MONUMENTS AND ACCESSORIES

INTRODUCTION

The basic purpose of U.S. land surveys is marking corners in their proper locations with materials that will withstand the ravages of time and the elements. Each marker must be placed in accordance with the method of instructions and procedures outlined in the Manual of Instructions in use at the time of the survey. The manual has been reprinted several times and many changes have been made through the years. The modern surveyor recognizes these variations and makes appropriate notations in his records of survey.

MONUMENTS

The Bureau of Land Management has standardized the marking of corners used in present-day surveys. All types of corner monuments are systematically marked to furnish identification of the monument. However, it is possible you may encounter monuments placed many years ago, which do not conform to current practice.

POST AND TREE MONUMENTS

![Figure 1 Commonly Used Markings](image)

The usual wrought iron post monument carries a brass cap. Identifying letters and numbers are stamped on this cap with a stamping set. Similar letters and numbers are marked on tree monuments, on the trunk just above the root crown, using a timber scribe. If the tree is smooth-barked, the markings are cut directly into the bark; if it is rough-barked, a long blaze is made on the trunk to receive the markings. Figure 1 is a list of the commonly used markings that apply to all classes of corners. The marking on the brass cap is made to read from the south side.
Figure 2 Corner Markings
Figure 2 shows how these marks are used in a number of typical situations. Older corner monuments are shown in figure 3.

(a) Modern iron post with brass cap, and mound of stone; (b) wooden posts, the one on left not much more than a twig; (c) wooden post, showing decay at ground line; (d) corner monument obliterated, remnants of stone mounds identify corner position; (e) corner monument obliterated, evidence of old pits fixes corner position.
**STONE MONUMENTS**

Where stone monuments are used, the letters, numbers, and other markings are chiseled into one or more of the vertical faces of the stone rather than upon its top. Stone monuments are set with either their faces or their edges in the cardinal directions, depending upon the location of the corner in the survey. Stone township corners bear the letters and numbers indicating the townships and ranges to which the monument is common. If the monument is on a base line or standard parallel, it must also show the letters SC or CC to distinguish between standard and closing township corners. Section corners are likewise distinguished as standard or closing corners. In addition, they bear a number of grooves on the faces or a number of notches on the edges of the monument. These grooves or notches indicate, for exterior section corners, the number of miles from the monument to the adjoining township corners.

![Figure 4 Stone Markings](image)

For subdivision corners, they show the number of miles from the monument to the east and south township boundary lines (Figure 4), furnishing a means of identifying the sections, which meet at the monument.

**MEANDER CORNERS**

All navigable bodies of water and other important rivers and lakes are segregated from the public lands at mean high-water level. Where section lines, quarter-section lines, or sixteenth lines meet the bank of a meanderable stream or lake, a marker is placed. These locations are termed "meander corners," "special meander corners," or "auxiliary meander corners."

The distance from the nearest section or quarter section monument on the survey line is measured and recorded. The monument is marked on the side facing the water. The other markings that refer to township, sections, and date of establishment are also stamped or chiseled. Such a monument is referenced by bearings to trees or other convenient witnesses. Where the width of the watercourse permits, the survey line is carried across to a meander corner on the far shore.
In Figure 5, corners a and b are meander corners; c and d are special meander corners; and e, at a given distance and direction from the section corner, is an auxiliary meander corner.

Standard terms used in U.S. land surveys commonly are abbreviated by the use of their initials:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMC</td>
<td>Auxiliary Meander Corner</td>
</tr>
<tr>
<td>BO</td>
<td>Bearing Object</td>
</tr>
<tr>
<td>BT</td>
<td>Bearing Tree</td>
</tr>
<tr>
<td>CC</td>
<td>Closing Corner</td>
</tr>
<tr>
<td>SC</td>
<td>Standard Corner</td>
</tr>
<tr>
<td>WC</td>
<td>Witness Corner</td>
</tr>
<tr>
<td>MC</td>
<td>Meander Corner</td>
</tr>
<tr>
<td>SMC</td>
<td>Special Meander Corner</td>
</tr>
</tbody>
</table>

**RESPONSIBILITY FOR PERPETUATION OF CORNERS OF THE PUBLIC LAND SYSTEM OF SURVEYS**

The following paragraphs taken from a directive published by the Bureau of Land Management should be of interest to all surveyors:

The law provides that the original corners established during the process of survey shall forever remain fixed in position. The courts attach major importance to evidence relating to the original position of the monument.
In order to protect the monuments established by the government in surveying the public lands, Congress on March 4, 1909, enacted legislation providing for a penalty for the unauthorized alteration or removal of such monuments. This act, although its provisions are seldom invoked, nevertheless serves as a warning to the public and makes the public realize the importance of land boundaries. The Act provides:

"Whoever shall willfully destroy, deface, change, or remove to another place any section corner, quarter-section corner, or meander post, on any Government line of survey, or shall willfully cut down any witness tree or tree blazed to mark the line of a Government survey, or shall willfully deface, change, or remove any monument or bench mark of any Government survey, shall be fined not more than $250, or imprisoned not more than six months, or both."

The administration of this law is not a function of the Bureau of Land Management; it being a part of the United States Criminal Code is administered by the Justice Department. Therefore, any complaints coming within the purview of this Act should be filed with the United States Attorney in whose district the offense was committed.

The power of making surveys or resurveys of the public land is vested in the Department of the Interior. A licensed surveyor of the State of California has the authority to determine the boundaries of privately owned lands, but his determination of the boundaries between privately owned lands and public lands cannot be accepted when it is evident from the conditions on the ground that the surveyor did not use the proper method or that he disregarded evidence of the original survey. The Bureau of Land Management does not disturb local existing conditions if it is possible to accept corners established by private surveyors.

However, since the only right, title, or interest acquired by a patentee to lands of the United States is defined by the corners of the original government survey upon which the description is based, a private surveyor cannot disregard evidence of the original survey or disregard the legal method of subdividing a section and expect to have his survey accepted by all interested parties.

Under the California Code, the duties of the Surveyor are clearly established in the perpetuation of government survey markings:

*Duties of the County Surveyor* - When in the performance of his official duties any county surveyor shall find a government corner which has been marked by any government surveyor by placing charcoal in the ground, or by a wooden stake, earth mound, or other perishable monument, it shall be his duty to remark said corner by placing therein a monument of heavily galvanized iron pipe or galvanized iron stake not less than 2" in diameter and not less than two feet long, or other monument not less in size and equally imperishable.

*Establishment of Monuments* - All such monuments located in public highways shall be placed with the top not less than twelve inches below the surface of the ground, but when not located in public highways, they shall be placed with the top six inches
above the surface of the ground. If the top of the monument is placed above the ground, it shall be not less than four feet long, if of metal.

**Recordation of Witness Objects** - The surveyor shall note witness objects that are within a reasonable distance of any corner, and state distance and course from said corner, and record the same in a properly indexed record book kept in the county surveyor's office, which shall be a public record.

**Board of Supervisors to Furnish Monuments** - All boards of supervisors are required to furnish all necessary pipes or stakes for monuments for their respective counties without cost, on demand."

The Land Surveyors Act of California provides that: "Monuments set shall be sufficient in number and durability and efficiently placed so as not to be readily disturbed, to assure, together with monuments already existing, the perpetuation or facile reestablishment of any point or line of the survey. When adequate records exist as to the location of subdivision, tract, street or highway monuments, such monuments shall be located and referenced by or under the direction of a licensed land surveyor or civil engineer registered prior to 1982 at the time when streets or highways are reconstructed or relocated. They shall be reset in the surface of the new construction, a suitable monument box placed thereon, or permanent witness monuments set to perpetuate their location. Sufficient controlling monuments shall be retained or replaced in their original positions to enable landlines, property corners, and tract boundaries to be reestablished without surveys necessarily originating on monuments differing from the ones, which currently control the area. It shall be the responsibility of the governmental agency or others performing construction work to provide for the monumentation required by this section. It shall be the duty of every land surveyor or civil engineer to cooperate with such governmental agency in matters of maps, field notes, and other pertinent records. Monuments set to mark the limiting lines of highways, roads, or streets shall not be deemed adequate for this purpose unless specifically noted on the records of the improvement works with direct ties in bearing or azimuth and distance between these and other monuments of record."

The courts have consistently held that it was never the intent of Congress that the original land surveys upon which the title description is based should ever be altered or changed in any respect. However, there can be no interpretation of the law to hinder proper maintenance or reduce the responsibility of county surveyors, private surveyors, or those engaged in construction projects to take the necessary steps to protect and perpetuate these monuments. Responsibilities for maintenance and the penalty for disturbance of corner monuments can be traced back to Biblical times.

Deuteronomy 27:17 "Cursed be he that removeth his neighbor's landmark; and all the people would say Amen";

Proverbs 22:28, "Remove not the ancient landmark which thy fathers have set."

After title to a piece of land is granted by the United States, jurisdiction over the property passes to the state; the federal government retains its authority only with respect to the public lands in federal
ownership. Where the lands are in private ownership, it is a function of the county or local surveyor to restore lost corners and to subdivide the sections. Disputes concerning these questions must come before the local courts, unless settled by unwritten rights. It should be understood, however, that no adjoining owner can make a valid encroachment upon the public lands.

The Bureau of Land Management assumes no control or direction over the acts of local and county surveyors in the subdivision of sections and reestablishment of lost corners of the original surveys now referring to private lands, nor will it issue instructions in such cases, but will upon request offer assistance and advise in solving survey problems. It follows that disputes arising from uncertain or erroneous location of corners originally established by the United States are to be settled by the proper local authorities or by amicable agreement, and the Bureau of Land Management desires that the rules controlling the acts of its Cadastral Survey Offices be considered as merely advisory and explanatory of the principles which should prevail in performing such duties. Bureau of Land Management has stated.

"This office receives many requests for the reestablishment of lost or obliterated corners where the adjacent lands have passed to patent and are now held in private ownership. We are, of course, interested in the preservation of all the corners originally set to mark the boundaries of the public lands, but we cannot undertake the tremendous task of remonumenting such corners which, due to weather or other conditions, are becoming obliterated. After the lands have passed to patent, the preservation of the original corners or the restoration of lost or obliterated corners is a responsibility falls upon the county surveyor and licensed surveyors of the community."

It is frequently necessary to reconstruct or properly reference the position of a corner monument that will be disturbed by road construction or other improvement. Where reconstructed or properly referenced and recorded with the county, willful violation of the Act of Congress of March 4, 1909, cannot be interpreted, but rather that the alteration or reconstruction is in complete accord with the intent of the law, which is to safeguard the evidence of the original monument and its accessories.

To keep within the intent of the law where road construction or the building of other improvements, as previously stated, will disturb a corner monument, the corner monument and accessories should be replaced and a complete record filed with the appropriate office. Durable material should be used and there should be sufficient accessories to assure ready identification of the corner point. The utmost regard should be shown for the evidence of the original location; the monument will be carefully reconstructed by such additional means as may be appropriate, placing the original stake or stone in the ground at the base or along side the new monument without destroying the evidence which served to identify that position.

Ties should be taken to references such as bearing trees, bearing objects or permanent improvements, as available. A record, giving a complete description of the old and the new monuments with their accessories and references, should be filed with the county and in the appropriate Cadastral Survey Office of the Bureau of Land Management.