

SENATE BILL NO. 403

102ND GENERAL ASSEMBLY

INTRODUCED BY SENATOR BERNSKOETTER.

1506S.01I

KRISTINA MARTIN, Secretary

AN ACT

To repeal sections 60.401, 60.410, 60.421, 60.431, 60.441, 60.451, 60.471, 60.480, 60.491, and 60.510, RSMo, and to enact in lieu thereof eight new sections relating to the Missouri state plane coordinate system.

Be it enacted by the General Assembly of the State of Missouri, as follows:

Section A. Sections 60.401, 60.410, 60.421, 60.431, 2 60.441, 60.451, 60.471, 60.480, 60.491, and 60.510, RSMo, are 3 repealed and eight new sections enacted in lieu thereof, to be 4 known as sections 60.401, 60.410, 60.431, 60.441, 60.471, 5 60.480, 60.496, and 60.510, to read as follows:

60.401. The [systems of] **most recent system of state** 2 plane coordinates which [have] **has** been established by the 3 [National Ocean Survey/National Geodetic Survey] **National** 4 **Geodetic Survey**, or its successors, **based on the National** 5 **Spatial Reference System, or its successors, and known as** 6 **the State Plane Coordinate System**, for defining and stating 7 the [geographic] positions or locations of points on the 8 surface of the earth within the state of Missouri [are 9 hereafter to] **shall** be known [and designated] as the 10 ["Missouri Coordinate System of 1927" and the "Missouri 11 Coordinate System of 1983"] **"Missouri State Plane Coordinate** 12 **System"**.

60.410. [1. For the purpose of the use of this 2 system, Missouri is divided into three separate zones, to be

EXPLANATION-Matter enclosed in bold-faced brackets [thus] in this bill is not enacted and is intended to be omitted in the law.

3 officially known as "The East Zone", "The Central Zone", and
4 "The West Zone".

5 2. The area now included in the following counties
6 shall constitute the east zone: Bollinger, Butler, Cape
7 Girardeau, Carter, Clark, Crawford, Dent, Dunklin, Franklin,
8 Gasconade, Iron, Jefferson, Lewis, Lincoln, Madison, Marion,
9 Mississippi, Montgomery, New Madrid, Oregon, Pemiscot,
10 Perry, Pike, Ralls, Reynolds, Ripley, St. Charles, Ste.
11 Genevieve, St. Francois, St. Louis, St. Louis (city), Scott,
12 Shannon, Stoddard, Warren, Washington and Wayne.

13 3. The area now included in the following counties
14 shall constitute the central zone: Adair, Audrain, Benton,
15 Boone, Callaway, Camden, Carroll, Chariton, Christian, Cole,
16 Cooper, Dallas, Douglas, Greene, Grundy, Hickory, Howard,
17 Howell, Knox, Laclede, Linn, Livingston, Macon, Maries,
18 Mercer, Miller, Moniteau, Monroe, Morgan, Osage, Ozark,
19 Pettis, Phelps, Polk, Pulaski, Putnam, Randolph, Saline,
20 Schuyler, Scotland, Shelby, Stone, Sullivan, Taney, Texas,
21 Webster and Wright.

22 4. The area now included in the following counties
23 shall constitute the west zone: Andrew, Atchison, Barry,
24 Barton, Bates, Buchanan, Caldwell, Cass, Cedar, Clay,
25 Clinton, Dade, Daviess, DeKalb, Gentry, Harrison, Henry,
26 Holt, Jackson, Jasper, Johnson, Lafayette, Lawrence,
27 McDonald, Newton, Nodaway, Platte, Ray, St. Clair, Vernon
28 and Worth.] **The Missouri state plane coordinate system may
29 have one or more projection zone layers. Each layer of
30 zones shall be covered by geodetically referenced mapping
31 projections adopted and supported by the National Geodetic
32 Survey as a component of the National Spatial Reference
33 System. Each layer of zones shall be identified by the
34 geodetic datum upon which they are defined, and each zone**

35 shall remain uniquely and consistently defined throughout
36 its implementation within a particular layer.

60.431. The plane coordinate [values for] of a point
2 on the earth's surface, to be used [to express the
3 geographic] in expressing the position or location of [such]
4 point in the appropriate zone of [this system] the Missouri
5 state plane coordinate system, shall consist of two
6 distances expressed in [U.S. Survey Feet] feet and decimals
7 of a foot [when using the Missouri coordinate system of 1927
8 and expressed in] or meters and decimals of a meter [when
9 using the Missouri coordinate system of 1983]. When values
10 are expressed in feet, the International foot (one
11 international foot equals 0.3048 meters), shall be used as
12 the standard foot for the Missouri state plane coordinate
13 system. One of these distances, to be known as the "East x-
14 coordinate", shall give the [position in an east-and-west
15 direction;] distance east of the Y axis; the other, to be
16 known as the "North y-coordinate", shall give the [position
17 in a north-and-south direction] distance north of the X
18 axis. The Y axis of any zone shall be parallel with the
19 central meridian of that zone. The X axis of any zone shall
20 be at right angles to the central meridian zone. These
21 coordinates shall [be made to] depend upon and conform to
22 plane rectangular coordinate values [for the monumented
23 points of the North American Horizontal Geodetic Control
24 Network, as published by the National Ocean Survey/National
25 Geodetic Survey] as established, published or broadcast by
26 the National-Geodetic Survey, or its successors, and whose
27 plane coordinates have been computed on the systems defined
28 in sections 60.401 to [60.481] 60.496. Any such station or
29 method may be used for establishing a survey connection to
30 [either] the Missouri state plane coordinate system.

60.441. When any tract of land to be defined by a
2 single description extends from one into another of the
3 coordinate zones [set out in section 60.410], the positions
4 of all points on its boundaries may be referred to as either
5 of the zones and the zone which is used shall be
6 specifically named in the description.

60.471. The use of the term "Missouri **State Plane**
2 Coordinate System [of 1927" or "Missouri Coordinate System
3 of 1983]" on any map, report of survey, or other document
4 shall be limited to coordinates based on the Missouri **state**
5 **plane** coordinate system as defined in sections 60.401 to
6 [60.491] **60.496**.

60.480. Descriptions of tracts of land by reference to
2 subdivisions, lines, or corners of the United States public
3 land survey, or other original pertinent surveys, are hereby
4 recognized as the basic and prevailing method for describing
5 such tracts. Whenever coordinates of the Missouri **state**
6 **plane** coordinate system are used in such descriptions they
7 shall be construed as being supplementary to descriptions of
8 such subdivisions, lines, or corners contained in official
9 plats and field notes of record; and, in the event of any
10 conflict, the descriptions by reference to the subdivisions,
11 lines, or corners of the United States public land surveys,
12 or other original pertinent surveys shall prevail over the
13 description by coordinates.

60.496. The provisions of this chapter shall not be
2 **construed to prohibit the appropriate use of other geodetic**
3 **reference networks.**

60.510. The functions, duties and responsibilities of
2 the department of agriculture shall be as follows:

3 (1) To restore, maintain, and preserve the land survey
4 monuments, section corners, and quarter section corners

5 established by the United States public land survey within
6 Missouri, together with all pertinent field notes, plats and
7 documents; and also to restore, establish, maintain, and
8 preserve Missouri state and county boundary markers and
9 other boundary markers considered by the department of
10 agriculture to be of importance, or otherwise established by
11 law;

12 (2) To design and cause to be placed at established
13 public land survey corner sites, where practical,
14 substantial monuments permanently indicating, with words and
15 figures, the exact location involved, but if such monuments
16 cannot be placed at the exact corner point, then witness
17 corners of similar design shall be placed as **[near by]**
18 **nearby** as possible, with words and figures indicating the
19 bearing and distance to the true corner;

20 (3) To establish, maintain, and provide safe storage
21 facilities for a comprehensive system of recordation of
22 information respecting all monuments established by the
23 United States public land survey within this state, and such
24 records as may be pertinent to the department of
25 agriculture's establishment or maintenance of other land
26 corners, Missouri state **plane** coordinate system stations and
27 accessories, and survey monuments in general;

28 (4) To provide the framework for all geodetic
29 positioning activities in the state. The foundational
30 elements include latitude, longitude, and elevation which
31 contribute to informed decision making and impact on a wide
32 range of important activities including mapping and
33 geographic information systems, flood risk determination,
34 transportation, land use and ecosystem management and use of
35 the Missouri state **plane** coordinate system, as established
36 by sections 60.401 to **[60.491]** **60.496**;

37 (5) To collect and preserve information obtained from
38 surveys made by those authorized to establish land monuments
39 or land boundaries, and to assist in the proper recording of
40 the same by the duly constituted county officials, or
41 otherwise;

42 (6) To furnish, upon reasonable request and tender of
43 the required fees therefor, certified copies of records
44 created or maintained by the department of agriculture
45 which, when certified by the state land surveyor or a
46 designated assistant, shall be admissible in evidence in any
47 court in this state, as the original record; and

48 (7) To prescribe, and disseminate to those engaged in
49 the business of land surveying, regulations designed to
50 assist in uniform and professional surveying methods and
51 standards in this state.

2 [60.421. 1. As established for use in the
3 east zone, the Missouri coordinate system of
4 1927 or the Missouri coordinate system of 1983
5 shall be named; and, in any land description in
6 which it is used, it shall be designated the
7 "Missouri Coordinate System of 1927, East Zone"
8 or "Missouri Coordinate System of 1983, East
9 Zone".

10 2. As established for use in the central
11 zone, the Missouri coordinate system of 1927 or
12 the Missouri coordinate system of 1983 shall be
13 named; and, in any land description in which it
14 is used, it shall be designated the "Missouri
15 Coordinate System of 1927, Central Zone" or
16 "Missouri Coordinate System of 1983, Central
17 Zone".

18 3. As established for use in the west
19 zone, the Missouri coordinate system of 1927 or
20 the Missouri coordinate system of 1983 shall be
21 named; and, in any land description in which it
22 is used, it shall be designated the "Missouri
23 Coordinate System of 1927, West Zone" or
"Missouri Coordinate System of 1983, West Zone".]

2 [60.451. 1. For the purpose of more
3 precisely defining the Missouri coordinate
4 system of 1927, the following definition by the
5 United States Coast and Geodetic Survey is
adopted:

6 (1) The Missouri coordinate system of
7 1927, east zone, is a transverse Mercator
8 projection of the Clarke spheroid of 1866,
9 having a central meridian 90 degrees - 30
10 minutes west of Greenwich, on which meridian the
11 scale is set at one part in fifteen thousand too
12 small. The origin of coordinates is at the
13 intersection of the meridian 90 degrees - 30
14 minutes west of Greenwich and the parallel 35
15 degrees - 50 minutes north latitude. This
16 origin is given the coordinates: $x = 500,000$
17 feet and $y = 0$ feet;

18 (2) The Missouri coordinate system of
19 1927, central zone, is a transverse Mercator
20 projection of the Clarke spheroid of 1866,
21 having a central meridian 92 degrees - 30
22 minutes west of Greenwich, on which meridian the
23 scale is set at one part in fifteen thousand too
24 small. The origin of coordinates is at the
25 intersection of the meridian 92 degrees - 30
26 minutes west of Greenwich and the parallel of 35
27 degrees - 50 minutes north latitude. This
28 origin is given the coordinates: $x = 500,000$
29 feet and $y = 0$ feet;

30 (3) The Missouri coordinate system of
31 1927, west zone, is a transverse Mercator
32 projection of the Clarke spheroid of 1866,
33 having a central meridian 94 degrees - 30
34 minutes west of Greenwich, on which meridian the
35 scale is set at one part in seventeen thousand
36 too small. The origin of coordinates is at the
37 intersection of the meridian 94 degrees - 30
38 minutes west of Greenwich and the parallel 36
39 degrees - 10 minutes north latitude. This
40 origin is given the coordinates: $x = 500,000$
41 feet and $y = 0$ feet.

42 2. For purposes of more precisely defining
43 the Missouri coordinate system of 1983, the
44 following definition by the National Ocean
45 Survey/National Geodetic Survey is adopted:

46 (1) The Missouri coordinate system 1983,
47 east zone, is a transverse Mercator projection
48 of the North American Datum of 1983 having a
49 central meridian 90 degrees - 30 minutes west of
50 Greenwich, on which meridian the scale is set at
51 one part in fifteen thousand too small. The
52 origin of coordinates is at the intersection of
53 the meridian 90 degrees - 30 minutes west of
54 Greenwich and the parallel 35 degrees - 50
55 minutes north latitude. This origin is given
56 the coordinates: $x = 250,000$ meters and $y = 0$
57 meters;

58 (2) The Missouri coordinate system 1983,
59 central zone, is a transverse Mercator
60 projection of the North American Datum of 1983
61 having a central meridian 92 degrees - 30
62 minutes west of Greenwich, on which meridian the

63 scale is set at one part in fifteen thousand too
64 small. The origin of coordinates is at the
65 intersection of the meridian 92 degrees - 30
66 minutes west of Greenwich and the parallel of 35
67 degrees - 50 minutes north latitude. This
68 origin is given the coordinates: $x = 500,000$
69 meters and $y = 0$ meters;

70 (3) The Missouri coordinate system 1983,
71 west zone, is a transverse Mercator projection
72 of the North American Datum of 1983 having a
73 central meridian 94 degrees - 30 minutes west of
74 Greenwich, on which meridian the scale is set at
75 one part in seventeen thousand too small. The
76 origin of coordinates is at the intersection of
77 the meridian 94 degrees - 30 minutes west of
78 Greenwich and the parallel 36 degrees - 10
79 minutes north latitude. This origin is given
80 the coordinates: $x = 850,000$ meters and $y = 0$
81 meters.

82 3. The position of either Missouri
83 coordinate system shall be as marked on the
84 ground by horizontal control stations
85 established in conformity with the standards
86 adopted by the department of agriculture for
87 first-order and second-order work, whose
88 geodetic positions have been rigidly adjusted on
89 the appropriate datum and whose coordinates have
90 been computed on the system defined in this
91 section. Any such station may be used for
92 establishing a survey connection with the
93 Missouri coordinate system.]

2 [60.491. The Missouri coordinate system of
3 1927 shall not be used after July, 1990; and the
4 Missouri coordinate system of 1983 shall be the
sole system after this date.]

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