

SECTION CORNER RECORD

SE 000-700

BOONE COUNTY SURVEYOR'S OFFICE

State Plane grid coordinates NAD83 (2011):

Corner 1: North: 1746198.20 East: 3161925.82 (U.S. survey feet)

Corner 2: North: 1746194.68 East: 3161806.76 (U.S. survey feet)

Type of monument: INDOT Type B monument

Depth: Flush with adjacent road surface

Indiana tie card references:

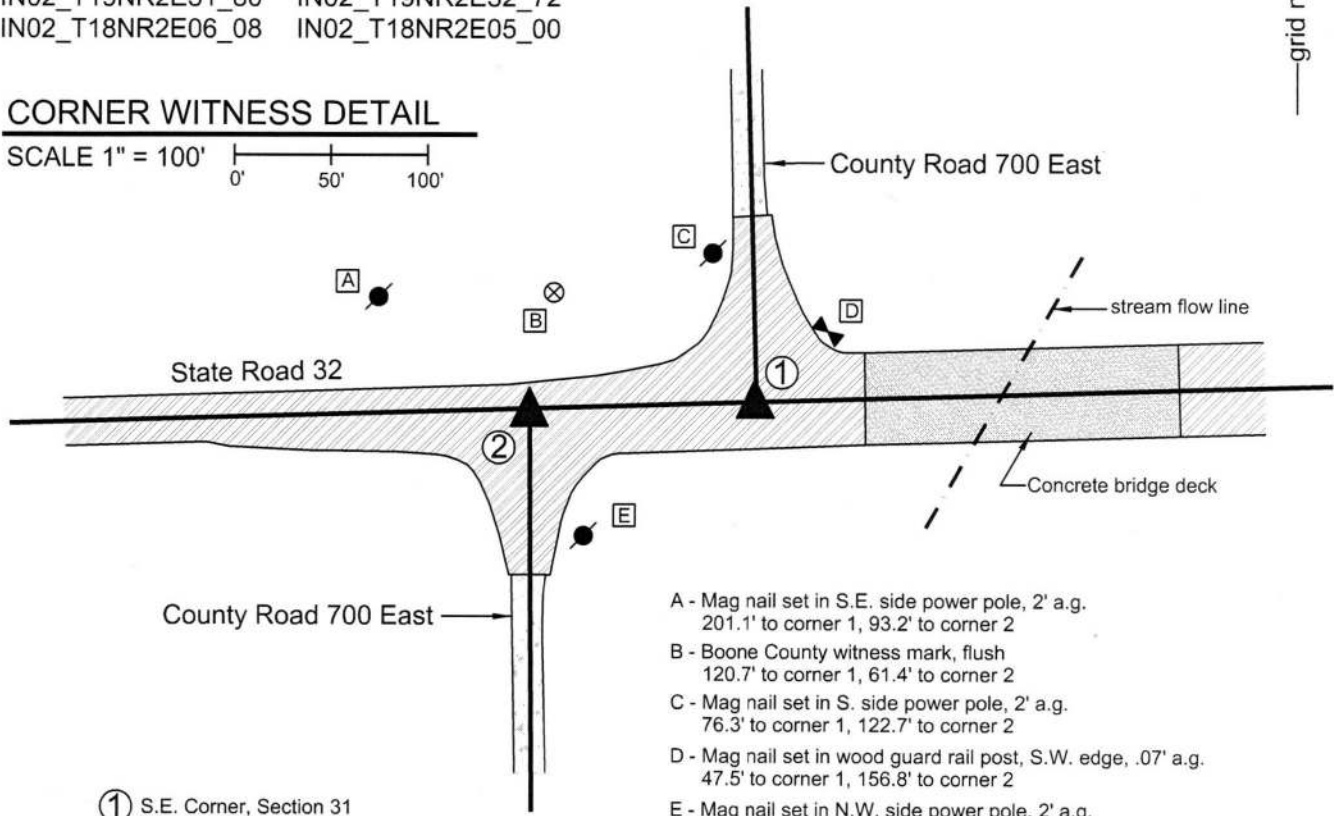
IN02_T19NR2E31_80 IN02_T19NR2E32_72

IN02_T18NR2E06_08 IN02_T18NR2E05_00



CORNER WITNESS DETAIL

SCALE 1" = 100'
0' 50' 100'



① S.E. Corner, Section 31
S.W. Corner, Section 32
T 19 N, R 2 E

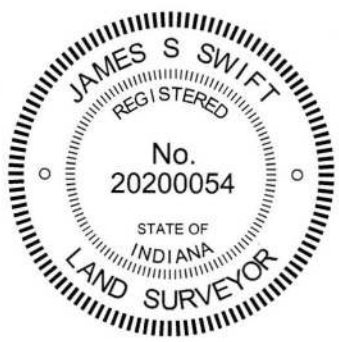
② N.W. Corner, Section 5
N.E. Corner, Section 6
T 18 N, R 2 E

Distance between monuments - 119.1'

- A - Mag nail set in S.E. side power pole, 2' a.g.
201.1' to corner 1, 93.2' to corner 2
- B - Boone County witness mark, flush
120.7' to corner 1, 61.4' to corner 2
- C - Mag nail set in S. side power pole, 2' a.g.
76.3' to corner 1, 122.7' to corner 2
- D - Mag nail set in wood guard rail post, S.W. edge, .07' a.g.
47.5' to corner 1, 156.8' to corner 2
- E - Mag nail set in N.W. side power pole, 2' a.g.
115.6' to corner 1, 68.0' to corner 2

Boone County witness mark is a 3/8" diameter x 2' long rebar bearing a metal cap stamped "Boone County Witness Point."

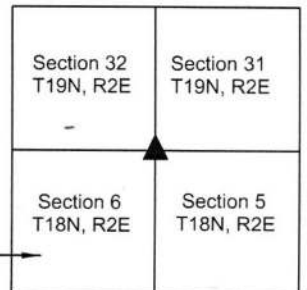
Please refer to page 2 of 2 for further documentation.



Kenneth E. Hedge
Kenneth E. Hedge, County Surveyor

James S. Swift
James S. Swift, IN LS 20200054
March 23, 2017 Page 1 of 2

Union Township
Sections 5, 31 & 32



SECTION CORNER RECORD

SE 000-700

BOONE COUNTY SURVEYOR'S OFFICE

Written Documentation Sheet

Please refer to page 1 of 2 for other information.

The INDOT Type B monuments were set during a bridge reconstruction project.

No specific descriptions of these corners were found in the BCS Surveyor's Record beyond the original establishment of the corners as wood posts in 1819 and 1821, respectively. A BCS tie card dated January 18, 1994 shows both corners and provides reference ties to the corners but does not state what monuments were found marking the corners. The graphic representation on the tie card clearly indicates that the corners are situated at the respective intersections of the centerlines of State Road 32 and County Road 700 East.

Significant uncertainty has been associated with the positions of these corners for several years. Investigation of these corners in 2012 yielded the discovery of two sets of monuments at each corner. Mag nails were found at the positions where the approximate center of State Road 32 is intersected by the approximate centers of the respective roadways of County Road 700 East. Also, one inch diameter iron pins set in concrete were found in the vicinity of these intersections. The origin of these monuments is not specifically known. It is noted that the iron pins are uniformly east of the Mag nails and the positions where the respective north-south roadways intersect State Road 32.

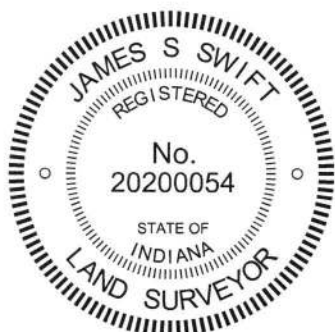
A Location Control Route Survey produced for INDOT by USI Consultants, dated January 29, 2002, shows both corners as "1 inch I. Pin found per County Surveyor Ties." The monuments are referenced by Station and it is clear that this survey calls the iron pins in concrete as the corner. The statement that the positions were found per County Surveyor Ties is not confirmed. The distance reference ties were not present in 2012. As noted above, the 1994 BCS tie card shows the corners at the physical intersections of the roadways, while the iron pins are east of the intersections. The same 2002 Route survey also shows P.O.T. stations which are intended to represent the termini of the intersecting lines of the centers of C.R. 700 East. The Mag nails found in 2002 correlate with the P.O.T. stations. It is believed most likely that these nails were set in association with the 2002 route survey.

Later in 2002, a set of surveys certified by Jerry L. Carter of Anderson & Associates, recorded as documents 0217183 and 0217184 in the Office of the Boone County Recorder, show Corner 1 (standard corner) as a nail found and notes that an iron pin in concrete is 27.6 feet east, which correlates to the respective stations shown on the aforementioned Route Survey. A 2007 survey by Sea Group, LLC recorded as Instrument 200700008100 (Boone County Recorder) shows the respective corners as Mag Nails, the positions of which correlate to the aforementioned Mag nails found in 2012.


It is apparent that the Carter and Sea Group surveys hold nails which were intended by the 2002 route survey to mark P.O.T. stations, not the section corners. However, it is not apparent why the iron pins held on the route survey were ever considered as marking the corners, other than their presence in the roadway. The reference ties from 1994 were not confirmed but, as noted above, the positions of the iron pins being well east of the centers of C.R. 700 East, do not match the clear and specific graphic representation on the tie card. Nor do the positions of these pins fit with the actual available evidence of the corners, in the form of the existing north-south roadways. Personal discussion of the matter with the late Mr. Carter indicated that he firmly believed the iron pins in concrete to have been set in error. In performing the 2002 surveys noted above, he held the nails as marking the corners, as they fit with all available evidence of the corners, whereas the iron pins fit with none of the available evidence. Also of note is the fact that the route survey created additional P.O.T. stations in order to account for the fact that the iron pins were substantially distant from the actual roadway intersections.

Assessing the available evidence in the field, the evidence of the existing roadways was accepted as dominant over the evidence of the found iron pins. The found nails, likely set as P.O.T.s in 2002, were held as marking the corners. This intersection was reconstructed in 2014-2015 as part of the project replacing the bridge just east of the intersection. INDOT was notified of the uncertainties associated with the corners and the intention of this office to hold the positions of the nails. This intention was confirmed by INDOT and the final monumentation set for the corners conforms with the original positions of the nails. Type B monuments were set at these positions by INDOT contractors, in cooperation with this office. The previous positions of the iron pins in concrete were 27.6 feet east at Corner 1 and 19.6 feet east and 0.9 foot south at Corner 2, respectively.

It is also noted that the descriptions of the parcels adjoining the intersection purchased by INDOT prior to the bridge reconstruction project are tied to respective corners, but hold the disputed positions of the iron pins, now removed. It is recommended that future surveyors take this into account if and when the limits of these small parcels are defined.

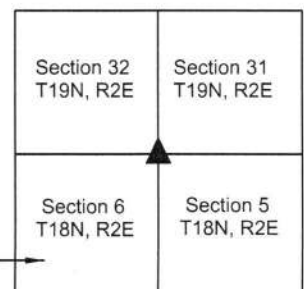



Kenneth E. Hedge, County Surveyor


James S. Swift, IN LS 20200054

March 23, 2017 Page 2 of 2

Union Township
Sections 5, 31 & 32



SECTION CORNER RECORD

SE 050-700

BOONE COUNTY SURVEYOR'S OFFICE

State Plane grid coordinates NAD83 (NSRS 2007):

North: 1743807.75 East: 3161825.37 (U.S. survey feet)

Type of monument: Harrison, 4" disk 'Section Corner'

Depth: Six inches below adjacent gravel road surface.

Indiana tie card references:

IN02_T18NR2E05_36

IN02_T18NR2E06_44

CORNER WITNESS DETAIL

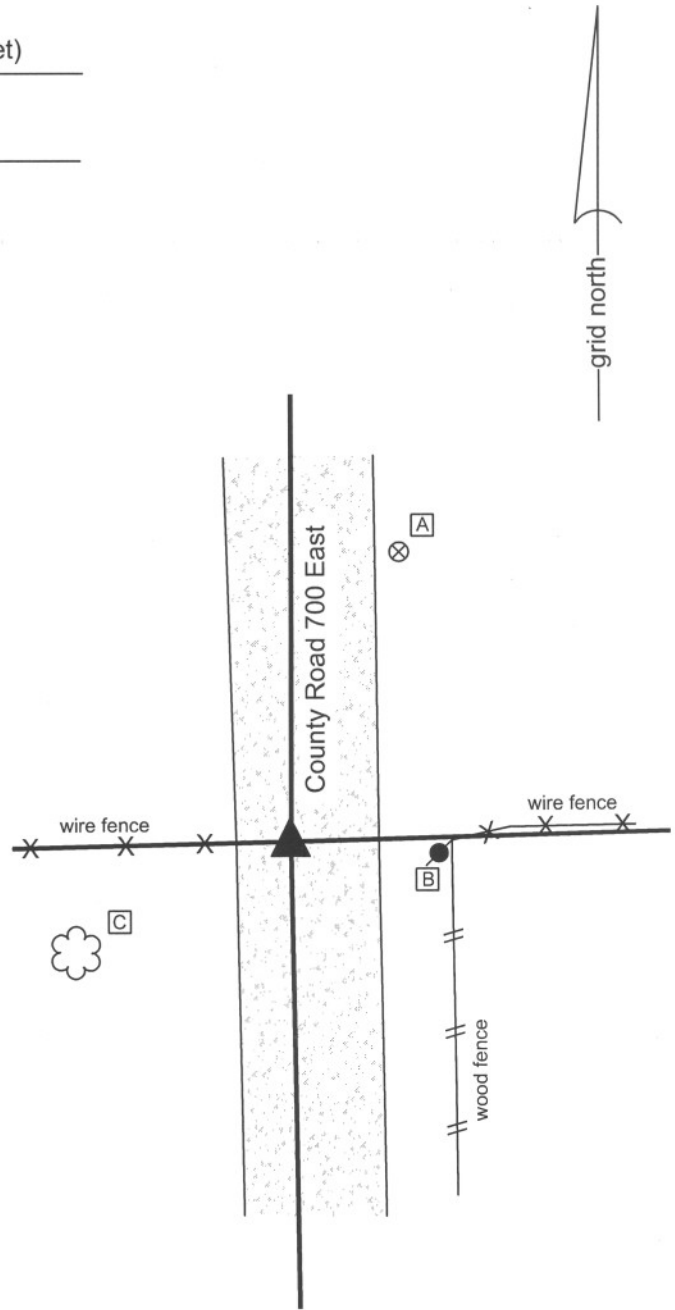
SCALE 1" = 20'



- A - Boone County witness mark, flush, 32.11'
- B - Mag nail set in N. side power pole, 2.0' a.g., 15.4'
- C - Mag nail set in N.E. side 20 inch diameter walnut tree, 3.0' a.g., 22.5'

Boone County witness mark is a 3/8" diameter x 2' long rebar bearing a metal cap stamped "Boone County Witness Point."

The harrison monument was set in place of a stone found. A BCS record of August 19 and September 5, 1902 states "Located set Rock 6,7,18 + on W. side, sharp point of rock in line." A BCS tie card of June 7, 1991 shows the corner as a railroad rail found. BCS field notes dated August 14, 1975 states "No stone found set rod." No tie card was found associated with these notes. This corner was excavated on June 4, 2009. A railroad rail was found on end at 7 inches deep. A 5/8 inch rebar was found at 7 inches deep, 4.8 feet south of the rail. The record stone was found at 13 inches deep, 0.2 foot west and 0.7 foot south of the rail. The stone was broken in half but the two pieces combined to match the record dimensions. The stone measured 6 inches E-W by 7 inches N-S by 18 inches tall. The "+" was clearly visible on the west side and a distinct high point on the top of the stone was accepted as being the "sharp point" of the rock per the 1902 record. The stone was well embedded in the clay, protruding approximately 3 inches out of the clay in the base layer of the road. The stone was removed and a harrison monument was set in its place at the position of the high point of the stone. This corner was originally established as a wood post in July, 1821.



Kenneth E. Hedge
 Kenneth E. Hedge, County Surveyor

James S. Swift
 James S. Swift, IN LS 20200054
 July 14, 2010

Worth Twp	Union Twp
Section 6 T18N, R2E	Section 5 T18N, R2E

PHOTOGRAPHIC DOCUMENTATION

Date of photography: June 4, 2009

View of the stone as first exposed.



The bottom part of the stone found embedded in the road. Not the etched + on the side.



The two parts of the broken stone put together. Note the "sharp point" on the top of the rock.



The two parts of the stone removed from the road bed. The side facing the camera was the west side and the "sharp point" on the top of the rock is on the left in this picture.



For details and documentation, refer to related sheet "Section Corner Record."

SECTION CORNER RECORD

SE 100-600

BOONE COUNTY SURVEYOR'S OFFICE

State Plane grid coordinates NAD83 (NSRS 2007):

North: 1740952.71 East: 3156359.24 (U.S. survey feet) (standard corner)

North: 1740988.34 East: 3156358.57 (U.S. survey feet) (closing corner)

Type of monument: Harrison, 4" disk 'Section Corner', 2 inches below gravel (Cor. 1)

36 inch length of 5/8 inch diam. rebar with metal cap 'Boone County Surveyor', flush (Cor. 2)

Indiana tie card references:

IN02_T18NR1E01_80 IN02_T18NR1E12_08

IN02_T18NR2E06_72 IN02_T18NR2E07_00

CORNER WITNESS DETAIL

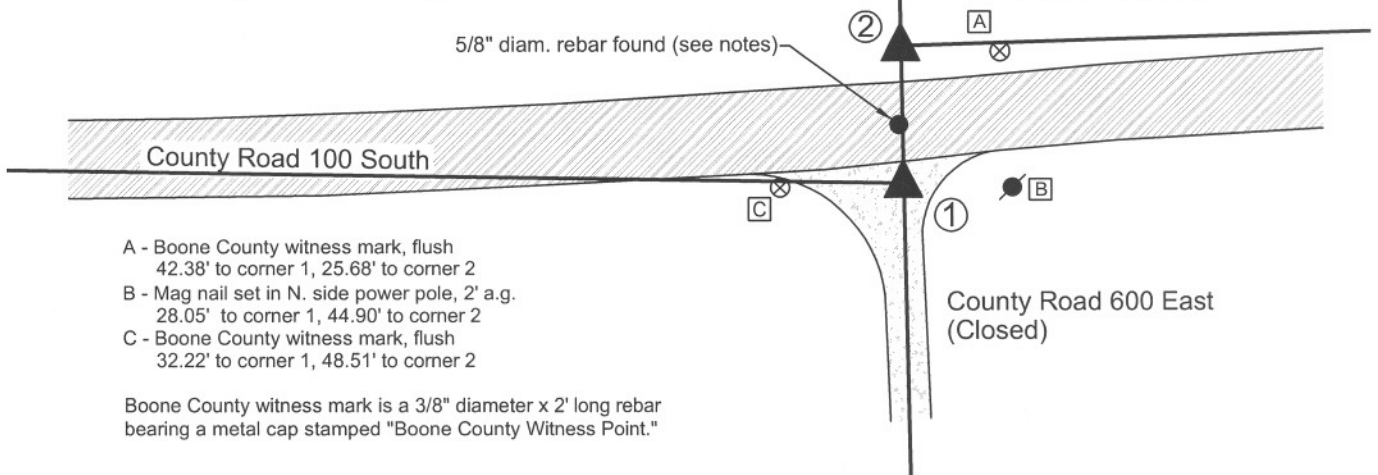
SCALE 1" = 50'



① S.E. Corner, Section 1
N.E. Corner, Section 12
T 18 N, R 1 E

② S.W. Corner, Section 6
N.W. Corner, Section 7
T 18 N, R 2 E

Distance between monuments:
54 links = 35.64 feet

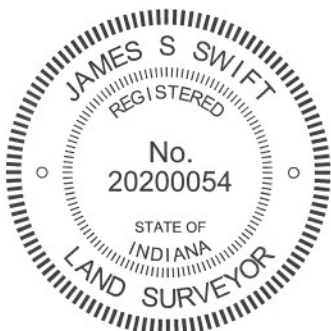


The harrison monument at corner 1 was set in place of a 5/8 inch diameter rebar found. The capped rebar at corner 2 was set at a calculated position. A BCS record of February 16, 1871 states with respect to corner 1 "Reestablished from stump of trees. Set a Rock. 16,16,9 +." A BCS record of October 19, 1895 states with respect to corner 2, Established Rock 18x12x10 marked +." BCS field notes dated August 22, 1967 for which no tie card was found state with respect to corner 1, "no stone." A BCS tie card dated December 9, 1994 show rebars at both corners but do not specifically reference a distance between the two corners. A BCS tie card dated October 25, 2005 shows corner 1 as a harrison monument. This document does not mention the adjacent corner 2, nor does the diagram on the document demonstrate the jog in County Road 100 South as it crosses the range line.

Prior to excavation, Mr. Jerry Carter, Registered Surveyor, questioned the position of the harrison monument set in 2005. Mr. Carter previously worked for Anderson & Associates, the company which produced the tie card and which set the harrison monument, and was employed by that firm at the time the harrison monument was set. Mr. Carter expressed his firm conviction that the harrison monument was not in the same position as a rebar previously held by Anderson & Associates, which he believed to be the same rebar shown on the 1994 tie card. Mr. Carter calculated the position of the rebar from information in his files and discovered that precisely at the calculated position a rebar did indeed exist, although it appeared to have lost it magnetic qualities and did not register on magnetic locator device. The rebar was found to be 1.8 feet south and 7.8 feet east of the harrison monument. The found rebar fit much better with local evidence in the form of the existing center of County Road 600 East than did the harrison monument. Per Mr. Carter, the rebar fits with deed references, monumentation and occupation lines to the west.

Excavation at corner 1, encompassing the locations of the rebar and harrison monument yielded no further evidence. Excavation in the vicinity of corner 2 yielded several rocks, none of which matched the description in the 1895 record nor were positively identifiable as section corner markers. The found rebar at corner 1 was held as marking the corner and was replaced with a harrison monument. The position of corner 2 was established on line between corner 1 and the standard corner approximately 1/2 mile north at the record government closing distance of 54 links, or 35.64 feet.

It is noted that another rebar exists, being in the roadway as it jogs across the range line. This rebar is 1.0 foot west and 15.2 feet north of the harrison monument set at corner 1. The source of this rebar is not known. Its position does not fit with any other evidence of either corner. This intermediate rebar was left in place, but should not be interpreted as marking either corner. The harrison monument set in 2005 was removed.



Kenneth E. Hedge
Kenneth E. Hedge, County Surveyor

James S. Swift
James S. Swift, IN LS 20200054
March 30, 2012

Worth Township

Section 1 T18N, R1E	Section 6 T18N, R2E
Section 12 T18N, R1E	Section 7 T18N, R2E

SECTION CORNER RECORD

SE100-650

BOONE COUNTY SURVEYOR'S OFFICE

State Plane grid coordinates NAD83 (NSRS 2007):

North: 1741077.39 East: 3159230.19 (U.S. survey feet)

Type of monument: Harrison, 4" disk 'Section Corner'

Depth: One inch below adjacent road surface

Indiana tie card references:

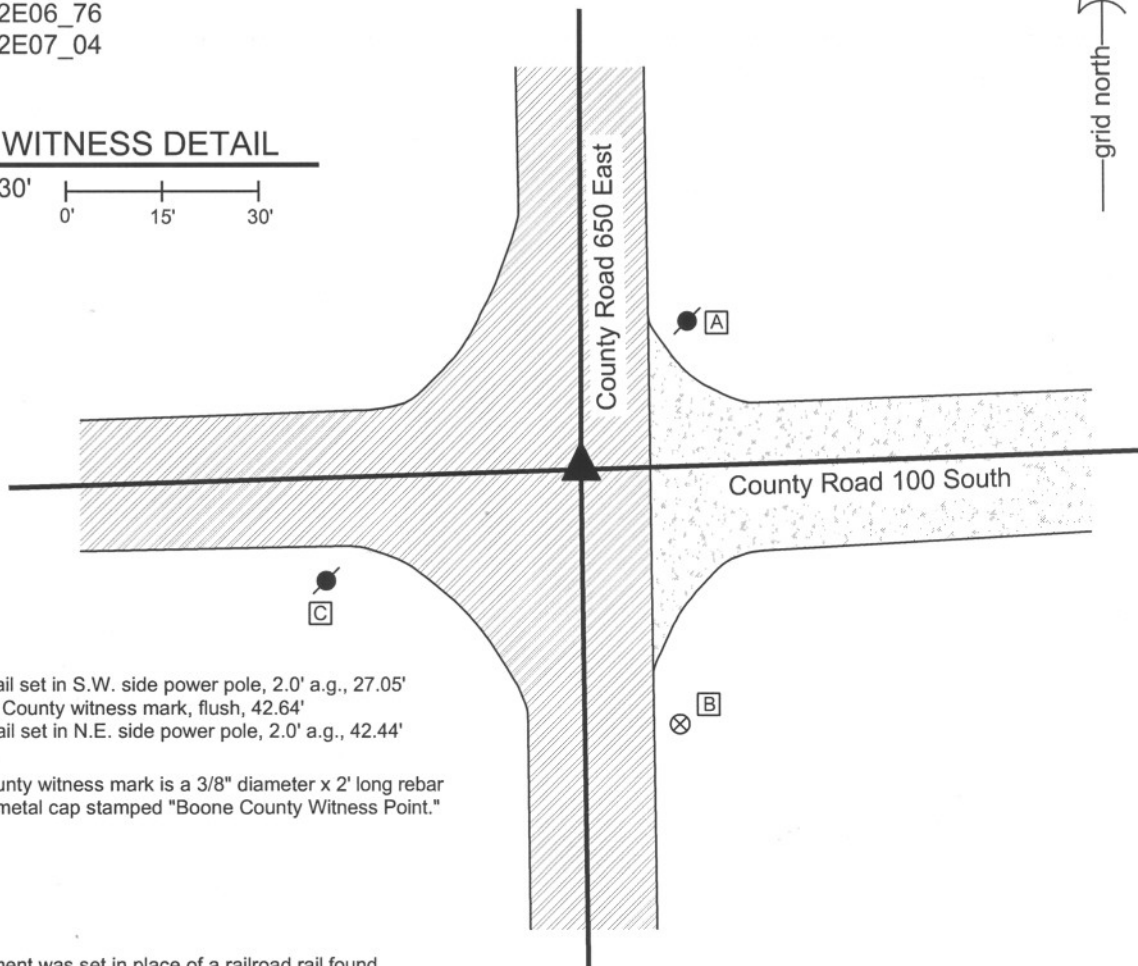
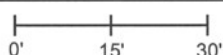
IN02_T18NR2E06_76

IN02_T18NR2E07_04



CORNER WITNESS DETAIL

SCALE 1" = 30'



- A - Mag nail set in S.W. side power pole, 2.0' a.g., 27.05'
- B - Boone County witness mark, flush, 42.64'
- C - Mag nail set in N.E. side power pole, 2.0' a.g., 42.44'

Boone County witness mark is a 3/8" diameter x 2' long rebar bearing a metal cap stamped "Boone County Witness Point."

The harrison monument was set in place of a railroad rail found.

A BCS record of February 16 - 17, 1871 states "Re-est from stump of Maple. Set a Rock 17,12,11+." A BCS tie card dated August 17, 1967 states "stone located."

This corner was excavated on June 5, 2009. Prior to excavation a mag nail was found at the surface. Excavation revealed a railroad rail on end found at 12 inches deep directly below the mag nail. No other evidence was found. It is considered most likely that the railroad rail was set on August 17, 1967 and replaced the stone. Removing the stone and replacing it with a railroad rail on end was a common practice of field crews from this office in that time frame, though in most cases the documentation simply refers to the stone found and mentions neither the rail nor the removal of the stone.

The harrison monument was set in the position of the railroad rail and nail, both of which were removed during excavation.

This corner was originally established as a wood post in July, 1821.



Kenneth E. Hedge
Kenneth E. Hedge, County Surveyor

James S. Swift
James S. Swift, IN LS 20200054
July 14, 2010

Worth Twp

Section 6
T18N, R2E

Section 7
T18N, R2E

SECTION CORNER RECORD

SE 100-700

BOONE COUNTY SURVEYOR'S OFFICE

State Plane grid coordinates NAD83 (NSRS 2007):

North: 1741162.79 East: 3161869.83 (U.S. survey feet)

Type of monument: Harrison, 4" disk 'Section Corner'

Depth: Eight inches below adjacent gravel road surface

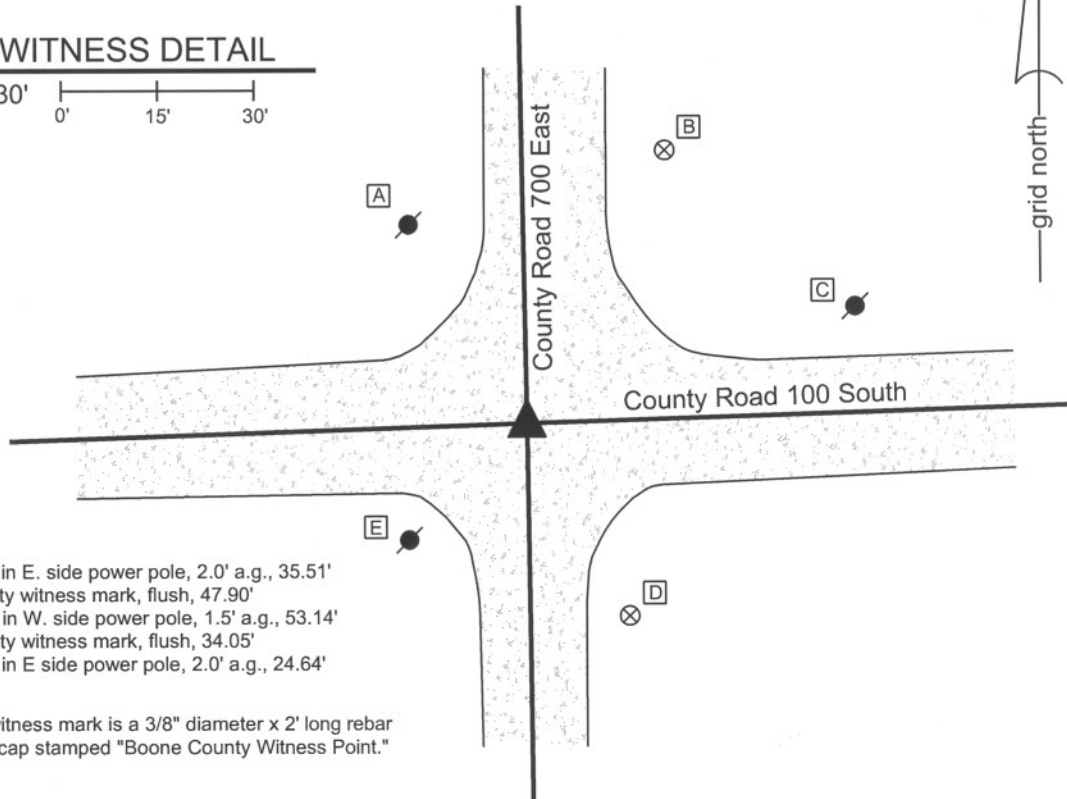
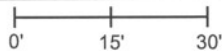
Indiana tie card references:

IN02_T18NR2E05_72 IN02_T18NR2E06_80

IN02_T18NR2E07_08 IN02_T18NR2E08_00

CORNER WITNESS DETAIL

SCALE 1" = 30'



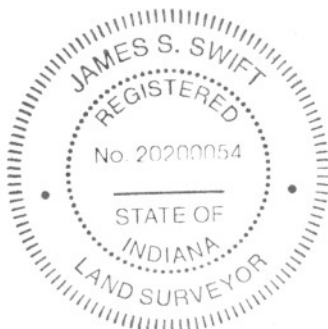
- A - Mag nail set in E. side power pole, 2.0' a.g., 35.51'
- B - Boone County witness mark, flush, 47.90'
- C - Mag nail set in W. side power pole, 1.5' a.g., 53.14'
- D - Boone County witness mark, flush, 34.05'
- E - Mag nail set in E side power pole, 2.0' a.g., 24.64'

Boone County witness mark is a 3/8" diameter x 2' long rebar bearing a metal cap stamped "Boone County Witness Point."

The harrison monument was set in place of a rebar found.

A BCS record of February 27, 1871 states "Re Established from Oak stump. Set a Rock 14.12.10 marked + (under bridge)." A BCS tie card dated June 7, 1991 shows the corner as a 5/8 inch rebar found. This corner was excavated on May 28, 2009. Prior to excavation a 5/8 inch rebar was found at 3 inches below grade. The rebar was slightly bent at the top but the horizontal position of the main shaft was detectable. The reference in the 1871 to "under bridge" is a confusing reference as it is not clear where or why there might have been a bridge at this intersection. Excavation revealed no more monuments of any kind. An area 7 feet N-S by 11 feet E-W, centered on the found rebar at the approximate center of the intersection, was excavated to at least 30 inches deep and the clay layer below the main road bed. Remnants of an old red clay tile were found at 2 feet, directly under the rebar. The tile appeared to bear in a N-S direction. The presence of the tile may explain the absence of the stone, as the stone may have been removed during the installation of the tile. The harrison monument was set in the horizontal position of the rebar.

This corner was originally established as a wood post in July, 1821.



Kenneth E. Hedge
 Kenneth E. Hedge, County Surveyor

James S. Swift
 James S. Swift, IN LS 20200054
 July 14, 2010

Worth Twp Union Twp

Worth Township	Section 6 T18N, R2E	Section 5 T18N, R2E
	Section 7 T18N, R2E	Section 8 T18N, R2E