



Missouri Surveying Standards

Four (4) Continuing Education Hours
Course #MO1002

Approved Continuing Education for Licensed Professional Engineers
& Professional Land Surveyors

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Course Description:

The approved document course satisfies the continuing professional education requirement of two (2) hours in surveying standards, ref Missouri Code of State Regulations 20 CSR 2030-8.020(1)(A).

The course is designed as a distance learning course that enables the practicing professional land surveyor or engineer to examine and revisit the Missouri standards for the practice of land surveying.

Objectives:

The primary objective of this course is to familiarize the student with the standards of practice for land surveying in Missouri and satisfy the two required hours of continuing education required by 20 CSR 2030-8.020(1)(A).

Upon successful completion of the course, the student will have a thorough understanding of this topic.

Grading:

Students must achieve a minimum score of 70% on the online quiz to pass this course. The quiz may be taken as many times as necessary to successfully pass and complete the course.

A copy of the quiz questions are attached to last pages of this document.

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CHAPTER 16—MISSOURI MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS

20 CSR 2030-16.010 Application of Standards

PURPOSE: These minimum standards provide the professional land surveyor and recipient of boundary surveys with a realistic guideline for adequate survey performance. This rule describes the types of surveys to which these minimum standards apply.

The minimum standards in this chapter apply to all property boundary surveys made for determining the location of land boundaries and land boundary corners, but do not apply to preliminary plats or plans, plot plans, engineering surveys; design surveys; geodetic surveys; cartographic surveys, or Surveyor's Real Property Report. Any individual or corporation registered licensed with the board to perform land surveying services in this state shall be familiar with and comply with these minimum standards. The Missouri Minimum Standards for Property Boundary Surveys are not intended to be used in place of professional land surveying judgement. There may be special circumstances and conditions that make it impractical to comply with some provisions of the minimum standards. If the survey deviates from these minimum standards, this deviation shall be noted, described, and justified on the plat of survey by the professional land surveyor. This provision cannot be used to intentionally circumvent the basic tenets of these minimum standards.

20 CSR 2030-16.020 Definitions

PURPOSE: This rule defines the various technical and legal terms used in this chapter.

- (1) Condominium Survey—A property boundary survey that creates and defines condominium property in accordance with Chapter 448, RSMo.
- (2) Controlling Corners—Those corners that determine the location of the exterior corners of the surveyed boundary.
- (3) Exterior Corners—Corners that define the shape and size of the parcel.
- (4) Material Variations—The differences between surveyed lines and lines of possession or measurements called for in the record source of the property being surveyed that are, in the professional judgment of the professional land surveyor, significant enough to warrant particular notice.
- (5) Original Survey—A survey which creates a new parcel. Boundary adjustment plats, consolidation plats, riparian plats, lot splits, and minor subdivisions are examples of original surveys.

- (6) Physical Monument—Natural or artificial objects which are accepted and used to mark boundaries and corners.
- (7) Positional Uncertainty—The positive and negative range of values expected for a computed horizontal position as a result of random errors.
- (8) Property Boundary Survey—Any survey that creates, defines, marks, remarks, retraces, or reestablishes the boundaries of parcels of real property or the subdivision of lands.
- (9) Property Description—A description of the limits of real property by recitation of metes and bounds or by an aliquot part of the United States Public Land Survey System or by lot or parcel designation referenced to a subdivision, survey, or other document recorded in the public records.
- (10) Random Errors—Unavoidable errors in measurement that are caused by the inability of the operator to make exact measurements. (Random errors generally follow statistical principles and can be reduced with care in measurement, but can never be completely eliminated.)
- (11) Record Title Boundaries—The limits of real property ownership as evidenced and provable by one (1) or more written means of real property transfer and having provided constructive notification by being duly entered into the public records.
- (12) Rural Property—Any property that is not urban property.
- (13) Subdivision—A property boundary survey that partitions land into two (2) or more parcels by platting the divisions of land in accordance with Chapter 445, RSMo.
- (14) Systematic Errors—Errors in measurement that conform to mathematical and physical laws and remain the same under set conditions. Systematic errors are detectable and can be removed by ensuring the proper adjustment of equipment, by applying appropriate corrections to observations, and by using appropriate observation techniques to eliminate the effects of imperfection in equipment manufacture.
- (15) United States Public Land Survey Corners— Those points that determine the boundaries of the various subdivisions of the United States Public Land Survey as set forth in section 60.301(1), RSMo.
- (16) Urban Property—Any property that is located wholly or partly within the corporate limits of any municipality or any commercial, industrial, or multi-unit developmental property.

20 CSR 2030-16.030 General Land Surveying Requirements

PURPOSE: This rule sets forth standards that apply to all property boundary surveys.

(1) Records Research.

- (A) Every survey executed shall be based on the property description of the parcel or parent tract taken from the public records.

(B) Prior to performing the fieldwork, the professional land surveyor shall acquire sufficient data to ascertain the record title boundary of the parcel(s) to be surveyed (such as, adjoining deeds, maps, right- of-way plans, subdivision plats, original plats and notes, and not obligate the professional land surveyor to search the entire chain of title.

(2) Field Investigation. The professional land surveyor or a person under his/her direct personal supervision shall—

(A) Search thoroughly for monuments and accessories at the necessary controlling corners and any other physical evidence that may be required to define the location of the exterior corners of the parcel surveyed (such as location of streets, roads, lines of occupation, and parol information);

(B) Obtain appropriate and sufficiently redundant measurements to correlate all found evidence;

(C) Evaluate the reliability of the evidence and monuments found and apply the proper theory of location in accordance with surveying precedent; and

(D) Reach a conclusion on the location of the boundary and set monuments as defined herein.

(3) Monumentation.

(A) The professional land surveyor shall establish semi-permanent or confirm existing monuments at every exterior corner of the tract being surveyed, except for lines running along streams or lakes where witness monuments must be set along the connected sidelines. When it is impractical to set a monument at a required corner, a witness monument shall be set along a line of the survey or the prolongation thereof.

(B) Existing monuments shall be evaluated for permanency by the professional land surveyor. Those needing restoration, preservation, or replacement shall receive the due care necessary to ensure that their permanency is secured in accordance with the requirements set forth herein.

(C) Additional Monumentation for Subdivision Surveys.

1. In addition to meeting the requirements set forth above, the professional land surveyor shall, prior to the recording of the subdivision plat, establish at least two (2) permanent monuments for every four (4) acres of land developed by the subdivision. In cases where the lots of the subdivision are two (2) acres or larger, permanent monuments will be established so each tract has at least one (1) permanent monument. This requirement is waived if the survey does not create more than four (4) lots or parcels.

2. The permanent monuments required in paragraph (3)(C)1. shall be set prior to the recording of the plat or, if likely to be destroyed by construction, may be

installed upon completion of the construction and must be set no later than twelve (12) months after the recording of the plat. The professional land surveyor shall also monument all lot corners in the subdivision with semi-permanent or witness monuments within the same twelve- (12-) month period.

3. When the subdivision is a cemetery, the requirements of paragraph (3)(C)1. for installation of permanent monuments shall be increased to include four (4) permanent monuments per block, and the monumentation of all lot corners required in paragraph (3)(C)2. shall not be required.

(D) Condominium surveys shall meet the requirements for subdivisions.

(4) Publication of Results. A plat shall be made showing the results of the survey or subdivision and shall conform to all of the following provisions:

(A) The plat shall include a drawing that shall be made to a convenient scale on a reasonably permanent and dimensionally stable material;

(B) The plat shall include the name of the person or entity for whom the survey was made and the date of the survey;

(C) Lettering shall be no less than eight hundredths of an inch (0.08") in height. All characters shall be open, well-rounded, and of uniform width;

(D) The direction of boundary lines shall be shown by angles, azimuths, or bearings with the directional reference system clearly described on the plat;

(E) A north arrow, a written scale, and a graphic scale shall be shown on every sheet containing graphic survey data;

(F) Complete dimensions (distances, directions, and curve data) of all parcels surveyed or created. All linear measurements shall be shown as horizontal distances at the ground surface in feet or meters. Curved lines shall show at least two (2) elements. For non-tangential curves, a directional component shall be included to help define the direction of the curve (preferably the chord bearing);

(G) All vertical measurements shall be shown as elevations above an established or assumed datum in feet or meters. When elevations are shown, a clearly defined elevation datum shall be shown, including the location and elevation of the benchmark used to establish the project datum;

(H) Measurements and calculated areas will be shown on the plat to a number of significant figures representative of the actual precision of the measurements;

(I) The plat shall display either a property description for the parcel(s) and/or parent tract surveyed or a reference to the source document from which the property description was taken. Any new parcel created by survey shall have its property description shown on the plat and must be complete enough so that the parcel can

be located and clearly identified. Subdivision plats shall identify all lots for sale by numbers, as set forth in section 445.010, RSMo;

(J) The plat shall show sufficient data (distances and directions) to positively locate the parcel surveyed within the United States Public Land Survey System (USPLSS) or within the recorded subdivision. If the survey cannot be located by either of the previously mentioned provisions, it must be referenced to other lines and points sufficiently established by record;

(K) All controlling corner monuments that were found and exterior corners that were found or set shall be identified on the plat;

(L) Any material variation between record and measured dimensions, and any material variation and the extent of such variation between surveyed lines and lines of possession at all exterior corners, shall be shown on the plat. Material variation will include, but is not limited to, survey monuments, fences, obvious occupation (i.e., mowed) lines, walls, or other structures whether on the property surveyed or on adjacent property;

(M) The plat shall reference the source document(s) for any pertinent data obtained during the records research provision set forth above. The plat shall also reference the property type (urban or rural);

(N) The identity of the record title documents for adjoining properties, consistent with the records research provision set forth above, shall be shown on the plat, including the record source;

(O) In addition to the above, all condominium surveys shall show the pertinent information required in section 448.2-109, RSMo, and the legally sufficient descriptions of easements serving or burdening the condominium; and

(P) The plat shall include a statement that the survey and/or subdivision were executed in accordance with the Missouri Standards for Property Boundary Surveys as set forth herein. The statement on a condominium plat shall also include a declaration that the plat contains all information required by section 448.2-109, RSMo.

(5) Deliverables. The professional land surveyor shall furnish to the client a plat containing the drawing and other pertinent information identified above. Each sheet of the plat shall bear the signature and seal of the professional land surveyor in responsible charge. This signed and sealed plat shall be the official plat and shall take precedence over any other formatted data that may be delivered to the client or his/her representatives, successors, or assigns.

20 CSR 2030-16.040 Accuracy Standards for Property Boundary Surveys

PURPOSE: This rule prescribes the accuracy standards for all property boundary surveys.

- (1) The professional land surveyor shall make an effort to detect and remove systematic errors.
- (2) Precision Requirements for Urban Property.
 - (A) The uncertainty due to random errors of any dimension of direction or distance shown on the plat shall not exceed fifty parts per million (50 ppm) or one-tenth of a foot (0.10') for distances less than two thousand feet (2,000') at the sixty-eight percent (68%) confidence level (one (1) sigma).
 - (B) The positional uncertainty of any coordinates shown on the plat relative to the control that is held fixed, shall not exceed fifty parts per million (50 ppm) or one tenth of a foot (0.10') for distances less than two thousand feet (2,000') at the sixty-eight percent (68%) confidence level (one (1) sigma).
- (3) Precision Requirements for Rural Property.
 - (A) The uncertainty due to random errors of any dimension of direction or distance shown on the plat shall not exceed one hundred parts per million (100 ppm) or one tenth of a foot (0.10') for distances less than one thousand feet (1,000') at the sixty-eight percent (68%) confidence level (one (1) sigma).
 - (B) The positional uncertainty of any coordinates shown on the plat relative to the control that is held fixed, shall not exceed one hundred parts per million (100 ppm) or one tenth of a foot (0.10') for distances less than one thousand feet (1,000') at the sixty-eight percent (68%) confidence level (one (1) sigma).
 - (C) Type Rural Property Accuracy shall be two-tenths (0.20) of a foot or 1:5,000 for distances greater than one thousand feet (1,000') and shall apply to all property that is not Urban Property or Suburban Property.

20 CSR 2030-16.050 Use of Missouri Coordinate System, 1983

PURPOSE: This rule sets forth the requirements for referencing land boundary corners to the Missouri Coordinate System of 1983.

- (1) When the professional land surveyor is specifically requested or required to reference land boundary corners to the Missouri Coordinate System of 1983, the professional land surveyor shall comply with the following requirements:

(A) The position of the corner shall be based upon a geodetic control station having a horizontal accuracy of second order (as defined in 20 CSR 2030-18.020) or higher order;

(B) The survey connecting the corner to the geodetic control station shall meet the accuracy standards for property boundary surveys set forth in this chapter; and

(C) The plat or other publication of results shall identify the geodetic control station(s) that were used to determine the position of the corner(s), along with a list of the coordinates of those control station(s); the appropriate adjustment date or realization designation on the North American Datum of 1983, along with the epoch date, when applicable; a brief statement of the method used to obtain those positions; and the grid factor used.

(2) Only coordinates based on the Missouri Coordinate System of 1983 may be recorded in any public land record or deed.

20 CSR 2030-16.060 Approved Monumentation

PURPOSE: This rule prescribes the approved type of monumentation to be used on property boundary surveys.

(1) The professional land surveyor shall select a type of monument providing a degree of permanency consistent with that of the adjacent terrain and physical features and as required by these standards. All monuments shall be solid and free from movement. They shall be set in the ground at least to the depth of the length given unless they are encased in concrete. With the exception of drill holes and cut crosses, the precise position of the corner shall be marked by a point on a cap and the cap shall be inscribed with the licensure number of the professional land surveyor in responsible charge or the corporate licensure number or name of the company.

(2) Permanent monuments shall be selected from the following:

(A) Concrete monuments consisting of reinforced concrete at least four inches (4") square or in diameter and no less than twenty-four inches (24") in length with its precise position marked by a point on a brass or aluminum cap not less than one and one-half inch (1 1/2") in diameter;

(B) Commercial cast iron or aluminum survey markers no less than twenty-four inches (24") in length. Nonferrous markers shall have ceramic magnets attached to aid in recovery;

(C) Steel, coated steel, or aluminum rod markers not less than five-eighths inch (5/8") in diameter, iron pipe markers not less than three-quarter inch (3/4") inside diameter and not less than twenty-four inches (24") in length. These monuments shall have a permanently attached cap of the same metal or of a dissimilar metal if the metals are insulated with a plastic insert to reduce corrosion. Nonferrous rod markers shall have ceramic magnets attached to aid in recovery; and

(D) Brass or aluminum disk not less than two inches (2") in diameter, countersunk and well-cemented in a drill hole in either solid rock or concrete. Ceramic magnets shall be attached or installed with the disk to aid in recovery.

(3) Semi-permanent monuments shall be selected from the following:

(A) Iron pipe markers not less than three-fourths inch (3/4") outside one-half inch (1/2") inside diameter, at least eighteen inches (18") in length and having a plastic or metal cap;

(B) Steel or aluminum rod markers not less than one-half inch (1/2") in diameter, not less than eighteen inches (18") in length and having a plastic or aluminum cap;

(C) In urban built-up areas, A cross-cut or drill hole in concrete, brick, stone paving, or bedrock at the precise position of the corner or on a prolongation of a boundary line; and

(D) In asphalt paving, cotton picker spindles, railroad spikes (center punched or chiseled cross), semi-permanent one-half inch (1/2") rebar, and magnetic spikes (minimum of eight inches (8") in length) that are solid and not easily removed or destroyed.

(4) Installation of Survey Monuments. All monuments will be installed in accordance with these standards and according to installation details approved by the local governing body that take into account local conditions.

(5) Existing Survey Monuments. Existing monuments shall be evaluated for permanency by the surveyor. In no instance shall the surveyor be required by these standards to remove existing monuments unless the installation of a new monument is necessary to preserve the position of the corner.

(6) When it is impractical to set a required monument, a witness monument shall be set. It should be placed five feet (5') or more away from the point and preferably at an even foot. Witness monuments must be clearly identified and shown on the plat. The location of the witness monument should be along a line of the survey or a prolongation of such line.

20 CSR 2030-16.110 Location of Improvements and Easements

PURPOSE: This rule sets forth how and what improvements and easements are to be located and shown on a property boundary survey

(1) When the professional land surveyor is specifically requested by the client to locate the improvements on the property surveyed, the professional land surveyor shall locate, by measurement, all permanent structures having fixed foundation, slabs, or footings and shall reference them to the property boundary on the plat with a minimum of three (3) dimensions. Dimensions shall be parallel, perpendicular, or radial to the property lines.

(A) Locate by measurement all permanent structures having fixed foundations, slabs, or footings such as houses, in-ground swimming pools, concrete walls and buildings; and

(B) The permanent structure shall be shown on the plat with a minimum of three (3) dimensions to the property lines. Dimensions to straight property lines shall be perpendicular to the property lines, and dimensions to curved property lines shall be radial to the property lines.

(2) When the professional land surveyor is specifically requested by the client to show easements on a property boundary survey, he/she shall show by graphic representation all easements appearing on the recorded subdivision plat and all easements provided to the professional land surveyor by the client. If the professional land surveyor is specifically requested by the client to locate any easements on the ground, he/she will do so in accordance with the standards defined herein.

CHAPTER 17—UNITED STATES PUBLIC LAND SURVEY CORNERS

20 CSR 2030-17.010 Definitions

PURPOSE: This rule defines the various technical and legal terms used in Chapter 17.

- (1) Alteration of a corner, changing the physical monumentation of a corner or adding witness accessories.
- (2) Corners of the United States Public Land Survey, those points that determine the boundaries of the various subdivisions represented on the official plat such as the township corner, the section corner, the quarter-section corner, blank quarter section corners, fractional section corner, center of section, grant corner, lot corner and meander corner.
- (3) Date of the field work, the date on which the monument was physically altered or removed and referenced.
- (4) Existent corner, a corner whose position can be identified by verifying the evidence of the original monument or its accessories, or by some physical evidence described in the field notes, or located by an acceptable supplemental survey record or some physical evidence thereof, or by testimony. The physical evidence of a corner may have been entirely obliterated but the corner will be considered existent if its position can be recovered through the testimony of one (1) or more witnesses who have a dependable knowledge of the original location. A legally reestablished corner shall have the same status as an existent corner.
- (5) Lost corner, a corner whose position cannot be determined, beyond reasonable doubt, either from traces of the original marks or from acceptable evidence or testimony that bears upon the original position.
- (6) Monument, the physical object which marks the corner point determined by the surveying process. The accessories, such as bearing trees, bearing objects, reference monuments, mounds of stone and other similar objects that aid in identifying the corner position, are also considered a part of a corner monument.
- (7) Reestablishment of a corner, the monumentation of a lost corner whose position has been determined by proportionate measurement.
- (8) Reference monument, a monument set in such a manner and location that the position of the actual corner can be located from it by direction and distance or by two (2) distances when two (2) reference monuments are set.
- (9) Removal of a corner, the complete elimination of an existing corner monument.

(10) Restoration of a corner, the alteration of an existent corner.

20 CSR 2030-17.020 Removal or Alteration of Corners

PURPOSE: This rule identifies who is authorized to alter or remove a corner of the United States Public Land Survey and how to obtain permission from the Department of Agriculture.

Only a professional land surveyor is authorized to remove, alter, restore, or reestablish a corner of the United States Public Land Survey. Any professional land surveyor who removes, alters, restores, or reestablishes a corner of the United States Public Land Survey shall report his actions by filing an approved document with the Missouri Department of Agriculture, Land Survey Program within ninety (90) days from the date of the field work. The permission required by section 60.550, RSMo, is granted upon filing the approved document with the Missouri Department of Agriculture Land Survey Program.

20 CSR 2030-17.040 Procedure for Filing Documents

PURPOSE: This rule describes the procedure for filing certified land corner documents with the Department of Agriculture.

(1) Approved documents shall be filed with the Department of Agriculture, Weights, Measures and Consumer Protection Division, Land Survey Program, PO Box 937, Rolla, MO 65402-0937. Documents filed with the county recorder must first be filed with the Department of Agriculture.

(2) Certified Land Corner Document and Resident Witness Affidavit forms may be obtained in a reasonable number from the Department of Agriculture, Weights, Measures and Consumer Protection Division, Land Survey Program, PO Box 937, Rolla, MO 65402.

(3) There is no fee for filing these documents.

(4) Filing of corner documentation with the Department of Agriculture does not create an implied warranty by either the professional land surveyor or the Department of Agriculture as to conclusive evidence of the corner location.

20 CSR 2030-17.050 Monumentation

PURPOSE: This rule prescribes the type of monument to be installed to preserve the position of the United States Public Land Survey Corner.

(1) All corner monuments, witness monuments, and reference monuments shall be permanent monuments of a type providing a degree of permanency consistent with that of the adjacent terrain and physical features. Monuments shall meet the requirements for a permanent monument in accordance with the Missouri Standards for Property Boundary Surveys.

(2) In such cases where the placement of a required corner monument at its proper location is impractical, it shall be permissible to set a reference or witness monument or mark near that point, and if such reference monument or mark is set, its location shall be properly shown on the certified land corner document.

(3) All monuments shall be marked and designated in accordance with the Bureau of Land Management (BLM) system of marking monuments that furnishes ready identification of the position of the monument which bears the mark. Letters and numerals should be carefully stamped with three-sixteenths inch (3/16") or one-eighth inch (1/8") steel dies and should always be made to read from the south. Lines and crosses should be made with a sharp cold chisel. The precise position shall be marked by a point, cross, or appropriate symbol on the monument.

(4) Where possible, four (4) reference ties (distance and/or direction) to durable objects will be made to provide the means for restoring the position of the marked corner if the monument is disturbed. Durable objects include, but are not restricted to: house corners, marks on concrete structures or pavement, marks on ledge or bedrock, trees, additional permanent monuments, fence posts, utility poles, and crosses on curbs. All durable objects and reference ties shall be fully described on the document.

(5) In some special cases where an existing monument is found and it is deemed appropriate to preserve the monument in its original location, a reference or witness monument may be installed nearby.

(6) At locations where a stone, iron pin, pipe or other monument is to be replaced by a permanent monument, the existing monument will be removed and buried or placed alongside the permanent monument in such a manner that it will not to be confused with the permanent monument.

20 CSR 2030-17.070 Missouri Coordinate System, 1983

PURPOSE: This rule prescribes the requirements for referencing corners of the United States Public Land Survey to the Missouri Coordinate System of 1983.

(1) When the corner that is removed, altered, restored, or reestablished is required to be referenced to the Missouri Coordinate System of 1983, the corner coordinates shall be shown on the Certified Land Corner Document form.

(2) Coordinates referenced to the Missouri Coordinate System of 1983 and shown on Certified Land Corner Document forms shall comply with the following requirements:

(A) The position of the corner shall be based upon a geodetic control station having a horizontal accuracy of second order (as defined in 20 CSR 2030-18.020) or higher order;

(B) The survey connecting the corner to the geodetic control station shall meet the accuracy standards set forth in the Missouri Standards for Property Boundary Surveys; and

(C) The following information shall be included on the Certified Land Corner Document form:

1. The geodetic control station(s) that were used to determine the position of the corner;
2. The coordinates of the geodetic control station(s) used and the appropriate Zone designation;
3. The appropriate adjustment date or realization designation on the North American Datum of 1983 along with the epoch date, when applicable;
4. A brief statement of the method used to obtain the position; and
5. The grid factor used.

(3) Coordinates referenced to the Missouri Coordinate System of 1983 may be used to reference corners in lieu of monuments.

20 CSR 2030-17.080 Approved Documents

PURPOSE: This rule prescribes the form of the document to be filed with the Department of Agriculture.

(1) An approved document may be either one (1) of the following:

- (A) Certified Land Corner Document form; or
- (B) Special form approved by the Missouri Department of Agriculture.
- (C) Special form approved by the Department of Natural Resources.

(2) Preparation of Certified Land Corner Document Forms. All information (except drawings) will be typed or completed in black ink. Lettering or typing shall not be less than eight-hundredths inch (0.08") in height. Drawings may be made in black pencil so long as all drawings will make sharp and clear copies.

(A) The following information shall be included on all corner forms:

1. The description of the original monument, witness ties, and any subsequent restorations, including the date of the survey, the document reference (book and page and/or microfilm location), and the professional land surveyor of record. Original survey notes need not be given in urban or built up areas;
2. Signature and seal of the professional land surveyor;
3. Date of the survey field work;
4. Basis of bearing system used;

5. Description of the monument, monument marking and witness/reference ties;
6. Comprehensive sketch of the corner location sufficient to find the monument;
and
7. Coordinates referenced to the Missouri Coordinate System of 1983, if known.

(B) The following additional information is required for forms showing the restoration or alteration of existing corner monuments:

1. Description of the evidence found indicating the corner is existent;
2. Resident witness affidavits when the corner is restored from testimony; and
3. Distances and directions used to retrace prior evidence.

(C) The following additional information will be required for reestablished corners:

1. Statement of the method used to reestablish the corner; and
2. Distances and bearings used in the reestablishment procedure.

Quiz Questions

1. **True or False? The Missouri Minimum Standards for Property Boundary Surveys are not intended to be used in place of professional land surveying judgement.**
 - True
 - False
2. **What task is performed prior to fieldwork?**
 - Deliverables
 - Monumentation
 - Records Research
 - Publication of Results
3. **Type Rural Property Accuracy shall be what for distances greater than one thousand feet (1,000')?**
 - 1:100
 - 1:1,000
 - 1:2,000
 - 1:5,000
4. **Regarding permanent monuments, which of the following is true?**
 - Lengths are no less than twenty-four inches (24")
 - Lengths are no less than eighteen inches (18")
 - Diameters not less than one-half inch (1/2")
 - All of the above
5. **How many dimensions to the property lines are required on the plat for the location of improvements?**
 - One (1)
 - Two (2)
 - Three (3)
 - Four (4)

6. **The physical object which marks the corner point determined by the surveying process is called a?**
- Existent corner
 - Lost corner
 - Monument
 - Reference monument
7. **Any professional land surveyor who removes, alters, restores, or reestablishes a corner of the United States Public Land Survey shall report his actions by filing an approved document with the Missouri Department of Agriculture, Land Survey Program within _____ days from the date of the field work.**
- 10
 - 30
 - 90
 - 180
8. **Missouri Coordinate System of _____.**
- 1883
 - 1983
 - 1993
 - 2023
9. **An approved document may be which one of the following?**
- Certified Land Corner Document form
 - Special form approved by the Missouri Department of Agriculture
 - Special form approved by the Department of Natural Resources
 - All of the above
10. **Which of the following is NOT required on corner forms?**
- Signature and seal of the professional land surveyor
 - Date of the survey field work
 - Basis of bearing system used
 - None of the above