Chapter 2
Real Property & the Law
Correspondence Course Information

Please read and become familiar with this information prior to the class date.

This part of the class will be taken correspondence. You will be required to take a test on this information and the test must be returned prior to taking the classroom portion of the course. The remainder of the class may be taken in the classroom or by correspondence.

If you have registered for the correspondence course, the test as well as the evaluation sheet must returned for grading and issuance of you graduation certificate. You may take the tests all at once or one chapter at a time. The test may be taken open book and the answer sheet must be sent back to:

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Or Fax to 866-659-8458

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Property law is the area of law that governs the various forms of ownership in real property (land as distinct from personal or movable possessions) and in personal property, within the common law legal system. In the civil law system, there is a division between movable and immovable property. Movable property roughly corresponds to personal property, while immovable property corresponds to real estate or real property, and the associated rights and obligations thereon.

The concept, idea or philosophy of property underlies all property law. In some jurisdictions, historically all property was owned by the monarch and it devolved through feudal land tenure or other feudal systems of loyalty and fealty.

Though the Napoleonic code was among the first government acts of modern times to introduce the notion of absolute ownership into statute, protection of personal property rights was present in more feudalist forms in the common law courts of medieval and early modern England.

One modern textbook on property law states:

When a layman is asked to define "property," he is likely to say that "property" is something tangible "owned" by a natural person (or persons), a corporation, or a unit of government. But such a response is inaccurate from a lawyer's viewpoint for at least two reasons: (1) it confuses "property" with the various subjects of "property," and (2) it fails to recognize that even the subjects of property may be intangible.

For a lawyer, "property" is not a "thing" at all, although "things" are the subject of property. Rather, as Jeremy Bentham asserted, property is a legally protected "expectation * * * of being able to draw such or such an advantage from the thing" in question [... . . ][1]

Black's Law Dictionary (5th ed. 1979) states that "in the strict legal sense, property is an aggregate of rights which are guaranteed and protected by the government" and that the term property "includes not only ownership and possession but also the right of use and enjoyment for lawful purposes."

By contrast, Barron's Law Dictionary (2d ed. 1984) defines property as "one's exclusive right to possess, use, and dispose of a thing" [ . . . ] "as well as the object, benefit, or prerogative which constitutes the subject matter of that right."

Property law can be divided into personal and real property. Real property concerns itself with rights relating to land. Personal property concerns itself with rights relating to chattels. Declared ownership in and of itself is insufficient to constitute property in a legal sense. Rather, the notion of property arises where one can have his/her right to land or chattels respected and enforced by a court of law. Therefore to possess good title (and thus enforceable rights) on property one must acquire it legitimately, according to the laws of the jurisdiction in which one seeks enforcement.
2 Real Property
And the Law
Theory of property

Early American theory

James Wilson, U.S. Supreme Court Justice and professor of law at the University of Pennsylvania, in 1790 and 1791, undertook a survey of the philosophical grounds of American property law. He proceeds from two premises: “Every crime includes an injury: every injury includes a violation of a right.” The government’s role in protecting property depends upon an idea of right. Wilson traces the history of property in his essay On the History of Property. In his lecture, “Of the natural rights of individuals,” he articulates related contemporary theory.

That theory was brought to a focus on the question of whether man exists for the sake of government, or government for the sake of man – a distinction which may derive from, or lead to, the question of natural and absolute rights, and whether property is one of them. While he doubts this is so, he nonetheless states: “In his unrelated state, man has a natural right to his property, to his character, to liberty, and to safety.” James Wilson asks whether “the primary and principal object in the institution of government… was… to acquire new rights by human establishment? Or was it, by a human establishment, to acquire a new security for the possession or the recovery of those rights….?” He indicates a preference for the latter.

In the opening sentence of On the History of Property, he states quite clearly: “Property is the right or lawful power, which a person has to a thing.” He then divides the right into three degrees: possession, the lowest; possession and use; and, possession, use, and disposition – the highest. Further, he states: “Man is intended for action. Useful and skilful industry is the soul of an active life. But industry should have her just reward. That reward is property, for of useful and active industry, property is the natural result.” From this simple reasoning he is able to present the conclusion that exclusive, as opposed to communal property, is to be preferred. Wilson does, however, give a survey of communal property arrangements in history, not only in colonial Virginia but also ancient Sparta.

Property rights and contractual rights

Property rights are rights over things enforceable against other persons. By contrast, contractual rights are rights enforceable against particular persons. Property rights, however, may arise from a contract, so there is an overlap between the two systems of rights. In relation to the sale of land, for example, two sets of legal relationships exist alongside one another: the personal right to sue for damages on the contract, and the proprietary right exercisable over the thing.

A separate distinction is evident where rights granted are insufficiently substantial to confer on the non-owner a definable interest right in the thing. The clearest example of these rights is the licence. In general, even if licenses are created by a binding contract, they do not give rise to proprietary interests.
Classification

Property law is characterized by a great deal of historical continuity and technical terminology. The basic distinction in common law systems is between real property (land) and personal property (chattels).

Before the mid-19th century, the principles governing the distribution of real property and personal property on a person’s death were quite different. Though this dichotomy does not have the same significance anymore, the distinction is still fundamental because of the essential differences between the two categories. An obvious example is the fact that land is immovable, and thus the rules that govern its use must differ. A further reason for the distinction is that legislation is often drafted employing the traditional terminology.

The division of land and chattels has been criticized as being not satisfactory as a basis for categorizing the principles of property law since it concentrates attention not on the proprietary interests themselves but on the objects of those interests.[3] Moreover, in the case of fixtures, chattels which are affixed to or placed on land may become part of the land.

Real property is generally sub-classified into:

1. corporeal hereditaments - tangible real property (land)
2. incorporeal hereditaments - intangible real property such as an easement of way

Possession

The concept of possession developed from a legal system whose principal concern was to avoid civil disorder. The general principle is that a person in possession of land or goods, even as a wrongdoer, is entitled to take action against anyone interfering with the possession unless the person interfering is able to demonstrate a superior right to do so.

Transfer of property

The most usual way of acquiring an interest in property is as the result of a consensual transaction with the previous owner, for example, a sale or a gift. Dispositions by will may also be regarded as consensual transactions, since the effect of a will is to provide for the distribution of the deceased person's property to nominated beneficiaries. A person may also obtain an interest in property under a trust established for his or her benefit by the owner of the property.

It is also possible for property to pass from one person to another independently of the consent of the property owner. For example, this occurs when a person dies intestate, goes bankrupt, or has the property taken in execution of a court judgment.
Priorities

Occasionally, as a result of fraud or mistake, several people claim interests in one object, the claims being inconsistent with each other. This may arise where the person purporting to create or transfer the interest has a valid title, but purports to create several interests wholly or partially inconsistent with each other. In this case it is necessary for the courts to resolve the priorities conflict by determining the ranking of these interests. The need to resolve such conflicts suggests that different classes of proprietary interests have different spheres of enforceability depending on their place in the hierarchy.

Leases

Over the centuries, leases have served many purposes and the nature of legal regulation has varied according to those purposes and the social and economic conditions of the times. Leases, for example, were mainly used for agricultural purposes until the late 18th century and early 19th century when the growth of cities in industrialized countries had made the leasehold an important form of landholding in urban areas.

The modern law of landlord and tenant in common law jurisdictions retains the influence of the common law and, particularly, the laissez-faire philosophy that dominated the law of contract and the law of property in the 19th century. With the growth of consumerism, consumer protection legislation recognized that common law principles that assume equal bargaining power between the contracting parties are acknowledged to work hardship when that assumption is inaccurate. Consequently reformers have emphasized the need to assess residential tenancy laws in terms of protection they provide to tenants. Legislation to protect tenants is now common.

Bundle of Rights

The bundle of rights is a common way to explain the complexities of property ownership. Teachers often use this concept as a way to organize confusing and sometimes contradictory data about real estate.

The bundle of rights is commonly taught in US first-year law school property classes to explain how a property can simultaneously be "owned" by multiple parties.

Ownership of land is a much more complex proposition than simply acquiring all the rights to it. It is useful to imagine a bundle of rights that can be separated and reassembled. A "stack of sticks" - in which each stick represents an individual right - is a common analogy made for the bundle of rights. Any property owner possesses a set of sticks related directly to the land.

For example, perfection of a mechanics lien takes some, but not all, rights out of the bundle held by the owner. Extinguishing that lien returns those rights or "sticks" to the bundle held by the owner. In the United States (and under common law) the fullest possible title to real estate is called "fee simple
absolute." Even the US federal government's ownership of land is restricted in some ways by state property law.

Variations on the concept

Variations on the division between public and private property use can be found throughout the world. While the bundle of rights concept is strongly rooted in common law, there are comparable ideas in civil law systems and religious law systems. National, sub-national, and municipal laws strongly influence what title owners can do with their property in terms of physical development. Quasi-governmental bodies (such as utility companies) are also permitted to create easements across private property.

Historically the degrees of individual and community control over real property have varied greatly. The differences between capitalism, despotism, socialism, feudalism, and traditional societies often define different standards for land ownership. The bundle of rights concept looks much differently when examined by different types of societies. For instance, a laissez-faire government would allow a much different bundle of rights than a communist government.

Applications

Community land trusts and land banking are examples of efforts to rearrange the bundle of rights. This is typically done by dividing the responsibilities of ownership and management from the rights to use the property. A typical community land trust strategy is to hold ownership over the land and sell the structural improvements (residential or other buildings) to low-income homebuyers. This allows people to buy a home at a price far below the market rate and to realize the benefits of their property value improving.

Real Estate Investment Trusts divide up the bundle of rights in order to allow commercial investments in real property. These legal structures are becoming more common throughout the developed world.

Squatting or adverse possession presents a non-economic way for people to transfer parts of the bundle of rights. Depending on the applicable laws, a squatter can acquire property rights by simply occupying vacant land for an extended period of time. Areas with high concentrations of squatters are sometimes thought of as informal settlements. Squatters face great instability due to their lack of title and governmental efforts at "blight removal".
Examples

This table breaks down some of the various rights involved in real property ownership. Several of these rights can be transferred between different parties through sale or trade. Third parties can obtain the rights to access and profit from several of the public use rights without the consent of the title owner. This is often the case with resource extraction companies such as mines.

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<th>Title Owner</th>
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<th>Government</th>
<th>Third Party</th>
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<td>Mortgage</td>
<td>Railroad</td>
<td>Collect</td>
<td>Freedom to roam</td>
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<td>Lease</td>
<td>Public works</td>
<td>Property tax</td>
<td>Homeowners association</td>
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<td>Sell</td>
<td>Electric power transmission lines</td>
<td>Enforce a Lien</td>
<td>Historic preservation</td>
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<td>Subdivide the property</td>
<td>Air rights</td>
<td>Protect Endangered species</td>
<td>Conservation easement</td>
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<td>Create a covenant running with the land</td>
<td>Riparian water rights</td>
<td>Protect Wetlands</td>
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<td>Mineral rights</td>
<td>Zoning</td>
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<td></td>
<td>Grazing rights</td>
<td>Eminent domain</td>
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For example, a husband and wife can be owners (technically, title owners) of real property that is also encumbered by a mortgage and a mechanics lien. Their neighbor may have an easement for a utility line, and a license for entry and exit to a nearby plot of land. Airplanes have the right to fly through their airspace. Constitutionally, the state and federal governments always hold the right to condemnation, also called eminent domain, and the government at multiple levels retains various regulatory rights such as environmental regulation, zoning, and building code enforcement.

Mineral rights

Mineral rights, mining rights, oil rights or drilling rights, are the rights to remove minerals, oil, or sometimes water, that may be contained in and under some land. In jurisdictions that support such rights they may be separate from other rights to the land.
Air rights are a type of development right in real estate. Generally speaking, owning or renting land or a building gives one the right to use and develop the empty space above the property. Those rights are air rights. Supposedly, this legal concept is based on an ancient Latin saying: *Cuius est solum, ejus est usque ad caelum et ad inferos* ("To whoever owns the land, shall belong the earth to its center and up to the heavens.").[1]

**Personal Property**

**Personal property** is a type of property. In the common law systems personal property may also be called *chattels*. It is distinguished from real property, or real estate. In the civil law systems personal property is often called *movable property* or *movables* - any property that can be moved from one location to another. This term is in distinction with immovable property, such as land and buildings.

Personal property may be classified in a variety of ways, such as negotiable instruments, securities, goods, and intangible assets such as trade fixtures. Trade fixtures which are items used in business and installed by the business tenant in a leased building.

Accountants also distinguish personal property from real property because personal property can be depreciated faster than improvements (while land is not depreciable at all). It is an owner's right to get tax benefits for chattel, and there are businesses that specialize in appraising personal property, or chattel.

The distinction between these types of property is significant for a variety of reasons. Usually one's rights on movables are more attenuated than one's rights on immovables (or real property). The statutes of limitations or prescriptive periods are usually shorter when dealing with personal or movable property. Real property rights are usually enforceable for a much longer period of time and in most jurisdictions real estate and immovables are registered in government-sanctioned land registers. In some jurisdictions, rights (such as a lien or other security interest) can be registered against personal or movable property.

In the common law it is possible to place a mortgage upon real property. Such mortgage requires payment or the owner of the mortgage can seek foreclosure. Personal property can often be secured with similar kind of device, variously called a chattel mortgage, trust receipt, or security interest. In the United States, Article 9 of the Uniform Commercial Code governs the creation and enforcement of security interests in most (but not all) types of personal property.

There is no similar institution to the mortgage in the civil law, however a hypothec is a device to secure real rights against property. These real rights follow the property along with the ownership. In the common law a lien also remains on the property and it is not extinguished by alienation of the property; liens may be real or equitable.
Many jurisdictions levy a personal property tax, an annual tax on the privilege of owning or possessing personal property within the boundaries of the jurisdiction. Automobile and boat registration fees are a subset of this tax. Most household goods are exempt as long as they are kept or used within the household; the tax usually becomes a problem when the taxing authority discovers that expensive personal property like art is being regularly stored outside of the household.

**Riparian Rights**

Riparian water rights (or simply riparian rights) is a system of allocating water among those who possess land about its source. It has its origins in English common law. It is used in the United Kingdom and states in the eastern United States.

Under the riparian principle, all landowners whose property is adjacent to a body of water have the right to make reasonable use of it. If there is not enough water to satisfy all users, allotments are generally fixed in proportion to frontage on the water source. These rights cannot be sold or transferred other than with the adjoining land, and water cannot be transferred out of the watershed.

Riparian rights include such things as the right to access for swimming, boating and fishing; the right to wharf out to a point of navigability; the right to erect structures such as docks, piers, and boat lifts; the right to use the water for domestic purposes; the right to accretions caused by water level fluctuations; the right to view and protection of view. Riparian rights also depend upon "reasonable use" as it relates to other riparian owners to ensure that the rights of one riparian owner are weighed fairly and equitably with the rights of adjacent riparian owners.

In the western United States, water rights are generally allocated under the principle of prior appropriation, which treats water as a resource unrelated to land.

**Metes and bounds**

Metes and bounds is a system or method of describing land, 'real' property (in contrast to personal property) or real estate. The system has been used in England for many centuries, and is still used there in the definition of general boundaries. By custom, it was applied in the original 13 colonies that became the United States, and in many other land jurisdictions based on English Common Law.

Typically the system uses physical features of the local geography, along with directions and distances, to define and describe the boundaries of a parcel of land. The boundaries are described in a running prose style, working around the parcel of the land in sequence, from a point of beginning, returning back to the same point. It may include references to other adjoining parcels of land (and their owners), and it, in turn, could also be referred to in later surveys. At the time at which the description is compiled, it may have been marked on the ground with permanent monuments placed where there were no suitable natural monuments.
The term 'metes' refers to a boundary defined by the measurement of each straight run, specified by a distance between the terminal points, and an orientation or direction. A direction may be a simple compass bearing, or a precise orientation determined by accurate survey methods. The term 'bounds' refers to a more general boundary description, such as along a certain watercourse, a stone wall, an adjoining public roadway, or an existing building.

The system is often used to define larger pieces of property (e.g. farms), and political subdivisions (e.g. town boundaries) where precise definition is not required or would be far too expensive, or previously designated boundaries can be incorporated into the description.

A typical description for a small parcel of land would be: "From the point on the north bank of Muddy Creek one mile above the junction of Muddy and Indian Creeks, north for 150 yards, then northwest to the large standing rock, west to the large oak tree, south to Muddy Creek, then down the center of the creek to the starting point."

In many deeds, the bearing is described not by a degree measure out of 360 degrees, but instead by indicating a direction north or south (N or S) followed by a degree measure out of 90 degrees and another direction west or east (W or E). For example, such a bearing might be listed as "N 42°35' W", which means that the bearing is 42°35' counterclockwise (to the west) from north. This has the advantage of providing the same degree measure regardless of which direction a particular boundary is being followed; the boundary can be traversed in the opposite direction simply by exchanging N for S and E for W. In other words, "N 42°35' W" describes the same boundary as "S 42°35' E", but is traversed in the opposite direction.

In some older deeds, boundary lengths are listed in rods or poles instead of feet or meters. Rods and poles are equivalent measures equaling 16.5 feet.

**Use in the United States**

This system was imported to the original colonies that formed the United States. It is also used in some states which were previously part of one of the Thirteen Colonies, or where land was allocated before 1785. These include West Virginia, Kentucky, Maine, Tennessee and Vermont.

**Difficulties**

Once such a survey is in place, tradition and long use establish the boundaries. The description might refer to landmarks such as the large oak tree which could die, rot and disappear. Streams might dry up or change course. Man-made features such as roads, walls, markers or stakes may also have been used to determine the real boundaries. But these features move, change and disappear over time. When it comes time to re-establish these boundaries (for sale, subdivision, or
building construction) it can become difficult, even impossible, to determine the original location of the boundary. Court cases are sometimes required to settle the matter.

These kinds of problems caused the United States to largely replace this system. Beginning with the Land Ordinance of 1785, it began a transition to the Public Land Survey System (PLSS) used in the central and western states. The eastern, or original states, continue to use the metes and bounds surveys of their founders.

Public Land Survey System

The Public Land Survey System (PLSS) is a method used in the United States to survey and identify land parcels, particularly for titles and deeds of rural, wild or undeveloped land. Its basic units of area are the township and section. It is sometimes referred to as the rectangular survey system or government survey system, although non-rectangular methods such as meandering can also be used. It is also sometimes called the cadastral survey.

Figure 1. This BLM map depicts the principal meridians and baselines used for surveying states (colored) in the PLSS.
History of the system

The system was created by the Land Ordinance of 1785. It has been expanded and slightly modified but continues in use in most of the states west of Pennsylvania, south to Florida, Alabama, and Mississippi, west to the Pacific Ocean, and north into the Arctic in Alaska.

The rectangular survey system, which was first proposed by Thomas Jefferson and enacted into law by the Land Ordinance of 1785, forms the backbone of the Nation's land surveys. As a young nation, we faced the daunting task of surveying over 1.8 billion acres of public domain lands acquired through the Louisiana Purchase, the Alaska Purchase, and other acquisition actions. Contract surveyors chosen through competitive bidding were eventually replaced with today's professional cadre of Cadastral Surveyors.

Over the past two centuries, almost 1.5 billion acres have been surveyed into townships and sections and monumented. This impressive accomplishment represents the greatest land surveying project ever undertaken: there are about 2.6 million section corners throughout the United States, each one located about a mile apart. Placing these corners required a vast expenditure of human energy in carrying heavy surveying equipment, dragging chains, cutting trails, climbing mountains, placing monuments, digging pits, and blazing "witness" trees.

Today, the Bureau of Land Management (BLM) is the Federal Government's official record keeper for over 200 years' worth of cadastral survey records and plats. In addition, the Bureau is still completing numerous new surveys each year, mostly in Alaska, as well as conducting resurveys to restore obliterated or lost original survey corners, to enhance the management of all federal and tribal land.

Origins of the system

The original colonies (including their derivatives Maine, Vermont, Tennessee, Kentucky and West Virginia) continued the British system of metes and bounds. This system describes property lines based on local markers and bounds drawn by humans, often based on topography.

Particularly in New England, this system was supplemented by drawing up town plats. The metes-and-bounds system was used to describe a town of a generally rectangular shape, 4 to 6 miles (6 to 10 km) on a side. Within this boundary, a map or plat was maintained that showed all the individual lots or properties.
There are some difficulties with this system, as stated earlier:

- Irregular shapes for properties make for much more complex descriptions.
- Over time, these descriptions become problematic as trees die or streams move by erosion.
- It isn't useful for the large, newly surveyed tracts of land being opened in the west, which were being sold *sight unseen* to investors.

In addition this system didn't work until there were already people on the ground to maintain records. In the 1783 Treaty of Paris recognizing the United States, Britain also recognized American rights to the land south of the Great Lakes and west to the Mississippi River.

The Continental Congress passed the Land Ordinance of 1785 and then the Northwest Ordinance in 1787 to control the survey, sale, and settling of the new lands. The original 13 colonies donated their western lands to the new Union, for the purpose of giving land for new states. These include the lands that formed the Northwest Territory, Kentucky, Tennessee, Alabama, and Mississippi. The state that gave up the most was Virginia, whose original claim included most of the Northwest Territory and Kentucky, too. Some of the western land was claimed by more than one state, especially in the Northwest, where parts were claimed by Virginia, Pennsylvania, and Connecticut, all three of which had claimed lands all the way to the Pacific Ocean.

**Applying the system**

![Illustration of the system from the National Atlas](image-url)
The first surveys under the new rectangular system were in eastern Ohio in an area called the Seven Ranges. Ohio was surveyed in several major subdivisions, collectively described as the Ohio Lands, each with its own meridian and baseline. The early surveying, particularly in Ohio, was performed with more speed than care, with the result that many of oldest townships and sections vary considerably from their prescribed shape and area. Proceeding westward, accuracy became more of a consideration than rapid sale, and the system was simplified by establishing one major north-south line (principal meridian) and one east-west (base) line that control descriptions for an entire state or more. For example, a single Willamette Meridian serves both Oregon and Washington. County lines frequently follow the survey, so there are many rectangular counties in the Midwest and the West.

Non-PLSS regions

The system is in use in some capacity in most states, but not in Hawaii and Texas or any of the territory under the jurisdiction of the Thirteen Colonies at the time of independence, with the exception of the area that became the Northwest Territory and some of the Southern states. These exclusions are now Georgia, Connecticut, Delaware, Kentucky, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, and West Virginia.

The old Cherokee lands in Georgia use the term section as a land designation, but does not define the same area as the section used by the PLSS.

Major exceptions to the application of this system in the remaining states:

- California, before statehood in 1850, surveyed only the boundaries of Spanish land grants (ranchos); since statehood the PLSS system has been used throughout.
- Hawaii adopted a system based on the Kingdom of Hawaii native system in place at the time of annexation.
- Louisiana recognizes early French and Spanish descriptions called arpents, particularly in the southern part of the state, as well as PLSS descriptions.
- Maine uses a variant of the system in unsettled parts of the state.
- New Mexico uses the PLSS, but has several areas that retain original metes and bounds left over from Spanish and Mexican rule. These take the form of land grants similar to areas of Texas and California.
- Ohio's Virginia Military District was surveyed using the metes and bounds system. Areas in northern Ohio were surveyed with an earlier standard, often referred to as Congressional.
Survey townships, which are just five miles on each side instead of six. Hence, there are 25 sections per township there, rather than 36.

- Texas has a hybrid of its own early system, based on Spanish land grants, and a variation of the PLSS.

Mechanics

**SECTIONS IN A TOWNSHIP**

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Figure 2

Survey design and protocol

The surveying of any regional area is a multi-step process. First, two controlling survey lines are established for some relatively large area: a baseline, which runs east-west and a Principal Meridian, which runs north-south. These two lines pass through, and intersect at, a location known as an initial point. Next, at a defined distance interval, commonly 24 or 30 miles depending on the year and location, standard parallels are established parallel to the baseline. The meridian, baseline and standard parallels thus established form a lattice upon which all further surveying is then based. Subsequent work divides the land into survey townships of roughly 36 square miles (~93 km²) or 6 miles (~9.7 km) on each side. This is done by the establishing township and range lines, which run parallel to the baseline and principal meridian, respectively, at six mile intervals. Lastly, townships are subdivided into 36 sections of one square mile (640 acres(43,560 square feet per acre), ~2.6 km²) and 144 quarter-sections of 0.25 square mile (160 acres, ~0.65 km²) each. (See
The townships and sections are indexed based on the township's position relative to the initial point and the section's location within the designated township. Township, range, and section are abbreviated as T, R, and S, respectively, and cardinal bearings from the initial point by N, S, E, and W, and each principal meridian has its abbreviation. Thus, for example, S13-R20E-T1S MDM refers to: Township 1 South, Range 20 East, Section 13, Mount Diablo Meridian, or the 13th section in the first township south of the baseline and 20th township east of the principal meridian. The sections within a township are numbered boustrophedonically (Fig. 2). Starting in the northeast corner, sections in the first row (sections 1-6) are numbered east to west, those in the second row (sections 7-12) are numbered west to east, the direction continuing to alternate with each row, until section 36 is reached in the southeast corner. Distances are measured in U.S. survey miles, which are equal to eighty Gunter's chains, the standard unit of length used in surveying; these differ from international miles by a few millimeters. The importance of the PLSS is one of the many barriers to metrification of property title in the United States.)

Figure 3. The engraved cap on a corner monument pipe, in western Yosemite National Park, placed in 1905 during the Park boundary resurvey
The intersection of a township line with a range line is called a *township corner*, of a section line with another section, township or range line a *section corner*, and a point halfway between two section corners a *quarter corner*. At each such corner, a *corner monument* is established to mark the location of the corner on the ground. This monument is the legally binding mark used for setting property lines as the land is sold off and/or settled; it is the culminating work of the entire survey. As with most surveying specifications, those for the corners have changed over time. In the 19th century, the monuments were commonly a rock pile, a wooden post, or a combination of the two. Trees were also sometimes used when available. In the 20th century, steel pipes with caps, supported by mounds of rock, became required (e.g. Fig. 3). Monuments are always witnessed to by the marking of other nearby natural objects on the ground. These witnesses can be trees, rocks or trenches dug in the ground; the exact locations of the witness objects, and the markings made on them, are recorded in the surveyor's official field notes. Witness trees are commonly referred to as bearing trees, and they are highly important, not just for their legal purposes, but also for their use by ecologists in the estimation of historic forest vegetation conditions. The witness objects are designed to allow subsequent surveyors and landowners to find the original corner monument location should the actual monument be destroyed. It was not uncommon for squatters or homesteaders to destroy corner monuments if they felt the patenting of the land would threaten their residence on it. For this reason, destruction of corner monuments or their witness objects is a federal offense.
Because the grid is rectangular and the earth is round, adjustments must be made periodically; all sections cannot be one square mile nor all townships 36 square miles. These adjustments are done within each township by starting the sectional surveys of the township in the southeast corner and moving progressively toward the northwest corner. The northernmost and westernmost tier of sections—11 in all—are allowed to deviate from one square mile, but the other 25 are not. This method accommodates the curvature effects, and also allows for the correction of errors made during the surveying—which were not uncommon—without overly compromising the rectangular nature of the system.

Understanding property descriptions

The description of a particular ten acre (40,000 m²) parcel of land under this system would be given as NW1/4 SW1/4 SE1/4 SEC 22 T2S R3E. The elements of such descriptions are interpreted from right to left, so we are describing a plot of land in the township that is the third east of the Range Line (R3E) and the second south of the base line (T2S). We are also looking at section 22 in that township (refer to the grid above). Next that section is divided into quarters (160 acres each), and we should be in the SE quarter section. That section is divided again in quarters (40 acres) and the description calls for the SW quarter. Last in this description, it is quartered again (into 10 acre plots), as we want the NW quarter.

So, in language, the example plot is the NW quarter of the SW quarter of the SE quarter of section 22 of the township that is the second south of the base line and the third east of the range line. Some descriptions will use other references such as S½ to refer to the south half of a quarter section. As an area became settled a township and county name might replace the range and base line numbers, but they can always be traced backwards.

Some western states have only one base line. (Notice that these states have straight line borders to the north or south.) This means that all the townships in the state are either north or south. (The base line for survey of the Kansas and Nebraska territories was the 40th parallel dividing them.) They also typically have only one principal meridian. (For examples, the Kansas range line is 97° west of Greenwich). In the Maine variant of the system, the range line is called the "Eastern Limit of Settlement"; all ranges are to the west of this line, and are normally written Rx WELS.
Sizes of PLSS subdivisions

The following table indicates some distance and area conversions in the PLSS:

<table>
<thead>
<tr>
<th></th>
<th>miles</th>
<th>mile²</th>
<th>acres</th>
<th>m²</th>
<th>km²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tract-County</strong></td>
<td>24 by 24</td>
<td>576</td>
<td>368,640</td>
<td>1,492</td>
<td>Usually 16 townships</td>
</tr>
<tr>
<td><strong>Township</strong></td>
<td>6 by 6</td>
<td>36</td>
<td>23,040</td>
<td>93</td>
<td>Usually 36 sections</td>
</tr>
<tr>
<td><strong>Section</strong></td>
<td>1</td>
<td>640</td>
<td>1,492</td>
<td>5.8</td>
<td></td>
</tr>
<tr>
<td><strong>Half-section</strong></td>
<td>1/2</td>
<td>320</td>
<td>1,294,994</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td><strong>Quarter-section</strong></td>
<td>1/4</td>
<td>160</td>
<td>647,497</td>
<td>2.53</td>
<td></td>
</tr>
<tr>
<td><strong>Half of quarter-section</strong></td>
<td>1/8</td>
<td>80</td>
<td>323,749</td>
<td>1.28</td>
<td></td>
</tr>
<tr>
<td><strong>Quarter of quarter-section</strong></td>
<td>1/16</td>
<td>40</td>
<td>161,874</td>
<td>0.64</td>
<td></td>
</tr>
</tbody>
</table>

**List of Meridians**

<table>
<thead>
<tr>
<th>Name</th>
<th>Adopted</th>
<th>Initial point</th>
<th>State(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Hills Meridian</td>
<td>1878</td>
<td>43°59'44&quot;N 104°03'16&quot;W</td>
<td>South Dakota</td>
</tr>
<tr>
<td>Boise Meridian</td>
<td>1867</td>
<td>43°22'21&quot;N 116°23'35&quot;W</td>
<td>Idaho</td>
</tr>
<tr>
<td>Chickasaw Meridian</td>
<td>1833</td>
<td>35°01'58&quot;N 89°14'47&quot;W</td>
<td>Mississippi</td>
</tr>
<tr>
<td>Choctaw Meridian</td>
<td>1821</td>
<td>31°52'32&quot;N 90°14'41&quot;W</td>
<td>Mississippi</td>
</tr>
<tr>
<td>Cimarron Meridian</td>
<td>1881</td>
<td>36°30'05&quot;N 103°00'07&quot;W</td>
<td>Oklahoma</td>
</tr>
<tr>
<td>Copper River Meridian</td>
<td>1905</td>
<td>61°49'04&quot;N 145°18'37&quot;W</td>
<td>Alaska</td>
</tr>
<tr>
<td>Fairbanks Meridian</td>
<td>1910</td>
<td>64°51'50.048&quot;N 147°38'25.949&quot;W</td>
<td>Alaska</td>
</tr>
<tr>
<td>Fifth Principal Meridian</td>
<td>1815</td>
<td>34°38'45&quot;N 91°03'07&quot;W</td>
<td>Arkansas, Iowa, Minnesota, Missouri, North Dakota &amp; South Dakota</td>
</tr>
<tr>
<td>First Principal Meridian</td>
<td>1819</td>
<td>40°59'22&quot;N 84°48'11&quot;W</td>
<td>Ohio &amp; Indiana</td>
</tr>
<tr>
<td>Fourth Principal Meridian</td>
<td>1815</td>
<td>40°00'50&quot;N 90°27'11&quot;W</td>
<td>Illinois</td>
</tr>
<tr>
<td>Fourth Principal Extended Meridian</td>
<td>1831</td>
<td>42°30'27&quot;N 90°25'37&quot;W</td>
<td>Minnesota &amp; Wisconsin</td>
</tr>
<tr>
<td>Gila and Salt River Meridian</td>
<td>1865</td>
<td>33°22'38&quot;N 112°18'19&quot;W</td>
<td>Arizona</td>
</tr>
<tr>
<td>Humboldt Meridian</td>
<td>1853</td>
<td>40°35'02&quot;N 124°07'10&quot;W</td>
<td>California</td>
</tr>
<tr>
<td>Huntsville Meridian</td>
<td>1807</td>
<td>34°59'27&quot;N 86°34'16&quot;W</td>
<td>Alabama &amp; Mississippi</td>
</tr>
<tr>
<td>Indian Meridian</td>
<td>1870</td>
<td>34°29'32&quot;N 97°14'49&quot;W</td>
<td>Oklahoma</td>
</tr>
<tr>
<td>Kateel River Meridian</td>
<td>1956</td>
<td>65°26'16.374&quot;N 158°45'31.014&quot;W</td>
<td>Alaska</td>
</tr>
<tr>
<td>Louisiana Meridian</td>
<td>1807</td>
<td>31°00'31&quot;N 92°24'55&quot;W</td>
<td>Louisiana</td>
</tr>
</tbody>
</table>
## Social impact

### Education

Under the 1785 act, section 16 of each township was set aside for school purposes, and as such was often called the *school section*. (Section 36 was also frequently used as a school section.) The various states and counties ignored, altered or amended this provision in their own ways, but the general (intended) effect was a guarantee that local schools would have an income and that the community schoolhouses would be centrally located for all children. An example of land allotments made specifically for *higher* education is Ohio's College Township.
Urban design

Farmland in Kansas divided into quarter sections and quarter-quarter section

As roads have typically been laid out along section boundaries spaced one mile apart, growing urban areas have adopted road grids with mile-long "blocks" as their primary street network. Such roads in urban areas are known as arterials, usually designed primarily for automobile travel and limited in their use for non-motorized travel. In post-World War II suburbs, commercial development has largely occurred along and at intersections of arterials, while the rest of the former square-mile sections have generally filled with residential development, as well as schools, religious facilities, and parks. One example of this is Mile Road System of Detroit, Michigan. Occasionally, and more frequently in a metropolitan region's inner postwar suburbs than in outer areas, arterials are located at approximately half-mile intervals. This strictly regimented urban (or suburban) structure has coincided with the similarly strict practice of Euclidean zoning, in which use of a property is dictated and regulated by zoning district, the boundaries of which often being derived from locations of arterials.

Popular culture

The land system is an important part of American history and culture. Among other things, the stock phrases "lower 40", "front 40", "back 40", and "40 acres and a mule," which are sometimes heard in American movies, reference the quarter-quarter section. The "lower 40" in a quarter-section is the one at lowest elevation, i.e. in the direction that water drains. The "lower 40" is frequently the location of or the direction of a stream or a pond. The latter phrase was the compensation apocryphally promised by the Freedman's Bureau following the American Civil War. Homesteading, another staple of American western culture, was also dependent on the Public Land Survey System. In the original Homestead Act of 1862, during the Lincoln Administration, each settler was allocated 160 acres of land; in other words, a quarter-section. Later amendments
of the Homestead Act allocated more land, as much as 640 acres; in other words, a section. This was a good revision to apply to land that was drier and/or more desolate than the earlier, more desirable lands already settled. Many times, this land was more suited to ranching than to farming.

Plats and the Lot and Block Survey System

A contemporary plat map used in the Lot and Block system showing the location of a lot for sale.

A **plat** consists of a map, drawn to scale, showing the divisions of a piece of land. U.S. General Land Office surveyors drew township plats to show the distance and bearing between survey corners, and sometimes included topographic or vegetation information. City, town or village plats show subdivisions into blocks with streets and alleys. Further refinement often splits blocks into individual lots, usually for the purpose of selling the described lots; this has become known as subdivision. After the filing of a plat, legal descriptions can refer to block and lot-numbers rather than portions of sections.

In order for plats to become legally valid, a local governing body, such as a public works department, urban planning commission, or zoning board must normally review and approve them.

The **Lot and Block Survey System** is a method used in the United States and Canada to locate and identify land, particularly for lots in densely populated metropolitan areas, suburban areas and exurbs. It is sometimes referred to as the **Recorded Plat Survey System** or the **Recorded Map Survey System**.
Types of plats

A **Plat of Consolidation** originates when a landowner takes over several adjacent parcels of land and consolidates them into a single parcel. In order to do this, the landowner will usually need to make a survey of the parcels and submit the survey to the governing body that would have to approve the consolidation.

A **Plat of Subdivision** appears when a landowner or municipality divides land into smaller parcels. If a landowner owns an acre of land, for instance, and wants to divide it into three pieces, a surveyor would have to take precise measurements of the land and submit the survey to the governing body, which would then have to approve it.

A **Correction Plat** or **Amending Plat** records minor corrections to an existing plat, such as correcting a surveying mistake or a scrivener's error. Such plats can sometimes serve to relocate lot-lines or other features, but laws usually tightly restrict such use.

A **Vacating Plat** functions to legally void a prior plat or portion of a plat. The rules normally allow such plats only when all the platted lots remain unsold and no construction of buildings or public improvements has taken place.

Other names associated with Parcel Maps are: Land Maps, Tax Maps, Real Estate Maps, Landowner Maps, Lot and Block Survey System and Land Survey Maps. Parcel maps, unlike any other real estate records, have no federal, state or municipal oversight with their development.

Understanding property descriptions

The Lot and Block system is perhaps the simplest of the three main survey systems to understand. For a legal description in the Lot and Block system a description must identify:

- the individual lot,
- the block in which the lot is located, if applicable,
- a reference to a platted subdivision or a phase thereof,
- a reference to find the cited plat map (i.e., a page and/or volume number), and
- a description of the map's place of official recording (e.g., recorded in the files of the County Engineer).

The legal description of a 2.5 acre property under the Lot and Block system may be something like; **Lot 5 of Block 2 of the South Subdivision plat as recorded in Map Book 21, Page 33 at the Recorder of Deeds.** Some simple maps may only contain a lot and map number, such as **Lot C of**
the Riverside Subdivision map as recorded in Map Book 12, Page 8 in the office of the City Engineer. The more technical details of the legal description are all contained in the recorded plat map and there is no need to reiterate them in a deed or other legal description.

By contrast, a Public Land Survey System legal description of the same 2.5 acre property would be something like SW 1/4 SW1/4 NE1/4 SW1/4 SEC 18 TIS R1E. The metes and bounds description may be something like, Beginning at a monument located at the SE corner of the property now or formerly of J.W. Smith; thence north 330 feet to a point; thence east 330 feet to a point; thence south 330 feet to a point, thence west 330 feet to the place of beginning.

Other uses

A type of the Lot and Block system is frequently used for tax identification purposes in the United States. This designation, often called a Tax Identification Number or Tax Parcel Number, is not directly based on the legal description of the property. Such tracking could easily become cumbersome and confusing. Often a separate identifier is used to track the property for the purposes of real estate taxation. Counties and local governments often keep track of real estate properties by systems based on the Lot and Block system.

The system can be used even if the property is not legally described by the Block and Lot system. A property legally described by a metes and bounds description may still be assigned a Tax Identification Number based on a separate Lot and Block system. In this case, a survey of all parcels in the county or municipality would be combined to create a separate Block and Lot system to identify the properties for taxation purposes. For example, a metes and bounds described parcel may be assigned the Tax Identification Number 14-55-118, which has nothing to do with the legal description of the property recorded in the deed other than its use to create the tax Block and Lot maps. In this case, the first number may be used to indicate the local municipality, the second number indicates the tax map on which the property is recorded, and the third number is the parcel identification number on the indicated map. A similar system might be Tax Identification Number 205-K-33 where "205" is the map book volume number, "K" is the individual map, and "33" is the parcel number.

Reasons for platting

Designation of roads or other rights of way.

Ensuring that all property has access to a public right of way. Without such access, a property owner may be unable to utilize his or her property without having to trespass to reach it. The platting process restricts the fraudulent practice of knowingly selling lots with no access to public right of way.
Creation or vacation of easements.

Dedication of land for other public uses, such as parks or areas needed for flood protection.

Ensuring compliance with zoning. Zoning regulations frequently contain restrictions that govern lot sizes and lot geometry. The platting process allows the governing authorities to ensure that all lots comply with these regulations.

Ensuring compliance with a land use plan established to control the development of a city.

Ensuring that all property has access to public utilities.

Mechanics

The system begins with a large tract of land. This large tract is typically defined by one of the earlier survey systems such as metes and bounds or the Public Land Survey System. A subdivision survey is conducted to divide the original tract into smaller lots and a plat map is created. Usually this subdivision survey employs a metes and bounds system to delineate individual lots within the main tract. Each lot on the plat map is assigned an identifier, usually a number or letter. The plat map is then officially recorded with a government entity such as a city engineer or a recorder of deeds. This plan becomes the legal description of all the lots in the subdivision. A mere reference to the individual lot and the map's place of record is all that is required for a proper legal description.

Reading a Plat

Plats contain a number of informational elements:

The property boundaries are indicated by bearing and distance. The bearing is in the format of degrees, minutes, seconds with compass point letters before and afterward to indicate the compass quadrant. For example N 38 00 00 E is 38 degrees into the northeast quadrant or 38 degrees east of north. Similarly S 22 00 00 W is 22 degrees west of south. Note that north here is true north, so magnetic orientation must be corrected for magnetic declination. (Explanatory graphic)

The certification note provides information on the surveyor and is the location where recent US plats place the flood survey code in accordance with the National Flood Insurance Act of 1968.
The north arrow is familiar to most map readers.
The title block and lot numbers provide information specific to a development or land use plan.
An easement is usually indicated by a dashed line, although it is also common to have to look them up in supplementary documents (such as a title report).
Streets are usually indicated by a graphical outline of the paved area, not the right of way.

History

The word "plat" in medieval English (and ever since) refers to a piece (or "plot") of land.

The creation of a plat map marks an important step in the process of incorporating a town or city according to United States law. Because the process of incorporation must occur at a courthouse, the incorporation papers for many American cities may be stored hundreds of miles away in another state.

For example, to view the original plat for the city of San Francisco, California, filed in 1849, one must visit the Clackamas County courthouse in Oregon City, Oregon, then the capital of the Oregon Territory and the site of the closest federal land office. This happened because California did not gain statehood until 1850.
CORRESPONDENCE EVALUATION QUESTIONS

1. If a farm described as the NW 1/4 of the SE 1/4 of Section 10, T2N, R3W of the 4th P.M. were sold for $500 an acre, the sale price would be:
   a. $16,000.     c. $40,000.
   b. $20,000.     d. $80,000.

2. The economic characteristics of land include:
   a. immobility.     c. uniqueness.
   b. indestructibility.    d. permanence of investment.

3. The number of square feet in an acre is:
   a. 34,560.     c. 43,560.
   b. 35,460.     d. 45,360.

4. A metes-and-bounds description must:
   a. cover an area larger than ten acres.
   b. be in areas not included in the rectangular survey system.
   c. commence and finish at the same identifiable point.
   d. always use north as the basis for directions.

5. A township contains:
   a. 6 square miles.     c. 36 sections.
   b. 18 sections.     d. 640 acres.

6. In all regular townships under the rectangular survey system, Section 31 is located in the:
   a. northeast Corner.     c. southeast Corner.
   b. northwest Corner.     d. southwest Corner.

7. A legal description that defines the boundary lines is called:
   a. geodetic survey.     c. rectangular survey.
   b. metes and bounds.     d. recorded plat.

8. The most important economic characteristic of land, and that which has the greatest effect upon a land's value, is:
   a. scarcity.     c. area preference.
   b. permanence of investment.     d. immobility.
9. Furnaces, radiators and electric wiring are all examples of:
   a. trade fixtures.   c. fixtures.
   b. personal property.  d. chattels.

10. When determining whether an article of property is a fixture, a court will apply various legal tests. Which of the following is not one of these tests?
   a. Intent of the parties   c. Adaptation of the article to the real estate
   b. Cost of the article   d. Permanency of the article's annexation

11. Tammy, a tenant, rented a storefront and installed chairs and sinks to be used in her hair salon. Before her lease is up she may remove them because they are:
   a. fixtures.   c. trade fixtures.
   b. chattels.   d. part of the real estate.

12. The primary survey line running north and south in the rectangular survey system is a:
   a. township line.   c. range line.
   b. base line.   d. principal meridian.
Answer Sheet

A B C D

1. ☐ ☐ ☐ ☐
2. ☐ ☐ ☐ ☐ I certify that I, _________________________
3. ☐ ☐ ☐ ☐ (print name)
4. ☐ ☐ ☐ ☐ personally answered these questions.
5. ☐ ☐ ☐ ☐
6. ☐ ☐ ☐ ☐
7. ☐ ☐ ☐ ☐
8. ☐ ☐ ☐ ☐ Student Signature: ______________________
9. ☐ ☐ ☐ ☐
10. ☐ ☐ ☐ ☐
11. ☐ ☐ ☐ ☐
12. ☐ ☐ ☐ ☐

Please Print this answer sheet and after finishing, email to denny@akhomes.co or FAX to 866-659-8458 or mail to:

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Attn: Denny Wood
PO Box 241727
Anchorage, Alaska 99524-1727