out as tp-range-meridian number. The shaded square in Figure 2 would be identified as tp 2-range 4-west of the Prime Meridian or more commonly 2-4-W1. In Manitoba, the 1 after W1 is often dropped as all townships are either W1 or E.

Dividing a Township

Each township can be divided into 36 *sections* measuring 1 square mile or 640 acres each (Figure 3). Section numbering in a township begins in the southeast corner and ends in the northeast corner. To identify a section, add the number before the tp-range-meridian number. Assuming that the township in Figure 4 is the same one shaded in Figure 2, the section would be named 23-2-4-W1.

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Each section can be further subdivided in quarter sections as shown in Section 3 in Figure 3. Quarter sections are described by their ordinal directions. To identify a quarter section just write the ordinal direction in front of the section-tp-range-meridian. The northwest quarter of section 23 in Figure 4 would be written as NW23-2-4-W1.

A section can also be divided in 16 legal subdivisions (LSDs) (Figure 3). Numbering is the same as with sections; beginning in the SE corner and ending in the NE corner (Figure 3). LSDs can again be divided into quarter LSDs. The LSD in the southeast corner of Section 10 in Figure 3 would be written as LSD1-10-2-4-W1 and just the northwest quarter would be NWLSD1-10-2-4-W1.

Figure 3. Sections and legal subdivisions in a township

References

Information Services Corporation (2015). Measuring Land in Saskatchewan.
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