# FLOOD INSURANCE STUDY

# DODGE COUNTY, WISCONSIN
## AND INCORPORATED AREAS

| COMMUNITY NAME | COMMUNITY NUMBER |
|---|---|
| BEAVER DAM, CITY OF | 550095 |
| BROWNSVILLE, VILLAGE OF | 550096 |
| * CLYMAN, VILLAGE OF | 550447 |
| COLUMBUS, CITY OF | 550058 |
| DODGE COUNTY (UNINCORPORATED AREAS) | 550094 |
| FOX LAKE, CITY OF | 550097 |
| HARTFORD, CITY OF | 550473 |
| HORICON, CITY OF | 550098 |
| HUSTISFORD, VILLAGE OF | 550557 |
| * IRON RIDGE, VILLAGE OF | 550100 |
| * JUNEAU, CITY OF | 550448 |
| KEKOSKEE, VILLAGE OF | 550101 |
| * LOMIRA, VILLAGE OF | 550449 |
| LOWELL, VILLAGE OF | 550102 |
| MAYVILLE, CITY OF | 550103 |
| NEOSHO, VILLAGE OF | 550104 |
| * RANDOLPH, VILLAGE OF | 550072 |
| REESEVILLE, VILLAGE OF | 550105 |
| THERESA, VILLAGE OF | 550106 |
| WATERTOWN, CITY OF | 550107 |
| WAUPUN, CITY OF | 550108 |

* NO SPECIAL FLOOD HAZARD AREAS IDENTIFIED IN DODGE COUNTY

April 19, 2010

**Federal Emergency Management Agency**

**Flood Insurance Study Number**

**55027CV000A**

**NOTICE TO**

**FLOOD INSURANCE STUDY USERS**

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the Community Map Repository. Please contact the Community Map Repository for any additional data.

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

| Old Zone | New Zone |
|---|---|
| A1 through A99 | AE |
| B | X |
| C | X |

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of this FIS report at any time. In addition, FEMA may revise part of this FIS report by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS report. Therefore, users should consult with community officials and check the Community Map Repository to obtain the most current FIS report components.

Initial Countywide FIS Effective Date: April 19, 2010

Revised Countywide Effective Dates:

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| Maunesha River | 18P |
| Old Mill Creek | 19P-21P |
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# FLOOD INSURANCE STUDY
# DODGE COUNTY, WISCONSIN AND INCORPORATED AREAS

## 1.0 INTRODUCTION

### 1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and updates information on the existence and severity of flood hazards in the geographic area of Dodge County, including the Cities of Beaver Dam, Columbus, Fox Lake, Hartford, Horicon, Juneau, Mayville, Watertown and Waupun; the Villages of Brownsville, Clyman, Hustisford, Iron Ridge, Kekoskee, Lomira, Lowell, Neosho, Randolph, Reeseville, and Theresa; and the unincorporated areas of Dodge County (referred to collectively herein as Dodge County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood-risk data for various areas of the community that will be used to establish actuarial flood insurance rates and to assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program (NFIP) are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

Please note that the City of Watertown is geographically located in Dodge and Jefferson Counties. The City of Waupun is geographically located in Fond du Lac and Dodge Counties. The City of Columbus and the Village of Randolph are geographically located in Dodge and Columbia Counties. The City of Hartford is geographically located in Dodge and Washington Counties. The portions of these communities which are contained within Dodge County are included in this FIS. See the separately printed FIS report and Flood Insurance Rate Maps (FIRMs) for areas outside Dodge County.

Please note that the City of Juneau and the Villages of Clyman, Iron Ridge, Lomira, and Randolph have no special flood hazard areas identified.

In some States or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence, and the State (or other jurisdictional agency) will be able to explain them.

## 1.2 Authority and Acknowledgements

The sources of authority for this FIS are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

This FIS was prepared to include the unincorporated areas and incorporated communities within Dodge County into a countywide FIS. Information on the authority and acknowledgments for each jurisdiction included in this countywide FIS, as compiled from their previously printed FIS reports, is shown below.

| | |
|---|---|
| Beaver Dam, City of: | The hydrologic and hydraulic analysis for the original FIS report effective on October 3, 1983, were performed by Donohue & Associates, Inc., for FEMA, under contract No. EMW-C-0287. That work was completed in September, 1980. |
| Dodge County (Unincorporated Areas): | The hydrologic and hydraulic analyses for the original FIS report effective on December 15, 1980, were performed by the U.S. Geological Survey (USGS) for the Federal Insurance Administration (FIA), under Inter-Agency Agreement No. IAA-H-9-N, Project Order No. 25. That work was completed in June 1979. |
| Fox Lake, City of: | The hydrologic and hydraulic analyses for the original FIS report effective on September 16, 1980, were performed by the USGS for the FIA, under Inter-Agency Agreement No. IAA-H-9-77, Project Order No. 25. That work was completed in October 1978. |
| Horicon, City of: | The hydrologic and hydraulic analyses for the original FIS report effective on February 1980, were performed by the USGS for the FIA, under Inter-Agency Agreement No. IAA-H-9-77, Project Order No. 25. That work was completed in October 1978. |

| | |
|---|---|
| Hustisford, Village of: | The hydrologic and hydraulic analyses for the original FIS report effective on February 1980, were performed by the USGS for the FIA, under Inter-Agency Agreement No. IAA-H-9-77, Project Order No. 25. That work was completed in October 1978. |
| Mayville, City of: | The hydrologic and hydraulic analyses for the original FIS report effective on December 1, 1980, were performed by the USGS for the FIA, under Inter-Agency Agreement No. IAA-H-9-77, Project Order No. 25. That work was completed in April 1979. |
| Neosho, Village of: | The hydrologic and hydraulic analyses for the original FIS report effective on June 15, 1988, were performed by the USGS for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreement No. EMW-85-E-1823. That work was completed in May 1986. |
| Theresa, Village of: | The hydrologic and hydraulic analyses for the original FIS report effective on January 1980, were performed by the USGS for the FIA, under Inter-Agency Agreement No. IAA-H-9-77, Project Order No. 25. That work was completed in October 1978. |
| Watertown, City of: | The hydrologic and hydraulic analyses for the original FIS report effective on December 1, 1980, were performed by the USGS for the FIA, under Inter-Agency Agreement No. IAA-H-9-77, Project Order No. 25. That work was completed in April 1979. |

The authority and acknowledgments for the Villages of Brownsville, Iron Ridge, Kekoskee, Lowell, Reeseville, are not included because there were no previously printed FIS reports for these communities.

This countywide FIS includes new hydrologic and hydraulic studies on the following streams: Beaver Dam River, Libby Creek, Old Mill Creek, Park Creek, Pratt Creek and Unnamed Tributary to Rock River. It also includes new analysis of Fox Lake. The hydrologic and hydraulic analyses for all studies but Pratt Creek and Unnamed Tributary to Rock River were performed by Wisconsin Department of Natural Resources (WDNR) and Ayres Associates, for FEMA, under Contract No. NMH00000763, Project Order No. MAS 07-01. This study was completed in May 2008. Pratt Creek analysis was performed by MSA Professional Services in July 2003 for the Wisconsin Department of Transportation Bureau of Aeronautics. Unnamed Tributary to Rock River was performed by Yaggy Colby Associates in April 2007 for the City of Watertown.

The coordinate system used for the production of the digital FIRM is Universal Transverse Mercator (UTM) zone 16 referenced to the North American Datum of 1983, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMS for adjacent jurisdictions may result in slight positional differences in map features across jurisdictional boundaries. These differences do not affect the accuracy of this FIRM.

## 1.3 Coordination

The initial Consultation Coordination Officer (CCO) meeting for this countywide FIS was held on July 10, 2007, and attended by representatives of FEMA, WDNR and community officials. A final CCO meeting was held on January 15, 2009 with representatives from the communities and WDNR to review the results of the study.

The dates of the initial and final CCO meetings for each jurisdiction included in this countywide FIS, as compiled from their printed FIS reports, are shown in Table 1, "Initial and Final CCO Meetings."

Table 1 - Initial and Final CCO Meetings

| Community | Initial CCO Date | Final CCO Date |
|---|---|---|
| City of Beaver Dam | November 29, 1978 | July 13, 1982 |
| Dodge County (Unincorporated Areas) | December 21, 1976 | June 10, 1980 |
| City of Fox Lake | December 21, 1976 | April 30, 1980 |
| City of Horicon | December 10, 1976 | July 24, 1979 |
| Village of Hustisford | December 10, 1976 | July 24, 1979 |
| City of Mayville | March 19, 1979 | April 30, 1980 |
| Village of Neosho | December 1984 | July 29, 1987 |

Table 1 - Initial and Final CCO Meetings - continued

| Community | Initial CCO Date | Final CCO Date |
|---|---|---|
| Village of Theresa | March 15, 1977 | July 25, 1979 |
| City of Watertown | December 21, 1976 | April 29, 1980 |

## 2.0 AREA STUDIED

### 2.1 Scope of Study

This FIS report covers the geographic area of Dodge County including the incorporated communities listed in Section 1.1. The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development and proposed construction.

At the Scoping meeting held on July 10, 2007, potential flood hazard areas of concern were identified by communities. WDNR performed a validation check on all previously effective detailed study areas. While most areas were considered valid or conservative, Beaver Dam River, Old Mill Creek and Park Creek were identified as a potential need to be restudied. WDNR and the communities determined Park Creek of the highest priority followed by Beaver Dam River, Old Mill Creek and Libby Creek. Pratt Creek was previously studied and included as a leverage study in this scope of work.

The following flooding sources were previously studied by detailed methods and their floodplains redelineated for this countywide FIS:

a. the Crawfish River, from the county boundary near River Road upstream to Old State Highway 73;

b. Davy Creek, from a point 1.2 miles downstream of Lincoln Road upstream to State Highway 67;

c. the East Branch Rock River, from a point approximately 1,500 feet downstream of the Theresa corporate limits to the Theresa corporate limits and from the Mayville extraterritorial limits upstream to Gill Road;

d. the Maunesha River, from the Waterloo corporate limit at the county line to a point 0.34 mile upstream of State Highway 19;

e. Neosho Mill Pond, the entire shoreline, within Dodge County;

f. the Rock River, from the county boundary to the county boundary within the Watertown corporate limits, from State Highway 60 to the Hustisford corporate limits, and from County Highway S to the Horicon corporate limits;

g. the Rubicon River, from the Neosho corporate limits to Neosho Dam;

h. Sinissippi Lake, the shoreline at the Hustiford corporate limit upstream to County Highway S;

i. Silver Creek, from the Watertown corporate limit to a point 0.25 mile upstream of U.S. Highway 16;

j. Spring Brook from approximately 90 feet downstream from Dayton Street to its mouth at the East Branch Rock River.

The following flooding sources were studied by detailed methods for this countywide FIS:

k. Beaver Dam Lake, the entire shoreline, within Dodge County;

l. the Beaver Dam River, from U.S. Highway 151 to Beaver Dam Lake Dam;

m. Fox Lake, the entire shoreline, within Dodge County;

n. Libby Creek, from its mouth at Rock River to 0.5 mile upstream of County Highway I;

o. Old Mill Creek, from the Fox Lake corporate limit upstream to County Highway A;

p. Park Creek, from its mouth at Shaw Brook to Crystal Lake Road;

Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon, by FEMA and WDNR.

The following streams were studied using approximate methods: Alto Creek, Ashippun River, Baker Creek, Beaver Creek, Beaver Dam River, Butler Creek, Calamus Creek, Casper Creek, Clyman Creek, Cold Spring Creek, Crawfish River, Crystal Creek, Davy Creek, Dawson Creek, Dead Creek, Drew Creek, East Branch Rock River, Harris Creek, Hepp Creek, Irish Creek, Kummel Creek, Lau Creek, Limestone Creek, Maunesha River, Mill Creek, Mud Creek, Mud Run, Nolan Creek, Old Mill Creek, Plum Creek, Pratt Creek, Rock River, Rubicon River, Schultz Creek,

Shaw Brook, Silver Creek, Spring Brook, West Branch Milwaukee River, West Branch Rock River, Wildcat Creek and Woodland Creek.

This countywide FIS also incorporates the determination of letters issued by FEMA resulting in map changes (Letters of Map Change, or LOMCs) as shown in Table 2. All letters of Map Revision (LOMRs) and Letters of Map Amendment (LOMAs) incorporated in this study are summarized in the Summary of Map Actions (SOMA) associated with this FIS update. Copies of the SOMA may be obtained from the Community Map Repository.

Table 2 – Letters of Map Change

| Community Identifier | Flooding Source | Case Number | Project ID | Date Issued | Type |
|---|---|---|---|---|---|
| Dodge County, WI | Pratt Creek | 04-05-A339P | Dodge County Airport | 03/10/2005 | 102 |
| City of Watertown, WI | Unnamed Trib to Rock River | 07-05-4832P | Grandview Heights et al | 10/24/2008 | 102 |

## 2.2 Community Description

Dodge County is located in the southeastern part of Wisconsin. Adjacent counties are Columbia County to the west, Dane County to the southwest, Jefferson County to the south, Waukesha County to the southeast, Washington County to the east, Fond du Lac County to the northeast, and Green Lake County to the northwest. The estimated population in 2004 was 88,057 (Reference 1).

Temperatures range from an average high of 85.1 degrees Fahrenheit (F.) to an average low of 58.2 degrees F. in July and from an average high of 30.0 degrees F. to an average low of 10.0 degrees F. in December. The annual precipitation is 34 inches (Reference 2).

The topography of Dodge County consists of gently rolling plains with extensive marshland areas along the major rivers and lakes. As in most of the southeastern Wisconsin, glacial activity has been the most influential force shaping the landscape.

Soils within this region result mostly from atmospheric, chemical, and organic forces working to modify the glacial drift. Soils are generally classed as upload silt loam (Reference 3). Approximately 65 percent of Dodge County is in cropland and more than 10 percent consists of pasture and woodlots (Reference 4). Wetlands cover a moderate area along major rivers.

The Rock River is the major drainage feature of the eastern half of the county. The mainstem and the east branch of the river drain into the Horicon Marsh area. Downstream from Horicon, the river spreads out to form Sinissippi Lake, ending at the Village of Hustisford dam. From the

dam, the river flows south to exit the county. The Crawfish River is the main drainage feature of the western half of the county. It enters along the southwestern boundary with Columbia County and flows southeast to exit along the southern border with Jefferson County. It drains the areas of Fox Lake and Beaver Dam Lake as well as areas adjacent to the river.

The major land use in Dodge County is agriculture, with corn and rotation crops being prevalent. Most of the development is concentrated in or near the incorporated areas of the county. There is little development in the floodplains outside of the incorporated areas of Dodge County. Most of the floodplains are either marshy lowlands or devoted to agriculture.

## 2.3 Principal Flood Problems

Runoff from a combination of snowmelt and rainfall on frozen (impervious) ground and intense thunderstorms are significant factors affecting flooding. The principal flooding problems occur along the lower reaches of the Rock River where backwater flooding can be extensive. However, most of the land inundated is agricultural, and flooding does not create damage to residential or commercial property. Low-lying roads are often inundated.

Drained marshes and lowlands are flooded in the event of any major storm. These areas will not drain until the main watercourses (Rock River or Crawfish River) lower their stage enough to allow drainage from the lowlands.

Flooding occurred on the Beaver Dam River in June 2008 which was the highest ever recorded. Between June 5$^{th}$ and June 13$^{th}$, the National Weather Service reported rainfall amounts on the Beaver Dam watershed of between 12 and 14 inches. The USGS gage 05425912 at the Beaver Dam wastewater treatment plant approximately 0.8 miles downstream of the dam had a recorded peak flow of 1960 cfs. Projecting this flow with the calculated flow frequencies equates to this being a 0.1-percent-annual-chance flow. This gage recorded a peak elevation of 845.5 feet (NAVD88). The previous record highs were 1140 cfs and 843.5 feet (NAVD88) in June of 2004. This event was heavily influenced by the operation of the gates of the dam on Beaver Dam River. They were operated such that once the lake elevation reached 871.0 feet (NAVD88), all stoplogs were pulled and the main gates were fully open.

On August 22, 2007, heavy rain from thunderstorms resulted in scattered flash flood conditions in the Beaver Dam to Horicon area. Hourly rainfall rates peaked around two inches and a total of 3.22 inches from 4:00 pm to 5:20 pm in Watertown. Fast-flowing water depths of one to two feet were reported, as well as basement flood damage in about 20 homes in Beaver

Dam and about 50 homes in Watertown. Sandbagging occurred in Beaver Dam while several homes in Watertown had water flowing in through windows as well as through wall cracks.

On September 12, 2006, 5.1 inches of rain fell at Watertown on already saturated soil. Flash flooding consisted of flooded and closed roads with water depths of one to five feet, flooded basements, and gravel shoulder washouts.

Heavy rains during the period of June 9-12, 2004 kept many rivers and streams above flood stage for most of the month. The Beaver Dam River at Beaver Dam rose above flood stage of 9 feet on June 9$^{th}$ and crested at 10.68 feet on June 14$^{th}$. The river fell below its flood stage on June 25$^{th}$. The Rock River at Horicon rose above flood stage of 8.5 feet on June 12$^{th}$ and crested at 9.06 feet on June 21$^{st}$. Minor basement flood damage impacted 196 homes with an estimated private property damage of two million dollars. Total public infrastructure damage totaled about $800,000 and crop damage of 3 million dollars on 7000 acres.

A major flood of an estimated 1-percent-annual-chance flood occurred in April 1959 on the Rock River below Wildcat Creek. This flood reached an elevation of 856.2 feet in the pool above the dam, 849.9 feet at a point 0.13 mile below the dam, and 848.7 feet at State Highway 60 at the downstream village limit. These high water marks were recorded by a local resident and tied to NGVD29 by the USGS. No significant damage resulted from the flood of April 1959.

Factors which influence flooding on the Rock River include a dam at the outlet of Horicon Marsh in the City of Horicon which is regulated by the Wisconsin Department of Natural Resources to control water levels in the marsh. A dam also is operated by Hustisford to control the level of Sinissippi Lake. Without proper coordination and regulation of the two dams, excessive flood peaks could result.

Old Mill Creek remains within its banks upstream from the dam, even at the 0.2-percent-annual-chance discharge. Downstream of the dam, ponding occurs upstream from the Trenton Street culvert. Downstream from the culvert and carp barrier the terrain flattens out into a wide marsh. The approximate study area of Unnamed Creek near the railroad yard is also a marsh. No development of these marshy areas is likely unless they are filled to a level above the 1-percent-annual-chance flood elevations.

The Rubicon River flows southwest through the Village of Neosho. A small dam near the Highway 67 Bridge forms the Neosho Mill Pond. The Neosho Dam embankment will be overtopped during a 1-percent-annual-chance flood.

**Figure 1. Flood Scenes from June 13, 2008 in Beaver Dam**

The top photo is of the Beaver Dam River from Beaver St looking at the buildings that are on Front St. and the structure that is on Center St. The bottom photo is downstream from the top photo showing residential flooding on the same date. The reported flow at the time of these photos was 1530 cfs

## 2.4 Flood Protection Measures

Several minor structures have been placed along Beaver Dam Lake and Beaver Dam River to lessen the effects of flood flows. Store walls and rip rap protect much of the shoreline and stream banks.

The dam in Horicon is regulated by the WDNR to control water levels in the Horicon Marsh. A dam in the Village of Hustisford, seven miles downstream from Horicon, is operated by the village to control the level of Sinissippi Lake. The WDNR records at the Horicon Dam indicate that at times of high flow it is frequently necessary to open both tainter gates. When this occurs, the dam becomes submerged by backwater from Hustisford and can no longer be considered a control structure. Neither of these dams provides protection against the 1-percent-annual-chance flood. Horicon Marsh and Sinissippi Lake act as storage areas and provide valuable natural flood control.

There are two run-of-river dams in Mayville for the East Branch Rock River: one is just upstream of the bridge at Main Street and the other is approximately 1.1 miles upstream of the first dam. The lower dam has a concrete spillway and one tainter gate. The upstream dam has three tainter gates, a stoplog gate, and three concrete spillway bays. In flood conditions, all the tainter gates are opened wide and the stoplogs removed. Under normal flow conditions, the stoplog gate in the upper dam maintains the water-surface elevations within two feet of the concrete spillway. The dams are insignificant as flood protection measures. Mayville has a shoreland-wetland floodplain zoning code. (Reference 5)

A low head concrete dam just downstream from State Highway 175 controls the East Branch Rock River at low flow stages at the Village of Theresa. At high flow stages the dam is submerged, and the stages are the same on the upstream and downstream sides of the dam. A dam at the outlet of the Theresa Marsh State Wildlife area, two miles upstream from the village limits, significantly reduces the flood peak discharges at Theresa.

The flow of the Rubicon River in Neosho is regulated by the Neosho Dam. There is not sufficient storage in Neosho Mill Pond to significantly reduce the 1-percent-annual-chance discharge.

There are two concrete dams on the Rock River in the City of Watertown, neither of which is significant for flood protection. Stages upstream from the dams are higher than they would be if the dams did not exist. Proposed modifications to the upper and lower dam are expected to have minor hydraulic impact.

Two dams control the stage on Fox Lake. The main Fox Lake Dam was designed to pass the 1-percent-annual-chance flow without adverse impacts. A fish barrier structure at the County Highway "C" bridge just downstream from the Fox Lake Dam also controls Fox lake levels at high flows.

## 3.0 ENGINEERING METHODS

For the flooding sources studied in detail 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 once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent 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 1-percent-annual-chance in any 50-year period is approximately 40 percent (4 in 10), and, 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.

### 3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for floods of the selected recurrence intervals for each flooding source studied in detail affecting the community.

The methods used to determine peak discharge-frequency relationships for the flooding sources newly studied in detail or restudied as part of this countywide FIS are described below.

New hydrologic analyses were performed by the WDNR in 2007 on the following waterways: Beaver Dam River, Libby Creek, Old Mill Creek and Park Creek. Discharges were computed using the Hydrologic Engineering Center Hydrologic Modeling System (HEC-HMS) computer software, version 2.2.2 (Reference 6). For each subbasin, runoff Curve Numbers (CNs) were estimated using 1992 WISCLAND land use data and SSURGO soils data. Times of concentration were estimated using the TR-55 flowpath segment method. The rainfall distribution used was developed by the WDNR and is based on recorded storms 2 inches and larger from

1975 to 2003 at multiple gage locations across the state. This rainfall distribution was used in the HMS built for each basin, and run for the 3, 6, 12, 24 and 48 hour durations to determine the critical duration storm for each subbasin. Rainfall depth was taken from Technical Report No. 40 (TP-40) for each duration. The largest peak discharge was selected as the 'design storm' for the purpose of determining the peak discharge at key points in each watershed, and then used in the hydraulic model to determine the highest possible peak elevation.

A Beaver Dam watershed model was developed using the HEC-HMS hydrologic model (Reference 6). The flooding sources included in the model are Fox Lake, Old Mill Creek, Beaver Dam Lake and Beaver Dam River. The rating curve for Fox Lake was based upon Fox Lake Dam operations, and the rating curve for Beaver Dam Lake was initially based on assumed Beaver Dam Lake Dam operations. The gate operations for the Fox Lake Dam are that the gates will be fully open for the 1-percent-annual-chance flood. Once the lake elevation surpasses normal pool elevation (892.25' NAVD88), the gates are opened until the lake elevation is 0.5 feet above normal pool when they are fully open. The gate operations for the Beaver Dam Lake Dam are similar, such that the stop logs are initially at normal pool elevation (870.9' NAVD88) and then completely removed once the lake elevation increases from normal pool. These operations are taken from each dam's inspection, operation and maintenance (IOM) plan. This model was calibrated to the event at Beaver Dam on June 14, 2004. The flow calculated from the gage downstream of the dam was entered into the HEC River Analysis System (HEC-RAS) (Reference 7) model. Photos of the event at the buildings downstream of the dam were reviewed and an estimated flood elevation was determined from these photos. The HEC-RAS model calculated a flood elevation of within 0.1 feet of the estimated water elevation on June 14, 2004.

Peak discharges were estimated for Old Mill Creek and Beaver Dam River using the HEC-HMS model. The lake levels for Beaver Dam Lake were estimated from the HEC-RAS model used to develop the Beaver Dam Lake rating curve. The lake levels for Fox Lake were estimated as part of the hydraulic analysis for Old Mill Creek. The lake levels for the 10-, 2-, 1-, and 0.2-percent-annual-chance flood events are shown in Table 3, Summary of Stillwater Elevations.

Peak discharges for Libby Creek were estimated using HEC-HMS (Reference 6).

Peak discharges for Park Creek were estimated using HEC-HMS (Reference 6).

For Beaver Dam Lake, Beaver Dam River, Fox Lake, Old Mill Creek, Libby Creek and Park Creek, floodplain storage was taken into account where permanent water bodies existed and throughout each watershed for designated areas on the Wisconsin Wetland Inventory (WWI). The storage-discharge curves were developed by extracting cross sections from the terrain data using HEC-GeoRAS, and running a series of discharges through the HEC-RAS models. It is assumed that no major construction or filling will occur in these areas that would reduce the amount of available storage volume, and therefore the estimates of peak runoff are valid for the future.

Hydrologic analysis for Pratt Creek was performed by MSA Professional Services in July 2003. Values calculated were taken as an average of the regional regression equations and similar basin comparisons.

Hydrologic analysis for Unnamed Tributary to Rock River was performed by Yaggy Colby Associates in April 2007. Values were calculated using the TR-55 method.

The following hydrologic analyses have not changed from the previous FIS analyses for the unincorporated areas and incorporated communities within Dodge County.

The peak discharges for the Crawfish River were modified from those used in the Columbia County, Unincorporated Areas, Wisconsin Flood Insurance Study (Reference 10). The peak discharges were computed for that study at the Crawfish River at the Milford, Wisconsin gaging station using a log-Pearson Type III analysis. The discharges then were modified for use near Columbus using a drainage-area ratio procedure.

The peak discharges for the Maunesha River near Portland were computed using regional flood-frequency equations developed by Conger (Reference 11). They compared well with previously-computed discharges for an upstream site in the Dane County, Unincorporated Areas, Flood Insurance Study (Reference 12).

The peak discharges for Silver Creek upstream from Watertown were computed as part of the Watertown Flood Insurance Study (Reference 13). The discharges were computed using the Conger regional equations (Reference 11) and compared to similar gaged basins.

The peak discharges for Davy Creek near Ashippun were also computed using the Conger regional equations (Reference 11). The peak discharges for the Rock River at the mouth of Davy Creek were taken from the Jefferson County, Unincorporated Areas, Flood Insurance Study

(Reference 14), and modified using a drainage-area ratio for the reach at the mouth of Davy Creek.

The peak discharges for the Rock River downstream from Horicon, Wisconsin, were computed using the Conger equations (Reference 11) at the County Highway S bridge site. These values have previously been reported in the Horicon Flood Insurance Study (Reference 15). These discharges values were reviewed by the WDNR as part of the Horicon study.

The peak discharges for the Rock River downstream from the Hustisford were computed using a combination of methods for the reach below the dam. The dam was rated to establish a stage-discharge relation for Sinissippi Lake. A discharge-frequency curve was established for Wildcat Creek using a regional analysis of basin characteristics. A discharge-frequency curve was established for the Hustisford Dam using extensive historical data. The discharge from the dam was added to the Wildcat Creek discharge to find the total discharge for the study reach. This work was done as part of the Hustisford Flood Insurance Study (Reference 16) and reviewed by the WDNR.

On the Rock River, between Horicon and Hustisford, there is a decrease in peak discharges due to marshy and swampy storage areas along the overbank flooding.

Peak discharges for the East Branch Rock River downstream from Theresa, Wisconsin, were estimated using the Soil Conservation Service (SCS) TR-20 rainfall-runoff model (Reference 17). The model was calibrated against the continuous-gage record downstream at USGS gaging station site No. 05-4240 (located two miles northwest of Mayville at Kekosee Dam), discontinued in 1970.

A USGS streamflow gaging station (no. 05-4240) located on the East Branch Rock River at the Kekoskee Dam, approximately 3 miles downstream of Mayville, was the source of data for defining discharge-frequency relationships for the East Branch Rock River. The gage has been in operation from 1950 through 1970. A Soil Conservation Service (SCS) TR-20 hydrologic model (Reference 17) of the East Branch Rock River was created to evaluate the influence of the Theresa Marsh Dam, 16 miles upstream of the gage, on reducing peak flood discharges. Regulation of the flow at the Theresa Marsh Dam began in 1967. Results of the model showed that although the dam regulation caused approximately a 50-percent reduction in the peak discharge at the Village of Theresa, just downstream of the dam, the peak discharges at the gage were unchanged. The annual peak discharges recorded at the gage were, therefore, caused by runoff from the contributing drainage area

downstream of the Theresa Marsh Dam. The model also verified that before regulation of the dam, the storage available within the marsh attenuated the flow such that runoff from the contributing drainage downstream of the dam caused the recorded peak discharges for observed floods. Statistical analysis of the 10-, 2-, 1-, and 0.2-percent-annual-chance peak discharge values were determined by using the log-Pearson Type III distribution and the U.S. Water Resources Council adjusted skew (Reference 18). The discharges thus determined apply throughout the detailed study reach of the East Branch Rock River in Mayville.

Regional flood-frequency equations developed by Conger were used to compute flood discharge for Spring Brook (Reference 11).

The lake levels for Sinissippi Lake were computed as being equivalent to the amount of backwater at Hustisford Dam from Rock River discharges. The lake levels for the 10-, 2-, 1-, and 0.2-percent-annual-chance flood events are shown in Table 3, "Summary of Stillwater Elevations".

The shoreline flood delineations for the above lakes reflect a calm pool condition. No account was made for wind setup, wave height, or wave run-up.

TABLE 3 - SUMMARY OF STILLWATER ELEVATIONS

| | ANNUAL CHANCE FLOOD ELEVATIONS FT. (NAVD) | | | |
|---|---|---|---|---|
| LOCATION | 10-PERCENT | 2-PERCENT | 1-PERCENT | 0.2-PERCENT |
| Beaver Dam Lake | 872.4 | 873.2 | 873.5 | 874.3 |
| Fox Lake | 895.3 | 895.9 | 896.1 | 897.0 |
| Neosho Mill Pond | * | * | 877.6 | * |
| Sinissippi Lake | 856.4 | 856.7 | 856.8 | 857 |

* Data Not available

The peak discharge for Rubicon River was computed by HEC-1, a rainfall-runoff computer program (Reference 19). The HEC-1 program was run using the 1-percent-annual-chance frequency, 24-hour duration rainfall (Reference 8) with the Huff first quartile median storm distribution (Reference 20).

Peak discharge-drainage area relationships for Dodge County are shown in Table 4, "Summary of Discharges".

## Table 4 – Summary of Discharges

| Flooding Source and Location | Drainage Area (square miles) | Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance | 2-Percent-Annual-Chance | 1-Percent-Annual-Chance | 0.2-Percent-Annual-Chance |
|---|---|---|---|---|---|
| BEAVER DAM RIVER | | | | | |
| At dam | 153.3 | 1,047 | 1,373 | 1,476 | 1,817 |
| CRAWFISH RIVER | | | | | |
| At Columbus, Millpond Dam | 209 | 1,250 | 1,710 | 1,880 | 2,260 |
| DAVY CREEK | | | | | |
| At Ashippun, Lincoln St. Bridge | 5.8 | 174 | 298 | 350 | 500 |
| EAST BRANCH ROCK RIVER | | | | | |
| At USGS gage No. 05-4240 two miles northwest of Mayville | 179 | 2,520 | 3,940 | 4,560 | 6,010 |
| At Theresa downstream corporate limits | 140 | 1,060 | 1,810 | 2,410 | 4,040 |
| LIBBY CREEK | | | | | |
| Mouth at West Branch Rock River | 3.14 | 187 | 332 | 418 | 614 |
| Wild Goose State Trail | 2.52 | 257 | 421 | 510 | 701 |
| 0.25 mile upstream of County Highway I | 2.24 | 235 | 383 | 462 | 631 |
| Upstream extent of detailed study | 1.56 | 169 | 283 | 345 | 481 |
| MAUNESHA RIVER | | | | | |
| Near Portland, Highway 19 bridge | 94 | 1,090 | 1,890 | 2,300 | 3,460 |
| OLD MILL CREEK | | | | | |
| At River Street Dam | 60.8 | 1,133 | 1,287 | 1,357 | 1,581 |
| PARK CREEK | | | | | |
| Mouth at Shaw Brook | 2.54 | 277 | 421 | 549 | 723 |
| County Highway W | 2.12 | 242 | 385 | 496 | 657 |
| State Highway 33 | 1.84 | 198 | 301 | 380 | 493 |
| State Highway 151 | 1.37 | 79 | 125 | 162 | 214 |
| County Highway E | 1.18 | 69 | 107 | 138 | 181 |
| PRATT CREEK | | | | | |
| Sunset Road | 4.49 | * | * | 390 | * |
| Just upstream of Fairfield Road | 0.66 | * | * | 135 | * |
| ROCK RIVER | | | | | |
| At USGS gage No. 05425500 | 971 | 3,750 | 5,620 | 6,470 | 8,560 |
| At mouth of Wildcat Creek near Hustisford | 554 | 3,000 | 3,400 | 3,600 | 4,100 |
| About 680 feet downstream of dam | 511 | 2,800 | 3,100 | 3,200 | 3,400 |
| At County Highway S bridge downstream from Horicon | 462 | 2,700 | 3,700 | 4,200 | 5,200 |
| Approximately 4,900 feet downstream of C, M, St. P & P railroad | 456 | 2,850 | 3,850 | 4,300 | 5,250 |

* Data not available

Table 4 – Summary of Discharges - continued

| Flooding Source and Location | Drainage Area (square miles) | Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance | 2-Percent-Annual-Chance | 1-Percent-Annual-Chance | 0.2-Percent-Annual-Chance |
|---|---|---|---|---|---|
| RUBICON RIVER | | | | | |
| At Neosho Dam | 72.1 | * | * | 1,850 | * |
| SILVER CREEK | | | | | |
| At confluence with Rock River | 22 | 540 | 1,040 | 1,300 | 2,200 |
| SPRING BROOK | | | | | |
| At mouth | 1.9 | 211 | 340 | 400 | 535 |
| UNNAMED TRIBUTARY TO ROCK RIVER | | | | | |
| At County Road CW | 1.4 | 240 | 345 | 392 | 500 |

* Data not available

## 3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of the streams of flooding from sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data tables in the FIS report. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS in conjunction with the data shown on the FIRM.

Cross-section data for the streams studied by detailed methods were field surveyed. Cross sections were located at close intervals above or below bridges and culverts in order to compute the significant backwater effects of these structures. All bridges, dams, and culverts were surveyed to obtain elevation data and structural geometry.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross-section locations are also shown on the FIRM.

The following hydraulic analyses represent new or revised detailed studies included in this countywide FIS.

Cross sections, bridge, dam, and culvert geometry were obtained by field surveys for Beaver Dam River, Libby Creek, Old Mill Creek, Park Creek, Pratt Creek and Unnamed Tributary to Rock River. In all but Pratt Creek and Unnamed Tributary to Rock River, additional cross sections and

overbank cross sections were estimated from LiDAR bare earth point data flown in April 2006.

The water-surface elevations for 10-, 2-, 1-, and 0.2-percent-annual-chance floods for Beaver Dam River, Libby Creek, Old Mill Creek, Park Creek and Unnamed Tributary to Rock River were computed using the USACE HEC-RAS, River Analysis System, software (Reference 7) as well as the 1-percent-annual-chance flood for Pratt Creek.

The starting water surface elevation on the Beaver Dam River was determined using the normal depth method. The modeled water surface elevations upstream of Center Street were verified against a June 14, 2004, storm event with flow on the Beaver Dam River of 1,140 cfs.

The starting water surface elevations on Libby Creek, Old Mill Creek, Park Creek, Pratt Creek and Unnamed Tributary to Rock River were determined using the normal depth method.

Old Mill Creek in Fox Lake has two dam structures, the Fox Lake Dam and a fish barrier at the County Highway "C"/Trenton Street Bridge. Both were modeled in HEC-RAS as in-line spillways. Both dams affect water levels in Fox Lake, because at high flows the fish barrier causes backwater that affects outflows from Fox Lake Dam. The detailed analysis of Old Mill Creek extended upstream of Fox Lake Dam and through the State Highway 33 Bridge. This bridge also affects the water surface elevation in Fox Lake.

The following hydraulic analyses have not changed from the previous FIS analyses for the unincorporated areas and incorporated communities within Dodge County.

Cross sections, bridge, dam, and culvert geometry were obtained by field surveys for Rock River, East Branch Rock River, Crawfish River, Maunesha River, Silver Creek, Rubicon River, Old Mill Creek, Davy Creek, Beaver Dam River, Libby Creek, and Park Creek. Overbank cross sections for the Maunesha River were estimated from USGS topographic maps (Reference 21).

Cross sections for the backwater analyses of the Rock River were located by field reconnaissance and were field surveyed using third-order accuracy. The cross sections were taken at close intervals upstream and downstream of bridges and culverts in order to compute significant backwater effects of those structures.

Overbank cross section data for East Branch Rock River and Spring Brook were obtained from topographic maps with a scale of 1:2,400, and a

contour interval of five feet (Reference 22). Channel geometry and dam and bridge geometry were taken from field surveys.

Starting water-surface elevations for the Crawfish River were obtained from a previous COE report which used a slope-conveyance method (Reference 23). Starting water-surface elevations for the Maunesha River were taken as the 10-percent-annual-chance backwater level induced by the Crawfish River. This 10-percent-annual-chance was computed based on the known rating at the Milford, Wisconsin Gage Station, and by using the average slope of the Crawfish River (taking two bridges into consideration) upstream to the confluence with the Maunesha River.

The starting water-surface elevation for Davy Creek was taken as the 10-percent-annual-chance flood elevation of the Rock River at the mouth of Davy Creek.

Starting water-surface elevations on East Branch Rock River, studied in two reaches, were obtained using the slope-conveyance method, with the upper reach starting water-surface elevation calculated downstream from County Highway AY downstream from Theresa.

Profiles of the 10-, 2-, 1-, and 0.2-percent-annual-chance floods on the East Branch Rock River at Mayville were computed by the standard step method (Reference 24) using the USGS E-431 digital-computer model (Reference 25). The two dams in the city were evaluated using the method described in Techniques of Water-Resources Investigations, Chapter A5, "Measurement of Peak Discharge at Dams by Indirect Method" (Reference 26). Input to the above analyses consisted of stream valley cross sections, bridge and dam geometry, surface roughness, and peak discharge data.

The Rock River was studied in two reaches. For the reach located downstream of Horicon, the starting water-surface elevations were obtained by the slope-conveyance method downstream from the County Highway S Bridge. For the reach downstream from Hustisford, the starting water-surface elevations were obtained from a slope-conveyance method downstream from the State Highway 60 Bridge.

An analysis of the hydraulic characteristics of the Rock River was accomplished to provide estimates of the water-surface elevations of floods for the selected recurrence intervals. These elevations were computed through use of the USGS E-431 step-backwater computer program (Reference 25).

The water-surface profiles for the Rock River were compared with stage-frequency data developed from a statistical analysis of the stage records at

the Horicon gage in order to reflect any adjustments due to the backwater effect of the Horicon dam. Both the step-backwater and stage-frequency analyses indicate that the dam would have negligible effects on upstream water-surface elevations because of the submergence of the spillway.

A rating curve was developed by the USGS for the lower dam based on information received from Stanley Consultants, the engineers who designed the modification for the dam. Water-surface elevations were determined for the upper dam using rating curve information supplied by the WDNR. The rating curve chosen assumed sandbagging on the right upstream retaining wall. This practice prevents overflowing water from undercutting the wall and weakening its integrity, and protects a city lift station located at Front Street. Elevations for the floods are extracted from these data and are applied to the hydraulic model at the dams.

Between dams, a water-surface slope was determined using high water measurements obtained by the city engineer's office at the Cady Street and East Main Street bridges during a high water period in the spring of 1993. This slope was applied to the water-surface elevations taken from the rating at the lower dam, and water-surface elevations were computed at various locations between the dams.

In the 1980 FIS there is road overflow over Oconomowoc Avenue east of the bridge. In 1981, the bridge was replaced and the approaching road grade was modified. This new grade increased the elevation of the road, and elevations were verified through surveying in the spring of 1992. This increased elevation, coupled with a decrease in the discharge from the 1980 study, disallows overflow for the 1-percent-annual-chance flood.

Starting water-surface elevations for Silver Creek were taken from the 10-percent-annual-chance water-surface elevations for the Rock River. This elevation is based on a combination of the rating table for the lower dam and the computed water-surface slope between the dams.

The 10-, 2-, 1-, and 0.2-percent-annual-chance flood elevations of the East Branch Rock River at Station F were used as starting water-surface elevations for Spring Brook.

The flood profiles in Spring Brook were computed by the standard step method (Reference 24) using the USGS E-431 digital-computer model (Reference 25). Flow through the culverts was calculated using the Computer Program for Hydraulic Review of Natural or Restricted Waterways (Bridge or Culvert) (Reference 27). Input to the above analyses consisted of stream valley cross sections, culvert geometry, surface roughness, and peak discharge data. These analyses reflect 1978 land-use conditions and unobstructed flow through the channel and bridge

openings. If significant land-use changes to the contributing drainage area occur, there will be a resultant change in the discharge and stage relationships at Mayville.

Water-surface elevations for the 1-percent-annual-chance for the Rubicon River were computed by WSPRO, a step-backwater computer program (Reference 28). The starting water-surface elevation at the western corporate boundary was determined by the slope-conveyance method. The water-surface elevation at the Neosho Dam is based on a discharge curve developed for the spillway.

Roughness factors (Manning's "n") used in the hydraulic computations were chosen by engineering judgment and were based on field observations of the stream and floodplain areas. Table 5, "Summary of Roughness Coefficients," shows the channel and overbank "n" values for all streams studied by detailed methods.

TABLE 5 - SUMMARY OF ROUGHNESS COEFFCIENTS

| Stream | Channel "n" | Overbank "n" |
|---|---|---|
| Beaver Dam River | 0.035 | 0.018 – 0.070 |
| Crawfish River | 0.040 | 0.060 – 0.090 |
| Davy Creek | 0.035 – 0.080 | 0.040 – 0.110 |
| East Branch Rock River | | |
| (downstream from Theresa) | 0.034 – 0.038 | 0.040 – 0.090 |
| (upstream from Mayville) | 0.035 – 0.038 | 0.030 – 0.125 |
| Libby Creek | 0.040 – 0.075 | 0.040 – 0.300 |
| Maunesha River | 0.020 – 0025 | 0.070 – 0.160 |
| Old Mill Creek | 0.045 – 0.085 | 0.065 – 0.120 |
| Park Creek | 0.045 – 0.050 | 0.060 – 0.100 |
| Pratt Creek | 0.033 – 0.056 | 0.043 – 0.086 |
| Rock River | | |
| (downstream from Horicon) | 0.035 | 0.025 – 0.080 |
| (downstream from Hustisford) | 0.028 – 0.035 | 0.035 – 0.100 |
| Rubicon River | 0.045 | 0.045 |
| Silver Creek | 0.028 – 0.045 | 0.031 – 0.085 |
| Spring Brook | 0.025 – 0.045 | 0.030 – 0.035 |
| Unnamed Tributary to Rock River | 0.03 | 0.04 |

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the Flood Profiles (Exhibit 1) are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

Flood profiles were drawn showing computed water-surface elevations to an accuracy of 0.5 foot for floods of the selected recurrence intervals.

Detail-studied streams that were not re-studied as part of this map update may include a "profile base line" on the maps. This "profile base line" provides a link to the flood profiles included in the FIS report. The "profile base lines" for these streams were based on the best available data at the time of their study and are depicted as they were on the previous FIRMs. In some cases where improved topographical data was used to redelineate floodplain boundaries, the "profile base line" may deviate significantly from the channel centerline or may be outside the SFHA. The detail-studied stream centerlines may have been digitized or redelineated as part of this revision.

## 3.3 Vertical Datum

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 (NGVD). With the completion of the North American Vertical Datum of 1988 (NAVD), many FIS reports and FIRMs are now prepared using NAVD as the referenced vertical datum.

To accurately convert flood elevations for Dodge County from the current NGVD29 datum to the newer NAVD88 datum, the following procedure was implemented. Locations at all quadrangle corners within the county and quadrangle corners within 2.5 miles of the county were evaluated using the WISCON v2.2 (Reference 29) datum conversion software. The results of the conversion analysis are contained in Table 6. The average conversion factor for Dodge County is -0.2 feet, with a maximum offset of 0.09 feet. The final NAVD88 elevation provided for Dodge County was completed by adding -0.2 feet to the existing NGVD29 data.

Vertical Datum Conversion: NGVD – 0.2 ft = NAVD

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

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242
(301) 713-4172 (fax)

Table 6 – Vertical Datum Conversion Factor

| Quad Name | Corner | Latitude | Longitude | Conversion from NGVD29 to NAVD88 (ft) |
|---|---|---|---|---|
| Randolph | NE | 43.625 | 89.000 | -0.1 |
| Fox Lake | NE | 43.625 | 88.875 | -0.1 |
| Buckhorn Corner | NE | 43.625 | 88.750 | -0.1 |
| Waupun South | NE | 43.625 | 88.625 | -0.1 |
| Mayville North | NE | 43.625 | 88.500 | -0.1 |
| Lomira | NE | 43.625 | 88.375 | -0.1 |
| Fall River | NE | 43.500 | 89.000 | -0.1 |
| Lost Lake | NE | 43.500 | 88.875 | -0.2 |
| Beaver Dam | NE | 43.500 | 88.750 | -0.1 |
| Horicon | NE | 43.500 | 88.625 | -0.2 |
| Mayville South | NE | 43.500 | 88.500 | -0.2 |
| Nenno | NE | 43.500 | 88.375 | -0.2 |
| Columbus | NE | 43.375 | 89.000 | -0.2 |
| Astico | NE | 43.375 | 88.875 | -0.2 |
| Reeseville | NE | 43.375 | 88.750 | -0.2 |
| Clyman | NE | 43.375 | 88.625 | -0.2 |
| Hustisford | NE | 43.375 | 88.500 | -0.2 |
| Hartford West | NE | 43.375 | 88.375 | -0.2 |
| Marshall | NE | 43.250 | 89.000 | -0.2 |
| Waterloo | NE | 43.250 | 88.875 | -0.2 |
| Richwood | NE | 43.250 | 88.750 | -0.2 |
| Watertown | NE | 43.250 | 88.625 | -0.2 |
| Ixonia | NE | 43.250 | 88.500 | -0.2 |
| Stonebank | NE | 43.250 | 88.375 | -0.2 |

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 Technical Support Data Notebook associated with the FIS report and FIRM for this community. Interested individuals may contact FEMA to access these data.

To obtain current elevation, description, and/or location information for benchmarks shown on this map, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

## 4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. To assist in this endeavor, each FIS provides 1-percent-annual-chance floodplain data, which may include a combination of the following: 10-, 2-, 1-, and 0.2-percent-annual-chance flood elevations; delineations of the 1- and 0.2-percent-annual-chance floodplains; and a 1-percent-annual-chance floodway. This information is presented on the FIRM and in many components of the FIS, including Flood Profiles and Floodway Data tables. Users should reference the data presented in the FIS as well as additional information that may be available at the local community map repository before making flood elevation and/or floodplain boundary determinations.

### 4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance flood is employed to indicate additional areas of flood risk in the community. For each stream studied by detailed methods, the 1- and 0.2-percent-annual-chance floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic data acquired using airborne Light Detection and Ranging (LiDAR). This LiDAR data was acquired during April 2006.

The topographic data satisfies a vertical root-mean-square error (RMSE) accuracy standard of 11.3 cm (0.7 ft accuracy at the 95% confidence limit). These data could be contoured at roughly a 2-ft vertical contour interval. All elevations were referenced to the NAVD 88 and reflect orthometric heights. Variably spaced, bare-earth digital topographic data in point file format were combined with imagery flown concurrently with the LiDAR data to establish a Triangulated Irregular Network (TIN) of digital elevation points.

The 1- and 0.2-percent-annual-chance floodplain boundaries are shown on the FIRM. On this map, the 1-percent-annual-chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A and AE), and the 0.2-percent-annual-chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 1- 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.

For streams studied by approximate methods, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM.

Streams studied by approximate methods were also delineated using the topographic data acquired using LiDAR.

## 4.2 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 this aspect of floodplain management. Under this concept, the area of the 1-percent-annual-chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the base flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1 foot, provided that hazardous velocities are not produced. In addition, the Wisconsin Department of Natural Resources is required under Wisconsin Administrative code Chapter NR 116 (Reference 30) to establish minimum standards for local floodplain zoning ordinances. The WDNR has established a policy that limits encroachment in the floodplain to that which will not cause any increase in flood heights.

The floodways presented in this FIS report and on the FIRM were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations are tabulated for selected cross sections (See Table 7, “Floodway Data”). In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

In the redelineation efforts, the floodway was not recalculated. As a result, there were areas where the previous floodway did not fit within the boundaries of the 1-percent-annual-chance floodplain. Therefore, in these areas, the floodway was reduced. The width of the floodway depicted by the FIRM panels and the amount of reduction to fit the floodway inside

the 1-percent-annual-chance floodplain, if necessary, is listed in Table 7, “Floodway Data”.

Portions of the floodways extend within incorporated communities and beyond county limits.

The area between the floodway and 1-percent-annual-chance floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation (WSEL) of the 1-percent-annual-chance flood more than 0.00 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 2.

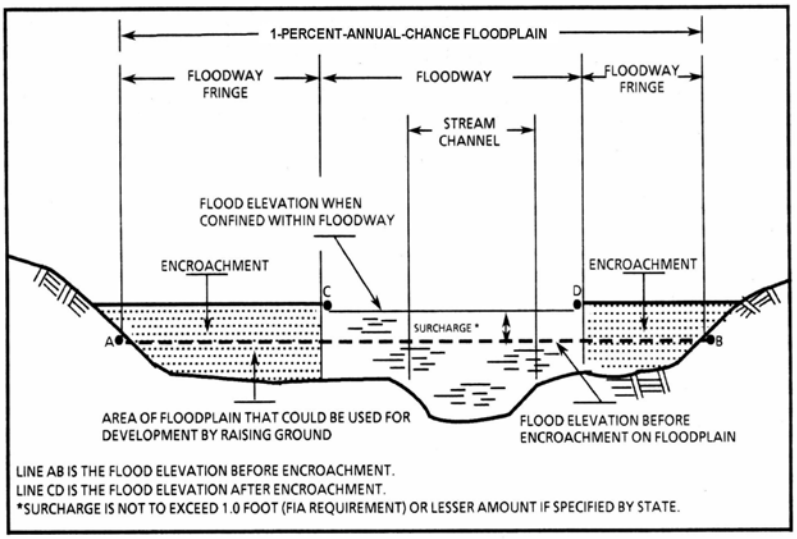


**Figure 2. Floodway Schematic**

Beaver Dam Lake and Fox Lake are not flow conveyance areas, but rather are floodwater storage areas. Because of these non-conveyance flow characteristics, a floodway is not developed for Beaver Dam Lake or Fox Lake.

| FLOODING SOURCE | | FLOODWAY | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| BEAVER DAM RIVER | | | | | | | | |
| A | 155,734 | 226 | 758 | 2.0 | 842.2 | 842.2 | 842.2 | 0.0 |
| B | 157,716 | 405 | 1,390 | 1.1 | 842.6 | 842.6 | 842.6 | 0.0 |
| C | 158,726 | 71 | 245 | 6.0 | 843.1 | 843.1 | 843.1 | 0.0 |
| D | 158,986 | 106 | 372 | 4.0 | 843.9 | 843.9 | 843.9 | 0.0 |
| E | 159,356 | 198 | 1,123 | 1.8 | 846.6 | 846.6 | 846.6 | 0.0 |
| F | 159,972 | 162 | 410 | 4.0 | 846.8 | 846.8 | 846.8 | 0.0 |
| G | 160,102 | 102 | 376 | 3.9 | 847.0 | 847.0 | 847.0 | 0.0 |
| H | 160,775 | 291 | 789 | 1.9 | 848.2 | 848.2 | 848.2 | 0.0 |
| I | 161,403 | 194 | 394 | 3.8 | 848.4 | 848.4 | 848.4 | 0.0 |
| J | 161,799 | 120 | 381 | 4.2 | 849.8 | 849.8 | 849.8 | 0.0 |
| K | 162,253 | 142 | 220 | 6.7 | 850.9 | 850.9 | 850.9 | 0.0 |
| L | 162,658 | 126 | 361 | 4.1 | 854.0 | 854.0 | 854.0 | 0.0 |
| M | 163,041 | 41 | 194 | 7.6 | 854.6 | 854.6 | 854.6 | 0.0 |
| N | 163,504 | 42 | 267 | 5.5 | 859.0 | 859.0 | 859.0 | 0.0 |
| O | 163,610 | 44 | 249 | 5.9 | 859.1 | 859.1 | 859.1 | 0.0 |
| P | 163,738 | 46 | 281 | 5.3 | 859.5 | 859.5 | 859.5 | 0.0 |
| Q | 164,116 | 54 | 336 | 4.4 | 860.3 | 860.3 | 860.3 | 0.0 |
| R | 164,347 | 48 | 330 | 4.5 | 862.2 | 862.2 | 862.2 | 0.0 |
| S | 164,434 | 50 | 268 | 5.5 | 862.2 | 862.2 | 862.2 | 0.0 |
| T | 164,490 | 59 | 404 | 3.7 | 863.5 | 863.5 | 863.5 | 0.0 |
| U | 164,673 | 84 | 465 | 3.2 | 864.4 | 864.4 | 864.4 | 0.0 |
| V | 164,785 | 57 | 271 | 5.4 | 864.4 | 864.4 | 864.4 | 0.0 |
| W | 164,840 | 79 | 413 | 3.6 | 864.7 | 864.7 | 864.7 | 0.0 |
| X | 164,930 | 67 | 431 | 3.4 | 864.8 | 864.8 | 864.8 | 0.0 |
| Y | 165,201 | 140 | 647 | 2.4 | 865.2 | 865.2 | 865.2 | 0.0 |
| Z | 165,711 | 100 | 620 | 2.4 | 865.5 | 865.5 | 865.5 | 0.0 |

[1]Feet above Crawfish River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

**DODGE COUNTY, WI**

**AND INCORPORATED AREAS**

**FLOODWAY DATA**

**BEAVER DAM RIVER**

| FLOODING SOURCE | | FLOODWAY | | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | WIDTH REDUCED FROM PRIOR STUDY (FEET) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| CRAWFISH RIVER | | | | | | | | | |
| A | 166,637 | 259 | 1,060 | 1.8 | 81 | 824.3 | 824.3 | 824.3 | 0.0 |
| B | 168,089 | 200 | 1,020 | 1.8 | 0 | 824.6 | 824.6 | 824.6 | 0.0 |
| C | 169,234 | 122 | 973 | 1.9 | 138 | 824.8 | 824.8 | 824.8 | 0.0 |
| D | 170,610 | 260 | 804 | 2.3 | 0 | 825.4 | 825.4 | 825.4 | 0.0 |
| E | 173,120 | 132 | 1,270 | 1.5 | 78 | 831.2 | 831.2 | 831.2 | 0.0 |
| F | 173,452 | 200 | 1,230 | 1.5 | 0 | 831.3 | 831.3 | 831.3 | 0.0 |
| G | 179,539 | 350 | 1,410 | 1.3 | 0 | 833.0 | 833.0 | 833.0 | 0.0 |
| H | 181,821 | 440 | 1,310 | 1.4 | 0 | 833.4 | 833.4 | 833.4 | 0.0 |
| I | 183,025 | 125 | 901 | 2.1 | 0 | 833.7 | 833.7 | 833.7 | 0.0 |
| J | 183,418 | 141 | 996 | 1.9 | 34 | 833.7 | 833.7 | 833.7 | 0.0 |
| K | 187,749 | 325 | 1,380 | 1.4 | 0 | 834.5 | 834.5 | 834.5 | 0.0 |
| L | 188,716 | 140 | 1,020 | 1.8 | 0 | 834.6 | 834.6 | 834.6 | 0.0 |

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

**DODGE COUNTY, WI**

AND INCORPORATED AREAS

**FLOODWAY DATA**

**CRAWFISH RIVER**

| FLOODING SOURCE | | FLOODWAY | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | REGULATORY[2] (FEET NAVD) | WITHOUT FLOODWAY[3] (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| DAVY CREEK | | | | | | | | |
| A | 3,907 | 1,190 | 3,520 | 0.1 | 848.3 | 845.7 | 845.7 | 0.0 |
| B | 5,380 | 1,280 | 839 | 0.4 | 848.3 | 845.8 | 845.8 | 0.0 |
| C | 7,217 | 750 | 762 | 0.5 | 848.3 | 847.0 | 847.0 | 0.0 |
| D | 7,876 | 510 | 898 | 0.4 | 848.3 | 847.2 | 847.2 | 0.0 |
| E | 9,101 | 560 | 631 | 0.6 | 848.3 | 847.4 | 847.4 | 0.0 |
| F | 10,040 | 770 | 844 | 0.4 | 848.3 | 847.6 | 847.6 | 0.0 |

[1]Feet above mouth

[2]Elevations from Jefferson, Wisconsin FIS

[3]Elevations without considering backwater effect from Rock River

| FLOODING SOURCE | | FLOODWAY | | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | WIDTH REDUCED FROM PRIOR STUDY (FEET) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| EAST BRANCH ROCK RIVER | | | | | | | | | |
| A | 47,811 | 207 | 920 | 5.0 | 0 | 881.8 | 881.8 | 881.8 | 0.0 |
| B | 47,978 | 96 | 550 | 8.3 | 0 | 882.4 | 882.4 | 882.4 | 0.0 |
| C | 50,826 | 406 | 1,810 | 2.5 | 0 | 886.2 | 886.2 | 886.2 | 0.0 |
| D | 51,822 | 410 | 1,110 | 4.1 | 0 | 887.6 | 887.6 | 887.6 | 0.0 |
| E | 53,343 | 336 | 1,090 | 4.2 | 0 | 890.6 | 890.6 | 890.6 | 0.0 |
| F | 54,339 | 256 | 982 | 4.6 | 0 | 894.4 | 894.4 | 894.4 | 0.0 |
| G | 54,803 | 245 | 965 | 4.7 | 0 | 895.5 | 895.5 | 895.5 | 0.0 |
| H | 54,916 | 72 | 583 | 7.8 | 0 | 896.2 | 896.2 | 896.2 | 0.0 |
| I | 56,273 | 199 | 1,130 | 4.0 | 0 | 899.2 | 899.2 | 899.2 | 0.0 |
| J | 57,403 | 186 | 1,060 | 4.3 | 0 | 900.5 | 900.5 | 900.5 | 0.0 |
| K | 57,531 | 323 | 2,460 | 1.9 | 0 | 908.2 | 908.2 | 908.2 | 0.0 |
| L | 59,767 | 437 | 2,690 | 1.7 | 0 | 908.5 | 908.5 | 908.5 | 0.0 |
| M | 62,045 | 117 | 897 | 5.1 | 0 | 909.5 | 909.5 | 909.5 | 0.0 |
| N | 62,197 | 104 | 809 | 5.6 | 0 | 909.9 | 909.9 | 909.9 | 0.0 |
| O | 62,768 | 183 | 1,280 | 3.6 | 0 | 910.8 | 910.8 | 910.8 | 0.0 |
| P | 62,868 | 163 | 1,490 | 3.0 | 78 | 915.5 | 915.5 | 915.5 | 0.0 |
| Q | 65,460 | 201 | 1,350 | 3.4 | 0 | 916.7 | 916.7 | 916.7 | 0.0 |
| R | 67,041 | 789 | 2,410 | 1.9 | 83 | 917.3 | 917.3 | 917.3 | 0.0 |
| S | 69,003 | 195 | 1,160 | 3.9 | 0 | 918.3 | 918.3 | 918.3 | 0.0 |
| T | 71,153 | 170 | 1,300 | 3.5 | 0 | 919.7 | 919.7 | 919.7 | 0.0 |
| U | 71,261 | 190 | 3,390 | 1.4 | 0 | 920.4 | 920.4 | 920.4 | 0.0 |
| V | 73,146 | 382 | 2,070 | 2.2 | 0 | 920.7 | 920.7 | 920.7 | 0.0 |
| W | 74,590 | 262 | 1,780 | 2.6 | 43 | 921.0 | 921.0 | 921.0 | 0.0 |
| X | 76,021 | 500 | 1,660 | 2.7 | 0 | 921.4 | 921.4 | 921.4 | 0.0 |
| Y | 76,814 | 410 | 2,020 | 2.2 | 0 | 921.7 | 921.7 | 921.7 | 0.0 |
| Z | 77,974 | 250 | 1,800 | 2.5 | 0 | 922.1 | 922.1 | 922.1 | 0.0 |

[1]Feet above mouth

| FLOODING SOURCE | | FLOODWAY | | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | WIDTH REDUCED FROM PRIOR STUDY (FEET) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| EAST BRANCH ROCK RIVER (continued) | | | | | | | | | |
| AA | 82,934 | 280 | 1,330 | 3.4 | 0 | 923.0 | 923.0 | 923.0 | 0.0 |
| AB | 83,907 | 180 | 1,270 | 3.6 | 0 | 923.6 | 923.6 | 923.6 | 0.0 |
| AC | 84,873 | 550 | 3,250 | 1.4 | 0 | 924.0 | 924.0 | 924.0 | 0.0 |
| AD | 85,795 | 320 | 1,900 | 2.4 | 0 | 924.1 | 924.1 | 924.1 | 0.0 |
| AE | 87,064 | 260 | 1,130 | 4.0 | 0 | 924.5 | 924.5 | 924.5 | 0.0 |
| AF | 88,004 | 173 | 1,020 | 4.5 | 47 | 925.5 | 925.5 | 925.5 | 0.0 |
| AG | 118,483 | 481 | 1,440 | 1.7 | 59 | 931.2 | 931.2 | 931.2 | 0.0 |
| AH | 119,720 | 440 | 1,520 | 1.6 | 0 | 931.6 | 931.6 | 931.6 | 0.0 |
| AI | 120,012 | 403 | 1,160 | 2.1 | 47 | 931.6 | 931.6 | 931.6 | 0.0 |
| AJ | 121,087 | 170 | 620 | 3.9 | 28 | 932.7 | 932.7 | 932.7 | 0.0 |
| AK | 122,328 | 204 | 1,210 | 2.0 | 68 | 934.1 | 934.1 | 934.1 | 0.0 |
| AL | 122,864 | 232 | 700 | 3.4 | 0 | 934.3 | 934.3 | 934.3 | 0.0 |
| AM | 123,382 | 219 | 870 | 2.8 | 0 | 934.7 | 934.7 | 934.7 | 0.0 |
| AN | 123,707 | 176 | 700 | 3.4 | 73 | 934.8 | 934.8 | 934.8 | 0.0 |
| AO | 124,326 | 283 | 880 | 2.7 | 0 | 935.4 | 935.4 | 935.4 | 0.0 |
| AP | 125,333 | 501 | 1,340 | 1.8 | 0 | 936.0 | 936.0 | 936.0 | 0.0 |
| AQ | 125,780 | 829 | 4,220 | 0.6 | 243 | 936.2 | 936.2 | 936.2 | 0.0 |

[1]Feet above mouth

| FLOODING SOURCE | | FLOODWAY | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| LIBBY CREEK | | | | | | | | |
| A | 3,946 | 340 | 305 | 1.4 | 864.4 | 864.4 | 864.4 | 0.0 |
| B | 4,162 | 121 | 124 | 3.7 | 866.4 | 866.4 | 866.4 | 0.0 |
| C | 4,238 | 92 | 103 | 4.4 | 867.5 | 867.5 | 867.5 | 0.0 |
| D | 4,435 | 216 | 183 | 2.3 | 869.2 | 869.2 | 869.2 | 0.0 |
| E | 4,785 | 301 | 399 | 1.4 | 869.9 | 869.9 | 869.9 | 0.0 |
| F | 5,017 | 97 | 275 | 3.8 | 870.7 | 870.7 | 870.7 | 0.0 |
| G | 5,272 | 40 | 82 | 6.0 | 872.5 | 872.5 | 872.5 | 0.0 |
| H | 5,502 | 192 | 351 | 1.2 | 875.3 | 875.3 | 875.3 | 0.0 |
| I | 6,135 | 627 | 1,130 | 0.7 | 875.8 | 875.8 | 875.8 | 0.0 |
| J | 6,179 | 320 | 2,877 | 0.6 | 878.6 | 878.6 | 878.6 | 0.0 |
| K | 6,961 | 213 | 296 | 1.7 | 878.9 | 878.9 | 878.9 | 0.0 |
| L | 7,173 | 430 | 3,585 | 0.2 | 884.2 | 884.2 | 884.2 | 0.0 |
| M | 9,905 | 1,024 | 1,948 | 0.2 | 884.3 | 884.3 | 884.3 | 0.0 |

[1] Feet above confluence with West Branch Rock River

| FLOODING SOURCE | | FLOODWAY | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| MAUNESHA RIVER | | | | | | | | |
| A | 17,622 | 220 | 656 | 3.5 | 794.5 | 794.5 | 794.5 | 0.0 |
| B | 19,557 | 560 | 1,060 | 2.2 | 795.4 | 795.4 | 795.4 | 0.0 |
| C | 20,308 | 220 | 592 | 3.9 | 795.6 | 795.6 | 795.6 | 0.0 |
| D | 20,765 | 0/ 270 [2] | 692 | 3.3 | 795.9 | 795.9 | 795.9 | 0.0 |

[1]Feet above mouth

[2]Width within Boundary Limit/Total Width

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

**DODGE COUNTY, WI**

**AND INCORPORATED AREAS**

**FLOODWAY DATA**

**MAUNESHA RIVER**

| FLOODING SOURCE | | FLOODWAY | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| OLD MILL CREEK | | | | | | | | |
| A | 12,941 | 877 | 2,940 | 0.5 | 882.9 | 882.9 | 882.9 | 0.0 |
| B | 13,530 | 598 | 1,572 | 0.9 | 883.0 | 883.0 | 883.0 | 0.0 |
| C | 14,057 | 157 | 437 | 3.2 | 883.6 | 883.6 | 883.6 | 0.0 |
| D | 14,659 | 125 | 437 | 3.4 | 886.5 | 886.5 | 886.5 | 0.0 |
| E | 14,845 | 92 | 757 | 2.0 | 893.2 | 893.2 | 893.2 | 0.0 |
| F | 15,104 | 55 | 801 | 2.5 | 893.3 | 893.3 | 893.3 | 0.0 |
| G | 15,183 | 70 | 1,657 | 3.3 | 893.9 | 893.9 | 893.9 | 0.0 |
| H | 18,097 | 75 | 379 | 3.6 | 894.8 | 894.8 | 894.8 | 0.0 |
| I | 18,365 | 112 | 627 | 2.2 | 895.9 | 895.9 | 895.9 | 0.0 |
| J | 19,103 | 424 | 1,747 | 0.8 | 896.1 | 896.1 | 896.1 | 0.0 |

[1] Feet above mouth

| FLOODING SOURCE | | FLOODWAY | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| PARK CREEK | | | | | | | | |
| A | 846 | 149 | 136 | 4.1 | 817.9 | 817.9 | 817.9 | 0.0 |
| B | 1,470 | 20 | 159 | 5.0 | 821.0 | 821.0 | 821.0 | 0.0 |
| C | 1,623 | 100 | 413 | 1.7 | 822.9 | 822.9 | 822.9 | 0.0 |
| D | 4,405 | 263 | 471 | 1.2 | 824.8 | 824.8 | 824.8 | 0.0 |
| E | 7,614 | 36 | 113 | 6.2 | 825.1 | 825.1 | 825.1 | 0.0 |
| F | 7,621 | 80 | 250 | 3.9 | 825.6 | 825.6 | 825.6 | 0.0 |
| G | 8,954 | 49 | 766 | 4.2 | 833.2 | 833.2 | 833.2 | 0.0 |
| H | 10,182 | 343 | 366 | 1.5 | 837.1 | 837.1 | 837.1 | 0.0 |
| I | 10,588 | 82 | 274 | 5.0 | 839.3 | 839.3 | 839.3 | 0.0 |
| J | 10,656 | 22 | 289 | 6.9 | 840.1 | 840.1 | 840.1 | 0.0 |
| K | 11,108 | 191 | 476 | 1.2 | 844.2 | 844.2 | 844.2 | 0.0 |
| L | 11,407 | 149 | 273 | 2.0 | 844.5 | 844.5 | 844.5 | 0.0 |
| M | 11,863 | 123 | 196 | 2.8 | 847.1 | 847.1 | 847.1 | 0.0 |
| N | 13,016 | 126 | 172 | 3.2 | 857.0 | 857.0 | 857.0 | 0.0 |
| O | 13,582 | 27 | 150 | 6.7 | 861.1 | 861.1 | 861.1 | 0.0 |
| P | 13,732 | 365 | 1,814 | 0.7 | 866.1 | 866.1 | 866.1 | 0.0 |
| Q | 15,652 | 404 | 533 | 0.9 | 866.1 | 866.1 | 866.1 | 0.0 |
| R | 15,939 | 240 | 192 | 2.6 | 867.6 | 867.6 | 867.6 | 0.0 |
| S | 16,327 | 119 | 191 | 2.6 | 868.3 | 868.3 | 868.3 | 0.0 |
| T | 17,274 | 81 | 171 | 2.9 | 871.2 | 871.2 | 871.2 | 0.0 |
| U | 17,992 | 162 | 274 | 1.8 | 875.2 | 875.2 | 875.2 | 0.0 |
| V | 18,539 | 104 | 214 | 2.3 | 876.3 | 876.3 | 876.3 | 0.0 |
| W | 18,859 | 20 | 68 | 7.3 | 879.7 | 879.7 | 879.7 | 0.0 |
| X | 19,321 | 26 | 90 | 5.7 | 882.3 | 882.3 | 882.3 | 0.0 |
| Y | 19,528 | 22 | 46 | 8.3 | 884.3 | 884.3 | 884.3 | 0.0 |
| Z | 19,742 | 24 | 83 | 4.6 | 887.2 | 887.2 | 887.2 | 0.0 |

[1] Feet above confluence with Crystal Creek

| FLOODING SOURCE | | FLOODWAY | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| PARK CREEK (continued) | | | | | | | | |
| AA | 20,364 | 48 | 170 | 2.5 | 888.8 | 888.8 | 888.8 | 0.0 |
| AB | 20,468 | 102 | 1,463 | 1.9 | 890.2 | 890.2 | 890.2 | 0.0 |
| AC | 21,323 | 21 | 183 | 1.3 | 891.0 | 891.0 | 891.0 | 0.0 |
| AD | 21,746 | 24 | 351 | 0.8 | 893.6 | 893.6 | 893.6 | 0.0 |
| AE | 23,261 | 233 | 1,248 | 0.2 | 893.7 | 893.7 | 893.7 | 0.0 |
| AF | 23,518 | 36 | 3,648 | 0.6 | 895.2 | 895.2 | 895.2 | 0.0 |
| AG | 28,065 | 719 | 2,421 | 0.1 | 895.2 | 895.2 | 895.2 | 0.0 |

[1] Feet above confluence with Crystal Creek

| FLOODING SOURCE | | FLOODWAY | | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | WIDTH REDUCED FROM PRIOR STUDY (FEET) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| PRATT CREEK | | | | | | | | | |
| A | 66,800 | 165 | 299 | 1.3 | 64 | 879.2 | 879.2 | 879.2 | 0.0 |
| B | 67,443 | 727 | 3,112 | 0.1 | 921 | 883.4 | 883.4 | 883.4 | 0.0 |
| C | 67,985 | 1,375 | 5,087 | 0.1 | 369 | 883.4 | 883.4 | 883.4 | 0.0 |
| D | 68,492 | 1,223 | 2,364 | 0.2 | 0 | 883.4 | 883.4 | 883.4 | 0.0 |
| E | 69,011 | 434 | 636 | 0.6 | 0 | 883.4 | 883.4 | 883.4 | 0.0 |
| F | 69,472 | 434 | 410 | 1.0 | 0 | 883.6 | 883.6 | 883.6 | 0.0 |
| G | 69,965 | 505 | 356 | 1.1 | 0 | 884.0 | 884.0 | 884.0 | 0.0 |
| H | 70,320 | 217 | 231 | 2.0 | 0 | 884.6 | 884.6 | 884.6 | 0.0 |
| I | 70,948 | 96 | 230 | 1.7 | 99 | 885.7 | 885.7 | 885.7 | 0.0 |
| J | 71,412 | 28 | 135 | 2.9 | 48 | 886.7 | 886.7 | 886.7 | 0.0 |
| K | 72,139 | 26 | 447 | 1.6 | 346 | 889.1 | 889.1 | 889.1 | 0.0 |
| L | 72,557 | 362 | 2,572 | 0.1 | 252 | 890.9 | 890.9 | 890.9 | 0.0 |
| M | 73,062 | 296 | 950 | 0.1 | 697 | 890.9 | 890.9 | 890.9 | 0.0 |
| N | 73,637 | 25 | 140 | 1.0 | 414 | 891.3 | 891.3 | 891.3 | 0.0 |
| O | 74,212 | 25 | 214 | 0.6 | 579 | 892.6 | 892.6 | 892.6 | 0.0 |
| P | 74,683 | 374 | 171 | 0.8 | 0 | 893.4 | 893.4 | 893.4 | 0.0 |
| Q | 75,154 | 163 | 152 | 1.2 | 0 | 894.1 | 894.1 | 894.1 | 0.0 |
| R | 75,618 | 241 | 144 | 0.9 | 0 | 895.4 | 895.4 | 895.4 | 0.0 |
| S | 76,153 | 304 | 116 | 1.2 | 112 | 897.4 | 897.4 | 897.4 | 0.0 |
| T | 76,850 | 98 | 226 | 1.4 | 197 | 901.0 | 901.0 | 901.0 | 0.0 |
| U | 77,054 | 270 | 165 | 0.8 | 53 | 902.5 | 902.5 | 902.5 | 0.0 |

[1]Feet above mouth at Beaver Dam River

| FLOODING SOURCE | | FLOODWAY | | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | WIDTH REDUCED FROM PRIOR STUDY (FEET) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| ROCK RIVER | | | | | | | | | |
| A | 283.280 | 460 | 2,130 | 1.7 | 0 | 848.8 | 848.8 | 848.8 | 0.0 |
| B | 283.413 | 541 | 1,980 | 1.8 | 29 | 848.9 | 848.9 | 848.9 | 0.0 |
| C | 283.525 | 463 | 2,150 | 1.7 | 77 | 849.0 | 849.0 | 849.0 | 0.0 |
| D | 283.682 | 150 | 780 | 4.1 | 0 | 849.7 | 849.7 | 849.7 | 0.0 |
| E | 283.783 | 150 | 730 | 4.4 | 0 | 850.2 | 850.2 | 850.2 | 0.0 |
| F | 290.350 | 140 | 900 | 4.7 | 0 | 857.0 | 857.0 | 857.0 | 0.0 |
| G | 292.262 | 300 | 1,500 | 2.9 | 0 | 857.0 | 857.0 | 857.0 | 0.0 |
| H | 292.628 | 335 | 2,240 | 1.9 | 165 | 857.9 | 857.9 | 857.9 | 0.0 |
| I | 292.890 | 570 | 2,070 | 2.1 | 0 | 858.2 | 858.2 | 858.2 | 0.0 |
| J | 293.179 | 160 | 1,200 | 3.6 | 0 | 858.7 | 858.7 | 858.7 | 0.0 |
| K | 293.205 | 120 | 1,250 | 3.4 | 50 | 859.1 | 859.1 | 859.1 | 0.0 |
| L | 293.525 | 150 | 1,360 | 3.2 | 0 | 859.9 | 859.9 | 859.9 | 0.0 |
| M | 293.567 | 125 | 1,310 | 3.3 | 0 | 860.1 | 860.1 | 860.1 | 0.0 |
| N | 293.605 | 110 | 950 | 4.5 | 0 | 860.2 | 860.2 | 860.2 | 0.0 |
| O | 293.632 | 180 | 1,630 | 2.6 | 0 | 860.5 | 860.5 | 860.5 | 0.0 |
| P | 293.727 | 220 | 1,410 | 3.1 | 0 | 860.6 | 860.6 | 860.6 | 0.0 |
| Q | 293.751 | 200 | 1,510 | 2.9 | 0 | 860.8 | 860.8 | 860.8 | 0.0 |
| R | 293.896 | 250 | 2,070 | 2.1 | 0 | 861.0 | 861.0 | 861.0 | 0.0 |

[1]Miles above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

**DODGE COUNTY, WI**

AND INCORPORATED AREAS

**FLOODWAY DATA**

**ROCK RIVER**

| FLOODING SOURCE | | FLOODWAY | | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | WIDTH REDUCED FROM PRIOR STUDY (FEET) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| RUBICON RIVER | | | | | | | | | |
| A | 46,464 | 297 | 1,187 | 1.6 | 0 | 866.8 | 866.8 | 866.8 | 0.0 |
| B | 47,374 | 514 | 1,255 | 1.5 | 131 | 867.3 | 867.3 | 867.3 | 0.0 |
| C | 48,269 | 245 | 1,161 | 1.6 | 0 | 867.8 | 867.8 | 867.8 | 0.0 |
| D | 49,276 | 174 | 697 | 2.7 | 0 | 868.3 | 868.3 | 868.3 | 0.0 |

[1]Feet above mouth

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

**DODGE COUNTY, WI**

AND INCORPORATED AREAS

**FLOODWAY DATA**

**RUBICON RIVER**

| FLOODING SOURCE | | FLOODWAY | | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | WIDTH REDUCED FROM PRIOR STUDY (FEET) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| SILVER CREEK | | | | | | | | | |
| A | 2,500 | 50 | 201 | 6.5 | 0 | 811.8 | 811.8 | 811.8 | 0.0 |
| B | 2,596 | 108 | 434 | 3.0 | 0 | 812.7 | 812.7 | 812.7 | 0.0 |
| C | 3,247 | 144 | 643 | 2.0 | 0 | 813.1 | 813.1 | 813.1 | 0.0 |
| D | 4,084 | 168 | 623 | 2.1 | 26 | 813.5 | 813.5 | 813.5 | 0.0 |
| E | 5,090 | 478 | 1,310 | 1.0 | 0 | 813.9 | 813.9 | 813.9 | 0.0 |
| F | 5,842 | 501 | 1,100 | 1.2 | 0 | 814.1 | 814.1 | 814.1 | 0.0 |
| G | 6,802 | 208 | 321 | 4.1 | 0 | 814.7 | 814.7 | 814.7 | 0.0 |
| H | 7,512 | 120 | 438 | 3.0 | 0 | 816.1 | 816.1 | 816.1 | 0.0 |
| I | 7,854 | 245 | 1,084 | 1.2 | 0 | 818.2 | 818.2 | 818.2 | 0.0 |
| J | 8,527 | 825 | 2,911 | 0.5 | 0 | 818.2 | 818.2 | 818.2 | 0.0 |
| K | 9,383 | 823 | 2,944 | 0.4 | 0 | 818.3 | 818.3 | 818.3 | 0.0 |
| L | 10,518 | 485 | 712 | 1.8 | 0 | 818.4 | 818.4 | 818.4 | 0.0 |
| M | 12,239 | 349 | 824 | 1.6 | 43 | 819.0 | 819.0 | 819.0 | 0.0 |
| N | 13,350 | 83 | 256 | 5.1 | 0 | 819.8 | 819.8 | 819.8 | 0.0 |
| O | 13,536 | 139 | 408 | 3.2 | 0 | 821.0 | 821.0 | 821.0 | 0.0 |
| P | 14,403 | 351 | 459 | 2.8 | 0 | 822.3 | 822.3 | 822.3 | 0.0 |
| Q | 15,955 | 760 | 1,414 | 0.9 | 0 | 823.2 | 823.2 | 823.2 | 0.0 |
| R | 16,695 | 619 | 1,160 | 1.1 | 0 | 823.4 | 823.4 | 823.4 | 0.0 |

[1]Feet above confluence with Rock River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

**DODGE COUNTY, WI**

AND INCORPORATED AREAS

**FLOODWAY DATA**

**SILVER CREEK**

| FLOODING SOURCE | | FLOODWAY | | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION | | | |
|---|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE | WIDTH (FEET) | SECTION AREA (SQ.FEET) | MEAN VELOCITY (FEET/SEC.) | WIDTH REDUCED FROM PRIOR STUDY (FEET) | REGULATORY (FEET NAVD) | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| SPRING BROOK | | | | | | | | | |
| A | 158[1] | 55 | 107 | 3.8 | 0 | 894.3 | 894.3 | 894.3 | 0.0 |
| B | 993[1] | 12 | 204 | 2.0 | 94 | 894.9 | 894.9 | 894.9 | 0.0 |
| C | 1,311[1] | 24 | 106 | 3.8 | 41 | 898.6 | 898.6 | 898.6 | 0.0 |
| D | 2,085[1] | 46 | 76 | 5.3 | 0 | 900.1 | 900.1 | 900.1 | 0.0 |
| E | 2,191[1] | 76 | 250 | 1.6 | 0 | 902.6 | 902.6 | 902.6 | 0.0 |
| F | 2,522[1] | 82 | 89 | 4.5 | 0 | 903.2 | 903.2 | 903.2 | 0.0 |
| UNNAMED TRIBUTARY TO ROCK RIVER | | | | | | | | | |
| A | 943[2] | 1,658 | 8,332 | 0.1 | 0 | 856.4 | 856.4 | 856.4 | 0.0 |
| B | 2,273[2] | 1,169 | 4,918 | 0.1 | 0 | 856.4 | 856.4 | 856.4 | 0.0 |
| C | 3,855[2] | 373 | 573 | 0.7 | 0 | 856.7 | 856.7 | 856.7 | 0.0 |
| D | 5,267[2] | 209 | 108 | 3.6 | 0 | 860.0 | 860.0 | 860.0 | 0.0 |
| E | 6,028[2] | 26 | 83 | 4.7 | 0 | 862.9 | 862.9 | 862.9 | 0.0 |
| F | 6,548[2] | 20 | 65 | 6.1 | 0 | 864.4 | 864.4 | 864.4 | 0.0 |

[1]Feet above mouth

[2]Feet above county boundary

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

**DODGE COUNTY, WI**

AND INCORPORATED AREAS

**FLOODWAY DATA**

**SPRING BROOK - UNNAMED TRIBUTARY TO ROCK RIVER**

## 5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

**Zone A**

Zone A is the flood insurance rate zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base (1-percent-annual-chance) flood elevations (BFEs) or depths are shown within this zone.

**Zone AE**

Zone AE is the flood insurance rate zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS by detailed methods. Whole-foot BFEs derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

**Zone X**

Zone X is the flood insurance rate zone that corresponds to areas outside the 0.2-percent-annual-chance floodplain, areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by levees. No BFEs or depths are shown within this zone.

## 6.0 FLOOD INSURANCE RATE MAP

The FIRM is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 1-percent-annual-chance floodplains that were studied by detailed methods, shows selected whole-foot BFEs or average depths. Insurance agents use zones and BFEs in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 1- and 0.2-percent-annual-chance floodplains, floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

The countywide FIRM presents flooding information for the entire geographic area of Dodge County. Previously, FIRMs were prepared for each incorporated community and the unincorporated areas of the County identified as flood-prone. This countywide FIRM also includes flood-hazard information that was present separately on Flood Boundary and Floodway Maps (FBFMs), where applicable. Historical data relating to the maps prepared for each community are presented in Table 8, "Community Map History."

## 7.0 OTHER STUDIES

Numerous Flood Insurance Studies provided information for this report (References 6, 12, 13, 14, 15, 16, 31, 32, and 33). This report was coordinated and is in agreement with all such adjacent studies except in the flowing instances.

The 1976 Flood Hazard Investigation of Columbus, Wisconsin (Reference 23) provided the cross section data and hydraulic model used to compute the water-surface profile of the Crawfish River near Columbus, Wisconsin, and therefore is in agreement with this study.

A Flood Hazard Boundary Map has been published by the Federal Insurance Administration (Reference 34). The differences between the Flood Hazard Boundary Map and this study are justified due to the more detailed nature of this Flood Insurance Study.

This FIS report either supersedes or is compatible with all previous studies published on streams studied in this report and should be considered authoritative for the purposes of the NFIP.

## 8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting Federal Insurance and Mitigation Division, FEMA Region V, 536 South Clark Street, Sixth Floor, Chicago, Illinois 60605.

| COMMUNITY NAME | INITIAL IDENTIFICATION | FLOOD HAZARD BOUNDARY MAP REVISION DATE(S) | FLOOD INSURANCE RATE MAP EFFECTIVE DATE | FLOOD INSURANCE RATE MAP REVISION DATE(S) |
|---|---|---|---|---|
| Beaver Dam, City of | December 17, 1973 | October 10, 1975<br>September 24, 1976<br>January 27, 1978 | April 3, 1984 | None |
| Brownsville, Village of | April 19, 2010 | None | April 19, 2010 | None |
| Clyman, Village of [1] | N/A | None | N/A | None |
| Columbus, City of | December 17, 1973 | June 25, 1976 | December 1, 1981 | April 2, 2008 |
| Dodge County (Unincorporated Areas) | January 3, 1975 | February 9, 1979 | June 15, 1981 | None |
| Fox Lake, City of | May 24, 1974 | October 24, 1974<br>February 23, 1979 | March 16, 1981 | None |
| Hartford, City of | January 9, 1974 | May 14, 1976 | December 4, 1984 | None |
| Horicon, City of | November 30, 1973 | March 26, 1976 | August 15, 1980 | None |
| Hustisford, Village of | November 30, 1973 | September 12, 1975 | August 15, 1980 | None |
| Iron Ridge, Village of [1] | July 23, 1976 | None | N/A | None |

[1] No Special Flood Hazard Areas Identified Within Dodge County

TABLE 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

**DODGE COUNTY , WI AND INCORPORATED AREAS**

**COMMUNITY MAP HISTORY**

| COMMUNITY NAME | INITIAL IDENTIFICATION | FLOOD HAZARD BOUNDARY MAP REVISION DATE(S) | FLOOD INSURANCE RATE MAP EFFECTIVE DATE | FLOOD INSURANCE RATE MAP REVISION DATE(S) |
|---|---|---|---|---|
| Juneau, City of [1] | N/A | None | N/A | None |
| Kekoskee, Village of | January 23, 1974 | June 4, 1976 | September 1, 1986 | None |
| Lomira, Village of [1] | N/A | None | N/A | None |
| Lowell, Village of | May 17, 1974 | January 2, 1976 | N/A | None |
| Mayville, City of | November 30, 1973 | August 15, 1975 | June 1, 1981 | None |
| Neosho, Village of | May 17, 1974 | June 4, 1976 | June 15, 1988 | None |
| Randolph, Village of [1] | April 2, 2008 | None | April 2, 2008 | None |
| Reeseville, Village of | November 15, 1974 | August 29, 1975 | August 19, 1985 | None |
| Theresa, Village of | December 7, 1973 | January 2, 1976 | July 16, 1980 | None |
| Watertown, City of | May 31, 1974 | June 11, 1976 | April 1, 1981 | February 16, 1996 |
| Waupun, City of | January 9, 1974 | June 25, 1976<br>June 9, 1978<br>February 23, 1979 | August 15, 1984 | April 2, 1991 |

[1] No Special Flood Hazard Areas Identified Within Dodge County

TABLE 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

**DODGE COUNTY , WI**
**AND INCORPORATED AREAS**

**COMMUNITY MAP HISTORY**

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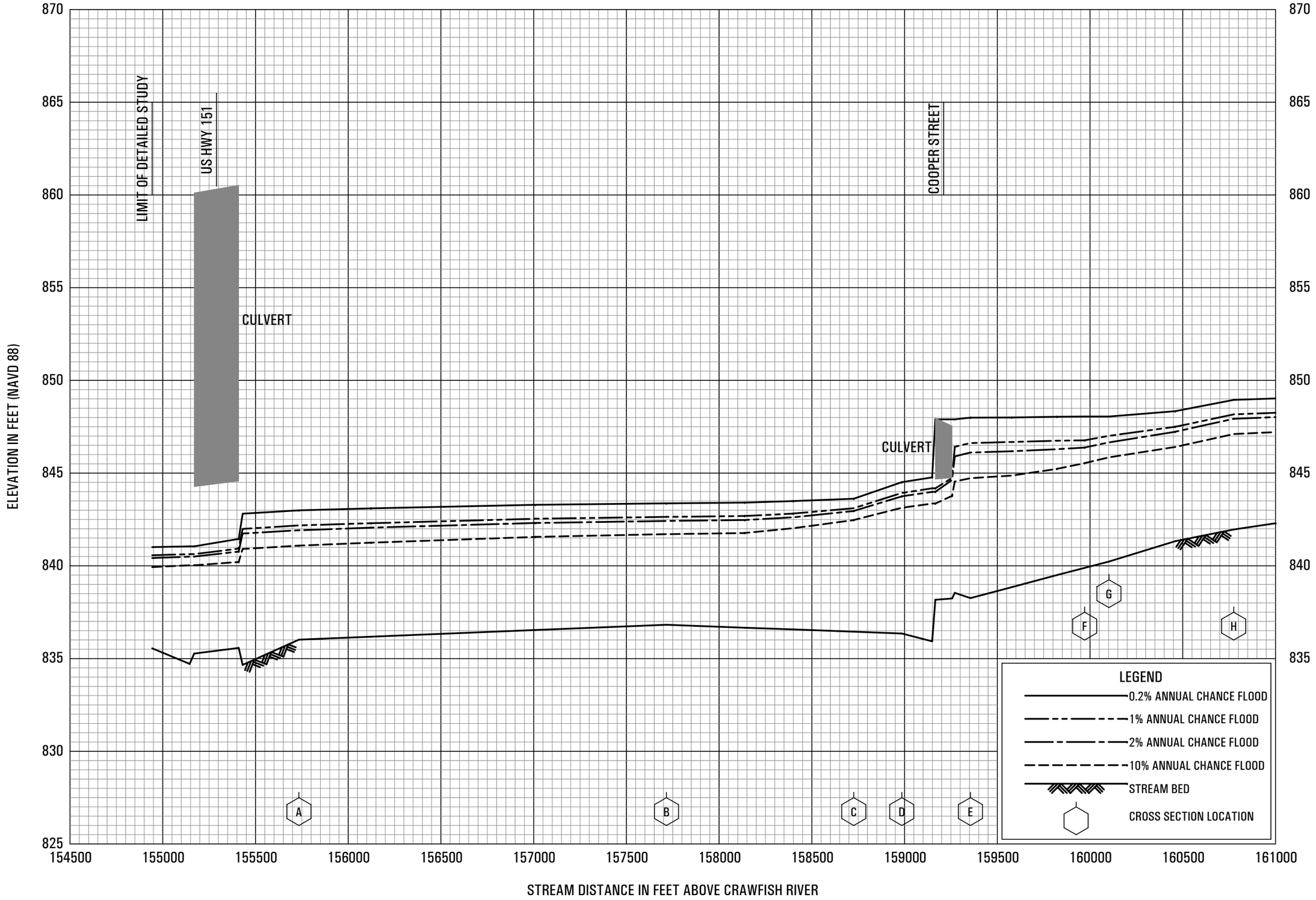



FLOOD PROFILES

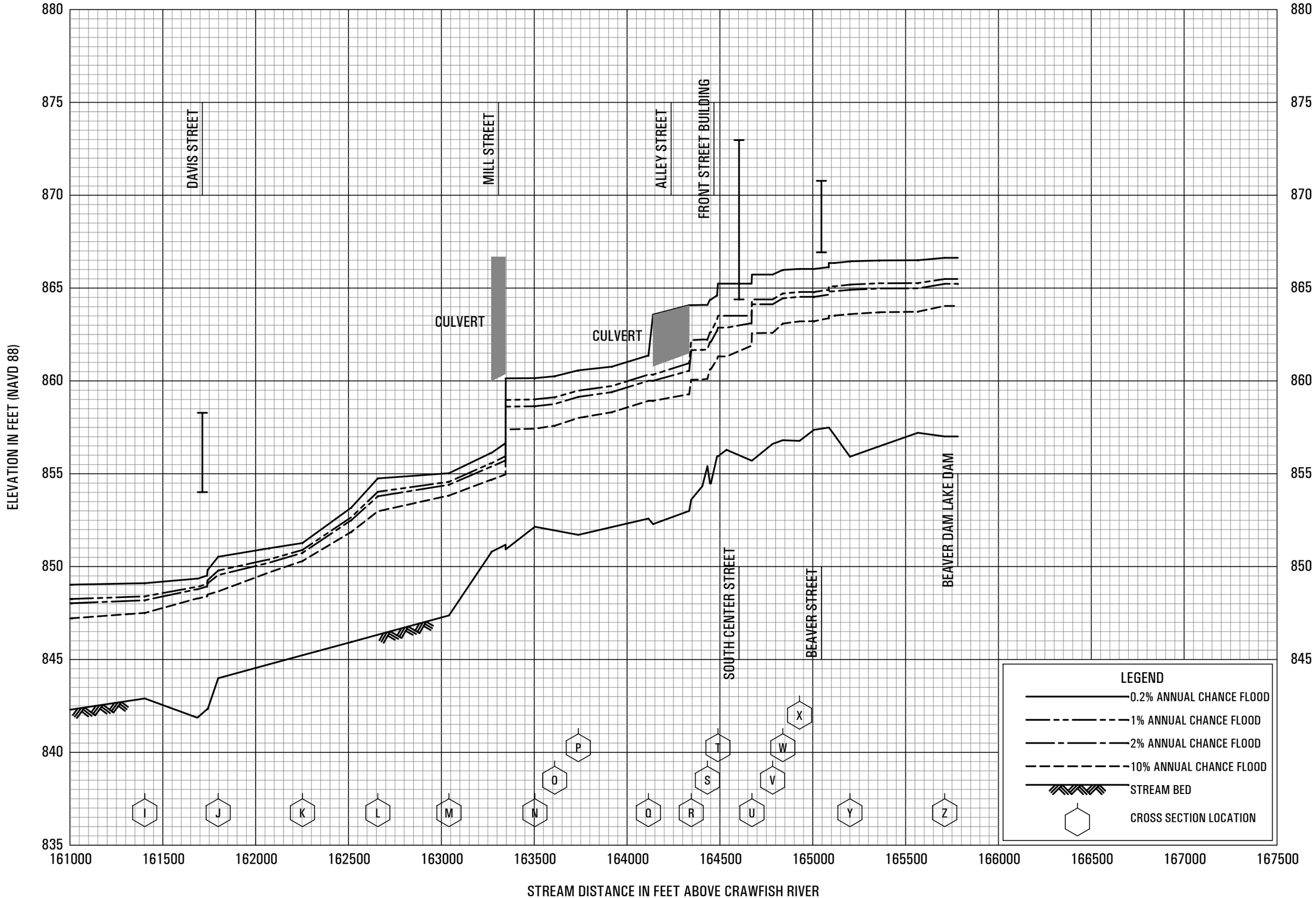
BEAVER DAM RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS

01P




FLOOD PROFILES

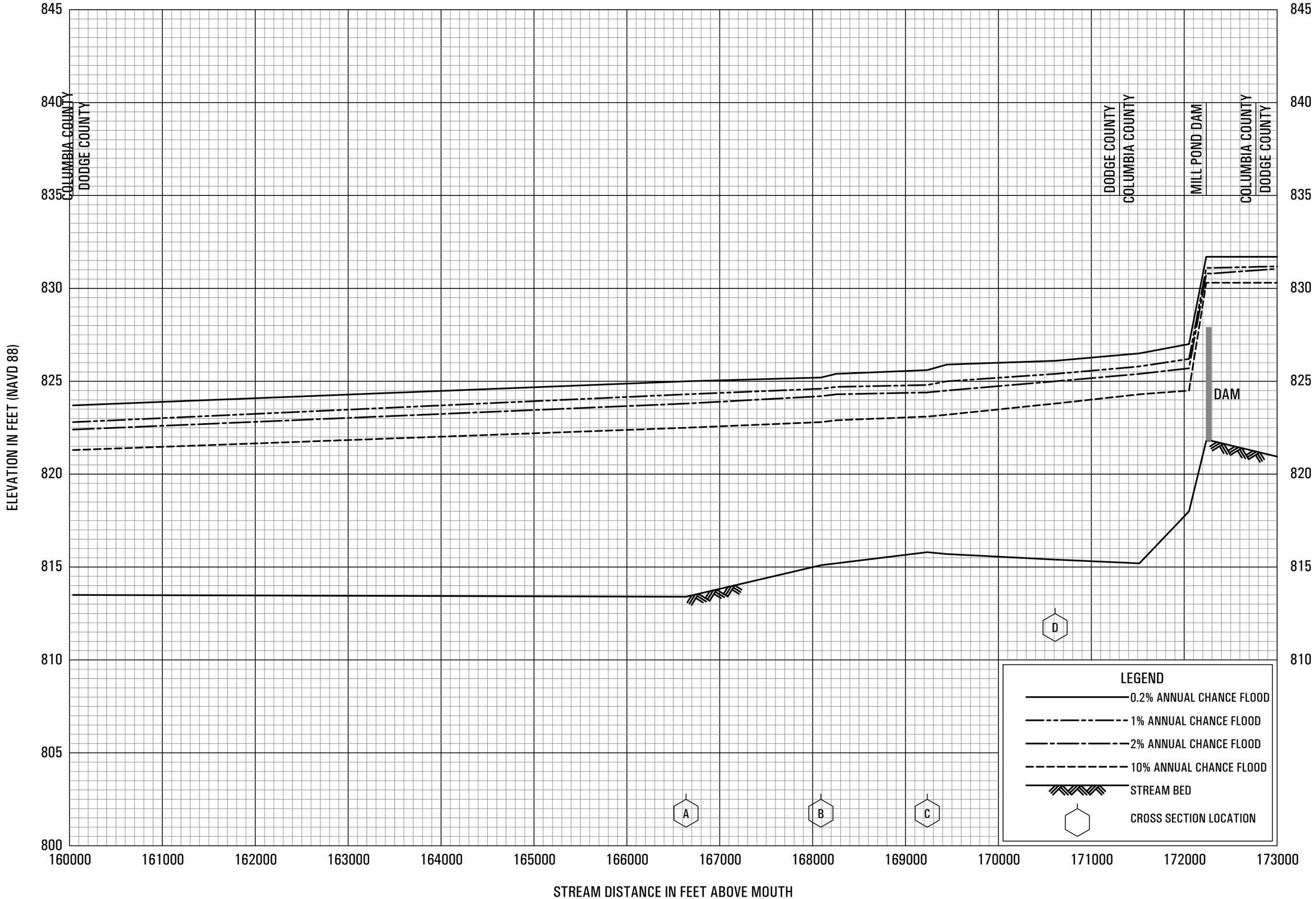
BEAVER DAM RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS

02P




FLOOD PROFILES

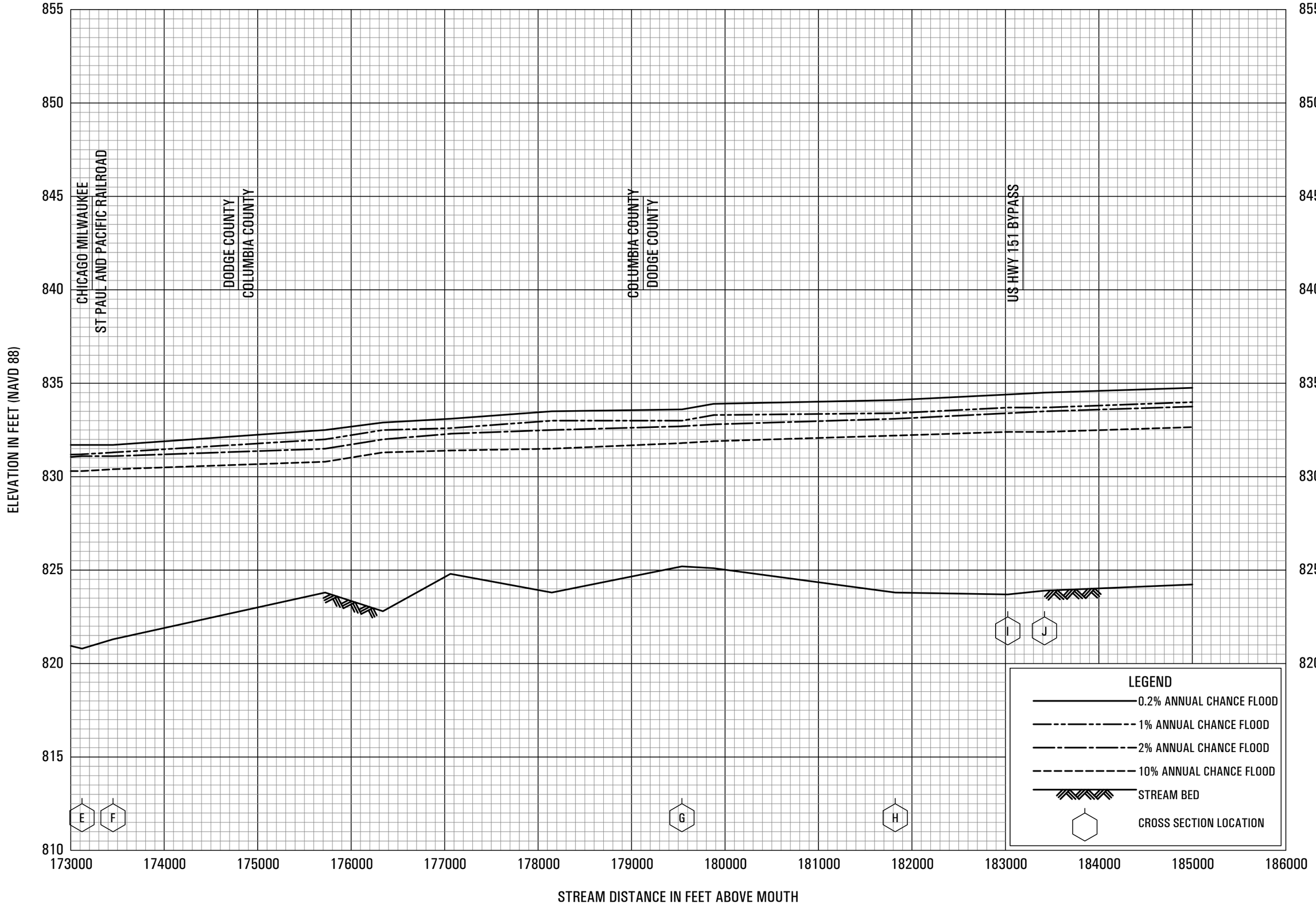
CRAWFISH RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS

03P



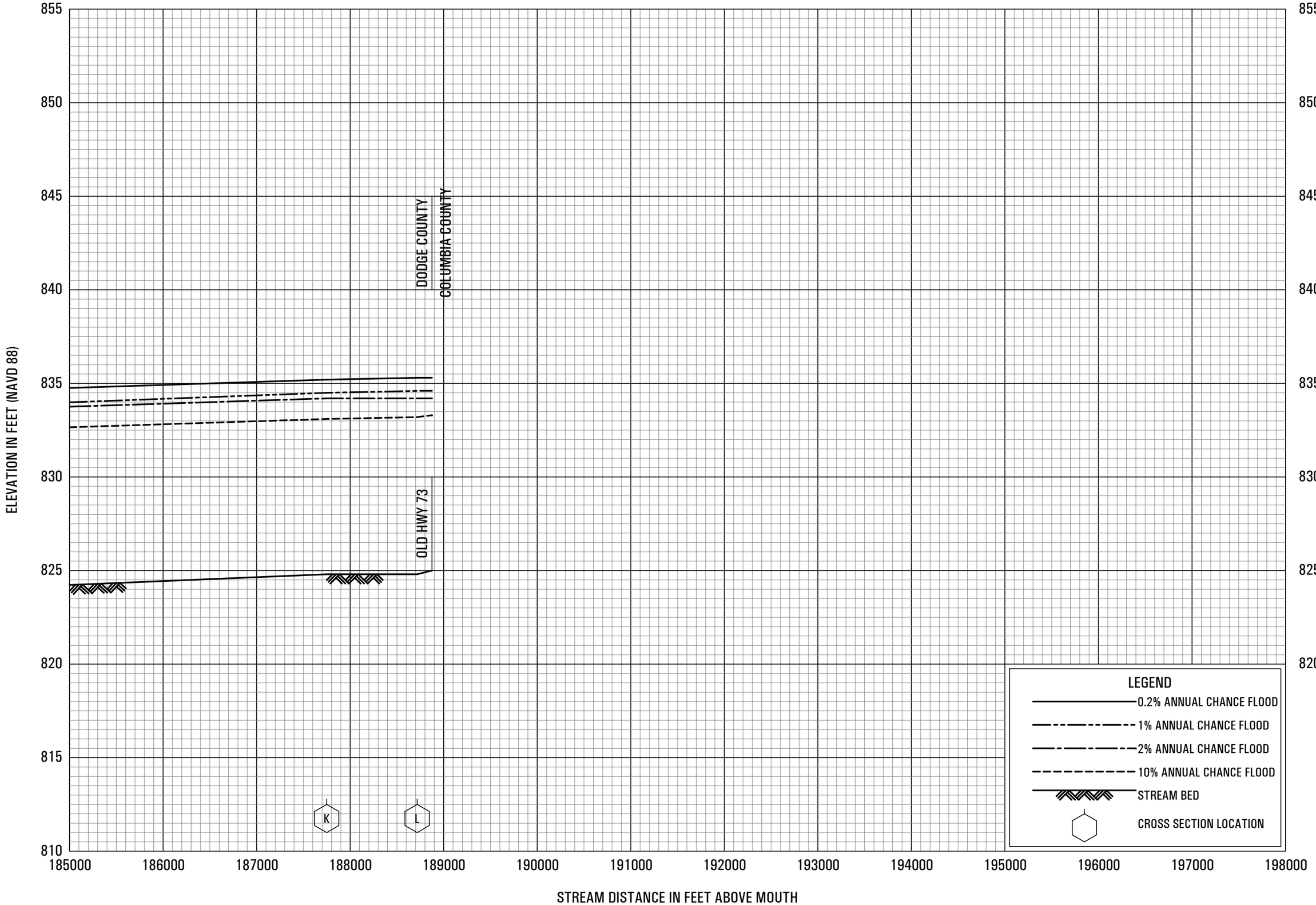

FLOOD PROFILES

CRAWFISH RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS




FLOOD PROFILES

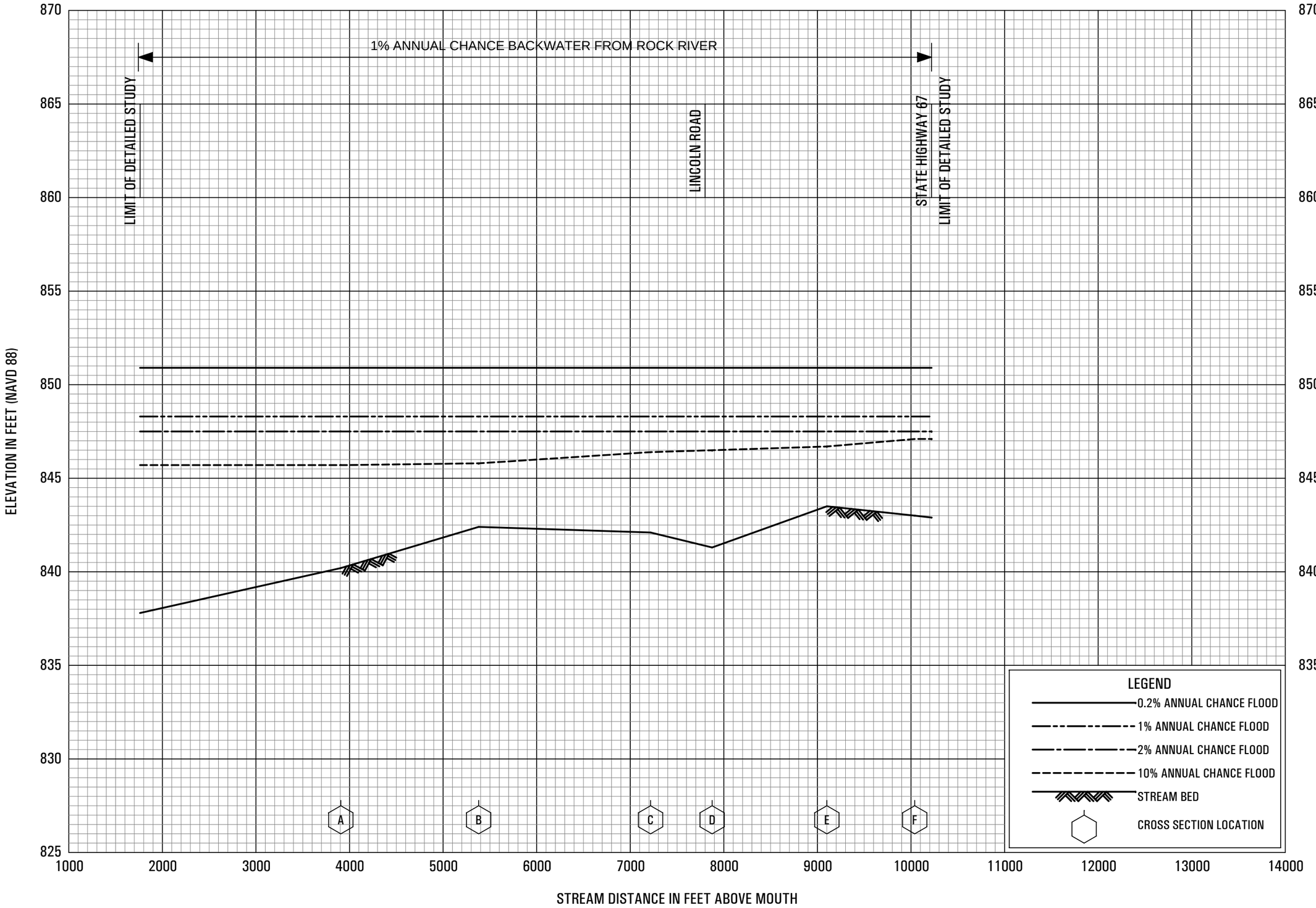
CRAWFISH RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS

05P




FLOOD PROFILES

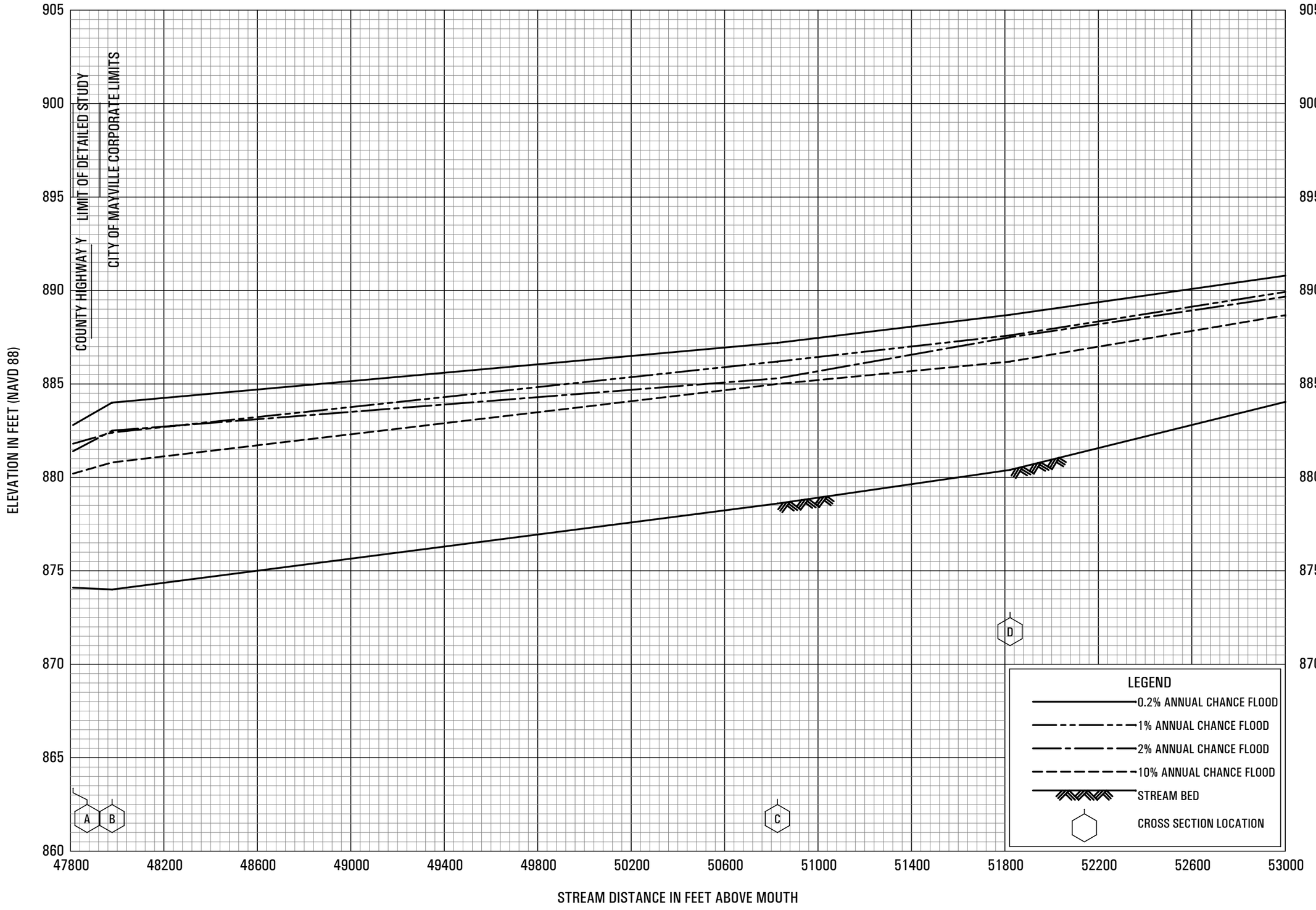
DAVY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS

06P




FLOOD PROFILES

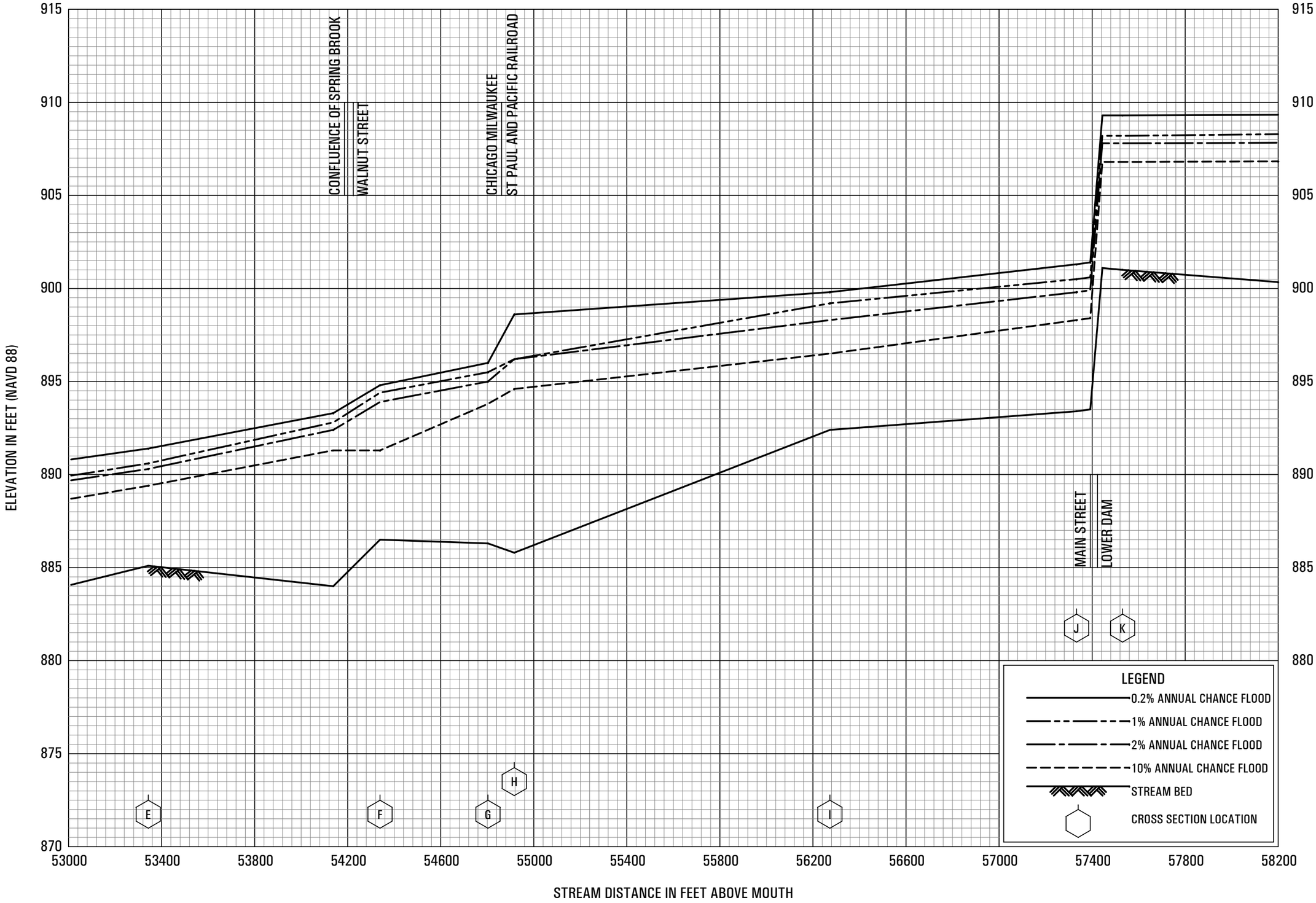
EAST BRANCH ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS

07P




FLOOD PROFILES

EAST BRANCH ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS

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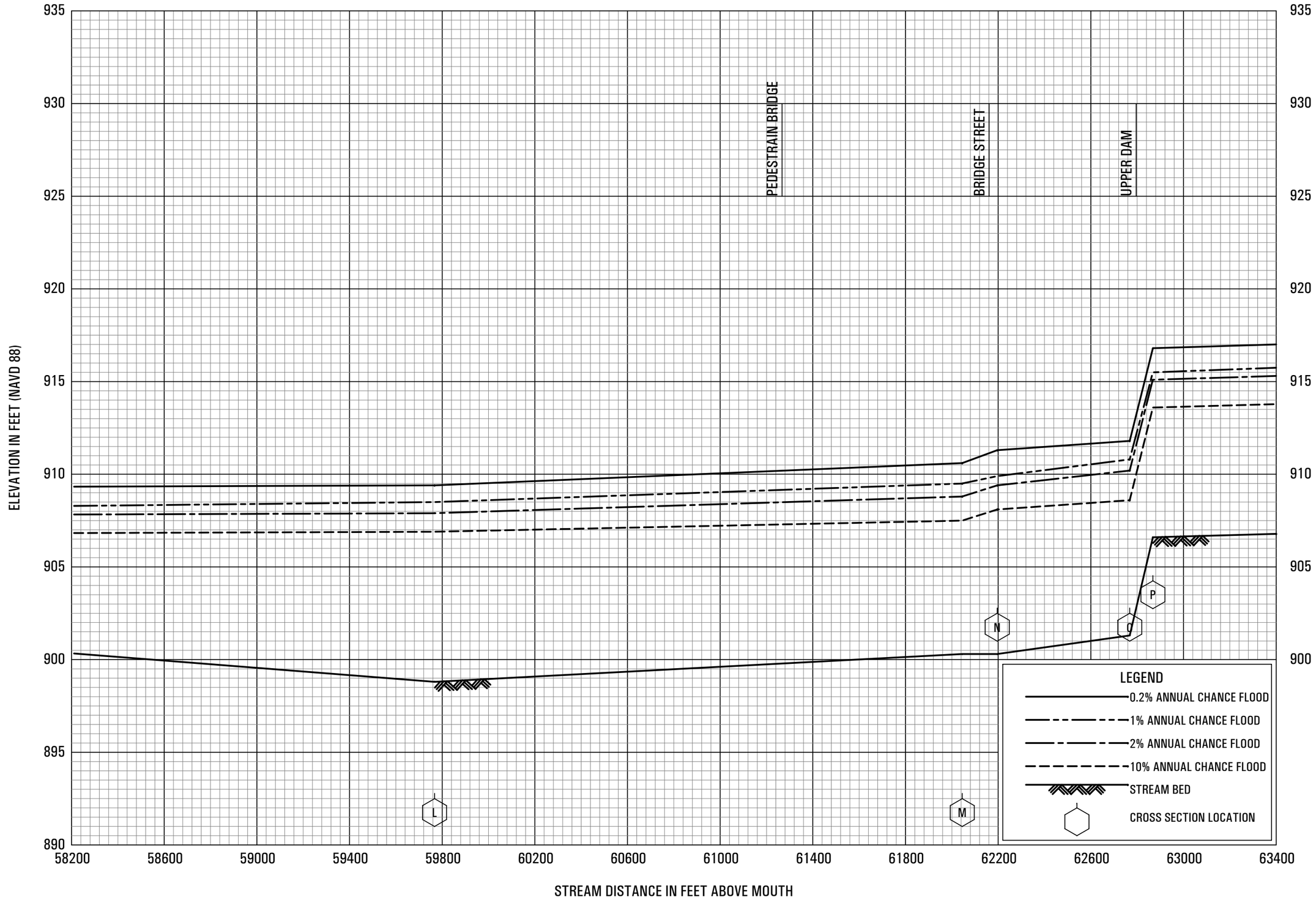



FLOOD PROFILES

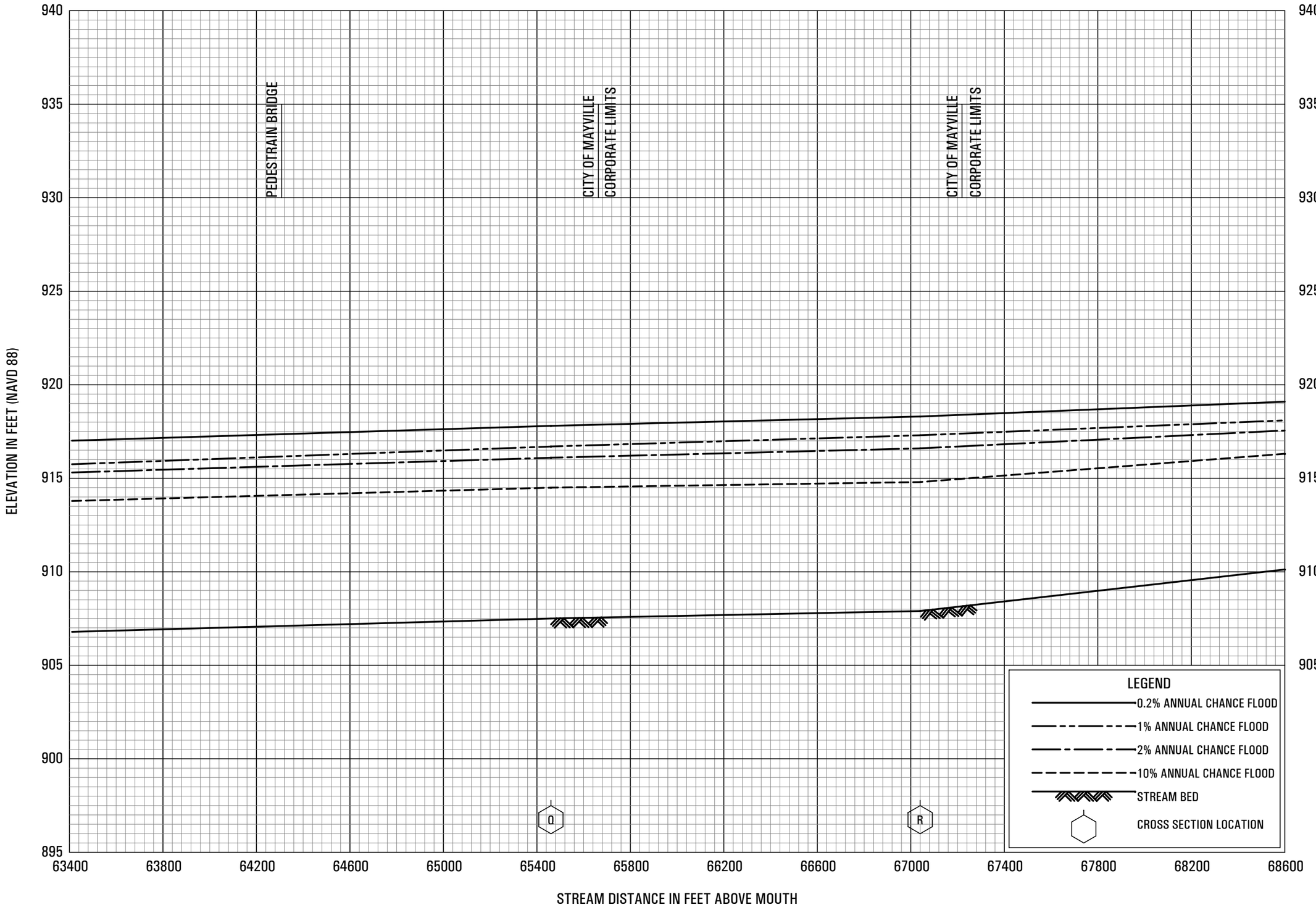
EAST BRANCH ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS

09P



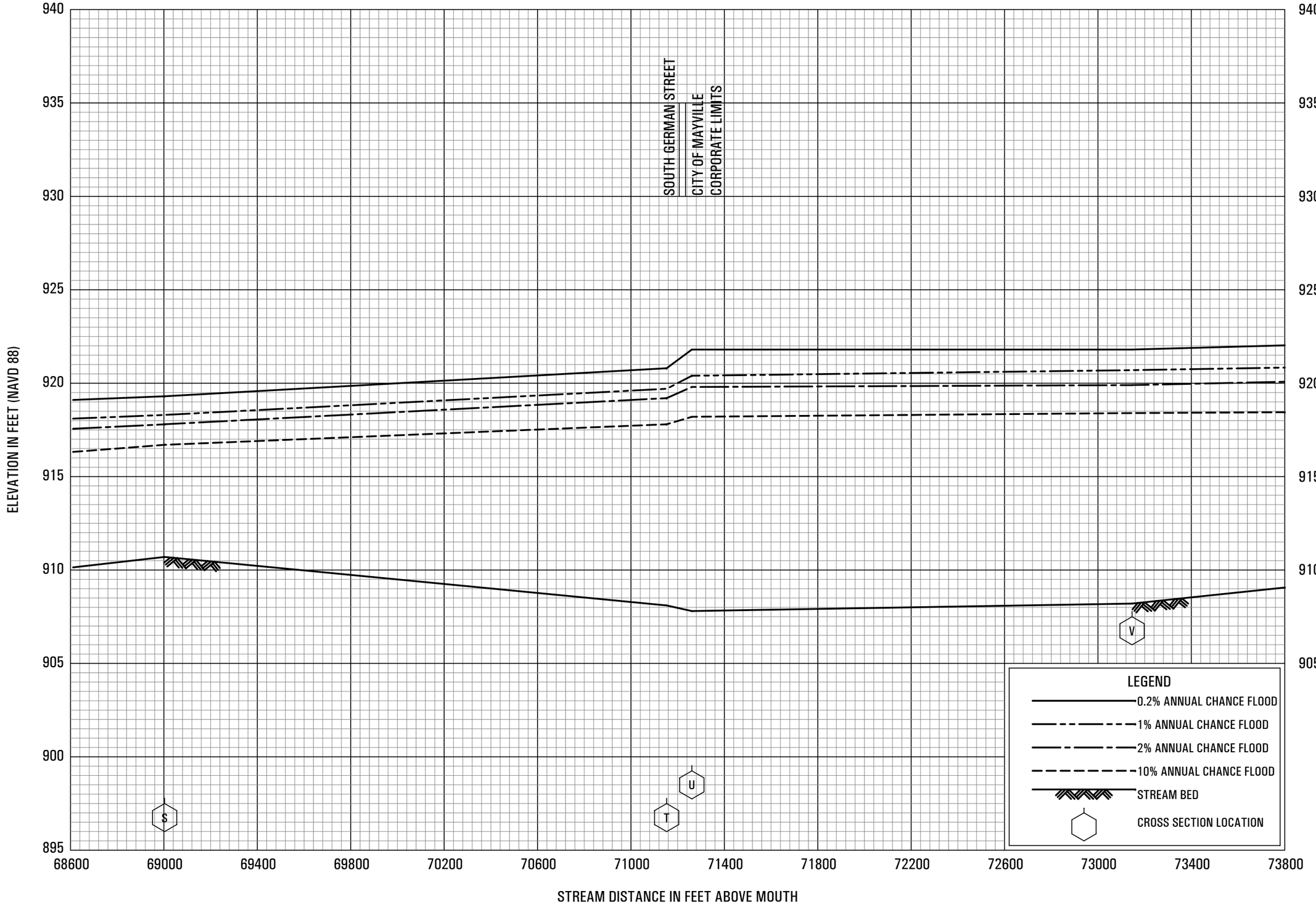

FLOOD PROFILES

EAST BRANCH ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



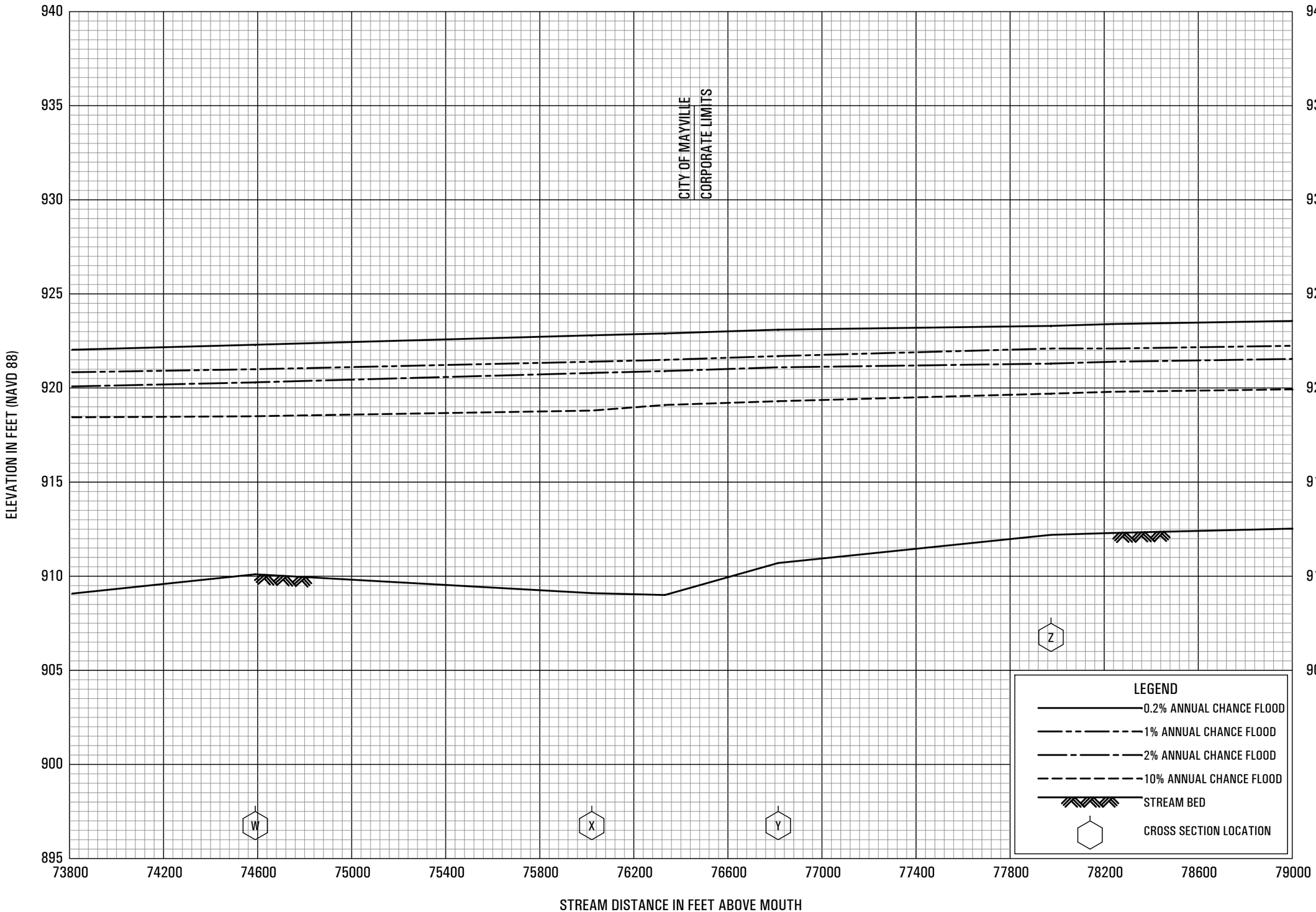

FLOOD PROFILES

EAST BRANCH ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



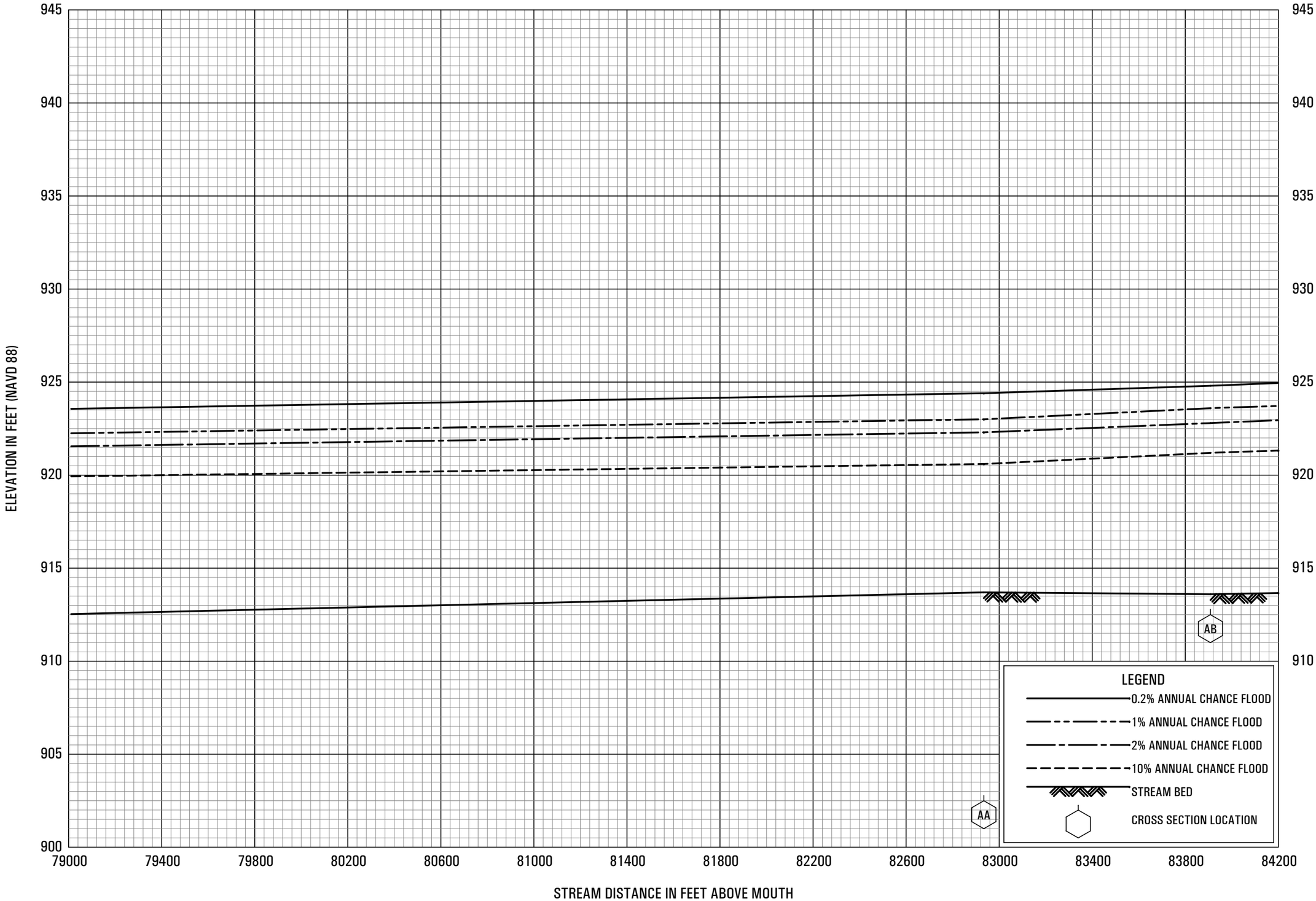

FLOOD PROFILES

EAST BRANCH ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



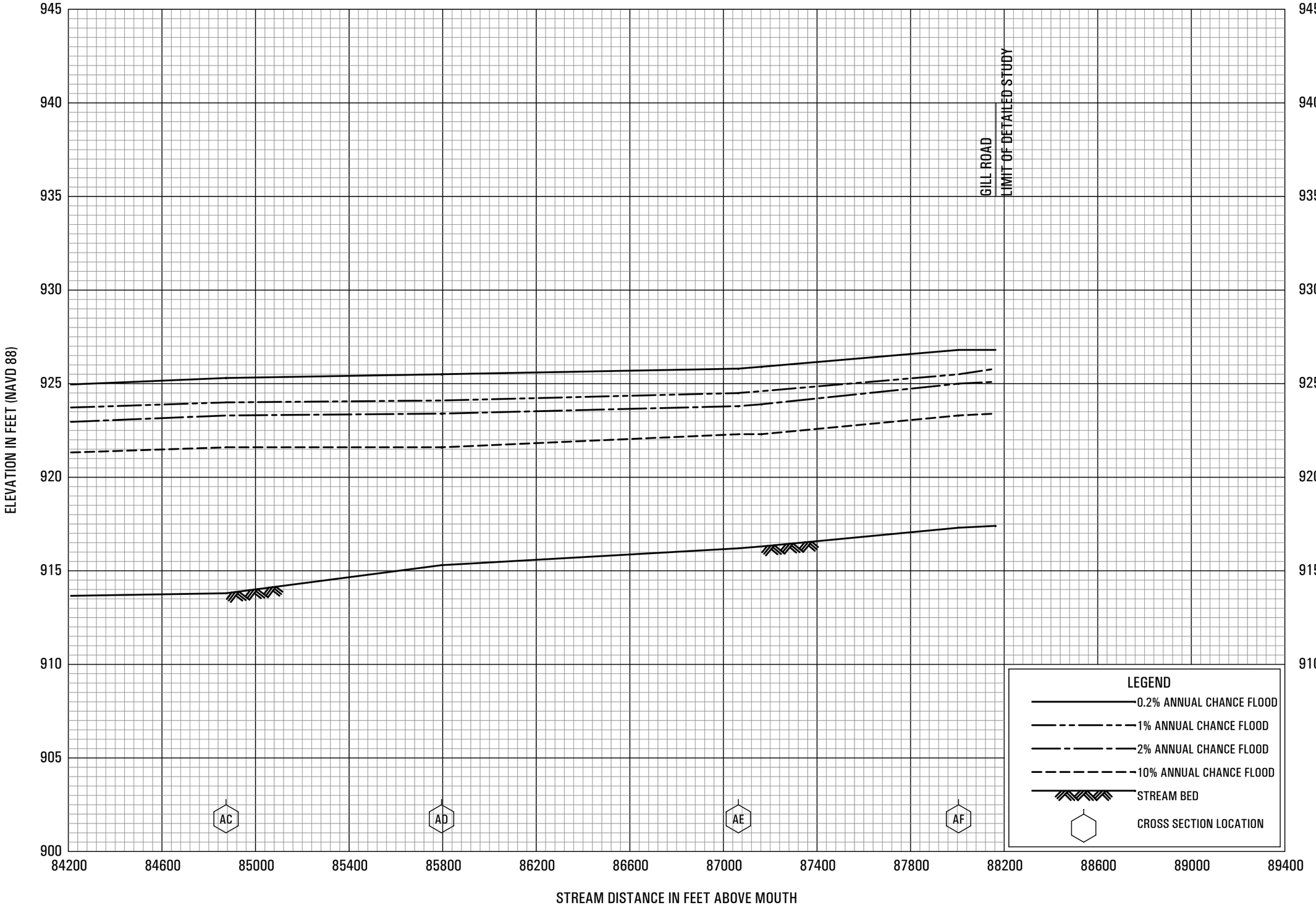

FLOOD PROFILES

EAST BRANCH ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



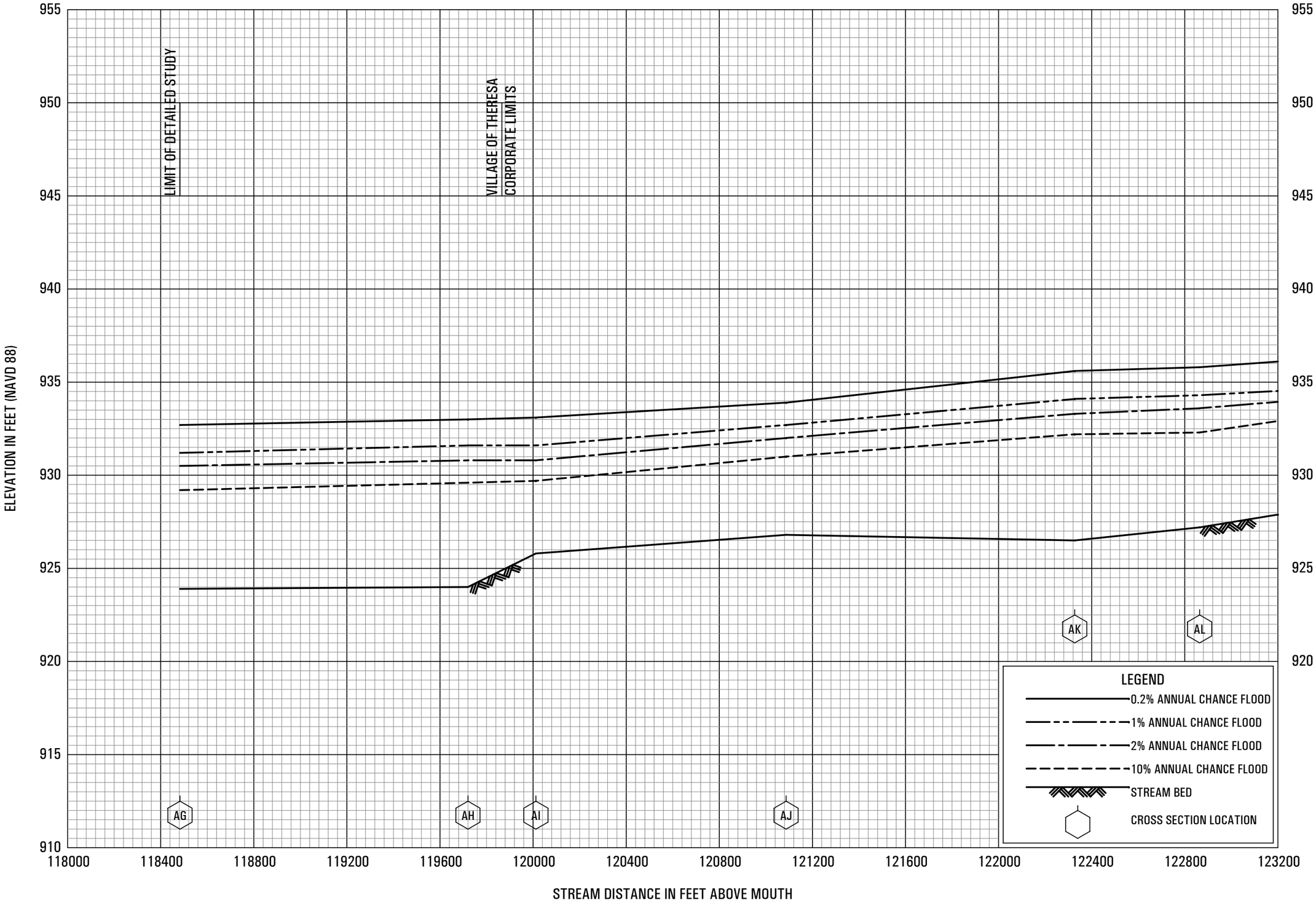

FLOOD PROFILES

EAST BRANCH ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



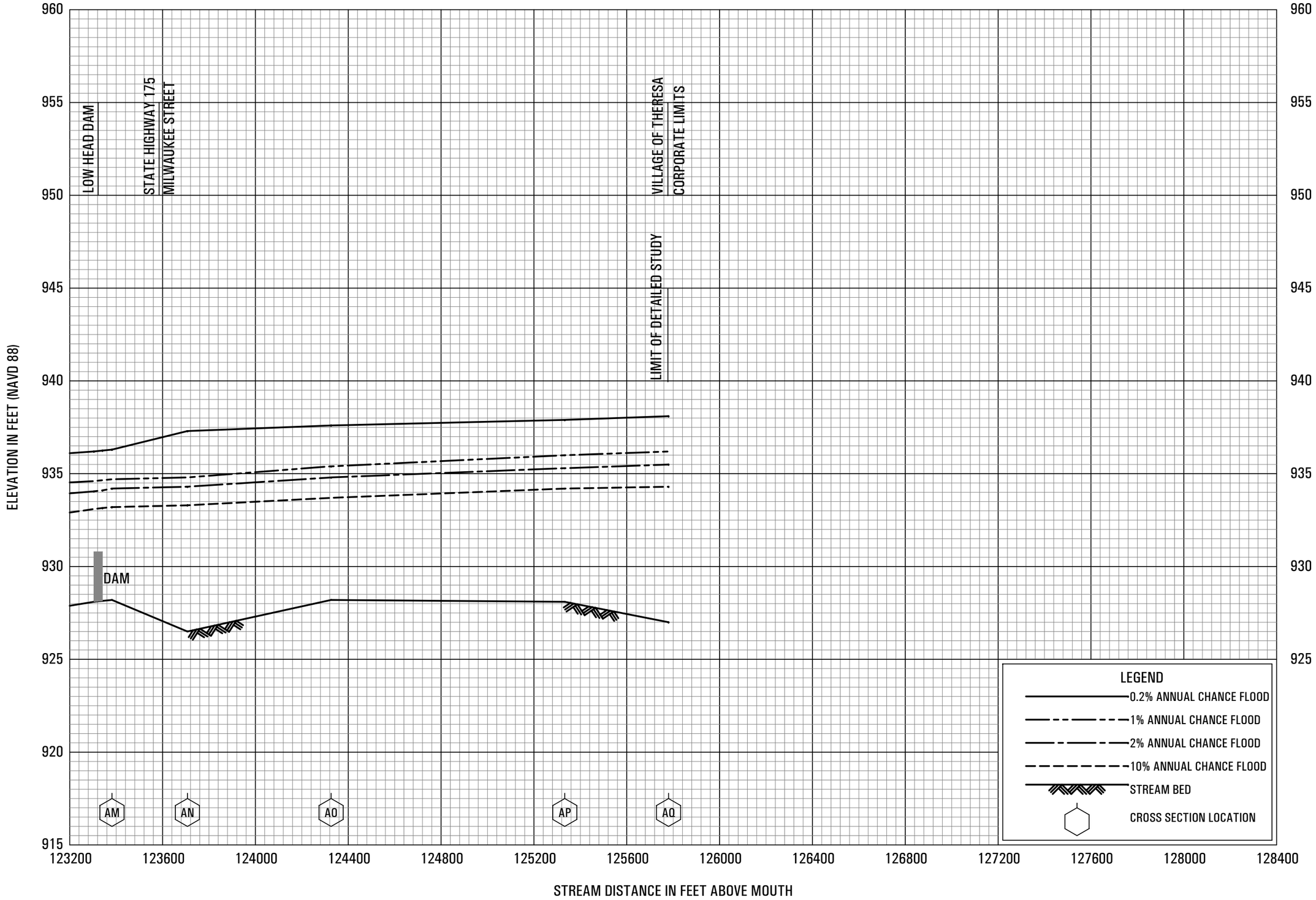

FLOOD PROFILES

EAST BRANCH ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS




FLOOD PROFILES

EAST BRANCH ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS

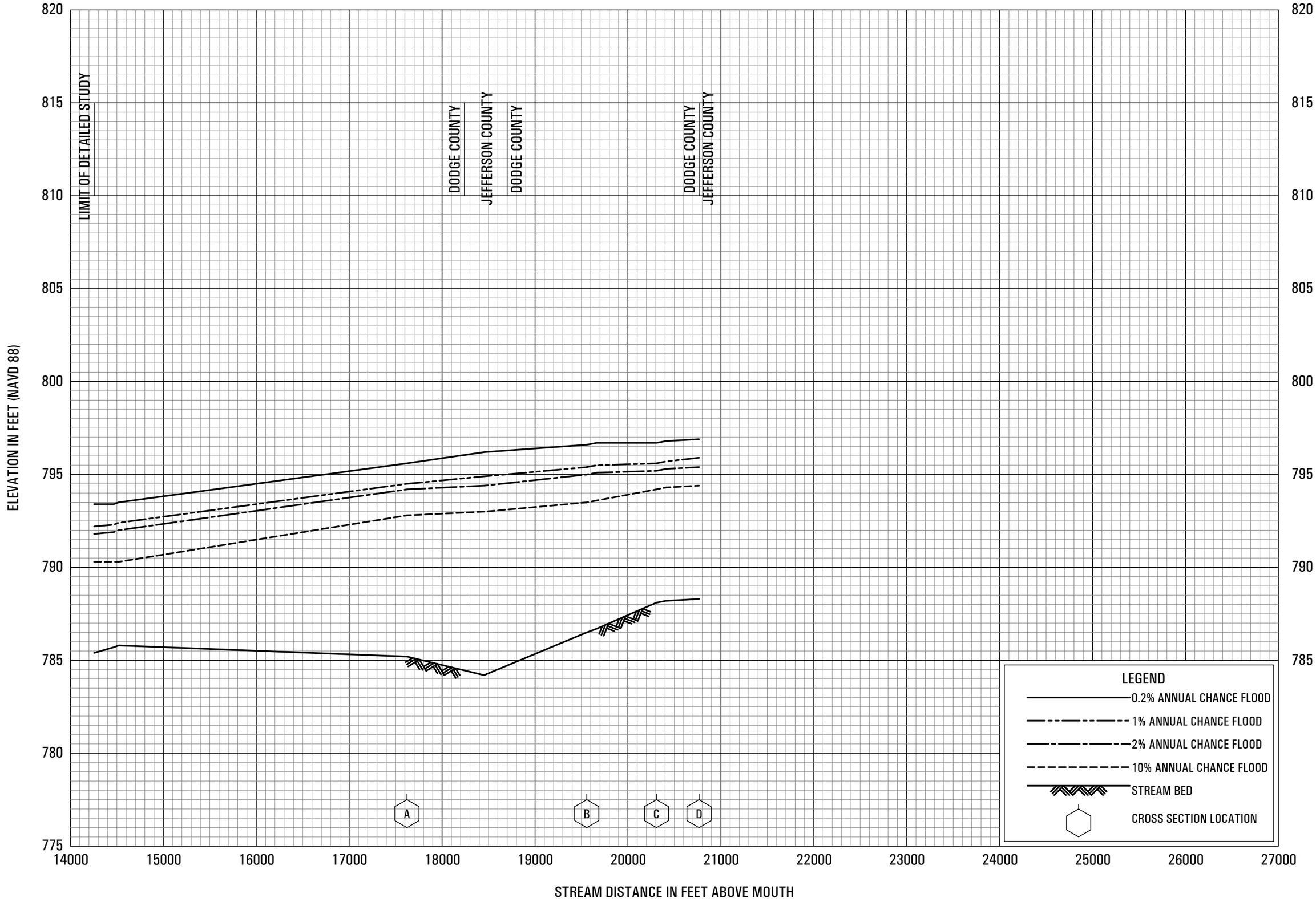
FLOOD PROFILES

LIBBY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



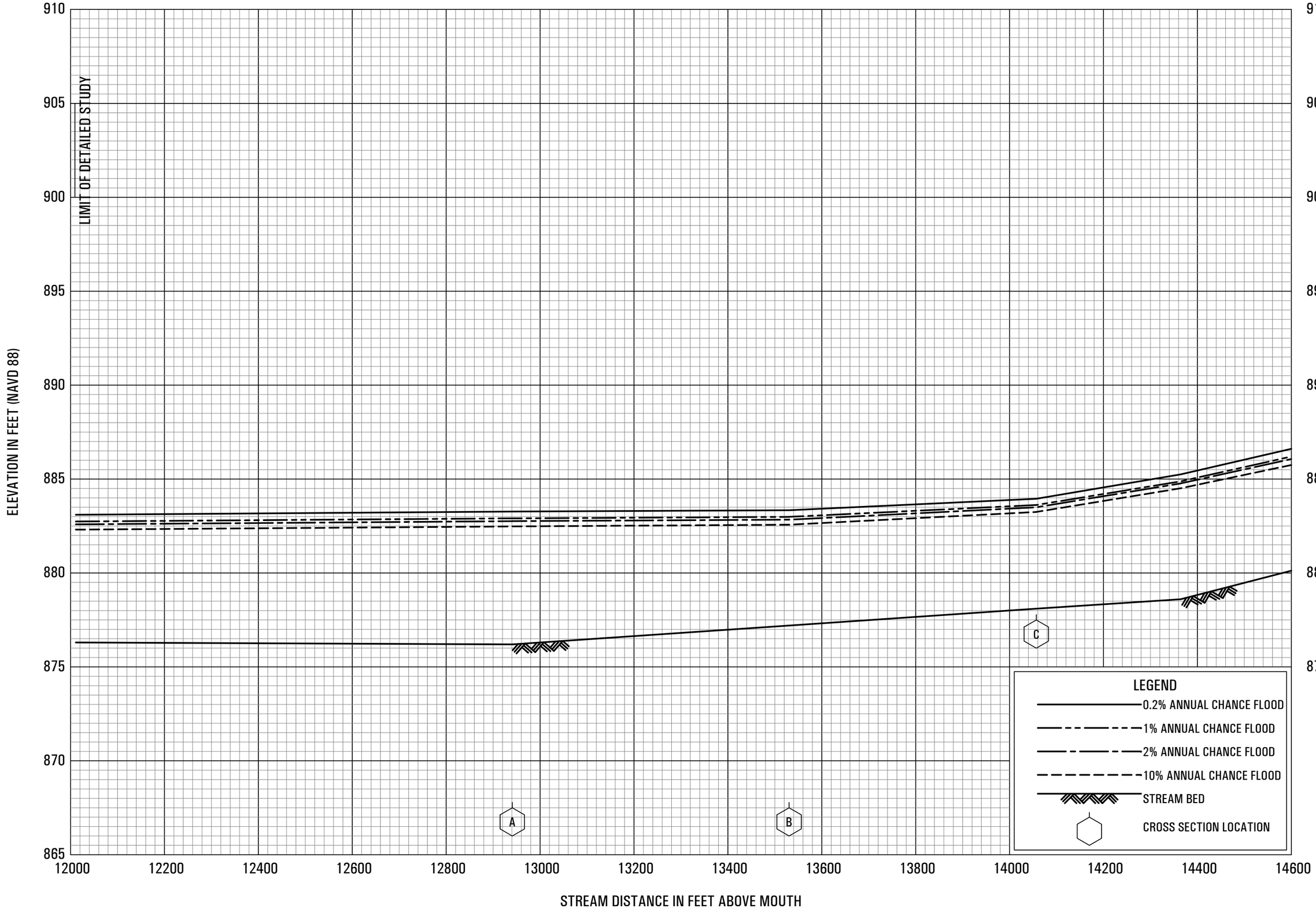

FLOOD PROFILES

MAUNESHA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



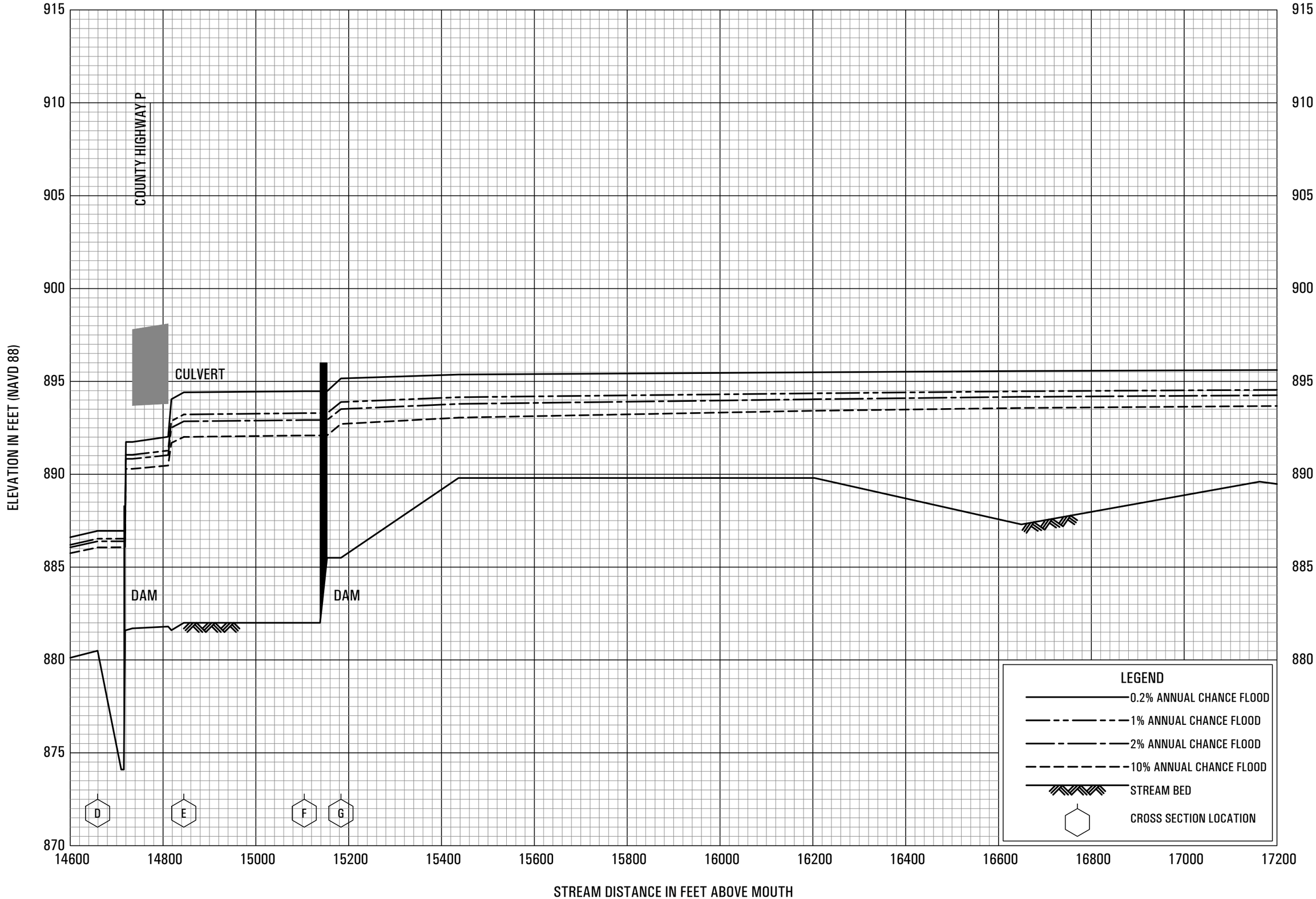

FLOOD PROFILES

OLD MILL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



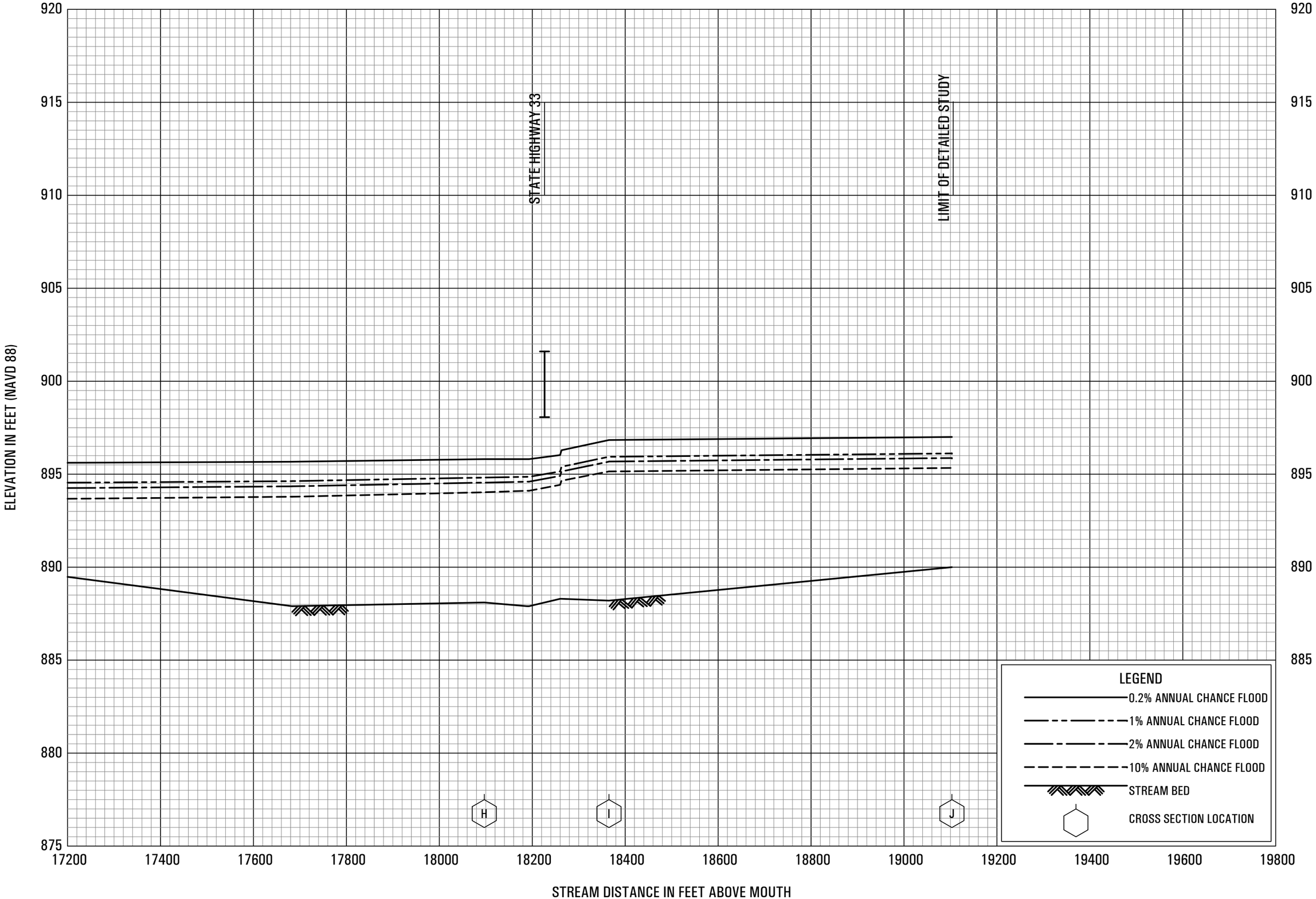

FLOOD PROFILES

OLD MILL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



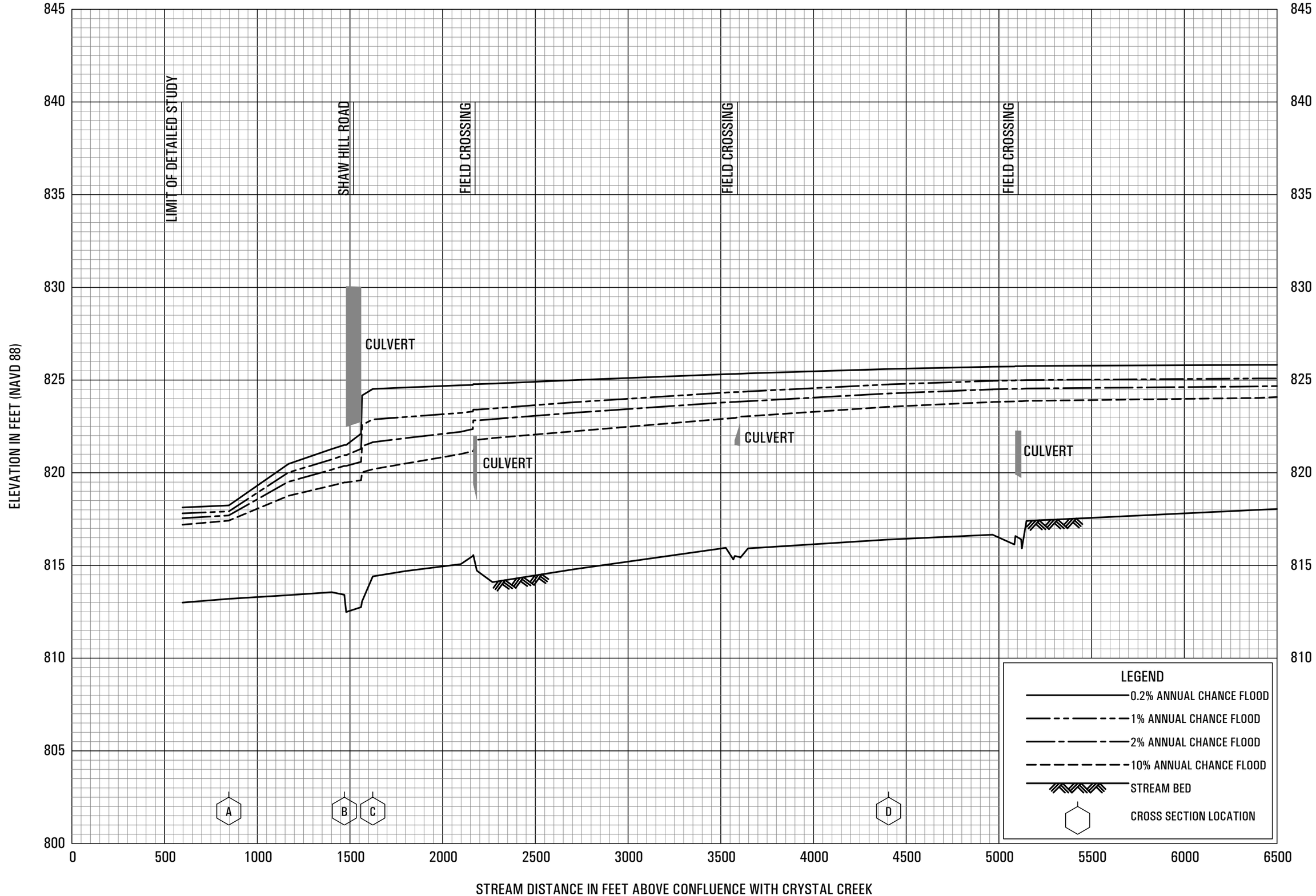

FLOOD PROFILES

OLD MILL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



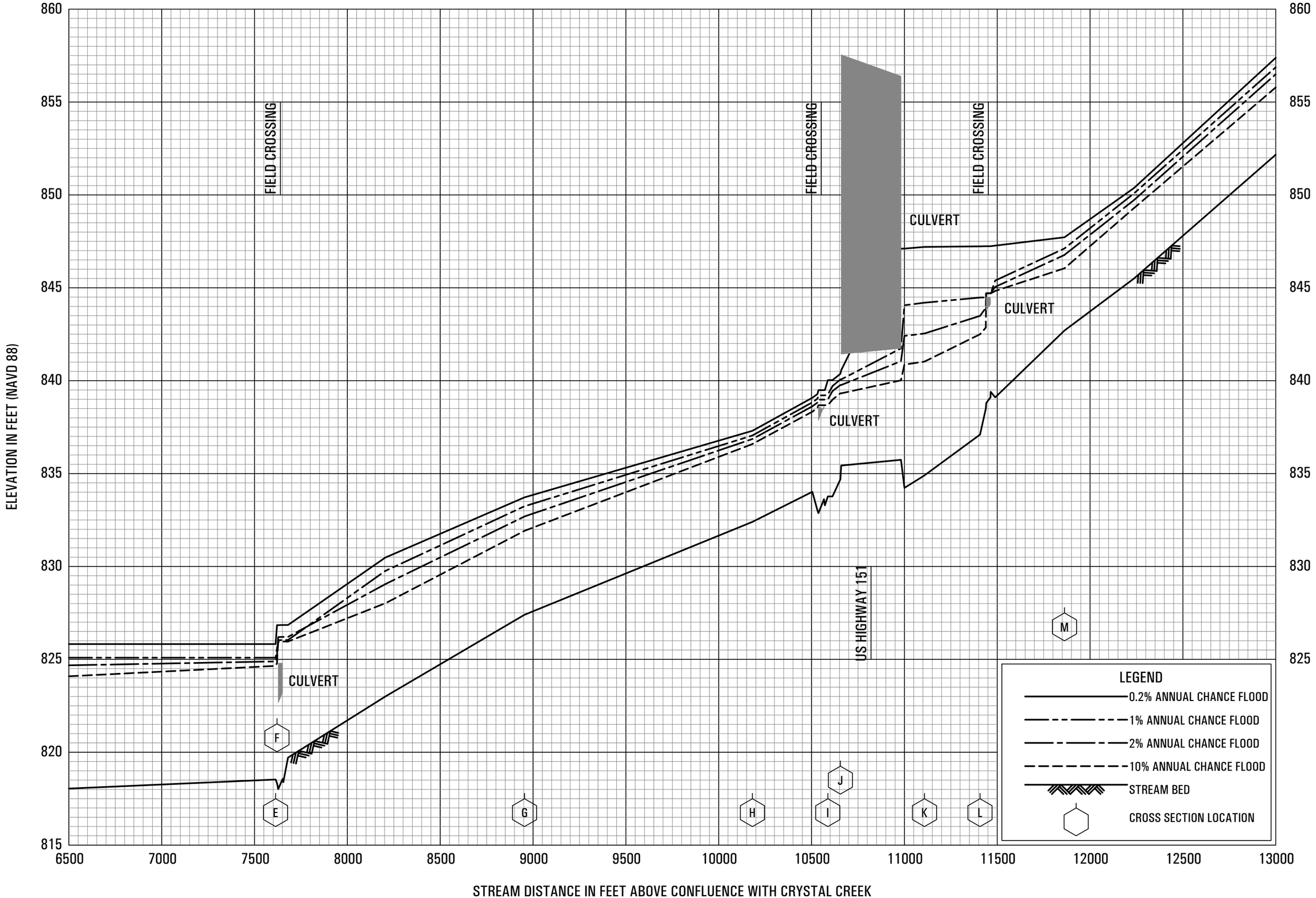

FLOOD PROFILES

PARK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



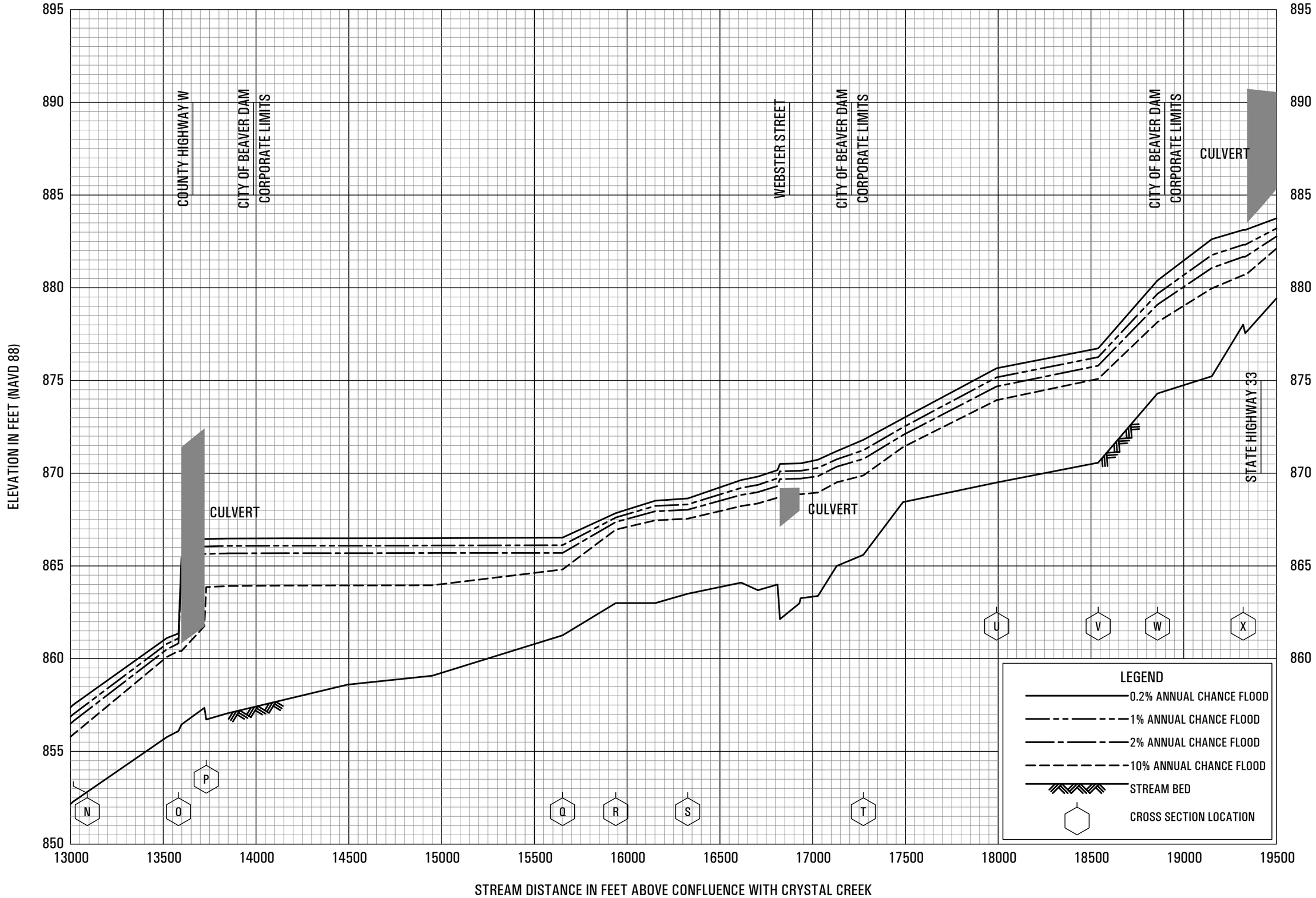

FLOOD PROFILES

PARK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



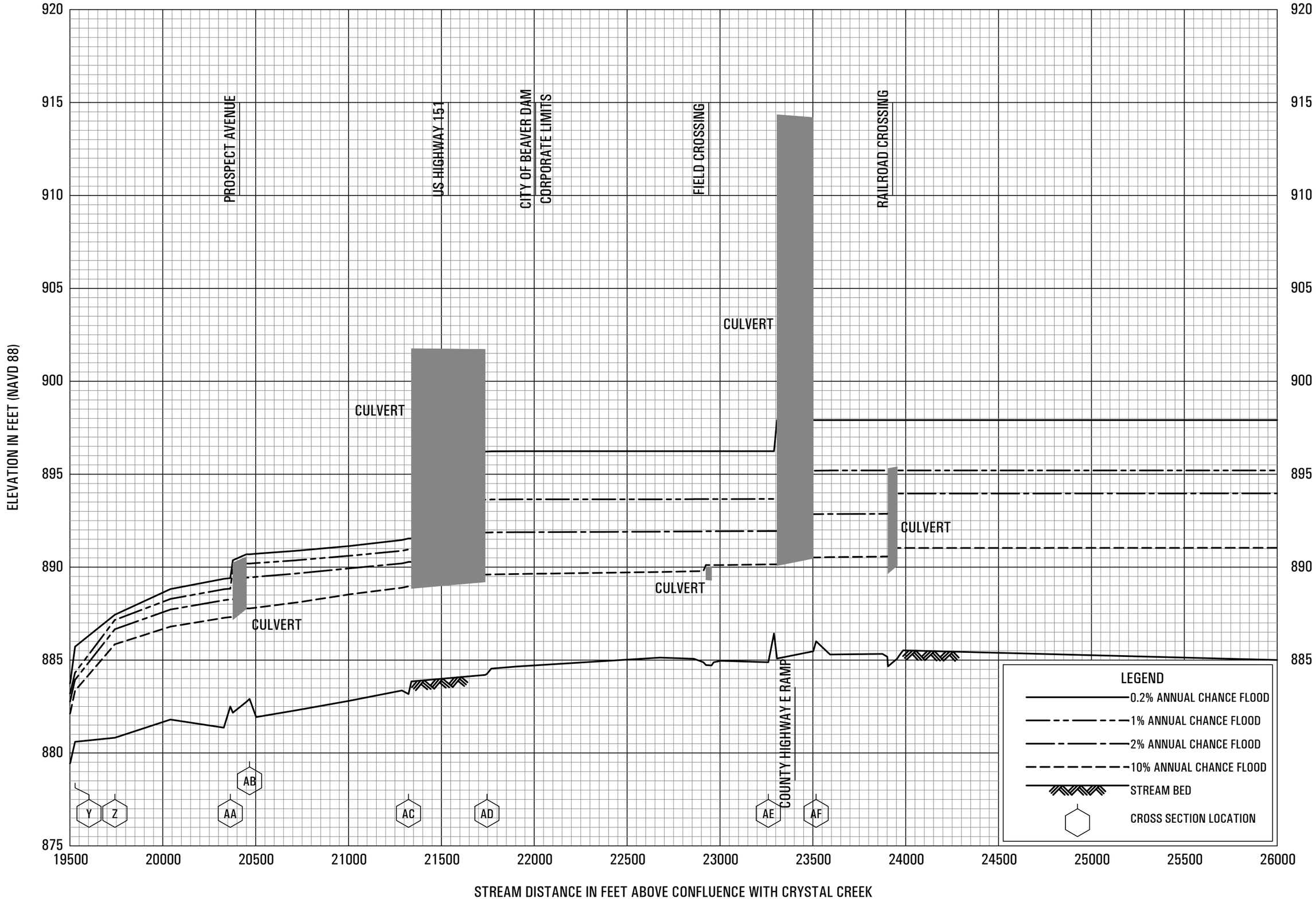

FLOOD PROFILES

PARK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



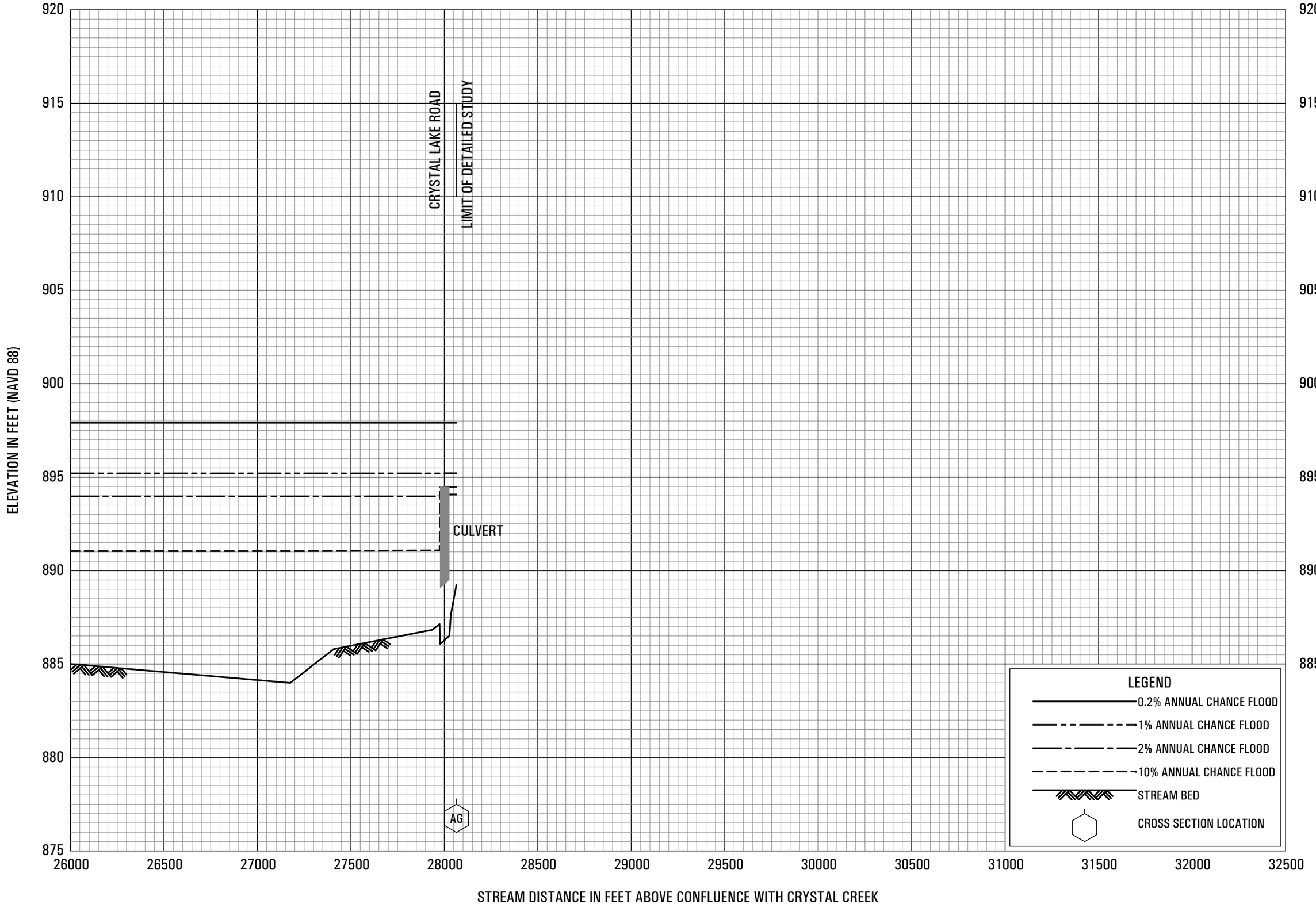

FLOOD PROFILES

PARK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



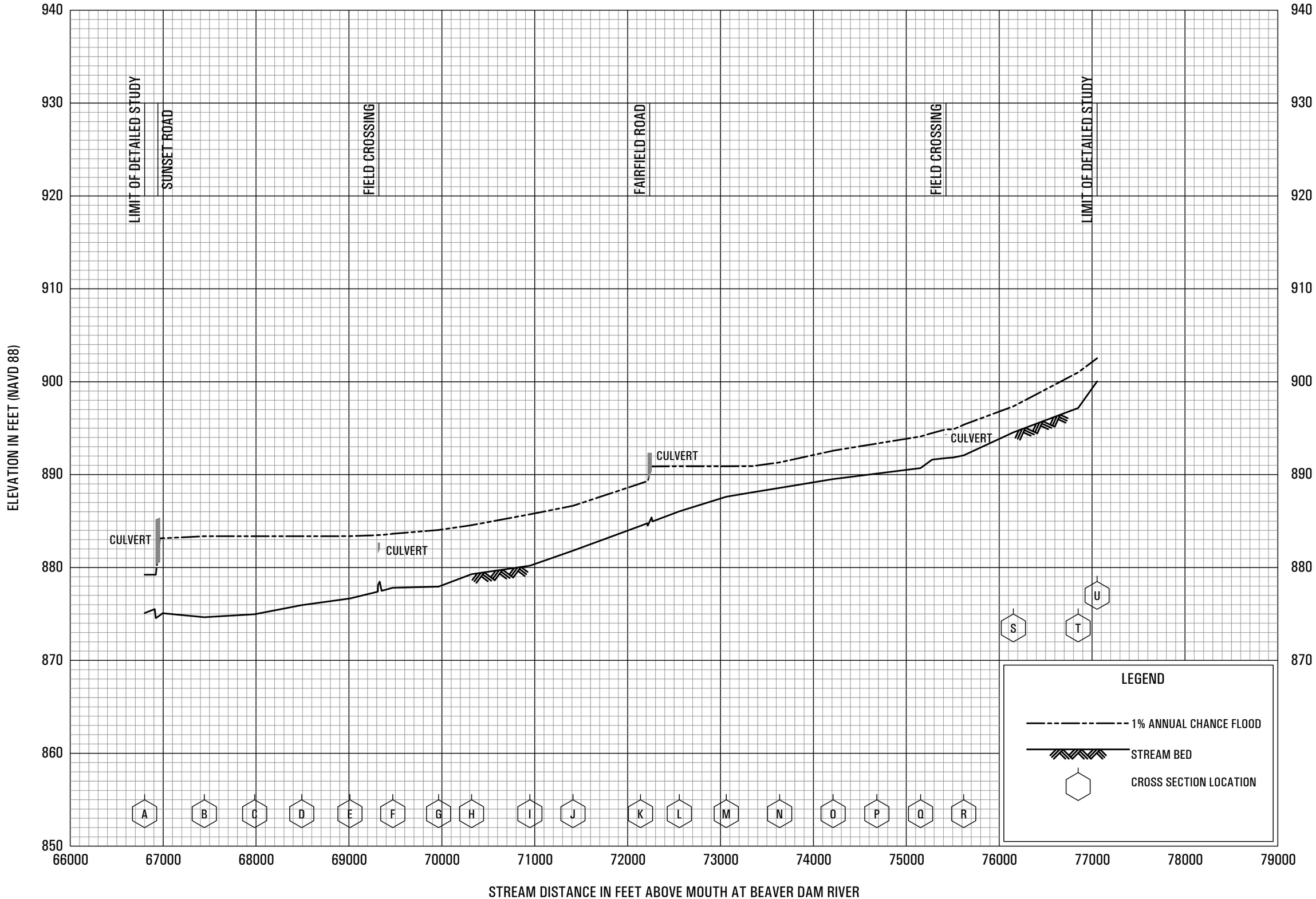

FLOOD PROFILES

PARK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



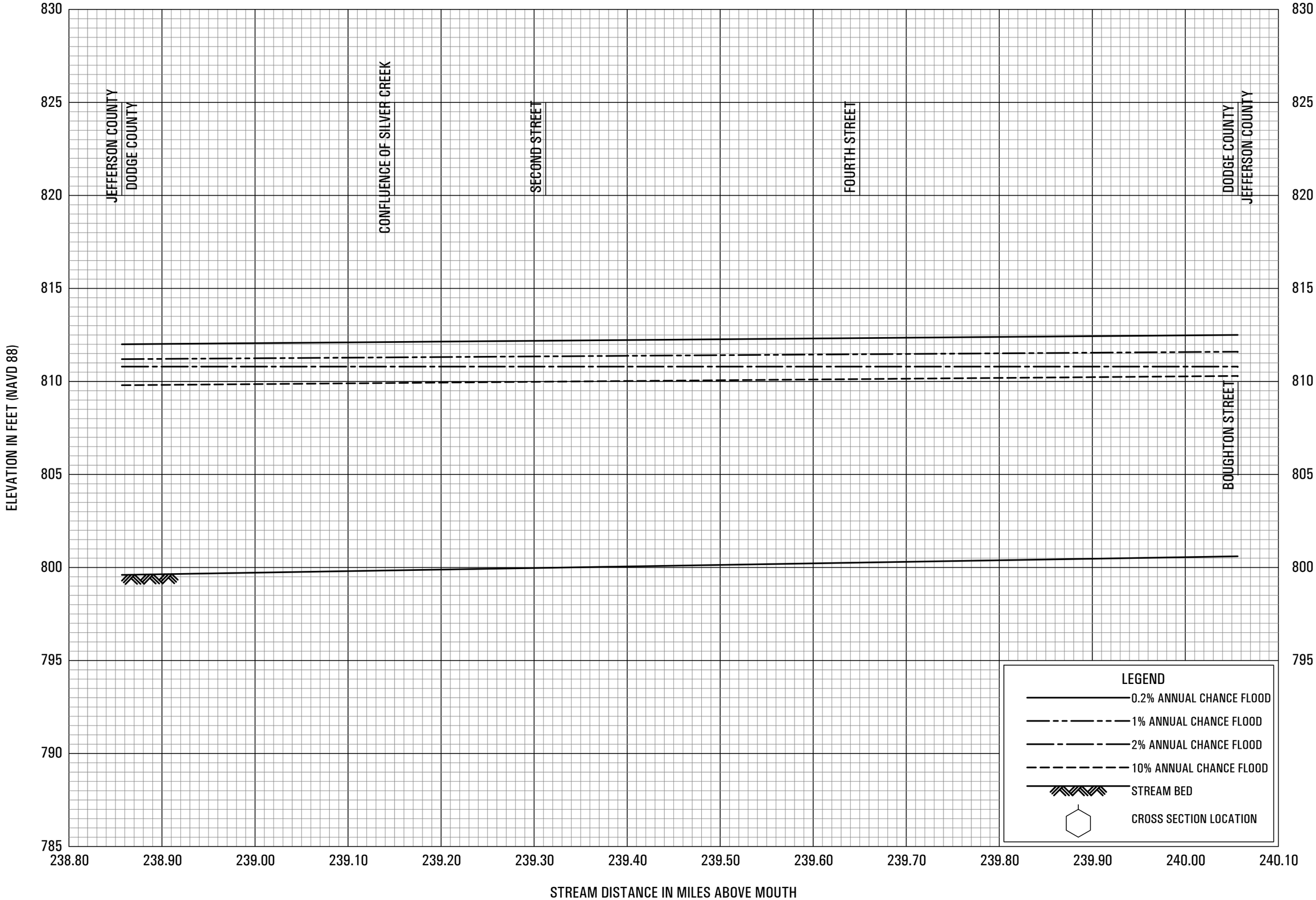

FLOOD PROFILES

PRATT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



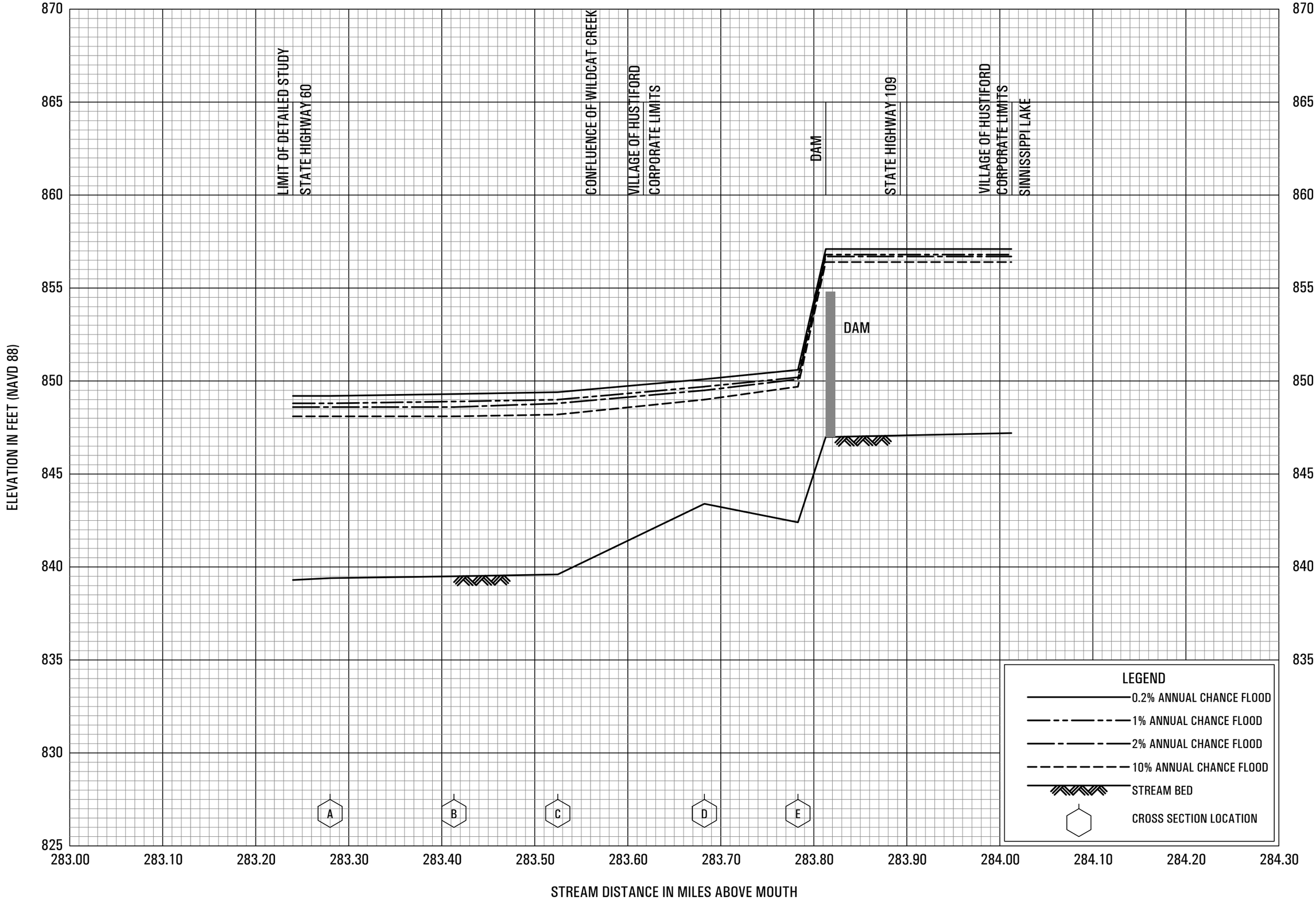

FLOOD PROFILES

ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



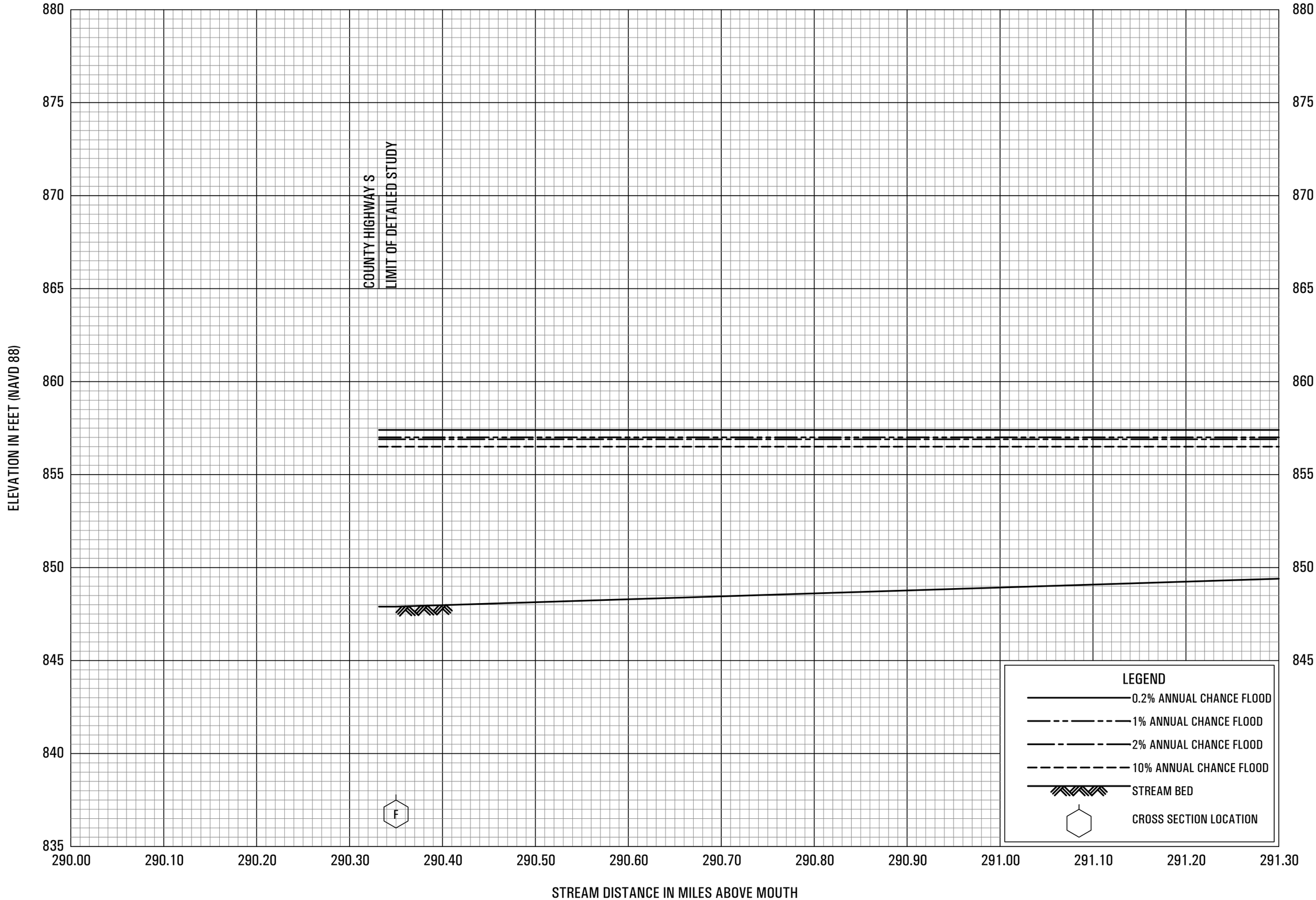

FLOOD PROFILES

ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS




FLOOD PROFILES

ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS

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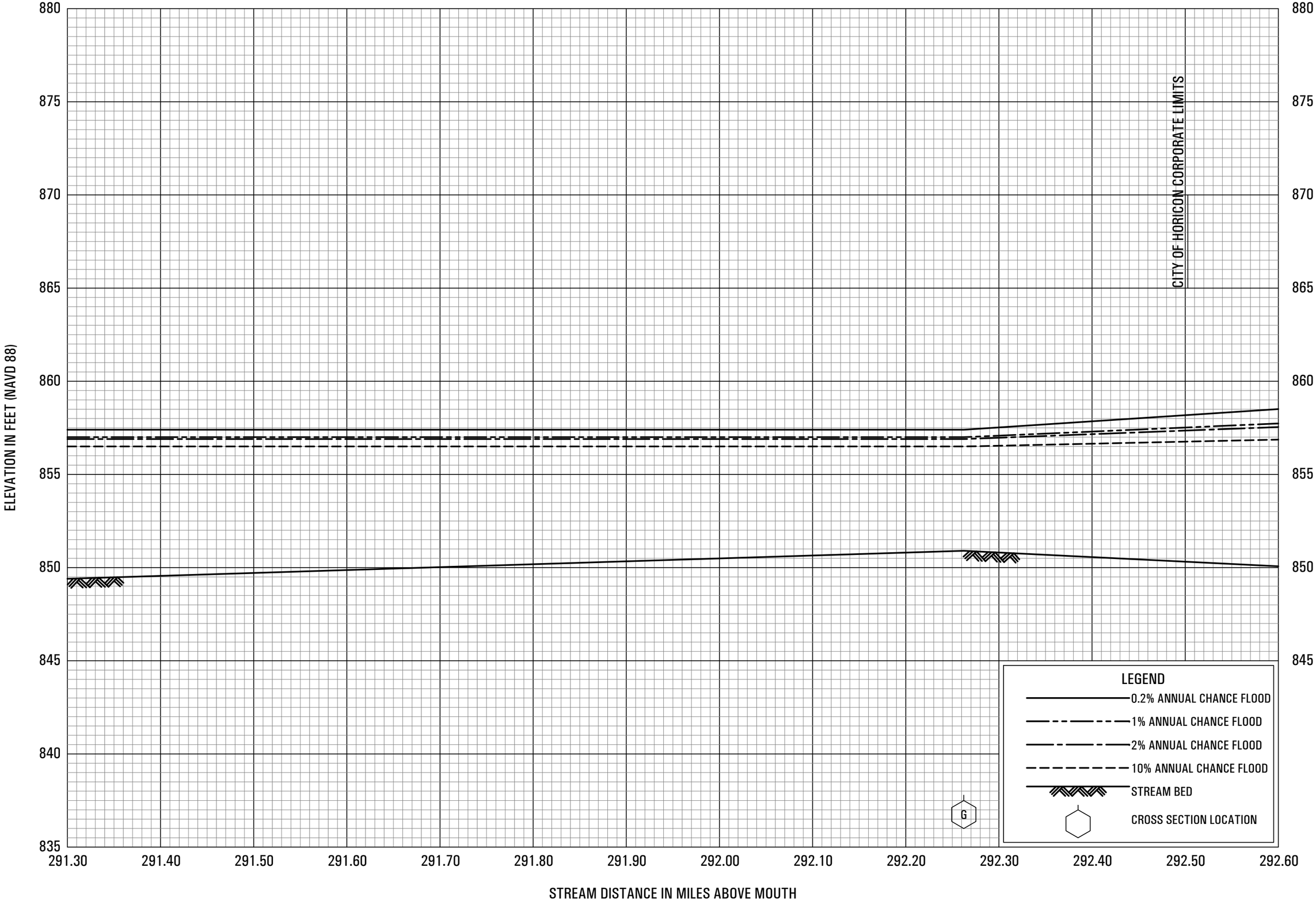


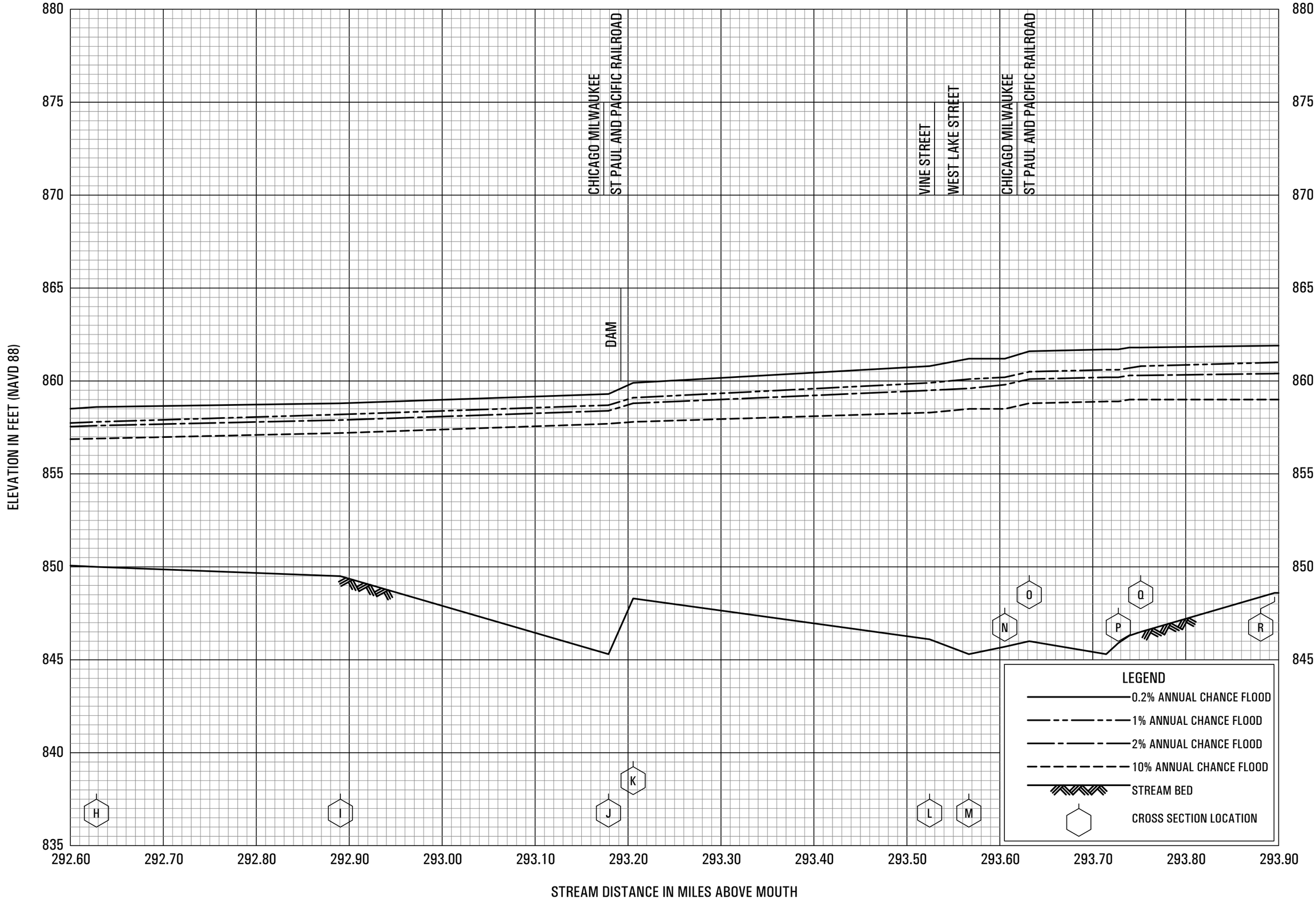

FLOOD PROFILES

ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



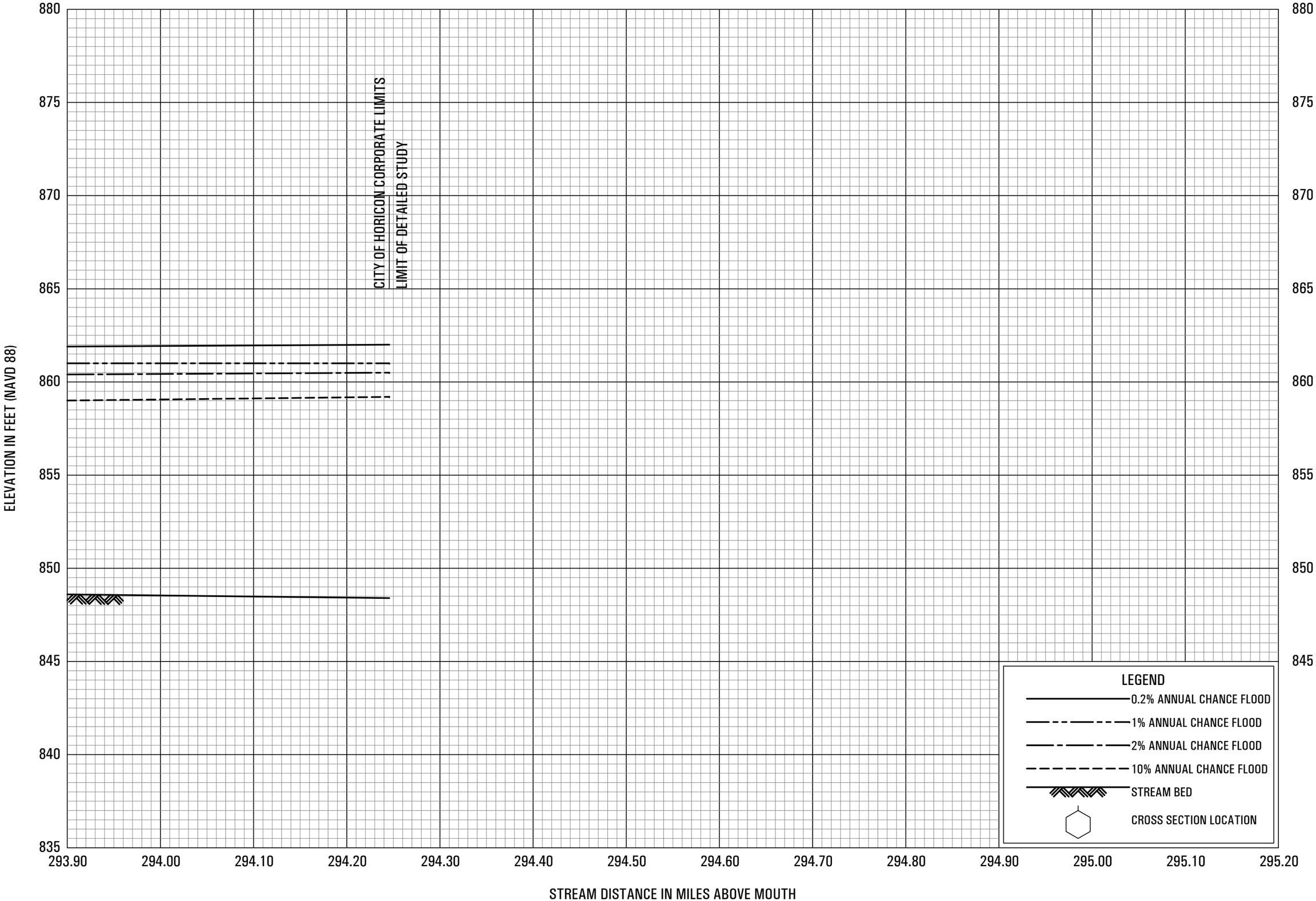

FLOOD PROFILES

ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



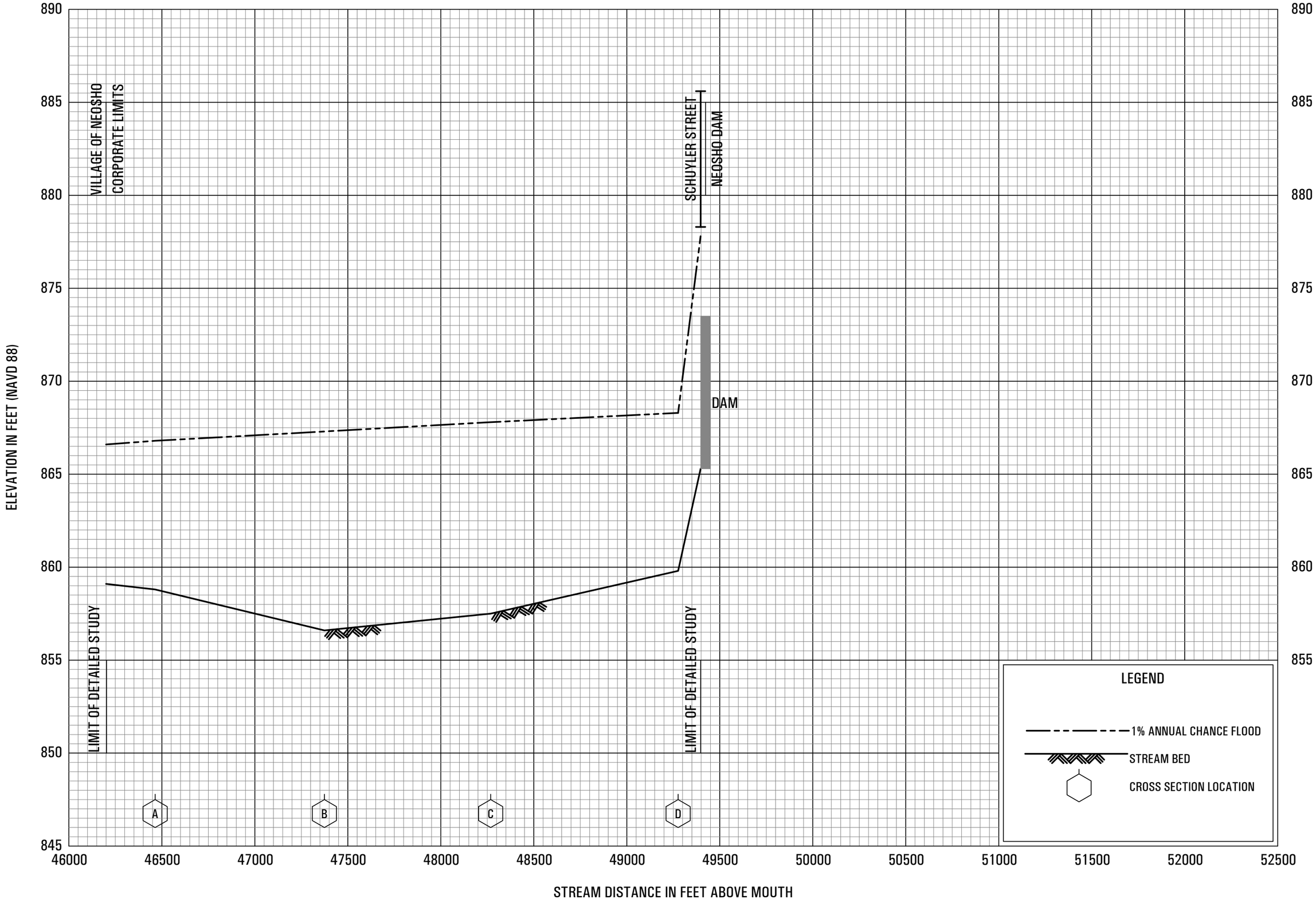

FLOOD PROFILES

ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



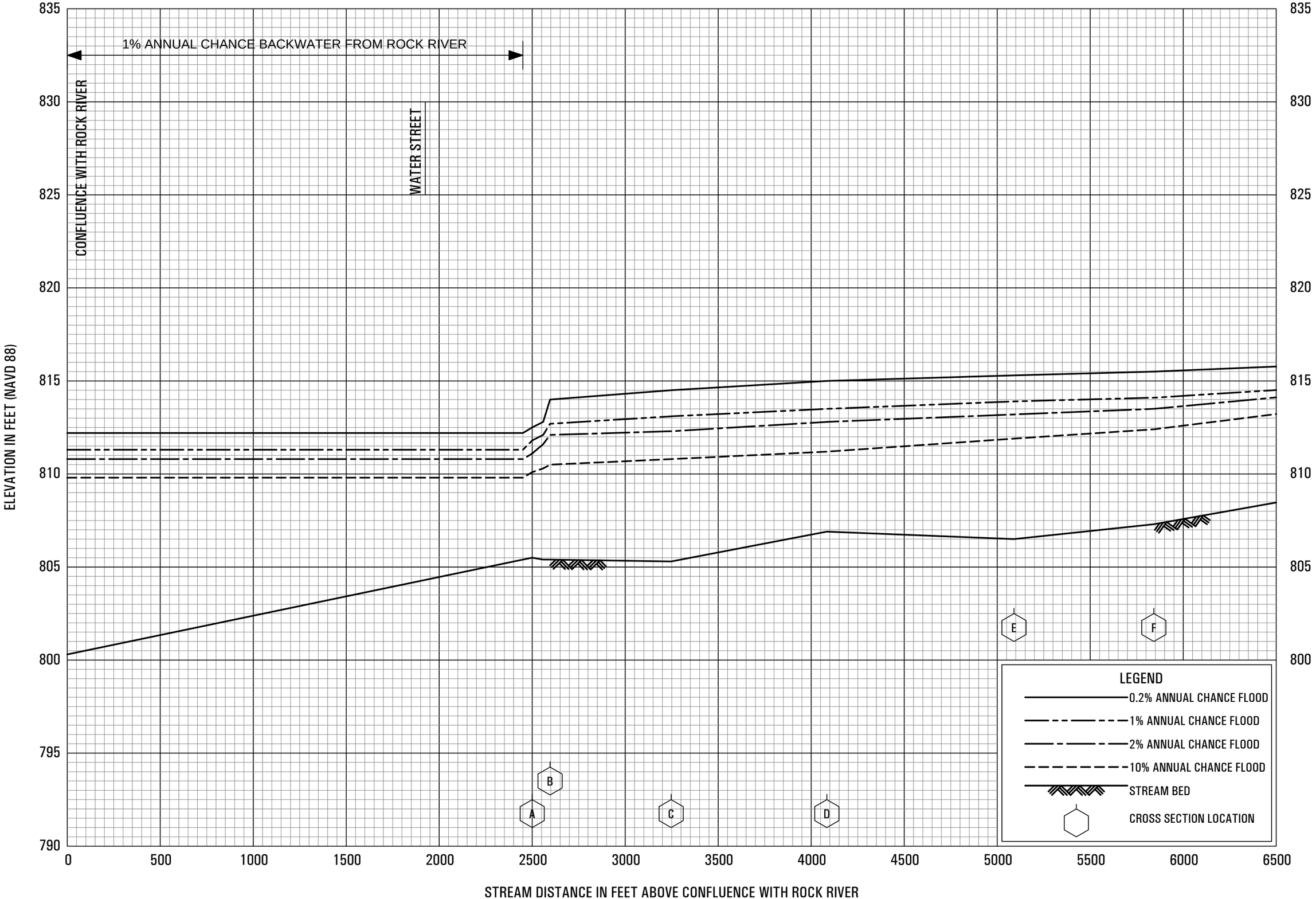

FLOOD PROFILES

RUBICON RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



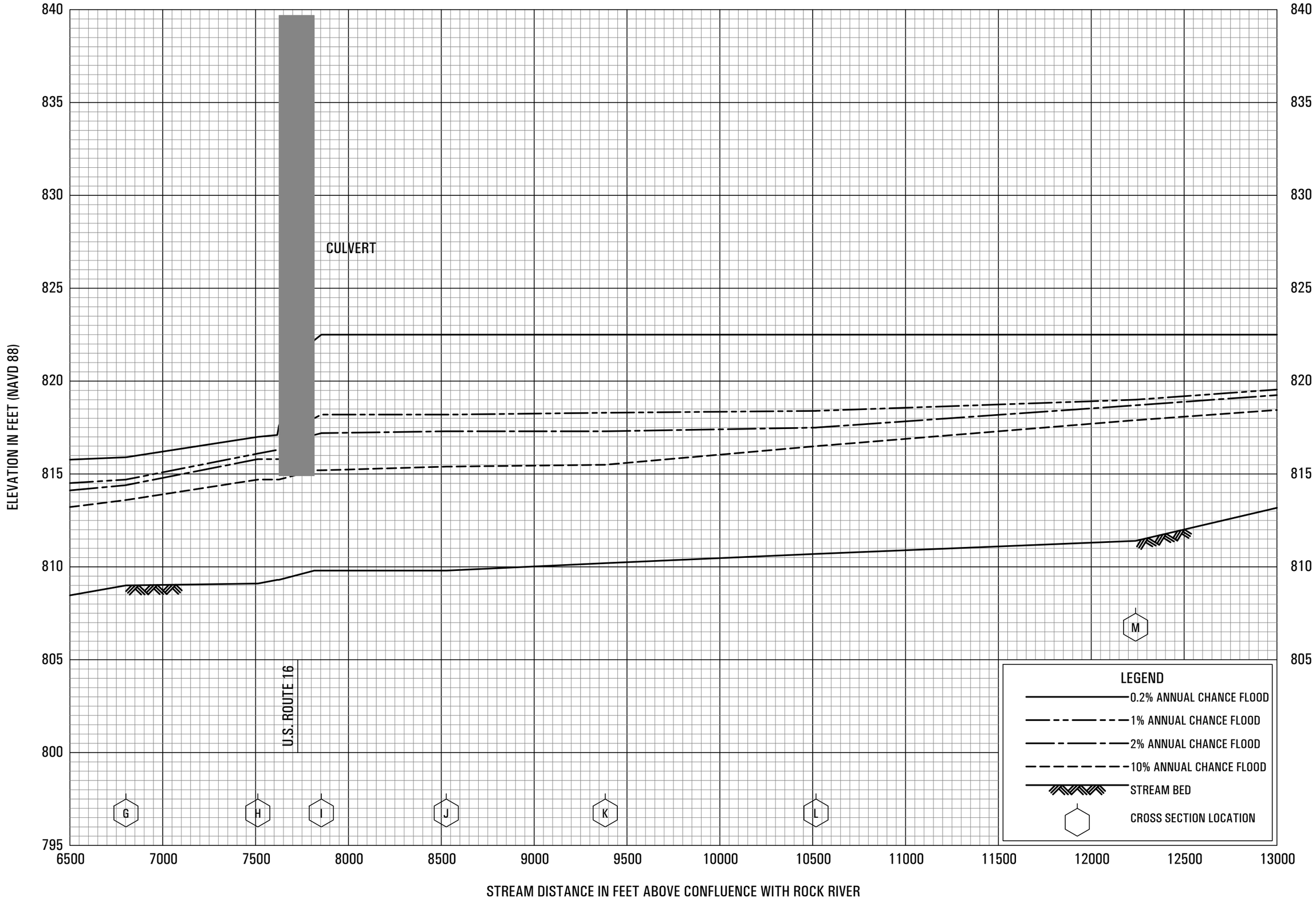

FLOOD PROFILES

SILVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



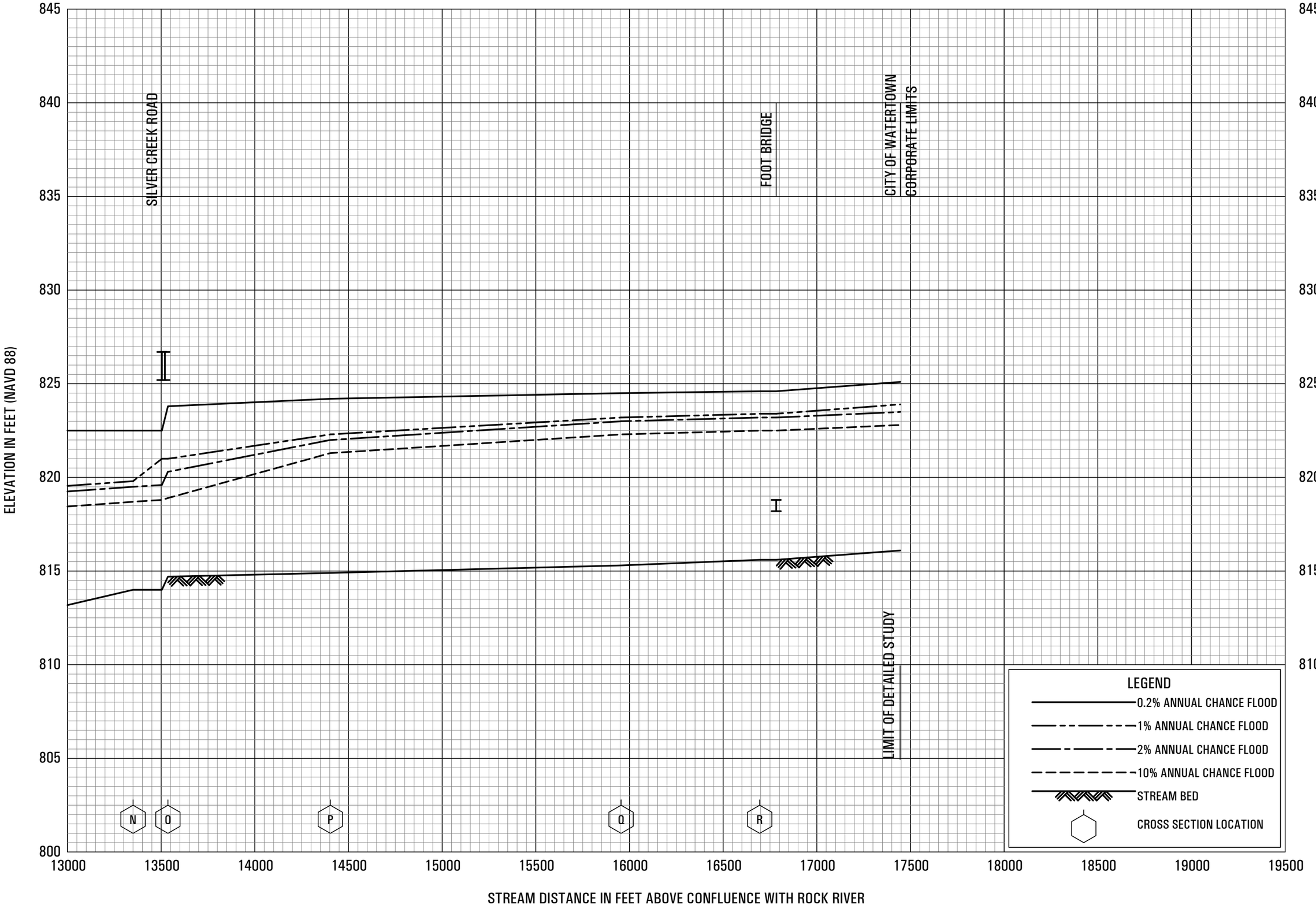

FLOOD PROFILES

SILVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



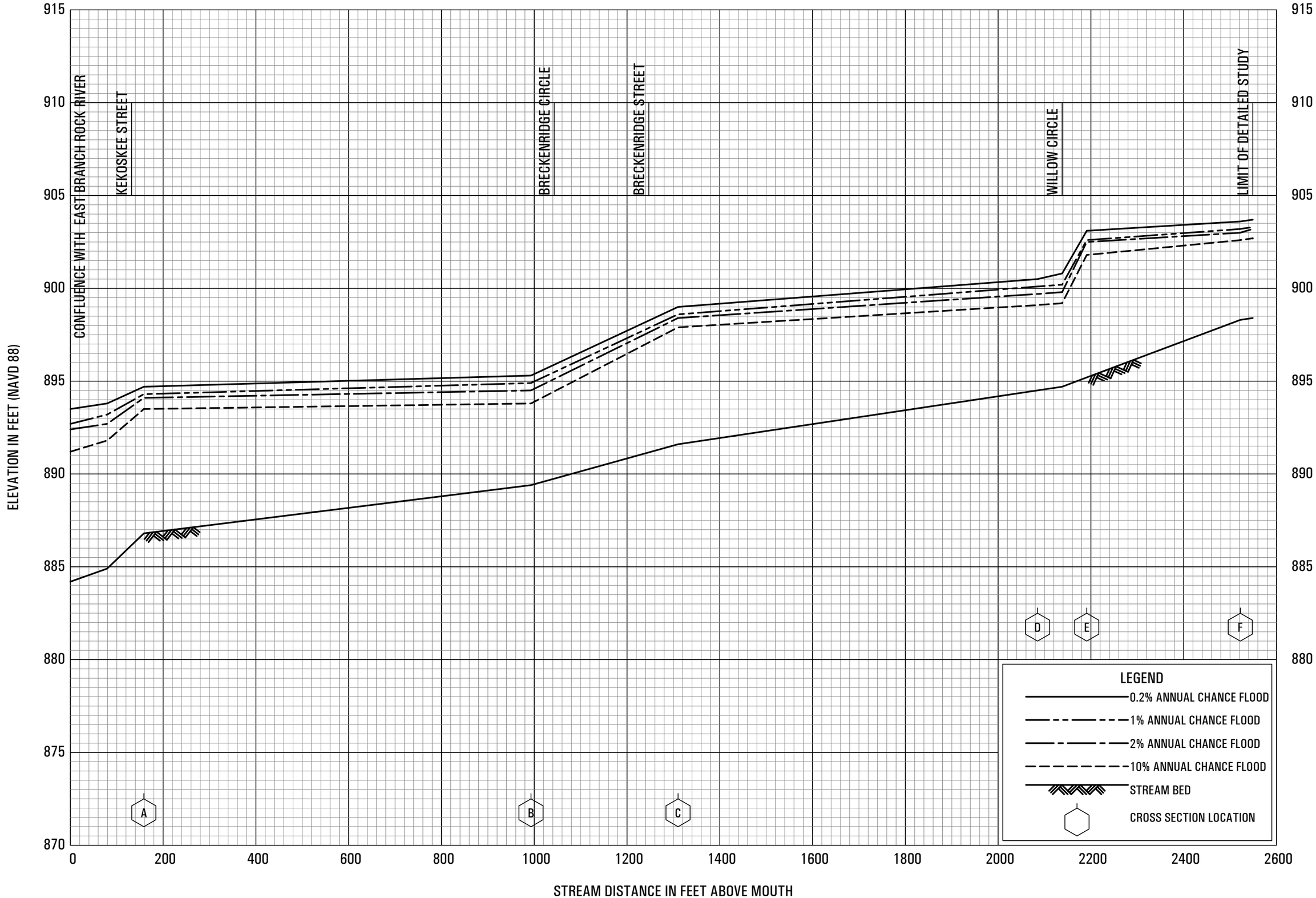

FLOOD PROFILES

SILVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS



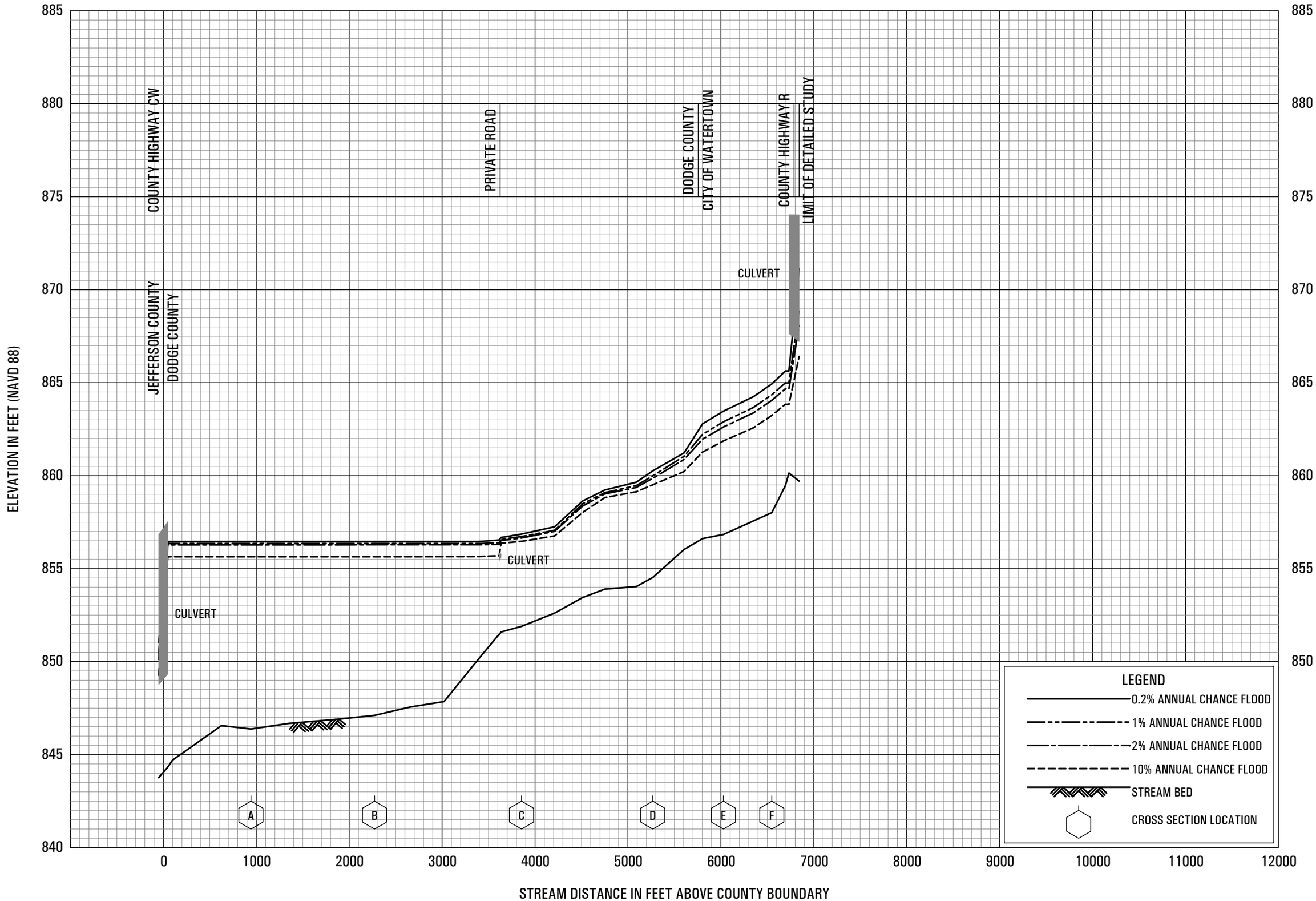

FLOOD PROFILES

SPRING BROOK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS




FLOOD PROFILES

UNNAMED TRIBUTARY TO ROCK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DODGE COUNTY, WI

AND INCORPORATED AREAS