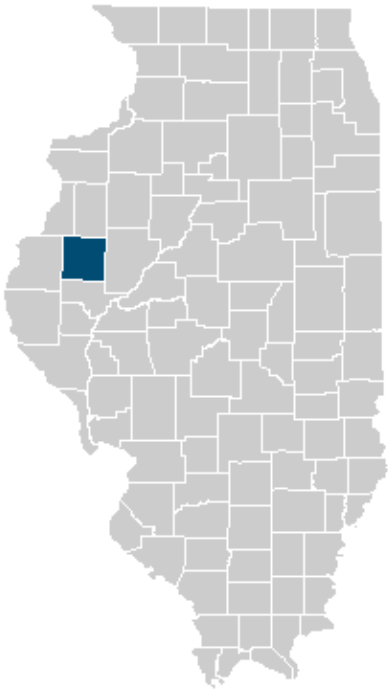
FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 1



MCDONOUGH COUNTY, ILLINOIS

AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
BARDOLPH, VILLAGE OF	170470
BLANDINSVILLE, VILLAGE OF	171252
BUSHNELL, CITY OF	170471
COLCHESTER, CITY OF	171253
GOOD HOPE, VILLAGE OF*	170472
INDUSTRY, VILLAGE OF	171254
MACOMB, CITY OF	170473
MCDONOUGH COUNTY UNINCORPORATED AREAS	170999
PLYMOUTH, VILLAGE OF*	170772
PRAIRIE CITY, VILLAGE OF*	171255
SCIOTA, VILLAGE OF*	171256
TENNESSEE, VILLAGE OF*	171257

*No Special Flood Hazard Areas Identified

PRELIMINARY
11/04/2024

EFFECTIVE:

Date Pending

FLOOD INSURANCE STUDY NUMBER
17109CV000A
Version Number 2.8.4.6

FEMA

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FLOOD INSURANCE STUDY REPORT
MCDONOUGH COUNTY, ILLINOIS

SECTION 1.0 – INTRODUCTION

1.1 The National Flood Insurance Program

The National Flood Insurance Program (NFIP) is a voluntary Federal program that enables property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods.

For decades, the national response to flood disasters was generally limited to constructing flood-control works such as dams, levees, sea-walls, and the like, and providing disaster relief to flood victims. This approach did not reduce losses nor did it discourage unwise development. In some instances, it may have actually encouraged additional development. To compound the problem, the public generally could not buy flood coverage from insurance companies, and building techniques to reduce flood damage were often overlooked.

In the face of mounting flood losses and escalating costs of disaster relief to the general taxpayers, the U.S. Congress created the NFIP. The intent was to reduce future flood damage through community floodplain management ordinances, and provide protection for property owners against potential losses through an insurance mechanism that requires a premium to be paid for the protection.

The U.S. Congress established the NFIP on August 1, 1968, with the passage of the National Flood Insurance Act of 1968. The NFIP was broadened and modified with the passage of the Flood Disaster Protection Act of 1973 and other legislative measures. It was further modified by the National Flood Insurance Reform Act of 1994 and the Flood Insurance Reform Act of 2004. The NFIP is administered by the Federal Emergency Management Agency (FEMA), which is a component of the Department of Homeland Security (DHS).

Participation in the NFIP is based on an agreement between local communities and the Federal Government. If a community adopts and enforces floodplain management regulations to reduce future flood risks to new construction and substantially improved structures in Special Flood Hazard Areas (SFHAs), the Federal Government will make flood insurance available within the community as a financial protection against flood losses. The community's floodplain management regulations must meet or exceed criteria established in accordance with Title 44 Code of Federal Regulations (CFR) Part 60, *Criteria for Land Management and Use*.

SFHAs are delineated on the community's Flood Insurance Rate Maps (FIRMs). Under the NFIP, buildings that were built before the flood hazard was identified on the community's FIRMs are generally referred to as "Pre-FIRM" buildings. When the NFIP was created, the U.S. Congress recognized that insurance for Pre-FIRM buildings would be prohibitively expensive if the premiums were not subsidized by the Federal Government. Congress also recognized that most of these floodprone buildings were built

by individuals who did not have sufficient knowledge of the flood hazard to make informed decisions. The NFIP requires that full actuarial rates reflecting the complete flood risk be charged on all buildings constructed or substantially improved on or after the effective date of the initial FIRM for the community or after December 31, 1974, whichever is later. These buildings are generally referred to as “Post-FIRM” buildings.

1.2 Purpose of this Flood Insurance Study Report

This Flood Insurance Study (FIS) Report provides information on the existence and severity of flood hazards for the study area. The studies described in this report developed flood hazard data to assist communities in efforts to implement sound floodplain management.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive than the minimum Federal requirements. Contact your State NFIP Coordinator to ensure that any higher State standards are included in the community’s regulations.

1.3 Jurisdictions Included in the Flood Insurance Study Project

This FIS Report covers the entire geographic area of McDonough County, Illinois.

The jurisdictions that are included in this project area, along with the Community Identification Number (CID) for each community and the United States Geological Survey (USGS) 8-digit Hydrologic Unit Code (HUC-8) sub-basins affecting each, are shown in Table 1. The FIRM panel numbers that affect each community are listed. If the flood hazard data for the community is not included in this FIS Report, the location of that data is identified.

Jurisdictions that have no identified SFHAs as of the effective date of this study are indicated in the table. Changed conditions in these communities (such as urbanization or annexation) or the availability of new scientific or technical data about flood hazards could make it necessary to determine SFHAs in these jurisdictions in the future.

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Bardolph, Village of	170470	07130010	17109C0225C 17109C0327C 17109C0331C	
Blandinsville, Village of	171252	07130010	17109C0142C 17109C0161C	
Bushnell, City of	170471	07130005 07130010	17109C0217C 17109C0225C 17109C0236C 17109C0250C	
Colchester, City of	171253	07130010	17109C0300C	
Good Hope, Village of [1]	170472	07130010	17109C0191C 17109C0200C	

Table 1: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Industry, Village of	171254	07130010	17109C0461C	
Macomb, City of	170473	07130010	17109C0169C 17109C0188C 17109C0189C 17109C0302C 17109C0304C 17109C0306C 17109C0307C 17109C0308C 17109C0309C 17109C0320C 17109C0350C	
McDonough County Unincorporated Areas	170999	07130003 07130005 07130010	17109C0025C 17109C0050C 17109C0075C [2] 17109C0100C 17109C0113C 17109C0125C [2] 17109C0142C 17109C0150C 17109C0161C 17109C0169C 17109C0175C 17109C0188C 17109C0189C 17109C0191C 17109C0200C 17109C0217C 17109C0225C 17109C0236C 17109C0250C 17109C0275C 17109C0284C 17109C0285C 17109C0300C 17109C0301C 17109C0302C 17109C0303C 17109C0304C 17109C0306C 17109C0307C 17109C0308C 17109C0309C 17109C0312C 17109C0315C 17109C0320C 17109C0327C 17109C0331C	

[1] No Special Flood Hazard Areas Identified
[2] Panel Not Printed

Table 1: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
McDonough County Unincorporated Areas	170999	07130003 07130005 07130010	17109C0350C 17109C0375C 17109C0400C 17109C0425C 17109C0450C 17109C0461C 17109C0475C 17109C0500C	
Plymouth, Village of [1, 3]	170772	07130010	17109C0400C	
Prairie City, Village of [1]	171255	07130005 07130010	17109C0113C 17109C0125C [2] 17109C0250C	
Sciota, Village of [1]	171256	07130010	17109C0175C 17109C0200C	
Tennessee, Village of [1]	171257	07130010	17109C0300C	

[1] No Special Flood Hazard Areas Identified
[2] Panel Not Printed
[3] Community is also in Hancock County

1.4 Considerations for using this Flood Insurance Study Report

The NFIP encourages State and local governments to implement sound floodplain management programs. To assist in this endeavor, each FIS Report provides floodplain data, which may include a combination of the following: 10-, 4-, 2-, 1-, and 0.2-percent annual chance flood elevations (the 1-percent-annual-chance flood elevation is also referred to as the Base Flood Elevation (BFE)); delineations of the 1-percent-annual-chance and 0.2-percent-annual-chance floodplains; and 1-percent-annual-chance floodway. This information is presented on the FIRM and/or in many components of the FIS Report, including Flood Profiles, Floodway Data tables, Summary of Non-Coastal Stillwater Elevations tables, and Coastal Transect Parameters tables (not all components may be provided for a specific FIS).

This section presents important considerations for using the information contained in this FIS Report and the FIRM, including changes in format and content. Figures 1, 2, and 3 present information that applies to using the FIRM with the FIS Report.

- Part or all of this FIS Report may be revised and republished at any time. In addition, part of this FIS Report may be revised by a Letter of Map Revision (LOMR), which does not involve republication or redistribution of the FIS Report. Refer to Section 6.5 of this FIS Report for information about the process to revise the FIS Report and/or FIRM.

  It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 30, "Map Repositories," within this FIS Report.

- New FIS Reports are frequently developed for multiple communities, such as entire counties. A countywide FIS Report incorporates previous FIS Reports for individual communities and the unincorporated area of the county (if not jurisdictional) into a single document and supersedes those documents for the purposes of the NFIP.

  The initial Countywide FIS Report for McDonough County became effective on TBD. Refer to Table 27 for information about subsequent revisions to the FIRMs.

- Selected FIRM panels for the community may contain information (such as floodways and cross sections) that was previously shown separately on the corresponding Flood Boundary and Floodway Map (FBFM) panels. In addition, former flood hazard zone designations have been changed as follows:

Old Zone	New Zone
A1 through A30	AE
V1 through V30	VE
B	X (shaded)
C	X (unshaded)

- The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Visit the FEMA Web site at www.fema.gov/flood-insurance/rules-legislation/community-rating-system or contact your appropriate FEMA Regional Office for more information about this program.

- FEMA does not design, build, inspect, operate, maintain, or certify levees. FEMA is responsible for accurately identifying flood hazards and communicating those hazards and risks to affected stakeholders. FEMA has identified one or more levee systems in this jurisdiction summarized in Table 8 of this FIS Report. For FEMA to accredit the identified levee systems, the levee systems must meet the criteria of the Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10), titled "Mapping of Areas Protected by Levee Systems."

  Information on the levee systems in this jurisdiction can be obtained from the USACE National Levee Database (https://levees.sec.usace.army.mil/). For additional information, the user should contact the appropriate jurisdiction floodplain administrator and the levee owner or sponsor.

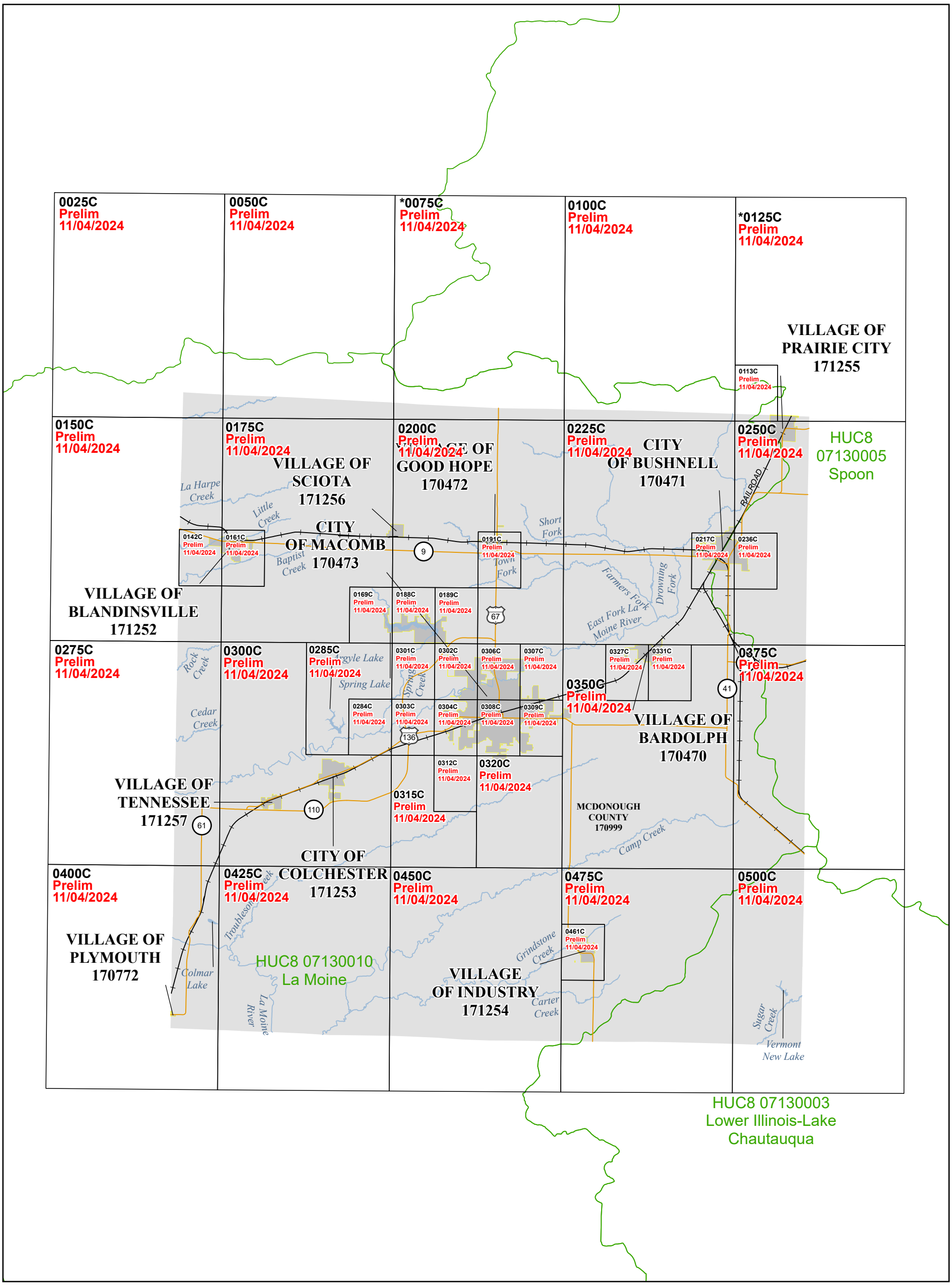
- The U.S. Survey Foot was deprecated on December 31, 2022, in favor of the International Foot (referred to as foot). It may still be necessary to use U.S. Survey Feet for legacy data or for new data collected in locations which have not yet adopted the International Foot convention. The U.S. Survey Foot will not be supported in the modernized National Spatial Reference System (NSRS).

- FEMA has developed a *Guide to Flood Maps* (FEMA 258) and online tutorials to assist users in accessing the information contained on the FIRM. These include how to read panels and step-by-step instructions to obtain specific information. To obtain this guide and other assistance in using the FIRM, visit the FEMA Web site at www.fema.gov/flood-maps/tutorials.

The FIRM Index in Figure 1 shows the overall FIRM panel layout within McDonough

County, and also displays the panel number and effective date for each FIRM panel in the county. Other information shown on the FIRM Index includes community boundaries, flooding sources, watershed boundaries, and USGS HUC-8 codes.

Figure 1: FIRM Index



N

1 inch = 19,237 feet 1:230,847

feet

0 5,000 10,000 20,000 30,000

Map Projection:
NAD 1983 HARN StatePlane Illinois West FIPS 1202 Feet
Vertical Datum: NAVD88

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

* PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP INDEX

MCDONOUGH COUNTY, ILLINOIS, AND INCORPORATED AREAS

PANELS PRINTED:

0025, 0050, 0100, 0113, 0142, 0150, 0161, 0169, 0175, 0188, 0189, 0191, 0200, 0217, 0225, 0236, 0250, 0275, 0284, 0285, 0300, 0301, 0302, 0303, 0304, 0306, 0307, 0308, 0309, 0312, 0315, 0320, 0327, 0331, 0350, 0375, 0400, 0425, 0450, 0461, 0475, 0500

FEMA

MAP NUMBER
17109CIND0A

EFFECTIVE DATE
Prelim Issue Date: 11/04/2024

Each FIRM panel may contain specific notes to the user that provide additional information regarding the flood hazard data shown on that map. However, the FIRM panel does not contain enough space to show all the notes that may be relevant in helping to better understand the information on the panel. Figure 2 contains the full list of these notes.

Figure 2: FIRM Notes to Users

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the FEMA Mapping and Insurance eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Flood Map Service Center website or by calling the FEMA Mapping and Insurance eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to Table 27 in this FIS Report.

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

PRELIMINARY FIS REPORT: FEMA maintains information about map features, such as street locations and names, in or near designated flood hazard areas. Requests to revise information in or near designated flood hazard areas may be provided to FEMA during the community review period, at the final Consultation Coordination Officer's meeting, or during the statutory 90-day appeal period. Approved requests for changes will be shown on the final printed FIRM.

The map is for use in administering the NFIP. It may not identify all areas subject to flooding, particularly from local drainage sources of small size. Consult the community map repository to find updated or additional flood hazard information.

BASE FLOOD ELEVATIONS: For more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, consult the Flood Profiles and Floodway Data and/or Summary of Non-Coastal Stillwater Elevations tables within this FIS Report. Use the flood elevation data within the FIS Report in conjunction with the FIRM for construction and/or floodplain management.

Figure 2. FIRM Notes to Users

FLOODWAY INFORMATION: 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 FIS Report for this jurisdiction.

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may have reduced flood hazards due to flood control structures. Refer to Section 4.3 "Dams and Other Flood Hazard Reduction Measures" of this FIS Report for information on flood control structures for this jurisdiction.

PROJECTION INFORMATION: The projection used in the preparation of the map was HARN State Plane Transverse Mercator, Illinois West Zone 1202. The horizontal datum was North American Datum 1983 HARN. Differences in datum, spheroid, projection or State Plane 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 the FIRM.

ELEVATION DATUM: Flood elevations on the FIRM 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.

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 30 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on the FIRM was provided in digital format by the United States Geological Survey (USGS). The basemap shown is the USGS National Map: Orthoimagery. Last refreshed October 2020. For information about base maps, refer to Section 6.2 “Base Map” in this FIS Report.

Corporate limits shown on the 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 the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within McDonough County, Illinois, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 27 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

Figure 2. FIRM Notes to Users

SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for McDonough County, Illinois, effective TBD.

NON-ACCREDITED LEVEE SYSTEM: This panel contains a levee system that has not been accredited and is therefore not recognized as reducing the 1-percent-annual-chance flood hazard.

FLOOD RISK REPORT: A Flood Risk Report (FRR) may be available for many of the flooding sources and communities referenced in this FIS Report. The FRR is provided to increase public awareness of flood risk by helping communities identify the areas within their jurisdictions that have the greatest risks. Although non-regulatory, the information provided within the FRR can assist communities in assessing and evaluating mitigation opportunities to reduce these risks. It can also be used by communities developing or updating flood risk mitigation plans. These plans allow communities to identify and evaluate opportunities to reduce potential loss of life and property. However, the FRR is not intended to be the final authoritative source of all flood risk data for a project area; rather, it should be used with other data sources to paint a comprehensive picture of flood risk.

Each FIRM panel contains an abbreviated legend for the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Note that not all of these features may appear on the FIRM panels in McDonough County.

Figure 3: Map Legend for FIRM

SPECIAL FLOOD HAZARD AREAS: The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. 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. See note for specific types. If the floodway is too narrow to be shown, a note is shown.

	Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)
Zone A	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
Zone AE	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone.
Zone AH	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
Zone AO	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
Zone AR	The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. 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	The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.
Zone V	The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.
Zone VE	Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.
	Regulatory Floodway determined in Zone AE.

Figure 3: Map Legend for FIRM

OTHER AREAS OF FLOOD HAZARD

Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.

Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.

Area with Reduced Flood Hazard due to Accredited or Provisionally Accredited Levee System: Area is shown as reduced flood hazard from the 1-percent-annual-chance or greater flood by a levee system. Overtopping or failure of any levee system is possible.

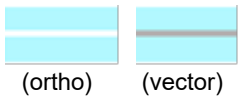
Area with Undetermined Flood Hazard due to Non-Accredited Levee System: Analysis and mapping procedures for non-accredited levee systems were applied resulting in a flood insurance rate zone where flood hazards are undetermined, but possible.

OTHER AREAS

Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

Unshaded Zone X: Areas of minimal flood hazard.

FLOOD HAZARD AND OTHER BOUNDARY LINES



Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)

Limit of Study

Jurisdiction Boundary

Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet

Figure 3: Map Legend for FIRM

GENERAL STRUCTURES	
Aqueduct *Channel* *Culvert* *Storm Sewer*	Channel, Culvert, Aqueduct, or Storm Sewer
Dam *Jetty* *Weir*	Dam, Jetty, Weir
	Levee, Dike, or Floodwall
Bridge	Bridge
REFERENCE MARKERS	
22.0	River mile Markers
CROSS SECTION & TRANSECT INFORMATION	
B 20.2	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
5280 21.1	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
17.5	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
8	Coastal Transect
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.
513	Base Flood Elevation Line
ZONE AE **(EL 16)**	Static Base Flood Elevation value (shown under zone label)
ZONE AO **(DEPTH 2)**	Zone designation with Depth
ZONE AO **(DEPTH 2)** **(VEL 15 FPS)**	Zone designation with Depth and Velocity

BASE MAP FEATURES	
	River, Stream or Other Hydrographic Feature
	Interstate Highway
	U.S. Highway
	State Highway
	County Highway
	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
	Railroad
	Horizontal Reference Grid Line
	Horizontal Reference Grid Ticks
+	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
$^{42}76^{000m}$E	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16’ 52.5”	Corner Coordinates (Latitude, Longitude)

SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS

2.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance (500-year) flood is employed to indicate additional areas of flood hazard in the community.

Each flooding source included in the project scope has been studied and mapped using professional engineering and mapping methodologies that were agreed upon by FEMA and McDonough County as appropriate to the risk level. Flood risk is evaluated based on factors such as known flood hazards and projected impact on the built environment. Engineering analyses were performed for each studied flooding source to calculate its 1-percent-annual-chance flood elevations; elevations corresponding to other floods (e.g. 10-, 4-, 2-, 0.2-percent annual chance, etc.) may have also been computed for certain flooding sources. Engineering models and methods are described in detail in Section 5.0 of this FIS Report. The modeled elevations at cross sections were used to delineate the floodplain boundaries on the FIRM; between cross sections, the boundaries were interpolated using elevation data from various sources. More information on specific mapping methods is provided in Section 6.0 of this FIS Report.

Depending on the accuracy of available topographic data (Table 22), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1-percent and 0.2-percent-annual-chance floodplain boundaries, regulatory water surface elevations (BFEs), and/or a regulatory floodway. Similarly, other flooding sources may be mapped to show only the 1-percent-annual-chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1-percent and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM. Figure 3, “Map Legend for FIRM”, describes the flood zones that are used on the FIRMs to account for the varying levels of flood risk that exist along flooding sources within the project area. Table 2 and Table 3 indicate the flood zone designations for each flooding source and each community within McDonough County, respectively.

Table 2, “Flooding Sources Included in this FIS Report,” lists each flooding source, including its study limits, affected communities, mapped zone on the FIRM, and the completion date of its engineering analysis from which the flood elevations on the FIRM and in the FIS Report were derived. Descriptions and dates for the latest hydrologic and hydraulic analyses of the flooding sources are shown in Table 12. Floodplain boundaries for these flooding sources are shown on the FIRM (published separately) using the symbology described in Figure 3. On the map, the 1-percent-annual-chance floodplain corresponds to the SFHAs. The 0.2-percent-annual-chance floodplain shows areas that, although out of the regulatory floodplain, are still subject to flood hazards.

Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data. The procedures to remove these areas from the SFHA are described in Section 6.5 of this FIS Report.

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Baptist Creek	Blandinsville, Village of; McDonough County Unincorporated Areas	At McDonough County and Hancock County Boundary / 0th Street	Approximately 46,650 feet upstream of McDonough County and Hancock County Boundary (Approximately 50 feet downstream of E 550th Street)	07130010	8.8	N	A	2022
Camp Creek	McDonough County Unincorporated Areas	Confluence with La Moine River	Approximately 165,303 feet upstream of confluence with La Moine River (Just downstream of County Road 850 N)	07130010	31.3	N	A	2022
Camp Creek Tributary A	McDonough County Unincorporated Areas	Confluence with Camp Creek	Approximately 14,965 feet upstream of confluence with Camp Creek (Just downstream of U.S Route 136)	07130010	2.8	N	A	2022
Carter Creek	McDonough County Unincorporated Areas	Confluence with Grindstone Creek	Approximately 31,281 feet upstream of confluence with Grindstone Creek (Just downstream of 1700th Street)	07130010	5.9	N	A	2022
Cedar Creek	McDonough County Unincorporated Areas	Approximately 280 feet downstream of McDonough County and Hancock County Boundary (Approximately 7,980 feet downstream of Texas Road)	Approximately 17,590 feet upstream of McDonough County and Hancock County Boundary (Just downstream of 175th Street)	07130010	3.4	N	A	2022
Cedar Creek Tributary A	McDonough County Unincorporated Areas	Confluence with Cedar Creek	Approximately 8,624 feet upstream of confluence with Cedar Creek (Approximately 60 feet downstream of County Highway 8)	07130010	1.6	N	A	2022

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Drowning Fork	Bushnell, City of; McDonough County Unincorporated Areas	Confluence with East Fork La Moine River	Approximately 74,890 feet upstream of confluence with East Fork La Moine River (At McDonough County and Warren County Boundary / Just downstream of 2400th Road)	07130010	14.2	N	A	2022
Drowning Fork Tributary A	McDonough County Unincorporated Areas	Confluence with Drowning Fork	Approximately 10,857 feet upstream of confluence with Drowning Fork (Just downstream of 1900th Street)	07130010	2.1	N	A	2022
East Fork La Moine River	McDonough County Unincorporated Areas	Approximately 11,525 feet upstream of confluence with La Moine River (Approximately 4,555 feet downstream of McDonough County and Hancock County Boundary)	Approximately 86,100 feet upstream of confluence with La Moine River (Approximately 2,484 feet upstream of 700th Street)	07130010	14.1	N	A	2022
East Fork La Moine River	Macomb, City of; McDonough County Unincorporated Areas	Approximately 2,484 feet upstream of 700th Street	Approximately 57,083 feet upstream of 700th Street (Approximately 10,121 feet upstream of U.S. Route 67 / Lafeyette Street)	07130010	10.3	Y	AE	2021
East Fork La Moine River	McDonough County Unincorporated Areas	Approximately 140,847 feet upstream of confluence with La Moine River (Approximately 7,050 feet downstream of 1400th Street)	Approximately 272,846 feet upstream of confluence with La Moine River (Just downstream of 1300th Street)	07130010	25.0	N	A	2022
Farmers Fork	McDonough County Unincorporated Areas	Confluence with East Fork La Moine River	Approximately 56,422 feet upstream of confluence with East Fork La Moine River (Just downstream of 1100th Street)	07130010	10.7	N	A	2022

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Grindstone Creek	Industry, Village of; McDonough County Unincorporated Areas	Confluence with Camp Creek	Approximately 91,117 feet upstream of confluence with Camp Creek (Approximately 60 feet downstream of 1700th Street)	07130010	17.3	N	A	2022
Kepple Creek	McDonough County Unincorporated Areas	Confluence with Drowning Fork	Approximately 53,774 feet upstream of confluence with Drowning Fork (Approximately 1,500 feet upstream of 1300th Road)	07130010	10.2	N	A	2022
Killjordan Creek	McDonough County Unincorporated Areas	Confluence with Troublesome Creek	Approximately 25,830 feet upstream of confluence with Troublesome Creek (Just upstream of E 950th Street / County Highway 18)	07130010	4.9	N	A	2022
Killjordan Creek	Macomb, City of; McDonough County Unincorporated Areas	Just upstream of County Highway 18 / E 950th Street	Approximately 28,656 feet upstream of County Highway 18 / E 950th Street (Approximately 466 feet upstream of Washington Street)	07130010	5.4	Y	AE	2021
La Harpe Creek	McDonough County Unincorporated Areas	Approximately 678 feet downstream of McDonough County and Hancock County Boundary (Approximately 8,680 feet downstream of 100th Street)	Approximately 40,157 feet upstream of McDonough County and Hancock County Boundary (Approximately 6,336 feet upstream of Blackjack Road)	07130010	7.7	N	A	2022

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
La Moine River	McDonough County Unincorporated Areas	Approximately 5,190 feet upstream of Camp Creek Road in Schuyler County (Approximately 2,865 feet downstream of the McDonough County and Schuyler County Boundary / Confluence of Camp Creek)	Approximately 87,268 feet upstream of Camp Creek Road in Schuyler County (Approximately 4,075 feet upstream of McDonough County and Hancock County Boundary / Approximately 30,305 feet upstream of Illinois Route 61)	07130010	15.5	N	A	2022
La Moine River	McDonough County Unincorporated Areas	At McDonough County and Hancock County Boundary / 0th Street	Approximately 32,120 feet upstream of McDonough County and Hancock County Boundary (Approximately 2,500 feet upstream of E 3500th Street)	07130010	6.1	N	A	2022
La Moine River Tributary A	McDonough County Unincorporated Areas	Confluence with La Moine River	Approximately 14,448 feet upstream of confluence with La Moine River (Approximately 437 feet upstream of 550th Street)	07130010	2.7	N	A	2022
La Moine River Tributary B	McDonough County Unincorporated Areas	Confluence with La Moine River	Approximately 14,366 feet upstream of confluence with La Moine River (Approximately 78 feet downstream of 600th Street)	07130010	2.7	N	A	2022
Little Creek	Blandinsville, Village of; McDonough County Unincorporated Areas	At McDonough County and Hancock County Boundary (Just downstream of 0th Street)	Approximately 32,750 feet upstream of McDonough County and Hancock County Boundary (Just downstream of 1950th Road)	07130010	6.2	N	A	2022

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
North Fork East Fork La Moine River	McDonough County Unincorporated Areas	Confluence with East Fork La Moine River	Approximately 12,537 feet upstream of confluence with East Fork La Moine River (At McDonough County and Warren County Boundary / Just downstream of 2400th Road)	07130010	2.4	N	A	2022
Rock Creek	McDonough County Unincorporated Areas	Approximately 200 feet downstream of McDonough County and Hancock County Boundary (Approximately 8,765 feet downstream of E 50th Street)	Approximately 16,923 feet upstream of McDonough County and Hancock County Boundary (Approximately 50 feet downstream of E 150th Street)	07130010	3.2	N	A	2022
Shaw Creek Tributary A	Bushnell, City of; McDonough County Unincorporated Areas	At McDonough County and Fulton County Boundary / McDonough Line Road	Approximately 20,766 feet upstream of McDonough County and Fulton County Boundary (Just downstream of 1900th Road)	07130005	3.9	N	A	2022
Short Fork	McDonough County Unincorporated Areas	Confluence with East Fork La Moine River	Approximately 31,947 feet upstream of confluence with East Fork La Moine River (Just downstream of 1300th Street)	07130010	6.1	N	A	2022
South Branch La Moine River	McDonough County Unincorporated Areas	At McDonough County and Hancock County Boundary (Just upstream of 0th Street)	Approximately 32,388 feet upstream of McDonough County and Hancock County Boundary (Approximately 56 feet downstream of 400th Street)	07130010	6.1	N	A	2022
Spring Creek	McDonough County Unincorporated Areas	Approximately 3,972 feet upstream of confluence with East Fork La Moine River (Approximately 995 feet upstream of 1200th Road)	Approximately 23,998 feet upstream of confluence with East Fork La Moine River (Approximately 5,200 feet downstream of County Highway 20)	07130010	4.5	N	A	2022

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Spring Creek	Macomb, City of; McDonough County Unincorporated Areas	Approximately 23,998 feet upstream of confluence with East Fork La Moine River (Approximately 5,200 feet downstream of County Highway 20)	Approximately 49,445 feet upstream of confluence with East Fork La Moine River (Approximately 1,995 feet downstream of County Road 1650 N)	07130010	4.8	Y	AE	2021
Spring Creek	McDonough County Unincorporated Areas	Approximately 49,445 feet upstream of confluence with East Fork La Moine River (Approximately 1,995 feet downstream of County Road 1650 N)	Approximately 57,727 feet upstream of confluence with East Fork La Moine River (Just downstream of County Highway 6)	07130010	1.6	N	A	2022
Sugar Creek	McDonough County Unincorporated Areas	Approximately 975 feet downstream of McDonough County and Schuyler County Boundary (Approximately 1,700 feet downstream of E 2320th Street)	Approximately 3,980 feet upstream of McDonough County and Fulton County Boundary (Approximately 10,200 feet upstream of Elmira Road / County Highway 9)	07130003	4.5	N	A	2022
Town Fork	McDonough County Unincorporated Areas	Confluence with Farmers Fork	Approximately 45,758 feet upstream of confluence with Farmers Fork (Just downstream of 1000th Street)	07130010	8.7	N	A	2022
Troublesome Creek	McDonough County Unincorporated Areas	Confluence with La Moine River	Approximately 121,849 feet upstream of confluence with La Moine River (Approximately 60 feet downstream of 1600th Street)	07130010	23.1	N	A	2022

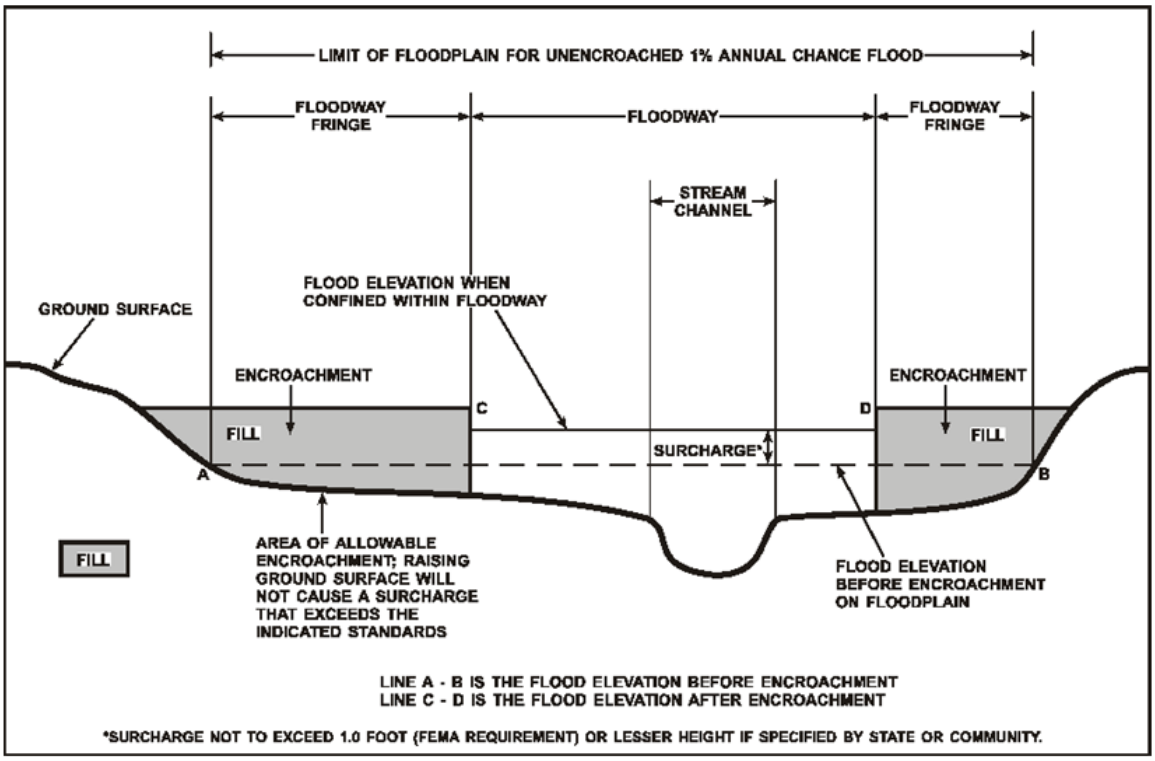
2.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard.

For purposes of the NFIP, a floodway is used as a tool to assist local communities in balancing floodplain development against increasing flood hazard. With this approach, the area of the 1-percent-annual-chance floodplain on a river is divided into a floodway and a floodway fringe based on hydraulic modeling. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment in order to carry the 1-percent-annual-chance flood. The floodway fringe is the area between the floodway and the 1-percent-annual-chance floodplain boundaries where encroachment is permitted. The floodway must be wide enough so that the floodway fringe could be completely obstructed without increasing the water surface elevation of the 1-percent-annual-chance flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 4.

To participate in the NFIP, Federal regulations require communities to limit increases caused by encroachment to 1.0 foot, provided that hazardous velocities are not produced. Regulations for the State of Illinois require communities in McDonough County to limit increases caused by encroachment to 0.1 foot, no more than a 10 percent reduction in floodplain volume, and no more than a 10 percent increase in average velocity. The floodways in this project are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway projects.

Figure 4: Floodway Schematic



Floodway widths presented in this FIS Report and on the FIRM were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. For certain stream segments, floodways were adjusted so that the amount of floodwaters conveyed on each side of the floodplain would be reduced equally. The results of the floodway computations have been tabulated for selected cross sections and are shown in Table 23, “Floodway Data.”

All floodways that were developed for this Flood Risk Project are shown on the FIRM using the symbology described in Figure 3. In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown on the FIRM. For information about the delineation of floodways on the FIRM, refer to Section 6.3.

2.3 Base Flood Elevations

The hydraulic characteristics of flooding sources were analyzed to provide estimates of the elevations of floods of the selected recurrence intervals. The BFE is the elevation of the 1-percent-annual-chance flood. These BFEs are most commonly rounded to the whole foot, as shown on the FIRM, but in certain circumstances or locations they may be rounded to 0.1 foot. Cross section lines shown on the FIRM may also be labeled with the BFE rounded to 0.1 foot. Whole-foot BFEs derived from engineering analyses that apply to coastal areas, areas of ponding, or other static areas with little elevation change may also be shown at selected intervals on the FIRM.

Cross sections with BFEs shown on the FIRM correspond to the cross sections shown in

the Floodway Data table and Flood Profiles in this FIS Report. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. For example, the user may use the FIRM to determine the stream station of a location of interest and then use the profile to determine the 1-percent annual chance elevation at that location. Because only selected cross sections may be shown on the FIRM for riverine areas, the profile should be used to obtain the flood elevation between mapped cross sections. Additionally, for riverine areas, whole-foot elevations shown on the FIRM may not exactly reflect the elevations derived from the hydraulic analyses; therefore, elevations obtained from the profile may more accurately reflect the results of the hydraulic analysis.

2.4 Non-Encroachment Zones

This section is not applicable to this Flood Risk Project.

2.5 Coastal Flood Hazard Areas

This section is not applicable to this Flood Risk Project.

2.5.1 Water Elevations and the Effects of Waves

This section is not applicable to this Flood Risk Project.

Figure 5: Wave Runup Transect Schematic

[Not applicable to this Flood Risk Project]

2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

This section is not applicable to this Flood Risk Project.

2.5.3 Coastal High Hazard Areas

This section is not applicable to this Flood Risk Project.

Figure 6: Coastal Transect Schematic

[Not applicable to this Flood Risk Project]

2.5.4 Limit of Moderate Wave Action

This section is not applicable to this Flood Risk Project.

SECTION 3.0 – INSURANCE APPLICATIONS

3.1 National Flood Insurance Program Insurance Zones

For flood insurance applications, the FIRM designates flood insurance rate zones as described in Figure 3, “Map Legend for FIRM.” Flood insurance zone designations are assigned to flooding sources based on the results of the hydraulic or coastal analyses. Insurance agents use the zones shown on the FIRM and depths and base flood elevations

in this FIS Report in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

The 1-percent-annual-chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (e.g. Zones A, AE, V, VE, etc.), and the 0.2-percent-annual-chance floodplain boundary corresponds to the boundary of areas of additional flood hazards.

Table 3 lists the flood zones in McDonough County.

Table 3: Flood Zone Designations by Community

Community	Flood Zone(s)
Bardolph, Village of	A, X
Blandinsville, Village of	A, X
Bushnell, City of	A, X
Colchester, City of	A, X
Good Hope, Village of	X
Industry, Village of	A, X
Macomb, City of	A, AE, X
McDonough County Unincorporated Areas	A, AE, X
Plymouth, Village of	X
Prairie City, Village of	X
Sciota, Village of	X
Tennessee, Village of	X

SECTION 4.0 – AREA STUDIED

4.1 Basin Description

Table 4 contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its drainage area.

Table 4: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
La Moine	07130010	La Moine River	Largest watershed within McDonough County, covers approximately 89% of the county with 522 square miles	1,349
Lower Illinois-Lake Chautauqua	07130003	Illinois River	Located in the southeastern portion of the county, covers approximately 6% of McDonough County with 35 square miles	1,623

Table 4: Basin Characteristics (continued)

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Spoon	07130005	Spoon River	Located in the northeastern portion of the county, covers approximately 5% of McDonough County with 32 square miles	1,865

4.2 Principal Flood Problems

Table 5 contains a description of the principal flood problems that have been noted for McDonough County by flooding source.

Table 5: Principal Flood Problems

Flooding Source	Description of Flood Problems
Grindstone Creek	Heavy rainfall from a system of thunderstorms in June 2022 caused Grindstone Creek to overtop its banks in southeastern McDonough County.
La Moine River	Multiple flood events have occurred on La Moine River. In April 2013, after historic rainfall across the state, major riverine flooding occurred on La Moine and East Fork La Moine River. Flood waters infiltrated a water treatment plant along La Moine River, causing a boil order to be issued. In May 2009, three days of heavy rains resulted in La Moine River going above moderate flood stage. Several roads were closed and $250,000 in property damages were incurred.

Table 6 contains information about historic flood elevations in the communities within McDonough County.

Table 6: Historic Flooding Elevations

Flooding Source	Location	Historic Peak (Feet NAVD88)	Event Date	Approximate Recurrence Interval (years)	Source of Data
Drowning Fork	Just upstream of 2000th St	628.05	9/24/1961	32	USGS Gage 05584400
La Moine River	Just upstream of Illinois Route 61	520.26	4/19/2013	79	USGS Gage 05584500

4.3 Dams and Other Flood Hazard Reduction Measures

Table 7 contains information about non-levee flood hazard reduction measures within McDonough County such as dams or jetties. Levee systems are addressed in Section 4.4 of this FIS Report.

Table 7: Dams and Other Flood Hazard Reduction Measures

Flooding Source	Structure Name	Type of Measure	Location	Description of Measure
Spring Creek	Spring Lake Dam	Dam	Approximately 2,500 feet upstream of County Highway 20	Owned by the City of Macomb

4.4 Levee Systems

For purposes of the NFIP, FEMA only recognizes levee systems that meet, and continue to meet, minimum design, operation, and maintenance standards that are consistent with comprehensive floodplain management criteria. The Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10) describes the information needed for FEMA to determine if a levee system reduces the flood hazard from the 1-percent-annual-chance flood. This information must be supplied to FEMA by the community or other party when a flood risk study or restudy is conducted, when FIRMs are revised, or upon FEMA request. FEMA reviews the information for the purpose of establishing the appropriate flood hazard zone.

Levee systems that are determined to reduce the hazard from the 1-percent-annual-chance flood are accredited by FEMA. FEMA can also grant provisional accreditation to a levee system that was previously accredited on an effective FIRM and for which FEMA is awaiting data and/or documentation to demonstrate compliance with 44 CFR 65.10. These levee systems are referred to as Provisionally Accredited Levees, or PALs. Provisional accreditation provides communities and levee owners with a specified timeframe to obtain the necessary data to confirm the levee system's accreditation status. Accredited levee systems and PALs are shown on the FIRM using the symbology shown in Figure 3. If the required information for a PAL is not submitted within the required timeframe, or if information indicates that a levee system no longer meets 44 CFR 65.10, FEMA will consider the levee system as non-accredited and issue an effective FIRM showing the levee-impacted area as a SFHA or Zone D.

FEMA coordinated with the USACE, the local communities, and other organizations to compile a list of levee systems that exist within McDonough County. Table 8, "Levee Systems," lists all accredited levee systems, PALs, and non-accredited levee systems shown on the FIRM for this FIS Report. Other categories of levees may also be included in the table. The Levee ID shown in this table may not match numbers based on other identification systems that were listed in previous FIS Reports. Levee systems identified in the table are displayed on the FIRM with notes to users to indicate their flood hazard mapping status.

Please note that the information presented in Table 8 is subject to change at any time. For that reason, the latest information regarding the levee systems presented in the table may be obtained by accessing the National Levee Database. For additional information, contact the levee owner/sponsor or the local community shown in Table 30.

Table 8: Levee Systems

Community(ies)	Flooding Source(s)	NLD Levee System ID	NLD Levee System Name	Levee System Status on Effective FIRM	FIRM Panel(s)	Levee Owner(s) / Sponsor(s)
McDonough County Unincorporated Areas	La Moine River	260005000090	Measley-Thompson Levee	Non-Accredited	17109C0400C 17109C0425C	unknown
McDonough County Unincorporated Areas	La Moine River	260005000092	Van Brooker Levee No. 2	Non-Accredited	17109C0400C	unknown

SECTION 5.0 – ENGINEERING METHODS

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management. These events, commonly termed the 10-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2-percent-annual-chance, respectively, of being equaled or exceeded during any year.

Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

In addition to these flood events, the “1-percent-plus”, or “1%+”, annual chance flood elevation has been modeled and included on the flood profile and/or in the FIRM database for certain flooding sources in this FIS Report. While not used for regulatory or insurance purposes, this flood event has been calculated to help illustrate the variability range that exists between the regulatory 1-percent-annual-chance flood elevation and a 1-percent-annual-chance elevation that has taken into account an additional amount of uncertainty in the flood discharges (thus, the 1% “plus”). For flooding sources whose discharges were estimated using regression equations, the 1%+ flood elevations are derived by taking the 1-percent-annual-chance flood discharges and increasing the modeled discharges by a percentage equal to the average predictive error for the regression equation. For flooding sources with gage- or rainfall-runoff-based discharge estimates, the upper 84-percent confidence limit of the discharges is used to compute the 1%+ flood elevations.

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. A summary of the hydrologic methods applied to develop the discharges used in the hydraulic analyses for each stream is provided in Table 12. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table 9. Stream gage information is provided in Table 11.

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (CFS)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
East Fork La Moine River	Just downstream of confluence with Spring Creek	194.3	10,883	15,477	19,271	22,847	31,709
East Fork La Moine River	Approximately 1,000 feet downstream of Wigwam Hollow Road	144.0	10,338	14,615	18,139	21,476	29,596
Killjordan Creek	Just downstream of 950th Street / County Highway 18	7.3	2,060	2,961	3,695	4,382	6,016
Killjordan Creek	Approximately 1,250 feet downstream of 1000th Street	6.5	2,008	2,837	3,497	4,109	5,578
Killjordan Creek	Approximately 4,150 feet upstream of 1000th Street	5.1	1,763	2,420	2,947	3,421	4,614
Killjordan Creek	Approximately 600 feet downstream of Ward Street	3.7	1,353	1,825	2,200	2,541	3,389
Killjordan Creek	Approximately 450 feet downstream of Grant Street	2.9	1,043	1,396	1,681	1,950	2,577
Killjordan Creek	Just upstream of Johnson Street / County Highway16	2.4	848	1,133	1,364	1,569	2,058
Killjordan Creek	Approximately 150 feet downstream of Randolph Street	1.9	632	845	1,018	1,169	1,531
Killjordan Creek	Approximately 670 feet downstream of Pearl Street	1.4	437	588	707	818	1,077
Killjordan Creek	Just downstream of Piper Street	0.9	257	349	422	489	651
Spring Creek	At confluence with East Fork La Moine River	20.6	1,622 [1]	2,275 [1]	2,652 [1]	2,933 [1]	3,506 [1]
Spring Creek	Approximately 1,400 feet downstream of County Road 1650 N	13.9	2,449	3,295	3,957	4,576	6,015

[1] Decrease in discharge due to basin storage

Figure 7: Frequency Discharge-Drainage Area Curves

[Not applicable to this Flood Risk Project]

Table 10: Summary of Non-Coastal Stillwater Elevations

[Not applicable to this Flood Risk Project]

Table 11: Stream Gage Information used to Determine Discharges

Flooding Source	Gage Identifier	Agency that Maintains Gage	Site Name	Drainage Area (Square Miles)	Period of Record	
					From	To
Drowning Fork	05584400	USGS	DROWNING FORK AT BUSHNELL, IL	26.3	10/1/1944	9/30/2020
La Moine River	05584500	USGS	LA MOINE RIVER AT COLMAR, IL	655.0	6/10/1960	9/13/1983

5.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Base flood elevations on the FIRM represent the elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations. These whole-foot elevations may not exactly reflect the elevations derived from the hydraulic analyses. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. The hydraulic analyses for this FIS were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed in Table 23, “Floodway Data.”

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 12. Roughness coefficients are provided in Table 13. Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

Table 12: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Baptist Creek	At McDonough County and Hancock County Boundary / 0th Street	Approximately 46,650 feet upstream of McDonough County and Hancock County Boundary (Approximately 50 feet downstream of E 550th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Camp Creek	Confluence with La Moine River	Approximately 165,303 feet upstream of confluence with La Moine River (Just downstream of County Road 850 N)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Camp Creek Tributary A	Confluence with Camp Creek	Approximately 14,965 feet upstream of confluence with Camp Creek (Just downstream of U.S Route 136)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Carter Creek	Confluence with Grindstone Creek	Approximately 31,281 feet upstream of confluence with Grindstone Creek (Just downstream of 1700th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Cedar Creek	Approximately 280 feet downstream of McDonough County and Hancock County Boundary (Approximately 7,980 feet downstream of Texas Road)	Approximately 17,590 feet upstream of McDonough County and Hancock County Boundary (Just downstream of 175th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Cedar Creek Tributary A	Confluence with Cedar Creek	Approximately 8,624 feet upstream of confluence with Cedar Creek (Approximately 60 feet downstream of County Highway 8)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Drowning Fork	Confluence with East Fork La Moine River	Approximately 74,890 feet upstream of confluence with East Fork La Moine River (At McDonough County and Warren County Boundary / Just downstream of 2400th Road)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Drowning Fork Tributary A	Confluence with Drowning Fork	Approximately 10,857 feet upstream of confluence with Drowning Fork (Just downstream of 1900th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
East Fork La Moine River	Approximately 11,525 feet upstream of confluence with La Moine River (Approximately 4,555 feet downstream of McDonough County and Hancock County Boundary)	Approximately 86,100 feet upstream of confluence with La Moine River (Approximately 2,484 feet upstream of 700th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
East Fork La Moine River	Approximately 2,484 feet upstream of 700th Street	Approximately 57,083 feet upstream of 700th Street (Approximately 10,121 feet upstream of U.S. Route 67 / Lafeyette Street)	HEC-HMS 3.0 and up (Dec 2005)	HEC-RAS 5.0 and up	7/12/2021	AE w/ Floodway	HEC-RAS v. 5.0.7, 1D Steady Flow; HEC-HMS v. 3.5, ISWS Bulletin 75
East Fork La Moine River	Approximately 140,847 feet upstream of confluence with La Moine River (Approximately 7,050 feet downstream of 1400th Street)	Approximately 272,846 feet upstream of confluence with La Moine River (Just downstream of 1300th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Farmers Fork	Confluence with East Fork La Moine River	Approximately 56,422 feet upstream of confluence with East Fork La Moine River (Just downstream of 1100th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Grindstone Creek	Confluence with Camp Creek	Approximately 91,117 feet upstream of confluence with Camp Creek (Approximately 60 feet downstream of 1700th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Kepple Creek	Confluence with Drowning Fork	Approximately 53,774 feet upstream of confluence with Drowning Fork (Approximately 1,500 feet upstream of 1300th Road)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Killjordan Creek	Confluence with Troublesome Creek	Approximately 25,830 feet upstream of confluence with Troublesome Creek (Just upstream of E 950th Street / County Highway 18)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Killjordan Creek	Just upstream of County Highway 18 / E 950th Street	Approximately 28,656 feet upstream of County Highway 18 / E 950th Street (Approximately 466 feet upstream of Washington Street)	HEC-HMS 3.0 and up (Dec 2005)	HEC-RAS 5.0 and up	7/12/2021	AE w/ Floodway	HEC-RAS v. 5.0.7, 1D Steady Flow; HEC-HMS v. 3.5, ISWS Bulletin 75
La Harpe Creek	Approximately 678 feet downstream of McDonough County and Hancock County Boundary (Approximately 8,680 feet downstream of 100th Street)	Approximately 40,157 feet upstream of McDonough County and Hancock County Boundary (Approximately 6,336 feet upstream of Blackjack Road)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
La Moine River	Approximately 5,190 feet upstream of Camp Creek Road in Schuyler County (Approximately 2,865 feet downstream of the McDonough County and Schuyler County Boundary / Confluence of Camp Creek)	Approximately 87,268 feet upstream of Camp Creek Road in Schuyler County (Approximately 4,075 feet upstream of McDonough County and Hancock County Boundary / Approximately 30,305 feet upstream of Illinois Route 61)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
La Moine River	At McDonough County and Hancock County Boundary / 0th Street	Approximately 32,120 feet upstream of McDonough County and Hancock County Boundary (Approximately 2,500 feet upstream of E 3500th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
La Moine River Tributary A	Confluence with La Moine River	Approximately 14,448 feet upstream of confluence with La Moine River (Approximately 437 feet upstream of 550th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
La Moine River Tributary B	Confluence with La Moine River	Approximately 14,366 feet upstream of confluence with La Moine River (Approximately 78 feet downstream of 600th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Little Creek	At McDonough County and Hancock County Boundary (Just downstream of 0th Street)	Approximately 32,750 feet upstream of McDonough County and Hancock County Boundary (Just downstream of 1950th Road)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
North Fork East Fork La Moine River	Confluence with East Fork La Moine River	Approximately 12,537 feet upstream of confluence with East Fork La Moine River (At McDonough County and Warren County Boundary / Just downstream of 2400th Road)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Rock Creek	Approximately 200 feet downstream of McDonough County and Hancock County Boundary (Approximately 8,765 feet downstream of E 50th Street)	Approximately 16,923 feet upstream of McDonough County and Hancock County Boundary (Approximately 50 feet downstream of E 150th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Shaw Creek Tributary A	At McDonough County and Fulton County Boundary / McDonough Line Road	Approximately 20,766 feet upstream of McDonough County and Fulton County Boundary (Just downstream of 1900th Road)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Short Fork	Confluence with East Fork La Moine River	Approximately 31,947 feet upstream of confluence with East Fork La Moine River (Just downstream of 1300th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
South Branch La Moine River	At McDonough County and Hancock County Boundary (Just upstream of 0th Street)	Approximately 32,388 feet upstream of McDonough County and Hancock County Boundary (Approximately 56 feet downstream of 400th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Spring Creek	Approximately 3,972 feet upstream of confluence with East Fork La Moine River (Approximately 995 feet upstream of 1200th Road)	Approximately 23,998 feet upstream of confluence with East Fork La Moine River (Approximately 5,200 feet downstream of County Highway 20)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Spring Creek	Approximately 23,998 feet upstream of confluence with East Fork La Moine River (Approximately 5,200 feet downstream of County Highway 20)	Approximately 49,445 feet upstream of confluence with East Fork La Moine River (Approximately 1,995 feet downstream of County Road 1650 N)	HEC-HMS 3.0 and up (Dec 2005)	HEC-RAS 5.0 and up	7/12/2021	AE w/ Floodway	HEC-RAS v. 5.0.7, 1D Steady Flow; HEC-HMS v. 3.5, ISWS Bulletin 75
Spring Creek	Approximately 49,445 feet upstream of confluence with East Fork La Moine River (Approximately 1,995 feet downstream of County Road 1650 N)	Approximately 57,727 feet upstream of confluence with East Fork La Moine River (Just downstream of County Highway 6)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS V. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Sugar Creek	Approximately 975 feet downstream of McDonough County and Schuyler County Boundary (Approximately 1,700 feet downstream of E 2320th Street)	Approximately 3,980 feet upstream of McDonough County and Fulton County Boundary (Approximately 10,200 feet upstream of Elmira Road / County Highway 9)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Town Fork	Confluence with Farmers Fork	Approximately 45,758 feet upstream of confluence with Farmers Fork (Just downstream of 1000th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural
Troublesome Creek	Confluence with La Moine River	Approximately 121,849 feet upstream of confluence with La Moine River (Approximately 60 feet downstream of 1600th Street)	Regression Equations	HEC-RAS 5.0 and up	8/31/2022	A	HEC-RAS v. 5.0.7, 1D Steady State Flow; USGS StreamStats 2004, Rural

Table 13: Roughness Coefficients

Flooding Source	Channel “n”	Overbank “n”
Baptist Creek	0.035-0.045	0.035-0.075
Camp Creek	0.035-0.045	0.035-0.075
Camp Creek Tributary A	0.035-0.045	0.035-0.075
Carter Creek	0.035-0.045	0.035-0.075
Cedar Creek	0.035-0.045	0.035-0.075
Cedar Creek Tributary A	0.035	0.045-0.075
Drowning Fork	0.035-0.045	0.035-0.075
Drowning Fork Tributary A	0.035-0.045	0.035-0.045
East Fork La Moine River	0.035-0.100	0.035-0.100
Farmers Fork	0.035-0.045	0.035-0.075
Grindstone Creek	0.035-0.045	0.035-0.075
Kepple Creek	0.035-0.045	0.035-0.075
Killjordan Creek	0.035-0.048	0.035-0.100
La Harpe Creek	0.035-0.045	0.035-0.075
La Moine River	0.035-0.045	0.035-0.075
La Moine River Tributary A	0.035	0.035-0.075
La Moine River Tributary B	0.035-0.045	0.035-0.075
Little Creek	0.035-0.045	0.035-0.075
North Fork East Fork La Moine River	0.035-0.045	0.035-0.075
Rock Creek	0.035-0.045	0.035-0.075
Shaw Creek Tributary A	0.035-0.045	0.035-0.075
Short Fork	0.035-0.045	0.035-0.075
South Branch La Moine River	0.035-0.045	0.035-0.075
Spring Creek	0.035-0.045	0.035-0.100
Sugar Creek	0.035-0.045	0.035-0.075
Town Fork	0.035-0.045	0.035-0.075
Troublesome Creek	0.035-0.045	0.035-0.075

5.3 Coastal Analyses

This section is not applicable to this Flood Risk Project.

Table 14: Summary of Coastal Analyses

[Not applicable to this Flood Risk Project]

5.3.1 Total Stillwater Elevations

This section is not applicable to this Flood Risk Project.

Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas

[Not applicable to this Flood Risk Project]

Table 15: Tide Gage Analysis Specifics

[Not applicable to this Flood Risk Project]

5.3.2 Waves

This section is not applicable to this Flood Risk Project.

5.3.3 Coastal Erosion

This section is not applicable to this Flood Risk Project.

5.3.4 Wave Hazard Analyses

This section is not applicable to this Flood Risk Project.

Table 16: Coastal Transect Parameters

[Not applicable to this Flood Risk Project]

Figure 9: Transect Location Map

[Not applicable to this Flood Risk Project]

5.4 Alluvial Fan Analyses

This section is not applicable to this Flood Risk Project.

Table 17: Summary of Alluvial Fan Analyses

[Not applicable to this Flood Risk Project]

Table 18: Results of Alluvial Fan Analyses

[Not applicable to this Flood Risk Project]

SECTION 6.0 – MAPPING METHODS

6.1 Vertical and Horizontal Control

All FIS Reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum used for newly created or revised FIS Reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD29). With the completion of the North American Vertical Datum of 1988 (NAVD88), many FIS Reports and FIRMs are now prepared using NAVD88 as the referenced vertical datum.

Flood elevations shown in this FIS Report and on the FIRMs are referenced to NAVD88. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between NGVD29 and NAVD88 or other datum conversion, visit the National Geodetic Survey website at www.ngs.noaa.gov.

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the archived project documentation associated with the FIS Report and the FIRMs for this community. Interested individuals may contact FEMA to access these data.

To obtain current elevation, description, and/or location information for benchmarks in the area, please visit the NGS website at www.ngs.noaa.gov.

The datum conversion locations and values that were calculated for McDonough County are provided in Table 19.

Table 19: Countywide Vertical Datum Conversion

[Not applicable to this Flood Risk Project]

Table 20: Stream-Based Vertical Datum Conversion

[Not applicable to this Flood Risk Project]

6.2 Base Map

The FIRMs and FIS Report for this project have been produced in a digital format. The flood hazard information was converted to a Geographic Information System (GIS) format that meets FEMA's FIRM Database specifications and geographic information standards. This information is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community. The FIRM Database includes most of the tabular information contained in the FIS Report in such a way that the data can be associated with pertinent spatial features. For example, the information contained in the Floodway Data table and Flood Profiles can be linked to the cross sections that are shown on the FIRMs. Additional information about the FIRM Database and its contents can be found in FEMA's *Guidelines and Standards for Flood Risk Analysis and Mapping*,

www.fema.gov/flood-maps/guidance-partners/guidelines-standards.

Base map information shown on the FIRM was derived from the sources described in Table 21.

Table 21: Base Map Sources

Data Type	Data Provider	Data Date	Data Scale	Data Description
2021 TIGER/Line Shapefiles	U.S. Census Bureau	September 2022	*	Spatial feature and attribute information for railroads
Illinois Highway System	Illinois Department of Transportation	2021	1:64,000	Spatial feature and attribute information for transportation features
Illinois Public Land Survey System	Illinois State Geological Survey	April 2003	1:62,500	Spatial feature and attribute information for Public Land Survey System sections
McDonough County Corporate Boundaries	Western Illinois University	March 20, 2023	*	Spatial and attribute information for political boundaries
National Hydrography Dataset	U.S. Geological Survey	March 6, 2023	1:24,000	Spatial feature and attribute information for lakes and HUC-8 watershed boundaries
National Levee Database	U.S. Army Corps of Engineers	July 5, 2023	*	Spatial and attribute information for levees
Runways	Federal Aviation Administration	May 19, 2022	*	Spatial and attribute information for airport runways
Stream Gages	U.S. Geological Survey	November 11, 2022	*	Spatial feature and attribute information for stream gages
USGS 7.5-Minute Series Topographic Maps	U.S. Geological Survey	1989	1:24,000	FIRM paneling scheme
USGS National Map: Orthoimagery	U.S. Geological Survey	October 2020	*	Orthoimagery for FIRM panels effective TBD

* Data Not Available

6.3 Floodplain and Floodway Delineation

The FIRM shows tints, screens, and symbols to indicate floodplains and floodways as well as the locations of selected cross sections used in the hydraulic analyses and floodway computations.

For riverine flooding sources, the mapped floodplain boundaries shown on the FIRM have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in Table 22.

In cases where the 1-percent and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

The floodway widths presented in this FIS Report and on the FIRM were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. Table 2 indicates the flooding sources for which floodways have been determined. The results of the floodway computations for those flooding sources have been tabulated for selected cross sections and are shown in Table 23, “Floodway Data.”

Table 22: Summary of Topographic Elevation Data Used in Mapping

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Vertical Accuracy	Horizontal Accuracy	Citation
McDonough County	Baptist Creek and Kepple Creek (in select areas only)	2022 Digital Terrain Model (DTM) for McDonough County, Illinois	0.074 meters RMSE	0.32 meters RMSE	ISGS 2022
McDonough County	Baptist Creek, Camp Creek, Camp Creek Tributary A, Carter Creek, Cedar Creek, Cedar Creek Tributary A, Drowning Fork, Drowning Fork Tributary A, East Fork La Moine River, Farmers Fork, Grindstone Creek, Kepple Creek, Killjordan Creek, La Harpe Creek, La Moine River, La Moine River Tributary A, La Moine River Tributary B, Little Creek, North Fork East Fork La Moine River, Rock Creek, Shaw Creek Tributary A, Short Fork, South Branch La Moine River, Spring Creek, Sugar Creek, Town Fork, Troublesome Creek	2011/2012 Digital Terrain Model (DTM) for McDonough County, Illinois	0.362 feet at the 95th percentile	0.3 meters	ISGS 2012

BFEs shown at cross sections on the FIRM represent the 1-percent-annual-chance water surface elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report.

Table 23: Floodway Data

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE [1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	7,148	860	9,150	2.4	587.9	587.9	588.0	0.1
B	8,947	735	7,410	2.9	589.2	589.2	589.2	0.0
C	13,599	656	6,543	3.3	591.7	591.7	591.7	0.0
D	16,677	1,868	20,564	1.0	593.0	593.0	593.1	0.1
E	19,193	1,299	14,393	1.5	593.5	593.5	593.6	0.1
F	20,493	1,701	14,015	1.5	593.8	593.8	593.8	0.0
G	21,583	892	8,772	2.5	594.9	594.9	594.9	0.0
H	25,344	422	5,491	3.9	597.8	597.8	597.8	0.0
I	27,763	313	4,640	4.6	601.3	601.3	601.3	0.0
J	29,500	286	4,453	4.8	602.1	602.1	602.1	0.0
K	35,949	739	10,762	2.0	604.8	604.8	604.9	0.1
L	37,011	687	8,233	2.6	605.3	605.3	605.4	0.1
M	37,701	537	7,192	3.0	605.8	605.8	605.9	0.1
N	39,616	754	10,730	2.0	606.7	606.7	606.8	0.1
O	41,699	761	11,211	1.9	607.4	607.4	607.5	0.1
P	42,812	751	11,365	1.9	608.1	608.1	608.2	0.1
Q	46,000	410	6,204	3.5	609.5	609.5	609.6	0.1
R	48,106	897	16,240	1.3	612.3	612.3	612.3	0.0
S	55,133	2,471	30,247	0.7	612.7	612.7	612.7	0.0
T	57,148	1,333	22,649	1.0	612.8	612.8	612.8	0.0

[1] Feet above approximately 65 feet downstream of 700th Street

Table 23: Floodway Data (continued)

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE [1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	2,543	352	1,061	3.9	614.6	614.6	614.6	0.0
B	5,409	248	1,344	3.1	621.7	621.7	621.8	0.1
C	6,907	373	1,610	2.1	623.9	623.9	623.9	0.0
D	7,593	353	1,684	2.0	625.8	625.8	625.9	0.1
E	10,538	243	765	4.5	629.9	629.9	629.9	0.0
F	12,154	210	724	3.5	632.2	632.2	632.2	0.0
G	13,552	197	656	3.9	634.9	634.9	634.9	0.0
H	14,796	214	815	3.1	638.1	638.1	638.2	0.1
I	18,111	189	904	2.8	644.8	644.8	644.8	0.0
J	19,589	175	299	6.5	649.1	649.1	649.1	0.0
K	19,848	231	680	2.9	652.0	651.9	651.9	0.0
L	21,363	181	756	2.6	654.0	654.0	654.0	0.0
M	22,139	176	887	1.8	658.4	658.3	658.4	0.1
N	22,865	148	456	3.4	658.7	658.7	658.8	0.1
O	23,159	259	2,126	0.6	667.6	667.6	667.6	0.0
P	23,430	336	2,690	0.4	667.6	667.6	667.6	0.0
Q	23,759	97	702	1.7	667.6	667.6	667.6	0.0
R	24,239	134	1,070	1.1	668.1	668.1	668.2	0.1
S	24,638	145	547	1.5	668.3	668.3	668.4	0.1
T	24,871	111	488	1.7	669.3	669.3	669.3	0.0
U	25,332	156	699	1.2	670.5	670.5	670.5	0.0

[1] Feet above approximately 2,240 feet downstream of County Highway 18 / E 950th Street

Table 23: Floodway Data (continued)

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE [1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
V	25,788	96	364	2.3	670.7	670.7	670.7	0.0
W	26,035	200	925	0.9	672.9	672.9	672.9	0.0
X	26,190	33	157	5.2	672.9	672.7	672.7	0.0
Y	26,319	91	274	3.0	674.3	674.3	674.3	0.0
Z	26,822	193	585	1.4	674.9	674.9	674.9	0.0
AA	27,849	58	119	4.1	676.1	676.1	676.1	0.0
AB	28,155	118	308	1.6	678.6	678.6	678.6	0.0
AC	28,776	26	75	6.5	680.0	680.0	680.0	0.0
AD	29,169	72	173	1.5	683.1	683.1	683.1	0.0
AE	29,607	31	68	3.8	683.6	683.6	683.6	0.0
AF	30,028	123	388	0.7	686.7	686.7	686.7	0.0
AG	30,319	28	88	2.9	686.8	686.8	686.9	0.1
AH	30,497	30	134	1.9	688.8	688.8	688.8	0.0
AI	30,906	75	116	2.2	691.0	691.0	691.1	0.1

[1] Feet above approximately 2,240 feet downstream of County Highway 18 / E 950th Street

Table 23: Floodway Data (continued)

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE [1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	24,876	261	1,238	2.4	618.9	618.9	618.9	0.0
B	29,282	542	1,273	3.0	625.6	625.6	625.6	0.0
C	30,863	79	602	4.9	627.0	627.0	627.0	0.0
D	32,059	1,229	10,957	0.5	660.6	660.6	660.6	0.0
E	34,979	591	5,833	0.8	660.7	660.7	660.7	0.0
F	38,142	659	5,767	0.8	660.7	660.7	660.7	0.0
G	41,634	973	6,982	0.7	660.8	660.8	660.8	0.0
H	47,223	586	2,777	1.7	662.1	662.1	662.1	0.0
I	48,216	873	3,801	1.2	662.8	662.8	662.8	0.0
J	49,445	439	1,854	2.5	664.2	664.2	664.2	0.0

[1] Feet above confluence with East Fork La Moine River

Table 24: Flood Hazard and Non-Encroachment Data for Selected Streams

[Not applicable to this Flood Risk Project]

6.4 Coastal Flood Hazard Mapping

This section is not applicable to this Flood Risk Project.

Table 25: Summary of Coastal Transect Mapping Considerations

[Not applicable to this Flood Risk Project]

6.5 FIRM Revisions

This FIS Report and the FIRM are based on the most up-to-date information available to FEMA at the time of its publication; however, flood hazard conditions change over time. Communities or private parties may request flood map revisions at any time. Certain types of requests require submission of supporting data. FEMA may also initiate a revision. Revisions may take several forms, including Letters of Map Amendment (LOMAs), Letters of Map Revision Based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs) (referred to collectively as Letters of Map Change (LOMCs)), Physical Map Revisions (PMRs), and FEMA-contracted restudies. These types of revisions are further described below. Some of these types of revisions do not result in the republishing of the FIS Report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood-hazard data (shown in Table 30, “Map Repositories”).

6.5.1 Letters of Map Amendment

A LOMA is an official revision by letter to an effective NFIP map. A LOMA results from an administrative process that involves the review of scientific or technical data submitted by the owner or lessee of property who believes the property has incorrectly been included in a designated SFHA. A LOMA amends the currently effective FEMA map and establishes that a specific property is not located in a SFHA.

To obtain an application for a LOMA, visit www.fema.gov/flood-maps/change-your-flood-zone and download the form “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill”. Visit the “Flood Map-Related Fees” section to determine the cost, if any, of applying for a LOMA.

FEMA offers a tutorial on how to apply for a LOMA. The LOMA Tutorial Series can be accessed at www.fema.gov/flood-maps/tutorials.

For more information about how to apply for a LOMA, call the FEMA Mapping and Insurance eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627).

6.5.2 Letters of Map Revision Based on Fill

A LOMR-F is an official revision by letter to an effective NFIP map. A LOMR-F states FEMA’s determination concerning whether a structure or parcel has been elevated on fill above the base flood elevation and is, therefore, excluded from the SFHA.

Information about obtaining an application for a LOMR-F can be obtained in the same manner as that for a LOMA, by visiting www.fema.gov/flood-maps/change-your-flood-zone for the "MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill" or by calling the FEMA Mapping and Insurance eXchange, toll free, at 1-877-FEMA MAP (1-877-336-2627). Fees for applying for a LOMR-F, if any, are listed in the "Flood Map-Related Fees" section.

A tutorial for LOMR-F is available at www.fema.gov/flood-maps/tutorials.

6.5.3 Letters of Map Revision

A LOMR is an official revision to the currently effective FEMA map. It is used to change flood zones, floodplain and floodway delineations, flood elevations and planimetric features. All requests for LOMRs should be made to FEMA through the chief executive officer of the community, since it is the community that must adopt any changes and revisions to the map. If the request for a LOMR is not submitted through the chief executive officer of the community, evidence must be submitted that the community has been notified of the request.

To obtain an application for a LOMR, visit www.fema.gov/flood-maps/change-your-flood-zone and download the form "MT-2 Application Forms and Instructions for Conditional Letters of Map Revision and Letters of Map Revision". Visit the "Flood Map-Related Fees" section to determine the cost of applying for a LOMR. For more information about how to apply for a LOMR, call the FEMA Mapping and Insurance eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627) to speak to a Map Specialist.

Previously issued mappable LOMCs (including LOMRs) that have been incorporated into the McDonough County FIRM are listed in Table 26.

Table 26: Incorporated Letters of Map Change

[Not applicable to this Flood Risk Project]

6.5.4 Physical Map Revisions

A Physical Map Revisions (PMR) is an official republication of a community's NFIP map to effect changes to base flood elevations, floodplain boundary delineations, regulatory floodways and planimetric features. These changes typically occur as a result of structural works or improvements, annexations resulting in additional flood hazard areas or correction to base flood elevations or SFHAs.

The community's chief executive officer must submit scientific and technical data to FEMA to support the request for a PMR. The data will be analyzed and the map will be revised if warranted. The community is provided with copies of the revised information and is afforded a review period. When the base flood elevations are changed, a 90-day appeal period is provided. A 6-month adoption period for formal approval of the revised map(s) is also provided.

For more information about the PMR process, please visit www.fema.gov and visit the Floods & Maps "Change Your Flood Zone Designation" section.

6.5.5 Contracted Restudies

The NFIP provides for a periodic review and restudy of flood hazards within a given community. FEMA accomplishes this through a national watershed-based mapping needs assessment strategy, known as the Coordinated Needs Management Strategy (CNMS). The CNMS is used by FEMA to assign priorities and allocate funding for new flood hazard analyses used to update the FIS Report and FIRM. The goal of CNMS is to define the validity of the engineering study data within a mapped inventory. The CNMS is used to track the assessment process, document engineering gaps and their resolution, and aid in prioritization for using flood risk as a key factor for areas identified for flood map updates. Visit www.fema.gov to learn more about the CNMS or contact the FEMA Regional Office listed in Section 8 of this FIS Report.

6.5.6 Community Map History

The current FIRM presents flooding information for the entire geographic area of McDonough County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBMs) and/or Flood Boundary and Floodway Maps (FBFMs) may have been prepared for the incorporated communities and the unincorporated areas in the county that had identified SFHAs. Current and historical data relating to the maps prepared for the project area are presented in Table 27, "Community Map History." A description of each of the column headings and the source of the date is also listed below.

- *Community Name* includes communities falling within the geographic area shown on the FIRM, including those that fall on the boundary line, nonparticipating communities, and communities with maps that have been rescinded. Communities with No Special Flood Hazards are indicated by a footnote. If all maps (FHBM, FBFM, and FIRM) were rescinded for a community, it is not listed in this table unless SFHAs have been identified in this community.

- *Initial Identification Date (First NFIP Map Published)* is the date of the first NFIP map that identified flood hazards in the community. If the FHBM has been converted to a FIRM, the initial FHBM date is shown. If the community has never been mapped, the upcoming effective date or "pending" (for Preliminary FIS Reports) is shown. If the community is listed in Table 27 but not identified on the map, the community is treated as if it were unmapped.

- *Initial FHBM Effective Date* is the effective date of the first FHBM. This date may be the same date as the Initial NFIP Map Date.

- *FHBM Revision Date(s)* is the date(s) that the FHBM was revised, if applicable.

- *Initial FIRM Effective Date* is the date of the first effective FIRM for the community.

- *FIRM Revision Date(s)* is the date(s) the FIRM was revised, if applicable. This is the revised date that is shown on the FIRM panel, if applicable. As countywide studies are completed or revised, each community listed should have its FIRM dates updated accordingly to reflect the date of the countywide study. Once the FIRMs exist in countywide format, as PMRs of FIRM panels within the county are completed, the FIRM Revision Dates in the table for each community affected by the PMR are updated with the date of the PMR, even if the PMR did not revise all the panels within that community.

The initial effective date for the McDonough County FIRMs in countywide format was TBD.

Table 27: Community Map History

Community Name	Initial Identification Date	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Bardolph, Village of [2]	TBD	N/A	N/A	TBD	N/A
Blandinsville, Village of [2]	TBD	N/A	N/A	TBD	N/A
Bushnell, City of	6/7/1974	6/7/1974	8/20/1976 4/2/1976	TBD	N/A
Colchester, City of [2]	TBD	N/A	N/A	TBD	N/A
Good Hope, Village of [1, 2]	TBD	N/A	N/A	TBD	N/A
Industry, Village of [2]	TBD	N/A	N/A	TBD	N/A
Macomb, City of [2]	TBD	N/A	N/A	TBD	N/A
McDonough County Unincorporated Areas	1/2/1981	1/2/1981	N/A	TBD	N/A
Plymouth, Village of [1, 3]	10/16/2009	N/A	N/A	10/16/2009	TBD
Prairie City, Village of [1, 2]	TBD	N/A	N/A	TBD	N/A
Sciota, Village of [1, 2]	TBD	N/A	N/A	TBD	N/A
Tennessee, Village of [1, 2]	TBD	N/A	N/A	TBD	N/A

[1] No Special Flood Hazard Areas Identified
[2] This community did not have a FIRM prior to the first countywide FIRM for McDonough County
[3] This community did not have a FIRM prior to the first countywide FIRM for Hancock County

SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

7.1 Contracted Studies

Table 28 provides a summary of the contracted studies, by flooding source, that are included in this FIS Report.

Table 28: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Baptist Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	Blandinsville, Village of; McDonough County Unincorporated Areas
Camp Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Camp Creek Tributary A	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Carter Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Cedar Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Cedar Creek Tributary A	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Drowning Fork	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	Bushnell, City of; McDonough County Unincorporated Areas
Drowning Fork Tributary A	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
East Fork La Moine River	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS 19-04	July 2021	Macomb, City of; McDonough County Unincorporated Areas
East Fork La Moine River	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Farmers Fork	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Grindstone Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	Industry, Village of; McDonough County Unincorporated Areas
Kepple Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Killjordan Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS 19-04	July 2021	Macomb, City of; McDonough County Unincorporated Areas
Killjordan Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
La Harpe Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
La Moine River	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
La Moine River Tributary A	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
La Moine River Tributary B	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Little Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	Blandinsville, Village of; McDonough County Unincorporated Areas
North Fork East Fork La Moine River	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Rock Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Shaw Creek Tributary A	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	Bushnell, City of; McDonough County Unincorporated Areas
Short Fork	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
South Branch La Moine River	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Spring Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS 19-04	July 2021	Macomb, City of; McDonough County Unincorporated Areas
Spring Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Sugar Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Town Fork	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas
Troublesome Creek	Pending	Illinois State Water Survey	EMC-2019-CA-0009, ISWS19-04	August 2022	McDonough County Unincorporated Areas

7.2 Community Meetings

The dates of the community meetings held for this Flood Risk Project and previous Flood Risk Projects are shown in Table 29. These meetings may have previously been referred to by a variety of names (Community Coordination Officer (CCO), Scoping, Discovery, etc.), but all meetings represent opportunities for FEMA, community officials, study contractors, and other invited guests to discuss the planning for and results of the project.

Table 29: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Bardolph, Village of	Pending	10/13/2020	Other	FEMA, IEMA, ISWS, McDonough County ESDA, Prairie Hills Resource Conservation & Development, Spring Lake Management, WIU GIS Center, and the community
		5/18/2023	Flood Risk Review	FEMA, IDNR-OWR, ISWS, McDonough County ESDA, Prairie Land Conservancy, and WIU GIS Center
		TBD	CCO	*
		TBD	Other	*
Blandinsville, Village of	Pending	10/13/2020	Other	FEMA, IEMA, ISWS, McDonough County ESDA, Prairie Hills Resource Conservation & Development, Spring Lake Management, WIU GIS Center, and the community
		5/18/2023	Flood Risk Review	FEMA, IDNR-OWR, ISWS, McDonough County ESDA, Prairie Land Conservancy, and WIU GIS Center
		TBD	CCO	*
		TBD	Other	*
Bushnell, City of	Pending	10/13/2020	Other	FEMA, IEMA, ISWS, McDonough County ESDA, Prairie Hills Resource Conservation & Development, Spring Lake Management, WIU GIS Center, and the community
		5/18/2023	Flood Risk Review	FEMA, IDNR-OWR, ISWS, McDonough County ESDA, Prairie Land Conservancy, and WIU GIS Center
		TBD	CCO	*
		TBD	Other	*
Colchester, City of	Pending	10/13/2020	Other	FEMA, IEMA, ISWS, McDonough County ESDA, Prairie Hills Resource Conservation & Development, Spring Lake Management, and WIU GIS Center
		5/18/2023	Flood Risk Review	FEMA, IDNR-OWR, ISWS, McDonough County ESDA, Prairie Land Conservancy, and WIU GIS Center
		TBD	CCO	*
		TBD	Other	*

* To Be Determined

Table 29: Community Meetings (continued)

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Good Hope, Village of	Pending	10/13/2020	Other	FEMA, IEMA, ISWS, McDonough County ESDA, Prairie Hills Resource Conservation & Development, Spring Lake Management, WIU GIS Center, and the community
		5/18/2023	Flood Risk Review	FEMA, IDNR-OWR, ISWS, McDonough County ESDA, Prairie Land Conservancy, and WIU GIS Center
		TBD	CCO	*
		TBD	Other	*
Industry, Village of	Pending	10/13/2020	Other	FEMA, IEMA, ISWS, McDonough County ESDA, Prairie Hills Resource Conservation & Development, Spring Lake Management, and WIU GIS Center
		5/18/2023	Flood Risk Review	FEMA, IDNR-OWR, ISWS, McDonough County ESDA, Prairie Land Conservancy, and WIU GIS Center
		TBD	CCO	*
		TBD	Other	*
Macomb, City of	Pending	10/13/2020	Other	FEMA, IEMA, ISWS, McDonough County ESDA, Prairie Hills Resource Conservation & Development, Spring Lake Management, WIU GIS Center, and the community
		5/18/2023	Flood Risk Review	FEMA, IDNR-OWR, ISWS, McDonough County ESDA, Prairie Land Conservancy, WIU GIS Center, and the community
		TBD	CCO	*
		TBD	Other	*
McDonough County Unincorporated Areas	Pending	10/13/2020	Other	FEMA, IEMA, ISWS, McDonough County ESDA, Prairie Hills Resource Conservation & Development, Spring Lake Management, WIU GIS Center, and the community
		5/18/2023	Flood Risk Review	FEMA, IDNR-OWR, ISWS, McDonough County ESDA, Prairie Land Conservancy, WIU GIS Center, and the community
		TBD	CCO	*
		TBD	Other	*
Plymouth, Village of	Pending	10/13/2020	Other	FEMA, IEMA, ISWS, McDonough County ESDA, Prairie Hills Resource Conservation & Development, Spring Lake Management, and WIU GIS Center
		5/18/2023	Flood Risk Review	FEMA, IDNR-OWR, ISWS, McDonough County ESDA, Prairie Land Conservancy, and WIU GIS Center
		TBD	CCO	*
		TBD	Other	*

* To Be Determined

Table 29: Community Meetings (continued)

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Prairie City, Village of	Pending	10/13/2020	Other	FEMA, IEMA, ISWS, McDonough County ESDA, Prairie Hills Resource Conservation & Development, Spring Lake Management, and WIU GIS Center
		5/18/2023	Flood Risk Review	FEMA, IDNR-OWR, ISWS, McDonough County ESDA, Prairie Land Conservancy, and WIU GIS Center
		TBD	CCO	*
		TBD	Other	*
Sciota, Village of	Pending	10/13/2020	Other	FEMA, IEMA, ISWS, McDonough County ESDA, Prairie Hills Resource Conservation & Development, Spring Lake Management, and WIU GIS Center
		5/18/2023	Flood Risk Review	FEMA, IDNR-OWR, ISWS, McDonough County ESDA, Prairie Land Conservancy, and WIU GIS Center
		TBD	CCO	*
		TBD	Other	*
Tennessee, Village of	Pending	10/13/2020	Other	FEMA, IEMA, ISWS, McDonough County ESDA, Prairie Hills Resource Conservation & Development, Spring Lake Management, and WIU GIS Center
		5/18/2023	Flood Risk Review	FEMA, IDNR-OWR, ISWS, McDonough County ESDA, Prairie Land Conservancy, and WIU GIS Center
		TBD	CCO	*
		TBD	Other	*

* To Be Determined

SECTION 8.0 – ADDITIONAL INFORMATION

Information concerning the pertinent data used in the preparation of this FIS Report can be obtained by submitting an order with any required payment to the FEMA Engineering Library. For more information on this process, see www.fema.gov.

Table 30 is a list of the locations where FIRMs for McDonough County can be viewed. Please note that the maps at these locations are for reference only and are not for distribution. Also, please note that only the maps for the community listed in the table are available at that particular repository. A user may need to visit another repository to view maps from an adjacent community.

Table 30: Map Repositories

Community	Address	City	State	Zip Code
Bardolph, Village of	McDonough County Highway Department, 204 South Western Avenue	Macomb	IL	61455
Blandinsville, Village of	Village Hall, 305 West Water Street	Blandinsville	IL	61420
Bushnell, City of	City Hall, 138 East Hail Street	Bushnell	IL	61422
Colchester, City of	City Hall, 500 East Roberts Street	Colchester	IL	62326
Good Hope, Village of [1]	Village Hall, 175 North Chestnut Street	Good Hope	IL	61438
Industry, Village of	Village Hall, 103 North Downen Street	Industry	IL	61440
Macomb, City of	City Hall, 232 East Jackson Street	Macomb	IL	61455
McDonough County Unincorporated Areas	McDonough County Highway Department, 204 South Western Avenue	Macomb	IL	61455
Plymouth, Village of [1]	Village Hall, 200 Main Street	Plymouth	IL	62367
Prairie City, Village of [1]	McDonough County Highway Department, 204 South Western Avenue	Macomb	IL	61455
Sciota, Village of [1]	McDonough County Highway Department, 204 South Western Avenue	Macomb	IL	61455
Tennessee, Village of [1]	Village Hall, 207 West Bushnell Street	Tennessee	IL	62374

[1] No Special Flood Hazard Areas Identified

The National Flood Hazard Layer (NFHL) dataset is a compilation of effective FIRM Databases and LOMCs. Together they create a GIS data layer for a State or Territory. The NFHL is updated as studies become effective and extracts are made available to the public monthly. NFHL data can be viewed or ordered from the website shown in Table 31.

Table 31 contains useful contact information regarding the FIS Report, the FIRM, and

other relevant flood hazard and GIS data. In addition, information about the State NFIP Coordinator and GIS Coordinator is shown in this table. At the request of FEMA, each Governor has designated an agency of State or territorial government to coordinate that State's or territory's NFIP activities. These agencies often assist communities in developing and adopting necessary floodplain management measures. State GIS Coordinators are knowledgeable about the availability and location of State and local GIS data in their state.

Table 31: Additional Information

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	www.fema.gov/flood-maps/products-tools/know-your-risk/engineers-surveyors-architects
NFIP website	www.fema.gov/flood-insurance
NFHL Dataset	msc.fema.gov
FEMA Region V	536 South Clark Street, 6th Floor Chicago, IL 60605 (312) 408-5500
Other Federal Agencies	
USGS website	www.usgs.gov
Hydraulic Engineering Center website	www.hec.usace.army.mil
State Agencies and Organizations	
State NFIP Coordinator	Erin C. Conley Illinois Department of Natural Resources One Natural Resources Way Springfield, IL 62702-1271 (217) 782-4428 erin.c.conley@illinois.gov
State GIS Coordinator	Mark Yacucci Illinois State Geological Survey 615 East Peabody Drive Champaign, IL 61820 (217) 265-0747 yacucci@illinois.edu

SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES

Table 32 includes sources used in the preparation of and cited in this FIS Report as well as additional studies that have been conducted in the study area.

Table 32: Bibliography and References

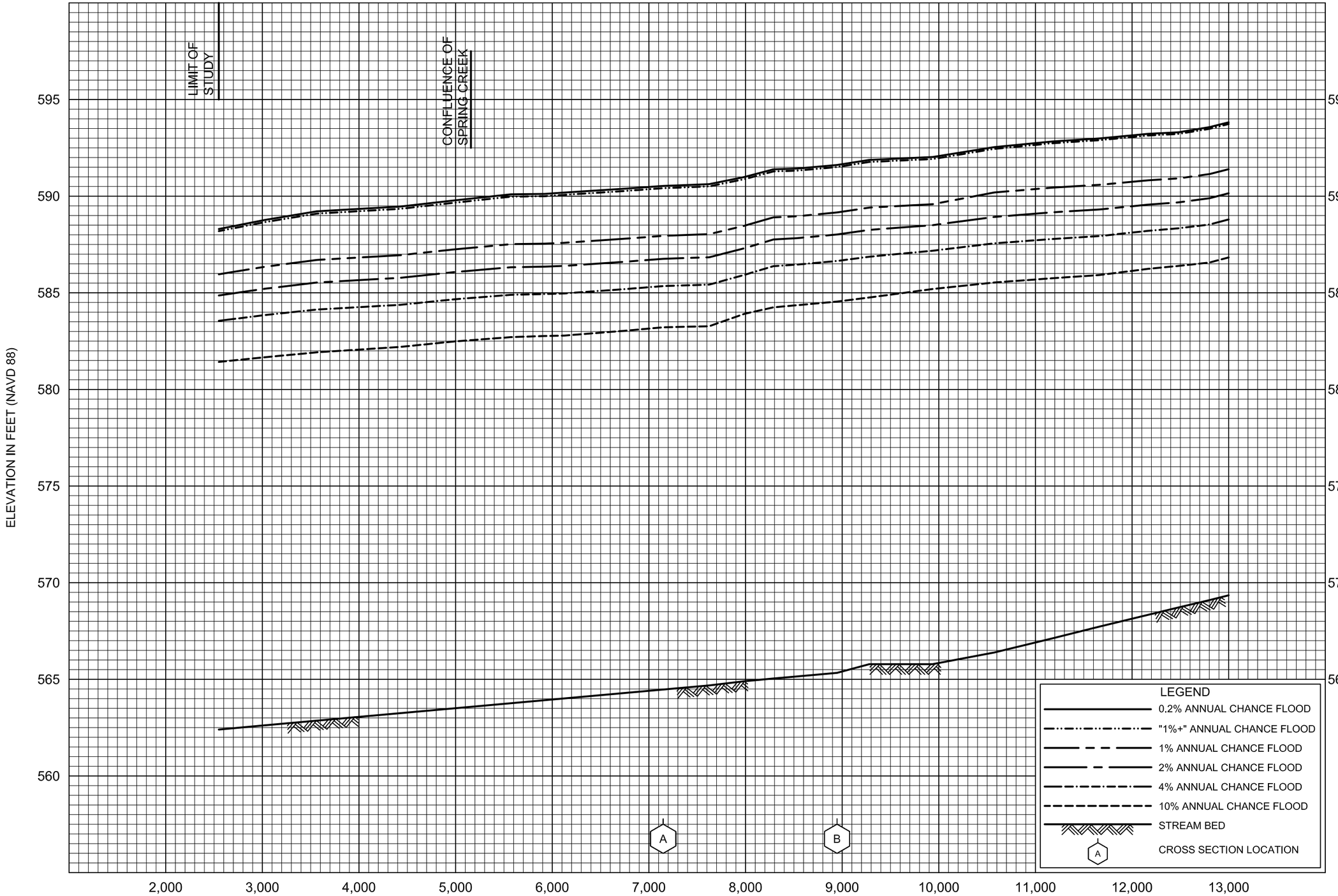
Citation in this FIS	Publisher/ Issuer	*Publication Title,* "Article," Volume, Number, etc.	Author/ Editor	Place of Publication	Publication Date / Date of Issuance	Link
FAA 2022	Federal Aviation Administration	*Runways*		Silver Spring, MD	May 19, 2022	https://adds-faa.opendata.arcgis.com
FEMA 1976	Federal Emergency Management Agency	*Flood Hazard Boundary Map, City of Bushnell, Illinois, McDonough County*		Washington, DC	August 20, 1976	https://msc.fema.gov
FEMA 1981	Federal Emergency Management Agency	*Flood Hazard Boundary Map, McDonough County, Illinois, Unincorporated Areas*		Washington, DC	January 2, 1981	https://msc.fema.gov
IDOT 2021	Illinois Department of Transportation	*Illinois Highway System*		Springfield, IL	2021	https://idot.illinois.gov
ISGS 2003	Illinois State Geological Survey	*Illinois Public Land Survey System*		Champaign, IL	April 2003	https://clearinghouse.isgs.illinois.edu
ISGS 2012	Illinois State Geological Survey	*2011/2012 Digital Terrain Model (DTM) for McDonough County, Illinois*		Champaign, IL	March 28, 2013	https://clearinghouse.isgs.illinois.edu
ISGS 2022	Illinois State Geological Survey	*2022 Digital Terrain Model (DTM) for McDonough County, Illinois*		Champaign, IL	February 8, 2023	https://clearinghouse.isgs.illinois.edu
ISWS 2020	Illinois State Water Survey	*Illinois State Water Survey Bulletin 75: Precipitation Frequency Study for Illinois*	James R. Angel, Momcilo Markus, Kexuan Ariel Wang, Brian M. Kerschner, Shailendra Singh	Champaign, IL	March 2020	http://hdl.handle.net/2142/106653

Table 32: Bibliography and References (continued)

Citation in this FIS	Publisher/ Issuer	*Publication Title,* "Article," Volume, Number, etc.	Author/ Editor	Place of Publication	Publication Date / Date of Issuance	Link
ISWS 2023a	Illinois State Water Survey	*Hydrologic and Hydraulic Modeling and Floodplain Mapping for McDonough County, Illinois (Zone A - Approximate Studies)*		Champaign, IL	September 18, 2023	
ISWS 2023b	Illinois State Water Survey	*Hydrologic and Hydraulic Modeling and Floodplain Mapping for East Fork La Moine River, Killjordan Creek, and Spring Creek in McDonough County, Illinois*		Champaign, IL	June 8, 2023	
MCV 2013	The McDonough County Voice	*Sheriff, mayor reflect on flood response after historic rain event*	Dave Gong	Macomb, IL	April 19, 2013	https://www.mcdonoughvoice.com/story/news/local/2013/04/20/sheriff-mayor-reflect-on-flood/48936609007
NOAA 2023	National Oceanic and Atmospheric Administration	*Storm Events Database*		unknown	September 11, 2023	https://www.ncdc.noaa.gov/stormevents
USACE 2016	U.S. Army Corps of Engineers Hydrologic Engineering Center	*HEC-RAS River Analysis System User's Manual*		Davis, CA	2016	https://www.hec.usace.army.mil
USACE 2018	U.S. Army Corps of Engineers Hydrologic Engineering Center	*HEC-HMS version 4.3*		Davis, CA	September 2018	https://www.hec.usace.army.mil
USACE 2023	U.S. Army Corps of Engineers	*National Levee Database*		unknown	July 5, 2023	https://levees.sec.usace.army.mil
USCB 2022	U.S. Census Bureau	*2021 TIGER/Line Shapefiles*		Washington, DC	September 2022	https://www.census.gov
USGS 1989	U.S. Geological Survey	*USGS 7.5-Minute Series Topographic Maps*		Sioux Falls, SD	1989	https://nationalmap.gov

Table 32: Bibliography and References (continued)

Citation in this FIS	Publisher/ Issuer	*Publication Title,* "Article," Volume, Number, etc.	Author/ Editor	Place of Publication	Publication Date / Date of Issuance	Link
USGS 2004	U.S. Geological Survey	*Estimating Flood-Peak Discharge Magnitudes and Frequencies for Rural Streams in Illinois, Science Investigations Report 2004-5103*	David T. Soong, Audrey L. Ishii, Jennifer B. Sharpe, Charles F. Avery	Reston, VA	2004	https://doi.org/10.3133/sir20045103
USGS 2020	U.S. Geological Survey	*USGS National Map: Orthoimagery*		unknown	October 2020	https://nationalmap.gov
USGS 2022	U.S. Geological Survey	*Stream Gages*		Reston, VA	November 11, 2022	https://waterdata.usgs.gov
USGS 2023	U.S. Geological Survey	*National Hydrography Dataset*		Reston, VA	March 6, 2023	https://www.usgs.gov
WIU 2023	Western Illinois University	*McDonough County Corporate Boundaries*		Macomb, IL	March 20, 2023	



FLOOD PROFILES

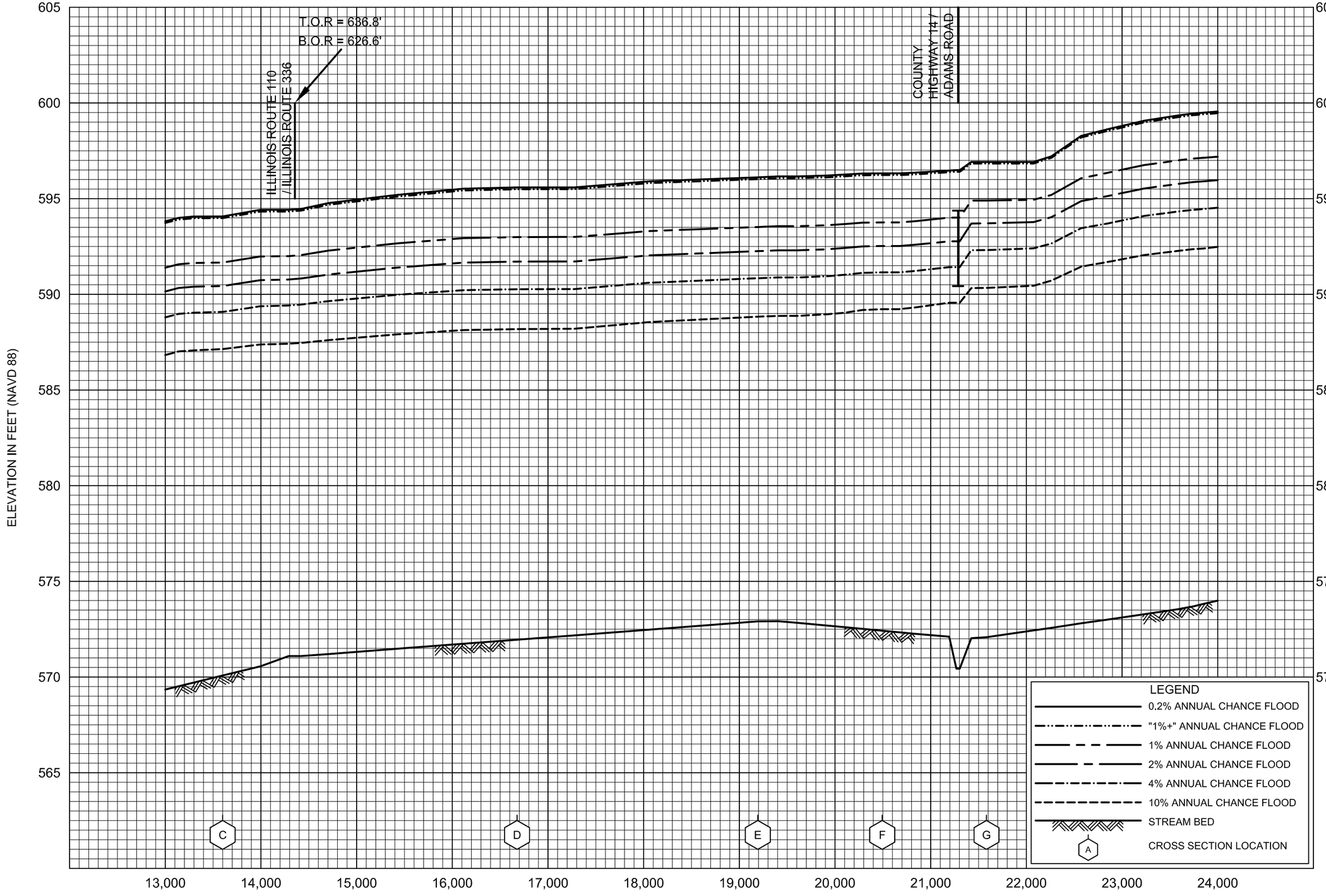
EAST FORK LA MOINE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

01P



FLOOD PROFILES

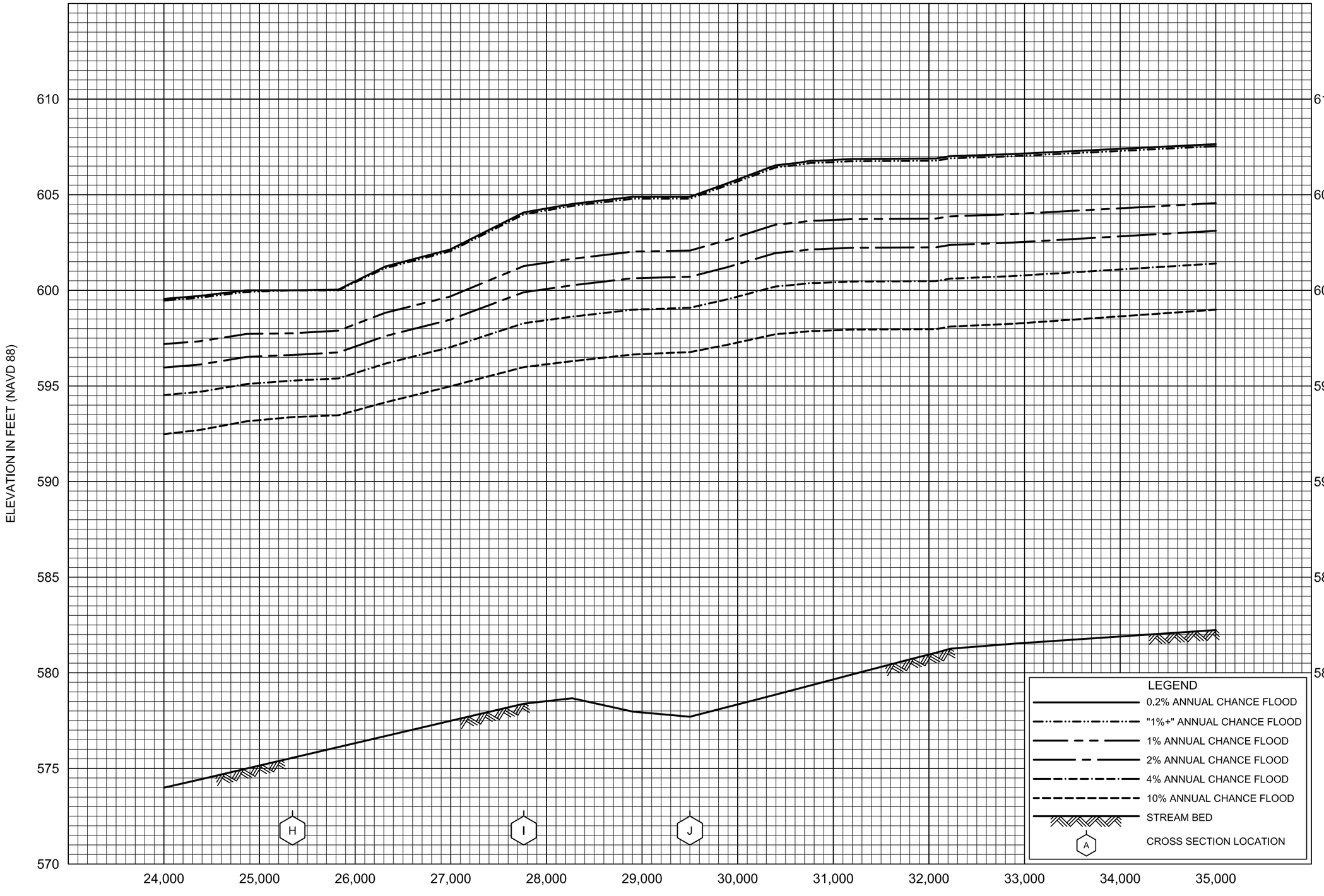
EAST FORK LA MOINE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

02P



FLOOD PROFILES

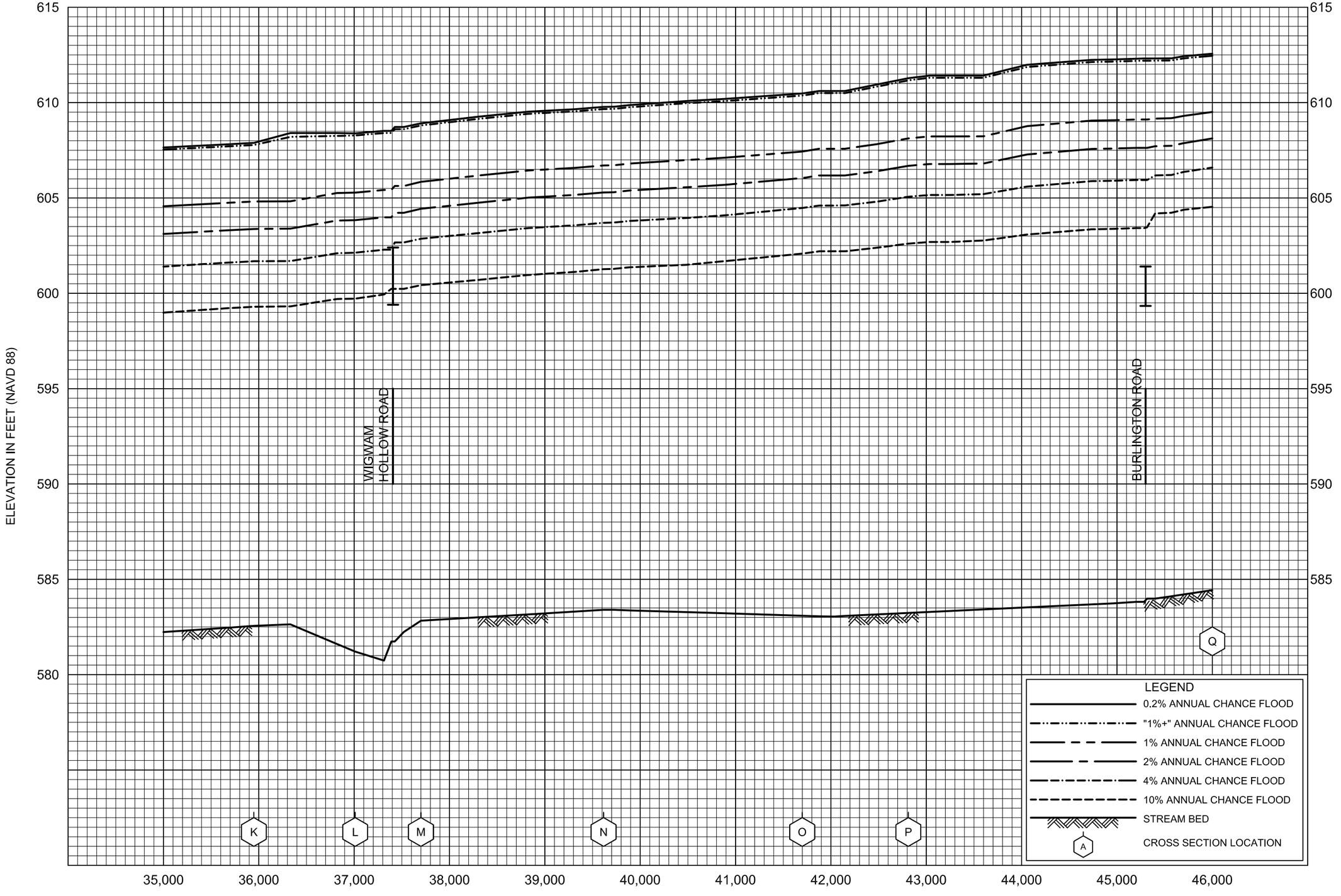
EAST FORK LA MOINE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

03P



FLOOD PROFILES

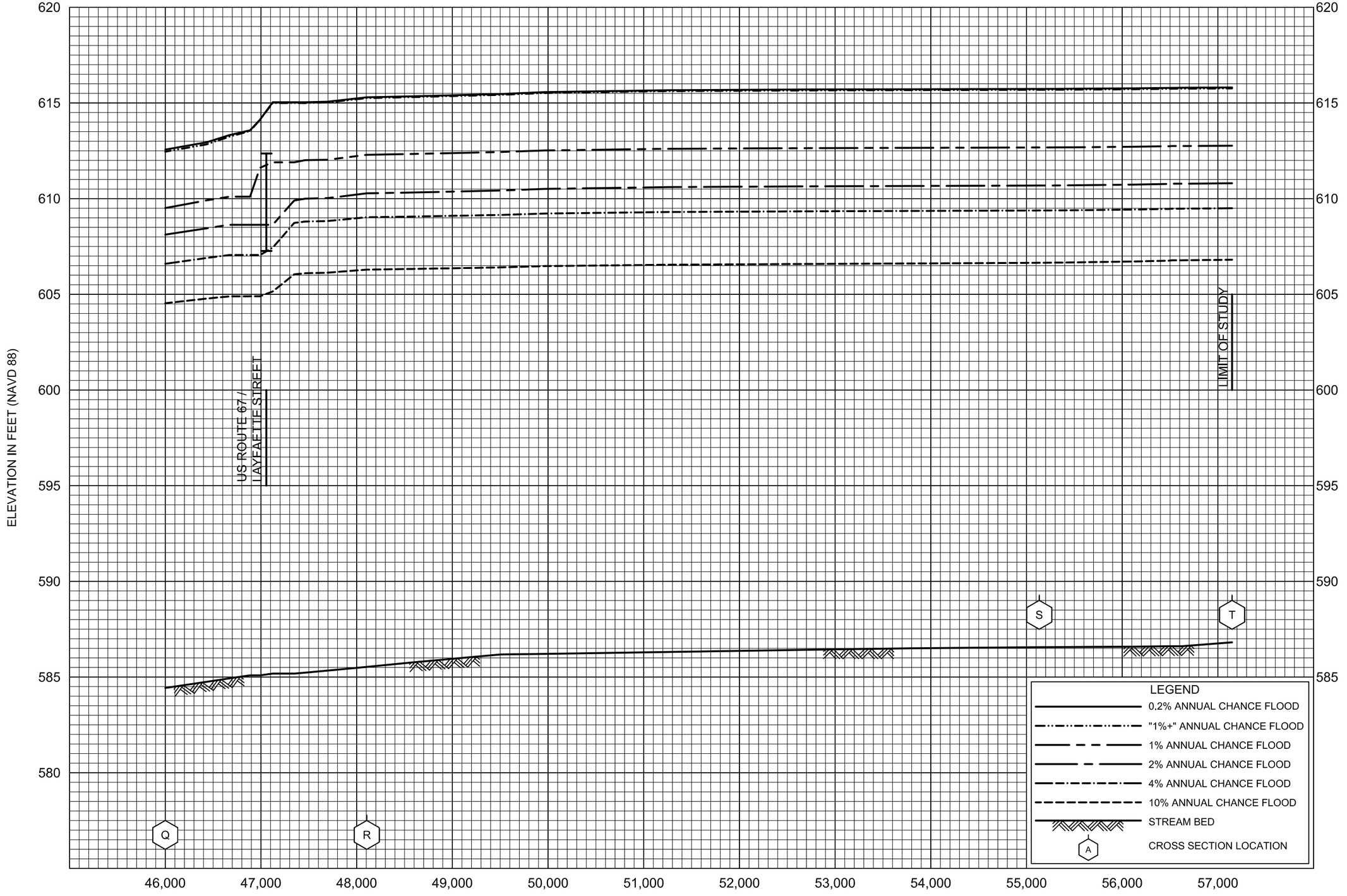
EAST FORK LA MOINE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

04P



FLOOD PROFILES

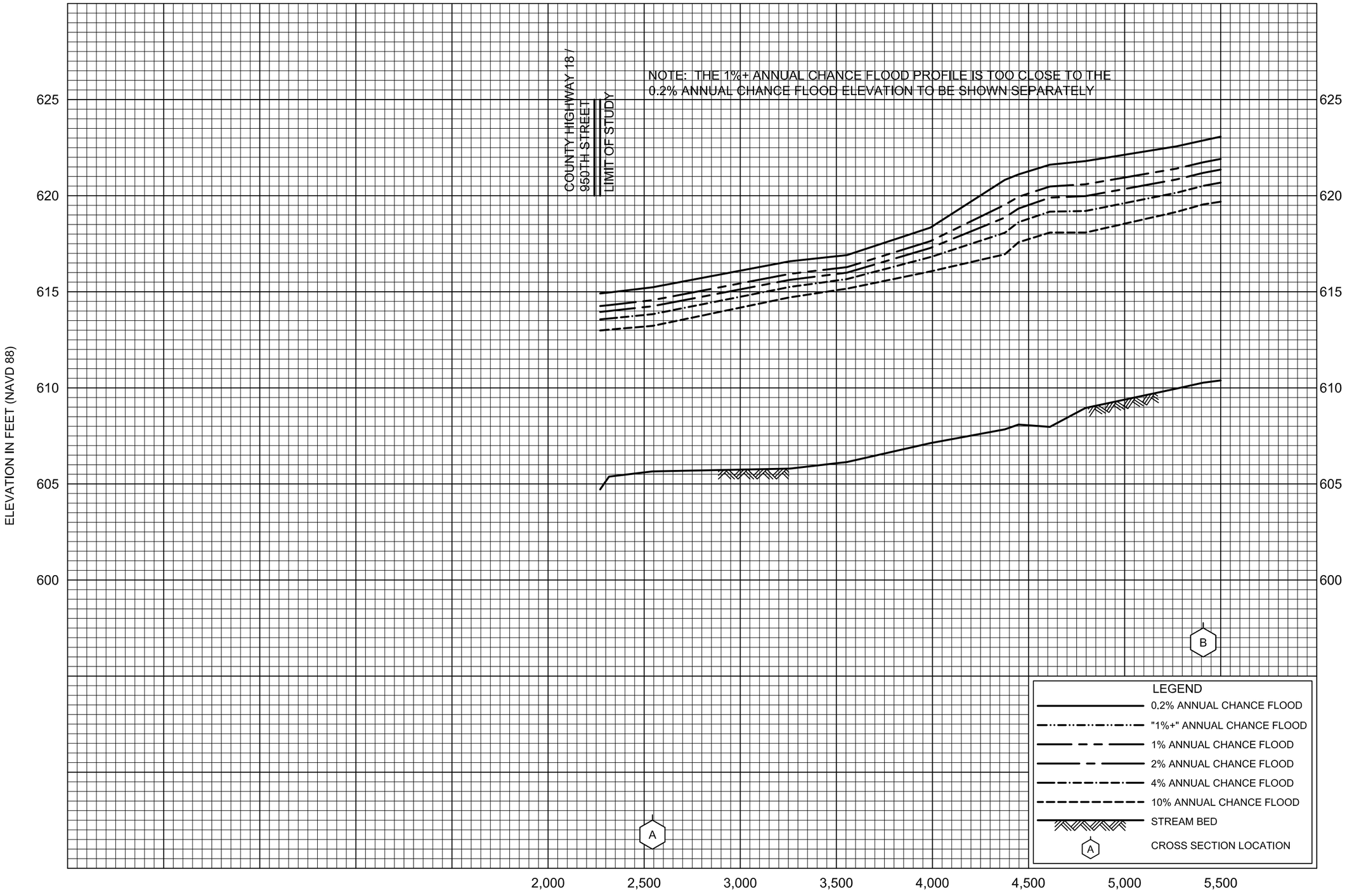
EAST FORK LA MOINE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

05P



FLOOD PROFILES

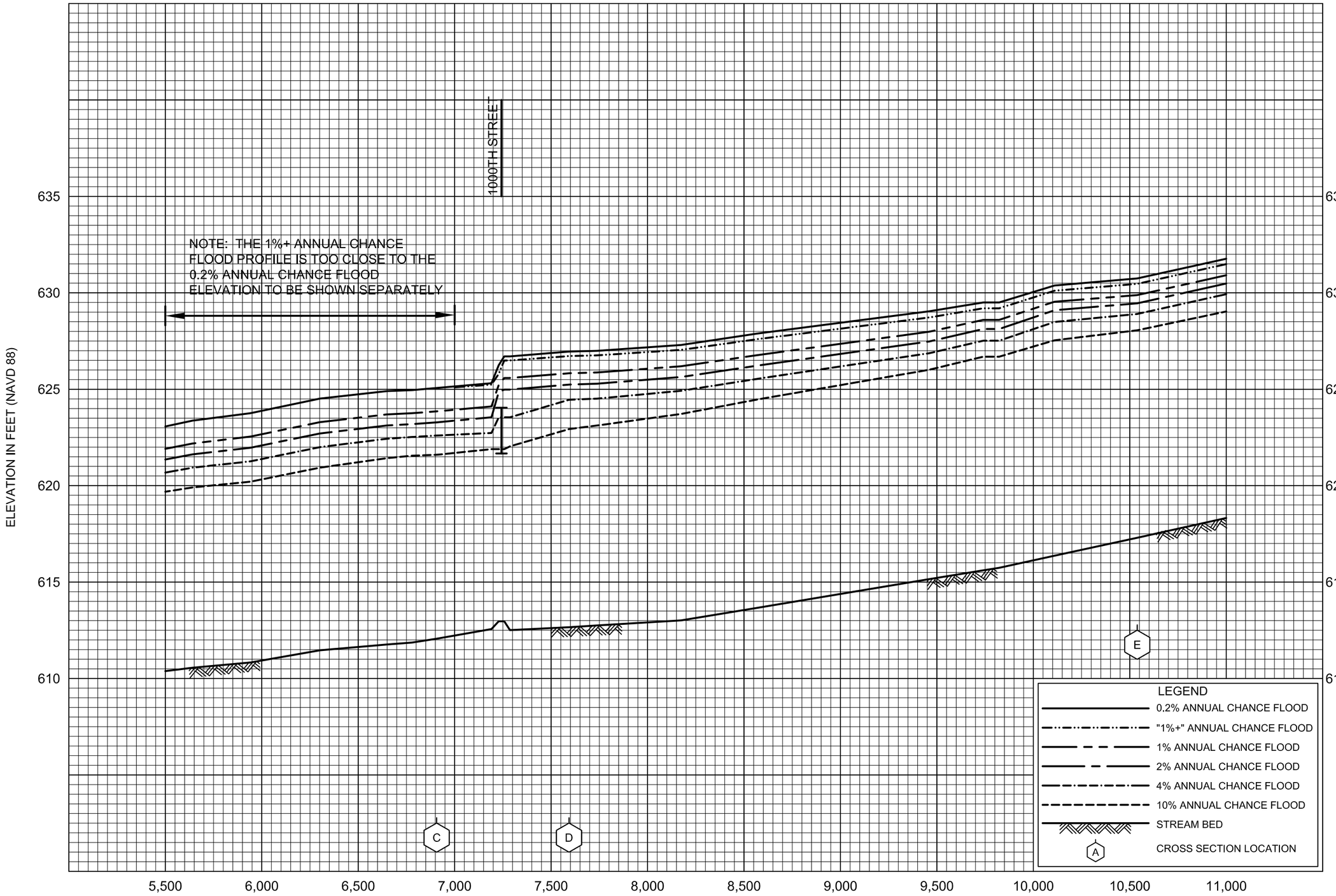
KILLJORDARN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

06P



FLOOD PROFILES

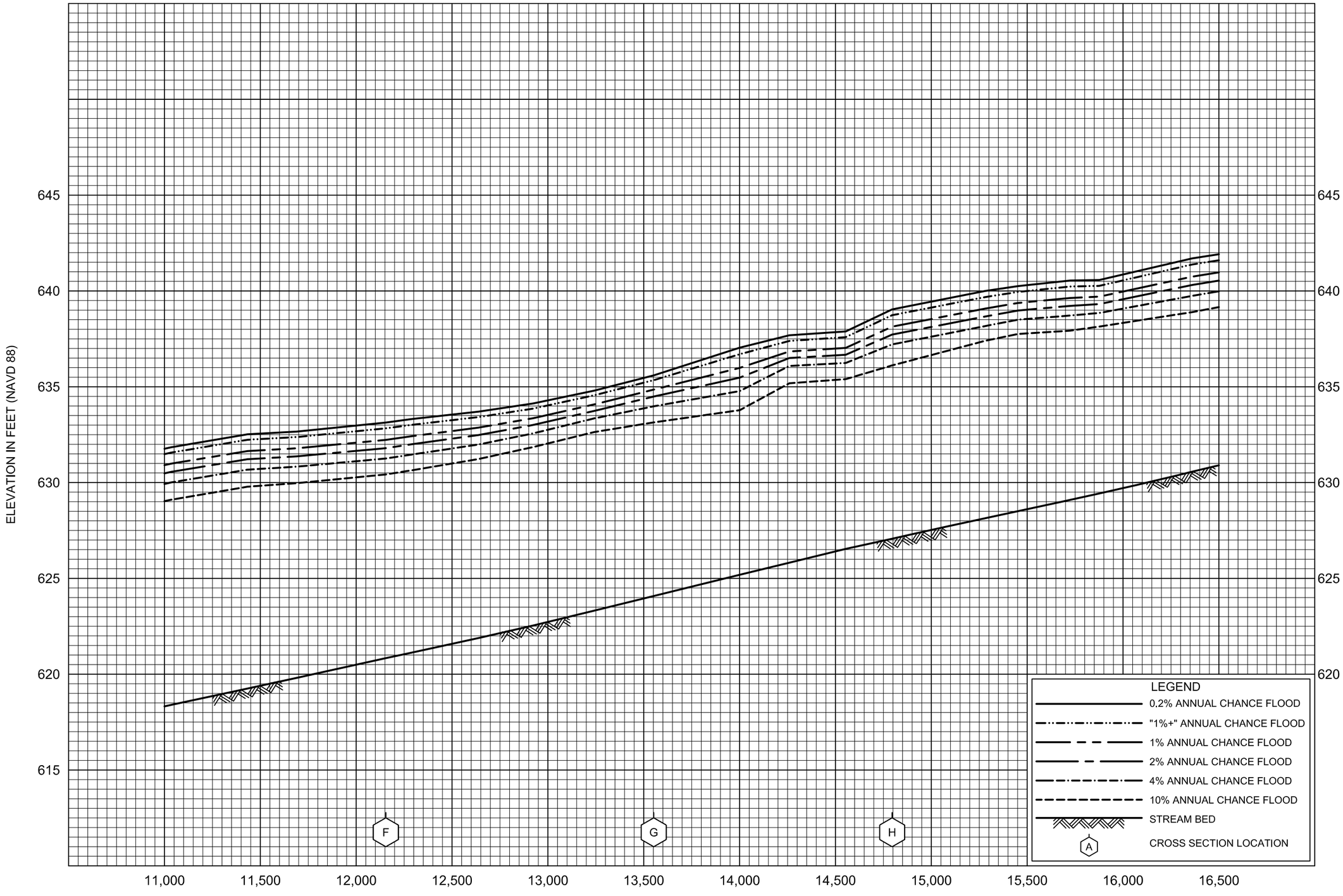
KILLJORDARN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

07P



FLOOD PROFILES

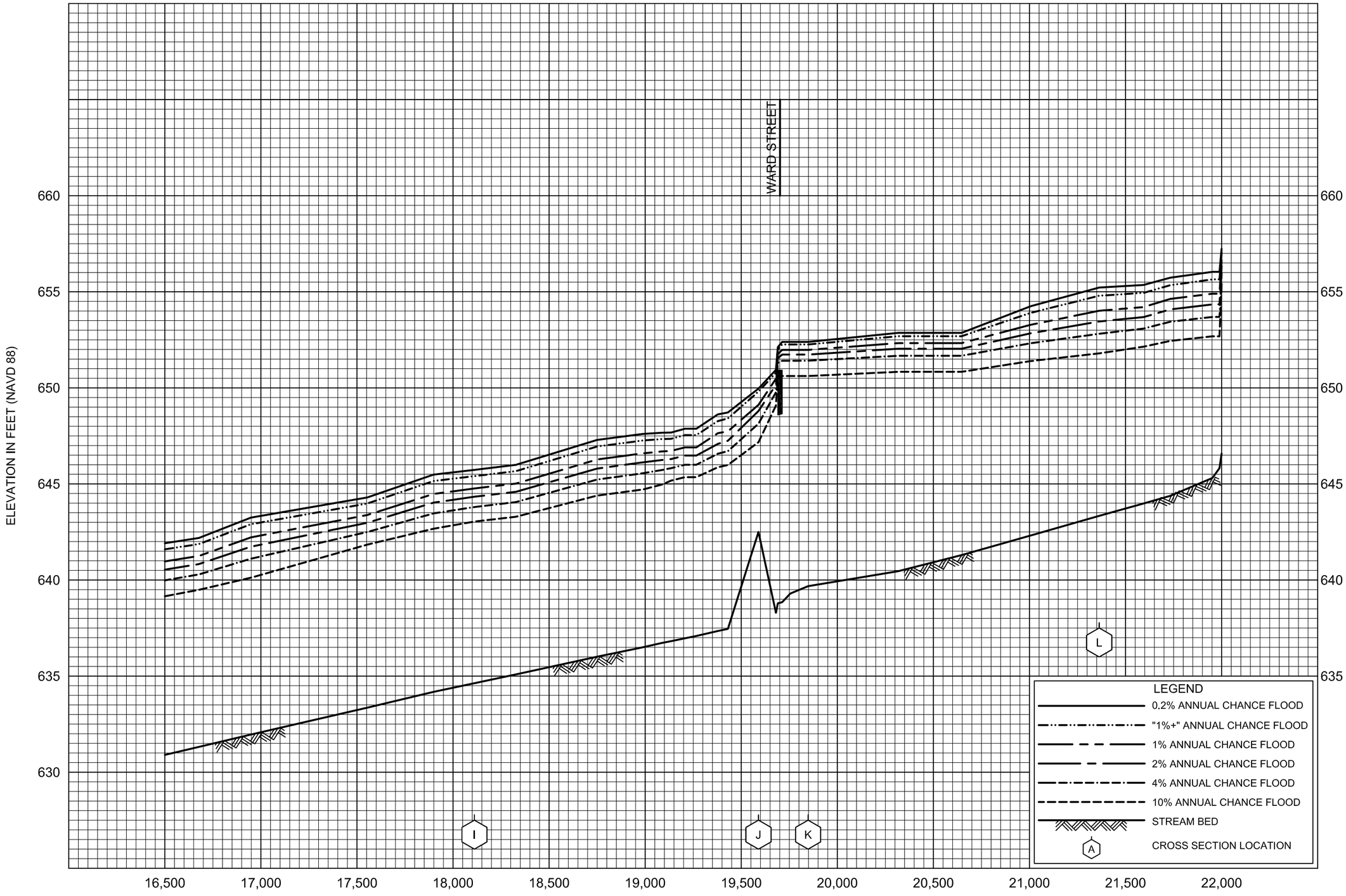
KILLJORDARN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

08P



FLOOD PROFILES

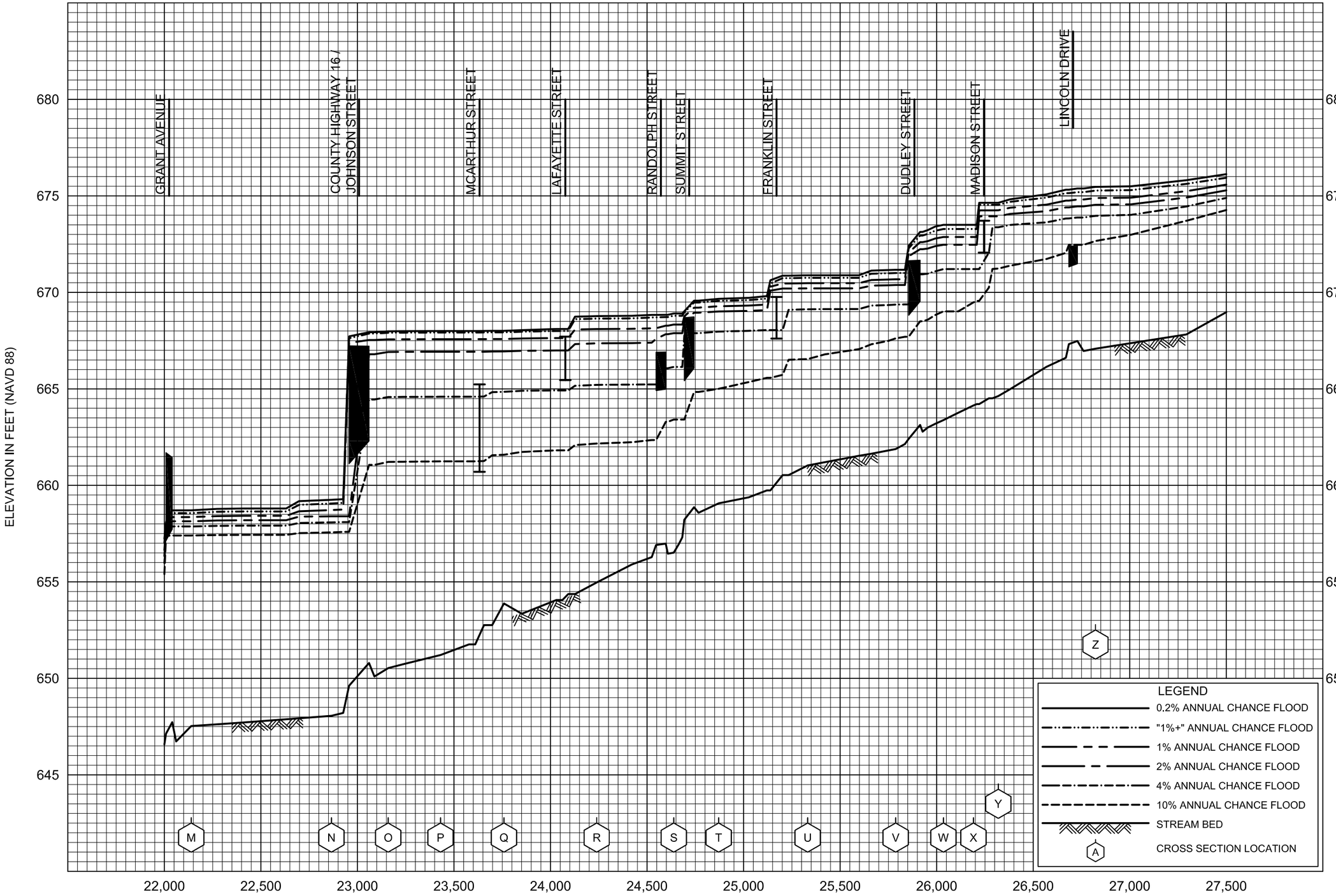
KILLJORDARN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

09P



FLOOD PROFILES

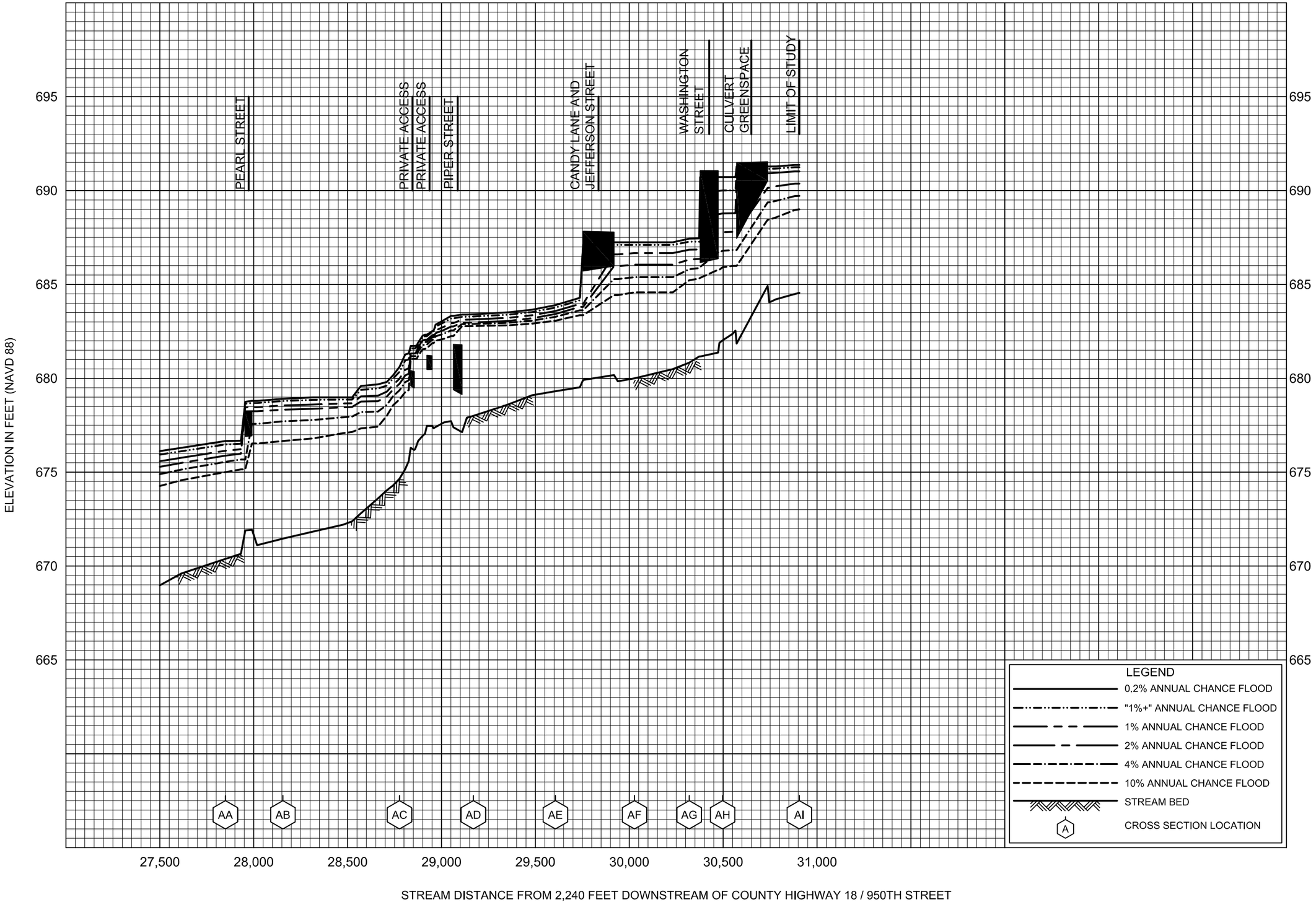
KILLJORDARN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

10P



FLOOD PROFILES

KILLJORDARN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

11P

NOTE: THE 1%+ ANNUAL CHANCE FLOOD PROFILE IS TOO CLOSE TO THE 0.2% ANNUAL CHANCE FLOOD ELEVATION TO BE SHOWN SEPARATELY

LIMIT OF STUDY

COUNTY ROUTE 20

SPRING LAKE DAM

ELEVATION IN FEET (NAVD 88)

670
660
650
640
630
620
610
600

23,000 24,000 25,000 26,000 27,000 28,000 29,000 30,000 31,000 32,000 33,000 34,000

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH EAST FORK LA MOLINE RIVER

A B C D

LEGEND
- 0.2% ANNUAL CHANCE FLOOD
- "1%+" ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 4% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- A CROSS SECTION LOCATION

FLOOD PROFILES

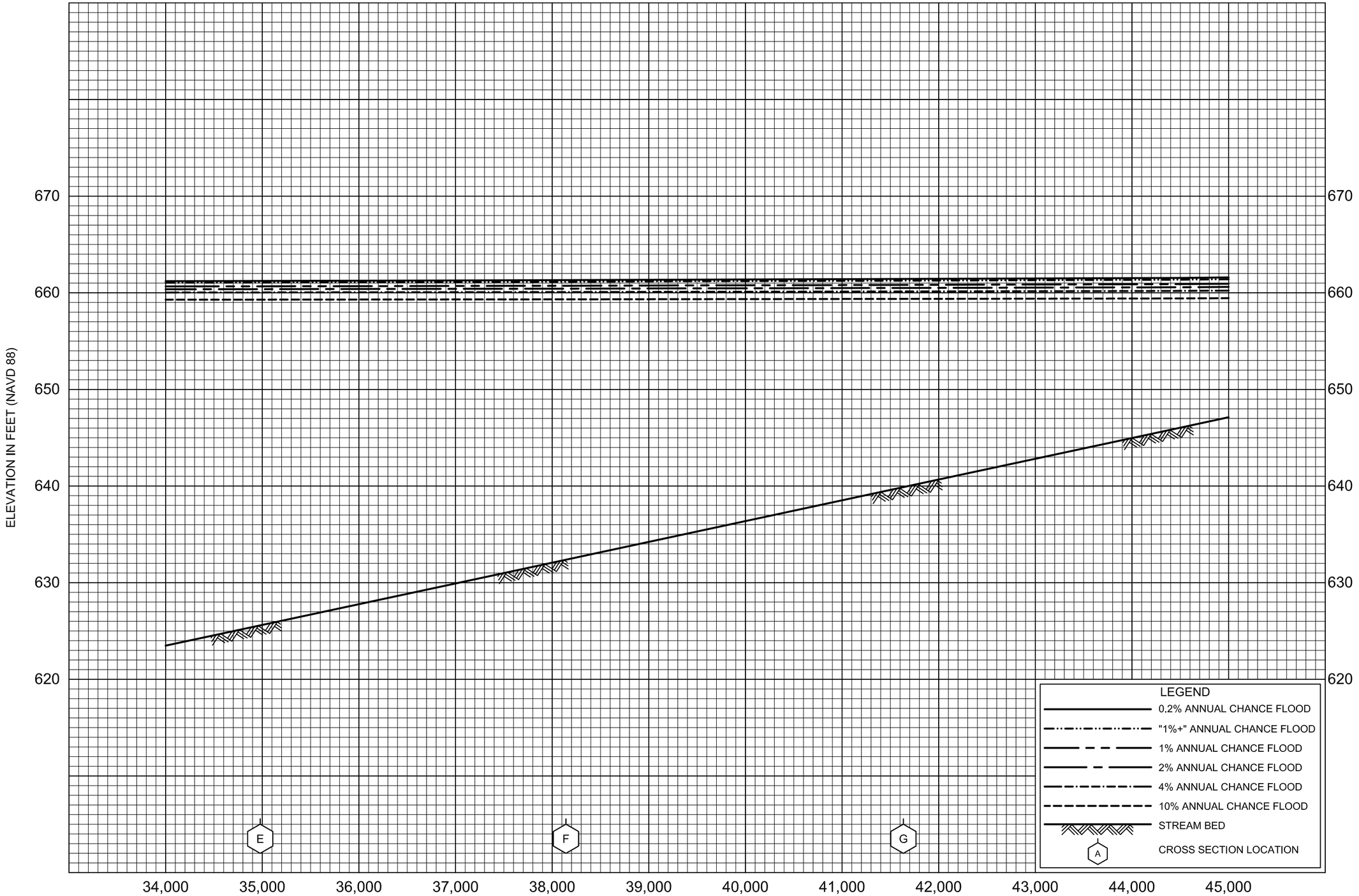
SPRING CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

12P



FLOOD PROFILES

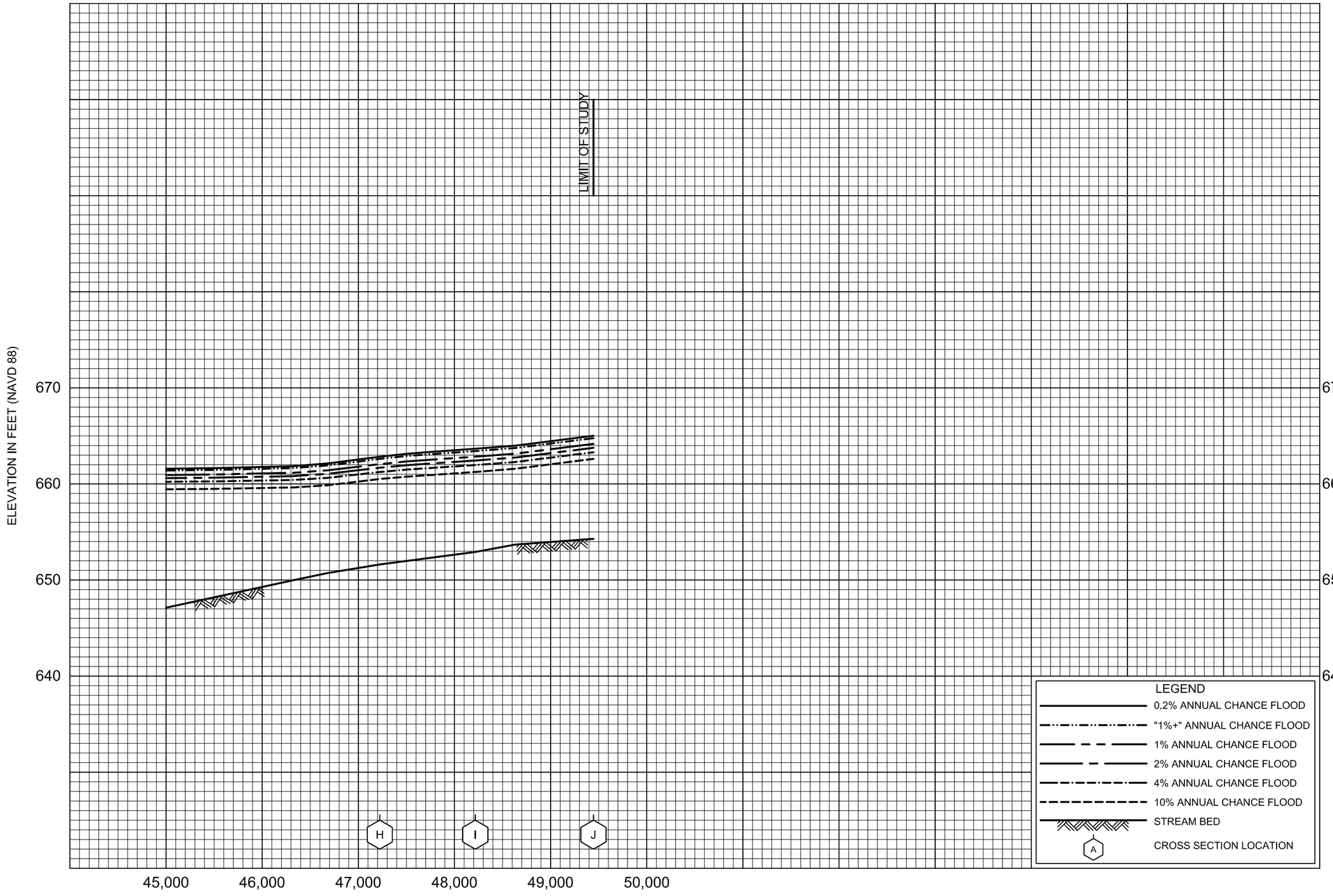
SPRING CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

13P



FLOOD PROFILES

SPRING CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MCDONOUGH COUNTY, IL

AND INCORPORATED AREAS

14P