

**South Carolina State Board of Registration  
for Professional Engineers and Land Surveyors**

**Policy Statement - Geodetic/Global Positioning Systems (GPS) Surveys  
(Based on R. 49-430C18)**

1. All geodetic surveys, both vertical and horizontal, in the State of South Carolina shall be under the direction of a land surveyor registered in the State of South Carolina.
2. Terrestrial geodetic surveys represented to a client as meeting first, second or third order standards shall conform to the Standards and Specifications for Geodetic Control Networks as set forth by the Federal Geodetic Control Committee (FGCC) or its successor in their most current publication.
3. Global Positioning Systems (GPS) geodetic surveys represented to a client as meeting first, second or third order standards shall conform to the Geometric Geodetic Accuracy Standards and Specifications for Using GPS relative positioning Techniques as set forth by the Federal Geodetic Control Committee (FGCC) or its successor in their most current publication.
4. GPS surveys not required to be performed to the above standards and not otherwise specified in this document shall be designed by the surveyor to meet the needs of the client and certified by the surveyor in responsible charge, as to the methods, procedures, positional uncertainties, datum, specific control points held and other such relevant data so as to qualify the work performed.
5. Land property corners positioned by GPS where specifications in item 3 are not required may be surveyed by a variety of GPS techniques with the surveyor exercising judgment as to the most appropriate within the following constraints:
  - a. Property corners shall be positioned from the nearest first or second order horizontal control points in the state geodetic data base. To maintain compatibility with the local geodetic network it is not good practice to extend control over existing monuments to a project area.
  - b. All property corners shall be positioned from at least 2 geodetic control monuments contained in the state geodetic data base. Property corners shall be positioned to a horizontal accuracy of at least 1/20,000 or 0.2 feet (whichever is smaller) with relation to the: nearest first or second order geodetic control monument.
  - c. Survey grade GPS receivers (stated accuracy better than 5cm + 2ppm) shall be used for positioning property corners to be shown on a survey plat or used in a legal description. Mapping grade receivers (stated accuracy in excess of 5cm + 2ppm) may be used in unusually inaccessible areas for positioning boundary lines defined by a water body (i.e. center of stream or high water mark), ridge lines or other boundary lines impractical to survey by conventional methods. The intent in allowing mapping grade use is to obtain better boundary line delineation and more accurate acreage determination than normally obtained under exceptionally difficult field conditions
6. For the purpose of the South Carolina State Plane Coordinate System, the foot is the International Foot with one inch being exactly 2.54 centimeters. To convert metric coordinates to the international feet multiply by 3.280839895.

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- 7 Horizontal coordinates shall be referenced to North American Datum of 1983 (NAD 83). Vertical control may be referenced to National Geodetic Vertical Datum of 1929 (NGVD 29) or North American Vertical Datum of 1988 (NAVD 88), according to client requirements. The datum used as a reference shall be clearly shown, and the horizontal and vertical control stations used to originate a survey shall be clearly noted along with their published coordinates and/or elevation.
  
- 8 Certified drawings prepared to document GPS surveys shall contain methods, procedures, positional uncertainties, datum, specific control points held and other such relevant data so as to qualify the work performed. A note shall explain why any published control values were allowed to take adjustment. When establishing elevations by GPS methods, the geoid model used shall be stated and the bench marks used to establish elevations shall be noted.