What is real estate? Real estate, or real property, is land and the improvements made to land, and the rights to use them. In this chapter, you will be introduced to the terminology used to define and describe real estate. Real estate is defined, and rights to land are also described. Other topics include fixtures, appurtenances, water rights, and land descriptions. The metes and bounds description of land and the rectangular survey system of describing land are also covered, as are other land survey systems. This chapter includes the coverage of the physical and economic characteristics of land. Key terms such as scarcity, fixity, and situs are also defined. These and other terms defined within this second chapter should be studied thoroughly and be remembered to enhance your understanding of material in subsequent chapters.

Land

Often we think of land as only the surface of the earth. But, it is substantially more than that. As Figure 2.1 on the next page illustrates, land starts at the center of the earth, passes through the earth’s surface, and continues on into space. An understanding of this concept is important because, given a particular parcel of land, it is possible for one person to own the rights to use its surface (surface rights), another to own the rights to drill or dig below its surface (subsurface rights), and still another to own the rights to use the airspace above it (air rights).

Improvements

Anything affixed to land with the intent of being permanent is considered to be part of the land and therefore real estate. Thus, houses, schools, factories, barns, fences, roads, pipelines, and landscaping are real estate. As a group, these are referred to as improvements because they improve or develop land.

Key Terms

Fixity
Fixture
Improvements
Meridians
Metes and bounds
Monuments
Personal property
Real estate
Recorded plat
Riparian right
Scarcity
Situs

real estate
Land and improvements in a physical sense, as well as the rights to own or use them; also known as real property.

improvements
Any form of land development, such as buildings, roads, fences, and pipelines.
Being able to identify what is real estate and what is not is important. In conveying ownership to a house, only the lot is described in the deed. It is not necessary to describe the dwelling unit itself, or landscaping, driveways, or sidewalks. They are all part of the lot itself. Items that are not a part of the land, such as tables, chairs, beds, desks, automobiles, and farm machinery, are classified as personal property; if the right to use them is to be transferred to the buyer, the seller should sign a separate bill of sale in addition to the deed.

Fixtures

When an object that was once personal property is attached to land (or a building thereon) so as to become part of the real estate, it is called a fixture. As a rule, a fixture is the property of the landowner, and when the land is conveyed to a new owner, it is automatically included with the land. The question of whether an item is a fixture also arises with regard to property taxes, mortgages, lease terminations, and hazard insurance policies. Specifically, real estate taxes are based on real property valuation. Real estate mortgages are secured by real property. Objects attached to a building by a tenant may become real property and hence belong to the building’s owner. Hazard insurance policies treat real property differently than personal property.

Whether an object becomes real estate depends on whether the object was affixed or installed with the intention of permanently improving the land. Intention is
evidenced by four tests: (1) the manner of attachment, (2) the adaptation of the object, (3) the existence of an agreement, and (4) the relationship of the parties involved.

**MANNER OF ATTACHMENT**
The first test, *manner of attachment*, refers to how the object is attached to the land. Ordinarily, when an object that was once personal property is attached to land by virtue of its being imbedded in the land or affixed to the land by means of cement, nails, bolts, and so on, it becomes a fixture. To illustrate, when asphalt and concrete for driveways and sidewalks are still on the delivery truck, they are movable and therefore personal property. But once they are poured into place, the asphalt and concrete become part of the land. Similarly, lumber, wiring, pipes, doors, toilets, sinks, water heaters, furnaces, and other construction materials change from personal property to real estate when they become part of a building. Items brought into the house that do not become permanently affixed to the land remain personal property; for example, furniture, clothing, cooking utensils, radios, and television sets.

**ADAPTATION OF THE OBJECT**
Historically, the manner of attachment was the only method of classifying an object as personal property or real estate, but as time progressed, this test alone was no longer adequate. For example, how would you classify custom-made drapes made for an unusual window? For the answer, we must apply a second test: *How is the article adapted* to the building? If the drapes are specifically made for the window, they are automatically included in the purchase or rental of the building. Another example is the key to a house. Although it spends most of its useful life in a pocket or purse, it is nonetheless quite specifically adapted to the house and therefore a part of it.

**EXISTENCE OF AN AGREEMENT**
The third test is the *existence of an agreement* between the parties involved. For example, a seller can clarify in advance and in writing to the broker what he considers personal property, and thus will be removed, and what he does not consider personal property, and thus will transfer to the buyer. Common items that can cause confusion are garage door openers, satellite dishes, remote controls, swimming pool equipment, keyless entry systems, “surround sound” systems, plasma TVs, and controls for burglar alarm systems. Many of these items can be uniquely adapted to the premises, but the seller considers them personal property as they might be able to be recoded or utilized for another residence.

**RELATIONSHIP OF THE PARTIES**
The fourth test in determining whether an item of personal property has become a fixture is to look at the *relationship of the parties*. For example, a supermarket moves into a rented building, then buys and bolts to the floor various *trade fixtures* such as display shelves, meat and dairy coolers, frozen food counters, and checkout stands. When the supermarket later moves out, do these items, by virtue of their attachment, become the property of the building owner? Modern courts rule that tenant-owned trade fixtures do not become the property of the landlord. However, they must be removed before the expiration of the lease and without seriously damaging the building.
Prior Liens Against Fixtures

In addition to the misunderstandings that often arise between buyer and seller in determining the intention of the parties regarding fixtures, there are also priorities given in the law that can create a lien on fixtures if that lien is timely and properly recorded. For instance, if one finances a new air-conditioning unit from a vendor, the vendor has a right to file a lien on that item that will become a fixture, and will show up as a lien on the real estate in the real property records. Many homeowners are surprised when they have a lien from a department store on an item that they thought they put on their charge account, when in fact, it was a lien created for a home improvement (air conditioners, roofs, gutters, or other major repairs that had been financed through a local department store).

Ownership of Plants, Trees, and Crops

Trees, cultivated perennial plants, and uncultivated vegetation of any sort are considered part of the land. For example, landscaping is included in the sale or rental of a house. If a tenant plants a tree or plant in the ground while renting, the tree or plant stays when the lease expires unless both landlord and tenant agree otherwise. Plants and trees in movable pots are personal property and are not generally included in a sale or lease.

Annual cultivated crops are called **embledments**, and most courts of law regard them as personal property even though they are attached to the soil. For example, a tenant farmer is entitled to the fruits of his labor even though the landlord terminates the lease part way through the growing season. When property with harvestable plants, trees, or crops is offered for sale or lease, it is good practice to make clear in any listing, sale, or lease agreement who will have the right to harvest the crop that season. This is particularly true of farm property, where the value of the crop can be quite substantial.

Appurtenances

The conveyance of land carries with it any appurtenances to the land. An **appurtenance** is a right or privilege or improvement that belongs to and passes with land but is not necessarily a part of the land. Examples of appurtenances are easements and rights-of-way (discussed in Chapter 3), condominium parking stalls, and shares of stock in a mutual water company that services the land.

Water Rights

Water rights vary greatly across the country. Some have noted the “30-inch” rule. This concept divides the country from north to south between the eastern areas that receive more than 30 inches of annual rainfall and the western areas that receive less than 30 inches of annual rainfall (roughly paralleling Interstate Highway 35, from Texas to Minnesota). Eastern areas generally have an ample supply of water; so, their water laws are largely the law of surface waters and are modeled after the English riparian system. Western areas regularly experience varying degrees of water shortages and drought conditions, resulting in water law rules being based on the concept that the State is the owner of the water (in fee or in trust for the public) and allowing a person to establish a state-permitted right to use the water by putting it to beneficial use.

The ownership of land that borders on a river or stream carries with it the right to use that water in common with the other landowners whose lands border the
same watercourse. This is known as a **riparian right**. The landowner does not have absolute ownership of the water that flows past his land but may use it in a reasonable manner. In western states, riparian rights have been modified by the **doctrine of prior appropriation**: the first owner to divert water for his own use may continue to do so, even though it is not equitable to the other landowners along the watercourse. Some estates have a right to the use of property as a prior appropriation. Where land borders on a lake or sea, it is said to carry **littoral rights** rather than riparian rights. Littoral rights allow a landowner to use and enjoy the water touching his land provided he does not alter the water's position by artificial means. A lakefront lot owner would be an example of this.

Ownership of land normally includes the right to drill for and remove water found below the surface. The first to use the water (even underground water) has a prior right to its use. This is called the **doctrine of capture**. Where water is not confined to a defined underground waterway, it is known as **percolating water**. In some states, a landowner has the right, in conjunction with neighboring owners, to draw her share of percolating water. Other states subscribe to the doctrine of prior appropriation. When speaking of underground water, the term **water table** refers to the upper limit of percolating water below the earth's surface. It is also called the groundwater level. This may be only a few feet below the surface or hundreds of feet down.

### Land Descriptions

There are six commonly used methods of describing the location of land: (1) *metes and bounds*, (2) rectangular survey system, (3) recorded plat, (4) reference to documents other than maps, (5) informal reference, and (6) assessor's parcel number. Methods (1) through (4) are generally considered to be **legal descriptions**. That is, they sufficiently identify the land so that it cannot be confused with another tract. Methods (5) and (6) are informal references. While commonly used, they are not sufficient for legally identifying the land. For instance, if a home is located on Pine, it could be Pine Street, Pine Avenue, Pine Lane, or Pine Court. They are often confused with each other when a person lives "on Pine." Finally, some houses have one address but are located on two lots; some single-family lots have two houses with different addresses; or tax assessors misidentify tracts (their employees identify tracts for tax purposes only and can make mistakes). This is why a proper legal description is so important. Let's look at each in detail.

#### METES AND BOUNDS

Early land descriptions in America depended heavily on convenient natural or man-made objects called **monuments**. A stream might serve to mark one side of a parcel, an old oak tree to mark a corner, a road another side, a pile of rocks a second corner, a fence another side, and so forth. This survey method was handy, but it had two major drawbacks: there might not be a convenient corner or boundary marker where one was needed, and, over time, oak trees died, stone heaps were moved, streams and rivers changed course, stumps rotted, fences were removed, and unused roads became overgrown with vegetation. The following description, excerpted from the Hartford, Connecticut, probate court records for 1812, illustrates just how difficult it can be to try to locate a parcel’s boundaries precisely using only convenient natural or man-made objects:

Commencing at a heap of stone about a stone’s throw from a certain small clump of alders, near a brook running down off from a rather high part of said ridge; thence, by a straight line to a certain marked white birch tree, about two or three times as
far from a jog in a fence going around a ledge nearby; thence by another straight line in a different direction, around said ledge, and the Great Swamp, so called; thence . . . to the “Horn,” so called, and passing around the same as aforesaid, as far as the “Great Bend,” so called, and . . . to a stake and stone not far off from the old Indian trail; thence, by another straight line . . . to the stump of the big hemlock tree where Philo Blake killed the bear; thence, to the corner begun at by two straight lines of about equal length, which are to be run by some skilled and competent
surveyor, so as to include the area and acreage as herein before set forth.

**PERMANENT MONUMENTS.** The drawbacks of the previous outmoded method of land description are resolved by setting a permanent man-made monument at one corner of the parcel. This monument will typically be an iron pin or pipe, one to two inches in diameter, driven several feet into the ground. Sometimes concrete or stone monuments are used. To guard against the possibility that the monument might later be destroyed or removed, it is referenced by means of a **connection line** to a nearby permanent reference mark established by a government survey agency. Other parcels in the vicinity will also be referenced to the same permanent reference mark.

The surveyor then describes the parcel in terms of distance and direction from that point. This is called **metes and bounds** surveying, which means distance (metes) and direction (bounds). From the monument, the surveyor runs the parcel’s outside lines by compass and distance so as to take in the land area being described. Distances are measured in feet, usually to the nearest one-tenth or one-hundredth of a foot. Direction is shown in degrees, minutes, and seconds. There are 360 degrees (°) in a circle, 60 minutes (′) in each degree, and 60 seconds (″) in each minute. The abbreviation 29°14′52″ would be read as 29 degrees, 14 minutes, 14 seconds, and 52 seconds. Figure 2.2 illustrates a simple modern metes and bounds land description. Note that at each corner a coordinate system is superimposed. This may help you better understand how the bounds are set from each point.

With a metes and bounds description, you start from a permanent reference mark and travel to the nearest corner of the property. This is where the parcel survey begins and is called **point of beginning** or **point of commencement.** From this point in Figure 2.2, we travel clockwise along the parcel’s perimeter, reaching the next corner by going in the direction 80 degrees east of south for a distance of 180 feet. We then travel in a direction 15 degrees west of south for 160 feet, thence 85 degrees west of south for 151 feet, and thence 4 degrees, 11 minutes, and 8 seconds east of north for 199.5 feet back to the point of beginning. In mapping shorthand, this parcel would be described by first identifying the monument, then the county and state within which it lies, and “thence S80°0′0″E, 180.0′; thence S15°0′0″W, 160.0′; thence S85°0′0″W, 151.0′; thence N4°11′8″E, 199.5′ back to the p.o.b.” Although one can successfully describe a parcel by traveling around it either clockwise or counterclockwise, it is customary to travel clockwise.

The job of taking a written land description (such as the one just described) and locating it on the ground is done by a two-person survey team. The survey team drives a wooden or metal stake into the ground at each corner of the parcel. If a corner lies on a sidewalk, a nail through a brass disc about one-half inch wide is used. (Look closely for these the next time you are out walking. At construction sites you will see that corner stakes often have colored streamers on them.) The basic equipment of a survey team includes a compass, a transit, a sight pole or rod, a steel tape, and a computation book. A transit consists of a very accurate compass plus a telescope with cross-hairs that can be rotated horizontally and vertically. It will measure angles accurately to one second of a degree. The sight
pole is about 8 feet high and held by the rodman, the second member of the survey team. Marks on the sight pole are aligned by the surveyor with the cross-hairs in the telescope. A 100-foot steel tape, made of a special alloy that resists expansion on hot days, is used to measure distances. For longer distances, and especially distances across water, canyons, heavy brush, etc., surveyors use laser beam equipment. The beam is aimed at a mirror on the sight pole, bounced back, and electronically converted to a digital readout that shows the distance to the pole. Handheld computers now perform many of the angle and distance computations necessary to a survey.

COMPASS DIRECTIONS. The compass illustrated in Figure 2.3A on the next page shows how the direction of travel along each side of the parcel in Figure 2.2 is determined. Note that the same line can be labeled two ways, depending on which direction you are traveling. To illustrate, look at the line from $P$ to $Q$. If you are traveling toward $P$ on the line, you are going $N45^\circ W$. But, if you are traveling toward point $Q$ on the line, you are going $S45^\circ E$.

Curved boundary lines are produced by using arcs of a circle. The length of the arc is labeled $L$ or $A$; the radius of the circle producing the arc is labeled $R$. The symbol $\Delta$ (delta) indicates the angle used to produce the arc (see Figure 2.3B on the next page). Where an arc connects to a straight boundary or another arc, the connection is indicated by a small circle or by a dot, as shown in Figure 2.3B.

Bench marks are commonly used as permanent reference marks. A bench mark is a fixed mark of known location and elevation. It may be as simple as an iron post or as elaborate as an engraved $3\frac{3}{4}''$ brass disc set into concrete. The mark is usually set in place by a government survey team from the United States Geological Survey (USGS) or the United States Coast and Geodetic Survey.
USCGS). Bench marks are referenced to each other by distance and direction. The advantages of this type of reference point, compared to stumps, trees, rocks, and the like, are permanence and accuracy to within a fraction of an inch. Additionally, even though it is possible to destroy a reference point or monument, it can be replaced in its exact former position because the location of each is related to other reference points. In states using the rectangular survey system or a grid system (discussed shortly), a section corner or a grid intersection is often used as a permanent reference mark. As a convenience to surveyors, it will be physically marked with an iron post or a brass disc set in concrete.

Even with good surveyors, there is potential for mistakes because ground levels change and permanent monuments established by prior surveyors may not be exactly correct. The use of global positioning systems is now making metes and bounds descriptions very accurate. The new satellite positioning systems are exact, and therefore are constantly finding errors, mostly minor, which need to be constantly corrected as our technology is improving.

**RECTANGULAR SURVEY SYSTEM**

The *rectangular survey system* was authorized by Congress in May 1785. It was designed to provide a faster and simpler method than metes and bounds for describing land in newly annexed territories and states. Rather than using available physical monuments, the rectangular survey system, also known as the
government survey system or U.S. Public Lands Survey system, is based on imaginary lines. These lines are the east-west latitude lines and the north-south longitude lines that encircle the earth, as illustrated in Figure 2.4. A helpful way to remember this is that longitude lines (meridians) run the long way around the earth.

Certain longitude lines were selected as principal meridians. For each of these an intercepting latitude line was selected as a base line. Every 24 miles north and south of a base line, correction lines or standard parallels were established. Every 24 miles east and west of a principal meridian, guide meridians were established to run from one standard parallel to the next. These are needed because the earth is a sphere, not a flat surface. As one travels north in the United States, longitude (meridian) lines come closer together—that is, they converge. Figure 2.4 shows how guide meridians and correction lines adjust for this problem. Each 24-by-24-mile area created by the guide meridians and correction lines is called a check or quadrangle.

There are 36 principal meridians and their intersecting base lines in the U.S. Public Lands Survey system. Figure 2.5 on the next page shows the states in which this system is used and the land area for which each principal meridian and base line act as a reference. For example, the Sixth Principal Meridian is the reference point for land surveys in Kansas, Nebraska, and portions of Colorado, Wyoming, and South Dakota. In addition to the U.S. Public Lands Survey system, a portion of western Kentucky was surveyed into townships by a special state survey. Also, the state of Ohio contains eight public land surveys that are rectangular in design but which use state boundaries and major rivers rather than latitude and longitude as reference lines.

**RANGE.** Figure 2.6 (on page 21) shows how land is referenced to a principal meridian and a base line. Every six miles east and west of each principal meridian, parallel imaginary lines are drawn. The resulting six-mile-wide columns are called ranges and are numbered consecutively east and west of the principal meridian. For example, the first range west is called Range 1 West and is abbreviated R1W. The next range west is R2W, and so forth. The fourth range east is R4E.
**TOWNSHIP.** Every six miles north and south of a base line, township lines are drawn. They intersect with the range lines and produce 6-by-6-mile imaginary squares called **townships** (not to be confused with the word township as applied to political subdivisions). Each tier or row of townships thus created is numbered with respect to the base line. Townships lying in the first tier north of a base line all carry the designation Township 1 North, abbreviated T1N. Townships lying in the first tier south of the base line are all designated T1S, and in the second tier south, T2S. By adding a range reference, an individual township can be identified. Thus, T2S, R2W would identify the township lying in the second tier south of the base line and the second range west of the principal meridian. T14N, R52W would be a township 14 tiers north of the base line and 52 ranges west of the principal meridian.

**SECTION.** Each 36-square-mile township is divided into 36 one-square-mile units called **sections.** When one flies over farming areas, particularly in the Midwest, the checkerboard pattern of farms and roads that follow section boundaries can be seen. Sections are numbered 1 through 36, starting in the upper-right corner of the township. With this numbering system, any two sections with consecutive numbers share a common boundary. The section numbering system is illustrated in Figure 2.6 where the shaded section is described as Section 32, T2N, R3E, 6th Principal Meridian.
ACRE. Each square-mile section contains 640 acres, and each acre contains 43,560 square feet. Any parcel of land smaller than a full 640-acre section is identified by its position in the section. This is done by dividing the section into quarters and halves as shown in Figure 2.7 (on the next page). For example, the shaded parcel shown at A is described as the NW₁⁄₄ of the SW₁⁄₄ of Section 32, T₂N, R₃E, 6th P.M. Additionally, it is customary to name the county and state in which the land lies. How much land does the NW₁⁄₄ of the SW₁⁄₄ contain? A section contains 640 acres; therefore, a quarter-section contains 160 acres. Dividing a quarter-section again into quarters results in four 40-acre parcels. Thus, the northwest quarter of the southwest quarter contains 40 acres.

The rectangular survey system is not limited to parcels of 40 or more acres. To demonstrate this point, the SE₁⁄₄ of Section 32 is exploded in the right half of Figure 2.7. Parcel B is described as the SE₁⁄₄ of the SE₁⁄₄ of the SE₁⁄₄ of Section 32 and contains 2½ acres. Parcel C is described as the west 15 acres of the NW₁⁄₄ of the SE₁⁄₄ of Section 32. Parcel D would be described in metes and bounds using the northeast corner of the SE₁⁄₄ of Section 32 as the starting point.

When locating or sketching a rectangular survey on paper, many people find it helpful to start at the end of the description and work to the beginning, i.e., work backwards. Try it.

Not all sections contain exactly 640 acres. Some are smaller because the earth’s longitude lines converge toward the North Pole. Also, a section may
be larger or smaller than 640 acres due to historical accommodations or survey errors dating back a hundred years or more. For the same reason, not all townships contain exactly 36 square miles. Between 1785 and 1910, the U.S. government paid independent surveyors by the mile. The job was often accomplished by tying a rag to one spoke of the wheel of a buckboard wagon. A team of horses was hitched to the wagon and the surveyor, compass in hand, headed out across the prairie. Distance was measured by counting the number of wheel turns and multiplying by the circumference of the wheel. Today, large area surveys are made with the aid of aerial photographs, sophisticated electronic equipment, and earth satellites.

In terms of surface area, more land in the United States is described by the rectangular survey system than by any other survey method. But in terms of number of properties, the recorded plat is the most important survey method.

**RECORDING PLAT**

When a tract of land is ready for subdividing into lots for homes and businesses, reference by recorded plat provides the simplest and most convenient method of land description. A plat is a map that shows the location and boundaries of individual properties. Also known as the lot-block-tract system, recorded map, or recorded survey, this method of land description is based on the filing of a surveyor’s plat in the public recorder’s office of the county where the land is described.
located. Figure 2.8 illustrates a plat. Notice that a metes and bounds survey has been made, and a map prepared to show in detail the boundaries of each parcel of land. Each parcel is then assigned a lot number. Each block in the tract is given a block number, and the tract itself is given a name or number. A plat showing all the blocks in the tract is delivered to the county recorder’s office, where it is placed in map books or survey books, along with plats of other subdivisions in the county.

Each plat is given a book and page reference number, and all map books are available for public inspection. From that point on, it is no longer necessary to give a lengthy metes and bounds description to describe a parcel. Instead, one need only provide the lot and block number, tract name, map book reference, county, and state. To find the location and dimensions of a recorded lot, one simply looks in the map book at the county recorder’s office.

Note that the plat in Figure 2.8 combines both of the land descriptions just discussed. The boundaries of the numbered lots are in metes and bounds. These, in turn, are referenced to a section corner in the rectangular survey system.
REFERENCE TO DOCUMENTS OTHER THAN MAPS

Land can also be described by referring to another publicly recorded document, such as a deed or a mortgage, that contains a full legal description of the parcel in question. For example, suppose that several years ago Baker received a deed from Adams that contained a long and complicated metes and bounds description. Baker recorded the deed in the public records office, where a photocopy was placed in Book 1089, page 456. If Baker later wants to deed the same land to Cooper, Baker can describe the parcel in his deed to Cooper by saying, “all the land described in the deed from Adams to Baker recorded in Book 1089, page 456, county of ABC, state of XYZ, at the public recorder’s office for said county and state.” Since these books are open to the public, Cooper (or anyone else) could go to Book 1089, page 456, and find a detailed description of the parcel’s boundaries.

The key test of a land description is: “Can another person, reading what I have written or drawn, understand my description and go out and locate the boundaries of the parcel?”

INFORMAL REFERENCES—STREET NUMBERS AND COMMON NAMES

Street numbers and place names are informal references: the house located at 7216 Maple Street; the apartment identified as Apartment 101, 875 First Street; the office identified as Suite 222, 3570 Oakview Boulevard; or the ranch known as the Rocking K Ranch—in each case followed by the city (or county) and state where it is located—are informal references. The advantage of an informal reference is that it is easily understood. The disadvantage from a real estate standpoint is that it is not a precise method of land description. A street number or place name does not provide the boundaries of the land at that location, and these numbers and names change over the years. Consequently, in real estate, the use of informal references is limited to situations in which convenience is more important than precision. Thus, in a rental contract, Apartment 101, 875 First Street, city and state, is sufficient for a tenant to find the apartment unit. However, if you were buying the apartment building, you would want a more precise land description.

ASSESSOR’S PARCEL NUMBERS

In many counties in the United States, the tax assessor assigns an assessor’s parcel number to each parcel of land in the county. The primary purpose is to aid in the assessment of property for tax collection purposes. However, these parcel numbers are public information, and real estate brokers, appraisers, and investors can and do use them extensively to assist in identifying real properties.

A commonly used system is to divide the county into map books. Each book is given a number and covers a given portion of the county. On every page of the map book are parcel maps, each with its own number. For subdivided lots, these maps are based on the plats submitted by the subdivider to the county records office when the subdivision was made. For unsubdivided land, the assessor’s office prepares its own maps.

Each parcel of land on the map is assigned a parcel number by the assessor. The assessor’s parcel number may or may not be the same as the lot number assigned by the subdivider. To reduce confusion, the assessor’s parcel number is either circled or underlined. Figure 2.9 illustrates a page out of an assessor’s map book. The assessor also produces an assessment roll that lists every parcel in the county by its assessor’s parcel number. Stored and printed by computer now, this
The tax assessor assigns every parcel of land in the county its own parcel number. For example, the westernmost parcel (Lot 50) in the map would carry the number 34-18-8, meaning Book 34, Page 18, Parcel 8.

roll shows the current owner’s name and address and the assessed value of the land and buildings.

The assessor’s maps are open to viewing by the public at the assessor’s office. In many counties, private firms reproduce the maps and the accompanying list of property owners, and make them available to real estate brokers, appraisers, and lenders for a fee.

Before leaving the topic of assessor’s maps, a word of caution is in order. These maps should not be relied upon as the final authority for the legal description of a parcel. That can come only from a title search that includes looking at the current deed to the property and the recorded copy of the subdivider’s plat. Note also that an assessor’s parcel number is never used as a legal description in a deed.

Grid Systems

Several states, such as North Carolina and Connecticut, have developed their own statewide systems of reference points for land surveying. The North Carolina system, for example, divides that state into a grid of 84 blocks, each side of which corresponds to 30 minutes (one-half of one degree) of latitude or longitude. This establishes a grid system of intersecting points throughout the state to which metes and bounds surveys can be referenced. State-sponsored grid systems (also called coordinate systems) are especially helpful for surveying large parcels of remote area land.
Vertical Land Description

In addition to surface land descriptions, land may also be described in terms of vertical measurements. This type of measurement is necessary when air rights or subsurface rights need to be described—as for multistory condominiums or oil and mineral rights.

A point, line, or surface from which a vertical height or depth is measured is called a datum. The most commonly used datum plane in the United States is mean sea level, although a number of cities have established other data surfaces for use in local surveys. Starting from a datum, bench marks are set at calculated intervals by government survey teams; thus, a surveyor need not travel to the original datum to determine an elevation. These same bench marks are used as reference points for metes and bounds surveys.

In selling or leasing subsurface drilling or mineral rights, the chosen datum is often the surface of the parcel. For example, an oil lease may permit the extraction of oil and gas from a depth greater than 500 feet beneath the surface of a parcel of land. (Subsurface rights are discussed in Chapter 3.)

An air lot (a space over a given parcel of land) is described by identifying both the parcel of land beneath the air lot and the elevation of the air lot above the parcel (see Figure 2.10A). Multistory condominiums use this system of land description.

Contour maps (topographic maps) indicate elevations. On these maps, contour lines connect all points having the same elevation. The purpose is to show hills and valleys, slopes, and water runoff. If the land is to be developed, the map shows where soil will have to be moved to provide level building lots. Figure 2.10B illustrates how vertical distances are shown using contour lines.
Lot Types

In talking about subdivisions, there are several terms with which you should be familiar. All of these are illustrated in Figure 2.11. A **cul de sac** is a street that is closed at one end with a circular turnaround. The pie-shaped lots fronting on the turnaround are called **cul de sac lots**. A **flag lot** is a lot shaped like a flag on a flagpole. It’s a popular method of creating a buildable lot out of the land at the back of a larger lot. A **corner lot** is a lot that fronts on two or more streets. Because of added light and access, a corner lot is usually worth more than an **inside lot**, i.e., a lot with only one side on a street. A **key lot** is a lot that adjoins the side or rear property line of a corner lot. The key lot has added value if it is needed by the corner lot for expansion. A **T lot** is a lot at the end of a **T intersection** as shown in Figure 2.11.

Physical Characteristics of Land

The physical characteristics of land are immobility, indestructibility, and nonhomogeneity. This combination of characteristics makes land different from other commodities and directly and indirectly influences man’s use of it.

**IMMOBILITY**

A parcel of land cannot be moved. It is true that soil, sand, gravel, and minerals can be moved by the action of nature (erosion) or man (digging); however, the parcel itself still retains its same geographical position on the globe. Because land
is immobile, a person must go to the land; it cannot be brought to him. When land is sold, the seller cannot physically deliver his land to the buyer. Instead, the seller gives the buyer a document called a deed that transfers to the buyer the right to go onto that land and use it. Because land is immobile, real estate offices nearly always limit their sales activities to nearby properties. Even so, a great deal of a salesperson’s effort is used in traveling to show properties to clients. Immobility also creates a need for property management firms, because unless an owner of rental property lives on it or nearby, neither land nor buildings can be effectively managed.

**INDESTRUCTIBILITY**

Land is indestructible, that is, durable. Today one can travel to the Middle East and walk on the same land that was walked on in Biblical days. Most of the land that we use in the United States today is the same land used by the Native Americans a thousand years ago.

The characteristic of physical durability encourages many people to buy land as an investment because they feel that stocks and bonds and paper money may come and go, but land will always be here. Although this is true in a physical sense, whether a given parcel has and will have economic value depends on one’s ability to protect his ownership, and on subsequent demand for that land by others. Physical durability must not be confused with economic durability.

**NONHOMOGENEITY**

The fact that no two parcels of land are exactly alike, because no two parcels can occupy the same position on the globe, is known as nonhomogeneity (heterogeneity). Courts of law recognize this characteristic of land, and treat land as a nonfungible (pronounced non*fun’je’ble) commodity; that is, nonsubstitutable. Thus, in a contract involving the sale or rental of land (and any improvement to that land), the courts can be called upon to enforce specific performance of the contract. For example, in a contract to sell a home, if the buyer carries out his obligations and the seller fails to convey ownership to the buyer, a court of law will force the seller to convey ownership of that specific home to the buyer. The court will not require the buyer to accept a substitute home. This is different from a homogeneous or fungible commodity that is freely substitutable in carrying out a contract. For example, one bushel of no. 1 grade winter wheat can be freely replaced by another bushel of the same grade, and one share of General Motors common stock can be substituted for another, as all are identical.

Although land is nonhomogeneous, there can still be a high degree of physical and economic similarity. For example, in a city block containing 20 house lots of identical size and shape, there will be a high degree of similarity even though the lots are still nonhomogeneous. Finding similar properties is, in fact, the basis for the market-comparison approach to appraising real estate.

**Economic Characteristics of Land**

The dividing line between the physical and economic characteristics of land is sometimes difficult to define. This is because the physical aspects of land greatly influence man’s economic behavior toward land. However, four economic characteristics are generally recognized: scarcity, modification, permanence of investment (fixity), and area preference (situs, pronounced si’tus).
**SCARCITY**

The shortage of land in a given geographical area where there is great demand for land is referred to as **scarcity**. It is a man-made characteristic. For example, land is scarce in Miami Beach, Florida, because a relatively large number of people want to use a relatively small area of land. Another well-known example is 2-mile-wide, 13-mile-long Manhattan Island in New York City, where more than a million people live and twice that number work. Yet one need only travel 25 miles west of Miami Beach or into central New York State to find plenty of uncrowded land available for purchase at very reasonable prices. The sheer quantity of undeveloped land in the United States as seen from an airplane on a cross-country flight is staggering.

Land scarcity is also influenced by our ability to use land more efficiently. To illustrate, in agricultural areas, production per acre of land has more than doubled for many crops since 1940. This is not due to any change in the land, but is the result of improved fertilizers and irrigation systems, better seeds, and modern crop management. Likewise, in urban areas, an acre of land that once provided space for five houses can be converted to high-rise apartments to provide homes for 100 or more families.

Thus, although there is a limited physical amount of land on the earth’s surface, scarcity is chiefly a function of demand for land in a given geographical area and the ability of man to make land more productive. The persistent notion that all land is scarce has led to periodic land sale booms in undeveloped areas, followed by a collapse in land prices when it becomes apparent that that particular land is not economically scarce.

**MODIFICATION**

Land use and value are greatly influenced by **modification**—that is, improvements made by man to surrounding parcels of land. For example, the construction of an airport will increase the usefulness and value of land parallel to runways but will have a negative effect on the use and value of land at the ends of runways because of noise from landings and takeoffs. Similarly, land subject to flooding will become more useful and valuable if government-sponsored flood control dams are built upriver.

One of the most widely publicized cases of land modification occurred near Orlando, Florida, when Disney World was constructed. Nearby land previously used for agricultural purposes suddenly became useful as motel, gas station, restaurant, house, and apartment sites and increased rapidly in value.

**FIXITY**

The fact that land and buildings and other improvements to land require long periods of time to pay for themselves is referred to as **fixity** or investment permanence. For example, it may take 20 or 30 years for the income generated by an apartment or office building to repay the cost of the land and building plus interest on the money borrowed to make the purchase. Consequently, real estate investment and land-use decisions must consider not only how the land will be used next month or next year, but also the usefulness of the improvements 20 years from now. There is no economic logic in spending money to purchase land and improvements that will require 20 to 30 years to pay for themselves if their usefulness is expected to last only 5 years.

Fixity also reflects the fact that land cannot be moved from its present location to another location where it will be more valuable. With very few exceptions, improvements to land are also fixed. Even with a house, the cost of moving it, plus building a foundation at the new site, can easily exceed the value of the house after the move. Thus, when an investment is made in real estate, it is regarded as a fixed or sunk cost.
Situs or location preference refers to location from an economic rather than a geographic standpoint. It has often been said that the single most important word in real estate is location. This refers to the preference of people for a given area. For a residential area, these preferences are the result of natural factors, such as weather, air quality, scenic views, and closeness to natural recreation areas, and of man-made factors, such as job opportunities, transportation facilities, shopping, and schools. For an industrial area, situs depends on such things as an available labor market, adequate supplies of water and electricity, nearby rail lines, and highway access. In farming areas, situs depends on soil and weather conditions, water and labor availability, and transportation facilities.

Situs is the reason that house lots on street corners sell for more than identical-sized lots not on corners. This reflects a preference for open space. The same is true in apartments; corner units usually rent for more than similar-sized noncorner units. In a high-rise apartment building, units on the top floors, if they offer a view, command higher prices than identical units on lower floors. On a street lined with stores, the side of the street that is shaded in the afternoon will attract more shoppers than the unshaded side. Consequently, buildings on the shaded side will generate more sales and, as a result, be worth more.

It is important to realize that, since situs is a function of people’s preferences, and preferences can change with time, situs can also change. For example, the freeway and expressway construction boom that started in the 1950s and accelerated during the 1960s increased the preference for suburban areas. This resulted in declining property values in inner city areas and increasing land values in the suburbs. Today, historic rehabilitation and a desire to live closer to work are drawing people back to downtown areas.

Vocabulary Review

Match terms a—v with statements 1–22.

<table>
<thead>
<tr>
<th>Term</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Acre</td>
<td>1. An object that has been attached to land so as to become real estate.</td>
</tr>
<tr>
<td>b. Appurtenance</td>
<td>2. Contains 36 sections of land.</td>
</tr>
<tr>
<td>c. Assessor’s parcel number</td>
<td>3. The depth below the surface at which water-saturated soil can be found.</td>
</tr>
<tr>
<td>d. Base line</td>
<td>4. A survey line running east and west from which townships are established.</td>
</tr>
<tr>
<td>f. Contour line</td>
<td>6. The right of a landowner to use water flowing past his land.</td>
</tr>
<tr>
<td>g. Cul de sac</td>
<td>7. An iron pipe or other object set in the ground to establish land boundaries.</td>
</tr>
<tr>
<td>h. Datum</td>
<td>8. A survey line that runs north and south in the rectangular survey system.</td>
</tr>
<tr>
<td>j. Fixture</td>
<td>10. A horizontal plane from which height and depth are measured.</td>
</tr>
<tr>
<td>k. Flag lot</td>
<td></td>
</tr>
<tr>
<td>l. Government survey</td>
<td></td>
</tr>
</tbody>
</table>
1. Is the land upon which you make your residence described by metes and bounds, lot-block-tract, or the rectangular survey system?

2. On a sheet of paper, sketch the following parcels of land in Section 6, T1N, R3E: (a) the NW1/4; (b) the SW1/4 of the SW1/4; (c) the W1/2 of the SE1/4; (d) the N17 acres of the E1/2 of the NE1/4; (e) the SE1/4 of the SE1/4 of the NE1/4.

3. How many acres are there in each parcel described in number 2?

4. Describe the parcels labeled A, B, C, D, and E in the section shown below.

5. Using an ordinary compass and ruler, sketch the following parcel of land: “Beginning at monument M, thence due east for 40 feet, thence south 45° east for 14.1 feet, thence due south for 40 feet, thence north 45° west for 70.7 feet back to the point of beginning.”

6. If a landowner owns from the center of the earth to the limits of the sky, are aircraft that pass over-head trespassers?

7. Would you classify the key to the door of a building as personal property or real property?

8. With regard to your own residence, itemize what you consider to be real property and what you consider to be personal property.

9. With regard to riparian rights, does your state follow the doctrine of prior appropriation or the right to a reasonable share?

10. What effects do you think changes in the location of the magnetic north pole would have on surveys over a long period of time? How would earthquakes affect bench marks?
Additional Readings


*Real Estate Law*, 2nd ed. by Charles J. Jacobus (South-Western, 1998).
Answers to Chapter Questions and Problems

Chapter 2
Nature and Description of Real Estate

VOCABULARY REVIEW

1. a. 17  
2. b. 19  
3. c. 11  
4. d. 4  
5. e. 20  
6. f. 15  
7. g. 21  
8. h. 10  
9. i. 9  
10. j. 1  
11. k. 22  
12. l. 13  
13. m. 16  
14. n. 8  
15. o. 12  
16. p. 7  
17. q. 18  
18. r. 6  
19. s. 5  
20. t. 14  
21. u. 2

QUESTIONS & PROBLEMS

1. Requires local answer.

2. 

3. (a) 160 acres  
   (b) 40 acres  
   (c) 80 acres  
   (d) 17 acres  
   (e) $2\frac{1}{2}$ acres

4. (a) NE$^{1/4}$  
   (b) E$^{1/2}$ of the SE$^{1/4}$  
   (c) SW$^{1/4}$ of the NW$^{1/4}$  
   (d) W$^{1/2}$ of the SE$^{1/4}$ of the NW$^{1/4}$  
   (e) NE$^{1/4}$ of the SE$^{1/4}$ of the NW$^{1/4}$
6. No. In the general public interest, laws have been passed that give aircraft the right to pass over land, provided they fly above certain altitudes.

7. The key to a door, although highly portable, is adapted to the door and as such is real property.

8. Requires individualized answer. However, as a general rule, anything that is permanently attached is real property and anything that is not attached is personal property.

9. Requires local answer.

10. Unless corrections are made (and they usually are), survey inaccuracies would result.
A broker's submission of a listing to a multiple listing service (MLS) is an offer of cooperation and compensation to all other broker members of such service unless otherwise specified by the listing broker. Duke sold his property to Jane with the condition that the property not be used for any other use than a private residence.