

Land Descriptions and Surveys

A basic knowledge of land description is essential in order to make use of land status records. Land is described by Meridian, Township and Range.

Meridian

All surveys in Alaska start from one of the five initial points shown. These points give their names to the meridian units:

the **Seward Meridian (S.M.)**; the **Fairbanks Meridian (F.M.)**; the **Copper River Meridian (C.R.M.)**; the **Kateel River Meridian (K.R.M.)**; and the **Umiat Meridian (U.M.)**.

The dash lines on the map extending east and west of the initial point of each meridian is the base line for that meridian while the line running north and south through the point is the prime meridian. The rectangular survey is related to the initial or starting point of each meridian (shown as a cross on the map) with the townships numbered north and south of the initial point, and the ranges east and west of the same point.



Township and Range

In land description, the word "township" is used both to describe a unit of land and as a location guide. The words township and range indicate the horizontal and vertical coordinates of a township unit.

Townships are north and south of the base line, ranges are east and west of the meridian line. Township 3 North, Range, 3 West, Fairbanks Meridian (usually written T.3N, R.3W., F.M.) will be the third township north of the initial point and in the third range west of the same point in the Fairbanks Meridian. In computer systems, this township is written as F003N003W.

The X on the township grid pictured here shows the location of the township described, and would be in the identical position in any of the meridians.

Because the method of location is the same for all meridians, the name of the meridian (i.e. Fairbanks Meridian) is essential to each land description to properly identify the land.

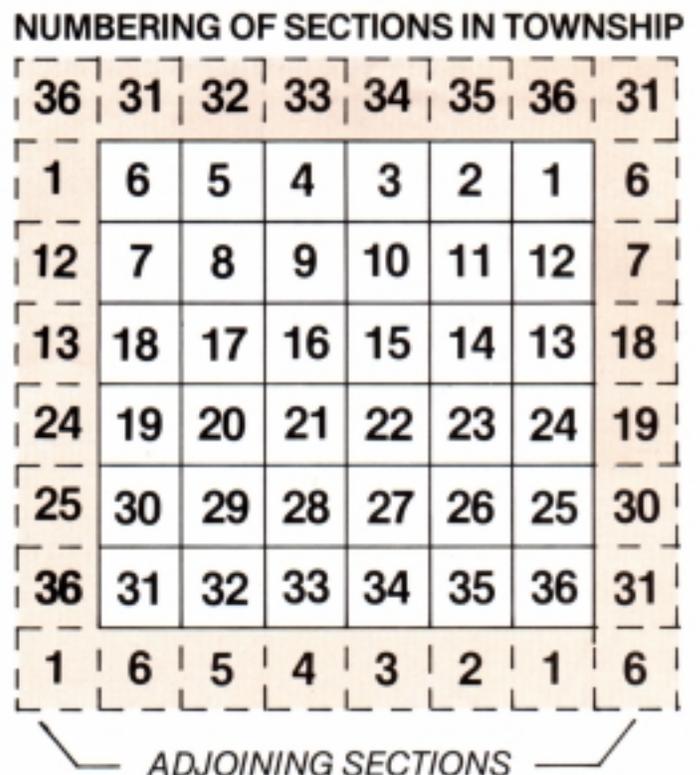
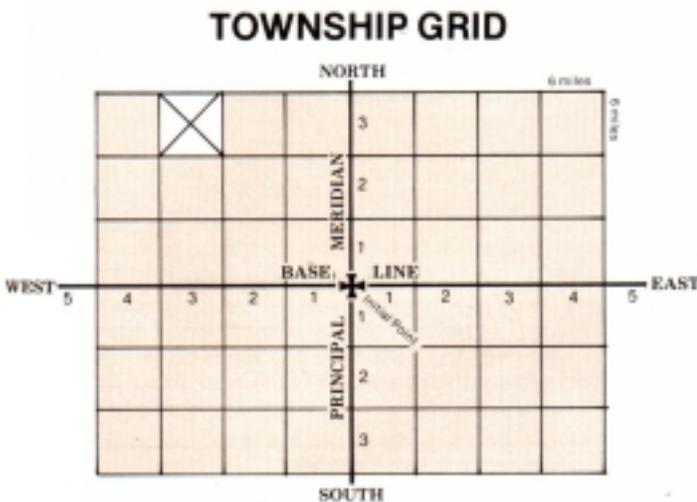
Sections

A township is a unit of land measure six miles by six miles containing 36 square miles. Each one of these 36 square miles is known as a section (usually 640 acres), with numbers from 1 to 36 to designate the location of each section in the township.

The sections are numbered 1-36 in a set pattern or sequence beginning at the northeast corner section and numbering to the left across the top or the north tier of sections; then dropping to the tier below with section 7 directly south of section 6; then numbering to the right, and continuing thus as shown by the township plat below.

Remembering the numbering pattern or sequence will enable a person to locate any section by number on a map showing the township grid even though the sections do not have the numbers on them.

The township plat on this page has the numbered sections of the adjoining townships shown in color.



Aliquot Parts of a Section

Aliquot parts of a section are the divisions and subdivisions of a section described in relation to the four points of the compass; north, south, east and west. Sections may be divided into halves of 320 acres with compass designations of N1/2, S1/2, E1/2 and W1/2. These halves may be divided into 160 acres described as N1/2 SE1/4 W1/2, etc.

Sections are more often divided into quarters of 160 acres each with each quarter section identified by its compass position or direction: NE1/4, SE1/4, NW1/2, SW1/4.

A quarter section may again be divided into 4 quarters or quarter-quarters of 40 acres each described as: NW1/4 SE 1/4; NW1/4 NW1/4; etc. The quarters may be divided into halves of 80 acres: S1/2NE 1/4, W1/2SW1/4, etc.

A quarter section divided into quarter-quarters of 40 acres, or "40's" as they are often called, may be further divided into areas of 10 acres, 5 acres, 2 1/2 acres or 1 1/4 acre by quartering and halving in different ways, always preserving the compass descriptions.

The illustration shows a few of the ways in which a quarter and a quarter-quarter or "40" may be divided.

Acres

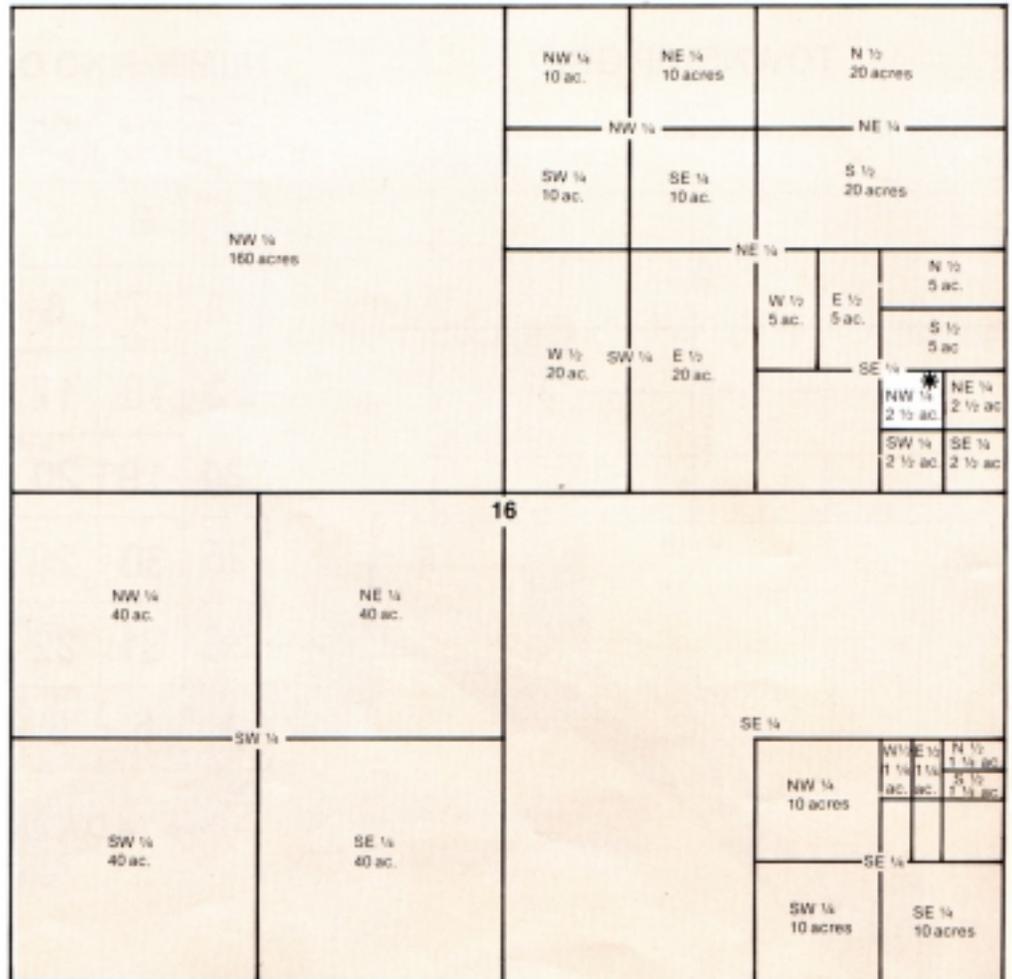
An acre is 43,560 square feet in any configuration. An aliquot part 5 acre parcel is normally 33'x 660', but any shape that yields 217,000 square feet is also 5 acres.

Reading and writing legal descriptions of the Aliquot Parts of a Section

Land description all of parts must be read backward, from right to left, in order to determine the correct location. To locate land described as NW1/4 SE1/4 SE1/4 NE1/4, section 16, start on the far right of the aliquot parts and work backwards to the left:

1. Locate section 16, then the NE 1/4 - 160 acres;
2. Next the SE 1/4 of the NE 1/4 - 40 acres;
3. Then the SE 1/4 of the SE 1/4 of the NE 1/4 - 10 acres; and
4. Last, the NW 1/4 of the SE 1/4 of the SE 1/4 of the NE 1/4 - 2 1/2 acres. (see*)

SECTION 16, TOWNSHIP 15 NORTH, RANGE 4 WEST, SEWARD MERIDIAN



Lots in a Land Description

The word "lot" is used to describe irregular sizes and shapes of land areas which cannot be accurately described by means of aliquot arts, or in legal subdivisions where the parcels are odd shapes and sizes. Lots may be found on the shorelines of lakes, rivers, and other bodies of water or the irregular boundaries of special or mining surveys, as well as city, recreational and industrial subdivisions.

If a township is larger or smaller than the standard 23,040 acres, then lots, which are larger or smaller than the standard 40 acres will be placed along the north or west sides of the townships so that the other sections may be described in aliquot parts.

Range Line Offsets

Range lines are offset to compensate or correct the range lines to conform to the curvature of the earth. The principal meridians come closer together as they extend toward the North and South poles because of the curvature of the earth; therefore, adjustment or correction lines are made every 24 miles, or four townships.

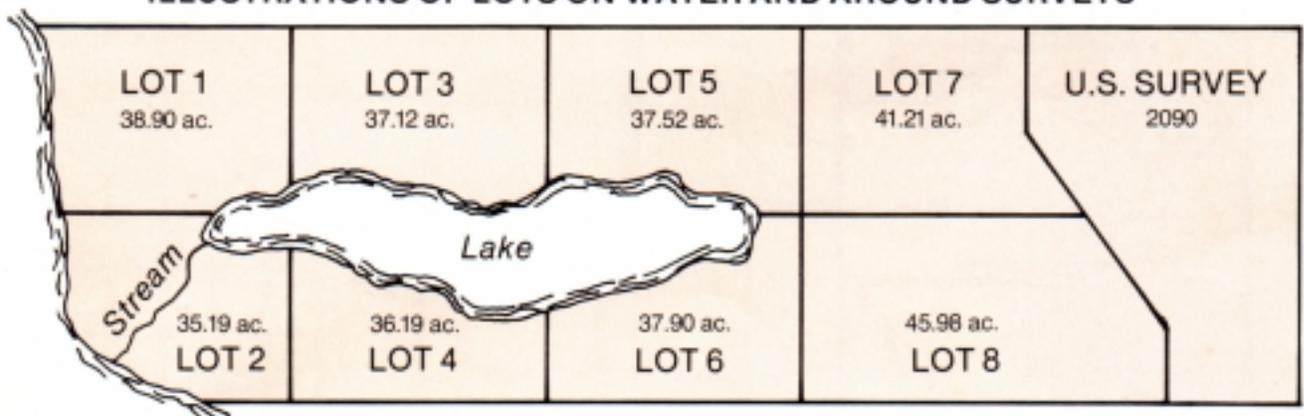
Protracted Surveys

Township and range lines are protracted or drawn on maps even though the boundaries may not have been surveyed and monumented on the ground. Section lines may be protracted as well as the township and range lines. These protracted lines are established from computations using latitude and longitude. The protracted surveys provide means for recording land actions and information, simplify mineral leasing, and aid in setting up management plans for areas not covered by the Bureau of Land Management cadastral surveys.

It is impossible to accurately locate and pinpoint land without the aliquot parts description, the section number, the township and range numbers and the meridian. Sometimes the number of a U.S. special or Mineral Survey, a subdivision name with block and lot number may be necessary in place of, or in addition to the above information.

The U. S. Geological Survey topographic map, scale one inch to a mile, are excellent for use in determining the approximate legal location of land. These topographic maps show surveys or protracted surveys of townships, physical features of the land, cities, roads, airports, and other man-made structures.

ILLUSTRATIONS OF LOTS ON WATER AND AROUND SURVEYS



ILLUSTRATIONS OF SUBDIVISION LOTS

