

State-Land and Public-Domain Survey Systems

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When the thirteen colonies achieved their independence it generated many questions as to who would have jurisdiction over the land and how it would be distributed. Did the land belong to the Indians, to the respective states, or to the central government? The argument was settled with the passing of the Land Ordinance of 1785 which provided for a rectangular system of survey. It drew from New England the idea of prior survey and orderly contiguous development and from the southern states it incorporated allocation directly to the individual. In terms of land distribution, the states fall into two classes: 1) State-land states where the state made the land grants and 2) Public-domain states where the federal government made the land grants.

Land in the **state-land states**, the original thirteen colonies, plus Maine, Vermont, Tennessee, Kentucky, Texas, West Virginia, and parts of Ohio, were surveyed with the *Metes and Bounds* surveying system. "Metes and bounds" refers to specific distance measurements (metes) and a general boundary description (bounds). This system uses natural land features, such as trees and streams, as well as neighboring land owners, along with distances to describe plots of land. An example of a metes and bound description might go something like this:

"Beginning at the black oak on the east bank of walnut creek, thence north 65 poles to the large standing rock, north 30 east 70 poles to the large oak tree, thence south 30 poles across the creek, thence east 40 poles to beginning."

In the older indiscriminate metes and bounds, distance is measured in 16 ½ foot lengths which are interchangeably known as poles, rods, or

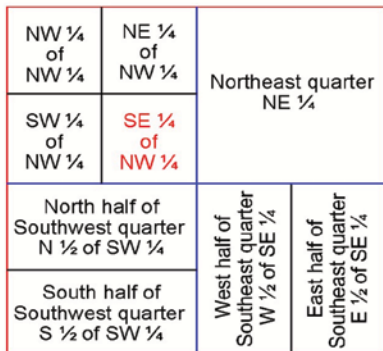


perches.

The directions are measured in degrees as compass bearings, beginning with the first direction listed and moving toward the second direction. Thus "north 30 east" means 30 degrees east of north.

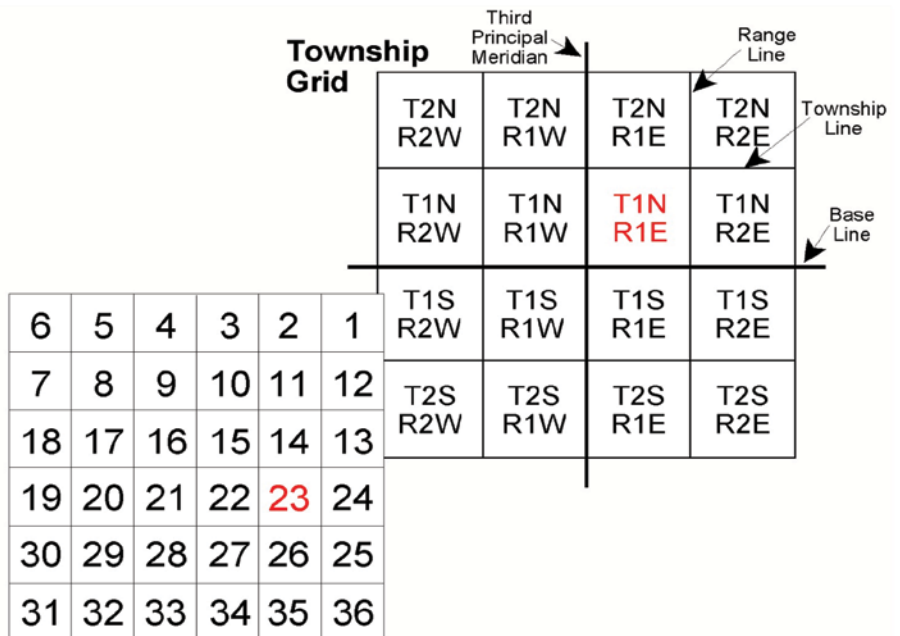
Land in the **public-domain states**, as provided for in the Land Ordinance of 1785, was based on the Federal Township and Range System as illustrated and described below.

A baseline was run, east and west, and intersecting it at right angles every six miles are meridian lines (running north and south). The baseline and meridian meet in Arizona where the Gila and Salt Rivers meet. Baseline Road in Phoenix is named after our state's baseline. The area between the two meridians is known as the "range." From the intersection of these large meridians and baselines additional lines



Section (23) = 1 sq. mile or 640 acres

The land description would read
SE¼ of NW¼, of S23, T1N, R1E



Township 1 North Range 1 East
township = 36 square miles or 36 sections

were set down to designate townships. Each township is six miles square, containing thirty-six one-mile square areas called sections. (Not all townships are exactly the same size due to the Earth's curvature.) Each section contains 640 acres. Each section within the township is numbered in a zig zag fashion to aid in the original surveying. The land within a section is referred to as half and quarter sections. A one-sixteenth division is called a quarter of a quarter, as in the NW 1/4 of the NW 1/4. The descriptions are read from the smallest division to the largest. So, the example plot above would read as the southeast quarter of the northwest quarter of section 23, township one north, range one east. If you aren't familiar with property descriptions take a look at your property tax statement. Where is your property located within your township?

Of the surveyed land, some of the land was held for the good of the nation at large. Section 16 in each township was set aside for schools, and sections 8, 11, 26 and 29 were reserved for future government purposes. However, these exact sections do not hold true for all western states, such as Arizona. In 1894 Arizona, Utah and New Mexico received four sections for education since the arid lands were thought to be less able to support schools. In Arizona Sections 1, 15, 32, and 36 were designated for schools. When school section lands were not available because they had been previously claimed the state was given the right to select equal acreage of Federal public domain land. The Bureau of Land Management is the custodian of the official land records of the United States.

Commonly Used Terms (from http://www.nationalatlas.gov/articles/boundaries/a_plss.html)

Base line—A parallel of latitude, or approximately a parallel of latitude, running through an arbitrary point chosen as the starting point for all sectionalized land within a given area.

Initial point—The starting point for a survey.

Land Grant—A land grant is an area of land to which title was conferred by a predecessor government and confirmed by the U.S Government after the territory in which it is situated was acquired by the United States. These lands were never part of the original public domain and were not subject to subdivision by the Public Land Survey System (PLSS).

Principal meridian—A meridian line running through an arbitrary point chosen as a starting point for all sectionalized land within a given area.

Public domain—Land owned by the Federal government for the benefit of the citizens. The original public domain included the lands that were turned over to the Federal Government by the Colonial States and the areas acquired later from the native Indians or foreign powers. Sometimes used interchangeably with Public lands.

Public lands—Lands in public ownership, therefore owned by the Federal government. Sometimes used interchangeably with Public domain.

Range—A vertical column of townships in the PLSS.

Section—A one-square-mile block of land, containing 640 acres, or approximately one thirty-sixth of a township. Due to the curvature of the Earth, sections may occasionally be slightly smaller than one square mile.

Township—An approximately 6-mile square area of land, containing 36 sections. Also, a horizontal row of townships in the PLSS.