

## **TSPS Manual of Practice Requirements for Category 1B – Standard Land Survey**

Approved July 27, 2024

Effective September 30, 2024

**1. Purpose.** A standard land survey, also known as a boundary survey, is a comprehensive examination and reporting of significant factors affecting a tract's boundary lines. The Texas Society of Professional Surveyors (TSPS) Standard Land Survey provides clear and concise standards so the parties can have clear expectations regarding the services provided. The Texas Board of Professional Engineers and Land Surveyors (TBPELS) minimum standards shall be followed unless these standards provide more stringent specifications.

**2. Research.** Thorough research is a fundamental step in preparing a quality survey.

**A. Boundary.** The surveyor will obtain sufficient research to adequately determine the boundaries surveyed. This research may be furnished by the client, title company, or any other third-party provider so long as the surveyor reasonably believes the research is sufficient to determine the boundaries and the surveyor states the source of the research on the survey.

**B. Private & Quasi-public Records.** If private or quasi-public documents are needed to complete the survey, the surveyor may utilize such documents as necessary to determine the boundary location.

**3. Fieldwork.** Fieldwork shall be performed using equipment and techniques capable of attaining the precision and quality required by these standards and the profession. Surveying instruments shall be calibrated and/or adjusted according to manufacturer's specifications and in good working order.

**A. Boundary Monuments.** Every corner of the subject tract shall be monumented when practicable.

**a. Natural Monuments.** Natural monuments are the permanent objects which are the works of nature such as streams, rivers, ponds, lakes, bays, trees, ledges, rock outcrops, and other definitive terrestrial features.

**b. Artificial Monuments.** A thorough on-the-ground search shall be made for called for artificial monuments affecting the location of the boundaries of the subject tract and adjoining boundary lines. Set monuments shall be of sufficient material to ensure that they will withstand the destructive forces of nature. Iron rods used for monuments shall be a minimum of 1/2 inch in diameter. Other monuments may be used to delineate or witness boundary corners such as an X in concrete, a drill hole, etc. When practicable, monuments set to delineate or witness a boundary corner shall identify the registrant or associated firm.

**B. Water Features.** There is no requirement to show water features unless the water feature is visible and evidence of adverse occupation or use.

- C. **Visible Improvements.** There is no requirement to show visible improvements except for visible evidence of adverse occupation or use. Such evidence includes perimeter fences and improvements.
- D. **Cemeteries.** Cemeteries, if (a) observed while conducting fieldwork or (b) disclosed in documents obtained by or provided to the surveyor, must be located and shown on the survey. If a cemetery has multiple graves, the cemetery may be identified by its perimeter.

**4. Survey Plat.** The survey plat, sometimes also referred to as a drawing or map, shall be drawn in a manner that provides a clear and unambiguous representation of the land surveyed.

- A. **Fieldwork.** Evidence collected as required in Section 3 above shall be depicted on the survey plat.
- B. **Sheet size.** The minimum sheet size for the plat is 8.5 by 11 inches.
- C. **Scale.** The plat shall be drawn at a standard engineering scale that is legible. Details or inserts shall be used when necessary to provide a clear depiction of the boundary, improvements, or potential encroachments.
- D. **Lines.**
  - a. **Boundary.** The subject tract's boundary line shall be drawn using a line weight, width, or color that makes the boundary line distinguishable.
  - b. **Record.** Survey lines of any original land grants, original subdivision lot lines, and parent tracts affecting the survey shall be depicted on the survey plat in a distinguishable manner. These lines should be constructed based on the best available evidence, though the location may be approximate.
  - c. **Conflict.** All apparent and visible boundary conflicts between the subject tract and adjoining tracts or surveys of the adjoining tracts shall be shown on the survey.
- E. **Annotations.**
  - a. **Boundary.** All boundary lines shall be annotated to report a bearing and distance. All curves shall be annotated to report a minimum of the radius, arc length, central angle, chord bearing, and chord distance.
  - b. **Record Boundary.** When appropriate, record bearings, distances, and curve data should be shown on the plat in parenthesis. If the parentheticals are not explained on the plat, the data should be designated as "call." Record data should be derived from the subject deed when available. When the record deed does not contain the necessary record data, the record data may be derived from a prior deed in the chain of title, the deed of a tract severed from the subject tract, a subdivision plat, a TXDOT right of way map, or any other reliable and relevant source. The source of the record data shall be indicated on the survey.
- F. **Area.**
  - a. **Reported.** The surveyor shall report on the survey plat the determined acreage or square footage of the subject tract(s).
  - b. **Record.** Record acreages, when available, shall be shown in parenthesis along with the volume and page or the instrument/file number of the source instrument.

- G. Basis of Bearing.** The basis of bearing used for the survey shall be noted on the plat and based on one of the following:
- a. Grid.** A grid bearing based on a Texas Coordinate System approved by the Texas Legislature as defined by the Natural Resource Code.
  - b. Record.** A record bearing shall be based on found and accepted monuments called for in an instrument or plat of public record. The source of the record information shall be noted on the survey.
  - c. Geodetic.** The Geodetic meridian as observed within one mile of the surveyed site.
- H. Adjoiner.** Adjoiners shall be reviewed and a reference shall be cited on the survey plat to the instruments of record that define the location of adjoining or adjacent boundaries.
- I. Additional Requirements.** The survey plat shall also include the following:
- a.** North arrow
  - b.** Graphic scale and stated scale
  - c.** Point of Beginning and Point of Commencing, if applicable
  - d.** Registrant’s name and RPLS number
  - e.** RPLS seal, signature, and date of completion
  - f.** Firm name and TBPELS firm registration number, if applicable
  - g.** Legend of symbols, abbreviations, and/or lines, if applicable
  - h.** Sheet numbers, if more than one sheet (e.g. Sheet 2 of 5)
  - i.** The caption “Standard Land Survey”
- J. Notes.** Notes, if used, should be applicable for the intended use of the survey. Notes should address or clarify information relevant to the survey.
- K. Certification.** All final survey plats shall include a certification. Each surveyor may determine the preferred wording for the certification, but all certifications shall contain the following language in the certification:

This survey substantially complies with the current Texas Society of Professional Surveyors Manual of Practice requirements for a Category 1B, Condition \_\_\_\_, Standard Land Survey.

**5. Descriptions.** The surveyor’s description of the land surveyed shall provide a definite and unambiguous location of the tract of land.

- A. Metes and Bounds Description.** When appropriate, the surveyor shall prepare a metes and bounds description of the surveyed property. A metes and bounds description shall be prepared if the surveyor finds significant differences between the surveyed dimensions and record description. A metes and bounds description will be written in two parts, the general description and the particular description.
- a. General Description (Preamble).** The general description will provide a general location of the property in relation to the parent tract, survey, league, or other original land division by compiling the following as appropriate:
    - i.** County and state
    - ii.** Survey name and abstract number

- iii. Recorded and established subdivision
  - iv. Recording information for the deed in which the tract is described and record area, when available
  - b. **Particular Description.** The particular description shall compile and incorporate calls for the following:
    - i. **Monuments.** All written descriptions shall adequately describe all monuments found or set as part of the surveyed boundary. The description shall include the diameter of the monument and the material of the monument. Monuments located in close proximity to the determined boundary shall be located by a reference or passing call. Monuments used to construct the surveyed boundary shall be referenced.
    - ii. **Calls to Adjoin.** The surveyor shall consider adjoining properties during the boundary construction. When appropriate, a call to adjoin shall be used to define the relationship between the subject tract and the adjoining tract or right-of-way.
    - iii. **Courses.** Descriptions shall report the bearing and distance of all lines. For curves, the description shall report a minimum of the radius, arc length, central angle, chord bearing, and chord distance.
    - iv. **Area.** The surveyor shall report the determined acreage or square footage of the subject tract.
    - v. **Basis of Bearing.** The basis of bearing used for the survey shall be noted and based on one of the following:
      - 1. **Grid.** A grid bearing based on a Texas Coordinate System approved by the Texas Legislature as defined by the Natural Resource Code.
      - 2. **Record.** A record bearing shall be based on found and accepted monuments called for in an instrument or plat of public record. The source of the record information shall be noted.
      - 3. **Geodetic.** The Geodetic meridian as observed within one mile of the surveyed site.
    - vi. **Additional Requirements.** The description shall include the following:
      - 1. Point of Beginning and Point of Commencing, if applicable
      - 2. Registrant's name and RPLS number
      - 3. RPLS seal, signature, and date
      - 4. Firm name and TBPELS firm registration number, if applicable
      - 5. Page numbers if more than one page (e.g. Page 2 of 5)
- B. Lot & Block.** When the surveyed dimensions are in close agreement with the lot's platted calls, the reference to the lot within the recorded subdivision plat is an adequate description. However, a metes and bounds description should be prepared for a platted lot in a recorded subdivision if (i) the subdivision plat contains insufficient data to locate the lot with reasonable accuracy or (ii) the boundary dimensions shown on the subdivision plat are subject to significant conflict, ambiguity, error, or blunder that would hinder the future location of the boundary.

**C. Aliquot Descriptions.** An aliquot description may be used to describe a portion of a lot, tract, or section when the surveyed dimensions are in close agreement with record dimensions.

**6. Tolerances.** See Appendix A for Category 1B survey tolerances.