



Minutes  
 Illinois Department of Transportation Hydraulics and Bridge Maintenance Kickoff Meeting  
 Wolf Road Reconstruction Phase I Study  
 Section No. 20-00014-00-PV  
 Village of Indian Head Park, Illinois  
 December 21, 2020, 10 A.M.

Invitee	Representing	Present	Absent
Sanjay Joshi, P.E., Project Manager	Cook County Department of Transportation and Highways (County)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Adam James, P.E., Drainage and Utilities Manager	Cook County Department of Transportation and Highways	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Patrick Lach, P.E., CFM, Senior Civil Engineer	Cook County Department of Transportation and Highways and Hey and Associates, Inc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Adam Ralph, P.E., Project Engineer	Cook County Department of Transportation and Highways and Infrastructure Engineering, Inc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Marilyn Solomon, West Division Field Engineer	Illinois Department of Transportation (IDOT)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Moe Kawash, West Division Associate Field Engineer	Illinois Department of Transportation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
E. Perry Masouridis, P.E., Hydraulics Engineer	Illinois Department of Transportation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sarah Wilson, P.E., Bridge Maintenance Engineer	Illinois Department of Transportation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Steve Mastny, P.E., Bridge Maintenance Engineer	Illinois Department of Transportation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Darcie Gabrisco, P.E., Project Manager	Strand Associates, Inc. <sup>®</sup> (Engineer)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Matt Gazdziak, P.E., Project Engineer	Strand Associates, Inc. <sup>®</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Alex Schwarz, P.E., Drainage and Hydraulics Engineer	Strand Associates, Inc. <sup>®</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Raymond Pu, E.I.T., Roadway Engineer	Strand Associates, Inc. <sup>®</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

A virtual meeting was held on Monday, December 21, 2020, at 10 A.M. The purpose of the meeting was to kick off the Wolf Road Reconstruction Phase I Study with the IDOT Hydraulics and Bridge Maintenance Units project.

1. Project Overview

- a. A brief overview of the project was provided, which involves the reconstruction and widening of Wolf Road from 79th Street to Plainfield Road in the Villages of Indian Head Park, Burr Ridge, and Willow Springs, and the City of Countryside. Wolf Road is under the jurisdiction of the County.
- b. The anticipated typical section along the project corridor is an urban section with one through lane in each direction with a two-way left-turn lane, curb and gutter, a closed drainage system, and pedestrian accommodations.
- c. A hydraulic approach memorandum (enclosed with these minutes) was prepared by Engineer in advance of the meeting and referenced throughout. Unless otherwise modified, the approach that was presented was found to be appropriate.

2. Drainage and Hydraulics Discussion

a. Joliet Road (State Route) and Wolf Road Intersection Drainage

- (1) IDOT's District 1 Drainage Connection Checklist will not be required to be filled out for this project. IDOT will review the applicable portions of the project's Location Drainage Study to determine their concurrence with the scope of work proposed at the intersection.
- (2) Engineer will submit a follow-up request to IDOT for more information on why the land use permits at the northeast corner of the intersection were previously denied.
- (3) Engineer will submit a follow-up request to IDOT for existing Joliet Road engineering drawings.

b. Wolf Road over Abandoned Flag Creek (Structure No. [S.N.] 016-3245)

- (1) The existing S.N. 016-3245 is a dual-cell box culvert underneath Wolf Road, between 70th Place and Roofers Road, and is understood to drain the triangular area bounded by Wolf Road, I-294, and I-55 to Flag Creek. It is also understood that the I-294 northbound off-ramp to Wolf Road infield area, on the north side of I-294, drains into the triangular area to ultimately make its way to Flag Creek. The triangular area bounded by Wolf Road, I-294, and I-55 is owned by the Illinois Tollway (Tollway) but is in the process of being transferred to IDOT as part of the Tollway's ongoing I-294 improvement project.
- (2) Under the proposed conditions of the Tollway's ongoing I-294 improvement project, the infield ramp area on the north side of I-294 will continue to be drained to the triangular area bounded by Wolf Road, I-294, and I-55 to make its way to Flag Creek.
- (3) Previous engineering drawings show the box culvert to be draining west to east, away from Flag Creek and opposite the understood drainage pattern. Field reviews by Engineer also observed this condition, in addition to a large amount of debris buildup within one cell of the box culvert. The culvert was dry at the time of the field review, so the actual flow direction was unable to be determined. When the topographical survey is completed, box culvert invert elevations will be reviewed to understand the existing conditions. (Post meeting note: Survey data confirms the flow of the box culvert is from west to east.)
- (4) The box culvert may be oversized based on the current understanding of the drainage patterns and tributary areas. Therefore, the required hydraulic opening may be reduced, pending confirmation through hydraulic analysis. IDOT and County indicated their support for this approach.
- (5) The triangular area bounded by Wolf Road, I-294, and I-55 may not be used for compensatory storage as part of the Wolf Road improvements. IDOT plans to use this area for compensatory storage as part of future I-55 improvements. It was agreed that access to this area would be maintained as part of the Wolf Road improvements.
- (6) If a proposed culvert with a hydraulic opening less than 7.5 square feet is selected, no hydraulic report will be required for this crossing.
- (7) An HY-8 Hydraulic Model is appropriate for this crossing, and an Illinois Department of Natural Resources (IDNR) Part 3708 permit is not required for this structure, given the small, defined drainage area tributary to the crossing.

c. Wolf Road over Flag Creek (S.N. 016-3016)

- (1) The existing S.N. 016-3016 is a two-span bridge carrying Wolf Road over Flag Creek, between 72nd Street and the I-294 southbound on-ramp. The condition of the bridge deck necessitates replacement, but the condition of the beams and substructure may allow for rehabilitation depending on the hydraulic opening requirements. Field reviews by Engineer observed evidence the low beam has been inundated.



- (2) A new GeoHECRAS hydraulic model may not need to be developed for this location. Engineer will review the Flag Creek hydraulic model from the I-294 improvements project. If possible, the Wolf Road structure will be incorporated into that existing model.
  - (3) An IDNR Part 3708 permit will be required for this structure.
  - (4) The County's standard procedure is to meet IDOT Bureau of Design and Environment (BDE) hydraulic criteria wherever possible, rather than IDOT Bureau of Local Roads (BLR) and Streets criteria. It was acknowledged that a design criteria comparison between BDE, BLR, and Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) criteria would have to be developed to determine the appropriate design criteria to be used.
  - (5) IDOT will not perform a full review of the design for this crossing, because it is not located in or adjacent to IDOT ROW. IDOT will only perform an abbreviated review of this crossing to confirm that the proposed improvements do not negatively impact the IDOT-owned structures upstream of this crossing (Joliet Road, 70th Place, and I-55).
- d. Wolf Road over Flag Creek Tributary A (south of 75th Street) and Tributary B (south of 77th Street)
- (1) Both existing crossings are dual reinforced concrete pipe culverts conveying tributaries to Flag Creek under Wolf Road. Both crossings are considered "major" waterway crossings due to the size of the hydraulic opening. Neither crossing qualifies for a structure number. Culvert replacements or extensions are anticipated, pending confirmation of hydraulic opening requirements through hydraulic analysis.
  - (2) HY-8 Hydraulic Models are appropriate for these two crossings, and IDNR Part 3708 permits are not required for these structures because the tributary areas for each are less than 1.0 square miles.

### 3. Bridge Maintenance Discussion

- a. The two IDOT-maintained structures within the project limits are S.N. 016-0003 (I-55 over Flag Creek and Wolf Road) and S.N. 016-1063 (70th Place over Flag Creek).
- b. The 70th Place over Flag Creek structure underwent superstructure rehabilitation within the past few years and there are currently no future improvements planned. Impacts to this structure as part of the Wolf Road improvements are anticipated to be minimal and limited to items such as guardrail modifications. If modifications to the structure are required, including within the Flag Creek channel, an IDOT review will be required.
- c. The I-55 over Flag Creek and Wolf Road structure is currently being studied as part of a separate project, known as the I-55 Managed Lanes Project, led by the IDOT Bureau of Programming. The project manager for that project was unable to make this meeting and will be communicated with separately. The general scope of that project involves widening the substructure to accommodate two additional travel lanes along I-55. No impacts to this structure are anticipated as part of the Wolf Road improvements. An IDOT review will be required to confirm this.
- d. The vertical clearance between Wolf Road and the I-55 structure is understood to be substandard. Existing signage lists the clearance as 14 feet 2 inches. Any vertical profile changes as part of the Wolf Road improvements should not make this condition any worse than existing.

Project documents to be reviewed by IDOT for concurrence will consist of roadway plan and profile drawings, vertical clearance drawings, channel regrading drawings, and any others as requested.



4. Open Forum

- a. Requests for IDOT information regarding existing drawings, maintenance records, proposed drawing reviews, or other items should be made through Marilyn Solomon.
- b. Bridge maintenance and historical drainage records should be obtained from the County, Villages of Indian Head Park, or Burr Ridge as necessary as part of the existing conditions review.

If there are any additions or comments, please call 815-744-4200 ext. 3124.

Prepared and respectfully submitted by Matthew J. Gazdziak, P.E.

c/enc: All Participants

## MEMORANDUM

<input type="checkbox"/>	Information Only	
<input checked="" type="checkbox"/>	Project Specific	1335.020
<input type="checkbox"/>	Policy Memo	

TO: E. Perry Masouridis, P.E., Hydraulics Section Chief  
FROM: Alex Schwarz, P.E.  
DATE: December 18, 2020  
RE: Wolf Road Phase I Hydraulics Design Approach, Indian Head Park, IL  
Section No. 20-00014-00-PV

Dear Perry,

In preparation of our kick-off meeting with IDOT Hydraulics for the Wolf Road Phase I Study in Indian Head Park, IL, please see our below anticipated design approach for the project hydraulics. Please also find the attached annotated FEMA FIRM panels for the project area, showing each of the hydraulic crossings noted below. Please feel free to contact me at the phone number listed below with any questions.

1. Existing effective regulatory Hydrologic and Hydraulic models will be obtained from FEMA, these have been requested as of Monday 12/14.
2. GeoHECRAS models will be created for each waterway, including:
  - i. Flag Creek
  - ii. Flag Creek Tributary A
  - iii. Flag Creek Tributary B

According to the Flood Insurance Study, the effective hydraulic models are old WSP-2 models. Because of this, we will need to duplicate the WSP-2 data in our Existing Conditions GeoHECRAS models, instead of just using the existing WSP-2 models outright. These GeoHECRAS models will then be adjusted as necessary to match our topographical survey data for the project. From these Existing Conditions models, Natural and Proposed Conditions models will be created as necessary.

3. Specifics for each impacted structure can be seen below:

**i. S.N. 016-3245 (Wolf Road over Abandoned Flag Creek):**

As-built drawings and field investigations show that these box culverts were constructed flowing west to east, to match the flow of the old abandoned Flag Creek which used to cross Wolf Road at this location. However, it appears that these culverts now serve to simply drain (from east to west into the Flag Creek) the triangular area to the east and some additional I-294 ramp area via a pipe culvert across I-294. These box culverts appear back-pitched to their current purpose, resulting in debris backup and standing water. Discussions will need to occur between IDOT, Cook County, and the Village of Indian Head Park to confirm what is the current purpose of these culverts. Due to the apparent small tributary area, it may be possible to replace this crossing with a significantly smaller pipe culvert, which would result in much less maintenance and would get the crossing off the IDOT bridge inventory.

Either way, it is anticipated that a simple HY-8 model of these culverts may be appropriate, given the small, defined tributary area from the east. Flag Creek Highwater elevations directly downstream of this crossing will be used as set tailwater elevations for this HY-8 model. The type of

model used for this crossing should be confirmed with IDOT/IDNR early in the project, to confirm that an HY-8 model will be appropriate for permitting purposes. Because this structure has a drainage area less than 1.0 square mile and is located outside of the mapped regulatory floodway, it is anticipated that no Part 3708 floodway permit will be required for this crossing. Also, if a proposed pipe culvert crossing with a hydraulic opening less than 7.5 square feet is allowable and adequate, it is anticipated that no hydraulic report will be required for this crossing.

**ii. S.N. 016-3016 (Wolf Road over Flag Creek):**

This is the largest impacted hydraulic crossing within the project limits. This crossing will be modeled in the main Flag Creek GeoHECRAS model. Upstream and downstream crossings also included in this model to evaluate their effects on the impacted crossing will be:

- 016-1063 (70th Place over Flag Creek)
- 016-0003 (I-55 over Flag Creek and Wolf Road)
- 72nd Street over Flag Creek (Apparent private bridge with no S.N.)

Existing WSP-2 effective data for these upstream/downstream crossings will be obtained from FEMA and duplicated in our Existing Conditions GeoHECRAS model. A full bridge replacement is anticipated for this waterway crossing. A full hydraulic report will be created for this crossing, and a Part 3708 floodway permit will be required.

**iii. Wolf Road over Flag Creek Tributary A (south of 75th Street):**

This crossing consists of two 36” diameter pipe culverts and is therefore considered a “major” waterway crossing. A full hydraulic report will be created for this crossing. Though the drainage tributary area at this crossing is less than 1.0 square mile, a Part 3708 floodway permit will be required, since Flag Creek Tributary A is a mapped regulatory floodway.

A separate GeoHECRAS model will be created for this Flag Creek Tributary A, using Highwater elevations from the Flag Creek model as known tailwater elevations for this model. The upstream crossing at 75th Street will be included in the model as necessary; small downstream pedestrian crossings may also need to be included in the model. Existing WSP-2 effective data for this waterway will be obtained from FEMA and duplicated in our GeoHECRAS model. A culvert replacement is anticipated for this waterway crossing.

**iv. Wolf Road over Flag Creek Tributary B (south of 77th Street):**

This crossing consists of two 48” diameter pipe culverts and is therefore considered a “major” waterway crossing. A full hydraulic report will be created for this crossing. Though the drainage tributary area at this crossing is less than 1.0 square mile, a Part 3708 floodway permit will be required, since Flag Creek Tributary B is a mapped regulatory floodway.

A separate GeoHECRAS model will be created for this Flag Creek Tributary B, using Highwater elevations from the Flag Creek model as known tailwater elevations for this model. The upstream crossings at 77th Street will be included in the model as necessary; no downstream crossings exist. Existing WSP-2 effective data for this waterway will be obtained from FEMA and duplicated in our GeoHECRAS model. A culvert replacement is anticipated for this waterway crossing.

Sincerely,

STRAND ASSOCIATES, INC.®

Alex Schwarz, P.E.

815-744-4200 ext. 3125

[alex.schwarz@strand.com](mailto:alex.schwarz@strand.com)

**NOTES TO USERS**

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or flood plain management.

Coastal Base Flood Elevations shown on this map apply only to landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or flood plain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

In the State of Illinois, any portion of a stream or watercourse that lies within the floodway fringe of a studied (AE) stream may have a state regulated floodway. The FIRM may not depict these state regulated floodways.

Floodways restricted by anthropogenic features such as bridges and culverts are drawn to reflect natural conditions and may not agree with the model computed widths listed in the Floodway Data table in the Flood Insurance Study report.

Multiple topographic sources may have been used in the delineation of Special Flood Hazard Areas. See Flood Insurance Study report for details on source resolution and geographic extent.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Universal Transverse Mercator (UTM) zone 16. The horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at [www.ngs.noaa.gov](http://www.ngs.noaa.gov) or contact the National Geodetic Survey at the following address:

NGS Information Services, NOAA, NGS12  
National Geodetic Survey SSMC-3, #9202  
1315 East-West Highway  
Silver Spring, Maryland 20910-3282  
(301) 713-3242

To obtain current elevation, description, and/or location for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at [www.ngs.noaa.gov](http://www.ngs.noaa.gov).

Base map information shown on this FIRM was provided in digital format by the United States Geological Survey. Digital orthorectified imagery with a spatial resolution of 0.3 meter ground sample distance were photogrammetrically compiled from aerial photography acquired during the leaf-off period of spring 2005.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The Special Flood Hazard Areas and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

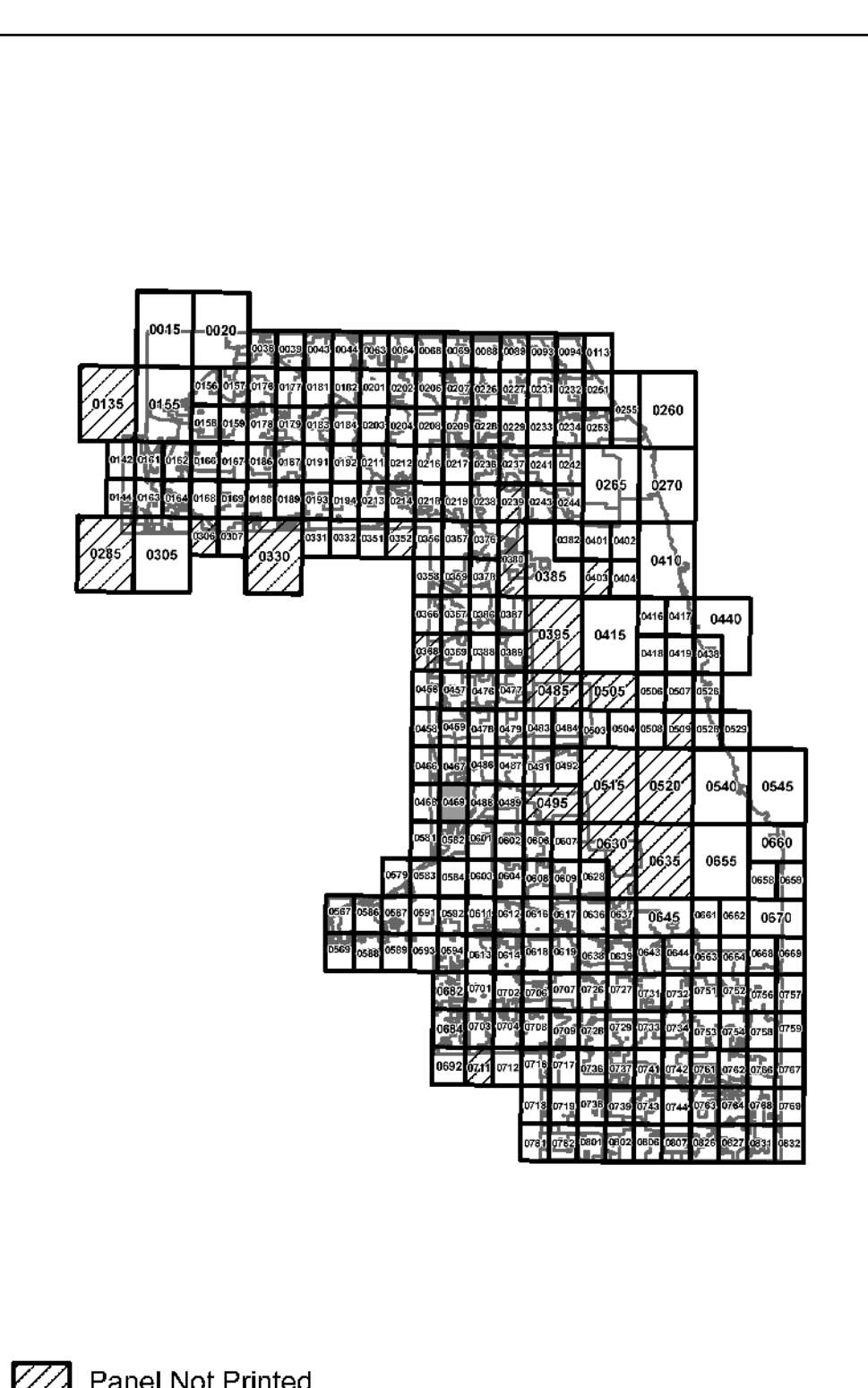
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital version of this map. The FEMA Map Service Center may also be reached by fax at 1-800-358-9620 and its website at [www.fema.gov](http://www.fema.gov).

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at [www.fema.gov/business/nfip/](http://www.fema.gov/business/nfip/).

**PANEL INDEX**



**LEGEND**

**SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, X, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE AE** No Base Flood Elevations determined.
- ZONE AH** Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AR** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined to be deficient. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE X** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

**FLOODWAY AREAS IN ZONE AE**

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

**OTHER FLOOD AREAS**

- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.

**OTHER AREAS**

- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**

**OTHERWISE PROTECTED AREAS (OPAs)**

- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet\*
- Base Flood Elevation value where uniform within zone; elevation in feet\*

\*Referenced to the North American Vertical Datum of 1988

- A-A Cross section line
- 23-23 Transect line
- 45° 02' 08" S 03° 02' 12" W Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 16
- 5000-foot grid ticks: Illinois State Plane East Coordinate System, 3776 zone (FIPS ZONE 1203) Transverse Mercator
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 River Mile

**MAP REPOSITORIES**  
Refer to Map Repositories list on Map Index

**EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP**  
NOVEMBER 6, 2000

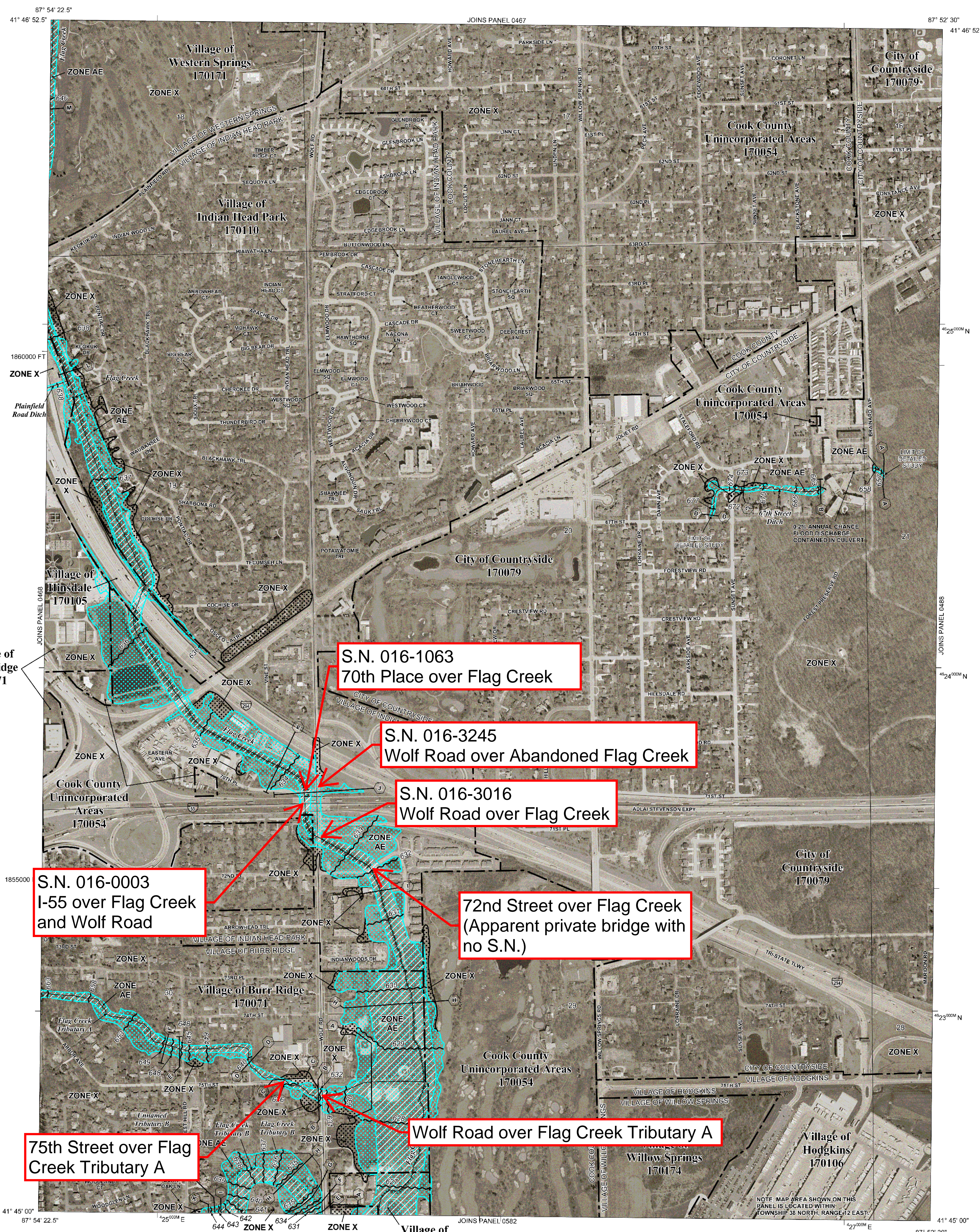
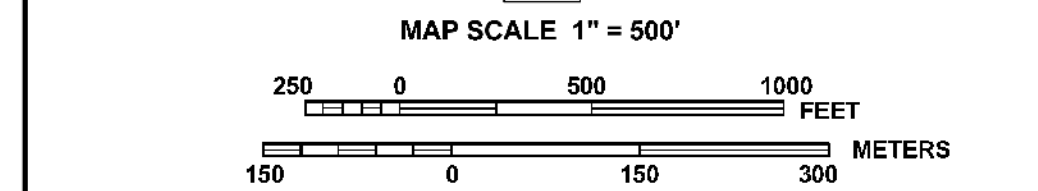
**EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL**

December 20, 2002; February 4, 2004; June 2, 2005; December 16, 2005; November 16, 2006; and April 16, 2007

August 19, 2008 - to reflect updated topographic information, to update corporate limits, to add road names, to incorporate previously issued Letters of Map Revision, to change Base Flood Elevations, to add Special Flood Hazard Areas and Base Flood Elevations, and to change zone designations.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-338-6620.



**NATIONAL FLOOD INSURANCE PROGRAM**

**PANEL 0469J**

**FIRM FLOOD INSURANCE RATE MAP COOK COUNTY, ILLINOIS AND INCORPORATED AREAS**

**PANEL 469 OF 832**  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BURR RIDGE, VILLAGE OF	170071	0469	J
COOK COUNTY	170054	0469	J
COUNTRYSIDE, CITY OF	170079	0469	J
HINSDALE, VILLAGE OF	170105	0469	J
HODGKINS, VILLAGE OF	170106	0469	J
INDIAN HEAD PARK, VILLAGE OF	170110	0469	J
WESTERN SPRINGS, VILLAGE OF	170171	0469	J
WILLOW SPRINGS, VILLAGE OF	170174	0469	J

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER 17031C0469J**

**MAP REVISED AUGUST 19, 2008**

**Federal Emergency Management Agency**

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Base map information shown on this FIRM was provided in digital format by the United States Geological Survey. Digital orthorectified imagery with a spatial resolution of 0.3 meter ground sample distance were photogrammetrically compiled from aerial photography acquired during the leaf-off period of spring 2005.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The Special Flood Hazard Areas and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

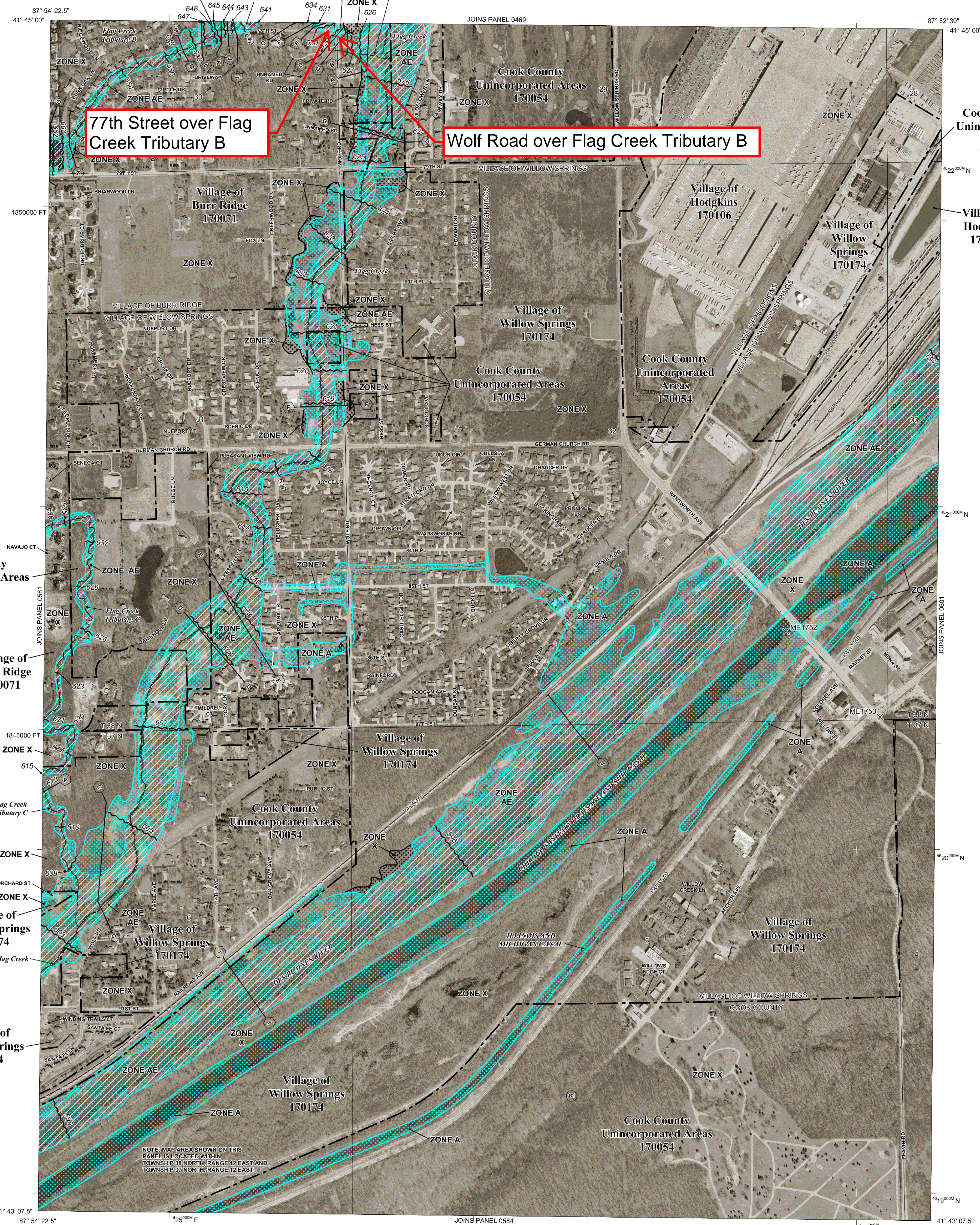
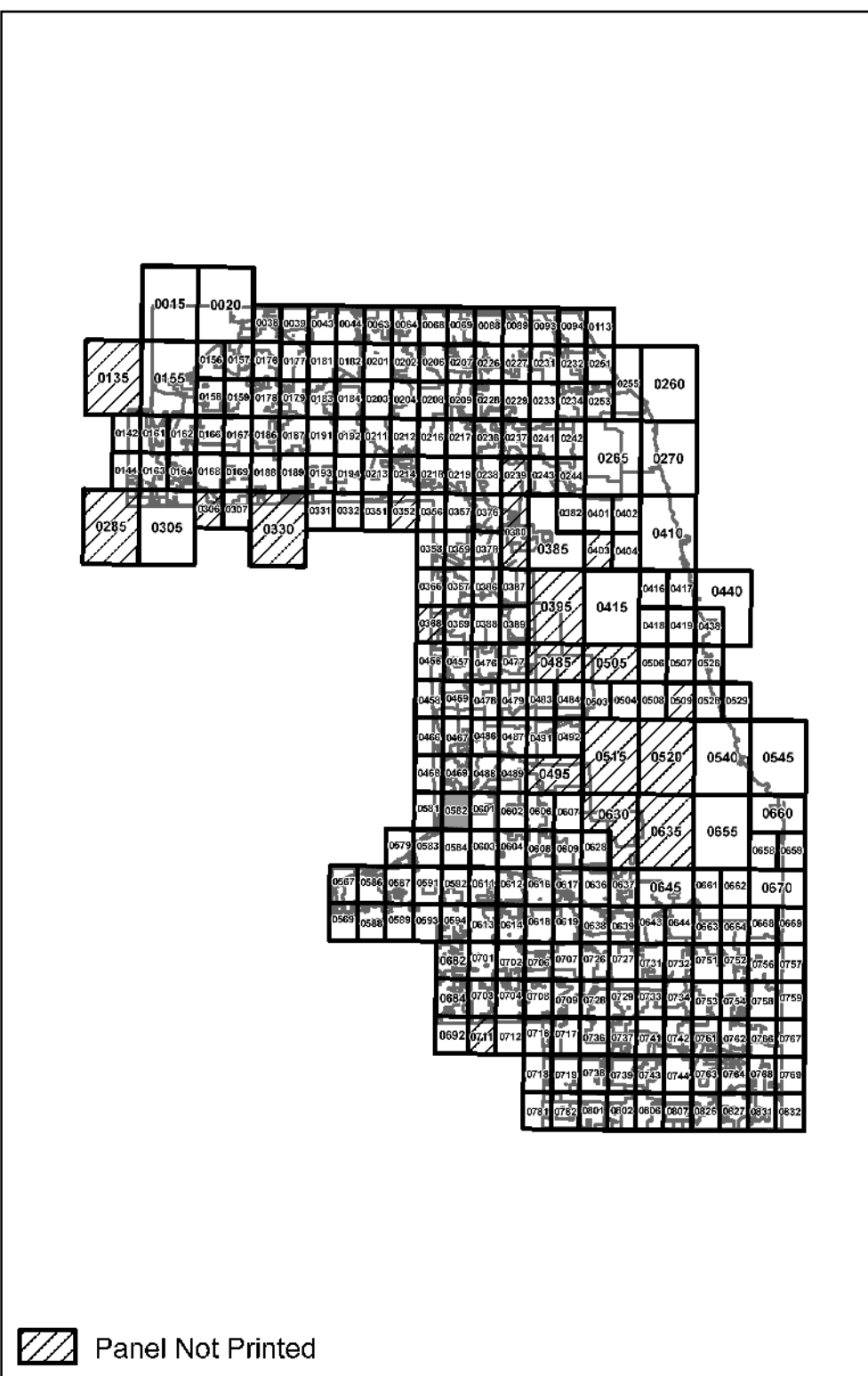
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital version of this map. The FEMA Map Service Center may also be reached by fax at 1-800-358-9620 and its website at [www.msc.fema.gov](http://www.msc.fema.gov).

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at [www.fema.gov/business/nfp/](http://www.fema.gov/business/nfp/).

**PANEL INDEX**



**LEGEND**

**SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

**ZONE AE**  
No Base Flood Elevations determined. Base Flood Elevations determined. Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

**ZONE AH**  
Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

**ZONE AR**  
Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

**ZONE A99**  
Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined. Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

**ZONE VE**  
Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

**FLOODWAY AREAS IN ZONE AE**

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

**OTHER FLOOD AREAS**

**ZONE X**  
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.

**OTHER AREAS**

**ZONE X**  
Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**

**OTHERWISE PROTECTED AREAS (OPAs)**

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary  
0.2% annual chance floodplain boundary  
Hoodway boundary  
Zone D boundary  
CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.  
Base Flood Elevation line and value; elevation in feet\*  
Base Flood Elevation value where uniform within zone; elevation in feet\* (EL 997)

\*Referenced to the North American Vertical Datum of 1988

⊕ Cross section line  
⊖ Transsect line  
45° 02' 08", 53° 02' 02" 12" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)  
1000-meter Universal Transverse Mercator grid values, zone 16  
5000-foot grid tick: Illinois State Plane East Coordinate System, 3774 meters (FIPS ZONE 1203) Transverse Mercator  
Bench mark (see explanation in Notes to Users section of this FIRM panel)  
• M1.5 River Mile

**MAP REPOSITORIES**  
Refer to Map Repositories list on Map Index

**EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP**  
NOVEMBER 6, 2000

**EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL**  
December 20, 2002; February 4, 2004; June 2, 2005; December 16, 2005; November 16, 2006; and April 16, 2007

August 19, 2008 - to reflect updated topographic information, to update corporate limits, to add road names, to incorporate previously issued Letters of Map Revision, to change Base Flood Elevations, to add Special Flood Hazard Areas, and Base Flood Elevations, and to change zone designations.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

**MAP SCALE 1" = 500'**

250 0 500 1000 FEET  
150 0 150 300 METERS

**NFP**

**PANEL 0582J**

**FIRM**

**FLOOD INSURANCE RATE MAP**

**COOK COUNTY, ILLINOIS**

**AND INCORPORATED AREAS**

**PANEL 582 OF 832**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BURR RIDGE, VILLAGE OF	170071	0582	J
COOK COUNTY	170054	0582	J
HODGKINS, VILLAGE OF	170106	0582	J
WILLOW SPRINGS, VILLAGE OF	170174	0582	J

Notes to User: The Map Number shown below should be used when picking map orders; the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER 17031C0582J**

**MAP REVISED AUGUST 19, 2008**

**Federal Emergency Management Agency**