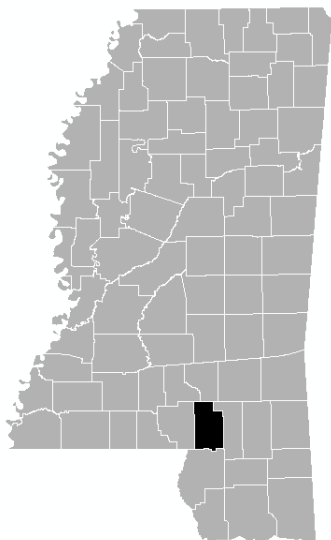


# FLOOD INSURANCE STUDY

## FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 1



### LAMAR COUNTY, MISSISSIPPI AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
LAMAR COUNTY UNINCORPORATED AREAS	280304
LUMBERTON, CITY OF	280337
PURVIS, CITY OF	280318
SUMRALL, TOWN OF	280326



# FEMA

**PRELIMINARY**

**03/28/2016**

**REVISED:**

**TBD**

FLOOD INSURANCE STUDY NUMBER  
**28073CV000B**

Version Number 2.3.3.3

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## Volume 1

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Flood Profiles	<u>Panel</u>
Bay Creek	00 P
Black Creek	01-03 P
Little Beaver Creek	04 P
Little Black Creek	05-07 P
Lower Little Creek	07a P
Mill Creek No. 1	08-10 P
Mixons Creek	11-13 P
Mixons Creek Tributary 1	14-15 P
Mixons Creek Tributary 2	16 P
Mixons Creek Tributary 4	17-19 P
Perkins Creek	20-21 P

### Published Separately

Flood Insurance Rate Map (FIRM)

# **FLOOD INSURANCE STUDY REPORT LAMAR COUNTY, MISSISSIPPI**

## **SECTION 1.0 – INTRODUCTION**

### **1.1 The National Flood Insurance Program**

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

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

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

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

Participation in the NFIP is based on an agreement between local communities and the Federal Government. If a community adopts and enforces floodplain management regulations to reduce future flood risks to new construction and substantially improved structures in Special Flood Hazard Areas (SFHAs), the Federal Government will make flood insurance available within the community as a financial protection against flood losses. The community's floodplain management regulations must meet or exceed criteria established in accordance with Title 44 Code of Federal Regulations (CFR) Part 60.3, *Criteria for land Management and Use*.

SFHAs are delineated on the community's Flood Insurance Rate Maps (FIRMs). Under the NFIP, buildings that were built before the flood hazard was identified on the community's FIRMs are generally referred to as "Pre-FIRM" buildings. When the NFIP was created, the U.S. Congress recognized that insurance for Pre-FIRM buildings would be prohibitively expensive if the premiums were not subsidized by the Federal Government. Congress also recognized that most of these flood-prone buildings were built by individuals who did not have sufficient knowledge of the flood hazard to make informed decisions. The NFIP requires that full actuarial rates reflecting the complete flood risk be charged on all buildings constructed or substantially improved on or

after the effective date of the initial FIRM for the community or after December 31, 1974, whichever is later. These buildings are generally referred to as “Post-FIRM” buildings.

## 1.2 Purpose of this Flood Insurance Study Report

This Flood Insurance Study (FIS) report revises and updates information on the existence and severity of flood hazards for the study area. The studies described in this report developed flood hazard data that will be used to establish actuarial flood insurance rates and to assist communities in efforts to implement sound floodplain management.

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

## 1.3 Jurisdictions Included in the Flood Insurance Study Project

This FIS Report covers the geographic area of Lamar County, Mississippi.

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

The location of flood hazard data for participating communities in multiple jurisdictions is also indicated in the table.

**Table 1: Listing of NFIP Jurisdictions**

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Hattiesburg, City of	280053	03170004 03170005 03170007	28073C0132E 28073C0134E 28073C0135E 28073C0145E 28073C0151E 28073C0153E 28073C0161E 28073C0163E	Forrest County, Mississippi Flood Insurance Study
Lamar County, Unincorporated Areas	280304	03170004 03170005 03170007 03170009 03180004	28073C0020E 28073C0037E 28073C0039E 28073C0040E 28073C0041E 28073C0043E 28073C0045E	

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Lamar County, Unincorporated Areas	280304	03170004 03170005 03170007 03170009 03180004	28073C0065E 28073C0085E 28073C0095E 28073C0105E 28073C0110E 28073C0115E 28073C0120E 28073C0130E 28073C0132E <sup>1</sup> 28073C0134E 28073C0135E 28073C0140E 28073C0145E 28073C0151E 28073C0153E 28073C0161E 28073C0163E 28073C0200F 28073C0225F 28073C0230E 28073C0235E 28073C0240E 28073C0245E 28073C0255E 28073C0265E 28073C0300E 28073C0305E 28073C0310E 28073C0315E 28073C0320E 28073C0330E 28073C0335E 28073C0340E 28073C0345E 28073C0355E 28073C0365E 28073C0380E 28073C0385E	

<sup>1</sup> Panel Not Printed

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Lumberton, City of	280337	03170007	28073C0320E 28073C0340E 28073C0345E 28073C0380E 28073C0385E	
Purvis, City of	280318	03170007	28073C0245E 28073C0265E 28073C0335E	
Sumrall, Town of	280326	03170004	28073C0041E 28073C0043E 28073C0045E	

#### 1.4 Considerations for using this Flood Insurance Study Report

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

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

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

It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 31, "Map Repositories," within this FIS Report.

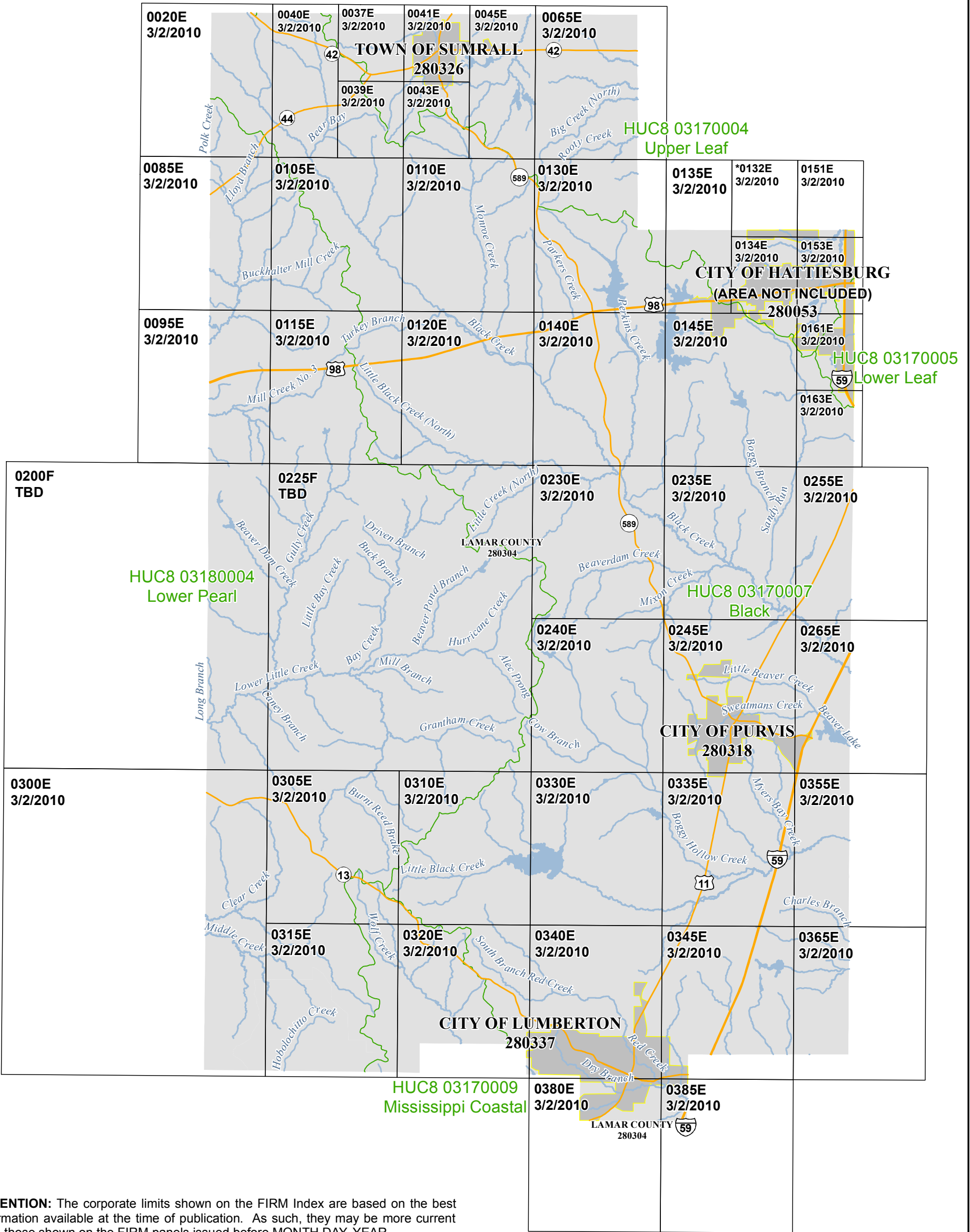
- New FIS Reports are frequently developed for multiple communities, such as entire counties. A countywide FIS Report incorporates previous FIS Reports for individual communities and the unincorporated area of the county (if not jurisdictional) into a single document and supersedes those documents for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



The initial Countywide FIS Report for Lamar County became effective on March 2, 2010. Refer to Table 16 for information about subsequent revisions to the FIRMs.

- The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Visit the FEMA Web site at [www.fema.gov/national-flood-insurance-program-community-rating-system](http://www.fema.gov/national-flood-insurance-program-community-rating-system) or contact your appropriate FEMA Regional Office for more information about this program.
- FEMA has developed a *Guide to Flood Maps* (FEMA 258) and online tutorials to assist users in accessing the information contained on the FIRM. These include how to read panels and step-by-step instructions to obtain specific information. To obtain this guide and other assistance in using the FIRM, visit the FEMA Web site at [www.fema.gov/online-tutorials](http://www.fema.gov/online-tutorials).

The FIRM Index in Figure 1 shows the overall FIRM panel layout within Lamar County, and also displays the panel number and effective date for each FIRM panel in the county. Other information shown on the FIRM Index includes community boundaries, flooding sources, watershed boundaries, and United States Geological Survey (USGS) Hydrologic Unit Code – 8 (HUC-8) codes.



1 inch = 15,000 feet 1:180,000

0 4,250 8,500 17,000 25,500 34,000 feet

Map Projection:  
State Plane Coordinate System  
Mississippi East, FIPS Zone 2301

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT  
[HTTP://MSC.FEMA.GOV](http://MSC.FEMA.GOV)

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION



**NATIONAL FLOOD INSURANCE PROGRAM**  
FLOOD INSURANCE RATE MAP INDEX

LAMAR COUNTY, MISSISSIPPI and Incorporated Areas

PANELS PRINTED:  
0020, 0037, 0039, 0040, 0041, 0043, 0045, 0065, 0085, 0095, 0105, 0110, 0115, 0120, 0130, 0134, 0135, 0140, 0145, 0151, 0153, 0161, 0163, 0200, 0225, 0230, 0235, 0240, 0245, 0255, 0265, 0300, 0305, 0310, 0315, 0320, 0330, 0335, 0340, 0345, 0355, 0365, 0380, 0385



**FEMA**

MAP NUMBER  
28073CIND0B

MAP REVISED

\* PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS

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

**Figure 2: FIRM Notes to Users**

## NOTES TO USERS

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

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

For community and countywide map dates, refer to Table 28 in this FIS Report.

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

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

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

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

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

## Figure 2. FIRM Notes to Users

**FLOOD CONTROL STRUCTURE INFORMATION:** Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 4.3 "Non-Levee Flood Protection Measures" of this FIS Report for information on flood control structures for this jurisdiction.

**PROJECTION INFORMATION:** The projection used in the preparation of the map was State Plane Coordinate System, Mississippi East, FIPS ZONE 2301. The horizontal datum was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

**ELEVATION DATUM:** Flood elevations on the FIRM are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://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*

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

**BASE MAP INFORMATION:** Base map information shown on the FIRM was provided by Mississippi Department of Environmental Quality, Mississippi Automated Resource Information System, and the United States Census Bureau at a scale of 1:5,000. For information about base maps, refer to Section 6.2 "Base Map" in this FIS Report.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map.

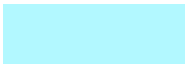
Corporate limits shown on the map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

**Figure 2. FIRM Notes to Users**





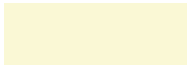






<b>NOTES FOR FIRM INDEX</b>
<b>REVISIONS TO INDEX:</b> As new studies are performed and FIRM panels are updated within Lamar County, MS, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 28 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.
<b>SPECIAL NOTES FOR SPECIFIC FIRM PANELS</b>
This Notes to Users section was created specifically for Lamar County, MS, effective <b>TBD</b> .
<b>FLOOD RISK REPORT:</b> A Flood Risk Report (FRR) may be available for many of the flooding sources and communities referenced in this FIS Report. The FRR is provided to increase public awareness of flood risk by helping communities identify the areas within their jurisdictions that have the greatest risks. Although non-regulatory, the information provided within the FRR can assist communities in assessing and evaluating mitigation opportunities to reduce these risks. It can also be used by communities developing or updating flood risk mitigation plans. These plans allow communities to identify and evaluate opportunities to reduce potential loss of life and property. However, the FRR is not intended to be the final authoritative source of all flood risk data for a project area; rather, it should be used with other data sources to paint a comprehensive picture of flood risk.

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

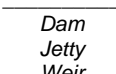

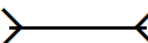


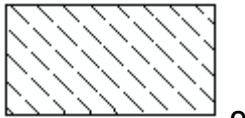

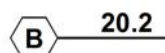
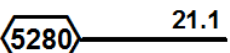

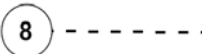



**Figure 3: Map Legend for FIRM**

<p><b>SPECIAL FLOOD HAZARD AREAS:</b> <i>The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.</i></p>	
	Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)
Zone A	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
Zone AE	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone, either at cross section locations or as static whole-foot elevations that apply throughout the zone.
Zone AH	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
Zone AO	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
Zone AR	The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
Zone A99	The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.
Zone V	The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.

**Figure 3: Map Legend for FIRM**









<p>Zone VE</p> 	<p>Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.</p> <p>Regulatory Floodway determined in Zone AE.</p>
<p><b>OTHER AREAS OF FLOOD HAZARD</b></p>	
	<p>Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.</p>
	<p>Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.</p>
	<p>Area with Reduced Flood Risk due to Levee: Areas where an accredited levee, dike, or other flood control structure has reduced the flood risk from the 1% annual chance flood. See Notes to Users for important information.</p>
<p><b>OTHER AREAS</b></p>	
	<p>Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible</p>
	<p>Unshaded Zone X: Areas determined to be outside the 0.2% annual chance flood hazard</p>
<p><b>FLOOD HAZARD AND OTHER BOUNDARY LINES</b></p>	
 <p>(ortho)      (vector)</p>	<p>Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)</p>
	<p>Limit of Study</p>
	<p>Jurisdiction Boundary</p>
	<p>Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet</p>
<p><b>GENERAL STRUCTURES</b></p>	
 <p>Aqueduct Channel Culvert Storm Sewer</p>	<p>Channel, Culvert, Aqueduct, or Storm Sewer</p>

**Figure 3: Map Legend for FIRM**

	Dam, Jetty, Weir
	Levee, Dike or Floodwall
 	Bridge
<b>COASTAL BARRIER RESOURCES SYSTEM (CBRS) AND OTHERWISE PROTECTED AREAS (OPA):</b> <i>CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas. See Notes to Users for important information.</i>	
 <b>CBRS AREA</b> <b>09/30/2009</b>	Coastal Barrier Resources System Area: Labels are shown to clarify where this area shares a boundary with an incorporated area or overlaps with the floodway.
 <b>OTHERWISE PROTECTED AREA</b> <b>09/30/2009</b>	Otherwise Protected Area
<b>REFERENCE MARKERS</b>	
	River mile Markers
<b>CROSS SECTION &amp; TRANSECT INFORMATION</b>	
	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
	Coastal Transect
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.
	Base Flood Elevation Line (shown for flooding sources for which no cross sections or profile are available)



**Figure 3: Map Legend for FIRM**

<b>ZONE AE (EL 16)</b>	Static Base Flood Elevation value (shown under zone label)
<b>ZONE AO (DEPTH 2)</b>	Zone designation with Depth
<b>ZONE AO (DEPTH 2) (VEL 15 FPS)</b>	Zone designation with Depth and Velocity
<b>BASE MAP FEATURES</b>	
<u>Missouri Creek</u>	River, Stream or Other Hydrographic Feature
	Interstate Highway
	U.S. Highway
	State Highway
	County Highway
<u>MAPLE LANE</u>	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
 RAILROAD	Railroad
	Horizontal Reference Grid Line
	Horizontal Reference Grid Ticks
	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
<sup>42</sup> 76 <sup>000m</sup> E	Horizontal Reference Grid Coordinates (UTM)
<b>365000 FT</b>	Horizontal Reference Grid Coordinates (State Plane)
<b>80° 16' 52.5"</b>	Corner Coordinates (Latitude, Longitude)

## **SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS**

### **2.1 Floodplain Boundaries**

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

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

Depending on the accuracy of available topographic data (Table 23), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1% and 0.2% annual chance floodplain boundaries, regulatory water surface elevations (BFEs), and/or a regulatory floodway. Similarly, other flooding sources may be mapped to show only the 1% annual chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1% and 0.2% annual chance floodplain boundaries are close together, only the 1% annual chance floodplain boundary is shown on the FIRM. Each FIRM panel contains an abbreviated legend for the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Note that not all of the features may appear on the FIRM panels in Lamar County. Figure 3, “Map Legend for FIRM”, describes the flood zones that are used on the FIRMs to account for the varying levels of flood risk that exist along flooding sources within the project area. Table 2 and Table 3 indicate the flood zone designations for each flooding source and each community within Lamar County, MS, respectively.

Table 2, “Flooding Sources Included in this FIS Report,” lists each flooding source, including its study limits, affected communities, mapped zone on the FIRM, and the completion date of its engineering analysis from which the flood elevations on the FIRM and in the FIS Report were derived. Descriptions and dates for the latest hydrologic and hydraulic analyses of the flooding sources are shown in Table 13. Floodplain boundaries for these flooding sources are shown on the FIRM (published separately) using the symbology described in Figure 3. On the map, the 1% annual chance floodplain corresponds to the SFHAs. The 0.2% annual chance floodplain shows areas that, although out of the regulatory floodplain, are still subject to flood hazards.

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

**Table 2: Flooding Sources Included in this FIS Report**

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi <sup>2</sup> ) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
All Zone A Streams studied in the 2010 FIS	Lamar County and Incorporated Areas	Various	Various	03170004 03170007 03180004	Various	n/a	N	A	2008 or earlier
Bay Creek	Lamar County Unincorporated Areas	At confluence with Lower Little Creek	Bay Lake Dam	03180004	2.0	n/a	N	AE	2013
Bay Creek	Lamar County Unincorporated Areas	Bay Lake Dam	Approximately 1,300 feet downstream of Purvis-Oloh Road	03180004	n/a	1.75	N	AE	2012
Black Creek (Downstream Study)	Lamar County Unincorporated Areas	County Boundary	At Old Highway 11	03170007	8.1	n/a	Y	AE	1987
Black Creek (Upstream Study)	Lamar County Unincorporated Areas	At WPA Road	Approximately 1,400 feet upstream of the confluence of Trace Branch	03170007	3.6	n/a	Y	AE	1987
Gordons Creek	Lamar County Unincorporated Areas	U.S. Interstate 59	Approximately 2,000 feet upstream of Interstate 59	03170005	0.4	n/a	Y	AE	1987
Little Beaver Creek	Lamar County Unincorporated Areas	Approximately 4,200 feet downstream of Browns Bridge Road	Approximately 200 feet upstream of Browns Bridge Road	03170007	0.8	n/a	N	AE	1991 or earlier

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi <sup>2</sup> ) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Little Black Creek	Lamar County Unincorporated Areas	Just downstream of Longleaf Plantation Road	At Talowah Cut Off Road	03170007	6.2	n/a	Y	AE	1987
Lower Little Creek	Lamar County Unincorporated Areas	Just downstream of Luther Saucier Road	Approximately 2,840 feet upstream of Tatum Salt Dome Road	03180004	4.0	n/a	N	AE	2013
Mill Creek No. 1	Town of Sumrall Lamar County Unincorporated Areas	Approximately 925 feet upstream of the mouth	Approximately 7,820 feet upstream of Highway 42	03170004	2.8	n/a	Y	AE	1988 and 2008
Mixons Creek	Lamar County Unincorporated Areas	County Boundary	Approximately 1,150 feet upstream of the confluence with Mixons Creek	03170005	4.0	n/a	Y	AE	1987 and 2008
Mixons Creek Tributary 1	Lamar County Unincorporated Areas	County Boundary	The City of Hattiesburg/Lamar County Boundary	03170005	1.7	n/a	Y	AE	1987
Mixons Creek Tributary 2	Lamar County Unincorporated Areas	Mouth	Approximately 200 feet upstream of Bridges Circle	03170005	0.5	n/a	N	AE	2008
Mixons Creek Tributary 4	Lamar County Unincorporated Areas	Mouth	Approximately 1,500 feet upstream of Jackson Road	03170005	2.2	n/a	N	AE	2008
Perkins Creek	Lamar County Unincorporated Areas	At Old Highway 24	Just upstream of U.S. Highway 98	03170007	4.0	n/a	Y	AE	1987

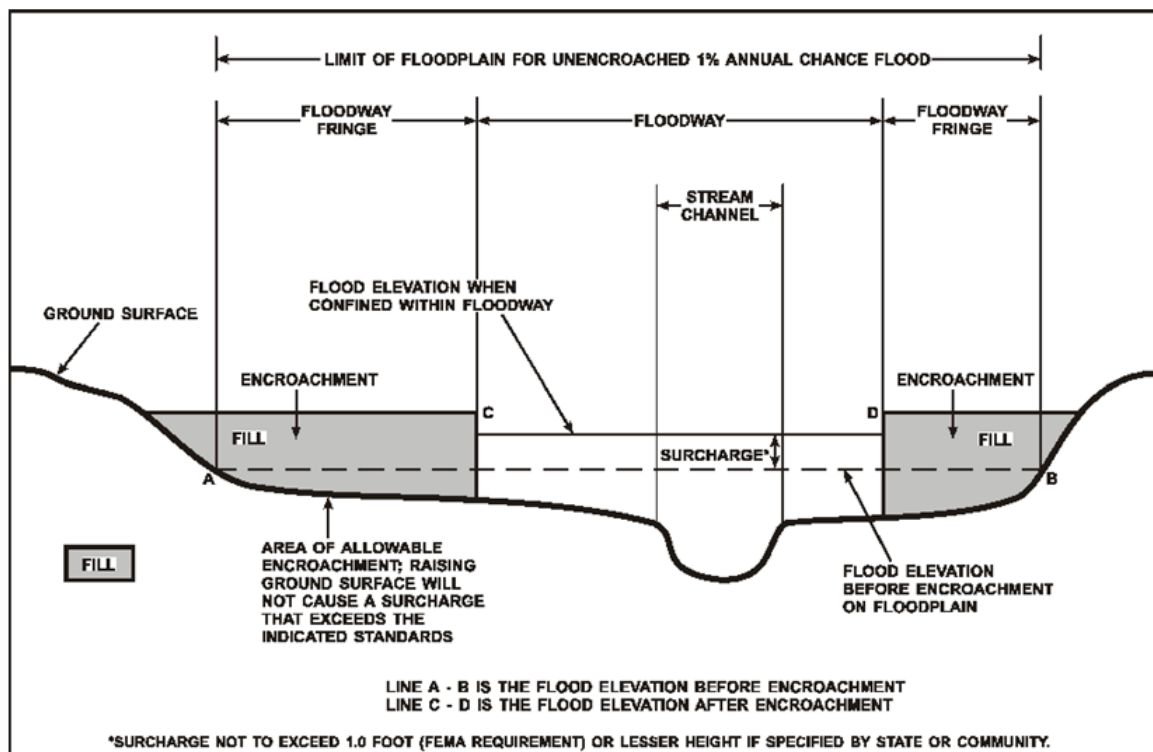
## 2.2 Floodways

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

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

To participate in the NFIP, Federal regulations require communities to limit increases caused by encroachment to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this project are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway projects.

**Figure 4: Floodway Schematic**



Floodway widths presented in this FIS Report and on the FIRM were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. For certain stream segments, floodways were adjusted so that the amount of floodwaters conveyed on each side of the floodplain would be reduced equally. The results of the floodway computations have been tabulated for selected cross sections and are shown in Table 24, "Floodway Data." All floodways that were developed for this FIS project are shown on the FIRM using the symbology described in Each FIRM panel contains an abbreviated legend for the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Note that not all of these features may appear on the FIRM panels in Lamar County.

Figure 3. In cases where the floodway and 1% annual chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown on the FIRM. For information about the delineation of floodways on the FIRM, refer to Section 6.3.

### **2.3 Base Flood Elevations**

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

Cross sections with BFEs shown on the FIRM correspond to the cross sections shown in the Floodway Data table and Flood Profiles in this FIS Report. BFEs 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 Report in conjunction with the data shown on the FIRM.

### **2.4 Non-Encroachment Zones**

This section is not applicable to this FIS Project.

### **2.5 Coastal Flood Hazard Areas**

This section is not applicable to this FIS project.

#### **2.5.1 Water Elevations and the Effects of Waves**

This section is not applicable to this FIS project.

### **Figure 5: Wave Runup Transect Schematic**

[Not applicable to this FIS project]

### 2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

This section is not applicable to this FIS project.

### 2.5.3 Coastal High Hazard Areas

This section is not applicable to this FIS project.

### Figure 6: Coastal Transect Schematic

[Not applicable to this FIS project]

### 2.5.4 Limit of Moderate Wave Action

This section is not applicable to this FIS project

## SECTION 3.0 – INSURANCE APPLICATIONS

### 3.1 National Flood Insurance Program Insurance Zones

For flood insurance applications, the FIRM designates flood insurance rate zones as described in Each FIRM panel contains an abbreviated legend for the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Note that not all of these features may appear on the FIRM panels in Lamar County.

Figure 3, “Map Legend for FIRM.” Flood insurance zone designations are assigned to flooding sources based on the results of the hydraulic or coastal analyses. Insurance agents use the zones shown on the FIRM and depths and base flood elevations in this FIS Report in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

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

Table 3 lists the flood insurance zones in Lamar County.

**Table 3: Flood Zone Designations by Community**

Community	Flood Zone(s)
Lamar County, Unincorporated Areas	A, AE, X
Lumberton, City of	A, AE, X
Purvis, City of	A, X
Sumrall, Town of	A, X

### 3.2 Coastal Barrier Resources System

This section is not applicable to this FIS project.

**Table 4: Coastal Barrier Resources System Information**

[Not applicable to this FIS project]

## SECTION 4.0 – AREA STUDIED

### 4.1 Basin Description

Table 5 contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its drainage area.

**Table 5: Basin Characteristics**

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Upper Leaf	03170004	Leaf River	Begins in Scott County and flows south, includes Town of Sumrall and northern Lamar County	1,753
Lower Leaf	03170005	Leaf River	Begins in Jasper County and includes most of City of Hattiesburg	1,822
Black	03170007	Black Creek	Begins in Jefferson Davis County and flows through the middle of Lamar County. Includes most of the county area.	1,267
Mississippi Coastal	03170009	Wolf River	Begins west of Lumberton and flows through a small portion of southern Lamar County	2,448
Lower Pearl	03180004	Pearl River	Includes most of the western portion of Lamar County	1,819

### 4.2 Principal Flood Problems

Table 6 contains a description of the principal flood problems that have been noted for Lamar County by flooding source.

**Table 6: Principal Flood Problems**

Flooding Source	Description of Flood Problems
Mixons Creek and its Tributaries	Development around Mixons Creek and its tributaries has increased due to the expansion of growth in the City of Hattiesburg with many floodplain encroachments. Major flood-producing storms occur frequently in the winter and spring when the lack of vegetation and the high moisture content of the soil results in higher rates of storm runoff.
Black Creek	Residential development has begun to encroach into the floodplain.



Flooding Source	Description of Flood Problems
Little Black Creek	Residential development has begun to encroach into the floodplain.

Table 7 contains information about historic flood elevations in the communities within Lamar County.

**Table 7: Historic Flooding Elevations**

[Not applicable to this FIS project]

#### 4.3 Non-Levee Flood Protection Measures

Table 8 contains information about non-levee flood protection measures within Lamar County such as dams, jetties, and or dikes. Levees are addressed in Section 4.4 of this FIS Report.

**Table 8: Non-Levee Flood Protection Measures**

Flooding Source	Structure Name	Type of Measure	Location	Description of Measure
Bay Creek	Big Bay Lake Dam	Dam	At Bay Drive Road	Original dam breeched in 2004, rebuilt in 2007.

#### 4.4 Levees

This section is not applicable to this FIS project.

**Table 9: Levees**

[Not applicable to this FIS Project]

## SECTION 5.0 – ENGINEERING METHODS

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

Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of

annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

The engineering analyses described here incorporate the results of previously issued Letters of Map Change (LOMCs) listed in Table 27, “Incorporated Letters of Map Change”, which include Letters of Map Revision (LOMRs). For more information about LOMRs, refer to Section 6.5, “FIRM Revisions.”

## **5.1 Hydrologic Analyses**

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. A summary of the hydrologic methods applied to develop the discharges used in the hydraulic analyses for each stream is provided in Table 13. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table 10. Frequency Discharge-Drainage Area Curves used to develop the hydrologic models may also be shown in Figure 7 for selected flooding sources. A summary of stillwater elevations developed for non-coastal flooding sources is provided in Table 11. Stream gage information is provided in Table 12.

**Table 10: Summary of Discharges**

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	0.2% Annual Chance
Bay Creek	Just upstream of Big Bay Dam	9.67	3,320	*	4,840	5,680	7,890
Bay Creek	At confluence with Lower Little Creek	9.67	530	*	860	1,050	1,600
Black Creek	At U.S. Interstate 59	186.7	13700	*	22,300	25,300	36,500
Black Creek	At U.S. Highway 11	170.9	13200	*	21,400	24,570	36,000
Black Creek	At Railroad	146.5	11720	*	19,040	21,850	31,000
Black Creek	About 3.3 miles upstream of Railroad	75.9	7850	*	12,800	14,920	20,000
Black Creek	At U.S. Highway 98	61.6	7470	*	12,200	14,200	19,600
Little Black Creek	About 2.1 miles downstream of U.S. Interstate 59	71.5	10,200	*	16,900	19,900	28,500
Little Black Creek	About 1,500 feet downstream of U.S. Interstate 59	61.6	9,790	*	16,200	19,200	28,000
Little Black Creek	About 2,900 feet upstream of U.S. Interstate 59	*	8,880	*	14,700	17,400	24,600
Little Black Creek	About 4,000 feet downstream of U.S. Highway 11	31.6	5,320	*	8,700	10,400	14,600
Little Black Creek	At U.S. Highway 11	27.6	5,140	*	8,410	10,100	14,400
Lower Little Creek	At Luther Saucier Road	87.97	10,959	14,166	16,731	18,981	25,017

\* Not calculated for this FIS project

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	0.2% Annual Chance
Lower Little Creek	At Caney Church Road	54.89	8,545	10,981	12,955	14,627	19,167
Lower Little Creek	Upstream of confluence with Bay Creek	39.63	6,946	8,918	10,518	11,868	15,536
Mill Creek No. 1	At Mouth	5.1	1,970	*	3,030	3,460	4,500
Mixons Creek	About 1.2 miles downstream of Railroad	10.30	2,890	*	5,900	6,780	8,000
Mixons Creek	At West Hill Road	6.30	2,000	*	3,140	3,710	5,200
Mixons Creek	At Railroad	5.39	1,790	*	2,350	3,310	4,500
Mixons Creek	Just downstream of West Fourth Street	4.41	1,730	*	2,660	3,100	4,200
Mixons Creek	About 1.0 mile upstream of Fourth Street	2.02	1,070	*	1,600	1,810	2,500
Mixons Creek Tributary 1	At Mouth	3.5	1,648	*	2,120	2,553	3,353
Mixons Creek Tributary 1	Approximately 0.4 mile downstream of Westover Drive	3.14	1,508	*	1,945	2,330	3,034
Mixons Creek Tributary 1	Approximately 626 feet upstream of Westover Drive	2.25	1,368	*	1,764	2,111	2,738
Mixons Creek Tributary 2	At mouth	0.31	*	*	*	552	*
Mixons Creek Tributary 4	At mouth	0.99	*	*	*	835	*

\* Not calculated for this FIS project

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	0.2% Annual Chance
Perkins Creek	About 1,000 feet downstream of Oak Grove Road	15.00	4,150	*	6,660	7,950	11,000
Perkins Creek	About 1.0 mile upstream of Old Highway 24	8.56	2,460	*	3,900	4,650	6,500
Perkins Creek	At U.S. Highway 98	5.66	2,030	*	3,160	3,760	5,260
Perkins Creek	About 3,700 feet upstream of U.S. Highway 98	4.01	1,720	*	2,630	3,120	4,370
Perkins Creek	About 1.7 miles upstream of U.S. Highway 98	1.95	1,050	*	1,550	1,820	2,600

\*Not calculated for this FIS project

### Figure 7: Frequency Discharge-Drainage Area Curves

[Not applicable for this FIS Project]

**Table 11: Summary of Non-Coastal Stillwater Elevations**

Flooding Source	Location	Elevations (feet NAVD88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Big Bay Reservoir	Lamar County Unincorporated Areas	279.9	*	280.7	281.0	282.0

\*Not calculated for this Flood Risk Project

**Table 12: Stream Gage Information used to Determine Discharges**

[Not applicable for this FIS Project]

## 5.2 Hydraulic Analyses

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

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed on Table 24, "Floodway Data."

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 13. Roughness coefficients are provided in Table 14. Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

**Table 13: Summary of Hydrologic and Hydraulic Analyses**

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
All Zone A streams studied in the 2010 FIS	Various	Various	1991 Regression Equations	HEC RAS 3.1.2	08/01/2008	A	
Bay Creek	At confluence with Lower Little Creek	Bay Lake Dam	1991 Regression Equations	HEC RAS 4.1	10/8/2013	AE	Peak discharges taken from LOMR 12-04-2162P, dated 2/1/2013.
Bay Creek	Big Bay Reservoir dam	Upstream end of Big Bay Reservoir	Unknown	Unknown	2012	AE	
Black Creek	County Boundary	At Old Highway 11	Regression Equations	HEC-2	09/01/1987	AE with Floodway	
Black Creek	At WPA Road	Approximately 1,400 feet upstream of the confluence of Trace Branch	Regression Equations	HEC-2	09/01/1987	AE with Floodway	
Little Beaver Creek	Approximately 4,200 feet downstream of Browns Bridge Road	Approximately 200 feet upstream of Browns Bridge Road	Regression Equations	HEC-2	07/02/1991	AE	
Little Black Creek	Just downstream of Longleaf Plantation Road	At Talowah Cut Off Road	Regression Equations	HEC-2	09/01/1987	AE with Floodway	
Lower Little Creek	Lamar County Unincorporated Areas	Just downstream of Luther Saucier Road	1991 Regression Equations	HEC-RAS 4.1	10/8/2013	AE	
Mill Creek No. 1	Approximately 925 feet upstream of the mouth	Approximately 7,820 feet upstream of Highway 42	Regression Equations	HEC-2	07/02/1991	AE with Floodway	

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Mixons Creek	County Boundary	Approximately 1,150 feet upstream of the confluence with Mixons Creek Tributary 3	1991 Regression Equations	HEC RAS 3.1.2	08/01/2008	AE with Floodway	
Mixons Creek	Approximately 1,150 feet upstream of the confluence with Mixons Creek Tributary 3	Approximately 100 feet upstream of Railroad	HEC-1	HEC-2	09/01/1987	AE with Floodway	
Mixons Creek Tributary 1	County Boundary	The City of Hattiesburg/Lamar County Boundary	1991 Regression Equations	HEC RAS 3.1.2	08/01/2008	AE	
Mixons Creek Tributary 2	Mouth	Approximately 200 feet upstream of Bridges Circle	1991 Regression Equations	HEC RAS 3.1.2	08/01/2008	AE	
Mixons Creek Tributary 4	Mouth	Approximately 1,500 feet east of Jackson Road	1991 Regression Equations	HEC RAS 3.1.2	08/01/2008	AE	
Perkins Creek	At Old Highway 24	Just upstream of U.S. Highway 98	HEC-1	HEC-2	09/01/1987	AE with Floodway	



**Table 14: Roughness Coefficients**

Flooding Source	Channel “n”	Overbank “n”
Bay Creek	0.05	0.12
Black Creek	0.02-0.06	0.10-0.24
Little Beaver Creek	0.05	0.06-0.14
Little Black Creek	0.02-0.06	0.10-0.24
Lower Little Creek	0.05	0.08-0.12
Mill Creek No. 1	0.04	0.06-0.14
Mixons Creek	0.02-0.06	0.10-0.24
Mixons Creek Tributary 1	0.045-0.05	0.015-0.15
Mixons Creek Tributary 2	0.045-0.048	0.06-0.15
Mixons Creek Tributary 4	0.045	0.06-0.15
Perkins Creek	0.02-0.06	0.10-0.24

### 5.3 Coastal Analyses

This section is not applicable to this FIS Project.

**Table 15: Summary of Coastal Analyses**

[Not applicable to this FIS Project]

#### 5.3.1 Total Stillwater Elevations

This section is not applicable to this FIS Project.

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

[Not applicable to this FIS Project]

**Table 16: Tide Gage Analysis Specifics**

[Not applicable to this FIS Project]

#### 5.3.2 Waves

This section is not applicable to this FIS Project.

#### 5.3.3 Coastal Erosion

This section is not applicable to this FIS Project.

#### **5.3.4 Wave Hazard Analyses**

This section is not applicable to this FIS Project.

#### **Table 17: Coastal Transect Parameters**

[Not applicable to this FIS Project]

#### **Figure 9: Transect Location Map**

[Not applicable to this FIS Project]

#### **5.4 Alluvial Fan Analyses**

This section is not applicable to this FIS Project.

#### **Table 18: Summary of Alluvial Fan Analyses**

[Not applicable to this FIS Project]

#### **Table 19: Results of Alluvial Fan Analyses**

[Not applicable to this FIS Project]

### **SECTION 6.0 – MAPPING METHODS**

#### **6.1 Vertical and Horizontal Control**

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

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

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

To obtain current elevation, description, and/or location information for benchmarks in the area, please contact information services Branch of the NGS at (301) 713-3242, or visit their website at [www.ngs.noaa.gov](http://www.ngs.noaa.gov).

The datum conversion locations and values that were calculated for Lamar County are provided in Table 20

**Table 20: Countywide Vertical Datum Conversion**

Quadrangle Name	Quadrangle Corner	Latitude	Longitude	Conversion from NGVD29 to NAVD88 (feet)
Oloh	NW	31.375	89.625	-0.05
Oloh	NE	31.375	89.500	-0.04
Hattiesburg	NW	31.375	89.375	-0.06
Hattiesburg	SW	31.250	89.375	-0.05
Oloh	SE	31.250	89.500	-0.06
Oloh	SW	31.250	89.625	-0.07
Baxterville	NW	31.125	89.625	-0.11
Baxterville	SW	31.000	89.625	-0.14
Baxterville	NE	31.125	89.500	-0.08
Baxterville	SE	31.000	89.500	-0.09
Lumberton	NE	31.125	89.375	-0.07
Lumberton	SE	31.000	89.375	-0.08
Average Conversion from NGVD29 to NAVD88 = <b>-0.07 feet</b>				

**Table 21: Stream-by-Stream Vertical Datum Conversion**

[Not applicable to this FIS Project]

## 6.2 Base Map

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

Base map information shown on the FIRM was derived from the sources described in Table 22.

**Table 22: Base Map Sources**

Data Type	Data Provider	Data Date	Data Scale	Data Description
Digital Orthophoto	MDEQ	2006	1:400	Lamar County flown leaf off 2006, 2-ft Pixel resolution
Digital Orthophoto	MDEQ	2012	1 foot GSD	Lamar County flown leaf off 2013 6" Pixel resolution
Digital Orthophoto	USGS	2012	1:12,000	1 Meter resolution NAIP imagery acquired by the USGS
Political boundaries	MARIS	2010	1:5,000	Municipal and county boundaries
Transportation Features	MARIS and MDEQ	2011	1:4,800	Roads and railroads, were delineated from 2006 2' Pixel orthoimagery
Surface Water Features	MARIS (State NHD Steward for USGS)	2012	1:24,000	Streams, rivers, and lakes were derived from NHD data
Public Land Survey System (PLSS)	MARIS	2010	1:24,000	PLSS data were digitized from 7.5 minute USGS quadrangles (Quads dated 1960 - 1989)
Benchmarks	NGS	2013	1:24,000	Benchmarks located using NGS data sheets
Airports	MARIS	2010	1:5,000	Statewide Runways extracted from the US Census Bureau 2010 TIGER Line files

### 6.3 Floodplain and Floodway Delineation

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

For riverine flooding sources, the mapped floodplain boundaries shown on the FIRM have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in Table 23.

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

The floodway widths presented in this FIS Report and on the FIRM were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. Table 2 indicates the flooding sources for which floodways have been determined. The results of the floodway computations for those flooding sources have been tabulated for selected cross sections and are shown in Table 24, "Floodway Data."

**Table 23: Summary of Topographic Elevation Data used in Mapping**

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Lamar County and Incorporated Areas	All	LiDAR	1:4,800	2 ft	MDEQ 2007

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

**Table 24: Floodway Data**

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION ( FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,500	499	6,621	3.8	210.0	210.0	211.0	1.0
B	9,420	1,600	20,212	1.3	217.1	217.1	218.1	1.0
C	16,368	360	5,311	4.6	222.8	222.8	223.5	0.7
D	22,868	651	5,772	3.8	228.3	228.3	228.6	0.3
E	32,668	2,500	30,523	0.7	233.8	233.8	233.9	0.1
F	40,368	1,565	12,253	1.2	236.2	236.2	237.2	1.0
G	97,000	480	4,753	3.0	272.8	272.8	273.7	0.9
H	101,350	1,771	11,348	1.3	276.7	276.7	277.6	0.9
I	105,000	1,181	9,548	1.5	281.6	281.6	282.6	1.0
J	106,500	822	8,911	1.6	286.0	286.0	286.6	0.6
K	109,900	972	7,915	1.8	287.3	287.3	288.2	0.9
L	113,250	403	2,461	5.7	289.9	289.9	290.5	0.6

<sup>1</sup>Feet above county boundary

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**LAMAR COUNTY, MS**

AND INCORPORATED AREAS

**FLOODWAY DATA**

**FLOODING SOURCE: BLACK CREEK**

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	29,690	800	10,336	1.9	209.9	209.9	210.8	0.9
B	33,800	800	7,467	2.7	212.7	212.7	213.4	0.7
C	69,480	240	4,209	4.6	218.9	218.9	219.1	0.2
D	40,830	310	4,439	4.3	220.0	220.0	220.1	0.1
E	47,400	1,200	12,711	1.4	227.3	227.3	228.3	1.0
F	52,850	1,200	7,922	1.3	233.0	233.0	233.8	0.8
G	58,420	247	2,158	4.7	241.8	241.8	241.8	0.0
H	62,500	155	1,814	5.6	246.7	246.7	247.6	0.9

<sup>1</sup>Feet above mouth

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAMAR COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: LITTLE BLACK CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	2,148	490	1,501	2.1	263.9	263.9	264.5	0.6
B	4,395	185	832	3.2	268.7	268.7	269.7	1.0
C	6,504	182	960	2.8	275.4	275.4	275.9	0.5
D	9,330	300	1,421	1.9	283.3	283.3	284.0	0.7
E	12,466	87	252	3.6	292.3	292.3	292.6	0.3
F	14,321	42	179	5.0	304.3	304.3	305.1	0.8

<sup>1</sup>Feet above confluence with Martin Branch

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAMAR COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: MILL CREEK NO. 1



LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	13,064 <sup>2</sup>	280	3,412	1.9	176.3	176.3	176.7	0.4
B	15,440 <sup>3</sup>	221	1,211	5.6	178.1	178.1	178.3	0.2
C	17,100 <sup>3</sup>	176	1,332	2.8	183.6	183.6	184.2	0.6
D	19,000 <sup>3</sup>	250	1,450	2.3	185.9	185.9	186.7	0.8

<sup>1</sup>Feet above mouth

<sup>2</sup>New Detailed Study, measured in feet along stream line

<sup>3</sup>Redelineated study, measured in feet along profile base line

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAMAR COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: MIXONS CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	2,104	131	940	2.7	176.0	175.3 <sup>2</sup>	176.2	0.9
B	5,118	320	4,585	0.6	196.8	196.8	196.8	0.0
C	7,237	265	3,539	0.7	196.8	196.8	196.8	0.0

<sup>1</sup>Feet above confluence with Mixon's Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAMAR COUNTY, MS

AND INCORPORATED AREAS

## FLOODWAY DATA

FLOODING SOURCE: MIXONS CREEK TRIBUTARY 1

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION ( FEET NAVD88)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	100	200	2,087	3.8	279.9	279.9	280.7	0.8
B	5,350	691	3,550	1.3	287.0	287.0	288.0	1.0
C	10,100	150	1,506	2.5	302.0	302.0	303.0	1.0

<sup>1</sup>Feet above confluence with Mixons Creek

<sup>2</sup>Elevation computed without consideration of backwater effects from Mixons Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

**LAMAR COUNTY, MS**

AND INCORPORATED AREAS

**FLOODWAY DATA**

**FLOODING SOURCE: PERKINS CREEK**

Non-encroachment areas may be delineated where it is not possible to delineate floodways because specific channel profiles with bridge and culvert geometry were not developed. Any non-encroachment determinations for this Flood Risk Project have been tabulated for selected cross sections and are shown in Table 25.

**Table 25: Flood Hazard and Non-Encroachment Data for Selected Streams**

[Not applicable for this FIS Project]

## **6.4 Coastal Flood Hazard Mapping**

This section is not applicable for this FIS Project.

**Table 26: Summary of Coastal Transect Mapping Considerations**

[Not applicable for this FIS Project]

## **6.5 FIRM Revisions**

This FIS Report and the FIRM are based on the most up-to-date information available to FEMA at the time of its publication; however, flood hazard conditions change over time. Communities or private parties may request flood map revisions at any time. Certain types of requests require submission of supporting data. FEMA may also initiate a revision. Revisions to FIS projects may take several forms, including Letters of Map Amendment (LOMAs), Letters of Map Revision Based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs) (referred to collectively as Letters of Map Change (LOMCs)), Physical Map Revisions (PMRs), and FEMA-contracted restudies. These types of revisions are further described below. Some of these types of revisions do not result in the republishing of the FIS Report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood-hazard data (shown in Table 31, “Map Repositories”).

### **6.5.1 Letters of Map Amendment**

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

To obtain an application for a LOMA, visit [www.fema.gov/floodplain-management/letter-map-amendment-loma](http://www.fema.gov/floodplain-management/letter-map-amendment-loma) and download the form “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill”. Visit the “Flood Map-Related Fees” section to determine the cost, if any, of applying for a LOMA.

FEMA offers a tutorial on how to apply for a LOMA. The LOMA Tutorial Series can be accessed at [www.fema.gov/online-tutorials](http://www.fema.gov/online-tutorials).

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

### 6.5.2 Letters of Map Revision Based on Fill

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

Information about obtaining an application for a LOMR-F can be obtained in the same manner as that for a LOMA, by visiting [www.fema.gov/floodplain-management/letter-map-amendment-loma](http://www.fema.gov/floodplain-management/letter-map-amendment-loma) for the “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill” or by calling the FEMA Map Information eXchange, toll free, at 1-877-FEMA MAP (1-877-336-2627). Fees for applying for a LOMR-F, if any, are listed in the “Flood Map-Related Fees” section.

A tutorial for LOMR-F is available at [www.fema.gov/online-tutorials](http://www.fema.gov/online-tutorials).

### 6.5.3 Letters of Map Revision

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

To obtain an application for a LOMR, visit [www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/mt-2-application-forms-and-instructions](http://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/mt-2-application-forms-and-instructions) and download the form “MT-2 Application Forms and Instructions for Conditional Letters of Map Revision and Letters of Map Revision”. Visit the “Flood Map-Related Fees” section to determine the cost of applying for a LOMR. For more information about how to apply for a LOMR, call the FEMA Map Information eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627) to speak to a Map Specialist.

Previously issued mappable LOMCs (including LOMRs) that have been incorporated into the Lamar County FIRM are listed in Table 27.

**Table 27: Incorporated Letters of Map Change**

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
12-04-2162P	2/21/2013	Big Bay Reservoir	28073C0225F

### 6.5.4 Physical Map Revisions

PMRs are an official republication of a community’s NFIP map to effect changes to base flood elevations, floodplain boundary delineations, regulatory floodways and planimetric features. These changes typically occur as a result of structural works or improvements, annexations resulting in additional flood hazard areas or correction to base flood elevations or SFHAs.

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

For more information about the PMR process, please visit <http://www.fema.gov> and visit the “Flood Map Revision Processes” section.

### 6.5.5 Contracted Restudies

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

### 6.5.6 Community Map History

The current FIRM presents flooding information for the entire geographic area of Lamar County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBM) and/or Flood Boundary and Floodway Maps (FBFMs) may have been prepared for the incorporated communities and the unincorporated areas in the county that had identified SFHAs. Current and historical data relating to the maps prepared for the project area are presented in Table 28, “Community Map History.” A description of each of the column headings and the source of the date is also listed below.

- *Community Name* includes communities falling within the geographic area shown on the FIRM, including those that fall on the boundary line, nonparticipating communities, and communities with maps that have been rescinded. Communities with No Special Flood Hazards are indicated by a footnote. If all maps (FHBM, FBFM, and FIRM) were rescinded for a community, it is not listed in this table unless SFHAs have been identified in this community.
- *Initial Identification Date (First NFIP Map Published)* is the date of the first NFIP map that identified flood hazards in the community. If the FHBM has been converted to a FIRM, the initial FHBM date is shown. If the community has never been mapped, the upcoming effective date or “pending” (for Preliminary FIS Reports) is shown. If the community is listed in Table 28, but not identified on the map, the community is treated as if it were unmapped.
- *Initial FHBM Effective Date* is the effective date of the first Flood Hazard Boundary Map (FHBM). This date may be the same date as the Initial NFIP Map Date.
- *FHBM Revision Date(s)* is the date(s) that the FHBM was revised, if applicable.
- *Initial FIRM Effective Date* is the date of the first effective FIRM for the community.
- *FIRM Revision Date(s)* is the date(s) the FIRM was revised, if applicable. This is the revised date that is shown on the FIRM panel, if applicable. As countywide studies are completed or revised, each community listed should have its FIRM dates updated accordingly to reflect the date of the countywide study. Once the FIRMs exist in countywide format, as Physical Map Revisions (PMR) of FIRM panels within the county

are completed, the FIRM Revision Dates in the table for each community affected by the PMR are updated with the date of the PMR, even if the PMR did not revise all the panels within that community.

The initial effective date for the Lamar County FIRMs in countywide format was 04/02/1990.

**Table 28: Community Map History**

Community Name	Initial Identification Date (First NFIP Map Published)	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Lamar County Unincorporated Areas	12/02/1977	12/02/1977	N/A	04/02/1990	03/02/2010 07/02/1991
Lumberton, City of	03/24/1989	N/A	N/A	03/24/1989	03/02/2010 07/02/1991
Purvis, City of	11/03/1978	11/03/1978	N/A	03/01/1987	03/02/2010 07/02/1991 04/02/1990
Sumrall, Town of	11/03/1978	11/03/1978	08/31/1979	08/19/1985	03/02/2010 07/02/1991 04/02/1990

## SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

### 7.1 Contracted Studies

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

**Table 29: Summary of Contracted Studies Included in this FIS Report**

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
All Zone A streams studied in the 2010 FIS	03/02/2010	State of Mississippi	EMA-2005-CA-5215	08/2008	Lamar County Unincorporated Areas
Bay Creek	TBD	State of Mississippi	EMA-2010-CA-5081	10/2013	Lamar County Unincorporated Areas
Black Creek	04/02/1990	Neel-Schaffer, Inc.	EMW-86-C-2246	09/1987	Lamar County Unincorporated Areas

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Little Black Creek	04/02/1990	Neel-Schaffer, Inc.	EMW-86-C-2246	09/1987	Lamar County Unincorporated Areas
Lower Little Creek	TBD	State of Mississippi	EMA-2010-CA-5081	10/2013	Lamar County Unincorporated Areas
Mill Creek No. 1	07/02/1991	U.S. Army Corps of Engineers	unknown	11/1988	Town of Sumrall
Mill Creek No. 1	03/02/2010	State of Mississippi	EMA-2005-CA-5215	08/2008	Town of Sumrall
Mixons Creek	04/02/1990	Neel-Schaffer, Inc.	EMW-86-C-2246	09/1987	Lamar County Unincorporated Areas
Mixons Creek	03/02/2010	State of Mississippi	EMA-2005-CA-5215	08/2008	Lamar County Unincorporated Areas
Mixons Creek Tributary 1	04/02/1990	Neel-Schaffer, Inc.	EMW-86-C-2246	09/1987	Lamar County Unincorporated Areas
Mixons Creek Tributary 2	03/02/2010	State of Mississippi	EMA-2005-CA-5215	08/2008	Lamar County Unincorporated Areas
Mixons Creek Tributary 4	03/02/2010	State of Mississippi	EMA-2005-CA-5215	08/2008	Lamar County Unincorporated Areas
Perkins Creek	04/02/1990	Neel-Schaffer, Inc.	EMW-86-C-2246	09/1987	Lamar County Unincorporated Areas

## 7.2 Community Meetings

The dates of the community meetings held for this FIS project and any previous FIS projects are shown in Table 30. These meetings may have previously been referred to by a variety of names (Community Coordination Officer (CCO), Scoping, Discovery, etc.), but all meetings represent opportunities for FEMA, community officials, study contractors, and other invited guests to discuss the planning for and results of the project.



**Table 30: Community Meetings**

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Lamar County and Incorporated Areas	04/02/1990	03/16/2008	Initial CCO	FEMA, Neel-Schaffer, City of Lumberton, City of Purvis, Town of Sumrall, and County officials
		04/5/1989	Final CCO	FEMA, Neel-Schaffer, City of Lumberton, City of Purvis, Town of Sumrall, and County officials
	03/02/2010	07/27/2005	Pre-Scoping	MEMA, MDEQ, City of Lumberton, City of Purvis, Town of Sumrall, County officials, and the Study Contractor
		09/01/2005	Scoping	MEMA, MDEQ, City of Lumberton, City of Purvis, Town of Sumrall, County officials, and the Study Contractor
		10/18/2005	Post-Scoping	MEMA, MDEQ, City of Lumberton, City of Purvis, Town of Sumrall, County officials, and the Study Contractor
		10/22/2008	Final CCO	MEMA, MDEQ, City of Lumberton, City of Purvis, Town of Sumrall, County officials, and the Study Contractor
	TBD	02/07/2012	Discovery	FEMA, MEMA, MDEQ, Lower Pearl watershed communities, and the Study Contractor
		09/16/2015	Flood Risk Review	MEMA, MDEQ, Lower Pearl watershed communities, and the Study Contractor

## SECTION 8.0 – ADDITIONAL INFORMATION

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

The additional data that was used for this project includes the FIS Report and FIRM that were previously prepared for Lamar County (FEMA 2010).

Table 31 is a list of the locations where FIRMs for Lamar County can be viewed. Please note that the maps at these locations are for reference only and are not for distribution. Also, please note that only the maps for the community listed in the table are available at that particular repository. A user may need to visit another repository to view maps from an adjacent community.

**Table 31: Map Repositories**

Community	Address	City	State	Zip Code
Lamar County Unincorporated Areas	Lamar County Planning Department 144 Shelby Speights Drive	Purvis	MS	39482
Lumberton, City of				
Purvis, City of				
Sumrall, Town of				

The National Flood Hazard Layer (NFHL) dataset is a compilation of effective FIRM databases and LOMCs. Together they create a GIS data layer for a State or Territory. The NFHL is updated as studies become effective and extracts are made available to the public monthly. NFHL data can be viewed or ordered from the website shown in Table 32.

Table 32 contains useful contact information regarding the FIS Report, the FIRM, and other relevant flood hazard and GIS data. In addition, information about the state NFIP Coordinator and GIS Coordinator is shown in this table. At the request of FEMA, each Governor has designated an agency of State or territorial government to coordinate that State's or territory's NFIP activities. These agencies often assist communities in developing and adopting necessary floodplain management measures. State GIS Coordinators are knowledgeable about the availability and location of state and local GIS data in their state.

**Table 32: Additional Information**

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	<a href="http://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/engineering-library">www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/engineering-library</a>
NFIP website	<a href="http://www.fema.gov/national-flood-insurance-program">www.fema.gov/national-flood-insurance-program</a>
NFHL Dataset	<a href="http://msc.fema.gov">msc.fema.gov</a>

FEMA Region IV	Federal Emergency Management Agency 3003 Chamblee Tucker Road Atlanta, GA 30341 (770) 220-5200
Other Federal Agencies	
USGS website	<a href="http://www.usgs.gov">http://www.usgs.gov</a>
Hydraulic Engineering Center website	<a href="http://www.hec.usace.army.mil">http://www.hec.usace.army.mil</a>
State Agencies and Organizations	
State NFIP Coordinator	Stacey Ricks, CFM Mississippi Emergency Management Agency #1 MEMA Drive P.O. Box 5644 Pearl, MS 39208 Phone: 601-933-6605 <a href="mailto:sricks@mema.ms.gov">sricks@mema.ms.gov</a>
State GIS Coordinator	Jim Steil Director, MARIS 3825 Ridgewood Road Jackson, MS 39211 Phone: 601-432-6357 <a href="mailto:jsteil@ihl.state.ms.us">jsteil@ihl.state.ms.us</a>
Statewide Regulatory Coordinator	Stacey Ricks, CFM Mississippi Emergency Management Agency #1 MEMA Drive P.O. Box 5644 Pearl, MS 39208 Phone: 601-933-6605 <a href="mailto:sricks@mema.ms.gov">sricks@mema.ms.gov</a>

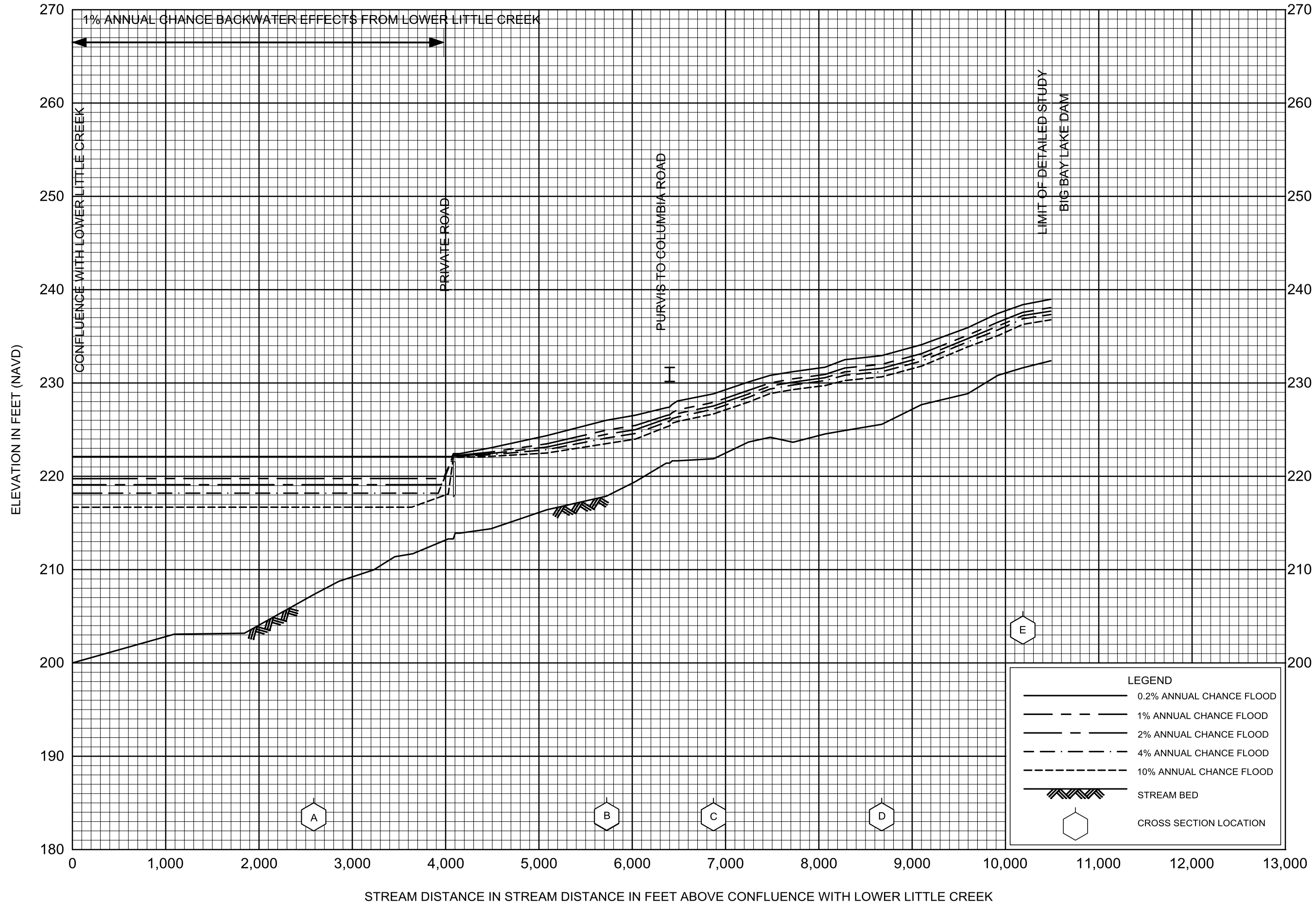
## SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES

Table 33 includes sources used in the preparation of and cited in this FIS Report as well as additional studies that have been conducted in the study area.

**Table 33: Bibliography and References**

Citation in this FIS	Publisher/ Issuer	<i>Publication Title, "Article," Volume, Number, etc.</i>	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
FIS 1982	Federal Emergency Management Agency	<u>Flood Insurance Study, City of Hattiesburg, Lamar County, Mississippi</u>		Washington, D.C.	08/1982	
FIS 1985	Federal Emergency Management Agency	<u>Flood Insurance Rate Map, Town of Sumrall, Lamar County, Mississippi</u>		Washington, D.C.	08/1985	
FIS 1987	Federal Emergency Management Agency	<u>Flood Insurance Rate Map, City of Purvis, Lamar County, Mississippi</u>		Washington, D.C.	03/1987	
HUD 1977	U.S. Department of Housing and Urban Development, Federal Insurance Administration	<u>Flood Hazard Boundary Map, Lamar County, Unincorporated Areas, Mississippi</u>		Washington, D.C.	12/1977	
USACE 1988	U.S. Army Corps of Engineers, Mobile District	<u>Section 205 Detailed Project Report on Mill Creek, Sumrall, Mississippi</u>		Mobile, MS	11/1988	
USACE	U.S. Army Corps of Engineers, Mobile District	<u>HEC-1 Computer Models for Mixons Creek and Mixons Creek Tributary in Lamar County, Mississippi</u>		Unpublished		
USACE 1980	U.S. Army Corps of Engineers	<u>Detailed Project Report on Gordons Creek, Hattiesburg, Mississippi</u>			12/1980	

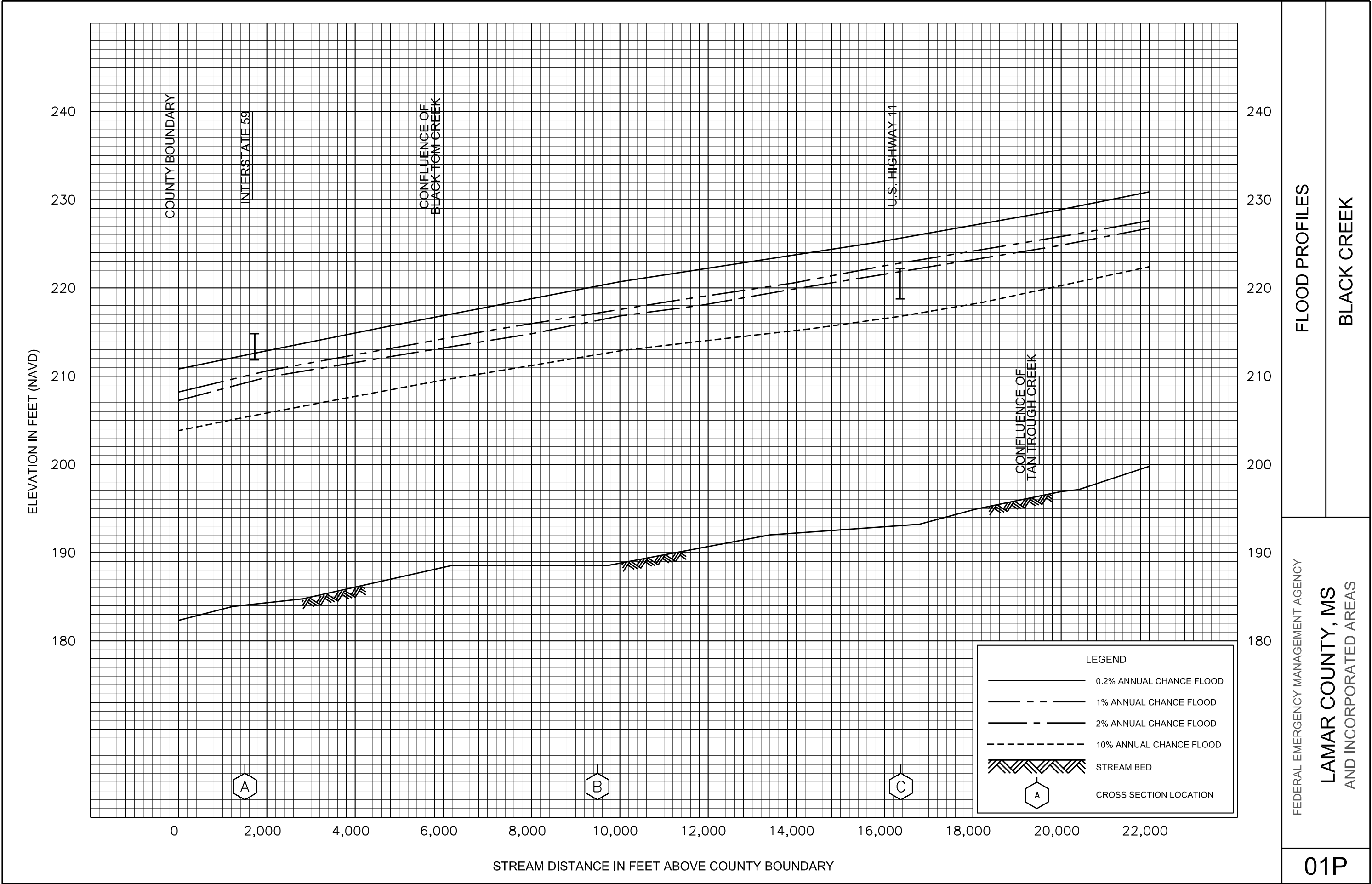
Citation in this FIS	Publisher/ Issuer	<i>Publication Title, "Article," Volume, Number, etc.</i>	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
HEC-2 1984	U.S. Army Corps of Engineers, Hydrologic Engineering Center	<u>HEC-2 Water-Surface Profiles, Generalized Computer Program</u>		Davis, California	04/1984	
HEC-RAS 2002	U.S. Army Corps of Engineers, Hydrologic Engineering Center	<u>HEC-RAS river Analysis System, User's Manual, Version 3.1</u>		Davis, California	11/2002	
USGS	U.S. Department of the Interior, Geological Survey	<u>Flood Frequency of Mississippi Streams</u>	B.E. Colson and J.W. Hudson		1976	
USGS	U.S. Department of the Interior, Water Resources Investigations 23-74	<u>An Approach to Estimating Flood Frequency for Urban Areas of Oklahoma</u>	V.B. Sauer		07/1974	
USGS	U.S. Department of the Interior, Geological Survey	<u>7.5 Minute Series Topographic Maps</u> , Scale 1:24,000, Contour Interval 10 feet, Sumrall, Mississippi			1974	
USGS	U.S. Department of the Interior, Geological Survey	<u>Flood Characteristics of Mississippi Streams</u> , Water-Resources Investigation Report 91-4037	Mark N. Landers and K. Van Wilson, Jr.	Jackson, Mississippi	1991	
HEC-RAS 2010	U.S. Army Corps of Engineers, Hydrologic Engineering Center	<u>HEC-RAS river Analysis System, User's Manual, Version 4.1</u>		Davis, California	01/2010	

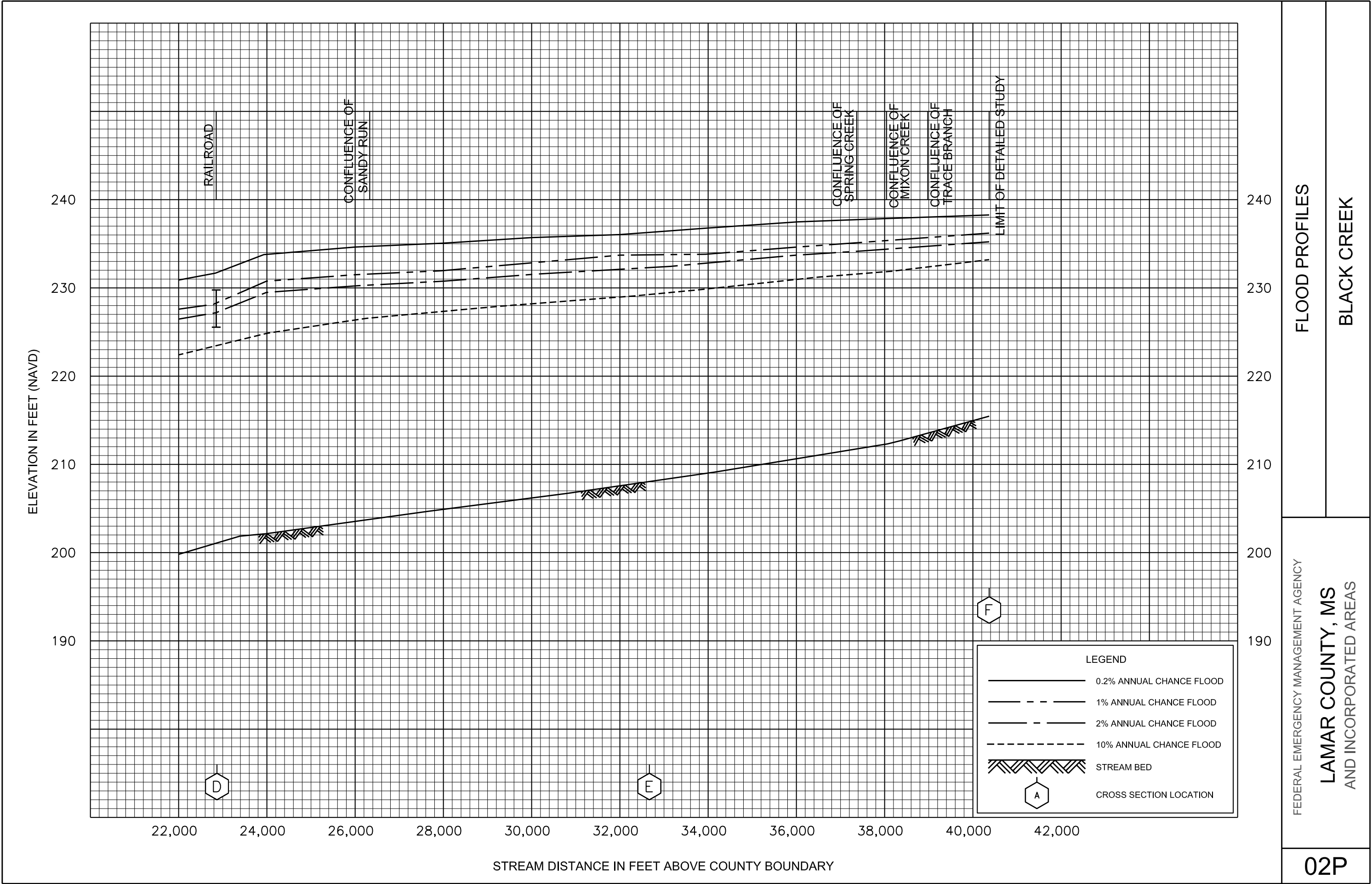


FLOOD PROFILES

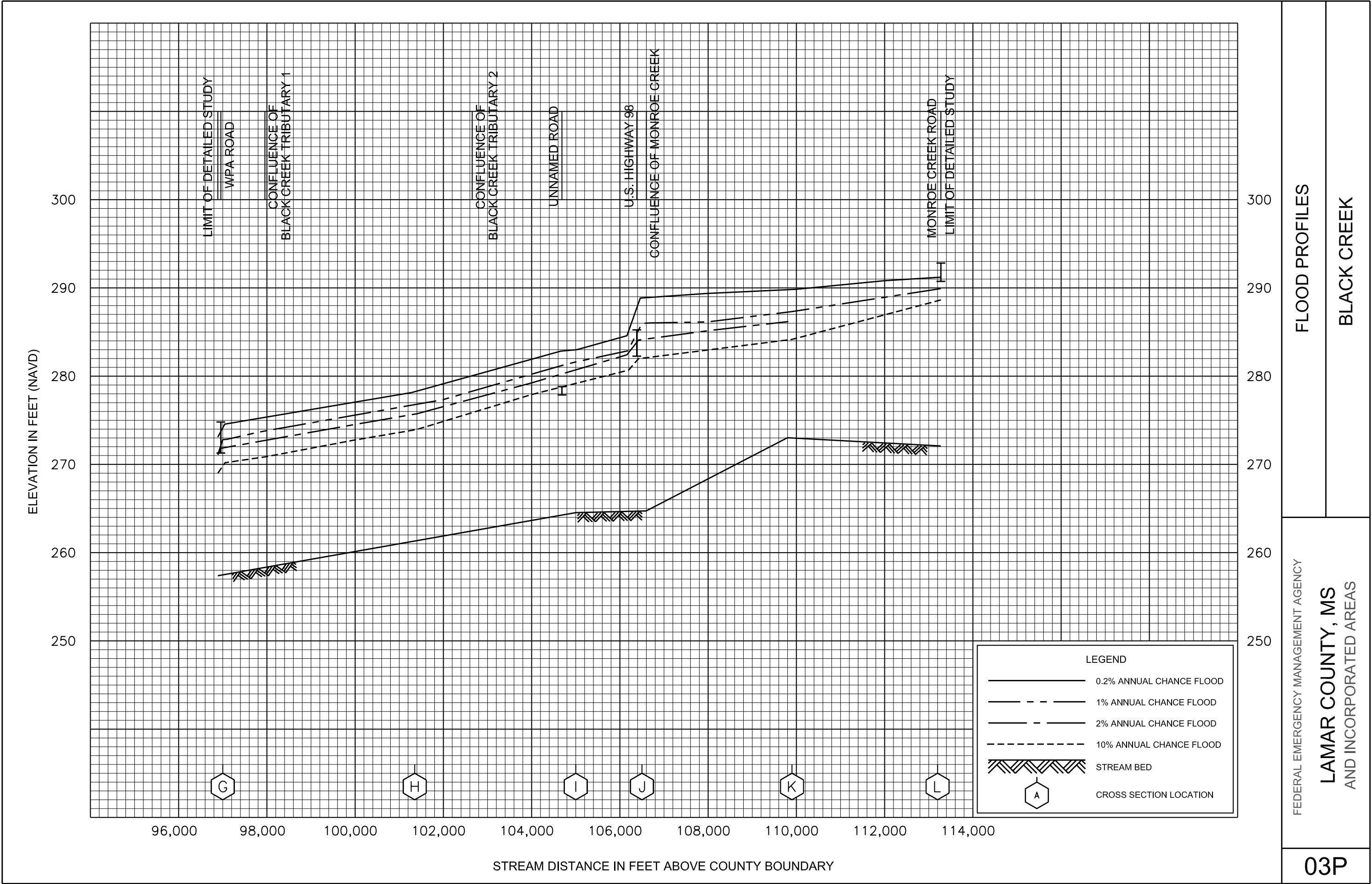
BAY CREEK

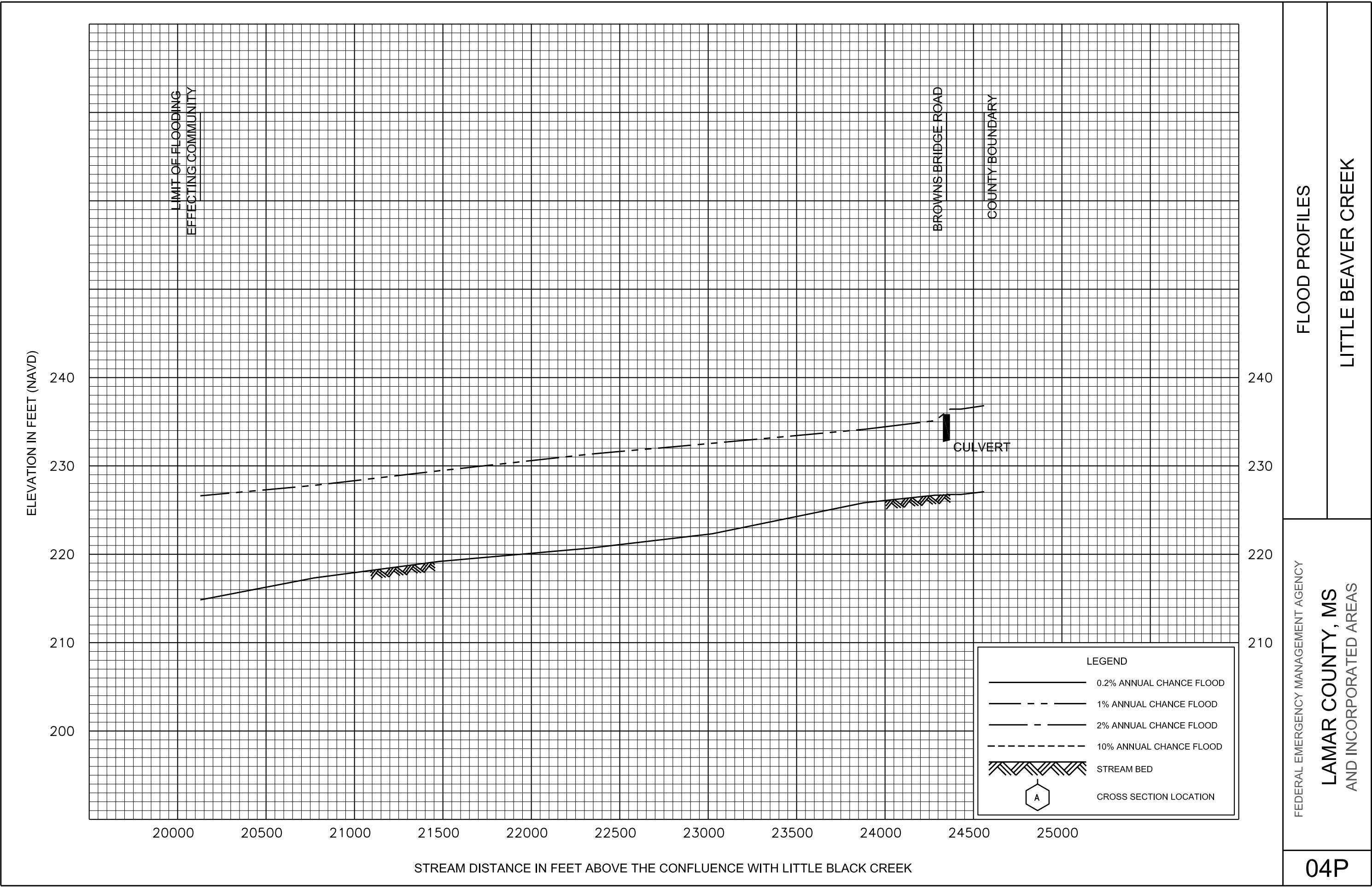
FEDERAL EMERGENCY MANAGEMENT AGENCY  
LAMAR COUNTY, MS  
AND INCORPORATED AREAS









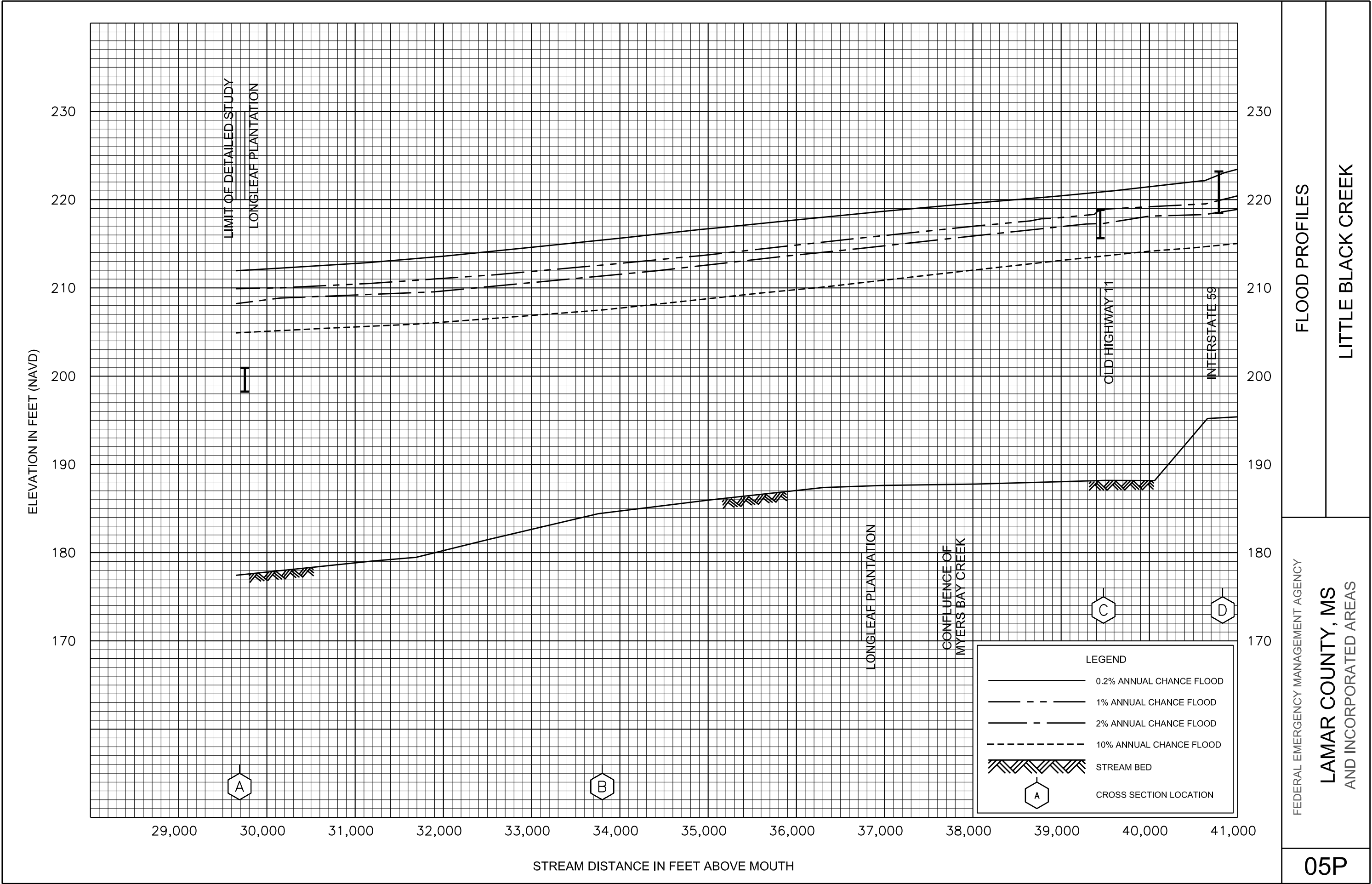


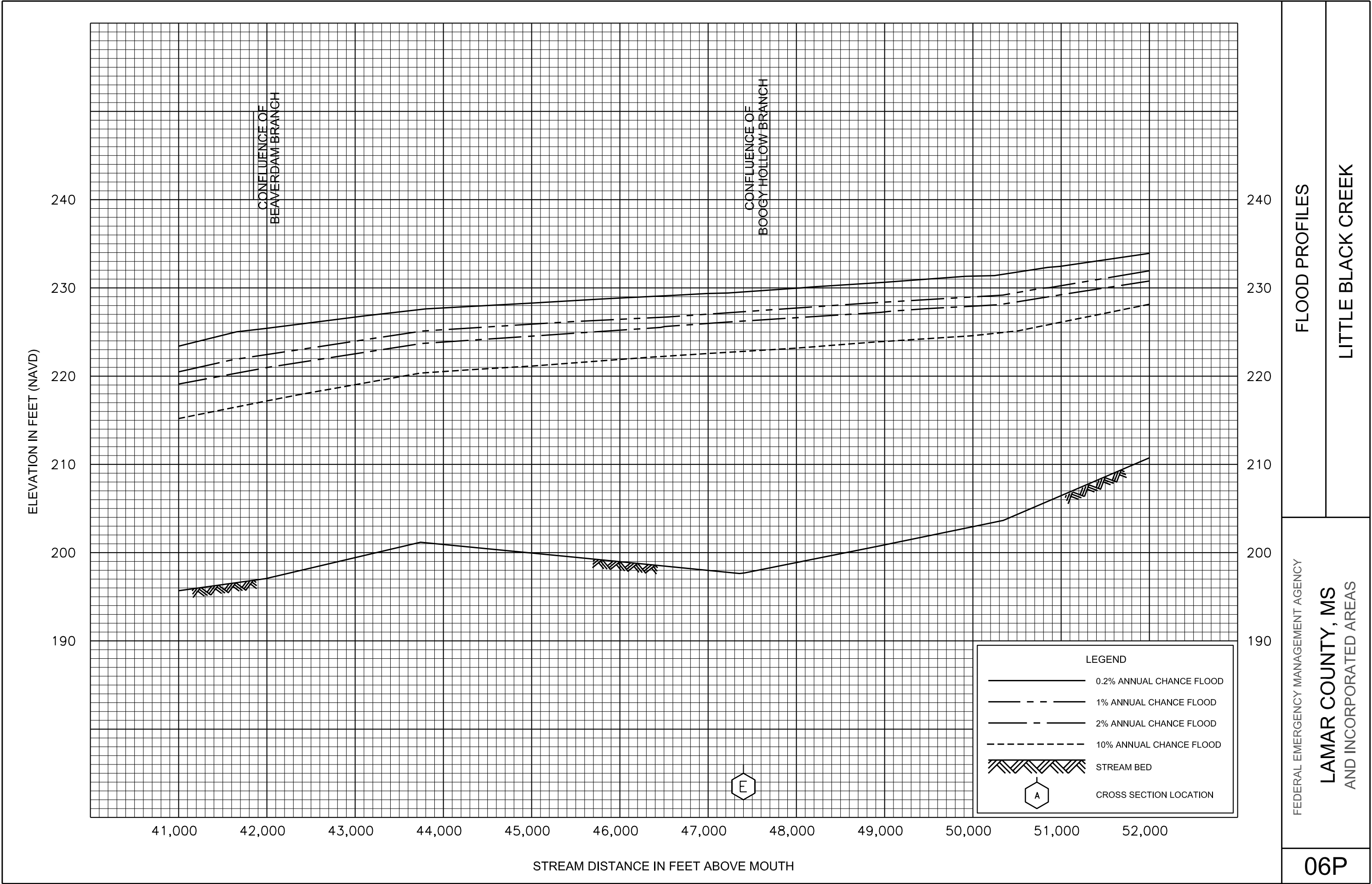
FLOOD PROFILES

LITTLE BEAVER CREEK

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AND INCORPORATED AREAS





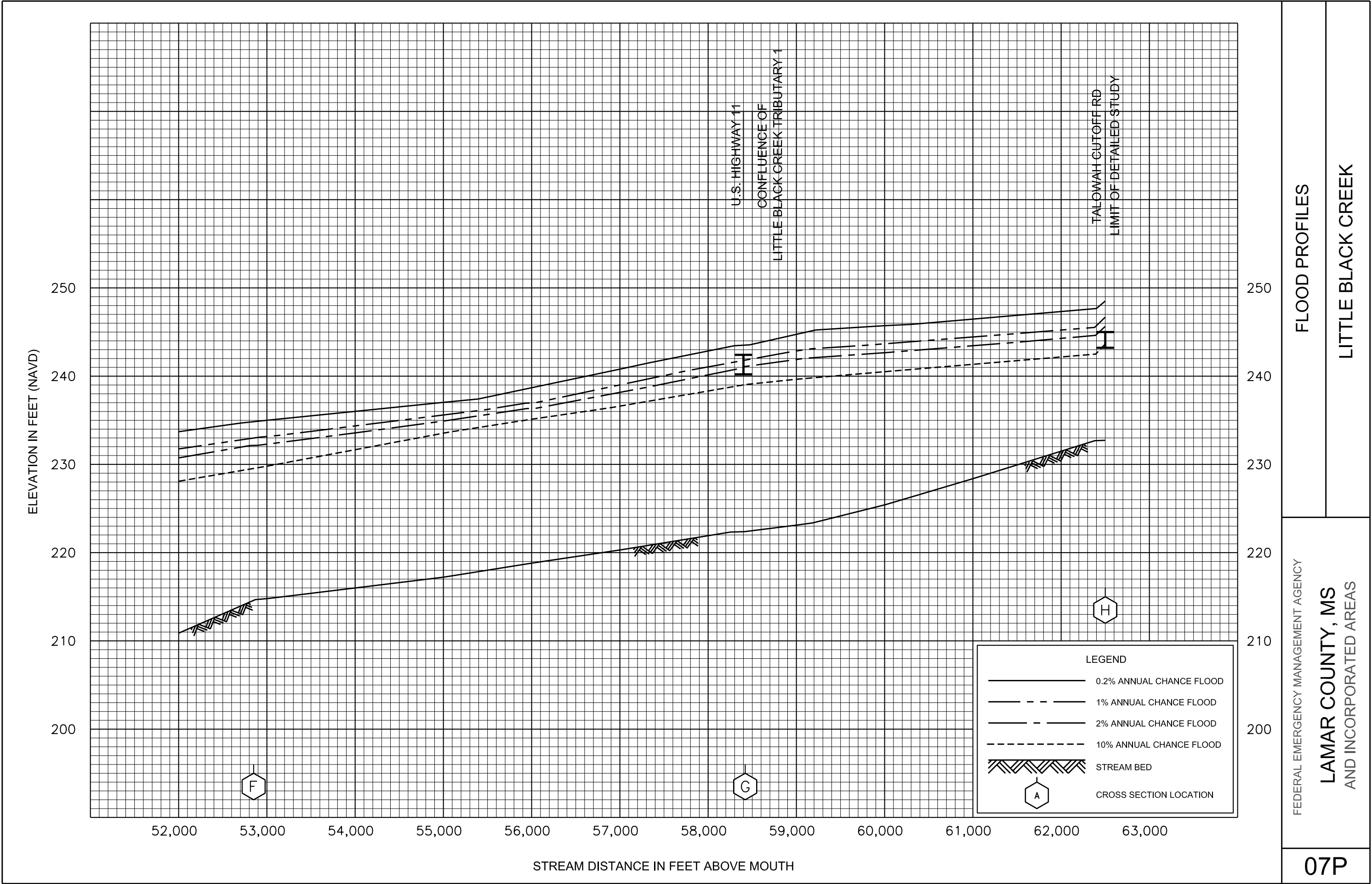
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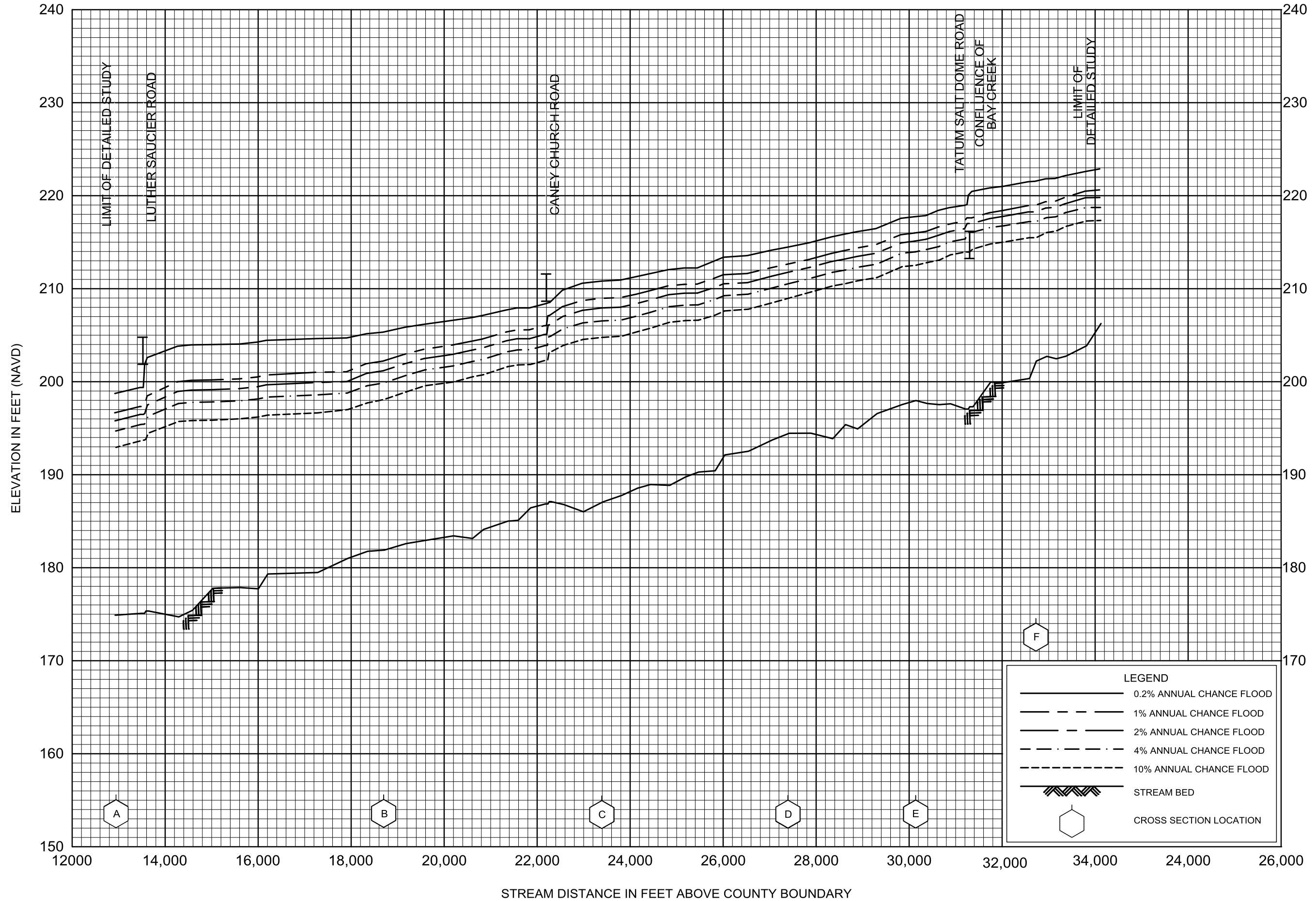
LITTLE BLACK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAMAR COUNTY, MS  
AND INCORPORATED AREAS

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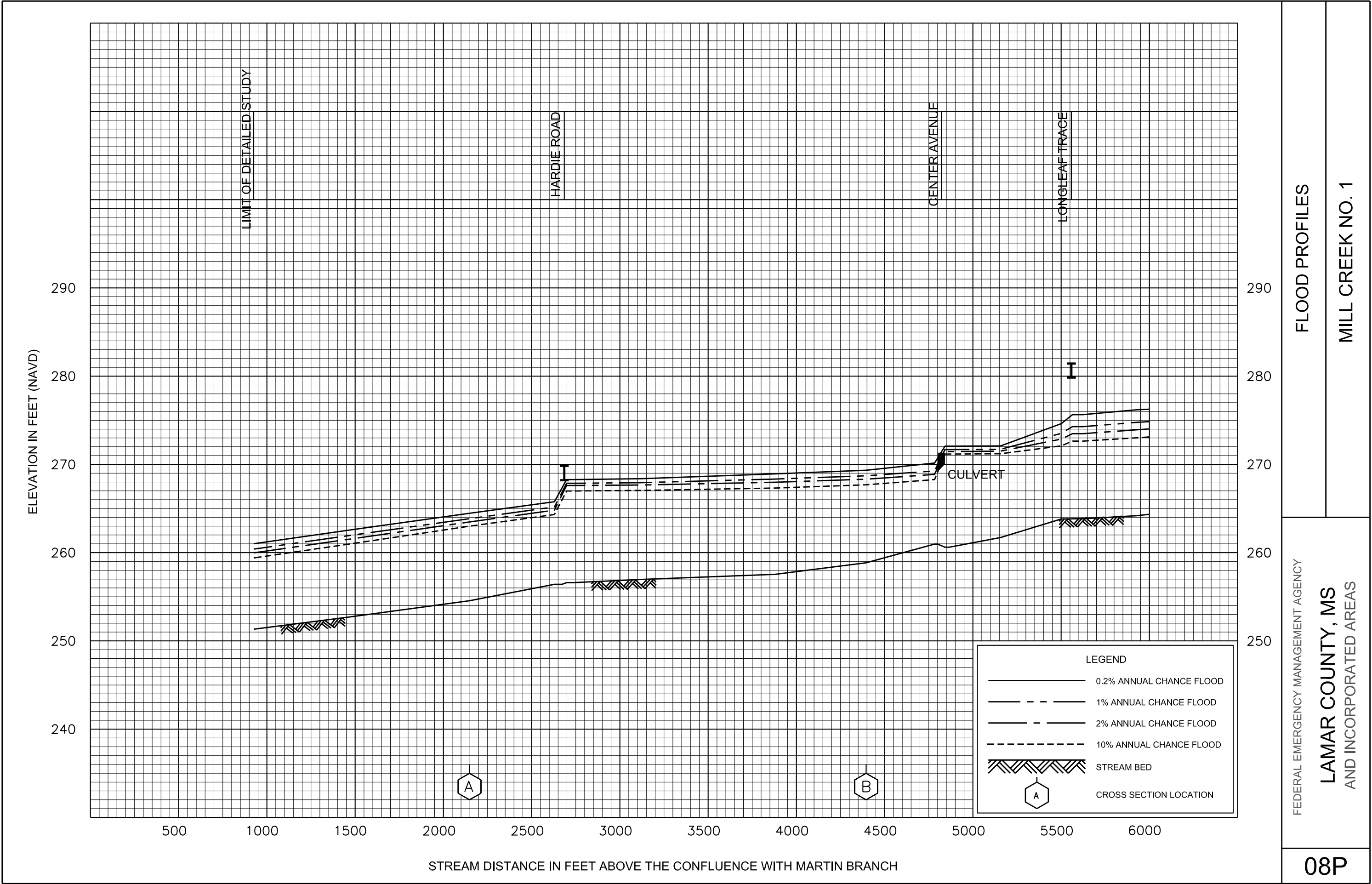
FLOOD PROFILES

LOWER LITTLE CREEK

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FLOOD PROFILES

MILL CREEK NO. 1

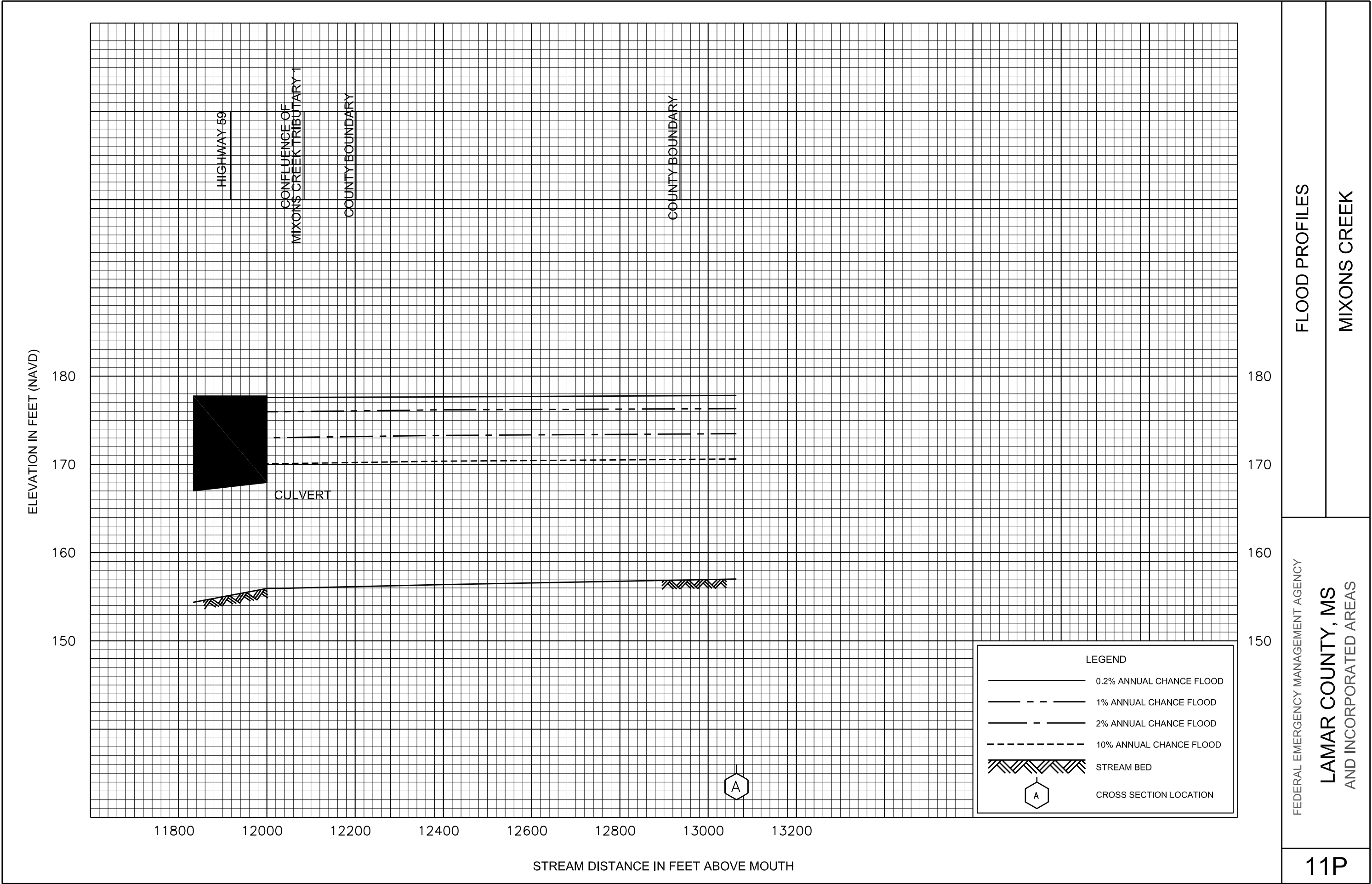
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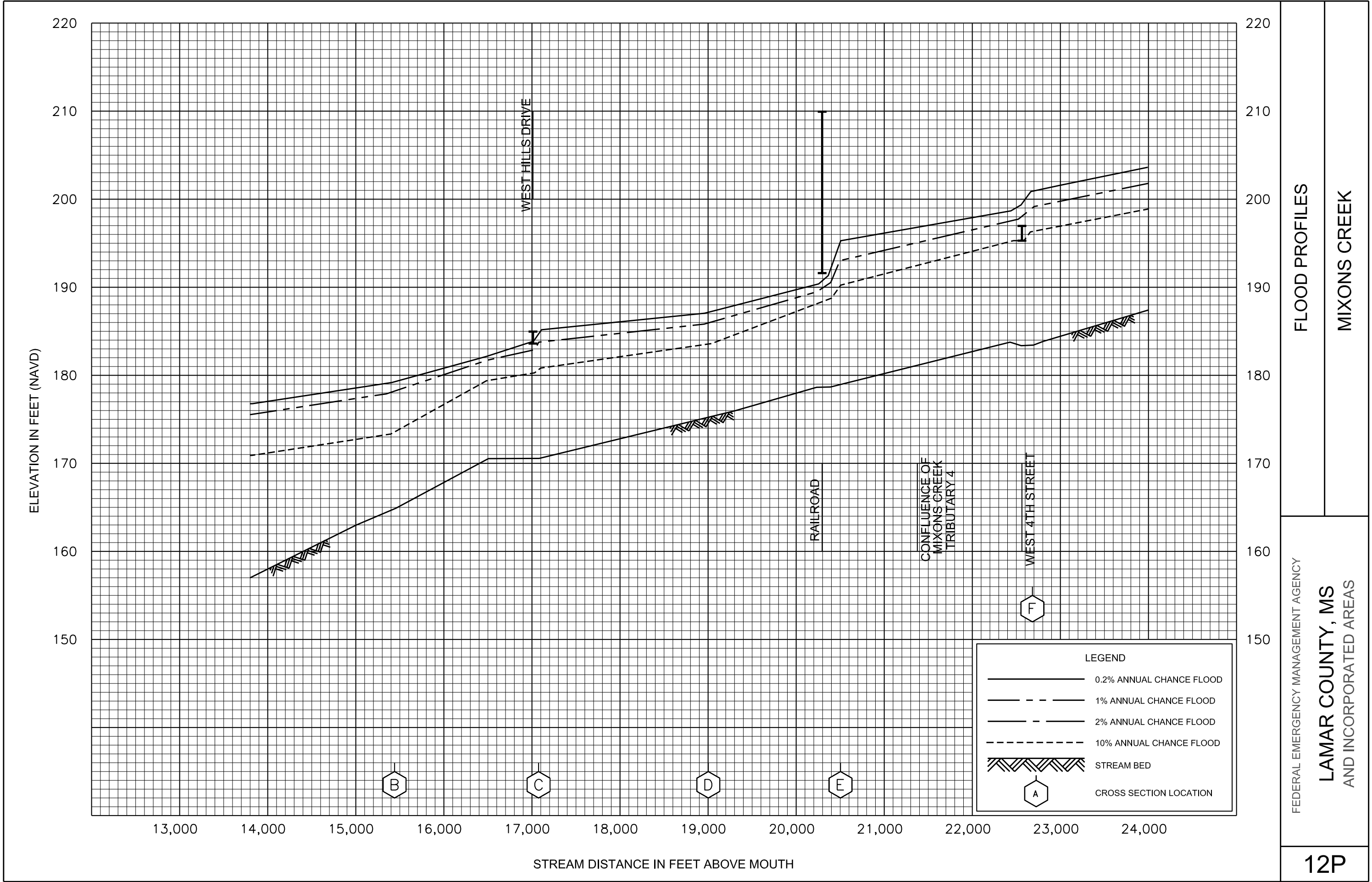
LAMAR COUNTY, MS  
AND INCORPORATED AREAS

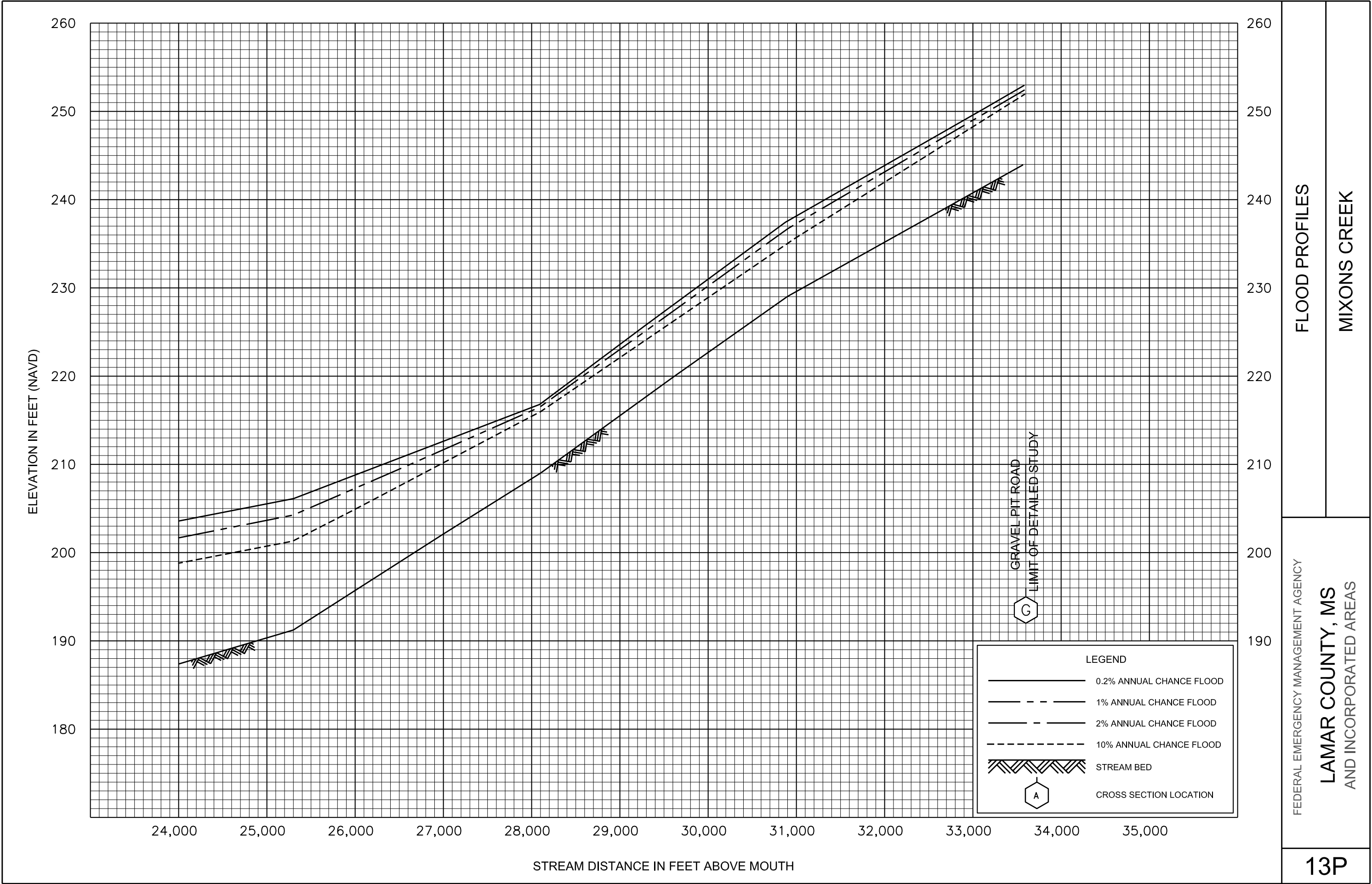


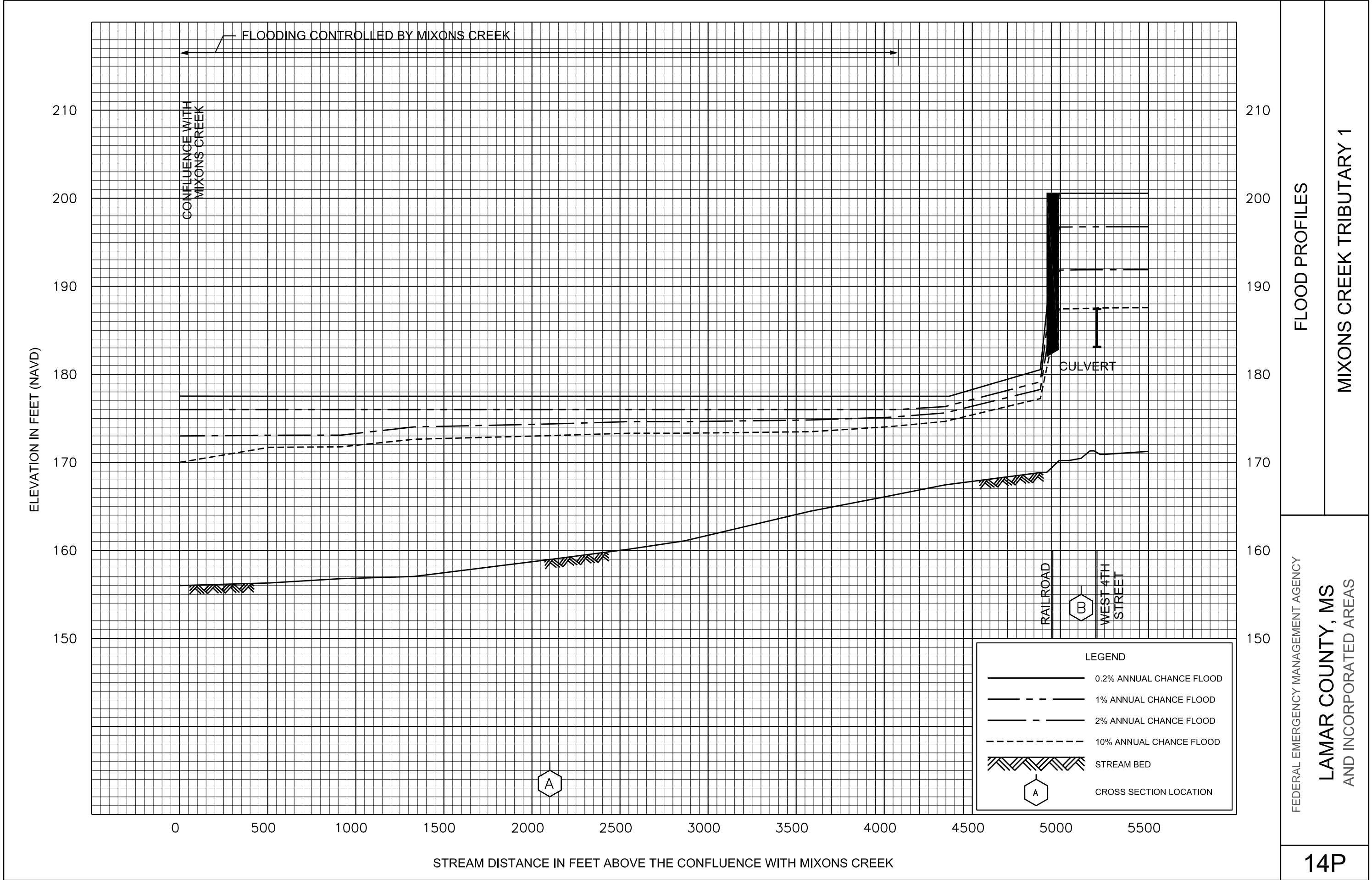


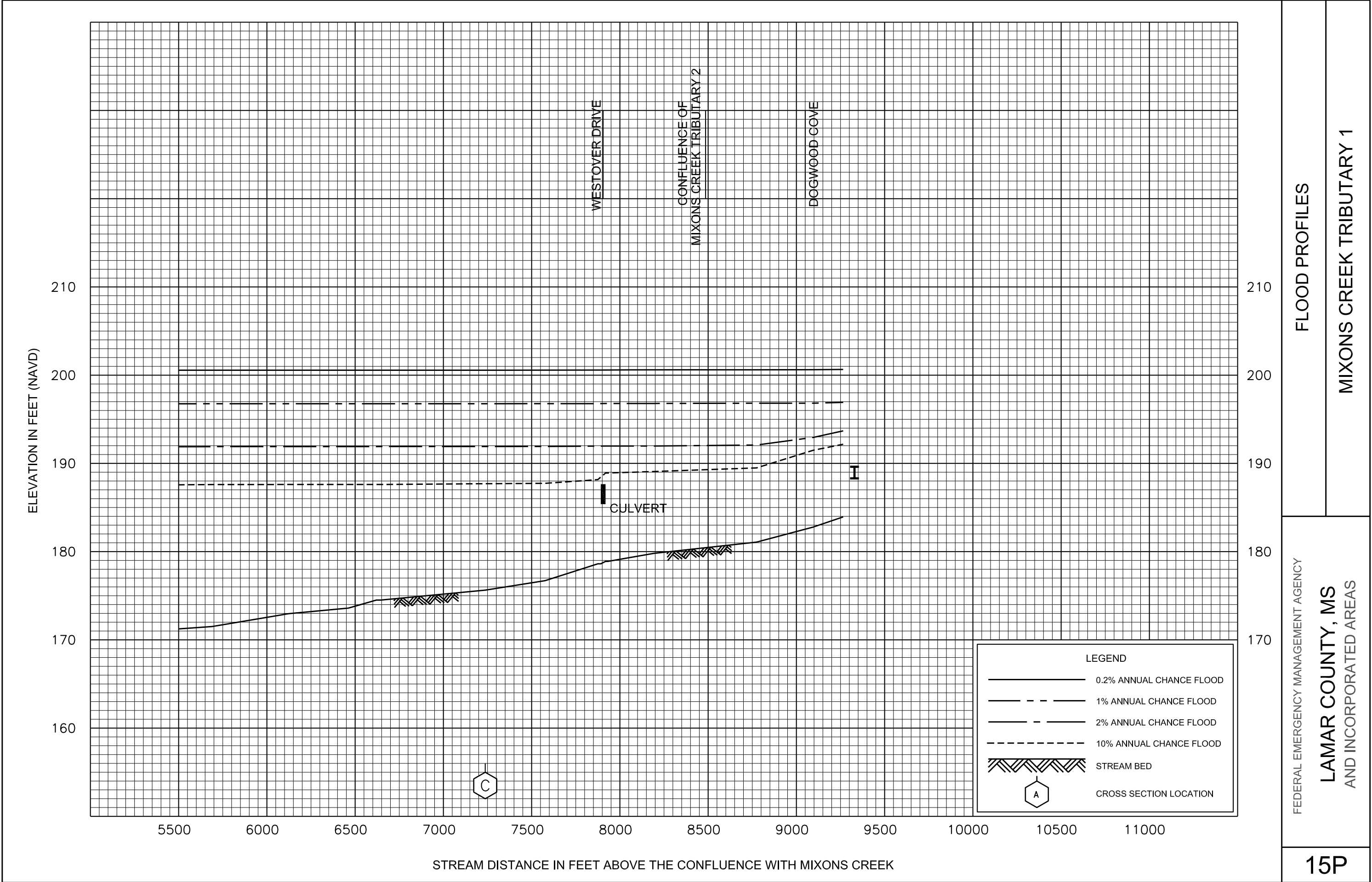


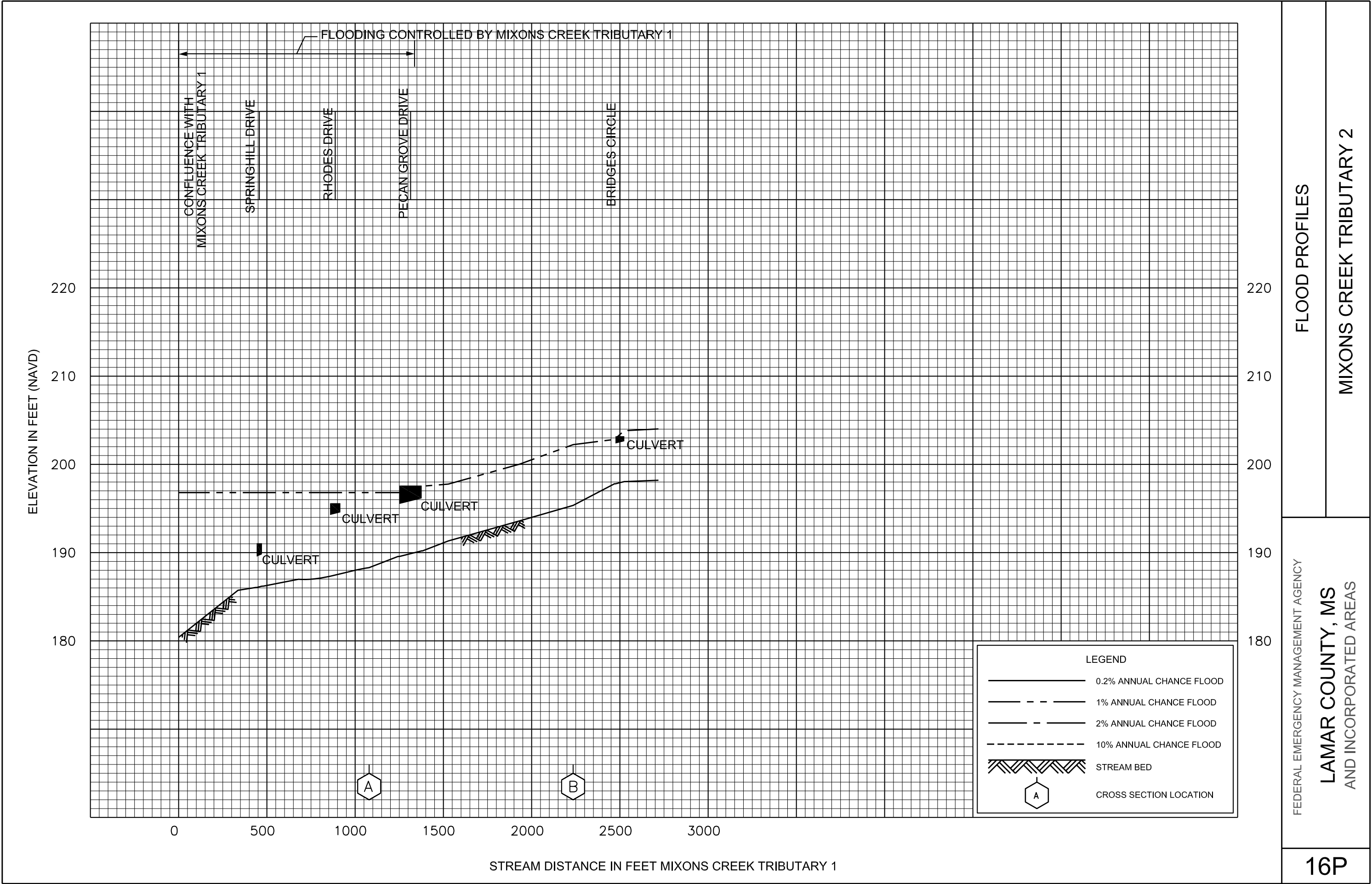


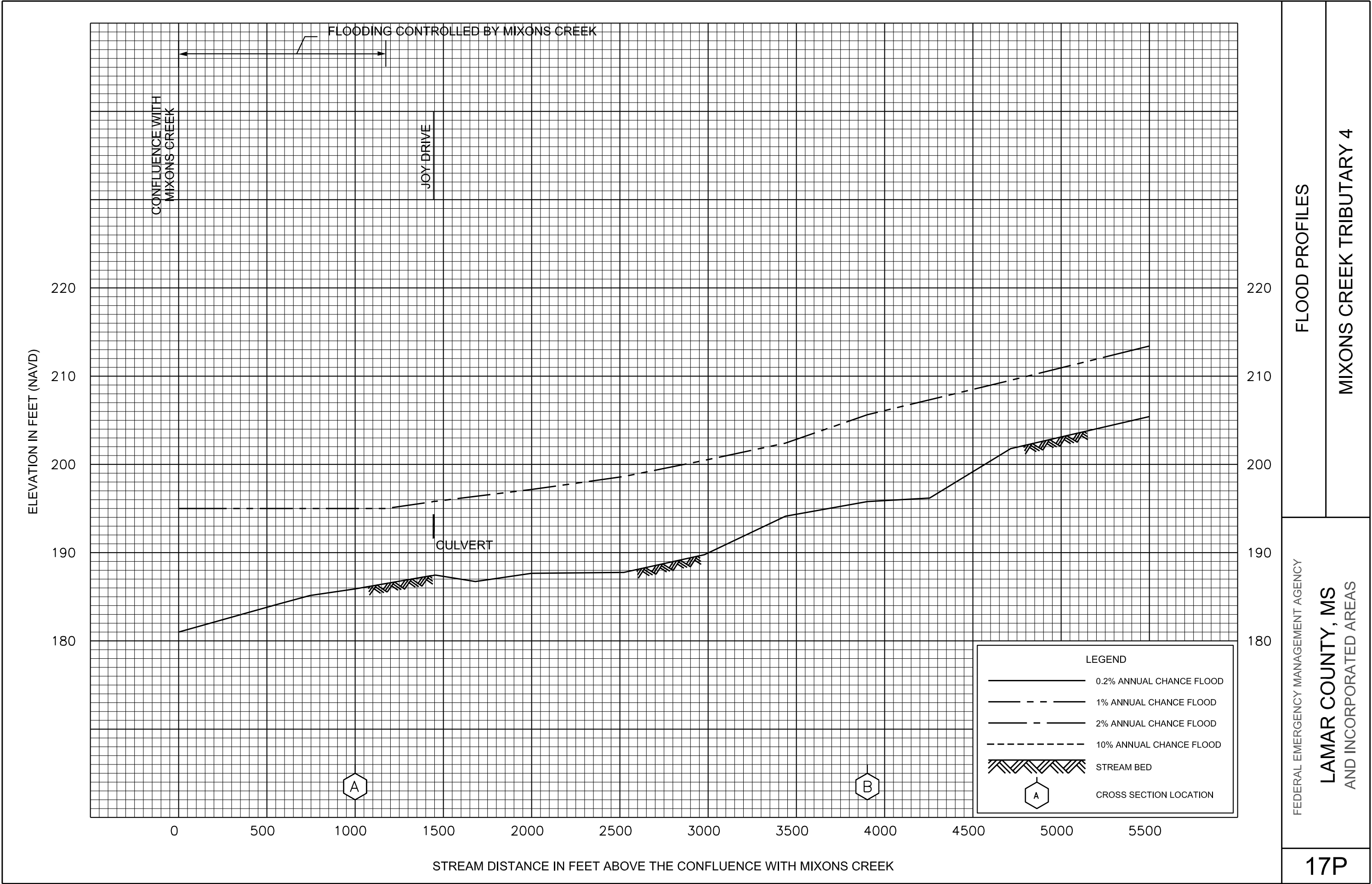




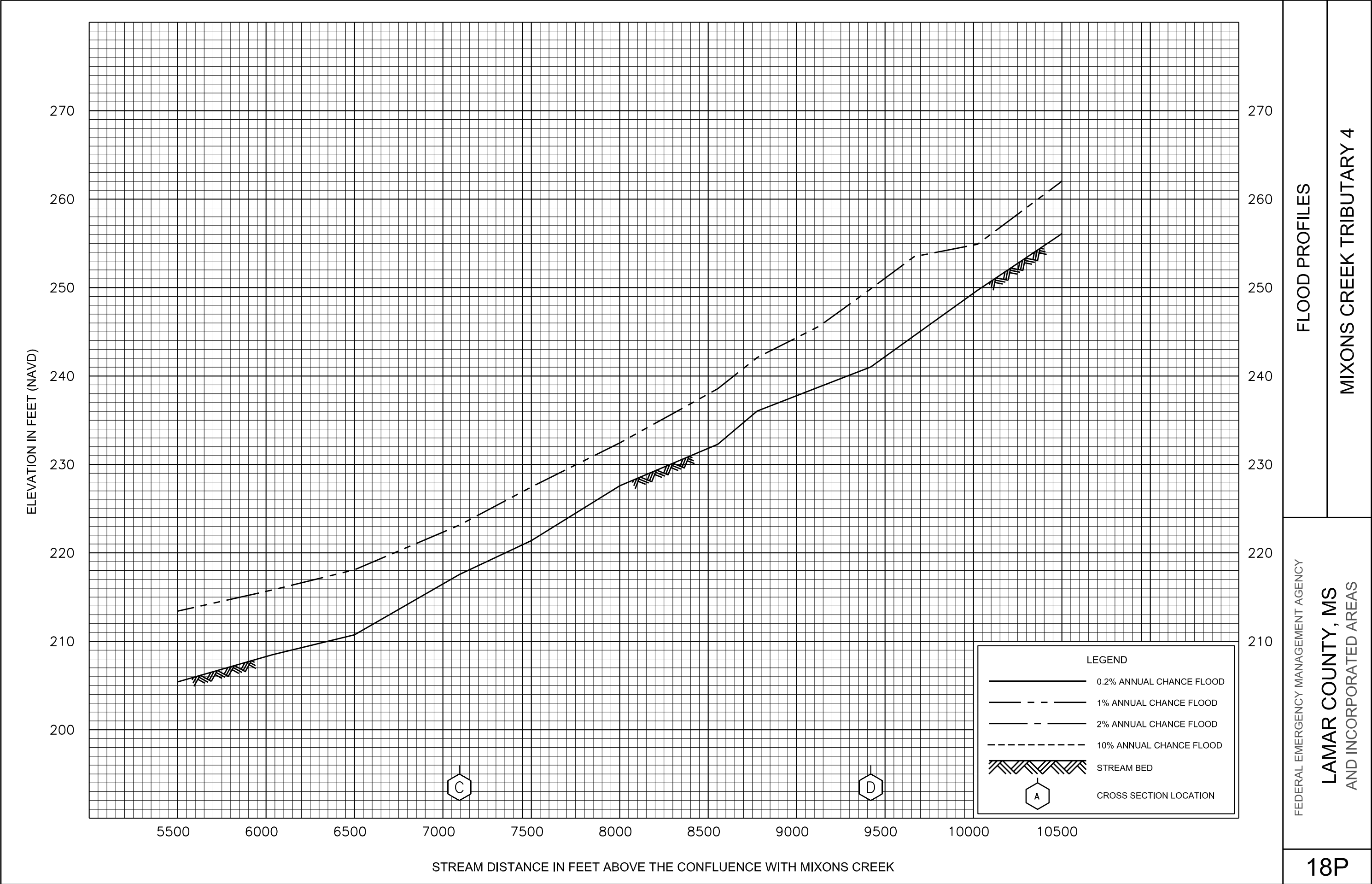




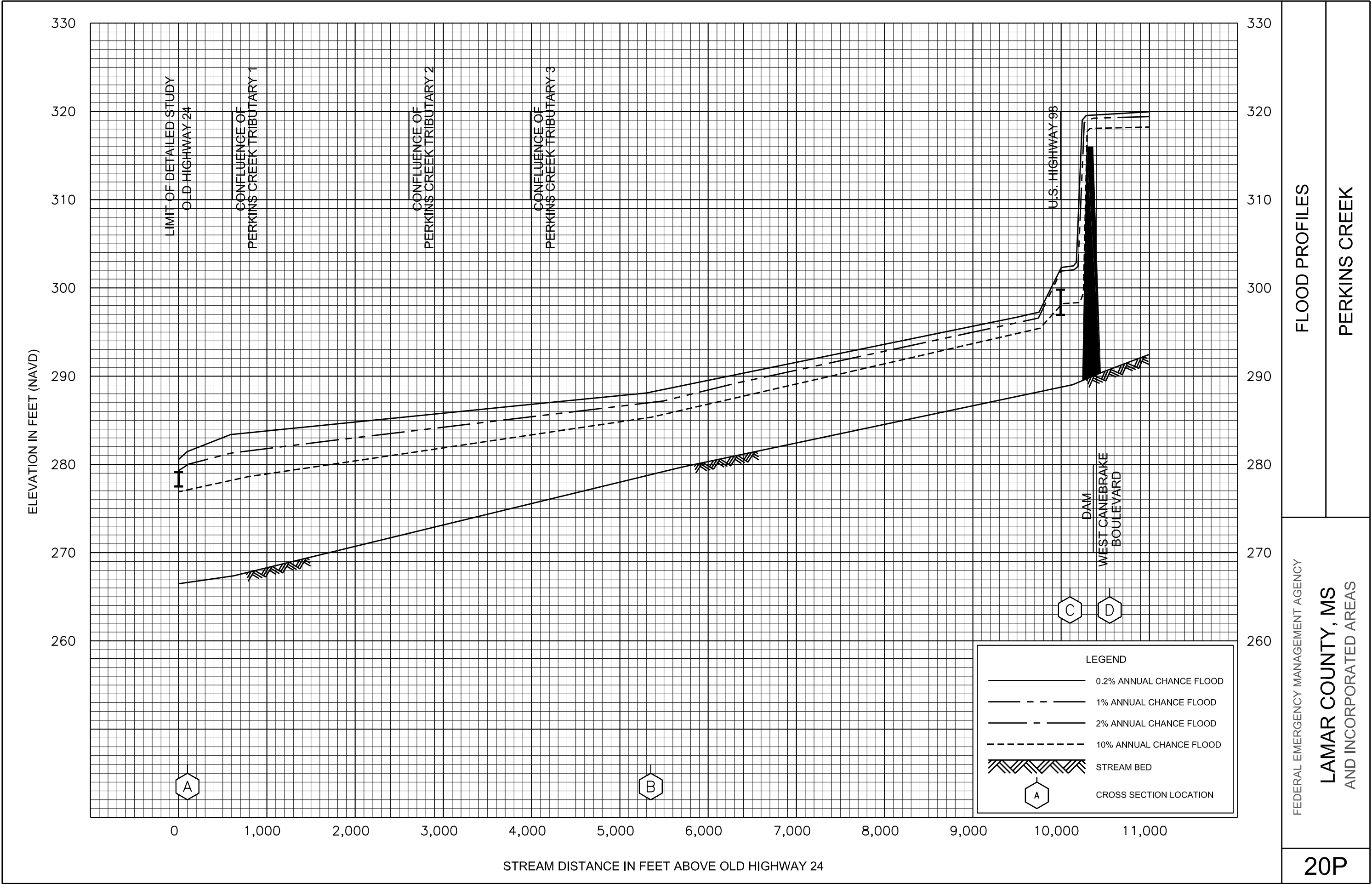










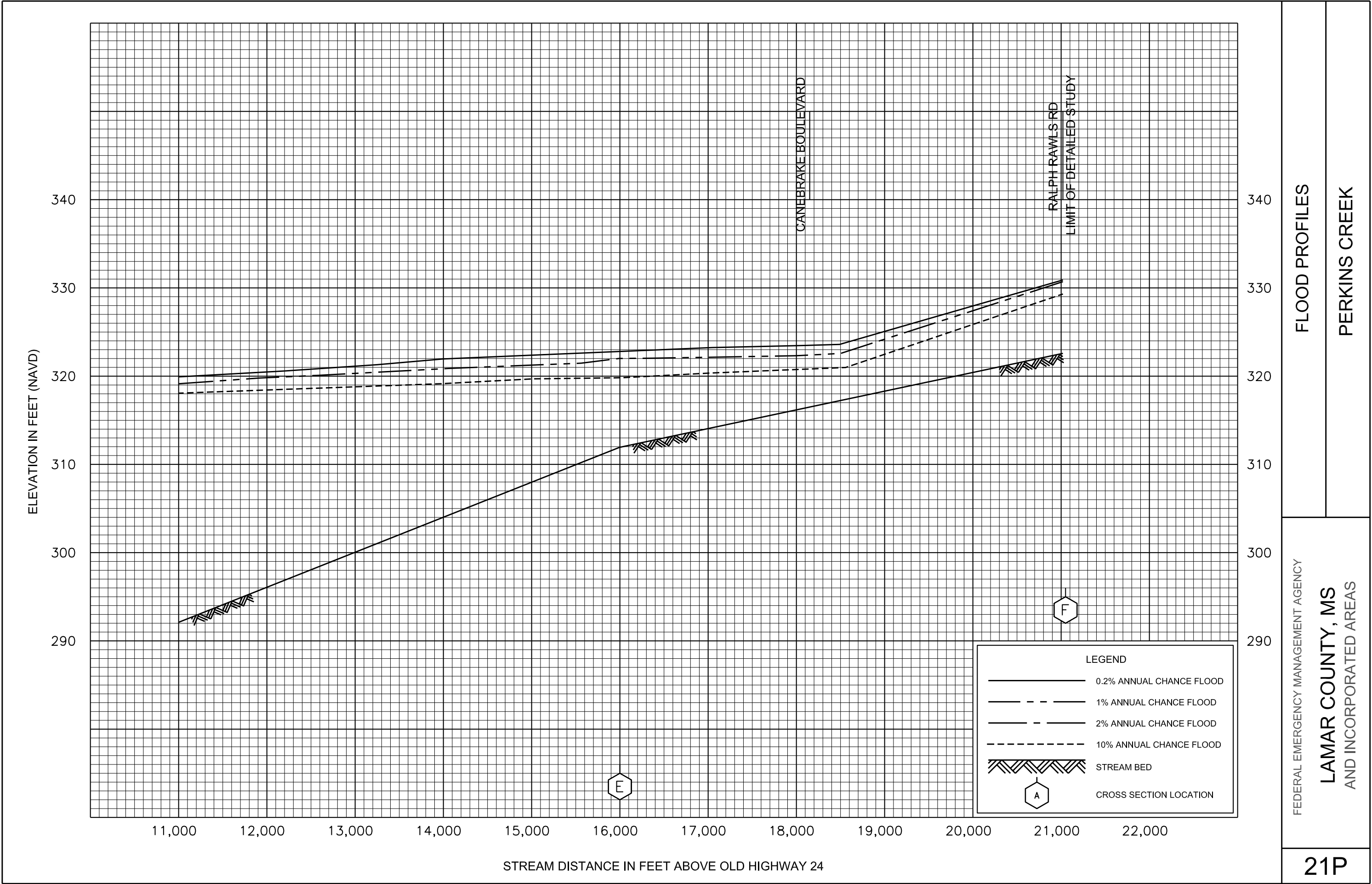


FLOOD PROFILES

PERKINS CREEK

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AND INCORPORATED AREAS

PERKINS CREEK

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