

MISSOURI GEOGRAPHIC REFERENCE SYSTEM

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGY AND LAND SURVEY
LAND SURVEY PROGRAM

PO Box 250, Rolla, Missouri 65402, (573) 368-2300

STATION NAME: BU-14

PID: AD9787

COUNTY: Buchanan

STATE: Missouri

TOWNSHIP: 57 NORTH, RANGE: 35 WEST, SECTION: SE 1/4 OF 35

USGS 7.5' QUAD: St. Joseph South

DATE MONUMENTED: 1993

MONUMENTED BY: MODNR

TECHNICAL DATA TABLE:

(All data in meters 1 meter = 3.28083333 feet)

HORIZONTAL: NAD 1983**VERTICAL:** NAVD 1988

DATE OF OBSERVATIONS: 1993

DATE OF OBSERVATIONS: 1993

DATE OF ADJUSTMENT: 2000

DATE OF ADJUSTMENT: 2000

ORDER: 1st

ORDER:

LATITUDE: 39°42'33.63087"

ELEVATION: 310.2

LONGITUDE: 94°47'45.94594"

ELLIPSOID HEIGHT: 278.17

MISSOURI COORDINATE SYSTEM 1983:

NORTH (Y): 393239.417

EAST (X): 824609.806

ZONE: West

CONVERGENCE: -00°11'21"

GRID FACTOR: .9999055

AZIMUTH INFORMATION:

STATION: BU-14

AZIMUTH MARK: BU-14A

GEODETTIC:

ASTRONOMIC: 358°27'23"

GRID: 358°38'44"

REMARKS

The HORIZONTAL POSITION was determined by GPS observations and adjusted by the National Geodetic Survey in February 2000.

The AZIMUTH was determined by observation of Polaris with an estimated accuracy of 1 second of arc.

The ELEVATION was determined by GPS observations.

The ELLIPSOID HEIGHT was determined by GPS observations referenced to NAD83.

GEOID 99 was used in determining ELEVATION and ELLIPSOID HEIGHT.

STATION: BU-14

DESCRIPTION: The station is a standard DNR aluminum GRS disk stamped "BU-14, 1993", set in a 12 inch diameter concrete post flush with the ground surface. The station has an underground mark 0.775 meters below the surface disk. The azimuth mark is a standard DNR aluminum GRS disk stamped "BU-14A, 1993", set in a 12 inch diameter concrete post flush with the ground surface.

STATION, AZIMUTH MARKS AND REFERENCE TIES: The station is located in the southeast part of the St. Joseph, MO, (metro area), about 0.25 mile south of the city limits in the southeast angle of the I-229 interchange with Missouri Route A. It is 19.4 feet east of the Route A pavement; 51.7 feet southwest of a right-of-way marker post; 50.2 feet southwest of a nail and shiner on the southeast side of a utility pole and 11.0 feet east of a carsonite witness post at guardrail.

The azimuth mark is 0.55 mile north of the station and on the West Side of Missouri Route A in line with the south edge of a residential frame garage. It is 17.2 feet west of the edge of Route A pavement; 6.9 feet northwest of a punch mark on the north end of a 12 inch corrugated metal pipe; 14.5 feet north of the entrance; 37.5 feet north-northeast of a nail and shiner in the east side of a utility pole and 23.5 feet east of the southeast corner of the frame garage.

STATION & AZIMUTH MARK TO REACH: To reach the station from the junction of US Highway 169 and Missouri Route A (40th Street) in the southeast part of St. Joseph, MO. Go south on Route A for 1.15 mile to the station on the left (east) side in the southeast angle of the overpass interchange with I-229 as described.

To reach the azimuth mark from the station, return north on Route A for 0.55 mile to the azimuth mark on the left (west) side as described.

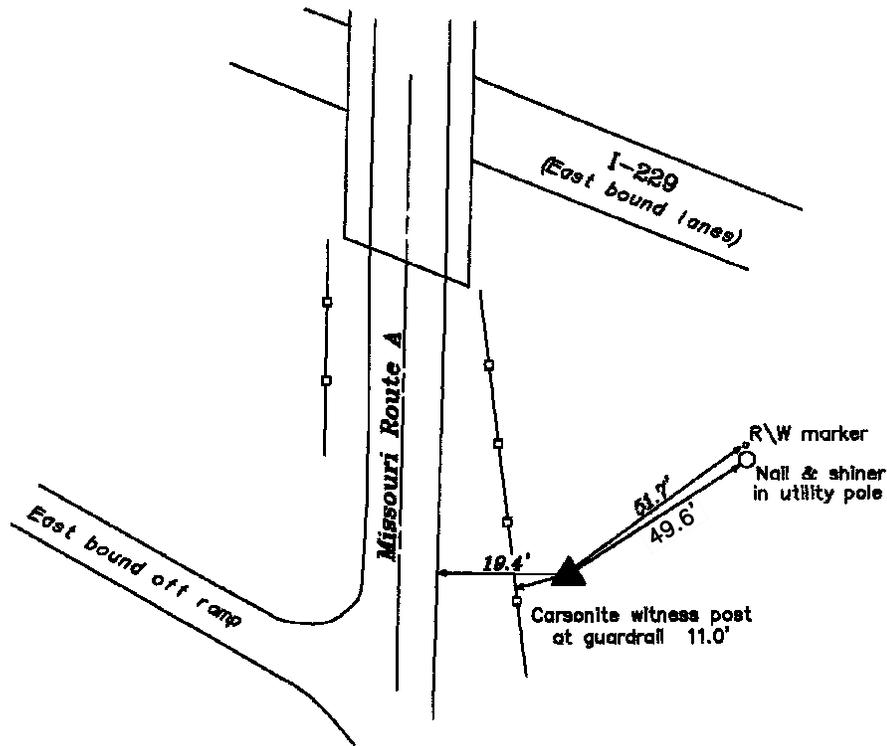
SPECIAL INFORMATION:

SUPERSEDED SURVEY CONTROL

NGS NAD 83(1997)-	39°42'33.63086"(N)	94°47'45.94595"(W)
NGS NAD 83(1997)-	39°42'33.63086"(N)	94°47'45.94596"(W)
NGS NAD 83(1986)-	39°42'33.63384"(N)	94°47'45.94245"(W)
MODNR NAD 83(1986)-	39°42'33.63241"(N)	94°47'45.94245"(W)

DATE of REPORT, 2002

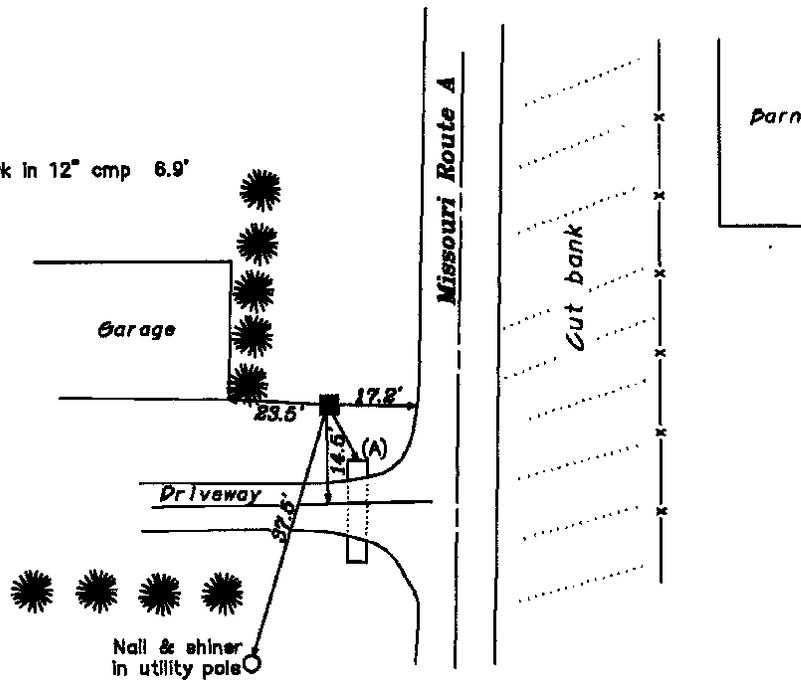
STATION: BU-14



NOT TO SCALE

AZIMUTH MARK: BU-14A

(A) Punch mark in 12" cmp 6.9'



DATE OF SKETCH 2001



STATION: BU-14 (LOOKING NORTH)



STATION: BU-14 (LOOKING WEST)