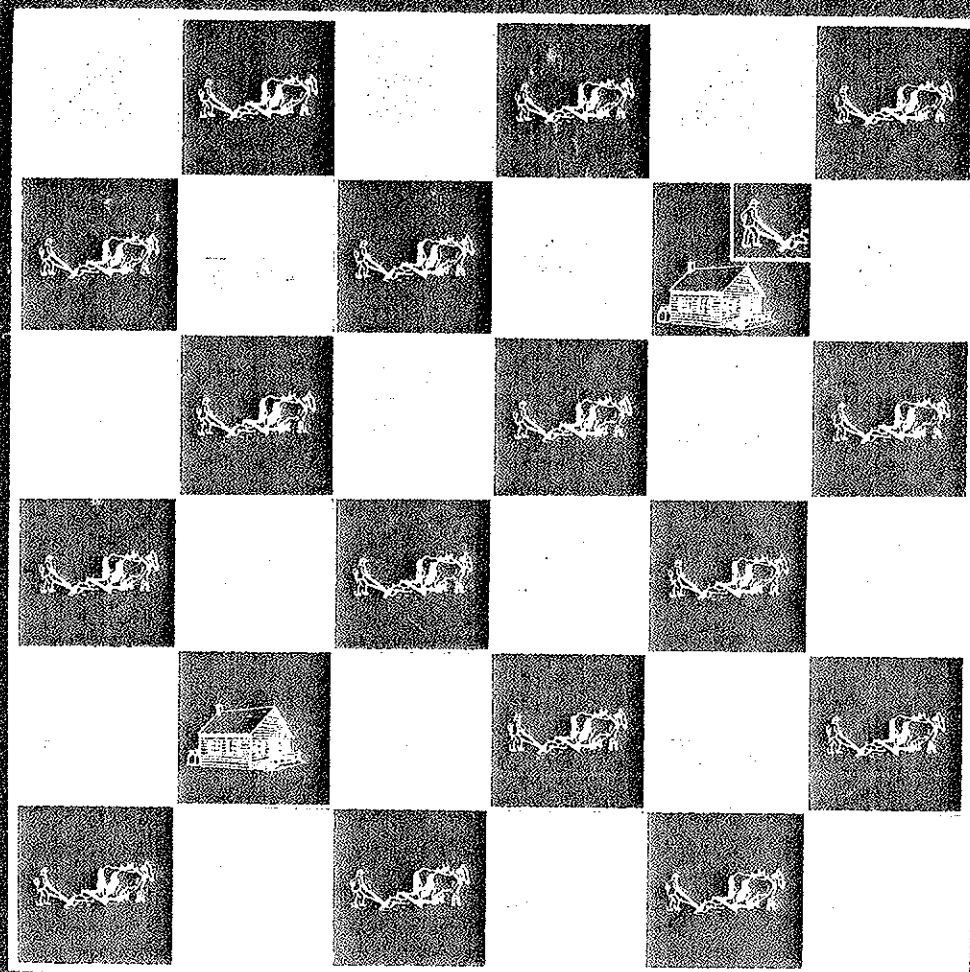


# UNDERSTANDING WESTERN CANADA'S DOMINION LAND SURVEY SYSTEM

ROBERT B. McKERCHER • BERTRAM WOLFE



**UNDERSTANDING WESTERN CANADA'S DOMINION  
LAND SURVEY SYSTEM**

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**SOURCES:** Figure 3, page 2 and Figure 4, page 3, based on a map produced by the office of the Surveyor General of Canada, 1928. Figure 9, page 7 and Figure 13 page 9, based on map MCR 45 (sheet 1) produced by Energy, Mines and Resources, the Surveys and Mapping Branch, Ottawa, 1963. Figure 12, page 8, based on map 73H (Edition 2 ASE Series A 502), produced by Army Survey Establishment, R.C.E., Ottawa, 1966. Figure 15, page 12, based on grid map in *Atlas of Saskatchewan*, page 111, J. H. Richards and K. I. Fung, University of Saskatchewan, 1969. Figure 24, page 18 and Figure 26 page 20, based on map MCR 27 (Third Edition) produced by Energy, Mines and Resources, the Surveys and Mapping Branch, Ottawa, 1973. Figures 29 and 30, page 23, based on map MCR 3 (Third Edition) produced by Energy, Mines and Resources, the Surveys and Mapping Branch, Ottawa, 1973. Figure 31, page 24, based on Canada Lands Survey Records map 64854, 1978.

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## Understanding Western Canada's Dominion Land Survey System

You cannot live in the West for very long without encountering such terms as "range," "township," "section," and "subdivision" — terms that appear in legal documents, agricultural reports and which you will find on roads signs throughout the province. Anyone who studies pioneering life and the development of the West will come across such terms again and again, in historical documents, records of land transactions, as well as verbatim reports. As most persons associated in any way with the rural life of the West will know, such terms are used to describe, in a very precise way, the location of land in the western provinces.

The western grid system of land description, known as the Dominion Land Survey (D.L.S.) system, is of undeniable value and utility. It allows one to pinpoint accurately the location of a parcel of land as small as 10 acres anywhere on the Dominion grid. With a sufficiently detailed map showing the grid and its subdivisions, anyone with an understanding of how the grid system works can identify and, if necessary, travel to a specified parcel of land.

Many westerners, particularly farmers and persons involved with rural communities, will already have a thorough working knowledge of the grid system; for these persons this publication may be useful as a reference. Primarily its purpose is to set down in one place the information that is

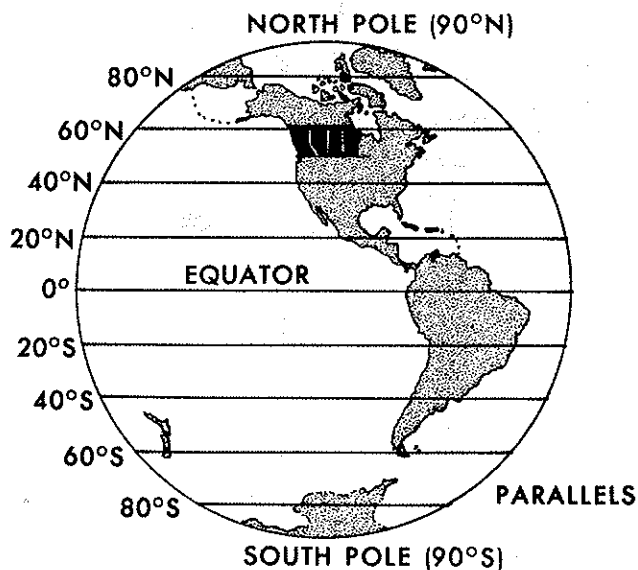


Figure 1 — Lines of latitude, or parallels.

available in many different publications but which, to our knowledge, has not been presented in a single discussion. In attempting to cover the fundamentals of the system as a whole, we have of necessity been forced to omit certain details, and we have focussed on the Saskatchewan grid for a number of our introductory illustrations and explanations. For persons who may wish to study this topic in greater depth, we have provided a reading list on page 25.

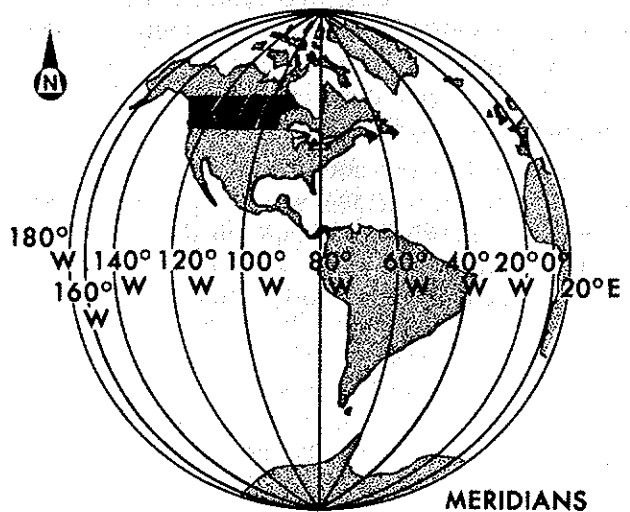


Figure 2 — Lines of longitude, or meridians.

## INTRODUCING THE SURVEY SYSTEM

### Some Necessary Fundamentals

As most readers will know, maps use a system of latitude and longitude lines to specify location. Lines of latitude, or **parallels**, are evenly spaced circles running parallel to the equator. Parallels are identified as being a certain number of degrees north or south of the equator (Figure 1). Lines of longitude, or **meridians**, are drawn so that they converge at the north and south poles of the globe (Figure 2). The meridian lines are also indicated in degrees, with the line that passes through Greenwich near London, England, labelled 0°. Meridian lines to the east of this line are labelled in degrees east longitude up to 180°; meridian lines to the west of the 0° line are labelled in degrees west longitude, also up to 180°. The 180° line, passing through the Fiji islands in the Pacific, is the international date line.

## The Beginnings

Early in the homestead period of western Canada, the Dominion Government decided to develop a grid system for land description in the West. It was thought that such a system would be more satisfactory than the county, township and concession system of eastern Canada, and more orderly and flexible than the farm name and field position descriptions of north-western Europe. The basic grid is formed by the intersection of **township lines** running east and west and **range lines** running north and south, and an attempt is made to space the lines so as to form squares of approximately equal area — a goal that in practice proved difficult to achieve, as we shall explain later.

The grid system required that a meridian be chosen, and this meridian was established in 1869 at  $97^{\circ} 27' 28.4''$  west longitude (Figure 3). The events surrounding the choice of this particular meridian constitute a colorful chapter of western

history. Suffice to say here that it was chosen because it marked the western limit of settlement up to that date. Called the **prime, first, or Winnipeg meridian**, it passes just west of Winnipeg.

Having established their first meridian, the early surveyors proceeded to mark off their grid to the west and east of the meridian. In this section we will limit ourselves to describing the development of the grid that extends west of the first meridian. In laying out this grid, the surveyors began at the first meridian about 61 miles north of  $49^{\circ}$  north latitude (the 49th parallel) — see page 17. As the grid extended westward, the surveyors established new meridians at  $102^{\circ}$ ,  $106^{\circ}$ , and  $110^{\circ}$ ,  $114^{\circ}$ ,  $118^{\circ}$  and  $122^{\circ}$  west longitude — respectively the **second, third, fourth, fifth, sixth, and seventh** meridians (Figure 3). There is also an **eighth** meridian in the system, the so-called coast meridian, at  $122^{\circ} 45' 39.6''$ , about 35 miles west of the seventh meridian, as measured along the 49th parallel. The coast meridian, not shown in Figure 3, is discussed on page 24.

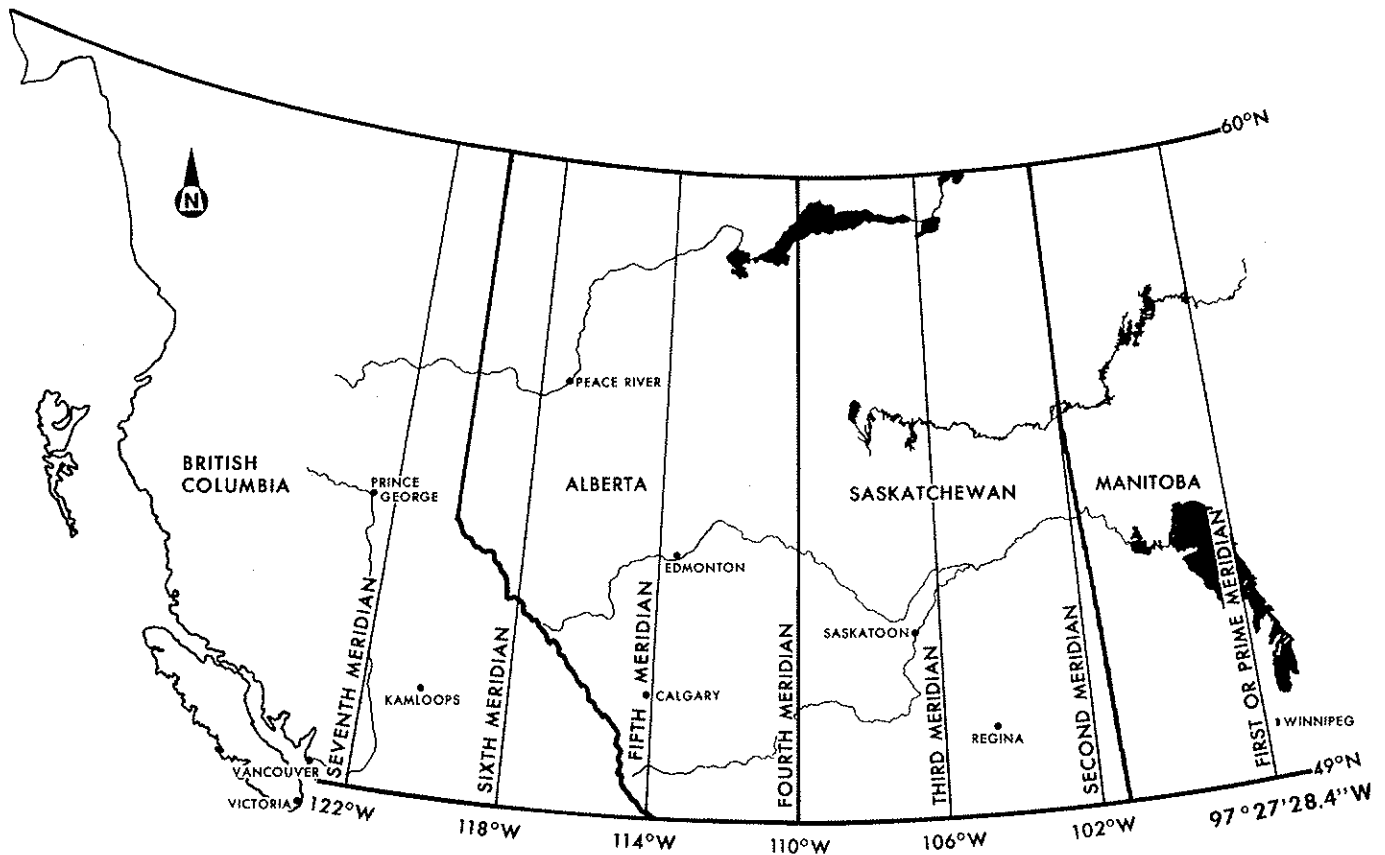


Figure 3 — In laying out the grid system, the Dominion surveyors established 7 key meridians as reference lines.

## The Basic Grid

The grid consists of townships running east and west, and ranges running north and south (Figure 4). The term **township** in this context refers to the strip of land between consecutive township lines, which are placed approximately 6 miles apart. Townships are numbered 1, 2, 3, and so on to the north. Hence **township 1** refers to the 6-mile-wide strip of land that runs east and west and "sits" on the 49th parallel; **township 2** is the 6-mile-wide strip of land immediately north of township 1; and so on.

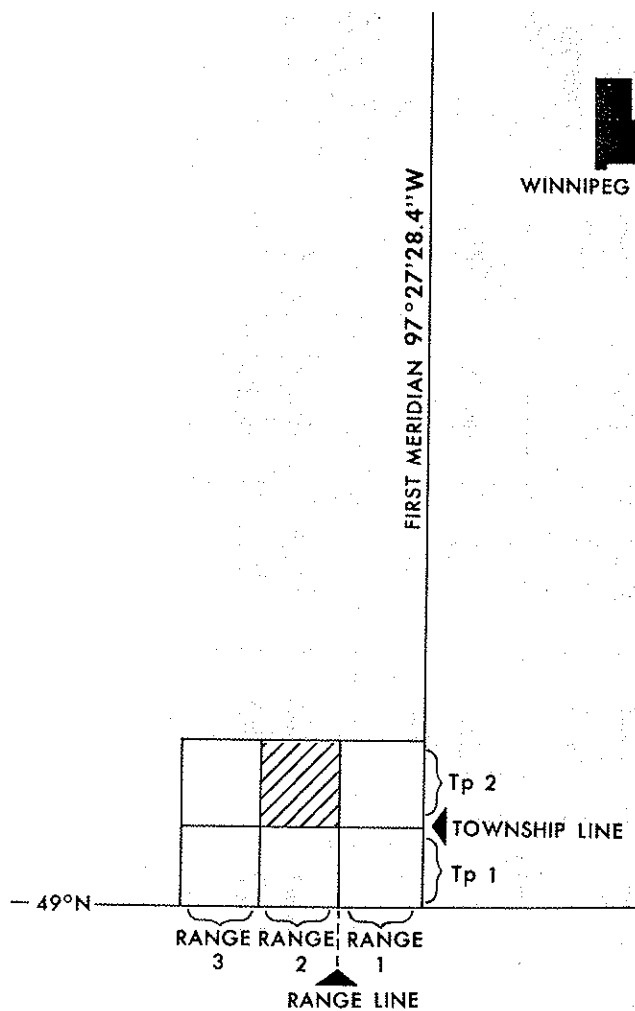


Figure 4 — A small portion of the basic grid west of the first meridian.

Similarly, **range** refers to the north-south running strip of land between consecutive range lines, which were also placed about 6 miles apart. The system for numbering ranges works this way. The

range immediately to the west of any meridian is range 1; the range to the west of range 1 is range 2, the range to the west of it range 3, and so on to the west until you reach the next meridian; to the west of it, of course, the range numbers begin again at 1. The first range to the east of the first meridian is range 1, the range to the east of it range 2, and so on. We suggest you now skip ahead to look at the grid maps of the provinces (Figures 15, 24, 26, 29 and 30), which show the numbering of the ranges in relation to the meridians. You may wish to begin in Manitoba at range 1, west of the first meridian (Figure 24) and follow the range numbers west along the 49th parallel.

The range and township lines present a grid of land packages, most of which are almost square and more or less 6 miles on a side. At this point some confusion is likely to arise, because each of these parcels of land is also called a **township**! To simplify matters somewhat, we will use the term **township**, written out in full, to refer to the parcel of land more or less 36 square miles in area formed by the intersection of range and township lines. To refer to the long strip of land between consecutive township lines we will use the abbreviation **tp** followed by a number to indicate its location, as explained above.

## Identifying the Township

Say that we wish to identify a particular township within the total grid. The shaded township in Figure 4, for example, would be identified as tp 2 range 2, west of the first meridian. More commonly, this description would appear in shortened form as 2-2-W1. The grid system also allows us to identify smaller areas than a township, as we shall explain in the following two sections.

## Getting Smaller and Smaller — Dividing the Township

With the information we have provided thus far, you should be able to locate, on the basis of its legal description, the position of any particular township in the Dominion survey grid; and, conversely, to provide a legal description of any specified township in the grid. But there is more to come. It is possible to identify areas significantly smaller than a township within this same grid system.

This section and the next will make a lot more sense if you refer as often as necessary to Figure 5 while you read. To illustrate areas within a typical township we have taken as an example a township

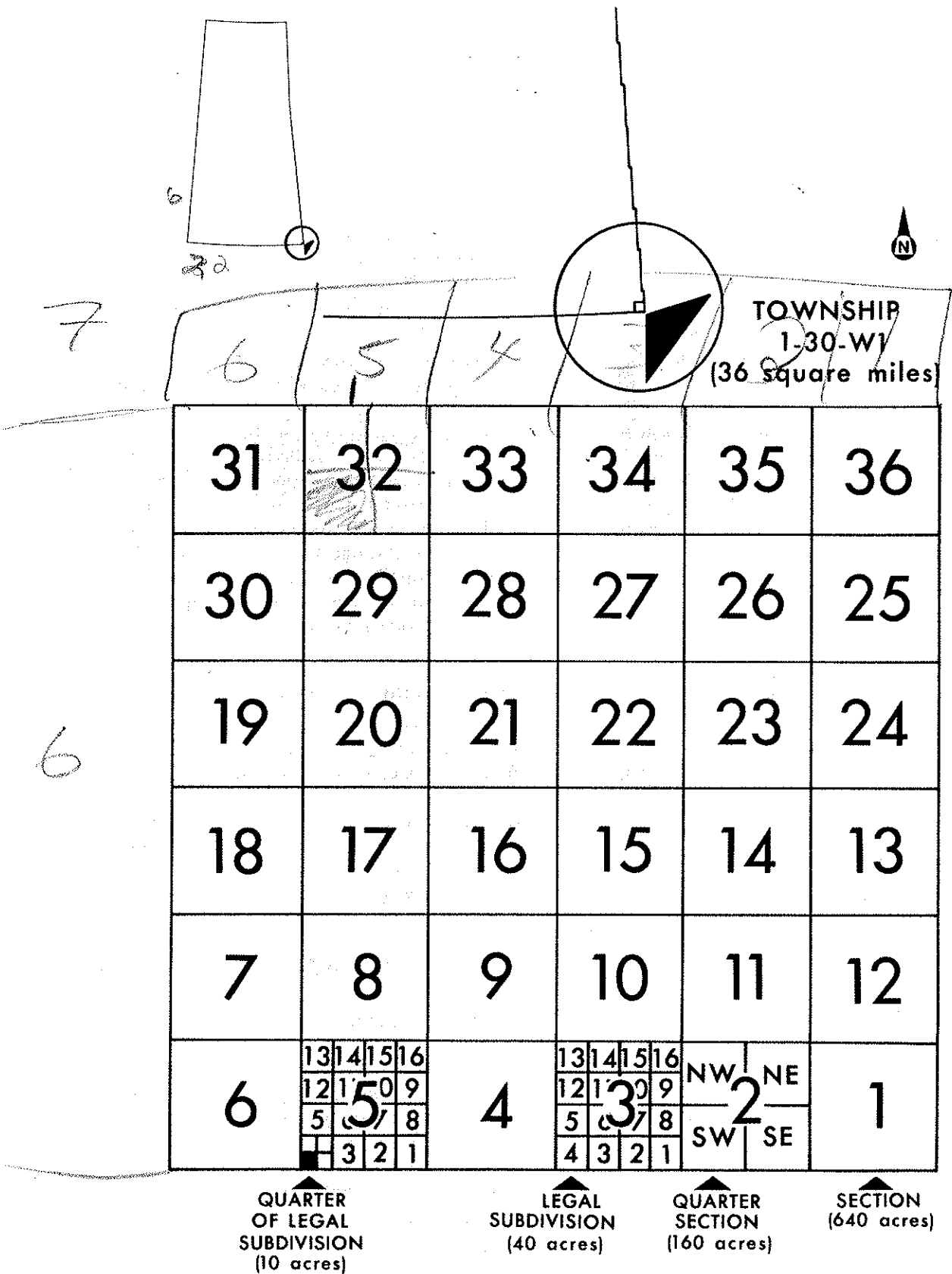


Figure 5 — The anatomy of a township (road allowances not shown).

located in the south-east corner of Saskatchewan —1-30-W1 — shown circled in the small-scale maps of Saskatchewan, Figure 5.

A township is divided into **sections**, each more or less 1 mile square and containing about 640 acres. Typically there are 36 sections to a township and these are numbered as shown, beginning with the section in the south-east corner of the township (some townships contain fewer than 36 sections—a matter which we shall take up later).

The sections are normally further divided into **quarter sections**. There are of course 4 to a section (the occurrence of partial sections will also be left till later to discuss). Each quarter section is about 160 acres and is described by its compass direction, e.g., south-west quarter. In the figure, section 2 is shown divided into quarter sections.

The sections may also be broken down into **legal subdivisions** of 40 acres each — a scheme that is normally employed near urban centres and is often used in describing the mining sites of mineral and oil deposits. There are 16 legal subdivisions in a section, numbered as shown in sections 3 and 5 in the figure.

Infrequently, legal subdivisions are further divided into **quarters**, described by compass direction. In the figure, the fourth legal subdivision in section 5 has been divided into quarters. Each of these small areas, the smallest that can be described in the grid system, is a quarter of a legal subdivision, and is 10 acres in area.

### Identifying Areas Smaller Than the Township

As we have seen, any particular township in the grid can be described by providing 3 items of information in this order: tp number, range number, and meridian. It is also possible to describe any of the smaller parcels of land into which the township can be divided. Say for example that we wish to identify the 10-acre parcel of land that is shown in black in Figure 5. We can describe it as follows: the south-west quarter of legal subdivision 4 of section 5 in tp 1 range 30, west of the first meridian. Normally this would appear in shortened form as: SW of L.S.D. 4-5-1-30-W1. If we wished to describe the whole of the legal subdivision rather than its south-west quarter, we would write: L.S.D. 4-5-1-30-W1. We can also describe the section in which the legal subdivision is located: 5-1-30-W1. And a particular quarter of this section, say the north-west: NW5-1-30-W1.

### A Complication Is Introduced — Correction Lines

As stated earlier, the meridians are converging lines that meet at the poles. Like the meridians, the range lines also converge as they run north from the 49th parallel. As a result, the top or northern border of any township must measure slightly less in distance than its base or southern border. For example, in the Saskatoon area, the townships are 123.5 feet less in length along the northern boundary than along the southern boundary. Taking any particular township, the township immediately to its north will therefore be slightly smaller in area. Since townships continue to decrease in area as you go farther north, if no attempt is made to correct for the difference, the northern townships will be significantly smaller in area than the southern ones (Figure 6a).

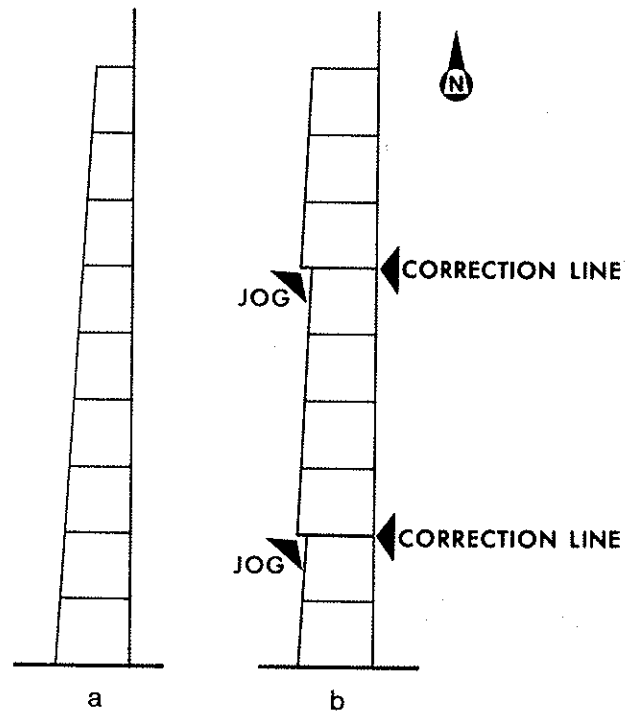


Figure 6 — A schematic illustration (not to scale) of: a) the effect of convergence on a vertical "row" of townships. b) compensating for convergence.

This, of course, was a situation that the surveyors wanted to avoid, since the whole intent of the grid system was to create parcels of land of approximately the same size. To reduce distortion caused by the converging range lines, the surveyors used the following method. The second township line north

of the 49th parallel and every fourth township line thereafter were established as **correction lines**. At each correction line, the range line is displaced a certain distance. This **jog**, as it is called, in effect increases the area of the townships north of each correction line, thereby compensating somewhat for convergence (Figure 6b).

The jogs in the range lines west of any meridian are accumulative. That is, if you follow a correction line west from any meridian, you will find that the jogs you first encounter are very small. The jogs increase as you move west from range line to range line.

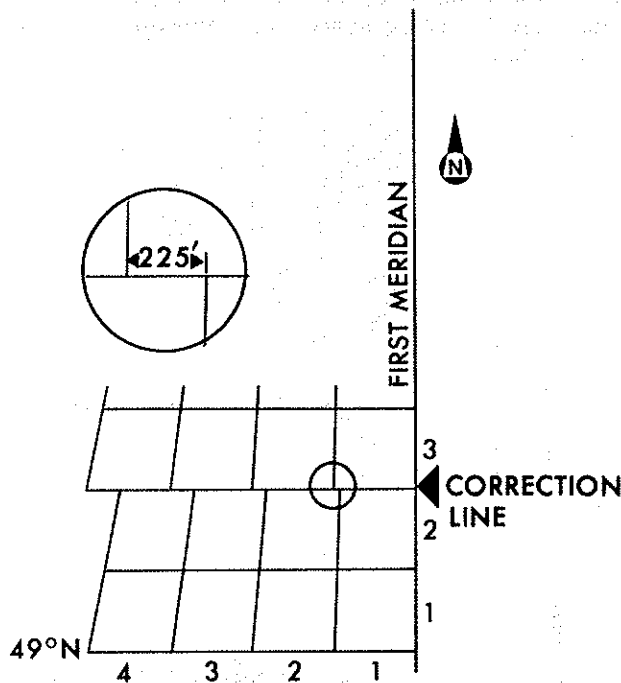


Figure 7 — Jogs increase as you move west from a meridian along a correction line.

Figure 7 shows some townships to the west of the first meridian along the first correction line. The scale of the figure has been greatly exaggerated so that you can see the jogs in the range lines. The jog in the range line immediately to the west of the first meridian at the first correction line actually amounts to about 225 feet — a feature that is only apparent on very detailed maps.

As noted above, the jogs increase as you travel west from the first (or any) meridian along a correction line. The jogs continue to increase until

you reach the second meridian. To the west of the second meridian, the jogs begin again at some very small value and increase as you proceed west along the correction line towards the third meridian. The same pattern is repeated for the remaining meridians to the west. This is shown in Figures 15, 24, and 26.

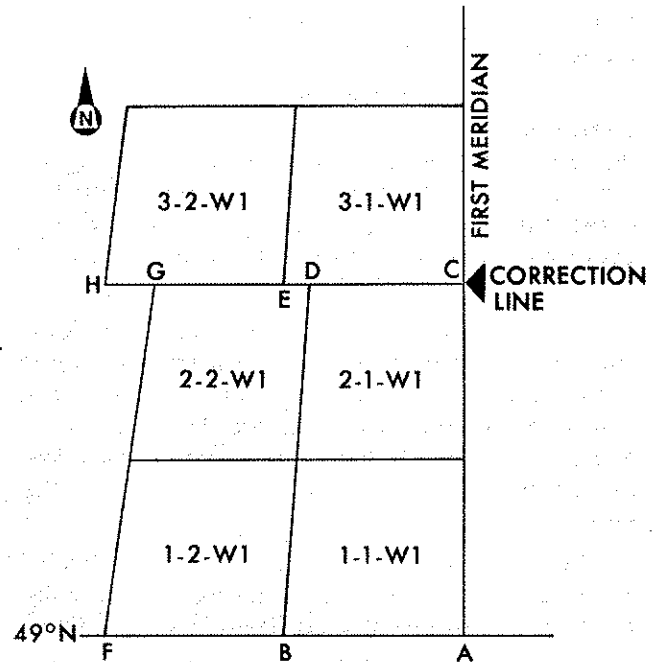


Figure 8 — The geometry of jogs.

In theory, the jogs should increase by *equal* increments as you travel west from any meridian along a correction line. The principle is illustrated in Figure 8. Assume that the base of 1-1-W1 (AB) is 6 miles; then the northern boundary of 2-1-W1 (CD) will be less than 6 miles, due to convergence. It can be calculated, taking convergence alone into account, that CD will be only 225 feet short of 6 miles. Thus, any line running true north *from this particular latitude* — 49°N — will converge by 225 feet in 12 miles. If CD is extended by 225 feet to point E, then the base of 3-1-W1 will be the desired 6 miles. This creates the jog DE of 225 feet.

Similarly, if the base of 1-2-W1 (BF) is 6 miles, then the northern boundary of 2-2-W1 (DG) will be 225 feet short of 6 miles — again because of convergence. What is even more important to grasp here is that the distance EG will be 450 feet short of 6 miles. Remember that DG is 225 feet short of 6 miles.

miles, and the distance DE (the jog) is 225 feet; therefore EG must be  $225 + 225 = 450$  feet short of 6 miles. If EG is extended 450 feet to point H, the base of 3-2-W1 (EH) will be the desired 6 miles in length. This gives us the jog GH, 450 feet long.

At each successive range line to the west along the correction line, the jog should increase by 225 feet — in theory.

In practice, however, the surveyors often made small errors in measuring township and section boundaries. For example, due to errors of measurement, the northern boundary of 2-2-W1 (DG) might have turned out to be 235 feet short of 6 miles. In that case, the surveyors would have made the jog GH  $225 + 235 = 460$  feet.

To summarize, then: If the early surveyors had corrected for convergence alone, the jogs would indeed have increased by fixed increments according to the principle illustrated in Figure 8. But, because the surveyors also corrected for measurement errors, the jogs do not increase by fixed increments the farther west you go along a correction line. The actual length of a particular jog cannot be determined on the basis of mathematics alone — you have to use a sufficiently detailed map, consult a registered land surveyor, or go out yourself and measure the jog.

The jogs in the range lines create an interesting feature in the survey system which is worth noting. The feature is evident for the range line immediately to the east of a meridian (with the exception of the first meridian). As each of these range lines pursues its northward course, it is displaced a distance to the west at each correction line. At a certain northward point, in crossing a correction line, the range line is displaced (jogs) so far to the west that it "disappears" — that is, it converges with the meridian. For example, as shown in Figure 9, the range line between ranges 29 and 30 west of the second meridian converges with the third meridian at the fourth correction line.

Before we leave the subject of jogs, we draw your attention to the fact that the range lines to the east of the first meridian jog to the east — in contrast to the range lines west of the first meridian, which all jog to the west. The jogs in the first range lines to the east of the first meridian are very small, the jogs becoming more pronounced the farther east you go along a correction line. (Refer to Figure 24.)

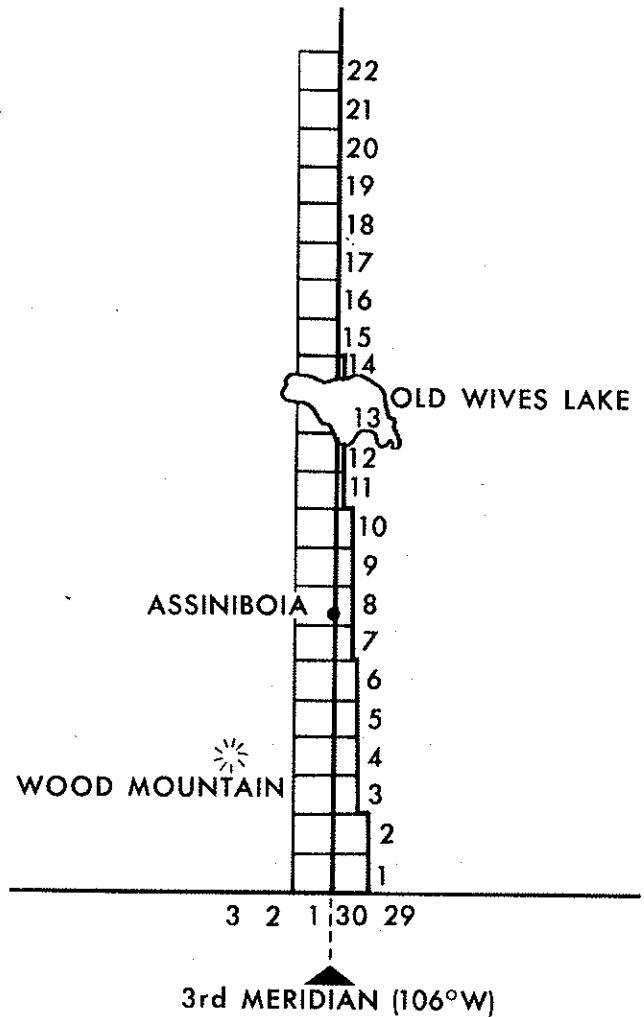


Figure 9 — The "disappearance" of a range line.

### Monuments

Monuments are the markers placed during the original surveys. Usually 4 square pits 12-inches deep were dug; at a point midway between the 4 pits the marker, a stake or post, was planted, often in a small mound of earth. No pits were dug on rocky ground.

Markings on survey stakes or posts were always in Roman numerals, which could be easily cut in wood with a knife or hatchet, or marked on metal pegs with a chisel.

Sometimes it was not practical to place a marker on the required site. Some sites, for example, lay at the bottom of lakes or in dense bush where markers would not be visible. In such cases, the surveyors would place the marker as close to the correct site as possible. These "displaced" monuments consisted of a circular trench, mounded or not, with a stake in

the centre. A sign on the stake indicated the correct location of the marker site as determined by the surveyors.

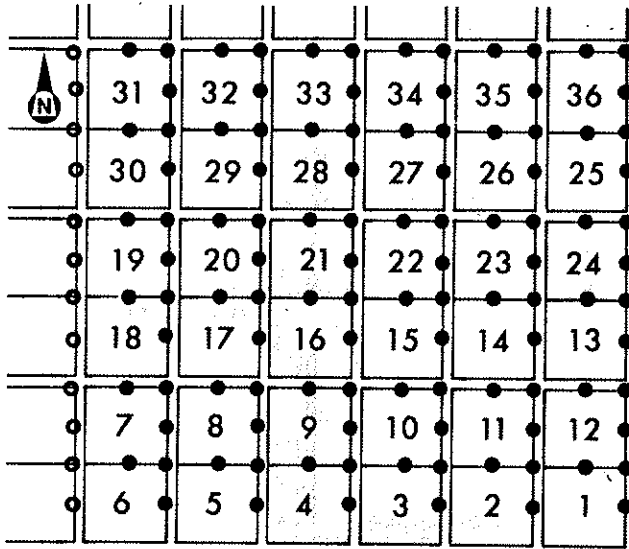
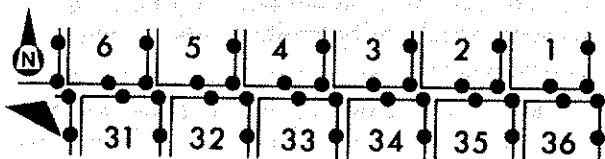


Figure 10 — Dots indicate locations of monuments in a typical township of the third survey. Colored dots indicate monuments placed in areas surveyed after 1915.

The location of the monuments in a typical township of the third survey is shown in Figure 10. The third survey, as we shall explain later, covered parts of Saskatchewan, Manitoba, Alberta, and British Columbia. The monuments were placed a) along the west limit of the road allowances on the north-south lines; b) along the south limit of road allowances on the east-west lines; and c) along the line between sections where there were no road allowances. They were placed so that they indicated the positions of the corners of adjoining townships, sections, and quarter sections.

There was one exception to the rule that monuments were placed only along the south limit of road allowances on the east-west lines. Where a road allowance between adjoining townships ran along a correction line, the markers were placed on both sides of the road, as indicated in Figure 11. This was



CORRECTION LINE

Figure 11 — When a road allowance between adjoining townships runs along a correction line, monuments are placed on both sides of the road.

done of course so that the markers would clearly indicate the displacement to the east or west along the correction line.

Most of the original monuments have been removed, though it was — and still is — illegal to do so. Any resurvey is now marked with a bright orange colored metal post, with an aluminum tab at the top.

### Partial Sections and Acreage Anomalies

We have seen how converging meridians make it difficult to lay out the townships so that they are all the same size. Even with correction lines there are bound to be differences in area from one township to the next caused by the convergence effect. Other factors play a part in producing discrepancies in township and section areas.

**Errors and Inconsistencies** — In hilly or rough terrain, chaining measurements were often inaccurate; survey instruments could also be in error. When errors were discovered, an attempt was often made to average out the mistakes so that sections would be approximately the same size; but such attempts were not always completely successful. Furthermore, in some townships, certain quarter

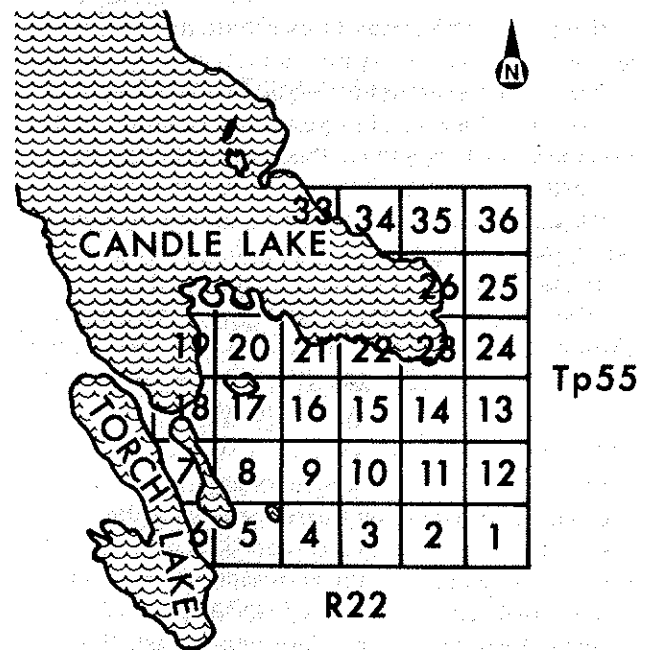


Figure 12 — Tp 55 range 22, west of the second meridian contains parts of Candle and Torch Lakes; the lakes create a number of partial sections in this township, and 3 sections are completely eliminated as dryland acreage.

sections had to be made smaller than others because of the method of survey used. (See page 14.)

**Geographical Features** — Townships that encroached on permanent bodies of water, either lakes or rivers, were short-changed in area. In Saskatchewan, tp 55 range 22, west of the second meridian, for example, contains parts of Candle Lake and Torch Lake (Figure 12). The lakes create a number of partial sections in this township, and 3 sections are completely eliminated as dryland acreage. Note that the numbering of the remaining sections is not affected.

**Federal Lands, River Lots, Hudson's Bay Posts and Settlement Lots** — There are a number of areas in the western provinces that are not part of the Dominion Land Survey system. Many of these areas were allocated and surveyed before the Dominion system was established. Their borders do not always coincide with the township grid, and they are generally not subdivided according to the township system.

Federal lands include Indian reserves, federal parks, and air weapons ranges. Indian reserves were established and marked on the basis of water shoreline, latitude and longitude. The Dominion surveys did not encroach on the reserves, so partial sections arose at the reserve boundaries — except, of course, where reserve boundaries happened to coincide with grid boundaries.

River lots were surveyed according to the old French plan consisting of long narrow tracts of land bordering on a navigable water course. River lots were established before the first Dominion surveys and were not resurveyed. Their outer boundaries intrude into sections.

Also established before the first Dominion land surveys were lands used or reserved for Hudson's Bay Company posts. Settlements on these lands were surveyed according to plans drawn up for the local sites.

In a number of areas, settlements — small towns and hamlets — were established within townships that had not yet been subdivided. Rather than subdividing the townships according to the Dominion system, the provincial surveyors chose a more practical option — that of marking out only the settled areas, using a settlement or group plan. For example, the St. Albert Settlement near Edmonton was subdivided in this way. Surveyors still occasionally mark out these settlement (or group) lots.

**Meridians** — As discussed earlier, certain range lines — those closest to each meridian (except the first) as you approach from the east — converge with the meridian. The townships along these range lines become successively smaller the farther north you go. (Refer to Figure 9.) The meridian slices the *western-most* sections into partial sections, and as you proceed farther north, whole sections are eliminated.

### Larger Administrative Units

For administrative purposes, townships on the Prairies are grouped together into larger administrative units. In Saskatchewan, for example, these units are called rural municipalities, most of which contain 9 townships; in sparsely populated areas of the province, the municipalities are significantly larger (Figure 13). Manitoba has rural municipalities, as well as sparsely populated regions called local government districts. In Alberta, the typical administrative unit is called a municipal district, and there are other regions designated as improvement districts and special areas.

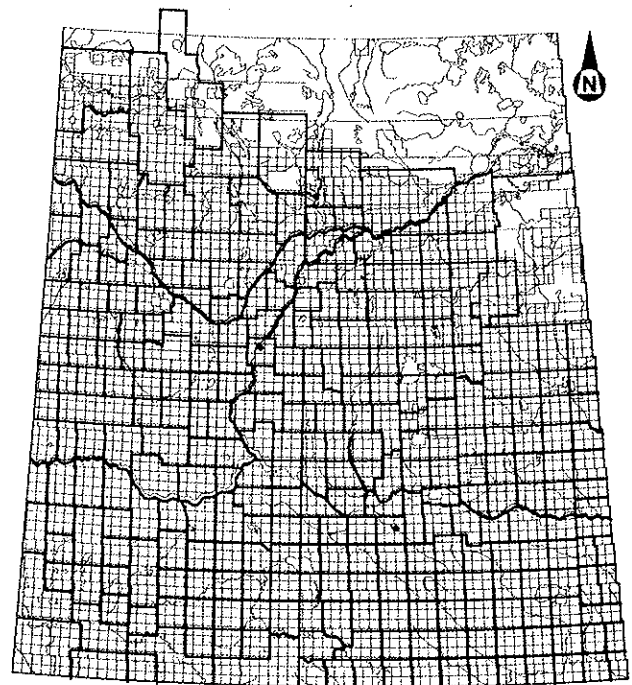


Figure 13 — Rural municipalities are shown outlined in black against Saskatchewan's grid.

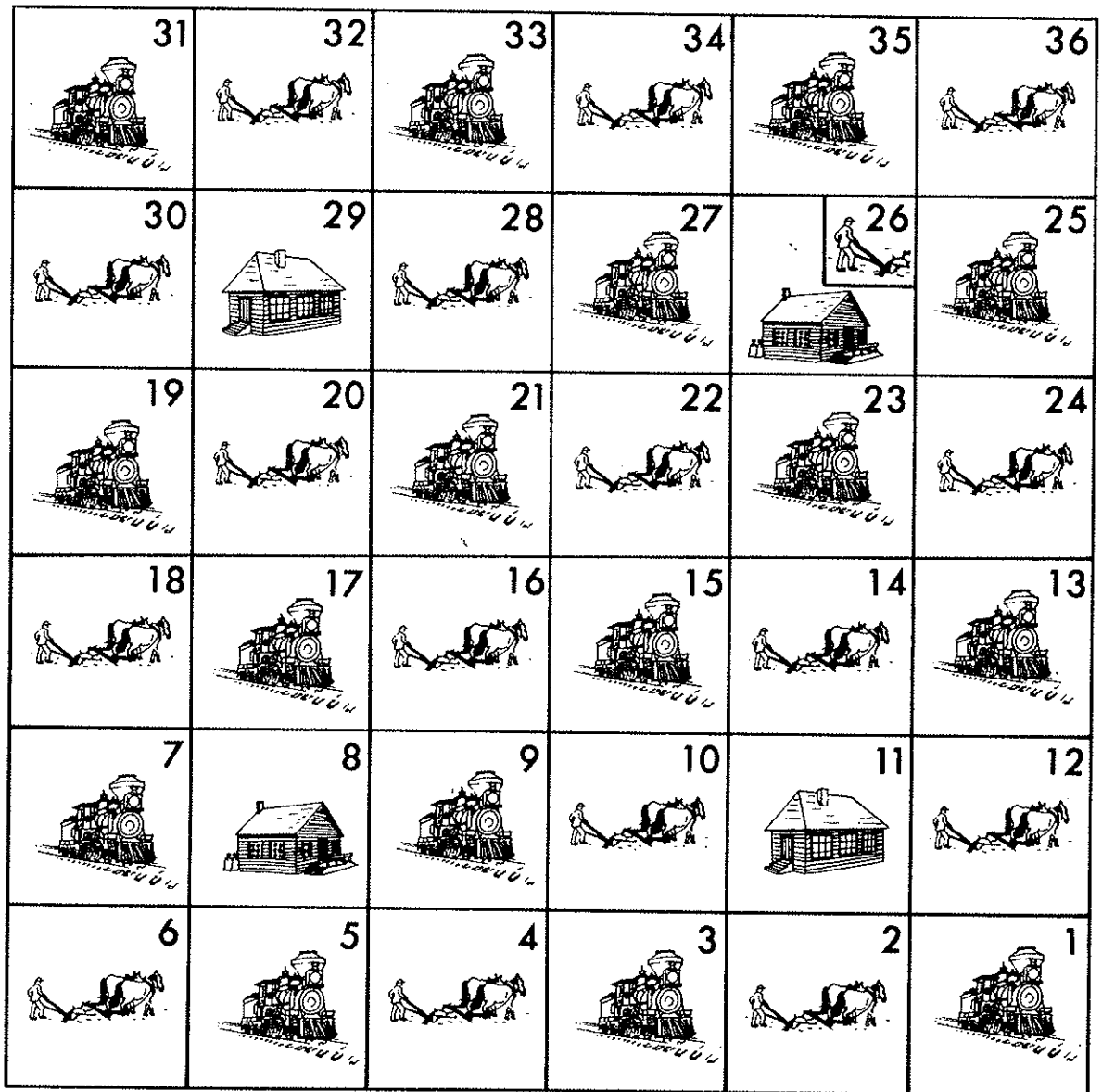


Figure 14 — In most townships, only 16 full sections of the 36 normally available were given over immediately to homesteaders. The remaining sections were set aside as land appropriations: sections 11 and 29 of every township were reserved as school lands. All other odd-numbered sections were reserved for selection as railway grants. The Hudson's Bay Company received section 8 and all of section 26 but the north-east quarter; in every fifth township, however, the Company got all of section 26.

### Land Appropriations

When the early surveys of the Prairie provinces were conducted, the Dominion government set aside designated tracts of land for purposes other than immediate homesteading. As we have seen, certain areas were designated as Indian reserves, and river lots were similarly protected. Other appropriations were also made (Figure 14).

Sections 11 and 29 of every township were reserved as school lands. It was intended that the money raised in selling these sections would be used to finance the building of a school. In some cases the land was given over to a farmer in the area, who in return committed himself to building the school. Often the school itself was built in

sections 11 or 29, but other sections were sometimes chosen for the school sites. The schools had to be located so that they were within reasonable walking distance. The generally accepted rule was that no child should have to walk more than 4 miles to school.

Each rural school was located within a school district. The taxes from the settlers in the district paid the teacher's salary, and upkeep and administration of the school. Eventually these school districts were consolidated into larger areas called school units.

**Railroad Lands** — On the Prairies, all odd-numbered sections except 11 and 29 were reserved for selection as railway grants. In effect, these lands were made available to railway companies in partial payment for building railroads. Not all of the reserved sections were actually taken over by the railway companies. Some of the sections remained with the Crown and were later opened to homesteading.

In many cases, however, railway companies did receive the reserved lands in partial payment for constructing railroads. The main beneficiary was the CPR. The general understanding was that the CPR was entitled to all odd-numbered sections (except 11 and 29) in townships along the main line for a 24-mile distance on each side of the line. The CPR, however, rejected reserved sections seen as "not fairly fit for settlement." The CPR often negotiated with the Dominion government to obtain the equivalent acreage in land along its *branch lines* considered to be more agriculturally productive than the reserved sections, and therefore more valuable. Other railways obtained similar concessions.

The CPR eventually received over 26 million acres in main and branch line land grants. Other railways received land grants totalling almost 6 million acres.

The pattern of railway land grants varies considerably from one area to another. In some regions, where the reserved lands were seen as unproductive, significantly fewer than half the sections in townships flanking railway lands were actually taken over by railways. In areas seen as fertile, the railway grants were considerable. In one especially promising region of southern Alberta, encompassing about 135 townships, almost all of the land went to the railways with lines in the area.

**Hudson's Bay Company Lands** — By the original 1670 Charter, the Company had title to all the

property in the watershed of Hudson Bay. When the Company relinquished title to the Dominion on July 15, 1870, through the Deed of Surrender, it was paid £300,000. It retained ownership of lands used or reserved for Hudson's Bay Company posts. In addition, it received section 8 and all of section 26 but the north-east quarter in every township. In every fifth township, however, the Company received all of 26. The Company retained about one-twentieth of their former land holdings.

The lands were gradually sold by the Company. By 1984 only about 5,100 acres of these lands, all in Saskatchewan, remained under Company ownership. In that year the Company donated all of these parcels to the Saskatchewan Wildlife Association for use as habitat reserves.

### The Surveys

There were 5 basic surveys followed by the Dominion over the years in western Canada. The surveys differed slightly in layout from one another. The third survey, which was implemented in 1881, is the most important. It covers far more land than all the other Dominion surveys taken together and is the method of survey still used today in Saskatchewan and Manitoba. The first survey, which was used from 1871 to 1879, covers part of southern Manitoba and also takes in a bordering strip of eastern Saskatchewan and 2 areas in central Saskatchewan. The second survey, 1880, is found in only some areas of Saskatchewan. And the fourth and fifth surveys are limited to some townships in British Columbia.

Modifications of some of these basic surveys have been introduced from time to time. The most important survey modification was implemented in 1963 and affected only Alberta. The province decided to modify the third survey by increasing the width of the road allowances in all townships surveyed after that date. More complex modifications took place in Saskatchewan and Manitoba, but these affected only a small number of townships.

The 5 surveys and the modifications are described in detail in the text to come, and summarized in the chart on page 26.



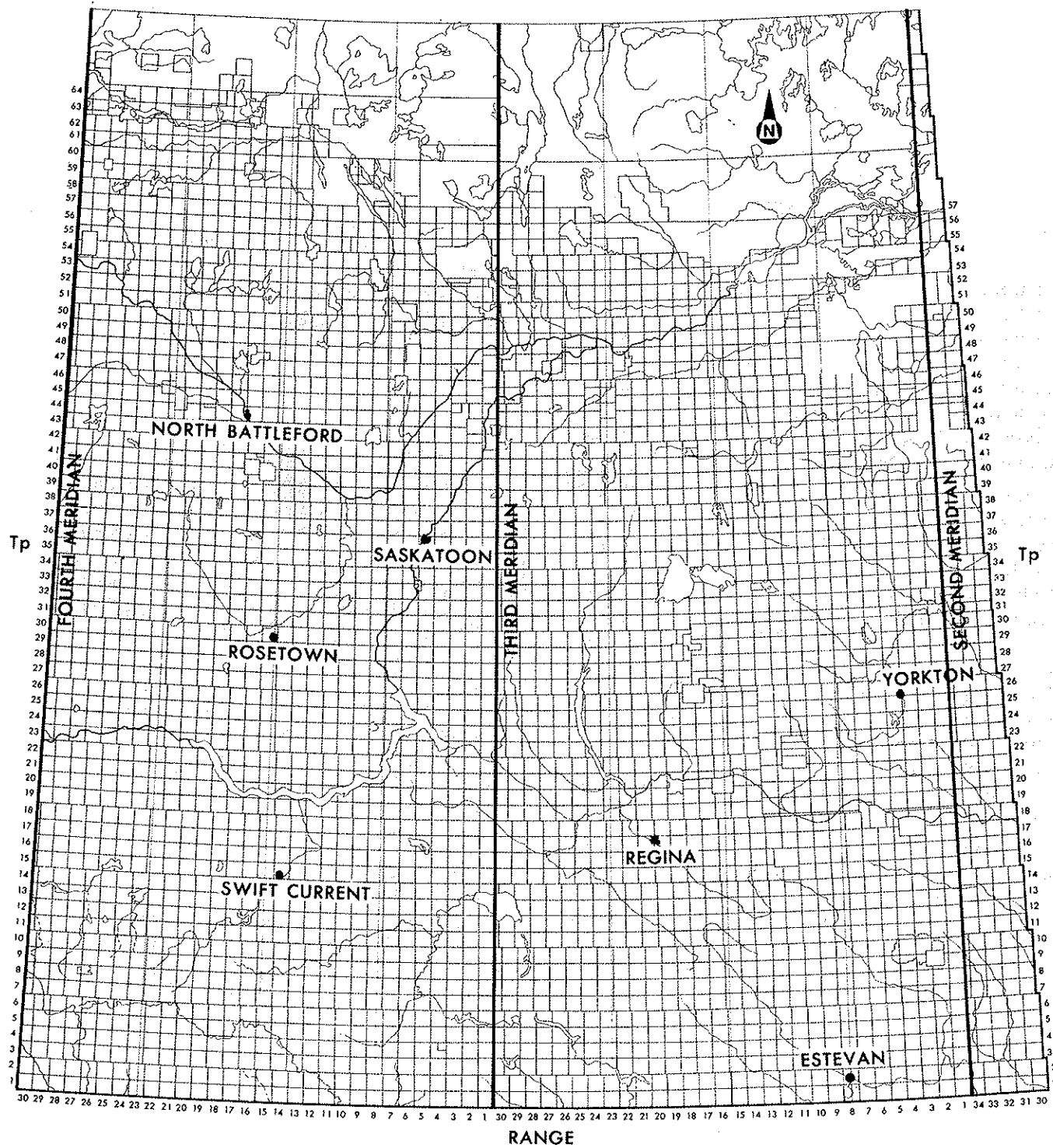
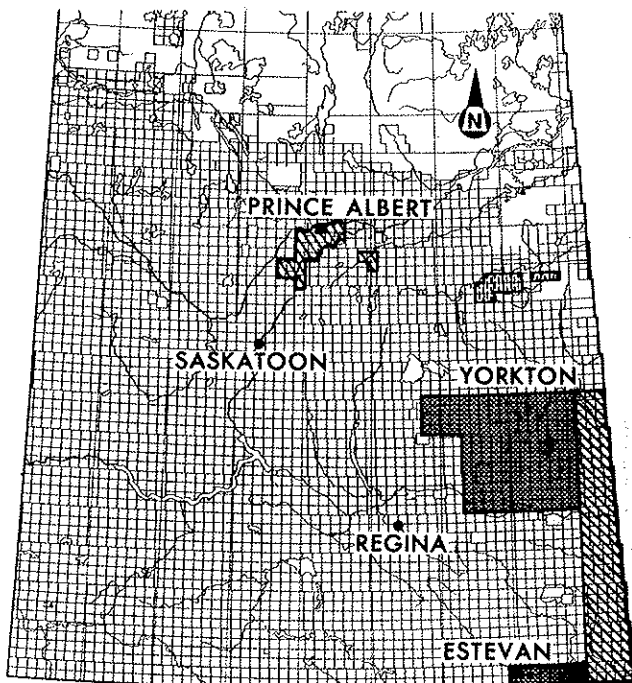


Figure 15 — The survey grid for Saskatchewan — the grid formed by the intersection of range and township lines.

# SASKATCHEWAN

## The Saskatchewan Grid

Most of the Saskatchewan grid is shown in Figure 15. The grid covers only the more settled parts of the province; its northern-most tp is number 72, near Canoe Lake (not shown). Like Manitoba and Alberta, Saskatchewan is defined in the north by 60° north latitude (not shown) and in the south by the 49th parallel. Saskatchewan's western boundary is 110° west longitude. Its eastern boundary is a little more difficult to describe, since it consists of the range line between ranges 29 and 30 (W1), which runs from the 49th parallel north until it converges with the meridian (102° west longitude) just south of the Churchill River. From this point the Saskatchewan boundary line follows the meridian northwards. The part of the boundary that follows the range line has a stepped appearance because of the jogs that occur at each point the range line crosses a correction line







-  FIRST SURVEY 1877-1879
-  SECOND SURVEY 1880
-  THIRD SURVEY 1881-PRESENT
-  MODIFIED THIRD SURVEY 1919-1920

Figure 16 — Saskatchewan's surveys.

in its course northward. The section of the boundary that follows the meridian is, of course, straight. (Refer to Figure 3.)

## The Saskatchewan Surveys

**The First Survey — 1877 to 1879.** As shown in Figure 16, this survey includes the long strip extending north along the east border of the province. The strip contains tps 1-30 ranges 30-34, west of the first meridian. The survey also covers some townships in central Saskatchewan: tp 44 range 21, tp 45 ranges 21-22 and 26-28, tp 46 ranges 25-28, tp 47 ranges 24-28, tp 48 ranges 24-26, and that part of tp 48 range 27 south of the North Saskatchewan River — all west of the second meridian; west of the third meridian the first survey covers tps 42-47 range 1 and tps 43-44 ranges 2-3.

In the first survey, road allowances are 99 feet or 1½ chains (1 chain = 66 feet) wide. Each township contains 6 road allowances running north and south and 6 running east and west, as shown in Figure 17. A township measures 489 chains along its base line and the same length along the eastern boundary (6 1½-chain road allowances, plus 6 sections, each 80 chains on a side).

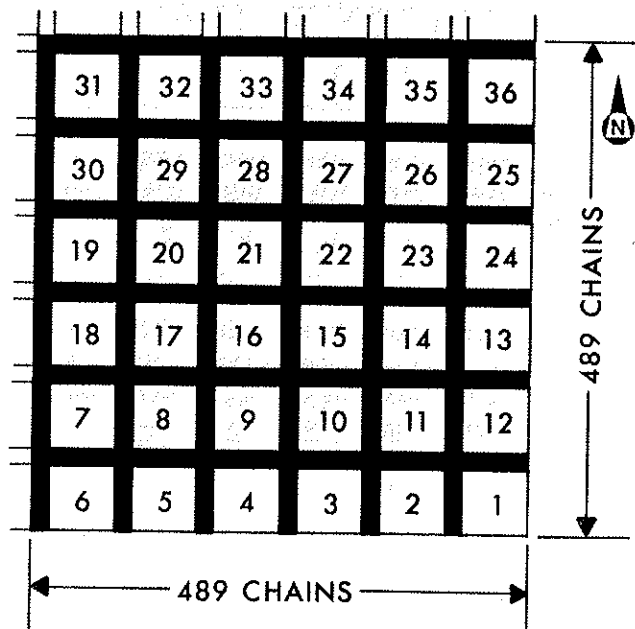


Figure 17 — Dimensions and general grid road layout for a typical township of the first and second surveys.