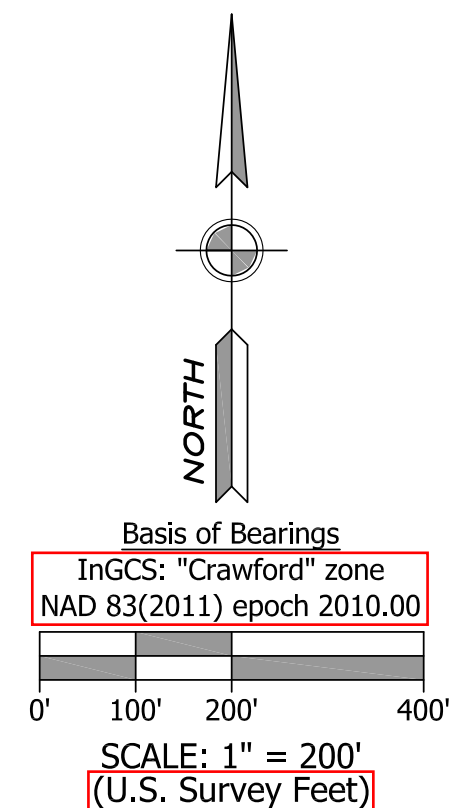
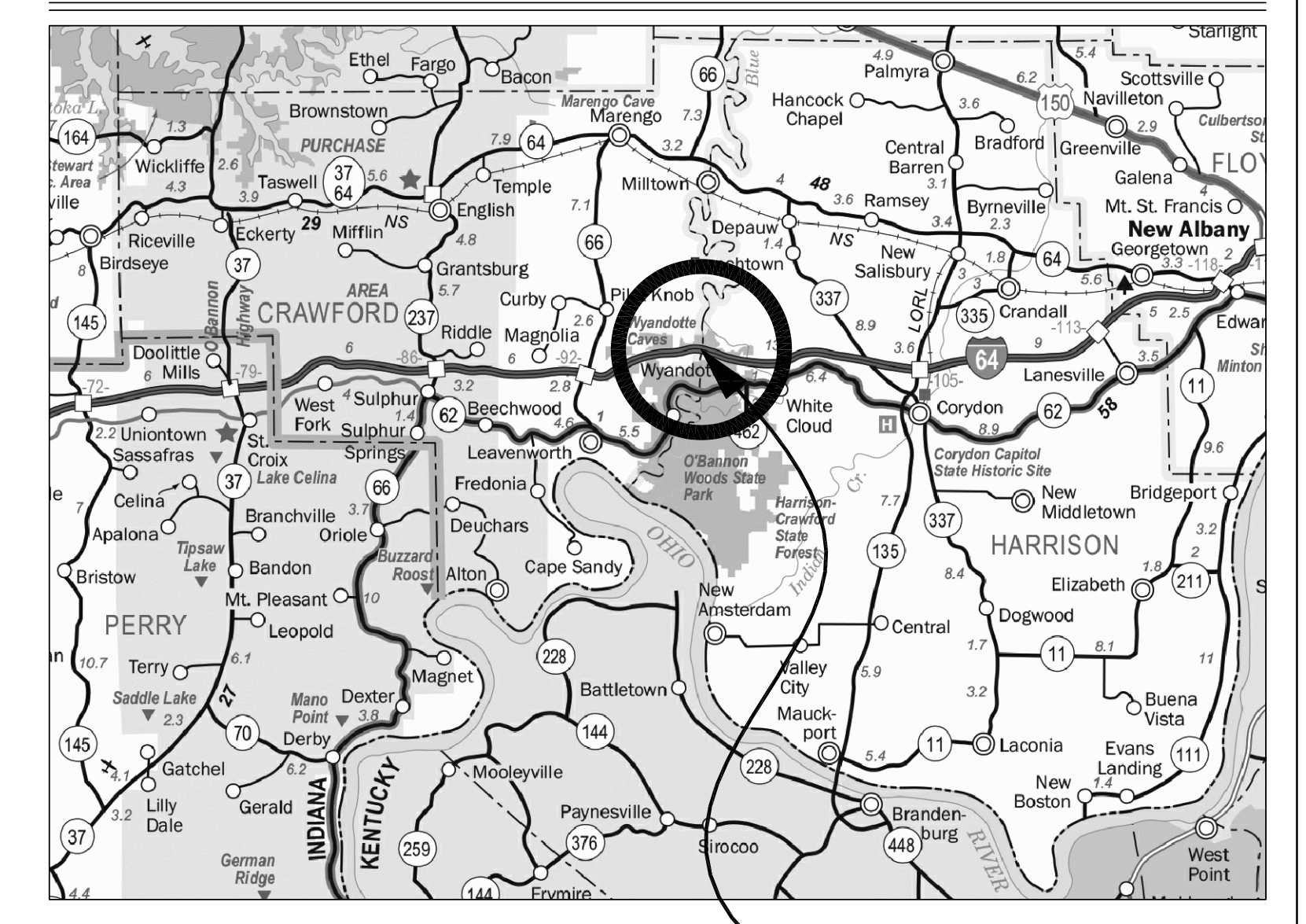


*Note: The following plat serves as an example Location Control Route Survey (LCRS) prepared for the Indiana Department of Transportation (INDOT) utilizing the Indiana Geospatial Coordinate System (InGCS). It also serves as a template for addressing and documenting the migration of both survey and horizontal alignment data from one InGCS zone to another in an instance where the project spans multiple InGCS zones bearing different parameters (thus, different grid coordinates), and is split at the county/zone line. The red polygons highlight the information that relates to both of these purposes. Refer to the adjacent LCRS' corresponding plat (Interstate 64 - Harrison County) for the supplementary survey and horizontal alignment information.*

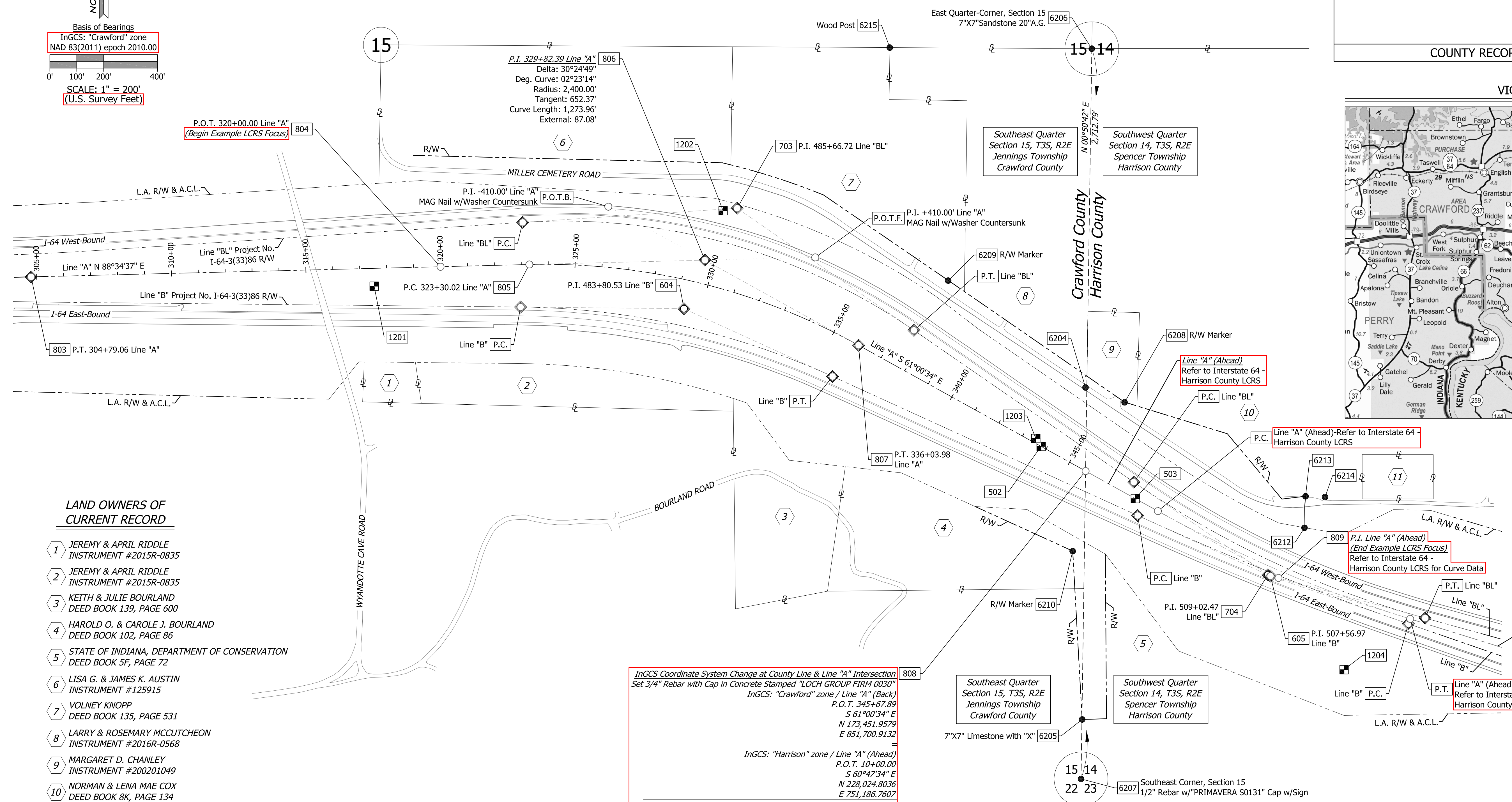


COUNTY RECORDER'S DOCUMENT INFORMATION

VICINITY MAP (Not to Scale)



Project Location



LAND OWNERS OF CURRENT RECORD

- 1 JEREMY & APRIL RIDDLE INSTRUMENT #2015R-0835
- 2 JEREMY & APRIL RIDDLE INSTRUMENT #2015R-0835
- 3 KEITH & JULIE BOURLAND DEED BOOK 139, PAGE 600
- 4 HAROLD O. & CAROLE J. BOURLAND DEED BOOK 102, PAGE 86
- 5 STATE OF INDIANA, DEPARTMENT OF CONSERVATION DEED BOOK 5F, PAGE 72
- 6 LISA G. & JAMES K. AUSTIN INSTRUMENT #125915
- 7 VOLNEY KNOPP DEED BOOK 135, PAGE 531
- 8 LARRY & ROSEMARY MCCLUTCHEON INSTRUMENT #2016R-0568
- 9 MARGARET D. CHANLEY INSTRUMENT #200201049
- 10 NORMAN & LENA MAE COX DEED BOOK 8K, PAGE 134
- 11 NORMAN & LENA MAE COX DEED BOOK 8S, PAGE 810

**InGCS Coordinate System Change at County Line & Line "A" Intersection**  
 Set 3/4" Rebar with Cap in Concrete Stamped "LOCH GROUP FIRM 0030"  
 InGCS: "Crawford" zone / Line "A" (Back)  
 P.O.T. 345+67.89  
 S 61°00'34" E  
 N 173,451.9579  
 E 851,700.9132

InGCS: "Harrison" zone / Line "A" (Ahead)  
 P.O.T. 10+00.00  
 S 60°47'34" E  
 N 228,024.8036  
 E 751,186.7607

Note: Other than Line "A" (Ahead) information listed here, all stations, offsets, coordinates, bearings, distances, areas (if any), and height component information shown on this LCRS plat are based upon the InGCS: "Crawford" zone. All other spatial data respective to this project, but based upon the InGCS: "Harrison" zone, is to be shown on the "Interstate 64 - Harrison County" Location Control Route Survey plat.

PLAT LEGEND

- # - SURVEY POINT NUMBER OR MONUMENT NOMENCLATURE
- - SURVEY NETWORK CONTROL POINT SET 3/4" REBAR FLUSH WITH PLASTIC CAP STAMPED "POINT REFERENCE" UNLESS NOTED OTHERWISE
- ◇ - CALC'D LOCATION (NO MONUMENT SET)
- - SET 3/4" REBAR FLUSH WITH PLASTIC CAP STAMPED "LOCH GROUP FIRM 0030" UNLESS NOTED OTHERWISE
- - FOUND MONUMENT (AS DESCRIBED)
- ⊂ - APPROXIMATE DEED LINE

Field Work Dates Note

"Survey Started" date and "Survey Completed" date shown below indicate the first and last dates field work was performed on this Project. It does NOT represent a continuous time span of work for this Project. Field work was intermittently stopped and re-started as necessary due to work on various other Projects.

Right-of-Way Note

The existing right-of-way lines, parcel ownership lines, and ownership information shown on this plat are preliminary and subject to change based on verification/validation of title. This information is shown only to help orient the user of this plat as it relates to project centerlines and is not intended to establish existing right-of-way lines or ownership lines. The source used to plot existing right-of-way lines and ownership lines shown on this plat is from the last/current deeds of record obtained from the appropriate County Recorder's Office when the research was performed, as well as from other sources cited on this plat. Where no record right-of-way could be found, the edge of pavement shown may possibly act as an easement by prescription. The designer/consultant responsible for Right-of-Way Engineering is to complete the final determination of this information.

Easement Note

Locations of any easements shown hereon are based on the last/current deeds of record obtained from the appropriate County Recorder's Office when the research was performed, as well as from other sources cited on this plat, and in no way represent all possible easements that may be recovered as a result of an exhaustive title search.

Point Numbering Note

See Page 3 of 3 of this LCRS for the Surveyor's Report and a description of Survey Control Points and Monuments located during the field work segment of this Survey. All point numbers on this page having corresponding point numbers on Pages 2 and 3 of 3 refer to the same Point/Monument.

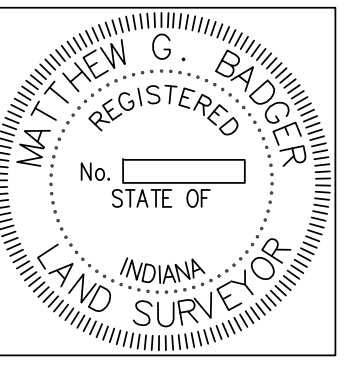
SURVEY STARTED	JUNE 24, 2015
SURVEY COMPLETED	OCTOBER 31, 2016
ROUTE PLAT SHEETS	1 of 3
SURVEYOR'S PROJECT NO.	114-0001-05V

Survey Prepared By:

**LOCHMUELLER GROUP**  
 6200 Vogel Road  
 Evansville, Indiana 47715  
 Phone: 812.479.6200  
 Toll Free: 800.423.7411

**FIELD SURVEYOR'S STATEMENT**

This survey, to the best of my knowledge and belief, is executed according to the provisions of Title 865 I.A.C. 1-12-20 through 1-12-26 regarding Route Surveys, except that any data shown regarding the location or description of any new parcels to be acquired or any existing parcels is not a part of this survey.



**SOCIAL SECURITY REDACTION STATEMENT**

I affirm, under the penalties of perjury, that I have taken reasonable care to redact each social security number in this document, unless required by law.

RECOMMENDED FOR APPROVAL & PREPARED BY:

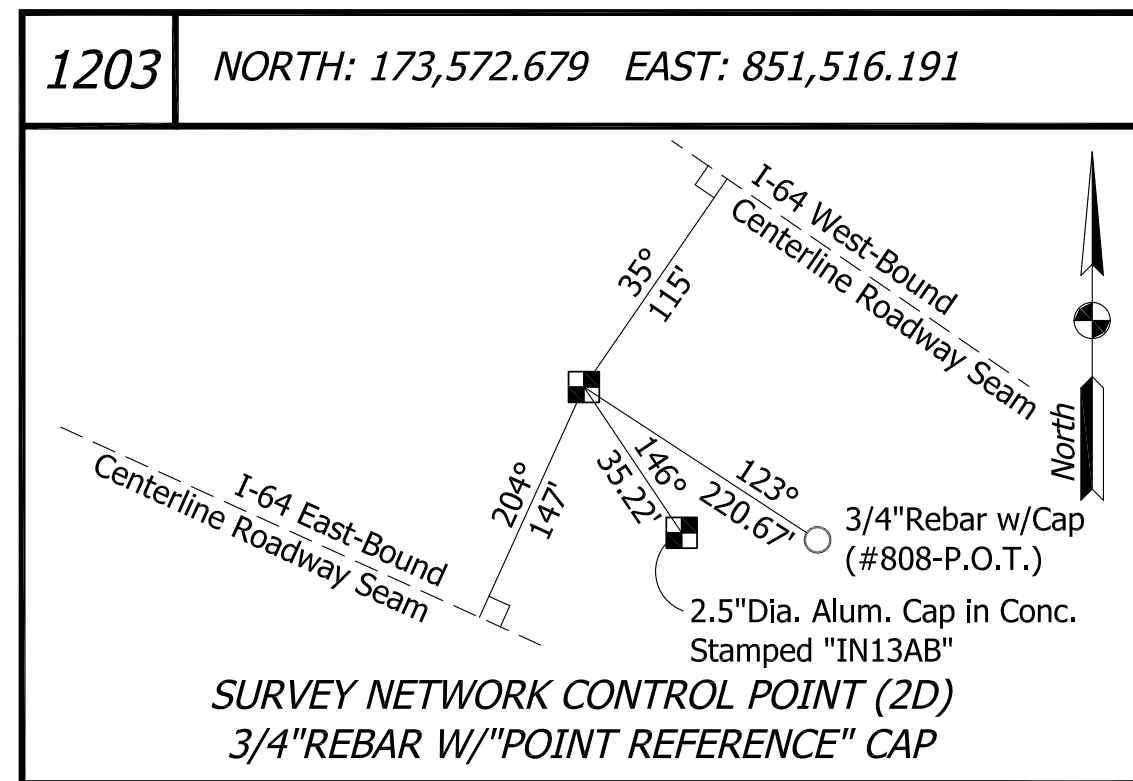
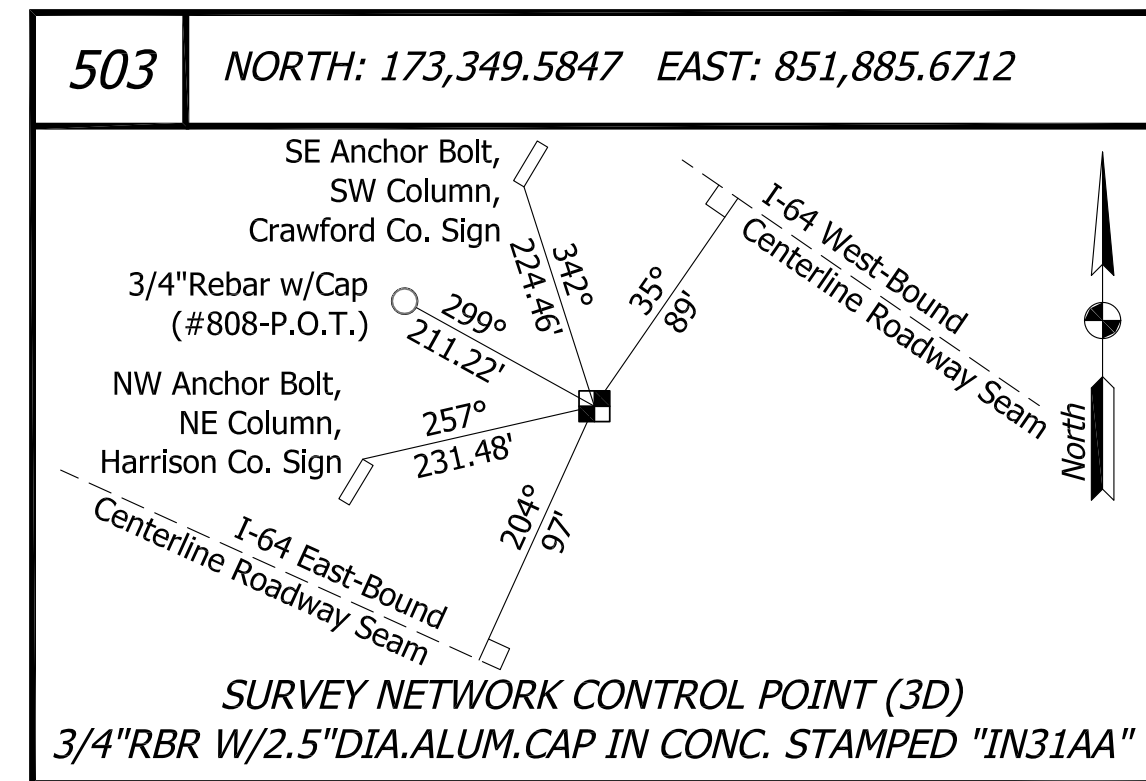
REGISTERED LAND SURVEYOR, FIELD DATE

Prepared for the  
**INDIANA DEPARTMENT OF TRANSPORTATION**

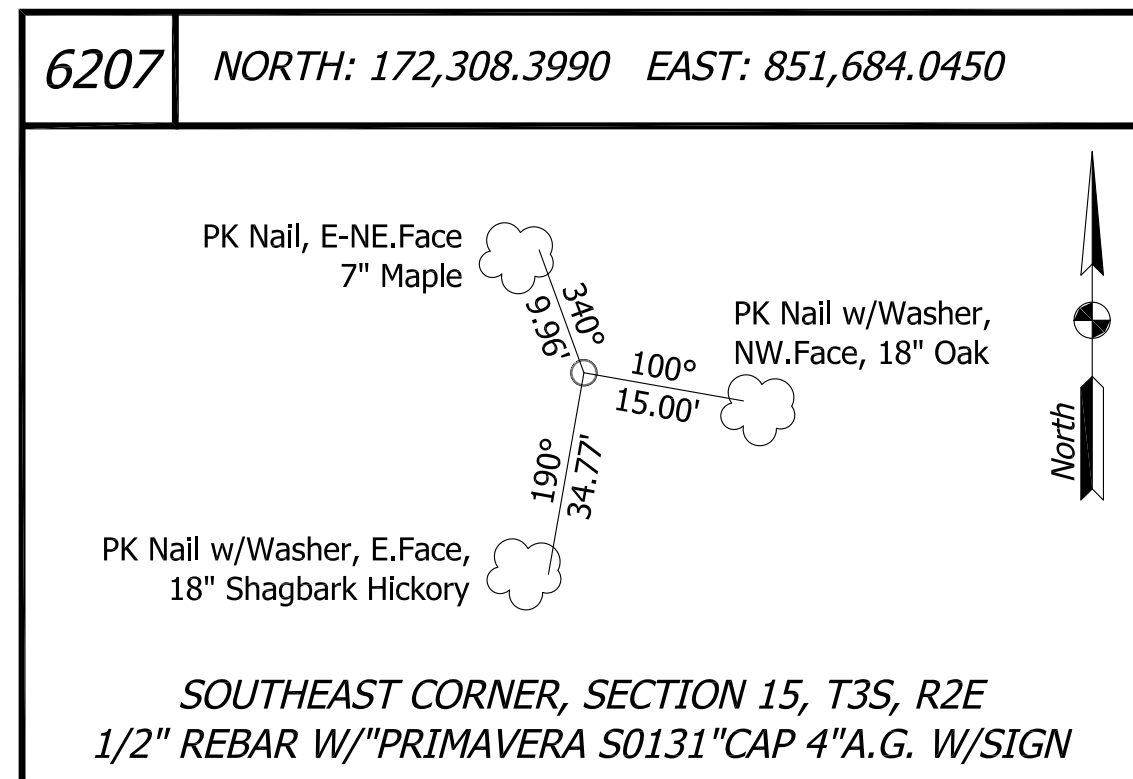
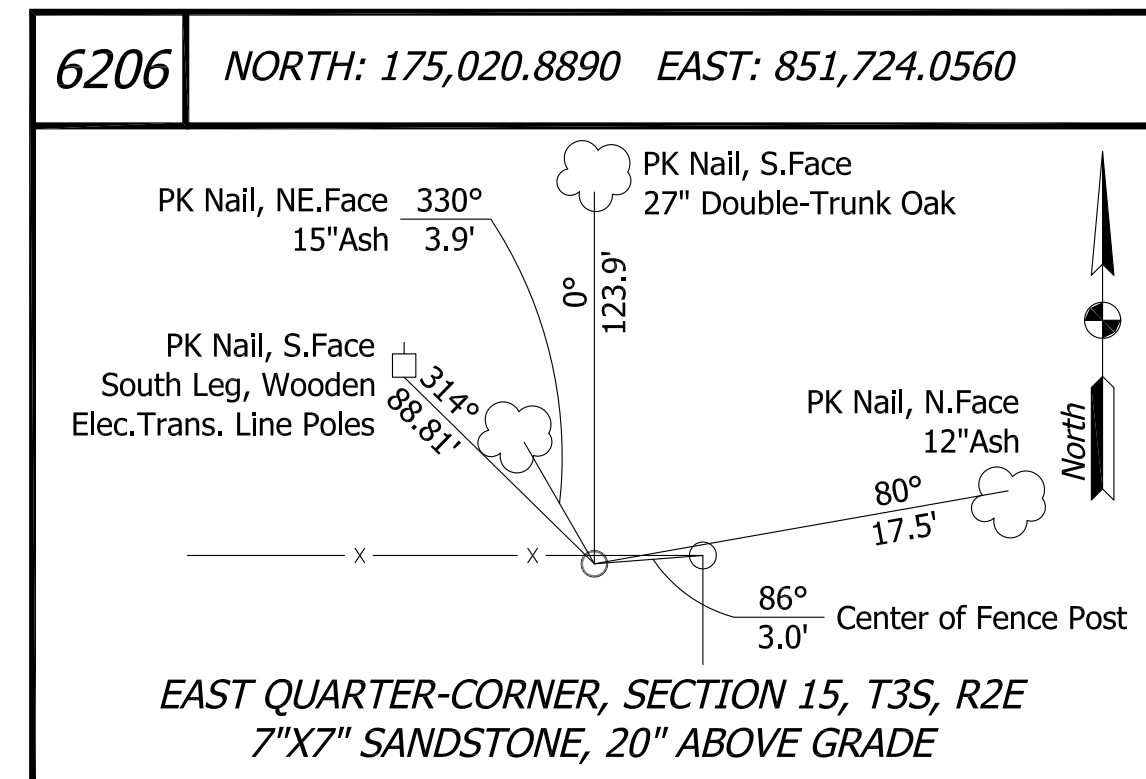
**LOCATION CONTROL ROUTE SURVEY**  
 Interstate 64  
 Crawford County

HORIZONTAL SCALE	BRIDGE FILE
N/A	
COUNTY	DESIGNATION
CRAWFORD	
SURVEY BOOK	PLAN SHEETS
	of
CONTRACT	PROJECT

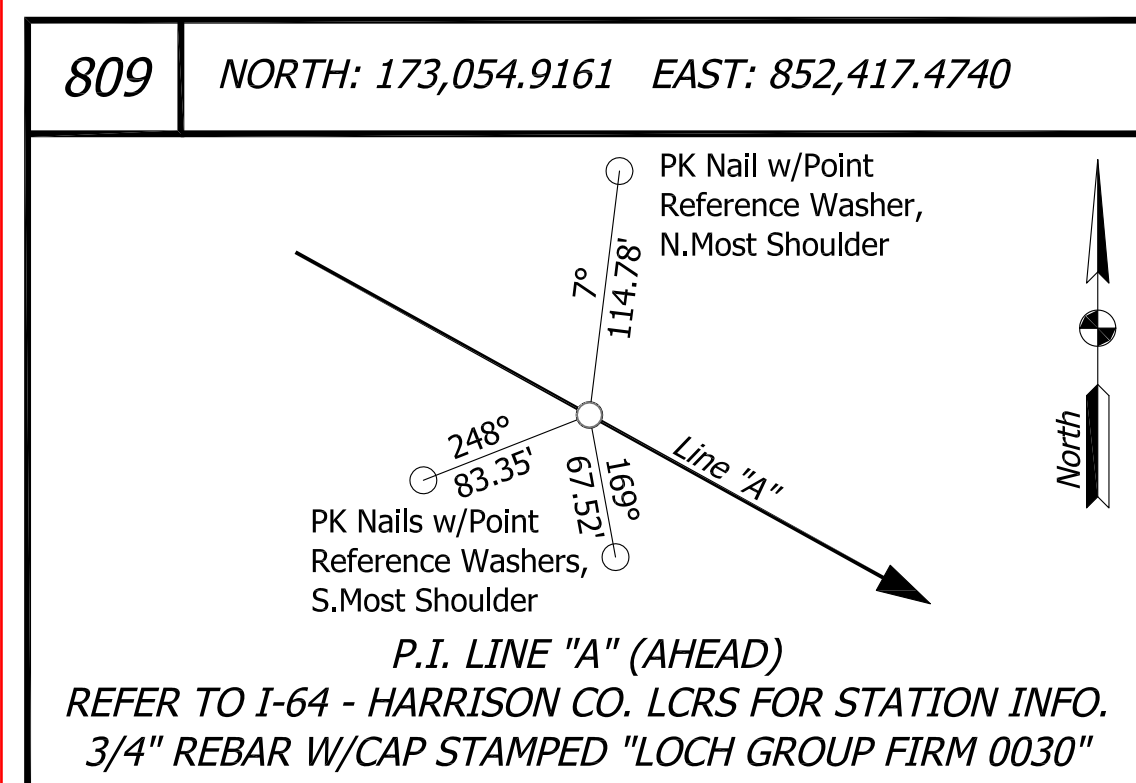
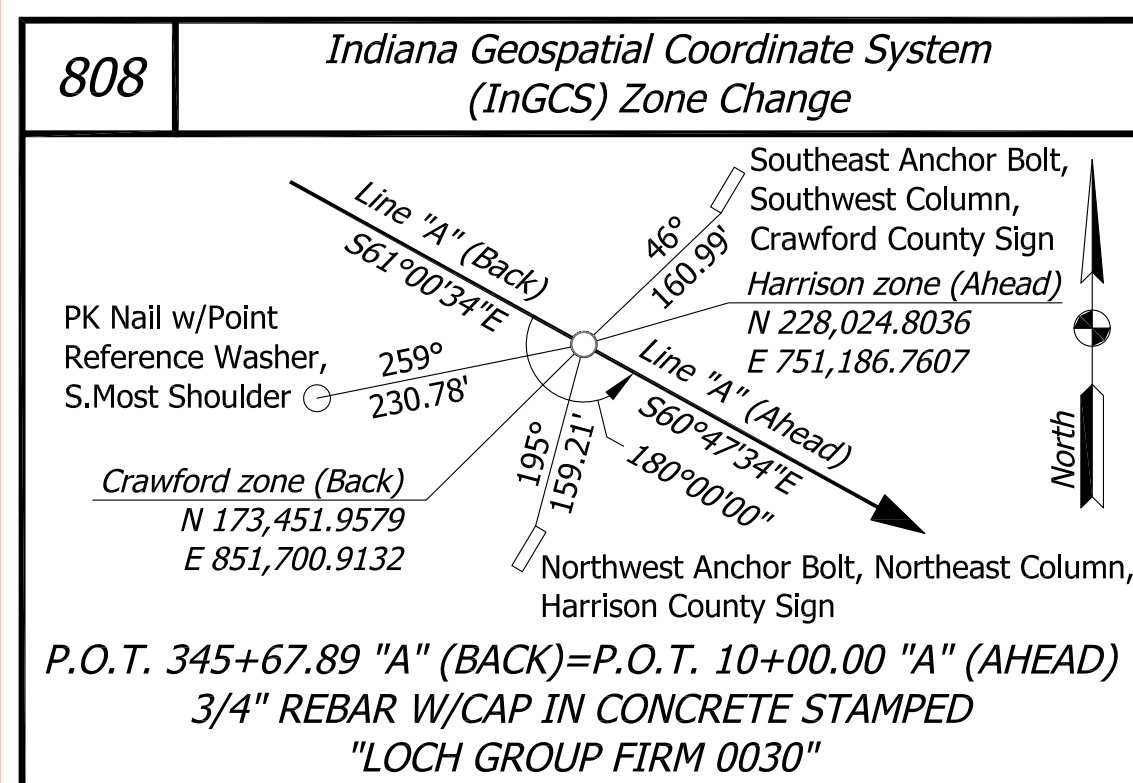
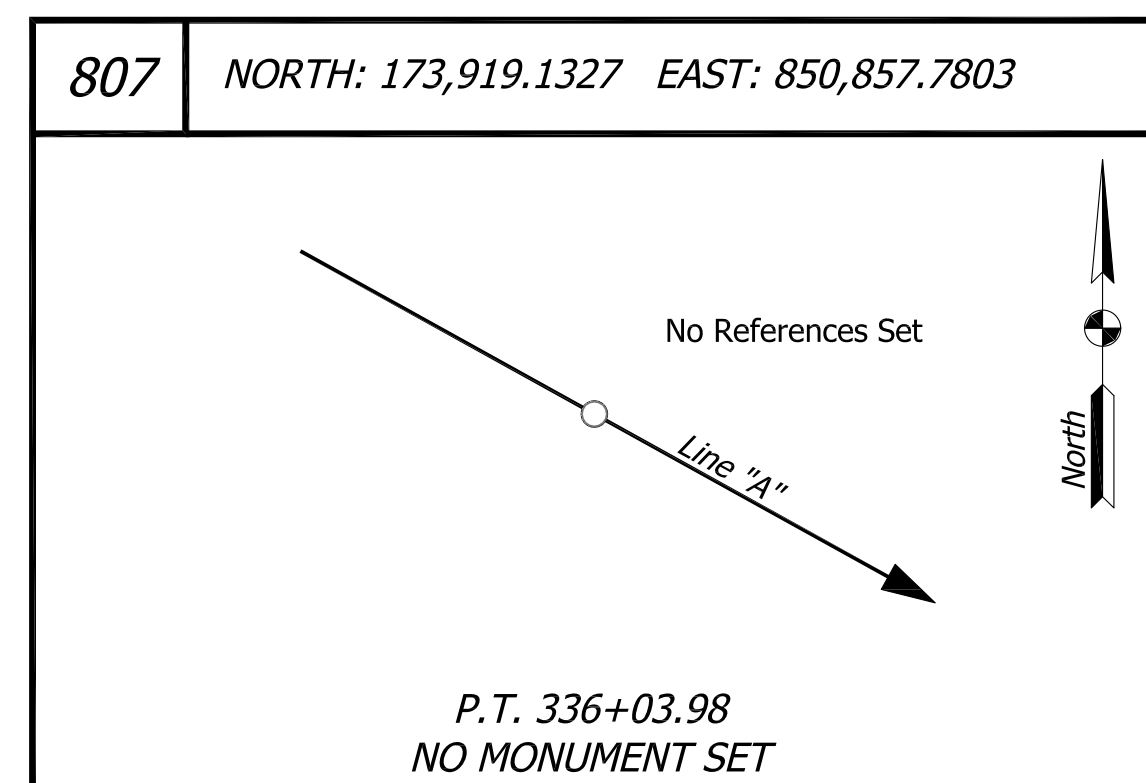
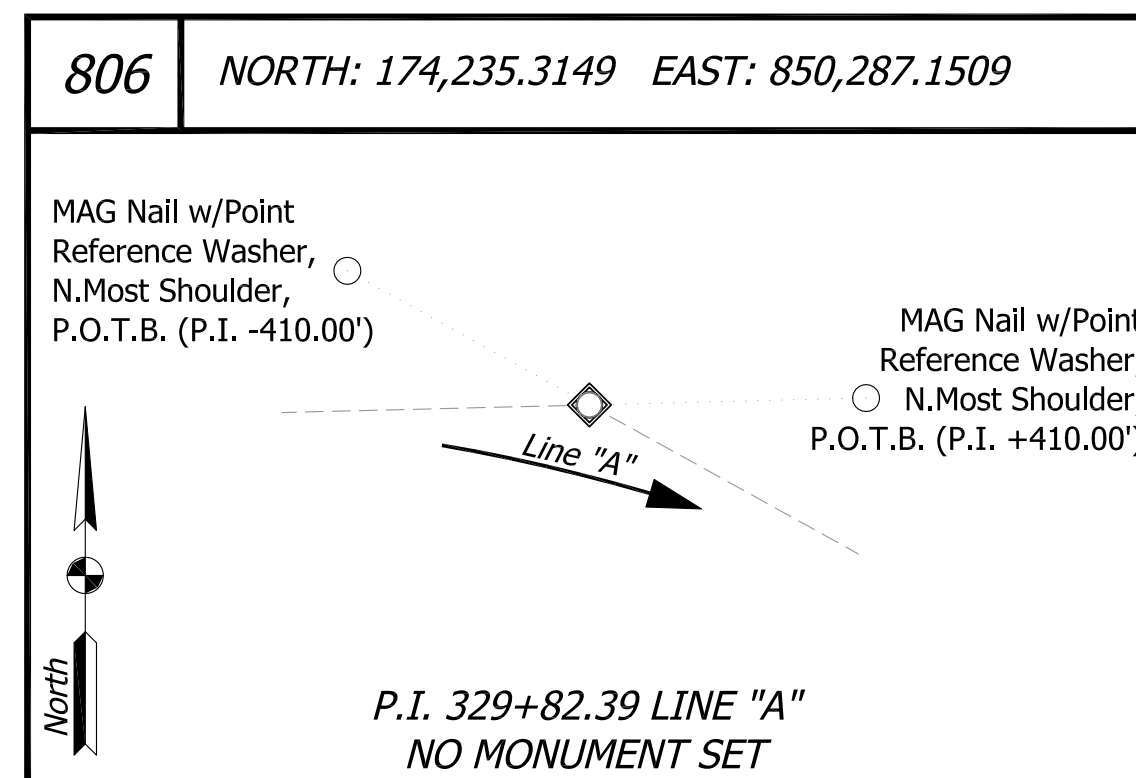
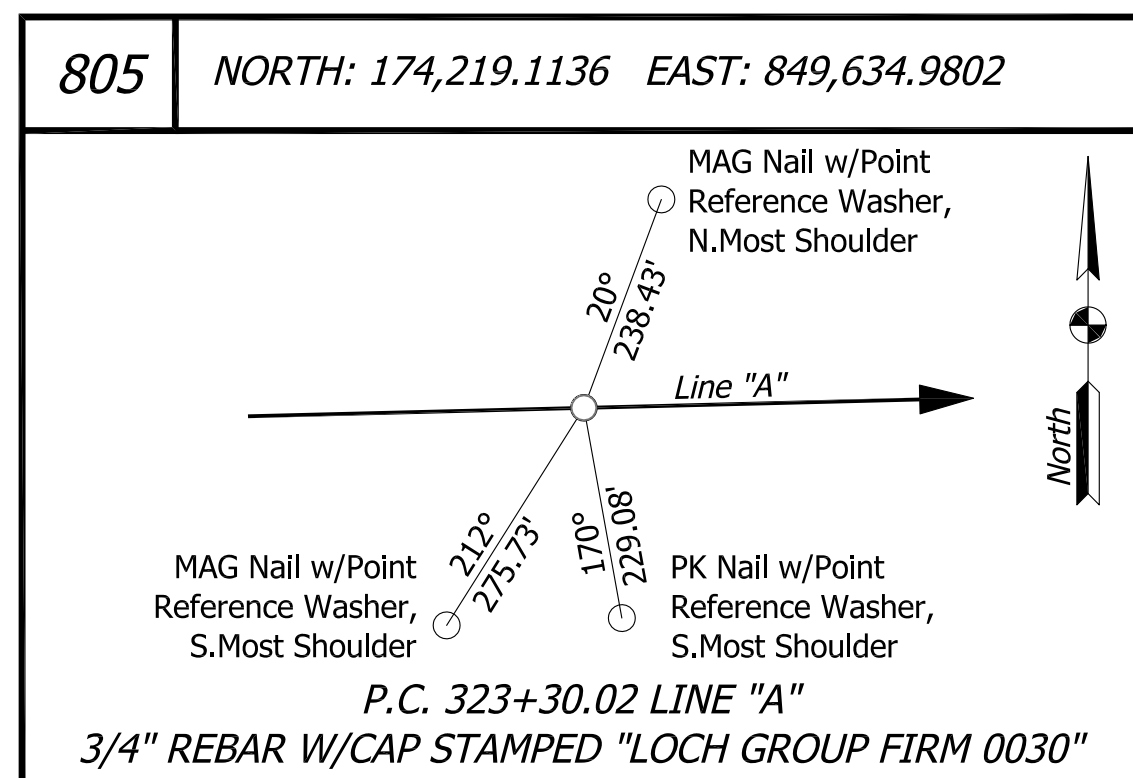
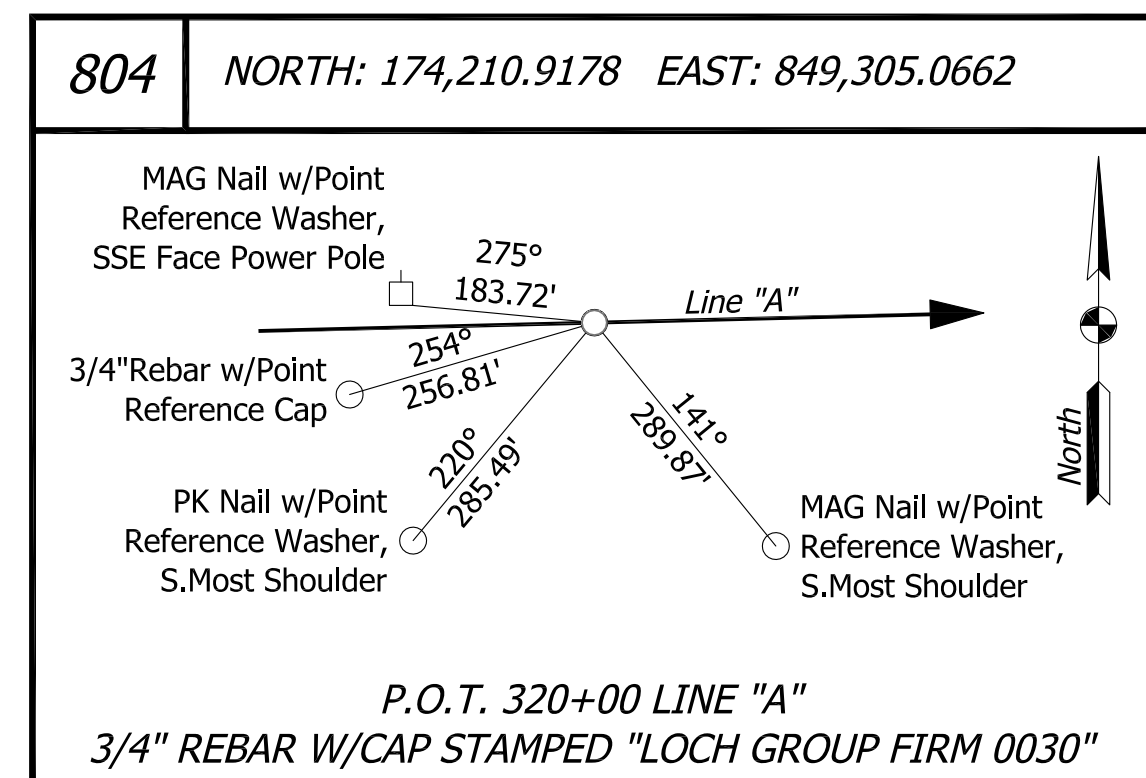
**SURVEY NETWORK CONTROL POINT REFERENCES**



**SECTION CORNER REFERENCES**



**ALIGNMENT POINT REFERENCES**



**REPORTED PROJECT POINTS METADATA TABLE**

GEOMETRIC DATUM: NAD 83(2011) EPOCH 2010.00 GRID SYSTEM-ZONE: InGCS-CRAWFORD NSRS TIE MECHANISM: OPUS (STATIONS: INFC, INPA, INTC)

VERTICAL DATUM: NAVD 88 LINEAR UNITS: U.S. SURVEY FEET GEOID MODEL: GEOID12B

POINT #/NAME	GRID NORTHING	GRID EASTING	ORTHOMETRIC HEIGHT	NORTH LATITUDE	WEST LONGITUDE	ELLIPSOID HEIGHT	PURPOSE	CHARACTER	FOUND/SET/ CALCD (NOT SET)	ABOVE/FLUSH/ BELOW GRADE
501	174,574.0193	843,758.3522	639.349	38°15'17.56694"	86°18'13.48635"	530.089	SURVEY NETWORK CONTROL POINT (3D)	3/4"RBR W/2.5"DIA.ALUM.CAP IN CONC. STAMPED "IN13AA"	SET	FLUSH
502	173,543.4343	851,535.8214	825.336	38°15'07.20532"	86°16'36.01908"	716.069	SURVEY NETWORK CONTROL POINT (3D)	3/4"RBR W/2.5"DIA.ALUM.CAP IN CONC. STAMPED "IN13AB"	SET	FLUSH
503	173,349.5847	851,885.6712	824.372	38°15'05.28075"	86°16'31.63943"	715.107	SURVEY NETWORK CONTROL POINT (3D)	3/4"RBR W/2.5"DIA.ALUM.CAP IN CONC. STAMPED "IN31AA"	SET	FLUSH
504	169,249.0195	857,647.4764	729.726	38°14'24.60235"	86°15'19.54869"	620.495	SURVEY NETWORK CONTROL POINT (3D)	3/4"RBR W/2.5"DIA.ALUM.CAP IN CONC. STAMPED "IN31AB"	SET	FLUSH
601	173,352.3474	838,072.7231		38°15'05.60387"	86°19'24.79081"		P.T. 360+40.3 LINE B 1967 (CALCD 2016)	N/A	CALCD	N/A
602	174,696.1631	842,954.4175		38°15'18.79107"	86°18'23.56130"		P.I. 411+06.18 LINE B 1967	N/A	CALCD	N/A
603	174,088.6401	846,951.4894		38°15'12.70013"	86°17'33.47075"		P.I. 451+25.24 LINE B 1967	N/A	CALCD	N/A
604	174,054.9582	850,209.2622		38°15'12.29305"	86°16'52.63303"		P.I. 483+80.53 LINE B 1967	N/A	CALCD	N/A
605	173,061.7929	852,387.6555		38°15'02.42384"	86°16'25.35567"		P.I. 507+56.97 LINE B 1967	N/A	CALCD	N/A
701	174,677.1223	842,885.2478		38°15'18.60428"	86°18'24.42891"		P.I. 410+34.44 LINE BL 1967	N/A	CALCD	N/A
702	174,203.1632	846,996.8355		38°15'13.83119"	86°17'32.89908"		P.I. 451+55.04 LINE BL 1967	N/A	CALCD	N/A
703	174,428.1138	850,406.7772		38°15'15.97707"	86°16'50.14631"		P.I. 485+66.72 LINE BL 1967	N/A	CALCD	N/A
704	173,066.7044	852,378.3307		38°15'02.47262"	86°16'25.47241"		P.I. 509+02.47 LINE BL 1967	N/A	CALCD	N/A
801	174,266.9969	846,052.0008		38°15'14.48296"	86°17'44.74161"		P.C. 287+42.12 LINE A 2016	SET	FLUSH	
802	174,151.5333	846,914.5864		38°15'13.32265"	86°17'33.93159"		P.I. 296+12.40 LINE A 2016	SET	FLUSH	
803	174,173.1462	847,784.5970		38°15'13.51689"	86°17'23.02469"		P.T. 304+79.06 LINE A 2016	SET	FLUSH	
804	174,210.9178	849,305.0662		38°15'13.85568"	86°17'03.96325"		P.O.T. 320+00 LINE A 2016	SET	FLUSH	
805	174,219.1136	849,634.9802		38°15'13.92908"	86°16'59.82727"		P.C. 323+30.02 LINE A 2016	SET	FLUSH	
806	174,235.3149	850,287.1509		38°15'14.07405"	86°16'51.65128"		P.I. 329+82.39 LINE A 2016	SET	FLUSH	
807	173,919.1327	850,857.7803		38°15'10.93518"	86°16'44.50743"		P.T. 336+03.98 LINE A 2016	SET	FLUSH	
808	173,451.9579	851,700.9132		38°15'06.29713"	86°16'33.95234"		P.O.T. 345+67.89 LINE A 2016	SET	FLUSH	
809	173,054.9161	852,417.4740		38°15'02.35515"	86°16'24.98210"		P.I. LINE A-AHEAD 2016	SET	FLUSH	
1200	174,391.4030	846,320.9860		38°15'15.70683"	86°17'41.36619"		SURVEY NETWORK CONTROL POINT (2D)	SET	FLUSH	
1201	174,138.5100	849,058.6750		38°15'13.14559"	86°17'07.05408"		SURVEY NETWORK CONTROL POINT (2D)	SET	FLUSH	
1202	174,418.6260	850,354.6210		38°15'15.88450"	86°16'50.80004"		SURVEY NETWORK CONTROL POINT (2D)	SET	FLUSH	
1203	173,572.6790	851,516.1910		38°15'07.49487"	86°16'36.26427"		SURVEY NETWORK CONTROL POINT (2D)	SET	FLUSH	
1204	172,713.9370	852,661.0080		38°14'58.97867"	86°16'21.93983"		SURVEY NETWORK CONTROL POINT (2D)	SET	FLUSH	
1205	172,859.3420	853,771.3030		38°15'00.38882"	86°16'08.01760"		SURVEY NETWORK CONTROL POINT (2D)	SET	FLUSH	
1206	172,335.9330	854,781.0940		38°14'55.18981"	86°15'55.37633"		SURVEY NETWORK CONTROL POINT (2D)	SET	FLUSH	
1207	170,750.0200	856,064.0750		38°14'39.48062"	86°15'39.34560"		SURVEY NETWORK CONTROL POINT (2D)	SET	FLUSH	
6201	173,352.8350	838,073.2610		38°15'05.60868"	86°19'24.78405"		P.T. 360+40.3 LINE B 1967	FOUND	FLUSH	
6202	173,568.0550	838,858.1470		38°15'07.72123"	86°19'14.93991"		P.O.T. 368+54.20 LINE B 1967	FOUND	FLUSH	
6203	174,022.1400	840,505.8580		38°15'12.17782"	86°18'54.27355"		P.O.T. 385+63.95 LINE B 1967	FOUND	FLUSH	
6204	173,762.3280	851,700.7060		38°15'09.36514"	86°16'33.94553"		UNKNOWN	FOUND	FLUSH	
6205	172,529.1820	851,688.2120		38°14'57.17580"	86°16'34.13954"		LOCAL BOUNDARY MONUMENT	FOUND	7"A.G.	
6206	175,020.8890	851,724.0560		38°15'21.80544"	86°16'33.61463"		EAST 1/4-CORNER, SEC.15,T3S,R2E	FOUND	20"A.G.	
6207	172,308.3990	851,684.0450		38°14'54.99346"	86°16'34.19847"		SOUTHEAST CORNER, SEC.15,T3S,R2E	FOUND	4"A.G.	
6208	173,707.1380	851,845.7850		38°15'08.81612"	86°16'32.12855"		NORTH R/W 501+00, 225'LT (LINE "BL" 1967)	FOUND	A.G.	
6209	174,159.3710	851,190.5730		38°15'13.30206"	86°16'40.32841"		NORTH R/W 493+04.62, 225'LT (LINE "BL" 1967)	FOUND	A.G.	
6210	173,154.1720	851,653.0650		38°15'03.35467"	86°16'34.56117"		SOUTH R/W 500+50.00, 220'RT (LINE "B" 1967)	FOUND	A.G.	
6212	173,241.0270	852,514.0070		38°15'04.19251"	86°16'23.76631"		NORTH R/W 509+50, 165'LT (LINE "BL" 1967)	FOUND	A.G.	
6213	173,358.3040	852,517.9400		38°15'05.31570"	86°16'23.71341"		NORTH R/W 509+00, PL (LINE "BL" 1967)	FOUND	A.G.	
6214	173,355.2290	852,590.2710		38°15'05.31955"	86°16'22.80680"		BOUNDARY POSSESSION EVIDENCE	FOUND	A.G.	
6215	175,024.9120	850,973.7240		38°15'21.86306"	86°16'43.02083"		BOUNDARY POSSESSION EVIDENCE	FOUND	A.G.	

**Field Work Dates Note**

"Survey Started" date and "Survey Completed" date shown below indicate the first and last dates field work was performed on this Project. It does NOT represent a continuous time span of work for this Project. Field work was intermittently stopped and re-started as necessary due to work on various other Projects.

**Point Numbering Note**

See Page 1 of 2 of this LCRS for the plan view of the points, lines, polygons, etc. surveyed (measured and/or calculated) during the course of this survey. All point numbers on this page having a corresponding point number on Pages 1 and 3 of 3 refer to the same Point/Monument.

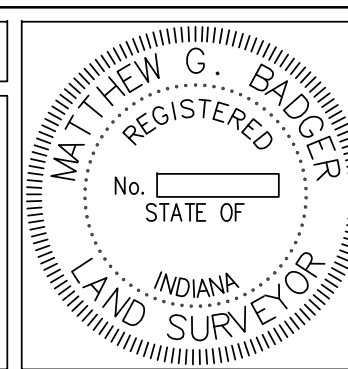
SURVEY STARTED	JUNE 24, 2015
SURVEY COMPLETED	OCTOBER 31, 2016
ROUTE PLAT SHEETS	2 of 3
SURVEYOR'S PROJECT NO.	114-0001-05V

Survey Prepared By:

6200 Vogel Road  
Evansville, Indiana 47715  
Phone: 812.479.6200  
Toll Free: 800.423.7411

**FIELD SURVEYOR'S STATEMENT**

This survey, to the best of my knowledge and belief, is executed according to the provisions of Title 865 I.A.C. 1-12-20 through 1-12-26 regarding Route Surveys, except that any data shown regarding the location or description of any new parcels to be acquired or any existing parcels is not a part of this survey.



**SOCIAL SECURITY REDACTION STATEMENT**

I affirm, under the penalties for perjury, that I have taken reasonable care to redact each social security number in this document, unless required by law.

RECOMMENDED FOR APPROVAL & PREPARED BY:

REGISTERED LAND SURVEYOR, FIELD DATE

Prepared for the  
**INDIANA DEPARTMENT OF TRANSPORTATION**

LOCATION CONTROL ROUTE SURVEY  
Interstate 64  
Crawford County

HORIZONTAL SCALE	BRIDGE FILE
N/A	
COUNTY	DESIGNATION
CRAWFORD	
SURVEY BOOK	PLAN SHEETS
	of
CONTRACT	PROJECT

SURVEYOR'S REPORT

LOCHMUELLER GROUP PROJECT NUMBER: 114-0001-05V/15V/SVB2

CLIENT(S): Indiana Department of Transportation (INDOT)

REFERENCE SURVEY(S): (1) Indiana State Highway Commission-Right-Of-Way Plans-Project No.I-64-3 (33)86-Fiscale Year 1967-Code No.0855, (2) Boundary Survey for Julie Bourland by Bell Surveying & Mapping, January 2000, (3) Misc. Tracts by Kenneth Speedy-Crawford County Surveyor, January 1984

GENERAL DESCRIPTION: Part of Sections 15 & 16, Township 3 South, Range 2 East, 2nd Principal Meridian, Jennings Township, Crawford County, Indiana, and Part of Sections 14, 23, & 24, Township 3 South, Range 2 East, 2nd Principal Meridian, Spencer Township, Harrison County, Indiana.

PURPOSE OF SURVEY: The purpose of this survey was to provide the client with example Location Control Route Survey plats (as defined in Title 865 of the Indiana Administrative Code as a "Route Survey") embracing a mock project which spans across multiple Indiana Geospatial Coordinate System (InGCS) zones having different parameters, and to highlight the graphics and text found on the faces of said plats addressing the migration of both survey and horizontal alignment data from one zone to another. This is NOT a boundary survey (as defined in Title 865 as an "original survey" or a "retacement survey"), and should therefore not be treated as such.

BASIS OF BEARINGS: Unless noted otherwise, all bearings, distances, areas, and coordinates shown hereon are based upon the Indiana Geospatial Coordinate System's (InGCS) "Crawford" zone per NAD 83 (2011) epoch 2010.00, and are reported in U.S. Survey Feet and decimal parts thereof. The "Crawford," "Lawrence," and "Orange" zones have identical parameters. These zones were developed to minimize the differences between ground-measured horizontal distances and the corresponding grid coordinate (map) distances within the counties bearing these zones' names.

The InGCS "Crawford" zone coordinates and associated metadata are listed hereon to facilitate a seamless workflow between various geospatial industries (surveying, civil engineering, construction, environmental, GIS, etc.), to provide a means by which to enable the re-establishment of the survey lines, i.e. alignments (should any monuments on them be destroyed), and to provide a mechanism for the perpetuation of any boundary corner monuments included in this survey, e.g., USPLS, Grant, Donations, local subdivisions and/or tracts. So as to preserve the relative positional relationships of these surveyed lines and/or boundary corner monuments in future surveying, construction, maintenance, etc. activities, it is recommended to utilize the positions associated with the physical "Survey Network Control Points" listed hereon in the "Reported Project Points Metadata Table" that were set and/or found during the course of this survey.

InGCS "Crawford," "Lawrence," and "Orange" Zone Parameters
Geometric Datum: NAD 83(2011) epoch 2010.00
Projection Type: Transverse Mercator
Central Meridian: 86°30'00" west longitude
Central Meridian scale factor: 1.000025
Latitude of Grid Origin: 38°06'00" north latitude
False Northing: 36,000,000 m (118,110,00 U.S.Ft)
False Easting: 240,000,000 m (787,400.00 U.S.Ft)

INDIANA ADMINISTRATIVE CODE: In accordance with Title 865, Article 1, Chapter 12 ("Rule 12") of the Indiana Administrative Code-State Board of Registration for Land Surveyors, the following observations and opinions are submitted regarding the various uncertainties in the locations of the lines and corners established this survey as a result of uncertainties in reference monumentation (both availability and condition); in lines of occupation or possession; in record descriptions and/or plats; and as introduced by random errors in measurement ("Relative Positional Accuracy"). THERE MAY BE UNWRITTEN RIGHTS ASSOCIATED WITH THESE UNCERTAINTIES. The client should assume there is an amount of uncertainty along ANY line or at ANY corner equal in magnitude to the discrepancy in the location of the lines of occupation or possession from the surveyed lines and corners.

Regarding "reference monumentation" in the above section, many of the Original Public Land Survey or Grant Corners ("Grant", as used by Title 865 IAC 1-12-30(a) means a subdivision, parcel, or tract of land that existed, or the parent tract of which existed, prior to the commencement of the United States Public Land Survey adjoining such subdivision, parcel, or tract) were not perpetuated or have been "obliterated" or "destroyed" over time, by man or events in nature. As a result, evidence such as the Original Public Land Survey or Grant Field Notes, plat or transcription thereof; deeds and plats that reference the location of the corner; historic survey or "other" records; current or historic aerial photographs; local testimony from knowledgeable landowners or others; topographical features (natural and man-made) such as creeks, rivers, roads, possession lines, etc.; monuments of modern origin; etc., MAY BE the best available and the most probable and/or accepted position of such "obliterated" corners. In the absence of such evidence, the procedures outlined in or authorized by the United States Code in 43 U.S.C. 751-753 should be used to reestablish the location of said "destroyed" corner monument. Uncertainty that surrounds monuments found or placed at the "most probable" or "accepted" locations for Corners are subject to undiscovered evidence regarding the TRUE location of the ORIGINAL Corner. Such uncertainty is inherently passed on to any parcel corner, line or area dependent upon the position of the Section or Grant. Quantifying such an uncertainty may have no solid basis other than the surveyor's general opinion, and is therefore regarded as being an estimation.

Regarding "record descriptions and/or plats" in the above section, only the CURRENT record descriptions from the deeds and/or plats of the subject parcel/tract (typically the "Client's" parcel/tract) and adjoining properties are typically obtained, unless specifically requested by the client, or if said current descriptions or plats lead the surveyor to believe that additional research may be required.

Regarding "lines of occupation or possession" in the above section, this term refers to lines which are marked by visible, obvious, well-defined and maintained, man-made or placed objects or limits, such as, but not limited to fences, hedges, mow lines, field-divide lines, woods lines, retaining walls, etc. The uncertainty cited for a line of occupation is general in nature and is not intended to be specific for every point along the line. Therefore, portions of the occupation lines may vary from the surveyed lines by distances greater or less than the uncertainty cited in this report or shown on the plat of survey.

Regarding "random errors in measurement ("Relative Positional Accuracy")" in the above section, this term refers to the value expressed in feet or meters that represents the uncertainty due to random errors in measurements in the location of any point on a survey relative to any other point on the same survey at the ninety-five percent (95%) confidence level (from Title 865 IAC 1-12-2). In other words, it refers to the accuracy limitations and expectations of the measurements made this survey (including the cumulative effects of measurement errors). With respect to this survey, there may be differences of deed dimensions versus measured dimensions along the boundary lines shown hereon and, likewise, there may be found survey markers near, but not precisely at, some boundary corners. In cases where the magnitude of these differences are less than the Relative Positional Accuracy stated below and less than the uncertainty identified for the reference monumentation (discussed below), the differences may be considered insignificant and are shown only for purposes of mathematical closure. Such differences that are greater than the Relative Positional Accuracy and the uncertainty in reference monumentation should be considered worthy of notice and are therefore discussed further below. The decimal precision shown on this plat for measurements (bearings and distances) and coordinates is not to indicate the precision of the field work conducted for this survey, but for consistency in mathematical calculations of those reviewing and/or utilizing the associated data.

UNCERTAINTIES WITH REFERENCE MONUMENTATION

Survey Network Control Points: As shown in the metadata table, this project was tied to the National Spatial Reference System using the National Geodetic Survey's (NGS) Online User Positioning Service (OPUS), using CORS "INFC," "INPA," and "INTC" to determine the latitude, longitude, orthometric heights (using GEOID12B), and ellipsoid heights of survey network control points #501-#504. No off-site differential level loops were conducted to tie to NGS, INDOT, DNR, etc. passive vertical control marks (bench marks) bearing NAVD 88 orthometric heights, as the scope of this project was almost exclusively planimetric. Thus, geoid separation values between the published ellipsoid heights and orthometric heights were determined strictly from using GEOID12B, rather than conducting differential level loops to determine more precise local orthometric height differences between marks and developing a site calibration/localization to determine a project-specific geoid model. These points and their geometric and orthometric height values are found in NGS' OPUS Shared Solutions as Stations "IN13AA," "IN13AB," "IN13AA," and "IN13AB," where "IN" designates Indiana, "13" and "31" designate the two-digit county code for Crawford (13) and Harrison (31) Counties as found on Indiana license plates, and "AA" and "AB" represent the unique two-letter designation given to the particular mark within the respective county. The static GNSS sessions for these stations ranged from approximately 7.0 hours to 8.5 hours, with 7.0 hours of simultaneous observations between all four stations. Using the same static data to determine on-site/local post-processed baselines through Trimble Navigation's "Trimble Business Center" (Version 3.70), resulted in horizontal positional variances less than 1-centimeter, and vertical variances less than 3-centimeters. For the purpose of this survey, these variances were not considered significant enough to deviate from the OPUS Shared Solutions' values. Control point #1203 was also occupied during this same static GNSS session. CP#1203's positional values were determined via a least-squares adjustment through MicroSurvey's "Star\*Net" (Version 8.2), by holding the OPUS-derived values of points #501-#504 as fixed. Positional values of other points listed herein were determined either from static GNSS, RTK GNSS, or terrestrial observation methods originating from CP#1203.

UNITED STATES PUBLIC LAND SURVEY SYSTEM CORNERS: The recovery and/or computation of the Corners of Sections 14 and 15, along with other monumentation worthy of mention is as follows:

POINT #6207 (Southeast Corner, Section 15): A 1/2 inch rebar with "PRIMAVERA S0131" cap was found 4 inches above grade in a natural, stone-bottom stream in good condition flanked by a County Surveyor sign to the south in accordance with both the Crawford and Harrison County Surveyors' Offices. No evidence of possession was observed in the general area surrounding this monument. Throughout each tract of land described in a Commissioner's Deed to Norman and Lena Cox, recorded in Deed Book 8K, Page 134, there were two "stones" called for lying 14 rods (231 feet) north-south of one another; the northerly stone being a local tract corner monument, and the southerly stone being marking the Southeast Corner of Section 15. The northerly stone was recovered during this 2016 survey as POINT #6205. The distance measured during this 2016 survey between POINT #6207 and #6205 is 220.82', which is approximately 10 feet short of the 231 feet (14 rods) distance cited in the Cox deed. No man-made markings were found on any stones in the stone-bottom stream lying approximately 10 feet south of POINT #6207. For the purpose of this survey, POINT #6207 was accepted as marking the Southeast Corner of Section 15. Although the RPA of this POINT is approximately 0.1 feet, the uncertainty of this POINT marking the true location of the Southeast Corner of Section 14 is approximately 10 feet north-south (based upon the distance variance mentioned to the southerly stone). The east-west uncertainty of POINT #6207 is unknown.

POINT #6205 (Local Boundary Corner Monument): A 7 inch square limestone with scribed "+" on top was found 7 inches above grade and in good condition approximately 1 foot south-southeast of a right-of-way marker in accordance with Sheet 79 of the 1967 Indiana State Highway Commission Right-of-Way Plans mentioned earlier. This monument lies approximately 0.9 feet east of the East Line of the Southeast Quarter of Section 15, as depicted per this 2016 survey. The estimated uncertainty of the POINT is approximately 0.1 feet and is based upon the RPA of this survey.

POINT #6204 (Unknown use): A PK nail was found flush with grade in the approximate centerline of the north perimeter road of I-64 and approximately 41.5 feet south and 2.5 feet west of the south-most wood post of a north-south fence lying north of said road. No records were found alluding to the purpose of this monument. This monument lies approximately 4.8 feet west of the East Line of the Southeast Quarter of Section 15, as depicted per this 2016 survey. The estimated uncertainty of the POINT is approximately 0.1 feet and is based upon the RPA of this survey.

POINT #6206 (East Quarter-Corner, Section 15): A 7 inch square sandstone was found 20 inches above grade in good condition approximately 0.2 feet south and 3.0 feet west of the northeast corner of a fence line intersection. In the Crawford County Surveyor's Office, a survey plat by Kenneth Speedy, Crawford County Surveyor, dated January 30, 1984 noted a "N.E. Corner Stone" at the northeast corner of a 12.73-acre tract to Herdis H. Conder, now owned by Larry & Rosemary McCutcheon, per Instrument #2016R-0568. This Instrument calls the northeast corner of the described tract to be the Northeast Corner of the Southeast Quarter of Section 15. It is believed that this is the same stone as found on this 2016 survey (POINT #6206). A wood corner post to a fence line running to the east and south was observed during this 2016 survey to lie 750.3 feet westerly of POINT #6206. This Instrument, along with the 1984 Speedy survey, calls for the north line of the tract to be 750' in length.

Upon examining the description of a 1.21-acre tract lying adjacent to the I-64 Right-of-Way in Section 14 in a Quit Claim Deed to Harles E. Chanley, recorded as Instrument #200201049, there were one inch diameter pipes called out to lie "in the section line" at this tract's southwest and northwest corners. Fitting the geometry of this description to the re-established Right-of-Way of I-64 places the location of the tract's west line at an offset of approximately one rod (16.5 feet) east of the fence line mentioned in the POINT #6204 discussion above. No pipe was recovered either at the southwest or northwest corner of the tract's R/W-fitted geometry. No other monument was found lying approximately one rod east of POINT #6206, though there were "NO TRESPASSING" signs placed on the west faces of the larger trees south of this approximate offset distance.

For the purposes of this survey, this monument (POINT #6206) was accepted as marking the East Quarter-Corner of Section 15. Although the RPA of this POINT is approximately 0.1 feet, the uncertainty of this POINT marking the true location of the East Quarter-Corner of Section 15 is approximately 16.5 feet east-west (based upon the offset mentioned between the fence line and the R/W-fitted geometry of the Chanley deed) and approximately 83 feet north-south (based upon combining the north-south uncertainty at POINT #6207 with the variance measured during this 2016 to the Southeast Corner of Section 15 at POINT #6207 with the Original Government Survey Notes' distance between such PLSS Corners (40 chains (2,640') Record).

Should additional United States Public Land Survey System Corners be needed where none were found, they should be re-established and tied into this survey.

ALIGNMENT DATA:

1967 Record Alignments: The record geometry of Lines "B" (from Station 360+40.3 to Station 582+72.05) and "BL" (from Station 402+93.11 to Station 584+48.06) were re-established this survey and this coordinate system (InGCS "Crawford" zone) by (1) holding "fixed" POINT #6203 (1 inch copper plug found flush in good condition in the approximate centerline of a concrete paved median ditch) as Line B's P.O.T. 385+63.95, and (2) rotating the remaining geometric figure through a best-fit line between POINT #6202 (8 inch square concrete marker (no copper plug) as Line B's P.O.T. 368+54.20 and POINT #6201 (8 inch square concrete marker (also no copper plug) as Line B's P.T. 360+40.3. As a result, POINT #6202 fell approximately 0.5 feet right of and 0.6 feet up station of the record station and offset, while POINT #6201 fell 0.4 feet left of and 0.6 feet up station of the record station and offset.

No other alignment monuments were found easterly along either Line B or Line BL within the geographical limits of this survey. As a rotation/left-right offset validation of the geographical placement of the 1967 record geometry at the eastern limit of this survey (Line B's P.O.T. Station 582+72.05), best-fit lines were calculated along the apparent/observed centerlines of the east and west-bound lanes (an approximate 900 foot tangent section) and then split. The westerly-projection of this split fell approximately 0.4 feet right of POINT #707 (calculated location of Line B's Station 582+72.05) and approximately 0.5 feet left of the centerline of the concrete paved median ditch.

In the area near the Crawford/Harrison County line, there were five concrete right-of-way markers recovered during this survey, four on the left (north) side of the centerline of I-64 and one on the right (south) side. Along the north line, POINT #6209 fell approximately 0.8 feet right of the re-established right-of-way Line, POINT #6208 fell approximately 0.6 feet right of and 0.4 feet up station from the re-established line and position, POINT #6212 fell approximately 1.7 feet back station and 0.9 feet right from the re-established line and position, and POINT #6213 fell approximately 0.2 feet up station from the re-established line and position (on PL). Along the south line, POINT #6210 fell approximately 0.7 feet right of and 0.3 feet up station from the re-established line and position.

Given this information relating to the re-establishment of the 1967 record alignment, it is believed that the uncertainty of the locations of POINTS depicted and listed hereon is approximately 1.0 feet (varying in both station and offset) and is based upon the combination of the recovery of monuments mentioned in this discussion as well as the RPA of this survey.

2016 Surveyed Alignment: This alignment, which is the focal point of this survey's purpose, is referred to as Line "A" per this survey. Line "A" is an original alignment that is physically referenced by the monuments set or found this survey, and therefore has no re-establishment uncertainty. Line A begins in Crawford County near the re-established location of Line B's P.T. 418+95.33, then runs along the general split of the re-established locations of Lines "B" and "BL" from the 1967 Record Alignments, and ends in Harrison County at the re-established location of Line B's P.O.T. 582+72.05. Given that (1) the InGCS "Crawford" and "Harrison" zones have different bases of bearings and grid coordinates, (2) Line A's geometry crosses the nominal zone boundary (county line) much closer to a perpendicular angle rather than lying coincident with it, being at a small angle to it, or meandering about both sides of it, and (3) the length of Line A in either zone is well over one mile, it was determined to divide Line A between the two zones along the nominal zone boundary, i.e., the county line. As a result, the portion of Line A's geometry that was designed in this survey (and thus in the InGCS "Crawford" zone) began at POINT #501, ran east-southeasterly in the I-64 median along the general split of Lines B and BL, passed through POINT #803 / P.O.T. 320+00 (which was arbitrarily chosen as the reference point for Line "A" stationing), continued on until the location of the successive Point of Intersection (P.I.) beyond the Crawford/Harrison County line was determined at POINT #809. This P.I. and its "back" line of tangency (to P.I. at POINT #806) were then intersected with the Crawford/Harrison county line (between POINTS #6207 and #6206) to yield the ending station associated with Line A in the InGCS "Crawford" zone, i.e., Station 345+67.89. This location was designated as the beginning station associated with Line A in the InGCS "Harrison" zone, i.e., Station 10+00.00. A Station Equation of "345+67.89 Line A (Back)=10+00.00 Line A (Ahead)" is thus commonly depicted on this survey plat and the plat associated with the InGCS "Harrison" zone. Along with a Station Equation, a Bearing and Coordinate Equation is also published on said plats. NOTE that said Bearing and Coordinate Equations do NOT define the associated grid coordinate systems or the differences between them. These equations are simply meant to serve as informational purposes, highlighting that both a change in bearings and a change in coordinate systems has occurred. Because their is a change in the projected coordinate systems, there is also a slight change in the scale of the systems, and thus map distances between associated points. Because of the design criteria of the InGCS, the mapped distances between points in a particular project (particularly along the nominal limits of each zone) should be negligible in most instances. The "ahead" line of tangency (P.I. POINT #806 to P.I. POINT #809) and the included circular curve data associated with the P.I. at POINT #809 were then used in the adjacent survey to the east (i.e., in the InGCS "Harrison" zone) as part of Line A's design to its terminus at the re-established location of Line B's P.O.T. 582+72.05.

Because only the more focal part of this alignment is shown graphically on this Survey Plat, a tabulated report of said alignment is as follows:

Table with columns: Line "A", P.O.T., P.C., P.I., Delta, Deg. Curve, Radius, Tangent, Curve Length, External. Rows include data for points 501, 801, 802, 803, 805, 806, 807, 808.

PLANIMETRIC SURVEY DATA COVERAGE AND OVERLAP:

An overlap of planimetric survey data is provided in both the InGCS "Crawford" and "Harrison" zones along the shared line of tangency described in the "2016 Surveyed Alignment" discussion above, i.e. from the P.I. at POINT #806 in Crawford County to the P.I. at POINT #809 in Harrison County.

2011 Indiana Statewide Orthophotography tiles from www.gis.iu.edu were utilized for general mission planning and for digitizing the horizontal locations of non-critical features. With the source raster data being georeferenced to the Indiana State Plane "West" zone inside of Crawford County, and the "East" zone inside of Harrison County, they were transformed to the InGCS "Crawford" zone using Blue Marble Geographic's "Geographic Calculator" (Version 2016, Service Pack 1). Ground-based field checks were performed during this 2016 survey to verify the accuracy of the aerial photography tiles.

UNCERTAINTIES WITH LINES OF OCCUPATION/POSSESSION

Along the East Line of the Southeast Quarter of Section 15, lying south of the I-64 right-of-way, there was no observed evidence of possession, other than POINTS #6205 and #6207.

Along the East Line of the Southeast Quarter of Section 15, lying north of the I-64 right-of-way, the fence line mentioned earlier in the discussion of POINTS #6204 and #6206 varies from at least 2.9 feet west to 3.0 feet east of said East Line.

UNCERTAINTIES WITH RECORD DESCRIPTIONS AND PLATS

No errors that would impact the purpose of this survey were found in the deed descriptions researched for this project. No errors were found in the 1967 Indiana State Highway Commission Right-of-Way Plans mentioned earlier within the geographical limits of this survey. For the purposes of this survey, the 2000 Boundary Survey by Bell Surveying and Mapping for Julie Bourland was utilized only as another means of verification and perpetuation of the 1/2 inch rebar and Primavera cap marking the Southeast Corner of Section 14.

UNCERTAINTIES AS INTRODUCED BY RANDOM ERRORS IN MEASUREMENT

Field measurements for this survey were made in accordance with specifications for "Urban Surveys" as outlined in the Indiana Administrative Code (865 IAC 1-12 "Rule 12"), with a "Relative Positional Accuracy" of 0.07 feet (21 millimeters) plus 50 parts per million, but not exceeding an RPA of 0.5 feet. The "Relative Positional Accuracy" relates to the accuracy limitations of the measurements made this survey (including the cumulative effects of measurement errors).

OWNERSHIP INFORMATION

Ownership information indicated hereon is as identified in County or Township records. The within plat and survey were prepared without benefit of current evidence of source of title (title work) for the area and are therefore subject to any statement of facts revealed by examination of such documents.

Field Work Dates Note

"Survey Started" date and "Survey Completed" date shown below indicate the first and last dates field work was performed on this Project. It does NOT represent a continuous time span of work for this Project. Field work was intermittently stopped and re-started as necessary due to work on various other Projects.

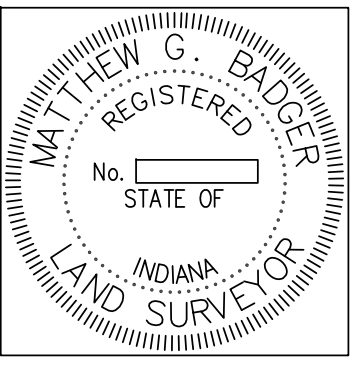
Point Numbering Note

See Page 1 of 3 of this LCRS for the plan view of the points, lines, polygons, etc. surveyed (measured and/or calculated) during the course of this survey. All point numbers on this page having corresponding point numbers on Pages 1 and 2 of 3 refer to the same Point/Monument.

Table with columns: SURVEY STARTED, SURVEY COMPLETED, ROUTE PLAT SHEETS, SURVEYOR'S PROJECT NO.

Survey Prepared By: LOCHMUELLER GROUP 6200 Vogel Road Evansville, Indiana 47715 Phone: 812.479.6200 Toll Free: 800.423.7411

FIELD SURVEYOR'S STATEMENT
This survey, to the best of my knowledge and belief, is executed according to the provisions of Title 865 I.A.C. 1-12-20 through 1-12-26 regarding Route Surveys, except that any data shown regarding the location or description of any new parcels to be acquired or any existing parcels is not a part of this survey.



SOCIAL SECURITY REDACTION STATEMENT
I affirm, under the penalties for perjury, that I have taken reasonable care to redact each social security number in this document, unless required by law.
RECOMMENDED FOR APPROVAL & PREPARED BY:
REGISTERED LAND SURVEYOR, FIELD DATE

Prepared for the INDIANA DEPARTMENT OF TRANSPORTATION
LOCATION CONTROL ROUTE SURVEY
Interstate 64
Crawford County

Table with columns: HORIZONTAL SCALE, BRIDGE FILE, SURVEY BOOK, PLAN SHEETS, CONTRACT, PROJECT.