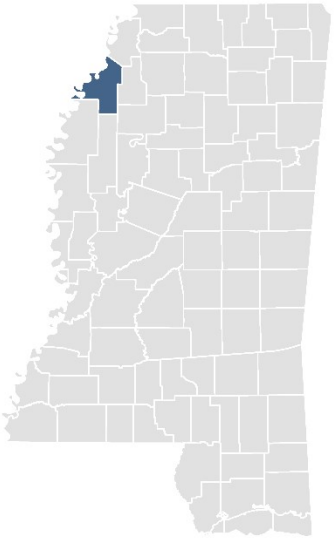
FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 1



COAHOMA COUNTY, MISSISSIPPI

AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
CLARKSDALE, CITY OF	280039
COAHOMA, TOWN OF*	285264
COAHOMA COUNTY, UNINCORPORATED AREAS	280038
FRIAR'S POINT, TOWN OF	280040
JONESTOWN, TOWN OF	280041
LULA, TOWN OF	280042
LYON, TOWN OF	280043

*No Special Flood Hazard Areas Identified

FEMA

PRELIMINARY
11/14/2018

REVISED:

TBD

FLOOD INSURANCE STUDY NUMBER
28027CV000C

Version Number 2.5.3.6

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FLOOD INSURANCE STUDY REPORT
COAHOMA 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 alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods.

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

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

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

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

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

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

1.2 Purpose of this Flood Insurance Study Report

This Flood Insurance Study (FIS) Report 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 entire geographic area of Coahoma County, Mississippi.

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

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

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Clarksdale, City of	280039	08030207	28027C0277E, 28027C0279E, 28027C0280E, 28027C0285E, 28027C0287E, 28027C0290E, 28027C0291E	
Coahoma, Town of[1]	285264	08030207	28027C0175E	

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Coahoma County, Unincorporated Areas	280038	08020100, 08030202, 08030204, 08030207	28027C0025D, 28027C0045D, 28027C0075E, 28027C0080E, 28027C0100E, 28027C0125D, 28027C0135E, 28027C0150E, 28027C0170E, 28027C0175E, 28027C0179D, 28027C0180E, 28027C0200E, 28027C0225D, 28027C0250D, 28027C0275D, 28027C0277E, 28027C0279E, 28027C0280E, 28027C0285E, 28027C0287E, 28027C0290E, 28027C0291E, 28027C0295E, 28027C0305D, 28027C0325D, 28027C0350D, 28027C0375D, 28027C0400E, 28027C0410E, 28027C0425E, 28027C0450D, 28027C0475E, 28027C0500E, 28027C0525D	
Friar's Point, Town of	280040	08020100, 08030207	28027C0045D, 28027C0135E	
Jonestown, Town of	280041	08030202, 08030207	28027C0179D	
Lula, Town of	280042	08030204	28027C0080E	

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Lyon, Town of	280043	08030207	28027C0285E	

[1] No Special Flood Hazard Areas Identified

1.4 Considerations for using this Flood Insurance Study Report

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

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

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

  It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 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 Coahoma County became effective on February 2, 2012. Refer to Table 28 for information about subsequent revisions to the FIRMs.

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

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

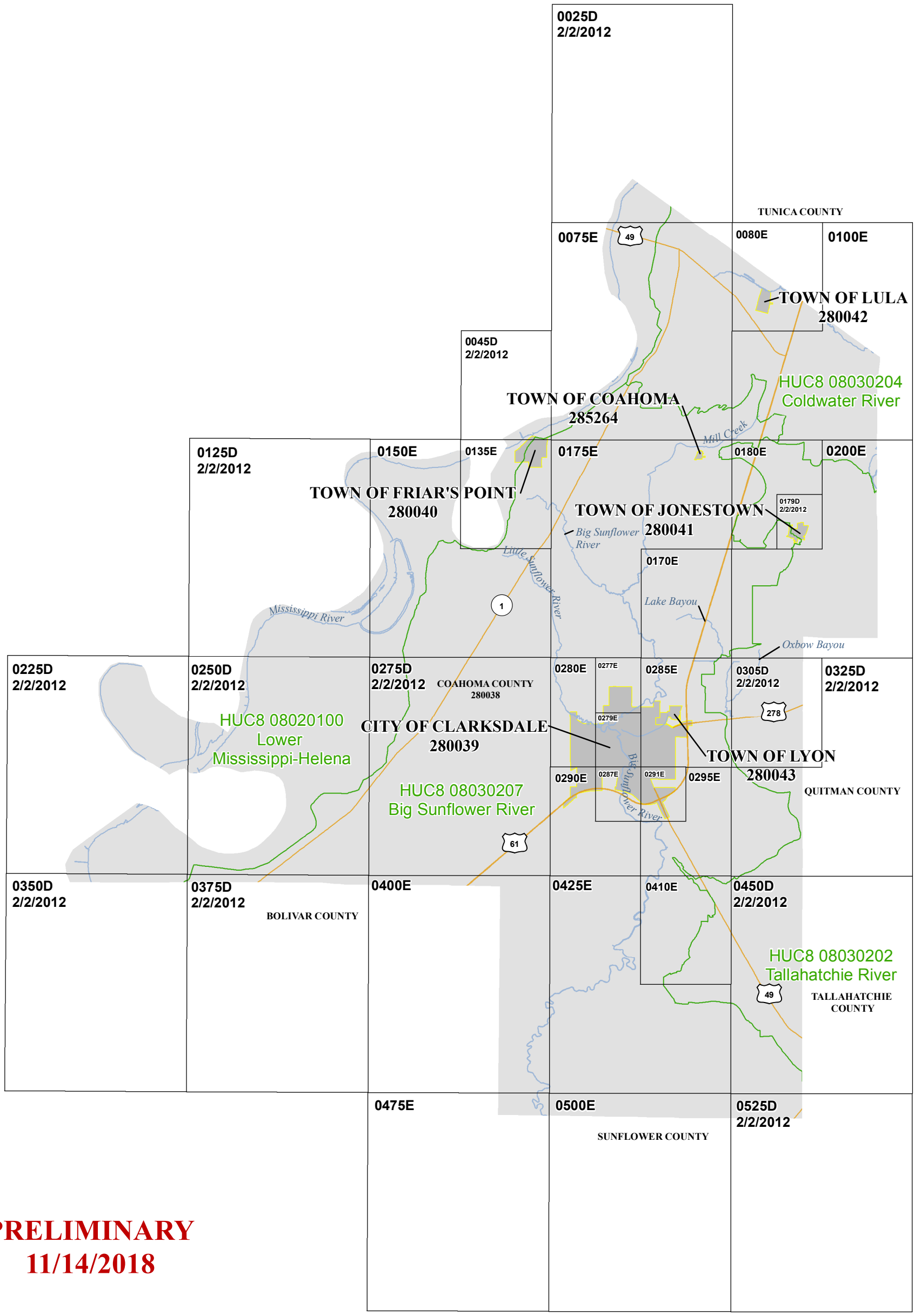
- Previous FIS Reports and FIRMs may have included levees that were accredited as reducing the risk associated with the 1-percent-annual-chance flood based on the information available and the mapping standards of the NFIP at that time. For FEMA to continue to accredit the identified levees, the levees must meet the criteria of the Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10), titled "Mapping of Areas Protected by Levee Systems."

  Since the status of levees is subject to change at any time, the user should contact the appropriate agency for the latest information regarding levees presented in Table 9 of this FIS Report. For levees owned or operated by the U.S. Army Corps of Engineers (USACE), information may be obtained from the USACE National Levee Database (nld.usace.army.mil). For all other levees, the user is encouraged to contact the appropriate local community.

- 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.

The FIRM Index in Figure 1 shows the overall FIRM panel layout within Coahoma County, and also displays the panel number and effective date for each FIRM panel in the county. Other information shown on the FIRM Index includes community boundaries, flooding sources, watershed boundaries, and USGS HUC-8 codes.

Figure 1: FIRM Index



PRELIMINARY
11/14/2018

ATTENTION: The corporate limits shown on this FIRM Index are based on the best information available at the time of publication. As such, they may be more current than those shown on FIRM panels issued before MONTH DAY, YEAR.

N

1 inch = 21,667 feet 1:260,000

0 5,500 11,000 22,000 33,000 44,000 Feet

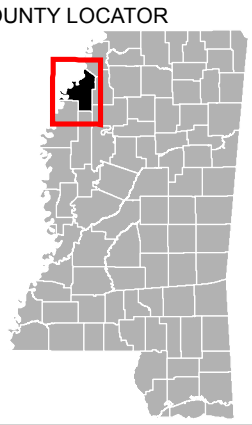
Map Projection:
State Plane Coordinate System
Mississippi West, FIPS Zone 2302

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

HTTP://MSC.FEMA.GOV

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

COUNTY LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP INDEX

COAHOMA COUNTY, MISSISSIPPI and Incorporated Areas

PANELS PRINTED:

0045, 0075, 0080, 0100, 0125, 0135, 0150, 0170, 0175, 0179, 0180, 0200, 0225, 0250, 0275, 0280, 0285, 0290, 0295, 0305, 0325, 0350, 0375, 0400, 0410, 0425, 0450, 0475, 0500, 0525

FEMA

MAP NUMBER
28027CIND0C

MAP REVISED

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 Flood Map Service Center website at msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Flood Map Service Center website or by calling the FEMA 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 Flood 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 Non-Coastal Stillwater Elevations tables within this FIS Report. Use the flood elevation data within the FIS Report in conjunction with the FIRM for construction and/or floodplain management.

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

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may 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.

Figure 2. FIRM Notes to Users

PROJECTION INFORMATION: The projection used in the preparation of the map was State Plane Transverse Mercator, Mississippi West FIPS Zone 2302**.** The horizontal datum was the North American Datum of 1983. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

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

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 31 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on the FIRM was provided by the State of Mississippi at a scale of 1:400. The following panels used base map information provided by the U.S. Department of Agriculture Farm Service Agency at a scale of 1:12,000: 0080, 0100, 0180, and 0200. The following panels used base map information provided by the the National Agriculture Imagery Program at a 1-meter ground sample disatance and by Surdex Corporation at a 1-foot ground sample distance: 0075, 0135, 0150, 0170, 0175, 0277, 0279, 0280, 0285, 0287, 0290, 0291, 0295, 0400, 0410, 0425, 0475, 0500. 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.

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Coahoma County, Mississippi, 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.

ATTENTION: The corporate limits shown on this FIRM Index are based on the best information available at the time of publication. As such, they may be more current than those shown on FIRM Panels issued before **TBD.**

SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Coahoma County, Mississippi**,** effective **TBD.**

Figure 2. FIRM Notes to Users

ACCREDITED LEVEE: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit www.fema.gov/national-flood-insurance-program.

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

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

Figure 3: Map Legend for FIRM

SPECIAL FLOOD HAZARD AREAS: *The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.*

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

Figure 3: Map Legend for FIRM

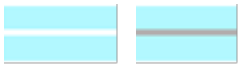
	Regulatory Floodway determined in Zone AE.
OTHER AREAS OF FLOOD HAZARD	
	Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.
	Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.
	Area with Reduced Flood 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.
	Area with Flood Risk due to Levee: Areas where a non-accredited levee, dike, or other flood control structure is shown as providing protection to less than the 1% annual chance flood.
OTHER AREAS	
	Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.
	Unshaded Zone X: Areas of minimal flood hazard.
FLOOD HAZARD AND OTHER BOUNDARY LINES	
 (ortho) (vector)	Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)
	Limit of Study
	Jurisdiction Boundary
	Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet
GENERAL STRUCTURES	
Aqueduct *Channel* *Culvert* *Storm Sewer*	Channel, Culvert, Aqueduct, or Storm Sewer
Dam *Jetty* *Weir*	Dam, Jetty, Weir

Figure 3: Map Legend for FIRM

	Levee, Dike, or Floodwall
Bridge	Bridge
COASTAL BARRIER RESOURCES SYSTEM (CBRS) AND OTHERWISE PROTECTED AREAS (OPA): *CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.*	
CBRS AREA 09/30/2009	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.
OTHERWISE PROTECTED AREA 09/30/2009	Otherwise Protected Area
REFERENCE MARKERS	
22.0	River mile Markers
CROSS SECTION & TRANSECT INFORMATION	
B 20.2	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
5280 21.1	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
17.5	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
8	Coastal Transect
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.
513	Base Flood Elevation Line
ZONE AE (EL 16)	Static Base Flood Elevation value (shown under zone label)
ZONE AO (DEPTH 2)	Zone designation with Depth

Figure 3: Map Legend for FIRM

ZONE AO (DEPTH 2) (VEL 15 FPS)	Zone designation with Depth and Velocity
BASE MAP FEATURES	
Missouri Creek	River, Stream or Other Hydrographic Feature
234	Interstate Highway
234	U.S. Highway
234	State Highway
234	County Highway
MAPLE LANE	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
$^{42}76^{000m}E$	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16’ 52.5”	Corner Coordinates (Latitude, Longitude)

SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS

2.1 Floodplain Boundaries

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

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

Depending on the accuracy of available topographic data (Table 23), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1- and 0.2-percent-annual-chance floodplain boundaries, regulatory water surface elevations (BFEs), and/or a regulatory floodway. Similarly, other flooding sources may be mapped to show only the 1-percent-annual-chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1- and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM. Figure 3, “Map Legend for FIRM”, describes the flood zones that are used on the FIRMs to account for the varying levels of flood risk that exist along flooding sources within the project area. Table 2 and Table 3 indicate the flood zone designations for each flooding source and each community within Coahoma County, respectively.

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

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

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Big Sunflower River	Coahoma County, Unincorporated Areas	Sunflower County Boundary	Approximately 3.8 miles downstream of Hopson Road	08030207	20.3	N	AE	2016
Big Sunflower River	Coahoma County, Unincorporated Areas	Approximately 1.6 miles downstream of West Eagles Nest Road	Approximately 580 feet upstream of McKee Road	08030207	10.5	N	AE	2016
Big Sunflower River	Clarksdale, City of; Coahoma County, Unincorporated Areas	Approximately 3.8 miles downstream of Hopson Road	Approximately 1.6 miles downstream of West Eagles Nest Road	08030207	17.7	N	AE	1977
Big Sunflower River Tributary	Coahoma County, Unincorporated Areas; Friar's Point, Town of	Approximately 4,560 feet downstream of South Street	South Street	08030207	0.9	N	A	2010
Broad Bayou	Coahoma County, Unincorporated Areas	Confluence with White Oak Bayou	County Boundary with Quitman	08030204	1.7	N	A	2018
Broad Bayou Tributary 1	Coahoma County, Unincorporated Areas	Confluence with Broad Bayou	Approximately 3,080 feet upstream of County Highway 140	08030204	2.6	N	A	2018
Broad Bayou Tributary 2	Coahoma County, Unincorporated Areas	Confluence with Broad Bayou Tributary 1	Approximately 1.3 miles upstream of confluence with Broad Bayou Tributary 1	08030204	1.3	N	A	2018
Hopson Bayou Tributary 1	Coahoma County, Unincorporated Areas	Approximately 7,660 feet downstream of Garret Road	Belview Road	08030207	3.1	N	A	2010
Lake Bayou	Coahoma County, Unincorporated Areas	Confluence with Oxbow Bayou	Approximately 1.0 miles upstream of confluence with Oxbow Bayou	08030202	1.0	Y	AE	1993

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Little Sunflower River	Clarksdale, City of; Coahoma County, Unincorporated Areas	Confluence with Big Sunflower River	Approximately 3.2 miles upstream of W Lee Drive	08030207	5.5	N	AE	1977
Mill Creek	Clarksdale, City of; Lyon, Town of	Confluence with Little Sunflower River	Approximately 1.7 miles upstream of N Desoto Avenue	08030207	2.4	Y	AE	2010
Mississippi River	Coahoma County, Unincorporated Areas	County Boundary with Bolivar	County Boundary with Tunica	08020100	45.1	N	AE	1977
Moore Bayou	Coahoma County, Unincorporated Areas	Approximately 5,170 feet downstream of Railroad	Approximately 2,585 feet downstream of Railroad	08030202	0.5	N	A	2010
Moore Bayou	Jonestown, Town of; Coahoma County, Unincorporated Areas	County Road (FAS 831)	Coldwater River Road	08030202	1.4	N	AE	1977
Muddy Bayou	Coahoma County, Unincorporated Areas	County Boundary with Tunica	Approximately 7,560 feet upstream of Chance Road	08030204	2.8	N	A	2018
Muddy Bayou North	Coahoma County, Unincoporated Areas; Lula, Town of	Approximately 3,325 feet downstream of N Front Avenue	Approximately 2,985 feet upstream of N Front Avenue	08030204	1.2	N	A	2010
Oxbow Bayou	Coahoma County, Unincorporated Areas	Approximately 300 feet upstream of the confluence with Cassidy Bayou	Approximately 1,000 feet upstream of Laney Road	08030202	2.5	Y	AE	1993
Whitaker Bayou	Coahoma County, Unincorporated Areas	Approximately 2,265 feet downstream of Craig Road	Approximately 4,715 feet upstream of Craig Road	08030207	1.3	N	A	2010
White Oak Bayou	Coahoma County, Unincorporated Areas	County Boundary with Quitman	County Boundary with Quitman	08030204	0.9	N	A	2018
Yazoo Pass	Coahoma County, Unincorporated Areas	County Boundary with Quitman	Approximately 2,220 feet upstream of MS Highway 315	08030204	4.4	N	A	2018

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Yazoo Pass	Coahoma County, Unincorporated Areas	Approximately 3,000 feet downstream of Moon Road	Moon Lake Road	08030204	2.8	N	A	2010

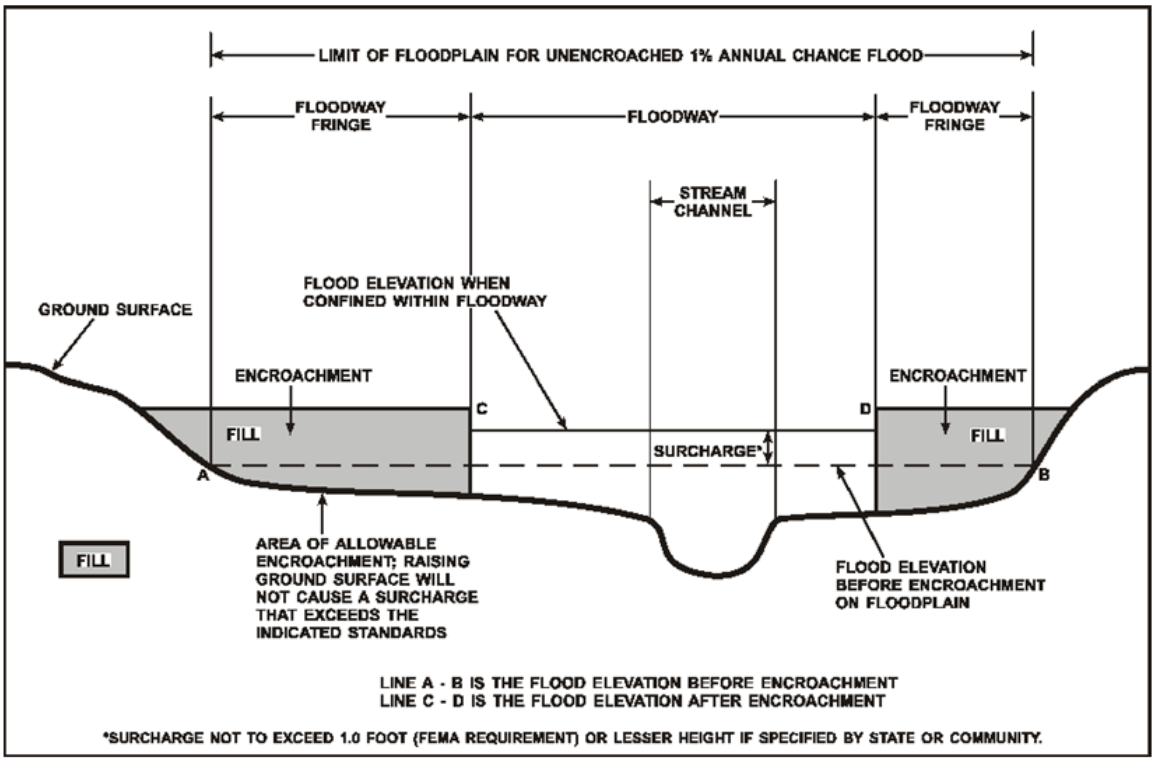
2.2 Floodways

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

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

To participate in the NFIP, Federal regulations require communities to limit increases caused by encroachment to 1.0 foot, provided that hazardous velocities are not produced. 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 Flood Risk Project are shown on the FIRM using the symbology described in Figure 3. In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown on the FIRM. For information about the delineation of floodways on the FIRM, refer to Section 6.3.

2.3 Base Flood Elevations

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

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

2.4 Non-Encroachment Zones

This section is not applicable to this Flood Risk Project.

2.5 Coastal Flood Hazard Areas

This section is not applicable to this Flood Risk Project.

2.5.1 Water Elevations and the Effects of Waves

This section is not applicable to this Flood Risk Project.

Figure 5: Wave Runup Transect Schematic

[Not Applicable to this Flood Risk Project]

2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

This section is not applicable to this Flood Risk Project.

2.5.3 Coastal High Hazard Areas

This section is not applicable to this Flood Risk Project.

Figure 6: Coastal Transect Schematic

[Not Applicable to this Flood Risk Project]

2.5.4 Limit of Moderate Wave Action

This section is not applicable to this Flood Risk Project.

SECTION 3.0 – INSURANCE APPLICATIONS

3.1 National Flood Insurance Program Insurance Zones

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

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

Table 3 lists the flood insurance zones in Coahoma County.

Table 3: Flood Zone Designations by Community

Community	Flood Zone(s)
Clarksdale, City of	A, AE, X
Coahoma, Town of	X
Coahoma County, Unincorporated Areas	A, AE, X
Friar's Point, Town of	AE, X
Jonestown, Town of	AE, X
Lula, Town of	A, X
Lyon, Town of	A, AE, X

3.2 Coastal Barrier Resources System

This section is not applicable to this Flood Risk Project.

Table 4: Coastal Barrier Resources System Information

[Not Applicable to this Flood Risk 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)
Big Sunflower	08030207	Big Sunflower River	Largest watershed within Coahoma County, encompassing the middle of the County to the southern county boundary.	3,170
Coldwater	08030204	Coldwater River	Located in the northeast part of the county.	1,861
Lower Mississippi-Helena	08020100	Mississippi River	Located along the western side of the county.	594
Tallahatchie	08030202	Tallahatchie River	Located along the eastern side of the county.	1,051

4.2 Principal Flood Problems

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

Table 6: Principal Flood Problems

Flooding Source	Description of Flood Problems
Mississippi and Yazoo Rivers	Prior to development of modern levee systems, the Mississippi Delta was subject to almost yearly flooding. The floods of 1844, 1849, 1850, 1882, and 1927 created havoc throughout the entire Delta and caused great loss of life, property, and livestock. Today, Coahoma County is protected by the levee system that was built along the Mississippi and Yazoo Rivers.
Big Sunflower River and its tributaries	Only minor damage occurs in the county as a result of flooding of the Big Sunflower River and its tributaries. According to a flood hazard report for Clarksdale and surrounding area, prepared by the USACE in 1970, the 1.0-percent annual chance flood on the Big Sunflower River is contained within the banks, from approximately Second Street in north central Clarksdale to a point approximately eight miles south of the southern corporate limits of the city. Some overbank flooding occurs north of Clarksdale, along the Big Sunflower River, Little Sunflower River, and Mill Creek.
N/A	Principal flood problems in Coahoma County result from the terrain. Flows in the flat Delta area occur over alluvial fans, and over broad areas. Watercourses have minimal capacity; flows often cross the individual drainage divides; and the direction of overflow is often indeterminate, variable, or unpredictable. All these factors combine to cause shallow flooding in the area.
N/A	Periodic shallow flooding occurs in certain portions of the county in proximity to the City of Clarksdale because of inadequate drainage structures and outlet ditches. In Lane Acres, a subdivision located approximately three miles north of Clarksdale on U.S. Highway 61, home owners report periodic flooding of streets and slow runoff of storm water from yards. However, no damage due to flooding was reported in this area.

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

Table 7: Historic Flooding Elevations

Flooding Source	Location	Historic Peak (Feet NAVD88)	Event Date	Approximate Recurrence Interval (years)	Source of Data
Mississippi River (Delta)	Coahoma County , Unincorporated Areas	N/A	1844 1844 1850 1882 1927	N/A	FEMA 2012

4.3 Non-Levee Flood Protection Measures

Table 8 contains information about non-levee flood protection measures within Coahoma 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
Big Sunflower River	Major Drainage Works	Channel Improvements	Clarksdale, City of	Channel improvements and the clearing and snagging along the channel to increase capacity.

4.4 Levees

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

Levee systems that are determined to reduce the risk from the 1-percent-annual-chance flood are accredited by FEMA. FEMA can also grant provisional accreditation to a levee system that was previously accredited on an effective FIRM and for which FEMA is awaiting data and/or documentation to demonstrate compliance with Section 65.10. These levee systems are referred to as Provisionally Accredited Levees, or PALs. Provisional accreditation provides communities and levee owners with a specified timeframe to obtain the necessary data to confirm the levee's certification status. Accredited levee systems and PALs are shown on the FIRM using the symbology shown in Figure 3 and in Table 9. If the required information for a PAL is not submitted within the required timeframe, or if information indicates that a levee system not longer meets Section 65.10, FEMA will de-accredit the levee system and issue an effective FIRM showing the levee-impacted area as a SFHA.

FEMA coordinates its programs with USACE, who may inspect, maintain, and repair levee systems. The USACE has authority under Public Law 84-99 to supplement local efforts to repair flood control projects that are damaged by floods. Like FEMA, the USACE provides a program to allow public sponsors or operators to address levee system maintenance deficiencies. Failure to do so within the required timeframe results in the levee system being placed in an inactive status in the USACE Rehabilitation and Inspection Program. Levee systems in an inactive status are ineligible for rehabilitation assistance under Public Law 84-99.

FEMA coordinated with the USACE, the local communities, and other organizations to compile a list of levees that exist within Coahoma County. Table 9, "Levees," lists all accredited levees, PALs, and de-accredited levees shown on the FIRM for this FIS Report. Other categories of levees may also be included in the table. The Levee ID shown in this table may not match numbers based on other identification systems that were listed in previous FIS Reports. Levees identified as PALs in the table are labeled on the FIRM to indicate their provisional status.

Please note that the information presented in Table 9 is subject to change at any time. For that reason, the latest information regarding any USACE structure presented in the table should be obtained by contacting USACE and accessing the USACE National Levee Database. For levees owned and/or operated by someone other than the USACE, contact the local community shown in Table 31.

Table 9: Levees

Community	Flooding Source	Levee Location	Levee Owner	USACE Levee	Levee ID	Covered Under PL84-99 Program?	FIRM Panel(s)
Coahoma County, Unincorporated Areas; Friar's Point, Town of	Mississippi River	Left Bank	U.S. Army Corps of Engineers	Yes	5905000021	No	28027C0025D, 28027C0045D, 28027C0075E, 28027C0135E, 28027C0150E, 28027C0250D, 28027C0275D, 28027C0350D, 28027C0375D

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-percent-annual-chance, respectively, of being equaled or exceeded during any year.

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

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. A summary of stillwater elevations developed for non-coastal flooding sources is provided in Table 11.

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	0.2% Annual Chance
Big Sunflower River	At Coahoma and Sunflower County Boundary	471	7,324	8,239	8,877	9,449	10,640
Big Sunflower River	Just upstream of 4th Street	108	*	*	*	*	*
Big Sunflower River	Approximately 1.6 miles downstream of West Eagle Nest Road	56	3,328	4,057	4,588	5,043	5,958
Big Sunflower River	Approximately 2.6 miles upstream of West Eagle Nest Road	23	1,966	2,366	2,644	2,884	3,366
Lake Bayou	At Mouth	1.10	290	*	380	430	520
Lake Bayou	At Stream Mile 0.81	0.80	280	*	370	410	490
Mill Creek	At Confluence With Little Sunflower River	1.66	465	*	664	772	982
Mill Creek	At Friars Point Road	1.53	455	*	651	757	965
Mill Creek	At North Desoto Avenue	1.11	391	*	562	656	840
Mill Creek	Approximately 2,500 feet downstream of Barkley Road	0.28	165	*	220	253	303
Moore Bayou	At County Road FAS 381	2.71	340	*	*	570	*
Moore Bayou	At County Road	1.59	570	*	*	330	*
Oxbow Bayou	At Mouth	6.09	570	*	740	810	970

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Oxbow Bayou	At a point approximately 720 feet upstream of its confluence with Cassidy Bayou	5.27	520	*	680	740	880
Oxbow Bayou	At a point approximately 50 feet downstream of Laney Road	4.17	420	*	540	590	700
Oxbow Bayou	At Stream Mile 1.61	3.54	360	*	450	490	580

*Not calculated for this Flood Risk Project

Figure 7: Frequency Discharge-Drainage Area Curves

[Not Applicable to this Flood Risk 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
Moore Bayou	At Coldwater River Road	*	*	*	170.0	*

*Not calculated for this Flood Risk Project

Table 12: Stream Gage Information used to Determine Discharges

Flooding Source	Gage Identifier	Agency that Maintains Gage	Site Name	Drainage Area (Square Miles)	Period of Record	
					From	To
Big Sunflower River	07288000	USGS	Big Sunflower River at Clarksdale, MS	108	03/01/1937	09/29/1942
Big Sunflower River	07288080	USGS	Big Sunflower River at Harveys Chapel, MS	*	1948[1]	*
Big Sunflower River	07288280	USGS	Big Sunflower River near Merigold, MS	553	04/11/1993	06/11/2014
Mississippi River	07032000	USGS	Mississippi River at Memphis, TN	932,800	06/23/1927	07/18/2018
Mississippi River	07047970	USGS	Mississippi River at Helena, AR	*	01/01/1928	09/29/1977

* Data not available

[1]Exact start date unknown

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 in 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 Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Big Sunflower River	Sunflower County Boundary	Approximately 3.8 miles downstream of Hopson Road	Gage Analysis	HEC-RAS 4.1.0	04/01/2016	AE	
Big Sunflower River	Approximately 1.6 miles downstream of West Eagles Nest Road	Approximately 580 feet upstream of McKee Road	1991 MS Regression Equations	HEC-RAS 4.1.0	04/01/2016	AE	

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Big Sunflower River	Approximately 4.3 miles downstream of Hopson Road	Approximately 3,430 feet upstream of the confluence with Black Lake Bayou	N/A	Gage Analysis	10/1977	AE	Gaging stations maintained by the USACE on the Big Sunflower River at the City of Clarksdale and Harvey's Chapel, located approximately 15 mles downstream of Clarksdale, were the principal sources of data used for defining peak stage-frequency relationships for Big Sunflower River. The gage at Clarksdale has been operated continuously since 1937, and the gage at Harvey's Chapel has been operated continuously since 1948. Values from the 10-percent and 1-percent-annual-chance peak stages at these stations were obtained from a log-Pearson Type III distribution of annual peak stage data. These analyses were performed according to the Water Resource Council's Bulletin No. 17 (WRC 1976). Discharge-frequency relationships were not developed because the flood hazard data for the study of these streams could be obtained from stage-frequency relationships at gaging stations along the streams and from high water marks taken along the streams during recent years.
Big Sunflower River Tributary	Approximately 4,560 feet downstream of South Street	South Street	1991 MS Regression Equations	HEC-RAS 4.0	08/2010	A	

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Broad Bayou	Confluence with White Oak Bayou	County Boundary with Quitman	1991 MS Regression Equations	HEC-RAS 5.0.3	02/23/2018	A	
Broad Bayou Tributary 1	Confluence with Broad Bayou	Approximately 3,080 feet upstream of County Highway 140	1991 MS Regression Equations	HEC-RAS 5.0.3	02/23/2018	A	
Broad Bayou Tributary 2	Confluence with Broad Bayou Tributary 1	Approximately 1.3 miles upstream of confluence with Broad Bayou Tributary 1	1991 MS Regression Equations	HEC-RAS 5.0.3	02/23/2018	A	
Hopson Bayou Tributary 1	Approximately 7,660 feet downstream of Garret Road	Belview Road	1991 MS Regression Equations	HEC-RAS 4.0	08/2010	A	
Lake Bayou	Confluence with Oxbow Bayou	Approximately 1.0 miles upstream	1991 MS Regression Equations	HEC-2	04/1993	AE w/ Floodway	

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Little Sunflower River	Confluence with Big Sunflower River	Approximately 3.2 miles upstream of W Lee Drive	N/A	Gage Analysis	10/1977	AE	Gaging stations maintained by the USACE on the Big Sunflower River at the City of Clarksdale and Harvey's Chapel, located approximately 15 mles downstream of Clarksdale, were the principal sources of data used for defining peak stage-frequency relationships for Little Sunflower River. The gage at Clarksdale has been operated continuously since 1937, and the gage at Harvey's Chapel has been operated continuously since 1948. Values from the 10-percent and 1-percent-annual-chance peak stages at these stations were obtained from a log-Pearson Type III distribution of annual peak stage data. These analyses were performed according to the Water Resource Council's Bulletin No. 17 (WRC 1976). Discharge-frequency relationships were not developed because the flood hazard data for the study of these streams could be obtained from stage-frequency relationships at gaging stations along the streams and from high water marks taken along the streams during recent years.
Mill Creek	Confluence with Little Sunflower River	Approximately 1.7 miles upstream of N Desoto Avenue	1991 MS Regression Equations	HEC-RAS 4.0	08/2010	AE w/ Floodway	

Mississippi River	County Boundary with Bolivar	County Boundary with Tunica	Gage Analysis	Gage Analyis	10/1977	AE	For the Mississippi River, flow frequencies were developed based on statistical analyses, historical floods routings, and model studies. The 0.2-percent-annual-chance flood frequency discharges and corresponding flood elevations on the Mississippi River within the study area were not determined because of the difficulty analyzing a specified flood frequency of this magnitude in such a large and unique drainage basin. The sequence and severity of meteorological and hydrological events, which could reasonably be expected to occur and cause a major event such as the 0.2-percent-annual-chance flood, would involve the consideration of storm transpositions, storm adjustments, seasonal variations, storm mechanics, and determination of the feasibility of the occurrence of events, and the determination of flows under natural conditions and as regulated by reservoirs at key stations on the tributaries and on the main Mississippi River. The Mississippi River project flood studies were used in the FIS as an alternative to the 0.2-percent-annual-chance flood (USACE, 1976). While no specific return period is assigned to this project flood, typically it is greater than the 1.0-percent-annual-chance flood. Hydraulic analyses on the Mississippi River for floods of the selected recurrence intervals were made from

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Mississippi River	County Boundary with Bolivar	County Boundary with Tunica	Gage Analysis	Gage Analyis	10/1977	AE	peak stage frequency relationships developed from gages at Helena, Arkansas, and Memphis, Tennessee, and from physical model tests conducted at the USACE Waterways Experiment Station, Vicksburg, Mississippi.
Moore Bayou	Approximately 5,170 feet downstream of Railroad	Approximately 2,585 feet downstream of Railroad	1991 MS Regression Equations	HEC-RAS 4.0	08/2010	A	

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Moore Bayou	County Road (FAS 831)	Coldwater River Road	Cyrpess Creek Formula	Other	10/1977	AE	The detailed study of Moore Bayou in the Town of Jonestown was based on hydrologic and hydraulic data developed by the U.S. Soil Conservation Service for the channel improvement project performed in 1973. The Cyrpess Creek Formula (SCS 1971), employed by many engineers as a means of determining runoff from relatively flat watersheds, was used by the Soil Conservation Service in developing the peak discharge-frequency data for the Moore Bayou project. Instantaneous peak discharge was computed for the 24-hour rainfall periods. The 10-percent and 1-percent-annual chance discharges were selected for use in the Flood Insurance Study. The cutoff of Moore Bayou by the SCS has limited the flow in Jonestown to localized runoff. Therefore, the flows from the March 1979, Town of Jonestown FIS no longer apply and have been removed (FEMA 1995).
Muddy Bayou	County Boundary with Tunica	Approximately 7,560 feet upstream of Chance Road	1991 MS Regression Equations	HEC-RAS 5.0.3	02/23/2018	A	
Muddy Bayou North	Approximately 3,325 feet downstream of N Front Avenue	Approximately 2,985 feet upstream of N Front Avenue	1991 MS Regression Equations	HEC-RAS 4.0	08/2010	A	

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Oxbow Bayou	Approximately 300 feet upstream of its confluence with Cassidy Bayou	Approximately 1,000 feet upstream of Laney Road	1991 MS Regression Equations	HEC-2	04/1993	AE w/ Floodway	
Whitaker Bayou	Approximately 2,265 feet downstream of Craig Road	Approximately 4,715 feet upstream of Craig Road	1991 MS Regression Equations	HEC-RAS 4.0	08/2010	A	
White Oak Bayou	County Boundary with Quitman	County Boundary with Quitman	1991 MS Regression Equations	HEC-RAS 5.0.3	02/23/2018	A	
Yazoo Pass	County Boundary with Quitman	Approximately 2,220 feet upstream of MS Highway 315	1991 MS Regression Equations	HEC-RAS 5.0.3	02/23/2018	A	
Yazoo Pass	Approximately 3,000 feet downstream of Moon Road	Moon Lake Road	1991 MS Regression Equations	HEC-RAS 4.0	08/2010	A	

Table 14: Roughness Coefficients

Flooding Source	Channel “n”	Overbank “n”
Big Sunflower River	0.035-0.0460	0.065-0.120
Big Sunflower River	0.035-0.0460	0.065-0.120
Big Sunflower River	0.040-0.055	0.060-0.130
Big Sunflower River Tributary	0.040	0.060-0.120
Broad Bayou	0.035-0.05	0.03-0.1
Broad Bayou Tributary 1	0.03	0.03-0.1
Broad Bayou Tributary 2	0.03	0.035-0.12
Hopson Bayou Tributary 1	0.035	0.050-0.120
Lake Bayou	0.050	0.100
Little Sunflower River	0.040-0.055	0.060-0.130
Mill Creek	0.04	0.05-0.15
Mississippi River	*	*
Moore Bayou	0.040-0.050	0.060-0.150
Moore Bayou	0.030-0.040	**
Muddy Bayou	0.045	0.03-0.1
Oxbow Bayou	0.050	0.100
Whitaker Bayou	0.040	0.060
White Oak Bayou	0.05	0.1-0.15
Yazoo Pass	0.045	0.03-0.1
Yazoo Pass	0.040	0.060-0.120

5.3 Coastal Analyses

This section is not applicable to this Flood Risk Project.

Table 15: Summary of Coastal Analyses
[Not Applicable to this Flood Risk Project]

5.3.1 Total Stillwater Elevations

This section is not applicable to this Flood Risk Project.

Figure 8: 1-Percent-Annual-Chance Total Stillwater Elevations for Coastal Areas
[Not Applicable to this Flood Risk Project]

Table 16: Tide Gage Analysis Specifics
[Not Applicable to this Flood Risk Project]

5.3.2 Waves

This section is not applicable to this Flood Risk Project.

5.3.3 Coastal Erosion

This section is not applicable to this Flood Risk Project.

5.3.4 Wave Hazard Analyses

This section is not applicable to this Flood Risk Project.

Table 17: Coastal Transect Parameters
[Not Applicable to this Flood Risk Project]

Figure 9: Transect Location Map
[Not applicable to this Flood Risk Project]

5.4 Alluvial Fan Analyses

This section is not applicable to this Flood Risk Project.

Table 18: Summary of Alluvial Fan Analyses
[Not applicable to this Flood Risk Project]

Table 19: Results of Alluvial Fan Analyses
[Not applicable to this Flood Risk Project]

SECTION 6.0 – MAPPING METHODS

6.1 Vertical and Horizontal Control

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

(NAVD88), many FIS Reports and FIRMs are now prepared using NAVD88 as the referenced vertical datum.

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

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

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

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

Table 20: Countywide Vertical Datum Conversion

Quadrangle Name	Quadrangle Corner	Latitude	Longitude	Conversion from NGVD29 to NAVD88 (feet)
Average Conversion from NGVD29 to NAVD88 = -0.17 feet				

Table 21: Stream-Based Vertical Datum Conversion

[Not Applicable to this Flood Risk Project]

6.2 Base Map

The FIRMs and FIS Report for this project have been produced in a digital format. The flood hazard information was converted to a Geographic Information System (GIS) format that meets FEMA's FIRM Database specifications and geographic information standards. This information is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community. The FIRM Database includes most of the tabular information contained in the FIS Report in such a way that the data can be associated with pertinent spatial features. For example, the information contained in the Floodway Data table and Flood Profiles can be linked to the cross sections that are shown on the FIRMs. Additional information about the FIRM Database and its contents can be found in FEMA's *Guidelines and Standards for Flood Risk Analysis and Mapping*, www.fema.gov/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	U.S. Department of Agriculture, FSA APFO Aerial Photography Field Office	2016	0.6 meter GSD	Color orthoimagery
HUC 8 Basins	U.S. Geological Survey and National Resources Conservation Service State Offices	2017	1:24,000	USGS Watersheds delineated to a HUC 8 level.
Political boundaries	Mississippi Automated Resource Information System	2015	1:24,000	County boundary
Political boundaries	Mississippi Automated Resource Information System	2010	N/A	Municipal boundaries
Public Land Survey System (PLSS)	Mississippi Automated Resource Information System	2010	1:5,000	PLSS data were digitized from USGS 7.5 minute topo maps dated between 1960 and 1989.
Surface Water Features	Mississippi Automated Resource Information System	2004	N/A	Streams, rivers, and lakes
Transportation Features	Mississippi Department of Transportation	2017	1:5,000	Local Roads were collected by digitizing the linework from the MDEM 2006 Imagery. State Maintained routes were aligned and modified using the MDEM 2006 Imagery.
Transportation Features	Mississippi Automated Resource Information System	2004	N/A	Railroads

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

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

Table 23: Summary of Topographic Elevation Data used in Mapping

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Vertical Accuracy	Horizontal Accuracy	Citation
Coahoma County, Unincorporated Areas	Big Sunflower River, Broad Bayou, Broad Bayou Tributary 1, Broad Bayou Tributary 2, Muddy Bayou, White Oak Bayou, Yazoo Pass	1 meter resolution Light Detection and Ranging data (LiDAR)	0.09 Meters RMSE	1.0 Meters	USACE 2010

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Vertical Accuracy	Horizontal Accuracy	Citation
Clarksdale, City of; Coahoma County, Unincorporated Areas; Friar's Point, Town of; Jonestown, Town of; Lula, Town of; Lyon, Town of	Big Sunflower River, Big Sunflower River Tributary, Hopson Bayou Tributary 1, Lake Bayou, Little Sunflower River, Mill Creek, Mississippi River, Moore Bayou, Muddy Bayou North, Oxbow Bayou, Whitaker Bayou, Yazoo Pass	10 and 30 meter DEMs	N/A	N/A	MARIS 2007

BFEs shown at cross sections on the FIRM represent the 1-percent-annual-chance water surface elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in areas of ponding, and other areas with static base flood elevations.

Table 24: Floodway Data

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
LAKE BAYOU								
A	620	371	1,231	0.3	158.7	157.0[2]	158.0	1.0
B	3,285	357	1,342	0.3	158.7	157.2[2]	158.2	1.0
C	5,410	778	703	0.6	158.7	157.8[2]	158.5	0.7
MILL CREEK								
A	1,521	250	2,020	0.4	153.8	153.1[3]	153.3	0.2
B	3,022	235	2,184	0.9	153.8	153.2[3]	153.3	0.2
C	3,185	330	3,220	0.7	156.6	156.6	157.0	0.4
D	5,273	198	2,065	0.4	156.6	156.6	157.0	0.4
E	7,493	226	960	1.8	156.7	156.7	157.1	0.4
F	8,503	90	241	3.8	157.0	157.0	157.4	0.4
G	8,574	140	548	2.1	159.9	159.9	160.0	0.1
H	9,424	57	192	1.4	160.0	160.0	160.1	0.1
I	11,351	88	112	5.6	161.3	161.3	161.4	0.1
J	11,422	88	112	5.6	161.9	161.9	162.1	0.2
K	11,954	200	504	0.7	162.4	162.4	162.9	0.5

[1]Feet above mouth
[2]Elevation computed without consideration of backwater effects from Oxbow Bayou
[3]Elevation computed without consideration of backwater effects from Big Sunflower River

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: LAKE BAYOU – MILL CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (**FEET**)	SECTION AREA (**SQ. FEET**)	MEAN VELOCITY (**FEET/SEC**)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,030	148	711	1.1	157.9	157.9	158.8	0.9
B	3,970	300	1,500	0.5	158.4	158.4	159.3	0.9
C	7,110	164	559	1.1	159.7	159.7	160.6	0.9
D	11,355	129	517	1.0	160.8	160.8	161.8	1.0
E	13,540	278	996	0.5	161.1	161.1	162.1	1.0

[1]Stream distance in feet above confluence with Cassidy Bayou

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: OXBOW BAYOU

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. The non-encroachment width indicates the measured distance left and right (looking downstream) from the mapped center of the stream to the non-encroachment boundary based on a surcharge of 1.0 foot or less.

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

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		915,120	9,449	139.9	89	71
Big Sunflower River		915,694	9,449	140.0	148	42
Big Sunflower River		916,220	9,449	140.1	107	65
Big Sunflower River	A	916,531	9,449	140.2	86	66
Big Sunflower River		916,907	9,449	140.3	65	112
Big Sunflower River		917,284	9,449	140.3	112	90
Big Sunflower River		917,586	9,449	140.4	169	125
Big Sunflower River		917,775	9,449	140.5	130	197
Big Sunflower River		917,976	9,449	140.5	142	67
Big Sunflower River		918,260	9,449	140.5	142	93
Big Sunflower River		918,490	9,449	140.5	125	100
Big Sunflower River	B	918,767	9,449	140.5	138	56
Big Sunflower River		919,051	9,449	140.6	109	73
Big Sunflower River		919,360	9,449	140.6	100	113
Big Sunflower River		919,619	9,449	140.7	88	148
Big Sunflower River		919,892	9,449	140.7	71	120
Big Sunflower River		920,304	9,449	140.8	124	52
Big Sunflower River		920,632	9,449	140.8	118	123
Big Sunflower River		920,848	9,449	140.8	83	174
Big Sunflower River		921,066	9,449	140.9	85	58
Big Sunflower River	C	921,258	9,449	140.9	76	66
Big Sunflower River		921,462	9,449	140.9	74	62
Big Sunflower River		921,780	9,449	141.0	64	97

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		922,018	9,449	141.1	132	38
Big Sunflower River		922,308	9,449	141.1	105	60
Big Sunflower River		922,538	9,449	141.2	104	94
Big Sunflower River		922,786	9,449	141.3	125	100
Big Sunflower River		923,050	9,449	141.3	64	297
Big Sunflower River		923,291	9,449	141.3	80	104
Big Sunflower River	D	923,602	9,449	141.3	35	101
Big Sunflower River		923,871	9,449	141.4	41	105
Big Sunflower River		924,152	9,449	141.5	69	118
Big Sunflower River		924,420	9,449	141.5	155	65
Big Sunflower River		924,723	9,449	141.5	76	69
Big Sunflower River		924,992	9,449	141.6	86	73
Big Sunflower River		925,312	9,449	141.7	169	39
Big Sunflower River	E	925,693	9,449	141.7	94	64
Big Sunflower River		925,988	9,449	141.8	96	73
Big Sunflower River		926,233	9,449	141.9	67	116
Big Sunflower River		926,561	9,449	141.9	82	71
Big Sunflower River		926,880	9,449	142.0	78	106
Big Sunflower River		927,337	9,449	142.0	75	102
Big Sunflower River		927,607	9,449	142.1	85	99
Big Sunflower River	F	928,018	9,449	142.2	181	57
Big Sunflower River		928,445	9,449	142.3	94	90
Big Sunflower River		928,833	9,449	142.3	110	82
Big Sunflower River		929,114	9,449	142.4	148	85
Big Sunflower River		929,373	9,449	142.5	136	68
Big Sunflower River		929,675	9,449	142.5	70	99
Big Sunflower River		930,009	9,449	142.6	147	46
Big Sunflower River		930,384	9,449	142.6	93	81
Big Sunflower River		930,545	9,449	142.7	81	113
Big Sunflower River		930,863	9,449	142.7	79	129
Big Sunflower River	G	931,324	9,449	142.8	142	87

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		931,775	9,449	142.8	59	92
Big Sunflower River		932,192	9,449	143.0	78	144
Big Sunflower River		932,672	9,449	143.0	99	50
Big Sunflower River		933,052	9,449	143.1	144	75
Big Sunflower River		933,348	9,449	143.2	154	168
Big Sunflower River		933,746	9,449	143.3	153	181
Big Sunflower River		934,039	9,449	143.3	210	116
Big Sunflower River	H	934,383	9,449	143.3	139	121
Big Sunflower River		934,748	9,449	143.3	68	92
Big Sunflower River		935,187	9,449	143.4	82	74
Big Sunflower River		935,569	9,449	143.5	75	73
Big Sunflower River		935,901	9,449	143.5	66	81
Big Sunflower River		936,194	9,449	143.6	61	75
Big Sunflower River		936,496	9,449	143.6	79	58
Big Sunflower River		936,843	9,449	143.8	128	112
Big Sunflower River		937,209	9,449	143.8	121	72
Big Sunflower River	I	937,442	9,449	143.9	144	44
Big Sunflower River		937,620	9,449	143.9	106	95
Big Sunflower River		937,642	9,449	143.9	106	95
Big Sunflower River		937,664	9,449	143.9	106	95
Big Sunflower River		937,925	9,449	144.0	199	79
Big Sunflower River		938,379	9,449	144.0	113	62
Big Sunflower River		938,917	9,449	144.2	85	256
Big Sunflower River		939,625	9,449	144.3	200	45
Big Sunflower River		940,296	9,449	144.3	313	37
Big Sunflower River	J	941,045	9,449	144.5	97	183
Big Sunflower River		941,687	9,449	144.6	92	183
Big Sunflower River		942,432	9,449	144.7	628	56
Big Sunflower River		943,043	9,449	144.8	97	148
Big Sunflower River		943,664	9,449	144.8	99	87
Big Sunflower River		944,190	9,449	144.9	64	185

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		944,562	9,449	144.9	160	66
Big Sunflower River	K	945,282	9,449	145.2	264	151
Big Sunflower River		945,506	9,449	145.2	134	63
Big Sunflower River		945,699	9,449	145.2	78	89
Big Sunflower River		945,909	9,449	145.2	77	79
Big Sunflower River		946,210	9,449	145.4	109	155
Big Sunflower River		946,408	9,449	145.4	56	256
Big Sunflower River		946,686	9,449	145.4	73	263
Big Sunflower River		946,931	9,449	145.4	107	70
Big Sunflower River		947,238	9,449	145.4	55	82
Big Sunflower River	L	947,487	9,449	145.5	45	107
Big Sunflower River		947,724	9,449	145.7	46	175
Big Sunflower River		947,902	9,449	145.7	104	199
Big Sunflower River		948,145	9,449	145.8	187	59
Big Sunflower River		948,617	9,449	145.8	87	121
Big Sunflower River		949,002	9,449	145.9	68	151
Big Sunflower River		949,274	9,449	145.9	79	73
Big Sunflower River		949,533	9,449	146.0	78	103
Big Sunflower River		949,688	9,449	146.0	92	111
Big Sunflower River	M	949,881	9,449	146.1	81	100
Big Sunflower River		950,155	9,449	146.1	61	152
Big Sunflower River		950,424	9,449	146.2	86	88
Big Sunflower River		950,737	9,449	146.2	75	88
Big Sunflower River		951,074	9,449	146.3	83	65
Big Sunflower River		951,371	9,449	146.4	129	44
Big Sunflower River		951,863	9,449	146.4	51	104
Big Sunflower River	N	952,431	9,449	146.6	152	32
Big Sunflower River		952,729	9,449	146.7	79	109
Big Sunflower River		952,808	9,449	147.9	71	117
Big Sunflower River		952,899	9,449	147.9	71	117
Big Sunflower River		953,160	9,449	148.0	90	123

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		953,584	9,449	148.0	60	119
Big Sunflower River		953,992	9,449	148.1	147	51
Big Sunflower River		954,541	9,449	148.2	39	313
Big Sunflower River		954,992	9,449	148.3	60	462
Big Sunflower River		955,381	9,449	148.3	64	92
Big Sunflower River	O	955,725	9,449	148.3	57	84
Big Sunflower River		956,166	9,449	148.4	52	101
Big Sunflower River		956,601	9,449	148.6	210	78
Big Sunflower River		957,039	9,449	148.6	375	51
Big Sunflower River		957,738	9,449	148.7	77	98
Big Sunflower River		958,289	9,449	148.8	76	155
Big Sunflower River	P	958,745	9,449	148.8	115	82
Big Sunflower River		959,020	9,449	148.9	114	115
Big Sunflower River		959,327	9,449	148.9	82	92
Big Sunflower River		959,710	9,449	148.9	53	83
Big Sunflower River		960,045	9,449	149.1	46	81
Big Sunflower River		960,346	9,449	149.1	35	78
Big Sunflower River		960,557	9,449	149.1	71	87
Big Sunflower River		960,821	9,449	149.2	138	86
Big Sunflower River		961,077	9,449	149.2	152	37
Big Sunflower River		961,426	9,449	149.3	125	66
Big Sunflower River		961,686	9,449	149.3	140	69
Big Sunflower River		962,002	9,449	149.4	126	106
Big Sunflower River		962,232	9,449	149.4	103	96
Big Sunflower River	Q	962,463	9,449	149.4	45	114
Big Sunflower River		962,816	9,449	149.6	119	252
Big Sunflower River		963,158	9,449	149.6	78	146
Big Sunflower River		963,641	9,449	149.6	76	101
Big Sunflower River		963,849	9,449	149.7	153	75
Big Sunflower River		964,229	9,449	149.7	115	96
Big Sunflower River		964,628	9,449	149.8	162	67

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		964,949	9,449	149.8	83	127
Big Sunflower River		965,303	9,449	149.9	69	169
Big Sunflower River	R	965,616	9,449	150.0	154	117
Big Sunflower River		965,895	9,449	150.0	136	129
Big Sunflower River		966,306	9,449	150.0	92	126
Big Sunflower River		966,679	9,449	150.1	121	56
Big Sunflower River		966,997	9,449	150.1	74	135
Big Sunflower River		967,254	9,449	150.2	97	101
Big Sunflower River		967,522	9,449	150.2	110	86
Big Sunflower River		967,824	9,449	150.3	40	140
Big Sunflower River		968,116	9,449	150.3	63	231
Big Sunflower River	S	968,365	9,449	150.4	159	75
Big Sunflower River		968,573	9,449	150.4	107	78
Big Sunflower River		968,843	9,449	150.4	116	58
Big Sunflower River		969,278	9,449	150.4	94	57
Big Sunflower River		969,633	9,449	150.5	60	116
Big Sunflower River		969,978	9,449	150.6	99	52
Big Sunflower River		970,260	9,449	150.7	49	110
Big Sunflower River		970,513	9,449	150.7	37	247
Big Sunflower River		970,772	9,449	150.7	54	99
Big Sunflower River		971,030	9,449	150.8	76	90
Big Sunflower River	T	971,243	9,449	150.8	165	40
Big Sunflower River		971,496	9,449	150.9	89	64
Big Sunflower River		971,674	9,449	150.9	59	67
Big Sunflower River		972,029	9,449	151.0	122	88
Big Sunflower River		972,330	9,449	151.1	88	97
Big Sunflower River		972,547	9,449	151.1	45	118
Big Sunflower River		972,803	9,449	151.2	66	125
Big Sunflower River		973,059	9,449	151.2	42	116
Big Sunflower River		973,309	9,449	151.2	67	104
Big Sunflower River		973,578	9,449	151.4	116	78

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River	U	973,887	9,449	151.4	110	61
Big Sunflower River		974,121	9,449	151.4	72	78
Big Sunflower River		974,454	9,449	151.5	81	110
Big Sunflower River		974,765	9,449	151.6	71	116
Big Sunflower River		975,110	9,449	151.6	63	102
Big Sunflower River		975,308	9,449	151.7	74	90
Big Sunflower River		975,535	9,449	151.8	216	51
Big Sunflower River		975,861	9,449	151.8	277	49
Big Sunflower River		976,107	9,449	151.8	85	73
Big Sunflower River		976,171	9,449	151.9	79	79
Big Sunflower River		976,228	9,449	151.9	79	79
Big Sunflower River	V	976,357	9,449	151.9	82	115
Big Sunflower River		976,639	9,449	152.0	77	234
Big Sunflower River		976,861	9,449	152.0	84	130
Big Sunflower River		977,243	9,449	152.1	68	111
Big Sunflower River		977,503	9,449	152.1	70	75
Big Sunflower River		977,911	9,449	152.1	74	66
Big Sunflower River		978,243	9,449	152.3	64	85
Big Sunflower River		978,634	9,449	152.4	124	63
Big Sunflower River	W	979,048	9,449	152.4	56	121
Big Sunflower River		979,470	9,449	152.5	85	81
Big Sunflower River		979,820	9,449	152.5	74	87
Big Sunflower River		980,321	9,449	152.6	70	94
Big Sunflower River		980,656	9,449	152.7	73	77
Big Sunflower River		980,808	9,449	152.7	85	57
Big Sunflower River		981,045	9,449	152.8	98	60
Big Sunflower River		981,351	9,449	152.8	72	83
Big Sunflower River	X	981,551	9,449	152.8	76	80
Big Sunflower River		981,913	9,449	152.9	74	110
Big Sunflower River		982,171	9,449	152.9	86	50
Big Sunflower River		982,468	9,449	153.0	92	56

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		982,791	9,449	153.1	60	125
Big Sunflower River		982,952	9,449	153.1	55	161
Big Sunflower River		983,228	9,449	153.1	42	188
Big Sunflower River		983,528	9,449	153.2	32	129
Big Sunflower River		983,785	9,449	153.2	41	112
Big Sunflower River		984,058	9,449	153.3	58	89
Big Sunflower River	Y	984,272	9,449	153.4	75	89
Big Sunflower River		984,521	9,449	153.4	78	77
Big Sunflower River		984,863	9,449	153.5	80	100
Big Sunflower River		985,156	9,449	153.5	72	111
Big Sunflower River		985,219	9,449	153.6	73	110
Big Sunflower River		985,271	9,449	153.6	73	110
Big Sunflower River		985,614	9,449	153.6	69	87
Big Sunflower River		985,871	9,449	153.7	106	72
Big Sunflower River		986,330	9,449	153.7	117	46
Big Sunflower River		986,579	9,449	153.8	116	71
Big Sunflower River	Z	986,844	9,449	153.8	111	70
Big Sunflower River		987,162	9,449	153.9	73	78
Big Sunflower River		987,425	9,449	153.9	73	85
Big Sunflower River		987,625	9,449	154.0	93	72
Big Sunflower River		987,895	9,449	154.0	165	67
Big Sunflower River		988,252	9,449	154.1	81	104
Big Sunflower River		988,601	9,449	154.1	132	74
Big Sunflower River		988,893	9,449	154.2	47	113
Big Sunflower River		989,191	9,449	154.2	50	157
Big Sunflower River		989,635	9,449	154.3	67	113
Big Sunflower River		989,824	9,449	154.4	92	99
Big Sunflower River		990,160	9,449	154.4	75	111
Big Sunflower River	AA	990,605	9,449	154.5	92	101
Big Sunflower River		991,025	9,449	154.5	57	121
Big Sunflower River		991,495	9,449	154.5	62	90

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		991,815	9,449	154.6	70	92
Big Sunflower River		992,281	9,449	154.7	64	117
Big Sunflower River		992,847	9,449	154.8	102	66
Big Sunflower River		993,278	9,449	155.0	57	212
Big Sunflower River		993,612	9,449	155.0	32	487
Big Sunflower River		993,983	9,449	155.0	56	499
Big Sunflower River		994,405	9,449	155.1	214	73
Big Sunflower River	AB	994,793	9,449	155.1	231	62
Big Sunflower River		995,375	9,449	155.1	206	52
Big Sunflower River		995,981	9,449	155.2	138	50
Big Sunflower River		996,371	9,449	155.2	119	60
Big Sunflower River		996,762	9,449	155.3	123	66
Big Sunflower River		997,039	9,449	155.4	94	103
Big Sunflower River		997,383	9,449	155.4	58	184
Big Sunflower River		997,673	9,449	155.5	142	100
Big Sunflower River		997,957	9,449	155.5	173	64
Big Sunflower River		998,245	9,449	155.5	78	97
Big Sunflower River		998,511	9,449	155.5	94	92
Big Sunflower River		998,824	9,449	155.6	101	104
Big Sunflower River	AC	999,334	9,449	155.6	109	65
Big Sunflower River		999,794	9,449	155.7	84	100
Big Sunflower River		1,000,175	9,449	155.8	82	149
Big Sunflower River		1,000,510	9,449	155.9	104	82
Big Sunflower River		1,000,945	9,449	155.9	97	122
Big Sunflower River		1,001,350	9,449	155.9	108	108
Big Sunflower River		1,001,798	9,449	156.0	93	127
Big Sunflower River		1,002,253	9,449	156.0	139	91
Big Sunflower River	AD	1,002,697	9,449	156.0	138	106
Big Sunflower River		1,003,104	9,449	156.0	125	78
Big Sunflower River		1,003,657	9,449	156.1	87	105
Big Sunflower River		1,003,994	9,449	156.1	131	99

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		1,004,385	9,449	156.1	86	157
Big Sunflower River		1,004,736	9,449	156.1	90	165
Big Sunflower River		1,005,065	9,449	156.1	115	155
Big Sunflower River		1,005,342	9,449	156.1	109	88
Big Sunflower River		1,005,631	9,449	156.1	97	106
Big Sunflower River		1,005,994	9,449	156.2	99	125
Big Sunflower River		1,006,488	9,449	156.2	92	158
Big Sunflower River	AE	1,006,866	9,449	156.2	100	161
Big Sunflower River		1,007,203	9,449	156.2	87	97
Big Sunflower River		1,007,521	9,449	156.2	99	93
Big Sunflower River		1,007,913	9,449	156.2	106	92
Big Sunflower River		1,008,198	9,449	156.2	161	84
Big Sunflower River		1,008,542	9,449	156.3	157	97
Big Sunflower River		1,009,248	9,449	156.3	97	116
Big Sunflower River		1,009,579	9,449	156.3	106	97
Big Sunflower River		1,009,993	9,449	156.3	98	142
Big Sunflower River		1,010,208	9,449	156.3	127	128
Big Sunflower River		1,010,469	9,449	156.3	106	147
Big Sunflower River	AF	1,010,959	9,449	156.3	125	97
Big Sunflower River		1,011,224	9,449	156.3	88	159
Big Sunflower River		1,011,483	9,449	156.3	98	124
Big Sunflower River		1,011,743	9,449	156.4	97	157
Big Sunflower River		1,012,013	9,449	156.4	87	163
Big Sunflower River		1,012,250	9,449	156.4	145	130
Big Sunflower River		1,012,594	9,449	156.4	161	110
Big Sunflower River		1,012,945	9,449	156.4	185	99
Big Sunflower River		1,013,345	9,449	156.4	90	124
Big Sunflower River		1,013,665	9,449	156.4	106	114
Big Sunflower River	AG	1,014,043	9,449	156.4	142	107
Big Sunflower River		1,014,498	9,449	156.4	137	136
Big Sunflower River		1,014,876	9,449	156.4	101	173

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		1,015,245	9,449	156.4	140	143
Big Sunflower River	AH	1,015,656	9,449	156.5	150	143
Big Sunflower River		1,015,986	9,449	156.5	171	101
Big Sunflower River	AI	1,108,590	5,043	160.1	163	62
Big Sunflower River		1,108,892	5,043	160.2	29	55
Big Sunflower River		1,109,392	5,043	160.7	28	44
Big Sunflower River		1,109,892	5,043	161.5	106	75
Big Sunflower River		1,110,873	5,043	162.1	79	278
Big Sunflower River		1,111,392	5,043	162.3	107	169
Big Sunflower River		1,111,948	5,043	162.5	177	57
Big Sunflower River		1,112,463	5,043	162.5	333	57
Big Sunflower River	AJ	1,112,892	5,043	162.7	82	41
Big Sunflower River		1,113,392	5,043	163.0	164	115
Big Sunflower River		1,113,892	5,043	163.2	98	58
Big Sunflower River		1,114,392	5,043	163.4	43	112
Big Sunflower River		1,114,892	5,043	163.6	42	316
Big Sunflower River		1,115,392	5,043	163.8	395	74
Big Sunflower River		1,115,892	5,043	163.9	278	136
Big Sunflower River		1,116,392	5,043	163.9	69	146
Big Sunflower River		1,116,655	5,043	164.0	125	55
Big Sunflower River		1,116,999	5,043	164.0	556	141
Big Sunflower River		1,117,072	5,043	164.2	556	159
Big Sunflower River	AK	1,117,113	5,043	164.2	556	159
Big Sunflower River		1,117,520	5,043	164.2	33	232
Big Sunflower River		1,117,892	5,043	164.4	844	105
Big Sunflower River		1,118,450	5,043	164.4	722	60
Big Sunflower River		1,118,892	5,043	164.5	168	95
Big Sunflower River		1,119,559	5,043	164.6	175	208
Big Sunflower River		1,120,130	5,043	164.7	63	192
Big Sunflower River		1,120,779	5,043	164.8	51	125
Big Sunflower River		1,121,377	5,043	165.1	133	51

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		1,122,037	5,043	165.3	122	91
Big Sunflower River	AL	1,122,730	5,043	165.5	98	97
Big Sunflower River		1,123,892	5,043	165.6	564	538
Big Sunflower River		1,124,392	5,043	165.7	352	738
Big Sunflower River		1,124,985	5,043	165.7	244	149
Big Sunflower River		1,125,392	5,043	165.7	228	98
Big Sunflower River		1,125,892	5,043	165.8	622	48
Big Sunflower River		1,126,348	5,043	165.8	3,247	36
Big Sunflower River		1,126,892	5,043	165.8	3,316	36
Big Sunflower River		1,127,392	5,043	165.8	3,426	36
Big Sunflower River		1,127,695	5,043	165.8	3,225	36
Big Sunflower River		1,128,196	5,043	165.8	3,602	36
Big Sunflower River		1,128,876	5,043	165.8	3,758	36
Big Sunflower River		1,129,392	5,043	165.9	3,847	36
Big Sunflower River		1,129,892	5,043	165.9	3,983	36
Big Sunflower River	AM	1,130,392	5,043	165.9	3,927	36
Big Sunflower River		1,130,892	5,043	165.9	3,532	93
Big Sunflower River		1,131,250	2,884	165.9	2,270	855
Big Sunflower River		1,131,752	2,884	165.9	2,132	753
Big Sunflower River		1,132,392	2,884	165.9	2,739	23
Big Sunflower River		1,132,892	2,884	165.9	2,798	23
Big Sunflower River		1,133,355	2,884	165.9	2,794	23
Big Sunflower River		1,133,892	2,884	165.9	3,338	23
Big Sunflower River		1,134,392	2,884	166.0	2,718	23
Big Sunflower River		1,134,892	2,884	166.0	2,923	21
Big Sunflower River		1,135,392	2,884	166.0	2,893	431
Big Sunflower River	AN	1,135,892	2,884	166.0	2,556	736
Big Sunflower River		1,136,183	2,884	166.0	2,453	777
Big Sunflower River		1,136,516	2,884	166.0	2,530	763
Big Sunflower River		1,136,753	2,884	166.1	2,442	24
Big Sunflower River		1,136,788	2,884	167.8	2,439	27

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		1,136,823	2,884	167.8	2,439	27
Big Sunflower River		1,137,136	2,884	167.8	3,934	23
Big Sunflower River		1,137,392	2,884	167.8	4,118	23
Big Sunflower River		1,137,892	2,884	167.8	4,090	23
Big Sunflower River		1,138,392	2,884	167.8	3,944	41
Big Sunflower River		1,138,892	2,884	167.8	3,553	39
Big Sunflower River		1,139,392	2,884	167.9	3,972	23
Big Sunflower River		1,139,892	2,884	167.9	3,679	23
Big Sunflower River		1,140,392	2,884	167.9	3,551	23
Big Sunflower River		1,140,892	2,884	167.9	3,594	23
Big Sunflower River		1,141,392	2,884	167.9	3,368	23
Big Sunflower River		1,141,892	2,884	167.9	3,979	23
Big Sunflower River		1,142,223	2,884	168.0	4,047	23
Big Sunflower River		1,142,892	2,884	168.0	4,188	23
Big Sunflower River	AO	1,143,392	2,884	168.0	3,598	23
Big Sunflower River		1,143,561	2,884	168.0	3,652	23
Big Sunflower River		1,143,892	2,884	168.0	4,030	23
Big Sunflower River		1,144,392	2,884	168.0	4,310	23
Big Sunflower River		1,144,892	2,884	168.0	4,612	21
Big Sunflower River		1,145,389	2,884	168.0	4,750	23
Big Sunflower River		1,145,892	2,884	168.0	4,775	23
Big Sunflower River		1,146,392	2,884	168.1	4,785	23
Big Sunflower River		1,146,892	2,884	168.1	4,800	23
Big Sunflower River		1,147,392	2,884	168.1	2,262	23
Big Sunflower River	AP	1,147,892	2,884	168.1	2,206	23
Big Sunflower River		1,148,349	2,884	168.2	2,378	23
Big Sunflower River		1,148,892	2,884	168.3	1,991	23
Big Sunflower River		1,149,392	2,884	168.3	2,208	23
Big Sunflower River		1,150,006	2,884	168.4	1,233	23
Big Sunflower River		1,150,392	2,884	168.6	1,221	23
Big Sunflower River		1,150,892	2,884	168.7	1,263	23

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		1,151,392	2,884	168.8	1,040	23
Big Sunflower River		1,151,923	2,884	169.0	1,040	23
Big Sunflower River		1,152,321	2,884	169.2	64	42
Big Sunflower River		1,152,411	2,884	169.3	61	49
Big Sunflower River		1,152,476	2,884	169.3	61	49
Big Sunflower River		1,152,628	2,884	169.3	58	23
Big Sunflower River		1,152,892	2,884	169.5	49	47
Big Sunflower River		1,153,392	2,884	169.6	146	81
Big Sunflower River	AQ	1,153,892	1,957	169.7	102	18
Big Sunflower River		1,154,392	1,957	169.8	82	30
Big Sunflower River		1,154,892	1,957	169.8	196	47
Big Sunflower River		1,155,392	1,957	169.9	355	58
Big Sunflower River		1,155,892	1,957	169.9	2,930	310
Big Sunflower River		1,156,392	1,957	169.9	3,638	78
Big Sunflower River		1,156,892	1,957	169.9	4,180	88
Big Sunflower River		1,157,095	1,957	169.9	4,416	70
Big Sunflower River		1,157,152	1,957	170.0	4,438	43
Big Sunflower River		1,157,199	1,957	170.0	4,438	43
Big Sunflower River		1,157,392	1,957	170.2	5,264	356
Big Sunflower River		1,157,892	1,957	170.2	5,618	25
Big Sunflower River	AR	1,158,392	1,957	170.2	5,492	18
Big Sunflower River		1,158,892	1,957	170.3	4,506	18
Big Sunflower River		1,159,392	1,957	170.3	4,219	18
Big Sunflower River		1,159,892	1,957	170.3	1,243	18
Big Sunflower River		1,160,392	1,957	170.4	46	36
Big Sunflower River		1,160,892	1,957	170.8	66	42
Big Sunflower River		1,161,392	1,957	170.9	2,189	3,462
Big Sunflower River		1,161,892	1,957	170.9	2,336	3,675
Big Sunflower River		1,162,392	1,957	170.9	2,643	2,989
Big Sunflower River		1,162,892	1,957	170.9	1,411	2,363
Big Sunflower River		1,163,392	1,957	171.1	43	63

Flooding Source	Cross Section	Stream Station[1]	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)	Non-Encroachment Width (feet)	
					Left	Right
Big Sunflower River		1,163,610	1,957	171.2	43	132
Big Sunflower River		1,163,649	1,957	171.7	45	130
Big Sunflower River		1,163,684	1,957	171.7	45	130
Big Sunflower River		1,163,838	1,957	171.8	1,546	367
Big Sunflower River	AS	1,164,222	1,957	171.8	1,691	423

[1] Stream distance in feet above confluence with Yazoo River

6.4 Coastal Flood Hazard Mapping

This section is not applicable to this Flood Risk Project.

Table 26: Summary of Coastal Transect Mapping Considerations

[Not Applicable to this Flood Risk Project]

6.5 FIRM Revisions

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

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 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.

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/media-library/assets/documents/1343 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 Coahoma County FIRM are listed in Table 27. Please note that this table only includes LOMCs that have been issued on the FIRM panels updated by this map revision. For all other areas within this county, users should be aware that revisions to the FIS Report made by prior LOMRs may not be reflected herein and users will need to continue to use the previously issued LOMRs to obtain the most current data.

Table 27: Incorporated Letters of Map Change

[Not Applicable to this Flood Risk Project]

6.5.4 Physical Map Revisions

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

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

For more information about the PMR process, please visit www.fema.gov and visit the "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 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 Coahoma County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBMs) and/or Flood Boundary and Floodway Maps (FBFMs) may have been prepared for the incorporated communities and the unincorporated areas in the county that had identified SFHAs. Current and historical data relating to the maps prepared for the project area are presented in Table 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 FHBM. This date may be the same date as the Initial NFIP Map Date.

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

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

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

The initial effective date for the Coahoma County FIRMs in countywide format was 02/02/2012.

Table 28: Community Map History

Community Name	Initial Identification Date	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Clarksdale, City of	06/07/1974	06/07/1974	06/18/1976	03/04/1980	TBD 02/02/2012
Coahoma, Town of[1,2]	02/02/2012	N/A	N/A	02/02/2012	TBD
Coahoma County, Unincorporated Areas	10/21/1977	10/21/1977	N/A	02/01/1980	TBD 02/02/2012 04/17/1995
Friar's Point, Town of	06/28/1974	06/28/1974	07/23/1976	08/19/1987	TBD 02/02/2012
Jonestown, Town of	02/27/1976	02/27/1976	N/A	09/28/1979	02/02/2012
Lula, Town of	09/06/1974	09/06/1974	06/18/1976	08/01/1986	TBD 02/02/2012
Lyon, Town of	08/30/1974	08/30/1974	N/A	06/25/1976	TBD 02/02/2012

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

SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

7.1 Contracted Studies

Table 29 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
Big Sunflower River	TBD	State of Mississippi	EMA-2011-CA-5215	April 2010	Coahoma County, Unincorporated Areas
Big Sunflower River	TBD	State of Mississippi	EMA-2011-CA-5215	April 2010	Coahoma County, Unincorporated Areas
Big Sunflower River	08/1979 and 09/1979	Smith and Sanders Inc.	H-4057	October 1977	Clarksdale, City of; Coahoma County, Unincorporated Areas

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Big Sunflower River Tributary	02/02/2012	State of Mississippi	EMA-2008-CA-5883	August 2010	Friar's Point, Town of; Coahoma County, Unincorporated Areas
Broad Bayou	**TBD**	State of Mississippi	EMA-2014-CA-00187-S01	February 2018	Coahoma County, Unincorporated Areas
Broad Bayou Tributary 1	**TBD**	State of Mississippi	EMA-2014-CA-00187-S01	February 2018	Coahoma County, Unincorporated Areas
Broad Bayou Tributary 2	**TBD**	State of Mississippi	EMA-2014-CA-00187-S01	February 2018	Coahoma County, Unincorporated Areas
Hopson Bayou Tributary 1	02/02/2012	State of Mississippi	EMA-2008-CA-5883	August 2010	Coahoma County, Unincorporated Areas
Lake Bayou	04/17/1995	Neel-Schaffer, Inc	EMW-90-C-3129	April 1993	Coahoma County, Unincorporated Areas
Little Sunflower River	08/1979 and 09/1979	Smith and Sanders Inc.	H-4057	October 1977	Clarksdale, City of; Coahoma County, Unincorporated Areas
Mill Creek	02/02/2012	State of Mississippi	EMA-2008-CA-5883	August 2010	Clarksdale, City of; Lyon, Town of
Mississippi River	08/1979	Smith and Sanders Inc.	H-4057	October 1977	Coahoma County, Unincorporated Areas
Moore Bayou	02/02/2012	State of Mississippi	EMA-2008-CA-5883	August 2010	Coahoma County, Unincorporated Areas
Moore Bayou	03/1979 and 08/1979	Smith and Sanders Inc.	H-4057	October 1977	Jonestown, Town of; Coahoma County, Unincorporated Areas
Muddy Bayou	**TBD**	State of Mississippi	EMA-2014-CA-00187-S01	February 2018	Coahoma County, Unincorporated Areas
Muddy Bayou North	02/02/2012	State of Mississippi	EMA-2008-CA-5883	August 2010	Coahoma County, Unincoporated Areas; Lula, Town of

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Oxbow Bayou	04/17/1995	Neel-Schaffer, Inc	EMW-90-C-3129	April 1993	Coahoma County, Unincorporated Areas
Whitaker Bayou	02/02/2012	State of Mississippi	EMA-2008-CA-5883	August 2010	Coahoma County, Unincorporated Areas
White Oak Bayou	**TBD**	State of Mississippi	EMA-2014-CA-00187-S01	February 2018	Coahoma County, Unincorporated Areas
Yazoo Pass	**TBD**	State of Mississippi	EMA-2014-CA-00187-S01	February 2018	Coahoma County, Unincorporated Areas
Yazoo Pass	02/02/2012	State of Mississippi	EMA-2008-CA-5883	August 2010	Coahoma County, Unincorporated Areas

7.2 Community Meetings

The dates of the community meetings held for this Flood Risk Project and previous Flood Risk Projects are shown in Table 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
Clarksdale, City of	**TBD**	03/36/2014	Discovery	FEMA, MEMA, MDEQ, MGI, MDOT Bridge, Michael Baker, Tetra Tech, USACE – Memphis District, USDA NRCS, Yazoo Mississippi Delta Levee Board
Coahoma, Town of	**TBD**	03/36/2014	Discovery	FEMA, MEMA, MDEQ, MGI, MDOT Bridge, Michael Baker, Tetra Tech, USACE – Memphis District, USDA NRCS, Yazoo Mississippi Delta Levee Board
Coahoma County Unincorporated Areas	**TBD**	03/36/2014	Discovery	FEMA, MEMA, MDEQ, MGI, MDOT Bridge, Michael Baker, Tetra Tech, USACE – Memphis District, USDA NRCS, Yazoo Mississippi Delta Levee Board, and the community
		09/06/2018	Flood Risk Review	MEMA, MDEQ, MGI
Friar's Point, Town of	**TBD**	03/36/2014	Discovery	FEMA, MEMA, MDEQ, MGI, MDOT Bridge, Michael Baker, Tetra Tech, USACE – Memphis District, USDA NRCS, Yazoo Mississippi Delta Levee Board
Jonestown, Town of	**TBD**	03/36/2014	Discovery	FEMA, MEMA, MDEQ, MGI, MDOT Bridge, Michael Baker, Tetra Tech, USACE – Memphis District, USDA NRCS, Yazoo Mississippi Delta Levee Board
Lula, Town of	**TBD**	03/36/2014	Discovery	FEMA, MEMA, MDEQ, MGI, MDOT Bridge, Michael Baker, Tetra Tech, USACE – Memphis District, USDA NRCS, Yazoo Mississippi Delta Levee Board
		09/06/2018	Flood Risk Review	MEMA, MDEQ, MGI
Lyon, Town of	**TBD**	03/36/2014	Discovery	FEMA, MEMA, MDEQ, MGI, MDOT Bridge, Michael Baker, Tetra Tech, USACE – Memphis District, USDA NRCS, Yazoo Mississippi Delta Levee Board

SECTION 8.0 – ADDITIONAL INFORMATION

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

The additional data that was used for this project includes the FIS Report and FIRM that were previously prepared for Coahoma County, Mississippi and Incorporated Areas, (FEMA 2012); Coahoma County, Mississippi, Unincorporated Areas (FEMA 1995); City of Clarksdale, Mississippi, Coahoama County (FEMA 1979); Town of Jonestown, Mississippi, Coahoama County (FEMA 1979). In addition, the USACE performed the Mississippi River Project Flood Studies (USACE 1976).

Table 31 is a list of the locations where FIRMs for Coahoma 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
Clarksdale, City of	Clarksdale Civic Auditorium 212 Lefluer Avenue	Clarksdale	MS	38614
Coahoma, Town of[1]	Coahoma County Emergency Management Agency 71 Sunflower Avenue	Clarksdale	MS	38614
Coahoma County, Unincorporated Areas	Coahoma County Emergency Management Agency 71 Sunflower Avenue	Clarksdale	MS	38614
Friar's Point, Town of	Town Hall 700 2nd Street	Friar's Point	MS	38631
Jonestown, Town of	Town Hall 267 Main Street	Jonestown	MS	38639
Lula, Town of	Town Hall 118 2nd Street	Lula	MS	38644
Lyon, Town of	Town Hall 111 Park Street	Lyon	MS	38645

[1] No Special Flood Hazard Areas Identified

The National Flood Hazard Layer (NFHL) dataset is a compilation of effective FIRM Databases and LOMCs. Together they create a GIS data layer for a state or territory. The NFHL is updated as studies become effective and extracts are made available to the public monthly. NFHL data can be viewed or ordered from the website shown in Table 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	www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/engineering-library
NFIP website	www.fema.gov/national-flood-insurance-program
NFHL Dataset	msc.fema.gov
FEMA Region IV	Federal Emergency Management Agency 3003 Chamblee Tucker Road Atlanta, GA 30341 (770) 220-5200
Other Federal Agencies	
USGS website	www.usgs.gov
Hydraulic Engineering Center website	www.hec.usace.army.mil
State Agencies and Organizations	
State NFIP Coordinator	Stacy D. Ricks, CFM Mississippi Emergency Management Agency P.O. Box 5644 Pearl, MS 39208 Office: (601) 933-6605 Fax: (601) 933-6805 sricks@mema.ms.gov
State GIS Coordinator	Jim Steil Director, MARIS 3825 Ridgewood Road Jackson, MS 39211 Phone (601) 432-6357 jsteil@ihl.state.ms.us

Statewide Regulatory Coordinator	Stephen D. Champlin, R.P.G. Geospatial Resources Division/Flood Mapping Office of Geology Mississippi Department of Environmental Quality P.O. Box 2279 Jackson, Mississippi 39225 (601) 961-5506 Stephen_Champlin@deq.state.ms.us

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	*Publication Title,* "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
ESRI 2016	Environmental Systems Research Institute	*ArcMap, Version 10.5*		Redlands, CA	2016	
FEMA 1979 March	Federal Emergency Management Agency	*Flood Insurance Study, Town of Jonestown, Mississippi, Coahoma County*		Washington, D.C.	March 1979	FEMA Flood Map Service Center msc.fema.gov
FEMA 1979 Sept	Federal Emergency Management Agency	*Flood Insurance Study, City of Clarksdale, Mississippi, Coahoama County*		Washington, D.C.	September 1979	FEMA Flood Map Service Center msc.fema.gov
FEMA 1995	Federal Emergency Management Agency	*Flood Insurance Study, Coahoma County, Mississippi, Unincorporated Areas*		Washington, D.C.	April 17, 1995	FEMA Flood Map Service Center msc.fema.gov
FEMA 2012	Federal Emergency Management Agency	*Flood Insurance Study, Coahoma County, Mississippi, and Incorporated Areas*		Washington, D.C.	February 2, 2012	FEMA Flood Map Service Center msc.fema.gov
FEMA 2017	Federal Emergency Management Agency	*Mississippi River Delta Region Levee Zone X Study, Case No. 14-04-0030S*		Washington, D.C.	November 20, 2017	
MARIS 2004 RR	Mississippi Automated Resource Information System	*Railroad*		Jackson, MS	October 25, 2004	

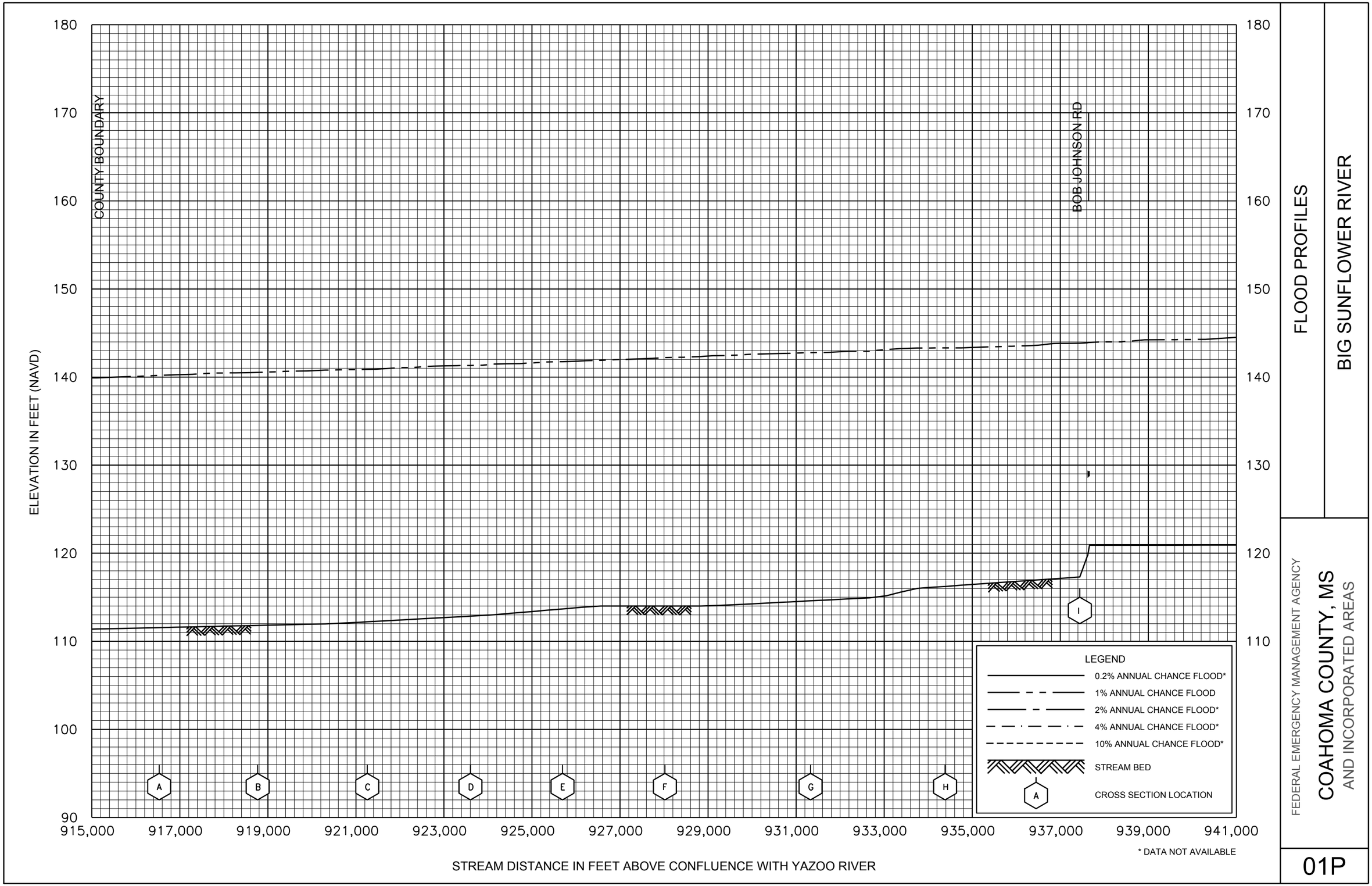
Citation in this FIS	Publisher/ Issuer	*Publication Title,* "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
MARIS 2004 WTR	Mississippi Automated Resource Information System	*Hydrology*		Jackson, MS	2004	
MARIS 2007	Mississippi Automated Resource Information System	*USGS 10 and 30 meter DEMs*	U.S. Geological Survey		2007	MARIS http://www.maris.state.ms.us/HTM/DownloadData/DEM.html
MARIS 2010	Mississippi Automated Resource Information System	*MS Census Designated Places 2010*	U.S. Department of Commerce, U.S. Census Bureau, Geography Division, Geographic Products Branch	Washington, DC	2010	MARIS www.maris.state.ms.us
MARIS 2010 PLSS	Mississippi Automated Resource Information System	*PLSS Reference Grid*	U.S. Geological Survey	Jackson, MS	April 2010	MARIS www.maris.state.ms.us
MARIS 2015	Mississippi Automated Resource Information System	*County Boundaries for Mississippi*		Jackson, MS	May 20, 2015	MARIS www.maris.state.ms.us
MDOT 2017	Mississippi Department of Transportation	*MDOT Linear Referencing Method*		Jackson, MS	May 2017	

Citation in this FIS	Publisher/ Issuer	*Publication Title,* "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
NOAA 2010	National Oceanic and Atmospheric Administration	*Clarksdale Gaging Station, ID 221707*			September 9, 2010	http://www.srcc.lsu.edu/stations/index.php?action=metadata&network_station_id=221707
US Census 2010	U.S. Census Bureau	*Website - 2009 Population Estimate*			September 9, 2010	
USACE 1965	U.S. Army Corps of Engineers	*Effects of Major Drainage Works – Big Sunflower River Basin*			April 1965	
USACE 1970	U.S. Army Corps of Engineers	*Special Flood Hazard Information Report, Big Sunflower River and Tributaries at Clarksdale, Mississippi*			November 1970	
USACE 1976	U.S. Army Corps of Engineers, Vicksburg District	*Mississippi River Project Flood Studies*			1976	
USACE 1976_HEC 2	U.S. Army Corps of Engineers, Hydrologic Engineering Center	*HEC-2 Water Surface Profiles, Generalized Computer Program*		Davis, CA	1976	
USACE 1990	U.S. Army Corps of Engineers, Hydrologic Engineering Center	*HEC-1 Flood Hydrograph Package*		Davis, CA	September 1990	
USACE 1991	U.S. Army Corps of Engineers, Hydrologic Engineering Center	*HEC-2 Water Surface Profiles, Generalized Computer Program*		Davis, CA	May 1991	

Citation in this FIS	Publisher/ Issuer	*Publication Title,* "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
USACE 2004	U.S. Army Corps of Engineers, Topographic Engineering Center	*Corpscon Version 6.0.1*		Alexandria, VA	August 2004	
USACE 2008	U.S. Army Corps of Engineers, Hydrologic Engineering Center	*HEC-RAS River Analysis System, User's Manual, Version 4.0*		Davis, CA	May 2008	
USACE 2010	U.S. Army Corps of Engineers, Hydrologic Engineering Center	*HEC-RAS River Analysis System, User's Manual, Version 4.1.0*		Davis, CA	January 2010	
USACE 2016	U.S. Army Corps of Engineers, Hydrologic Engineering Center	*HEC-RAS River Analysis System, User's Manual, Version 5.0.3*		Davis, CA	September 2016	
USDA 2016	U.S. Department of Agriculture, FSA APFO Aerial Photography Field Office	*Coahoma County MS 2016 NAIP*		Salt Lake City, UT	October 19, 2016	
USDI 1961	U.S. Department of the Interior, Geological Survey	*Floods of Mississippi, Magnitude and Frequency*	K.V. Wilson and I.L. Trotter		1961	
USDI 1964	U.S. Department of the Interior, Geological Survey	*7.5-Minute Series Topographic Maps; Scale 1:24:000, Contour Intervals 10 feet: Coahoma, Mississippi; Friars Point, Mississippi; Friars Point NW; Moon Lake, Mississippi*			1964	

Citation in this FIS	Publisher/ Issuer	*Publication Title,* "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
USDI 1967	U.S. Department of the Interior, Geological Survey	*7.5-Minute Series Topographic Maps; Scale 1:24,000, Contour Intervals 10 feet: Clarksdale, Mississippi; Duncan, Mississippi; Mattson, Mississippi; Sabino, Mississippi; Sherard, Mississippi; Tutwiler, Mississippi*			1967	
USDI 1969	U.S. Department of the Interior, Geological Survey	*7.5-Minute Series Topographic Maps; Scale 1:24:000, Contour Intervals 10 feet: Jonestown, Mississippi; Lula, Mississippi*			1969	
USDI 1976	U.S. Department of the Interior	*Flood Frequency of Mississippi Streams*	B.E. Colson and J.W. Hudson	Jackson, MS	1976	
USDI 1982	U.S. Department of the Interior, Geological Survey	*7.5-Minute Series Topographic Maps; Scale 1:24:000, Contour Intervals 10 feet: Elaine, Mississippi; Mellwood, Mississippi; Rena Lara, Mississippi*			1982	
USDI 1991	U.S. Department of the Interior, Geological Survey	*Flood Characteristics of Mississippi Streams, Water-Resources Investigations Report 91-4037*		Jackson, MS	1991	

Citation in this FIS	Publisher/ Issuer	*Publication Title,* "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
USGS 2017	U.S. Geological Survey and National Resources Conservation Service State Offices	*Watershed Boundary Data – Hydrologic Unit*			September 21, 2017	ftp://ftp.ftw.nrcs.usda.gov/wbd
USGS 2018	U.S. Geological Survey, National Water Information System	*NWIS Site Information for USA: Site Inventory*			August 2, 2018	https://waterdata.usgs.gov/nwis/inventory/
USSCS 1971	U.S. Soil Conservation Service	*National Engineering Handbook, Section 16*		Washington, D.C.	October 1971	
USWRC 1976	U.S. Water Resources Council	*Bulletin 17, Guidelines for Determining Flood Flow Frequency*			1976	



FLOOD PROFILES

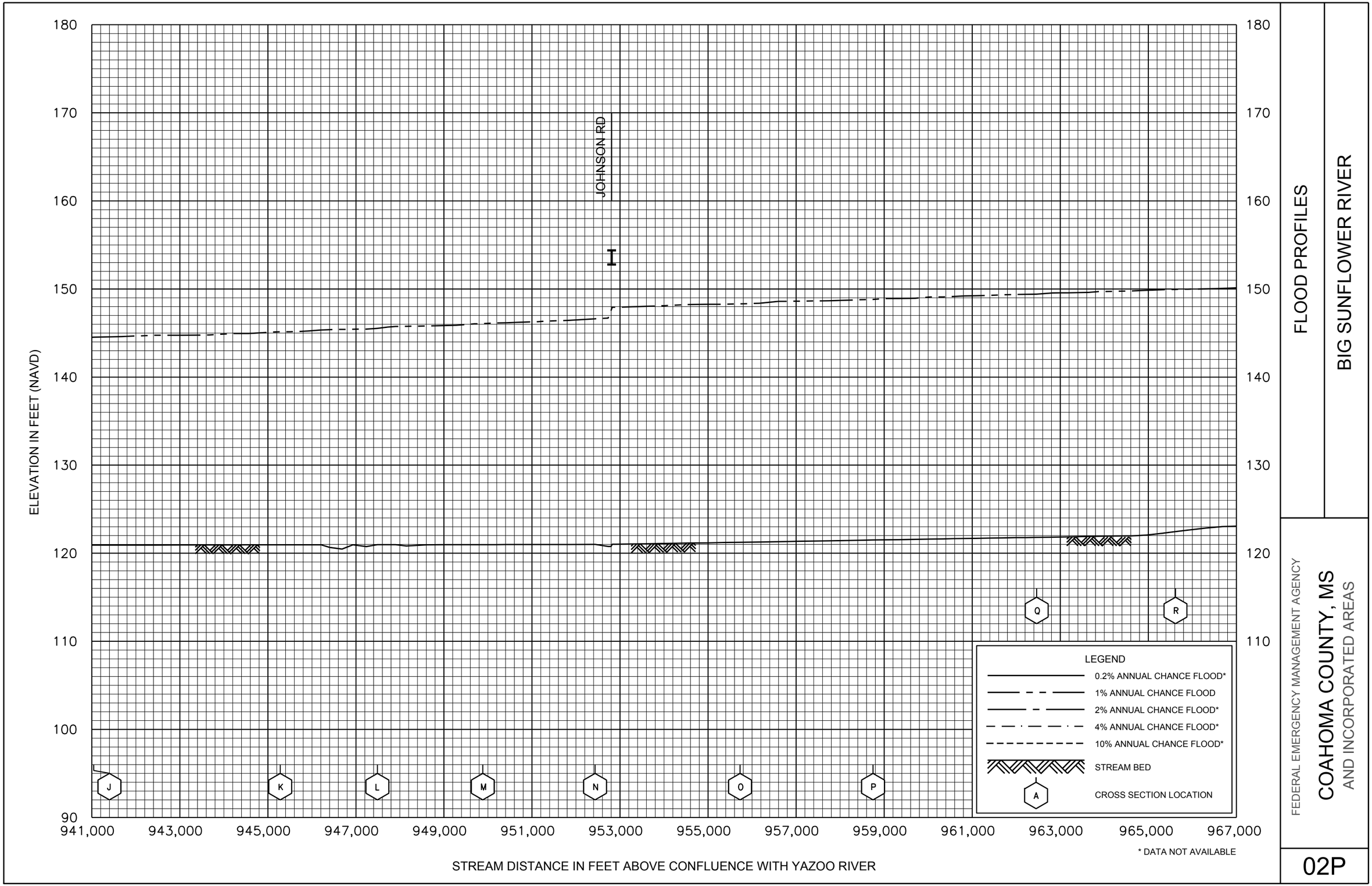
BIG SUNFLOWER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS

AND INCORPORATED AREAS

01P



FLOOD PROFILES

BIG SUNFLOWER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS

AND INCORPORATED AREAS

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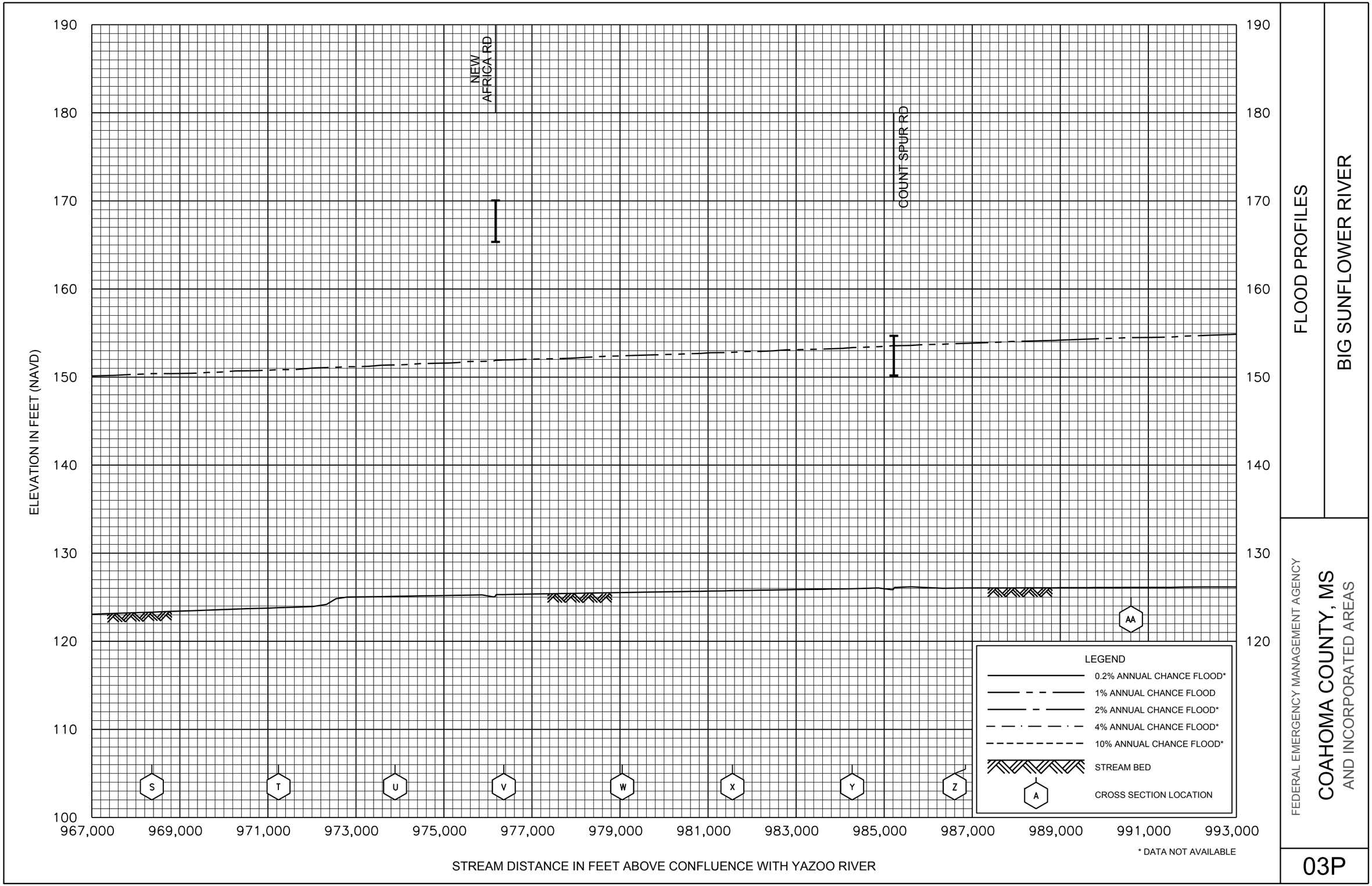
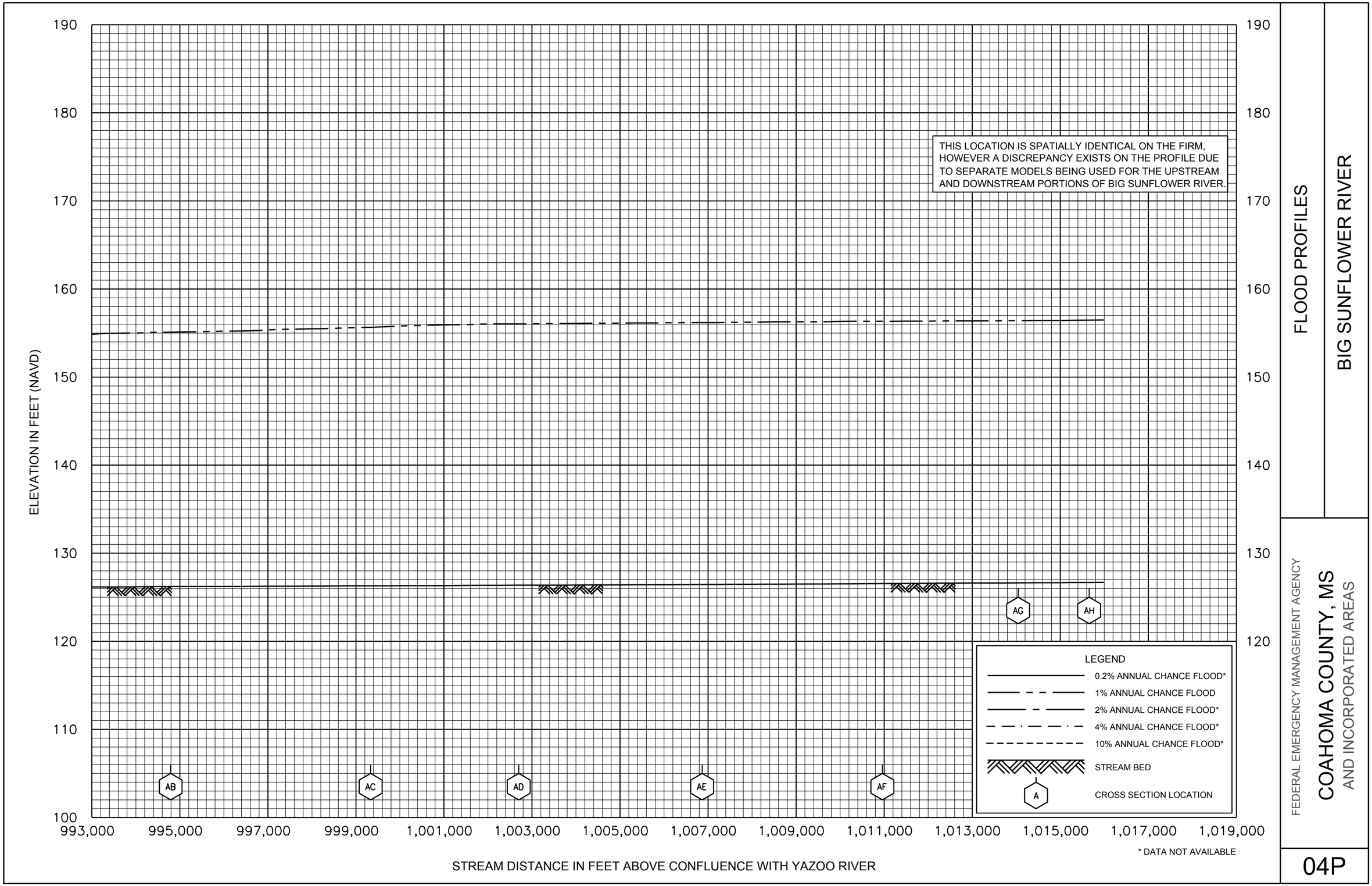


FLOOD PROFILES

BIG SUNFLOWER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS



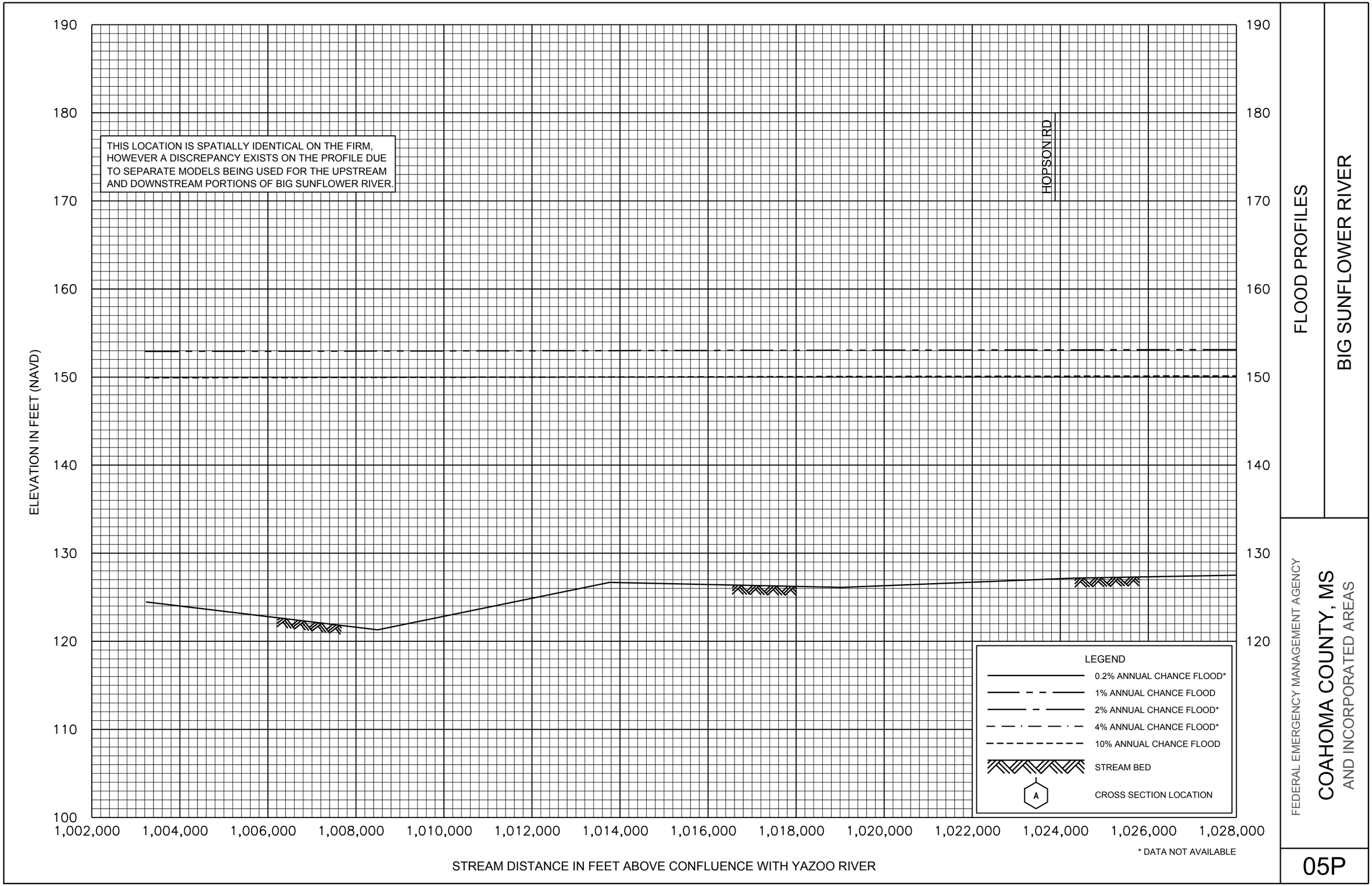
FLOOD PROFILES

BIG SUNFLOWER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

04P



FLOOD PROFILES

BIG SUNFLOWER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

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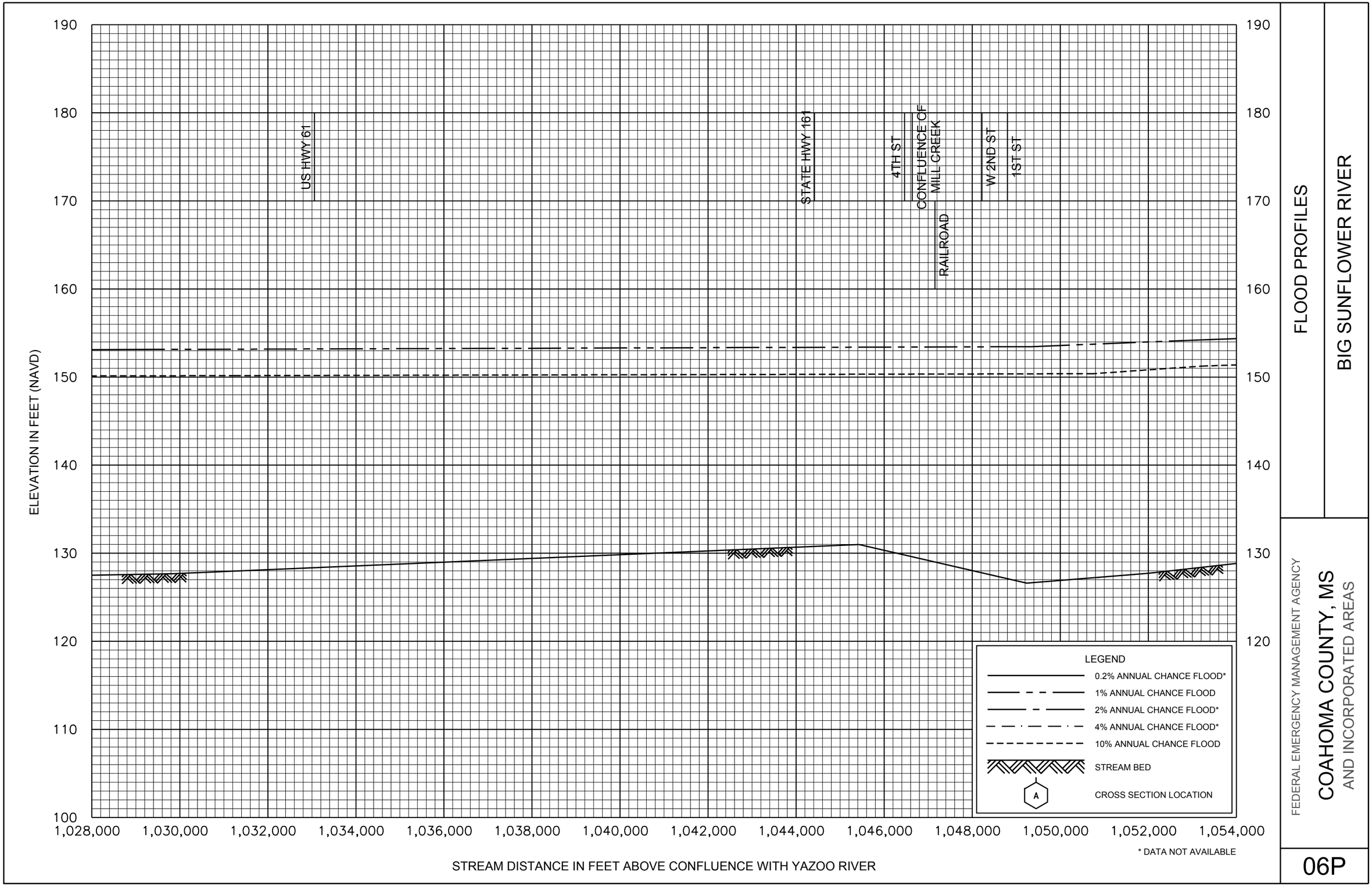

FLOOD PROFILES

BIG SUNFLOWER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS

AND INCORPORATED AREAS

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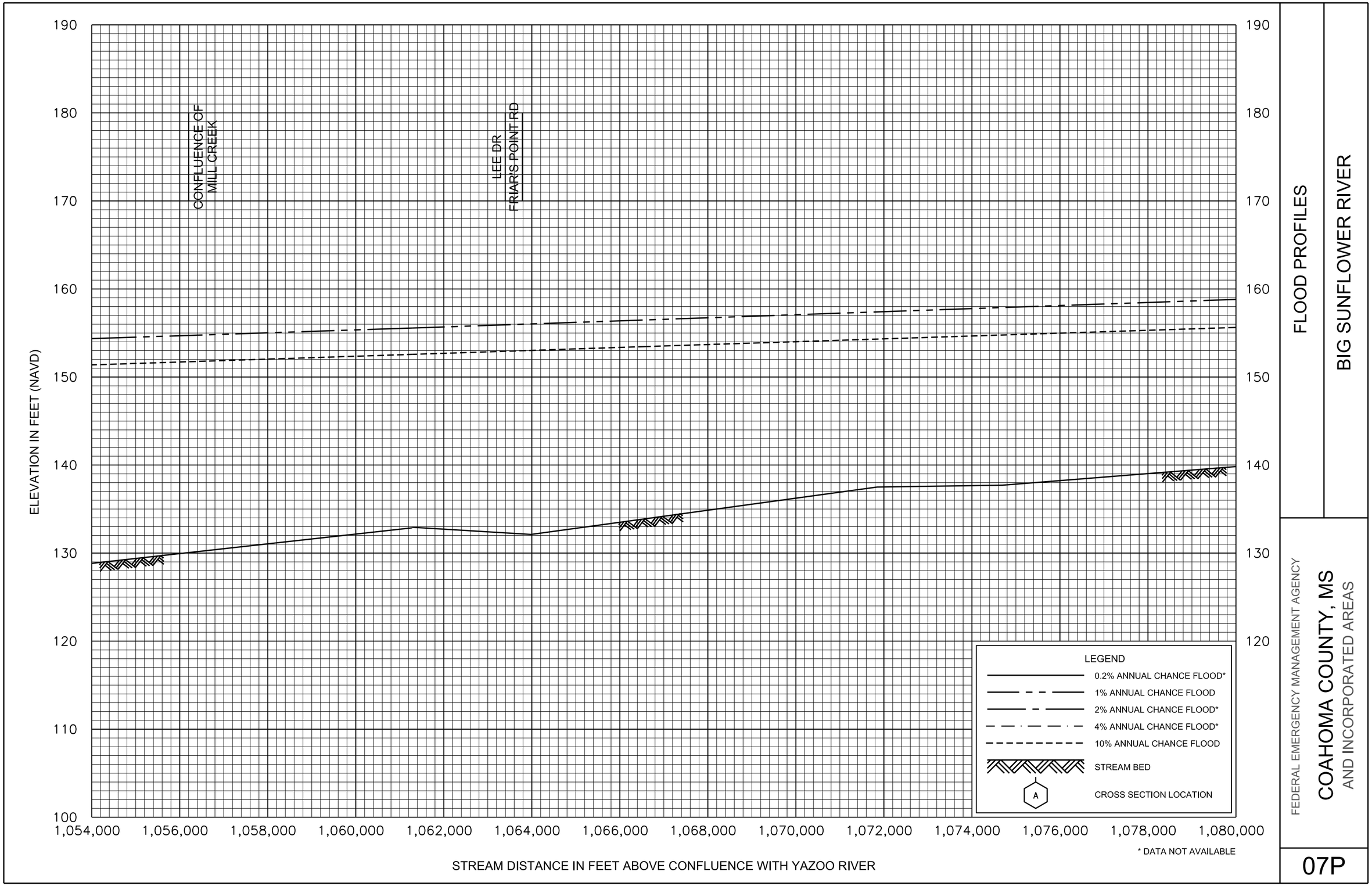


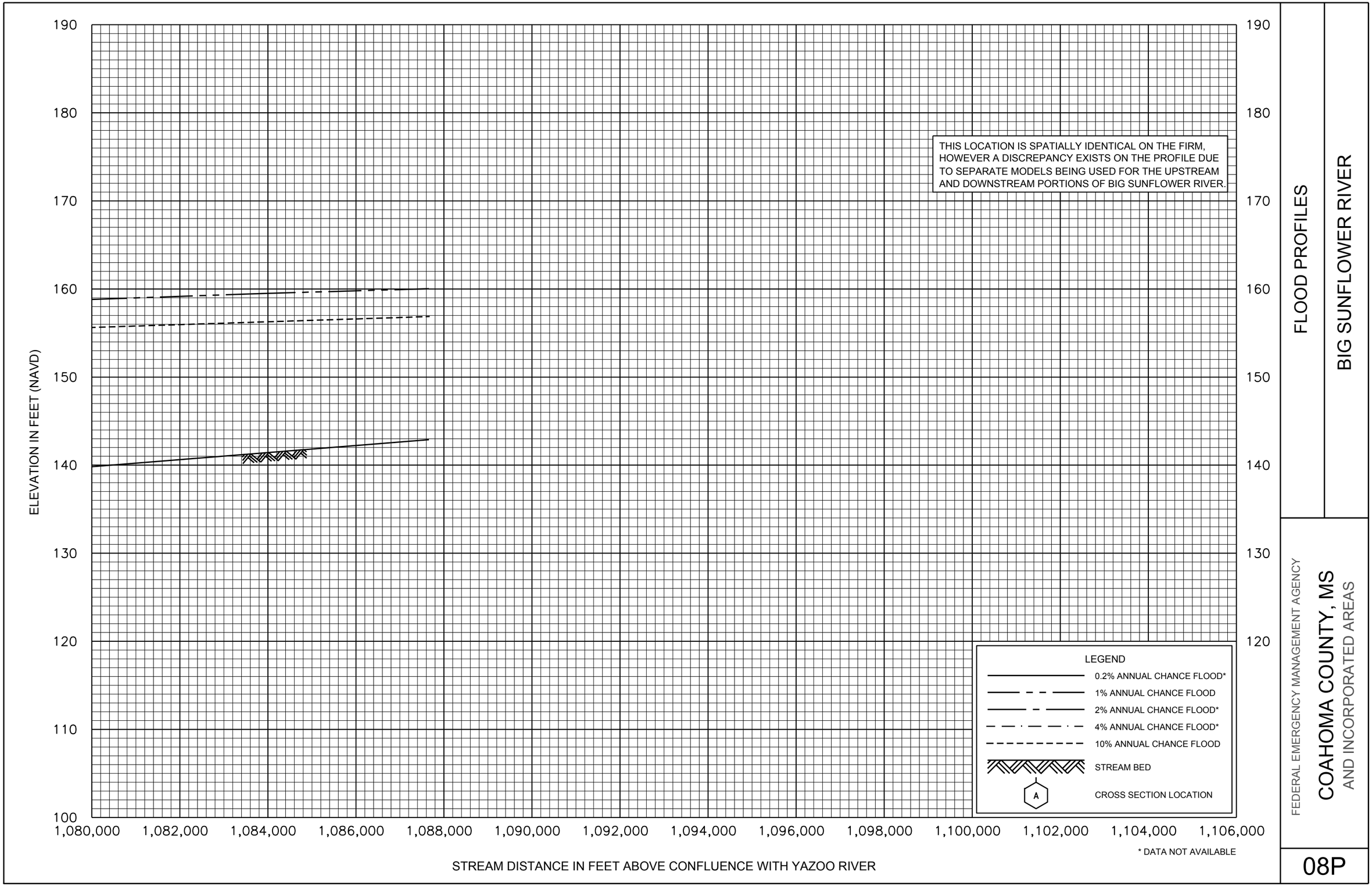
FLOOD PROFILES

BIG SUNFLOWER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

07P



FLOOD PROFILES

BIG SUNFLOWER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

08P

THIS LOCATION IS SPATIALLY IDENTICAL ON THE FIRM, HOWEVER A DISCREPANCY EXISTS ON THE PROFILE DUE TO SEPARATE MODELS BEING USED FOR THE UPSTREAM AND DOWNSTREAM PORTIONS OF BIG SUNFLOWER RIVER.

W FARRELL-EAGLE NEST RD

ELEVATION IN FEET (NAVD)

210
200
190
180
170
160
150
140
130
120

1,107,000 1,109,00 1,110,000 1,113,000 1,115,000 1,117,000 1,119,000 1,121,000 1,123,000 1,125,000 1,127,000 1,129,000 1,31,000 1,133,000

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH YAZOO RIVER

AI AJ AK AL AM

LEGEND

- 0.2% ANNUAL CHANCE FLOOD*
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD*
- 4% ANNUAL CHANCE FLOOD*
- 10% ANNUAL CHANCE FLOOD*
- STREAM BED
- A — CROSS SECTION LOCATION

* DATA NOT AVAILABLE

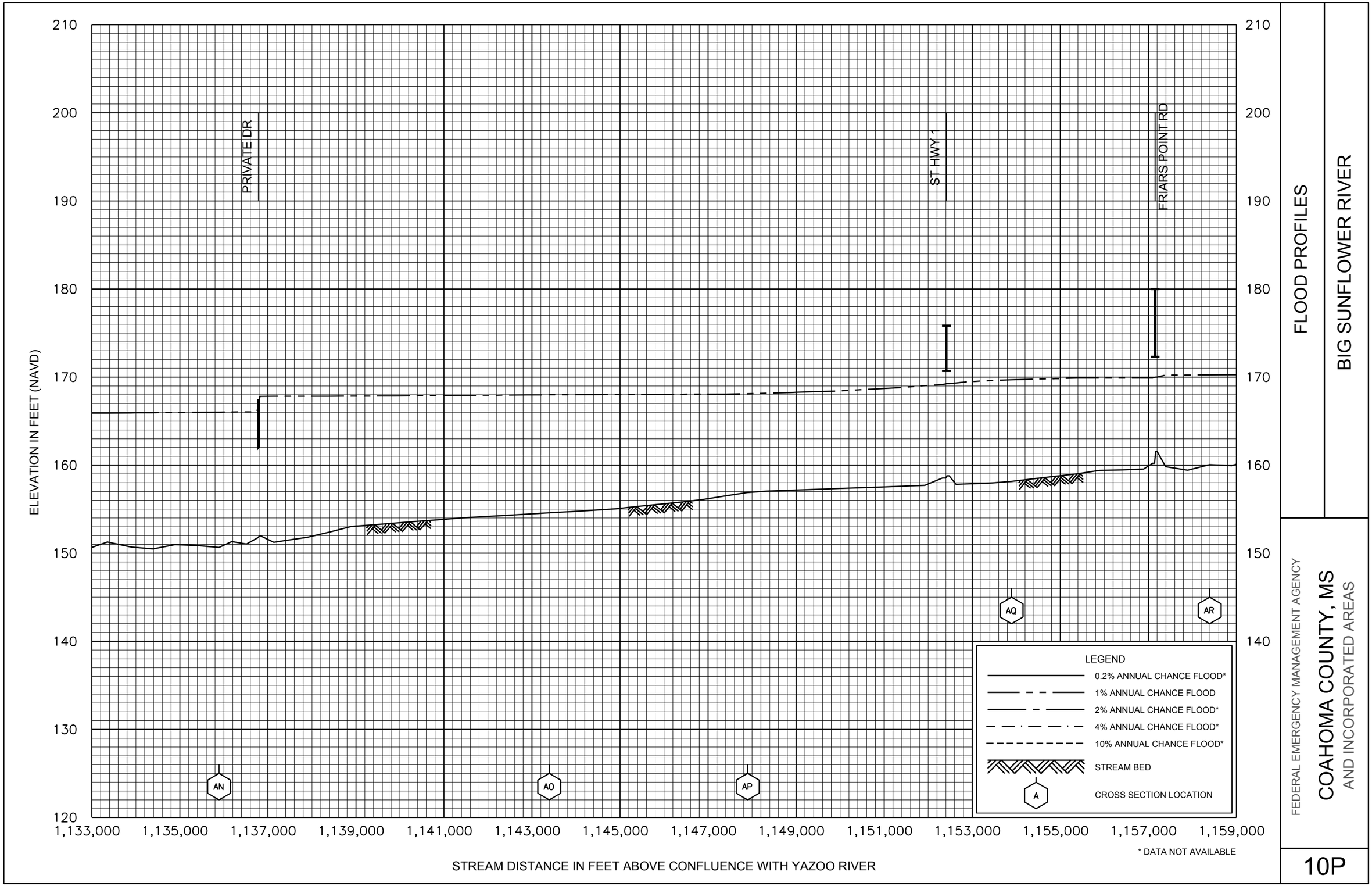
FLOOD PROFILES

BIG SUNFLOWER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

09P

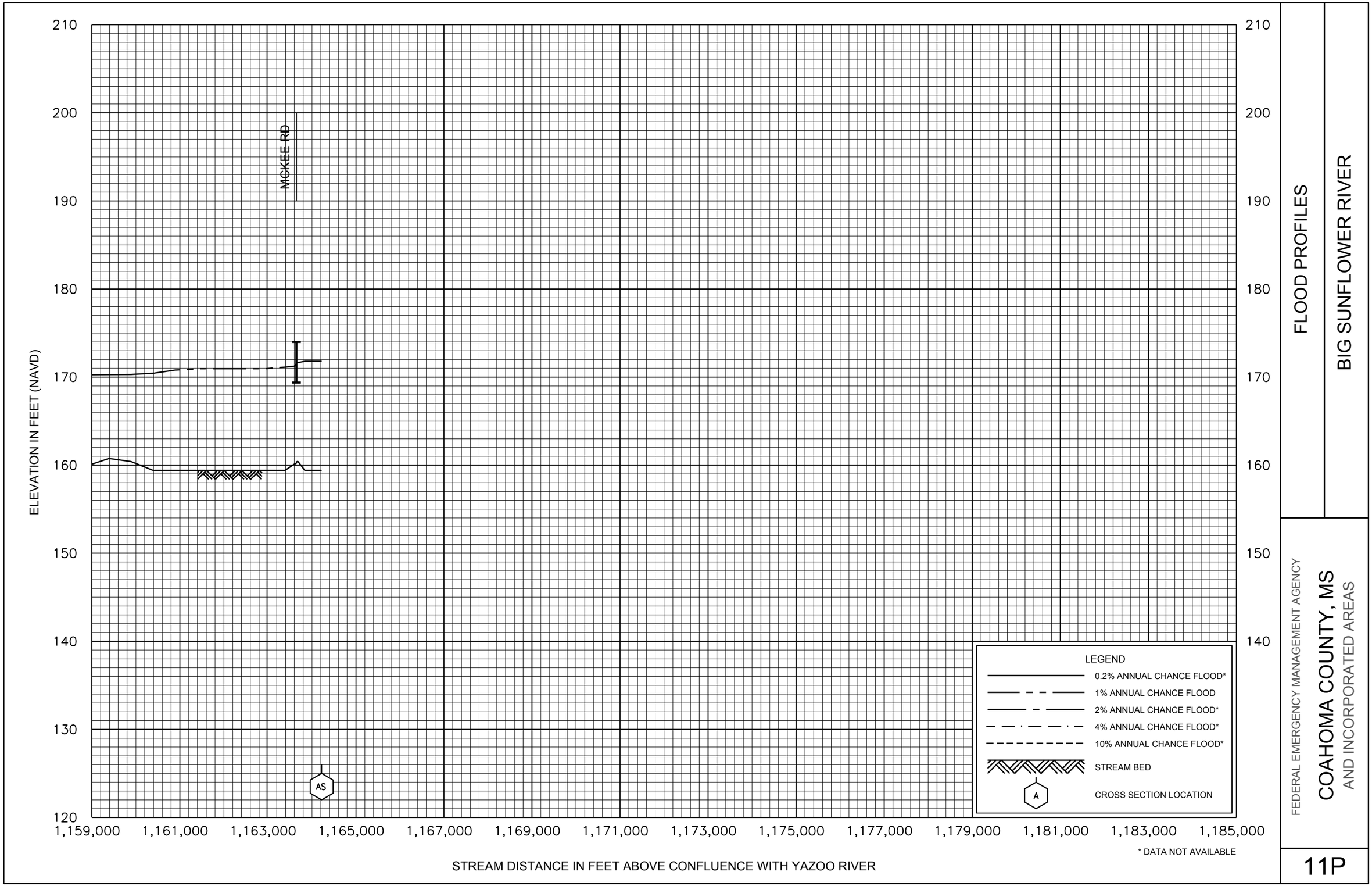


FLOOD PROFILES

BIG SUNFLOWER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS



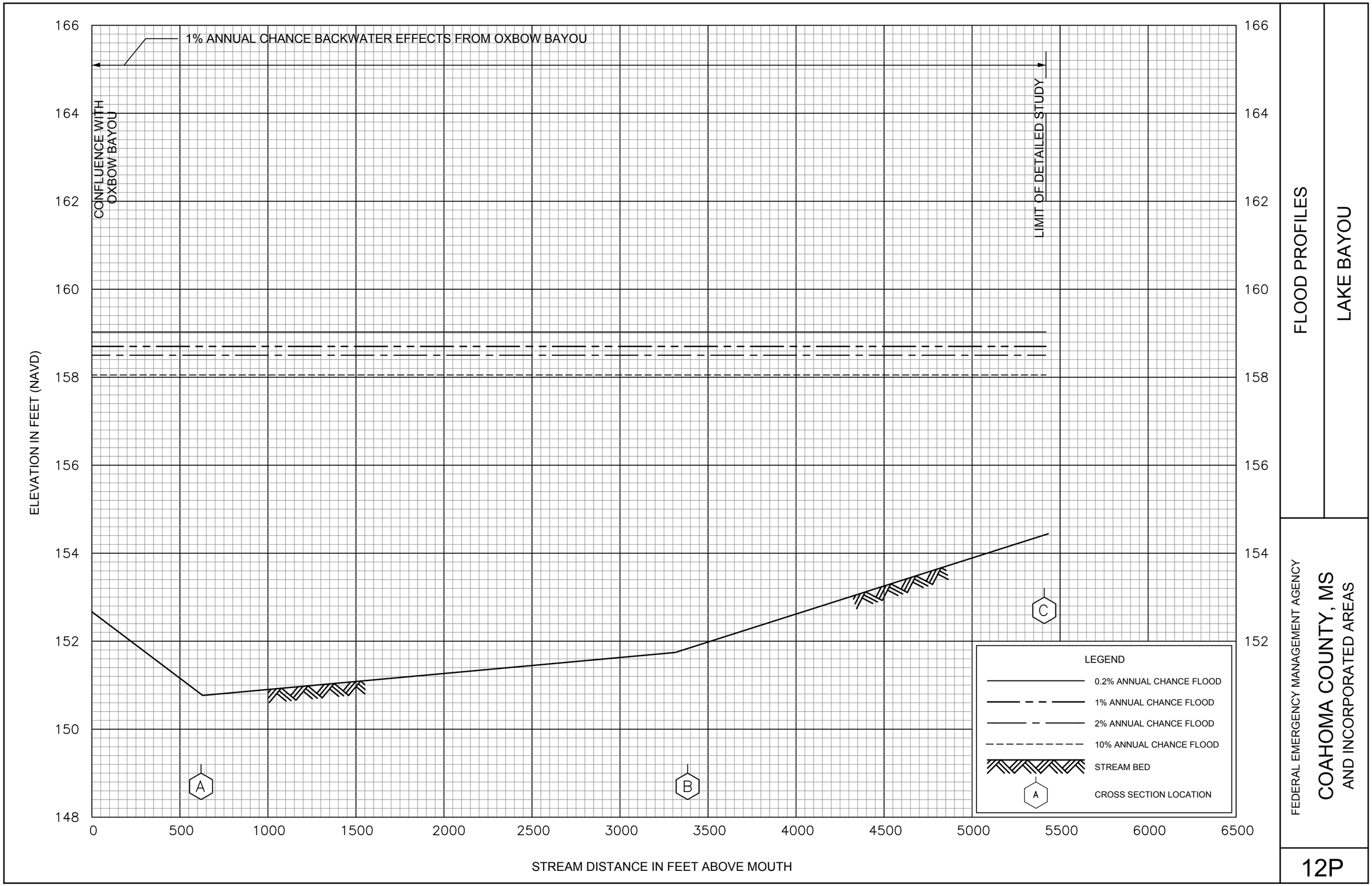
FLOOD PROFILES

BIG SUNFLOWER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS

AND INCORPORATED AREAS



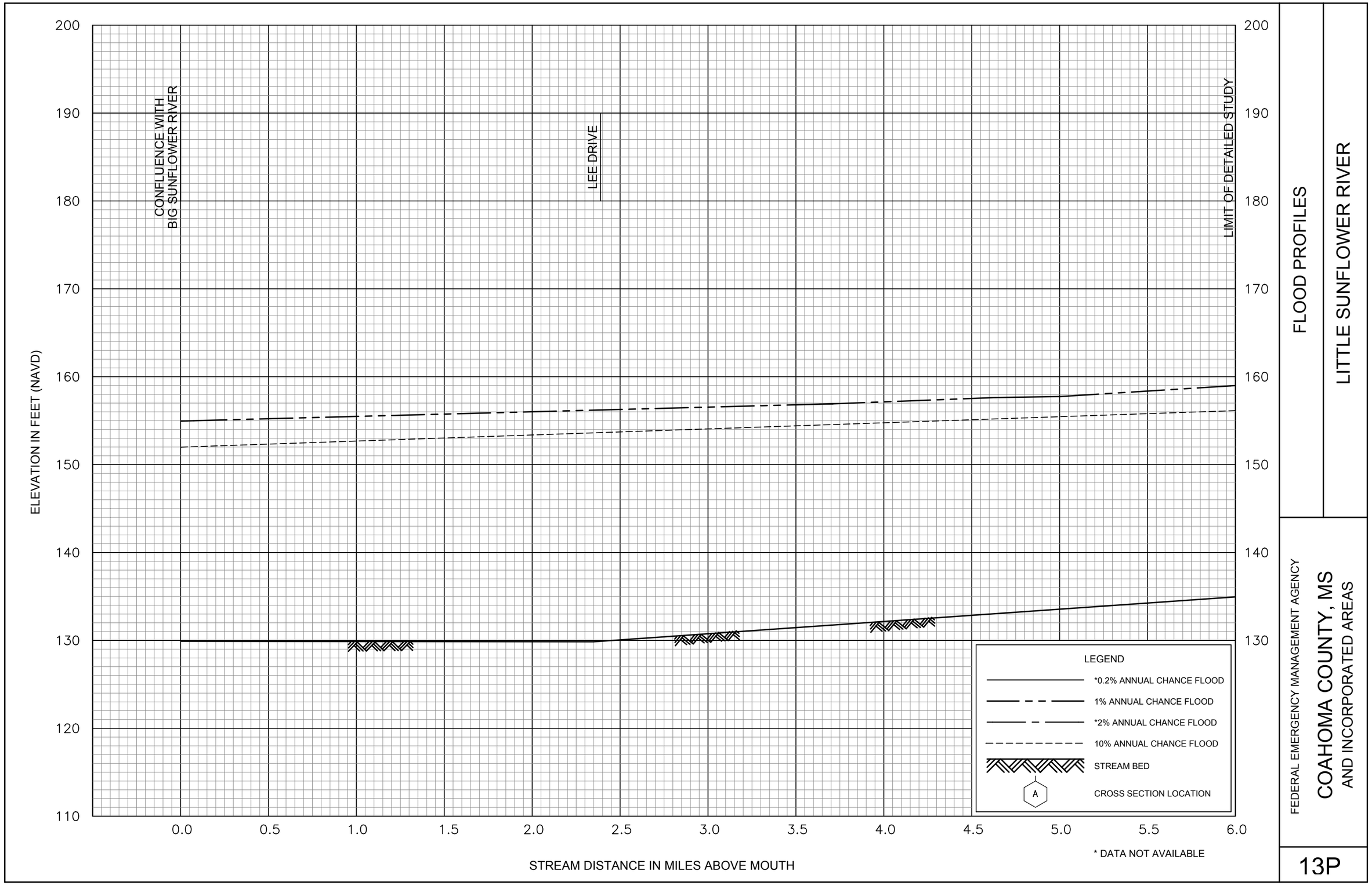
FLOOD PROFILES

LAKE BAYOU

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

12P



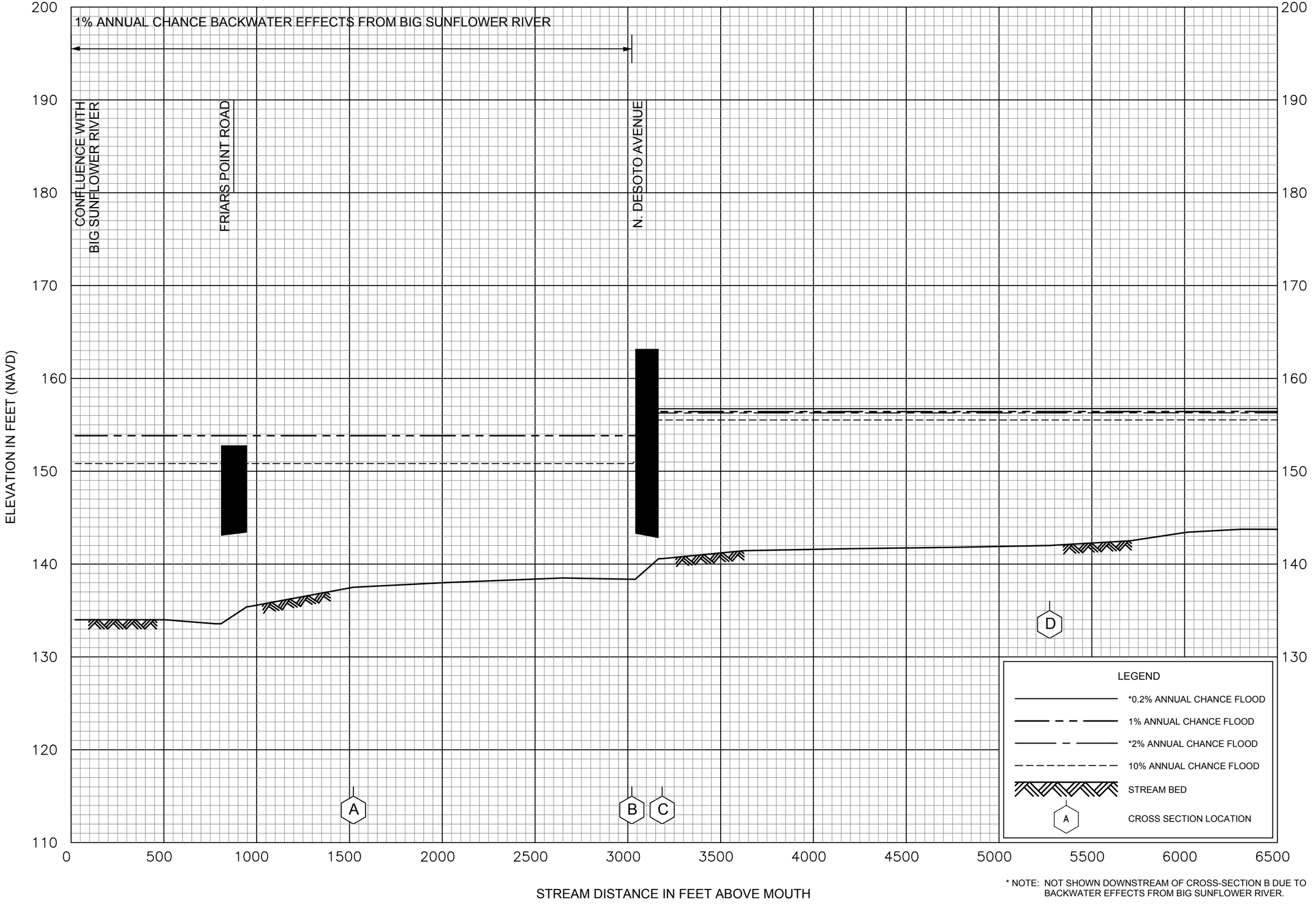
FLOOD PROFILES

LITTLE SUNFLOWER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

13P



* NOTE: NOT SHOWN DOWNSTREAM OF CROSS-SECTION B DUE TO BACKWATER EFFECTS FROM BIG SUNFLOWER RIVER.

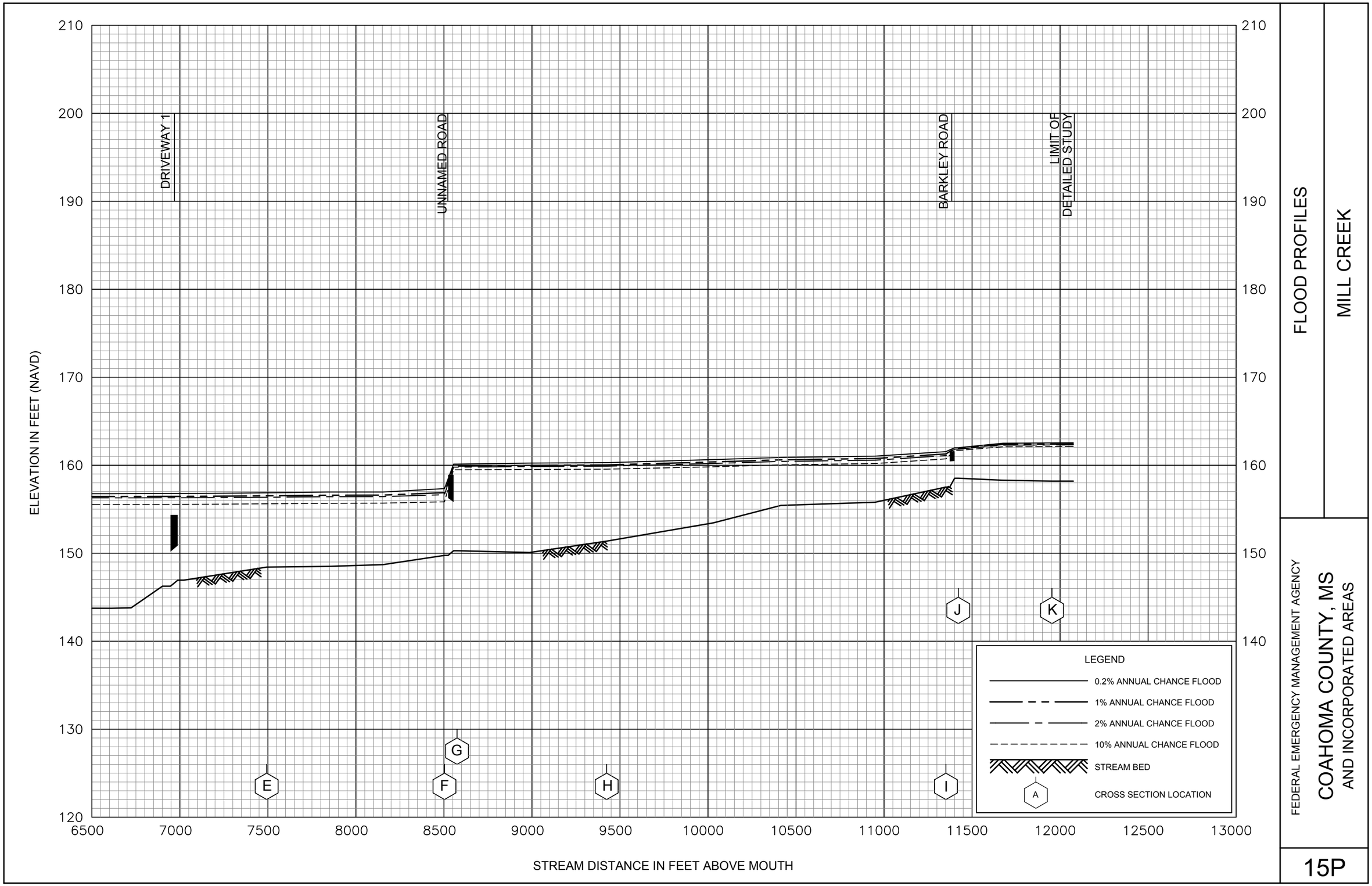
FLOOD PROFILES

MILL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

14P



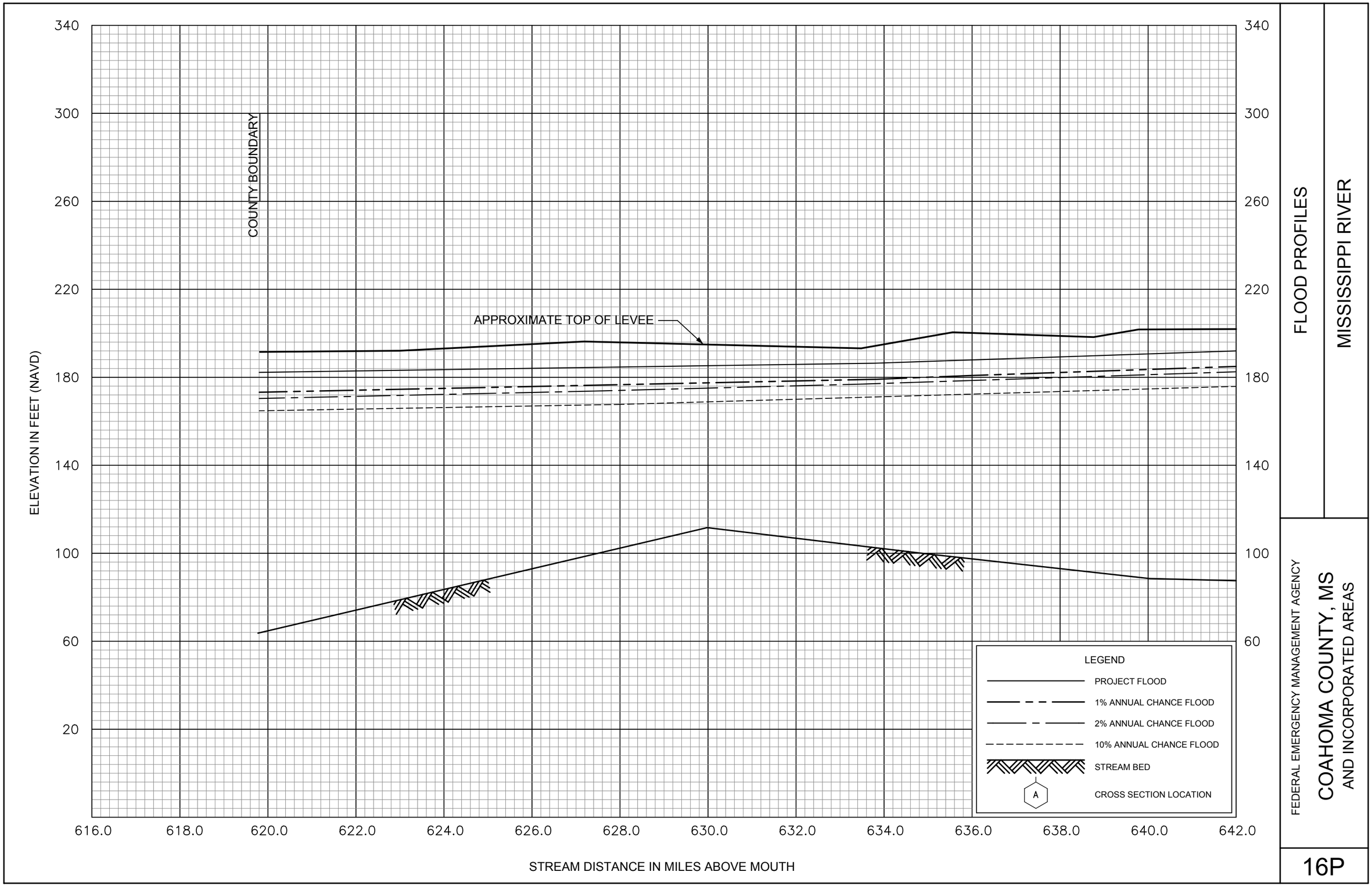
FLOOD PROFILES

MILL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

15P



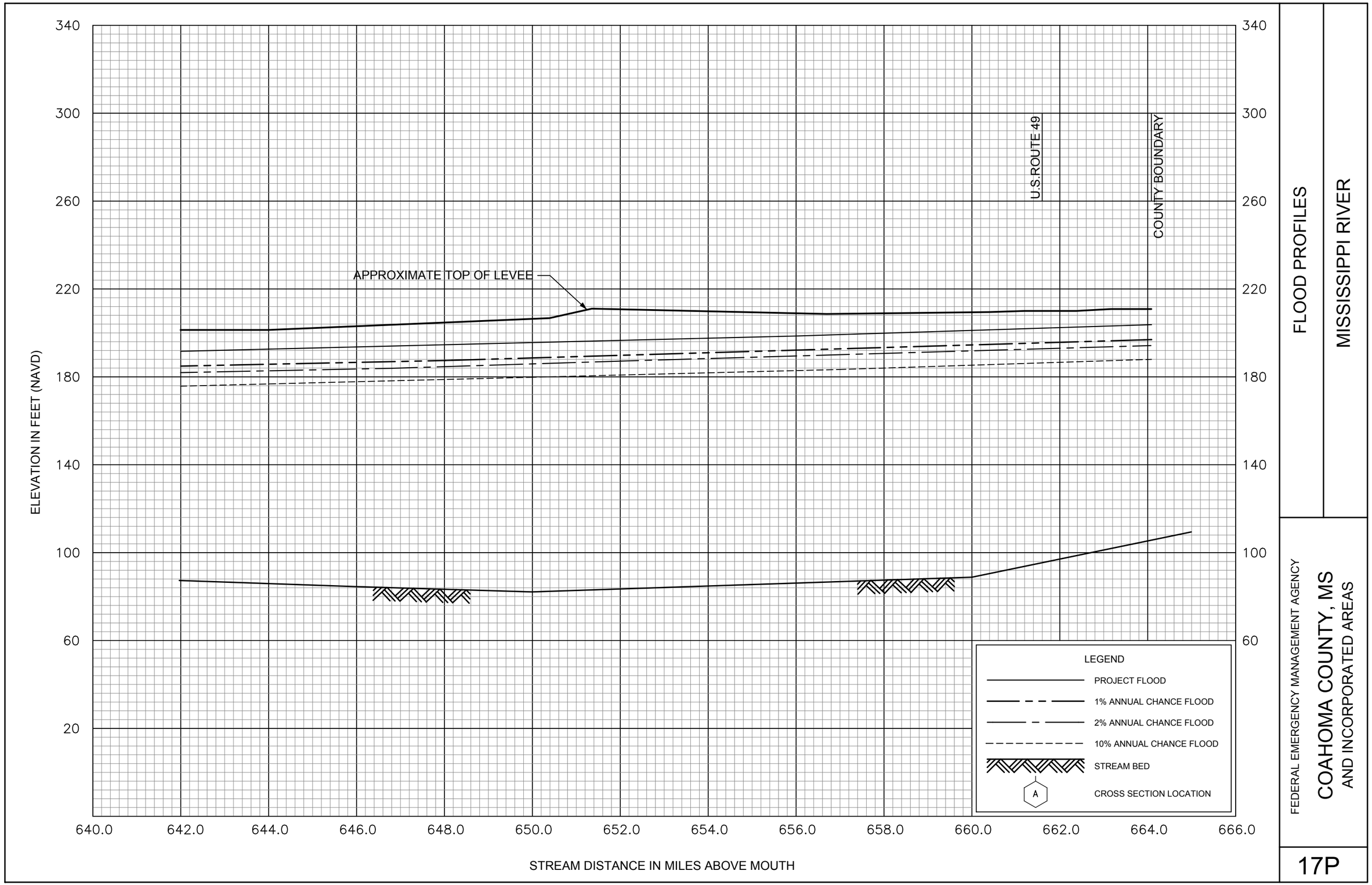
FLOOD PROFILES

MISSISSIPPI RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

16P



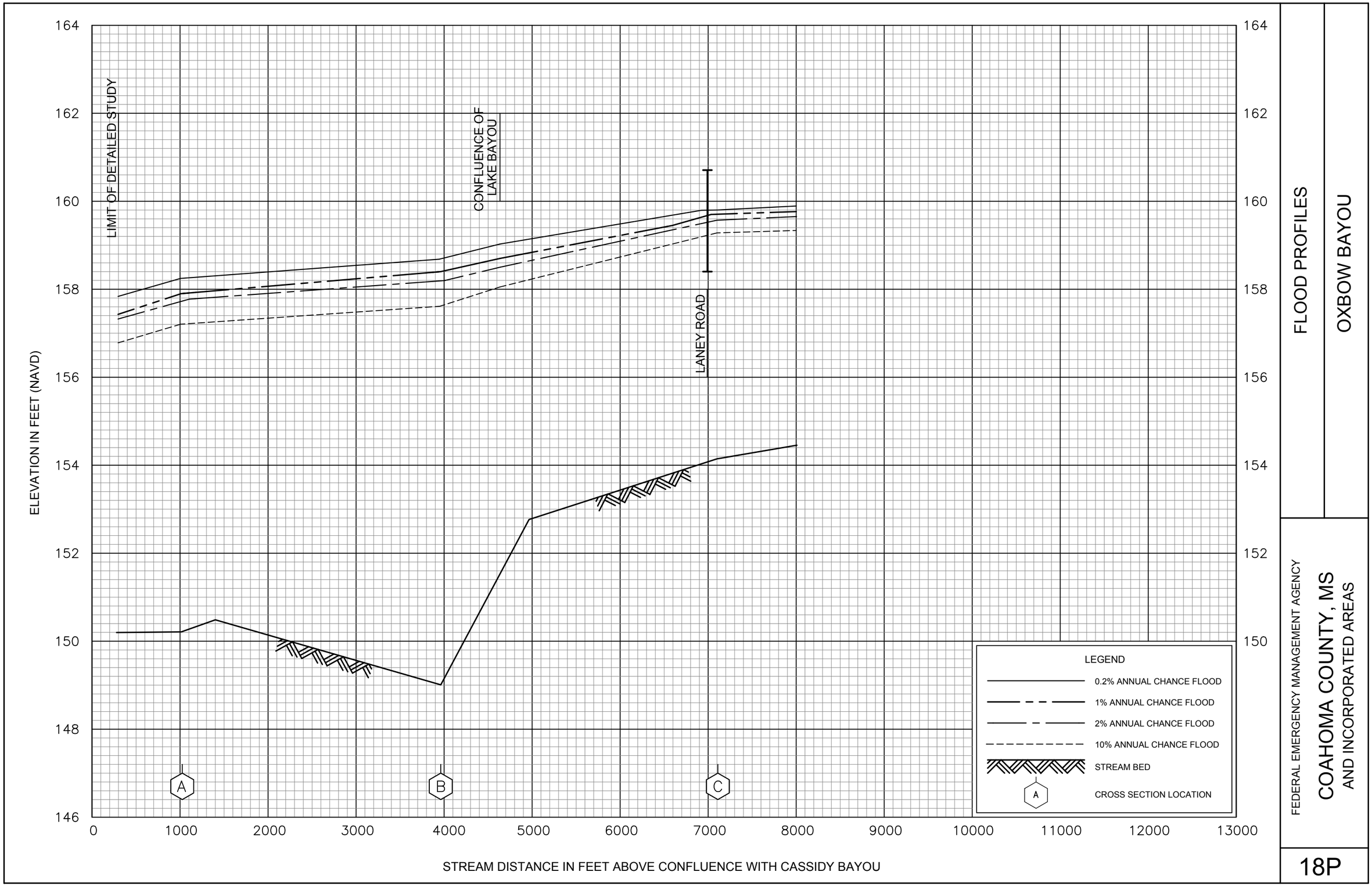
FLOOD PROFILES

MISSISSIPPI RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

17P



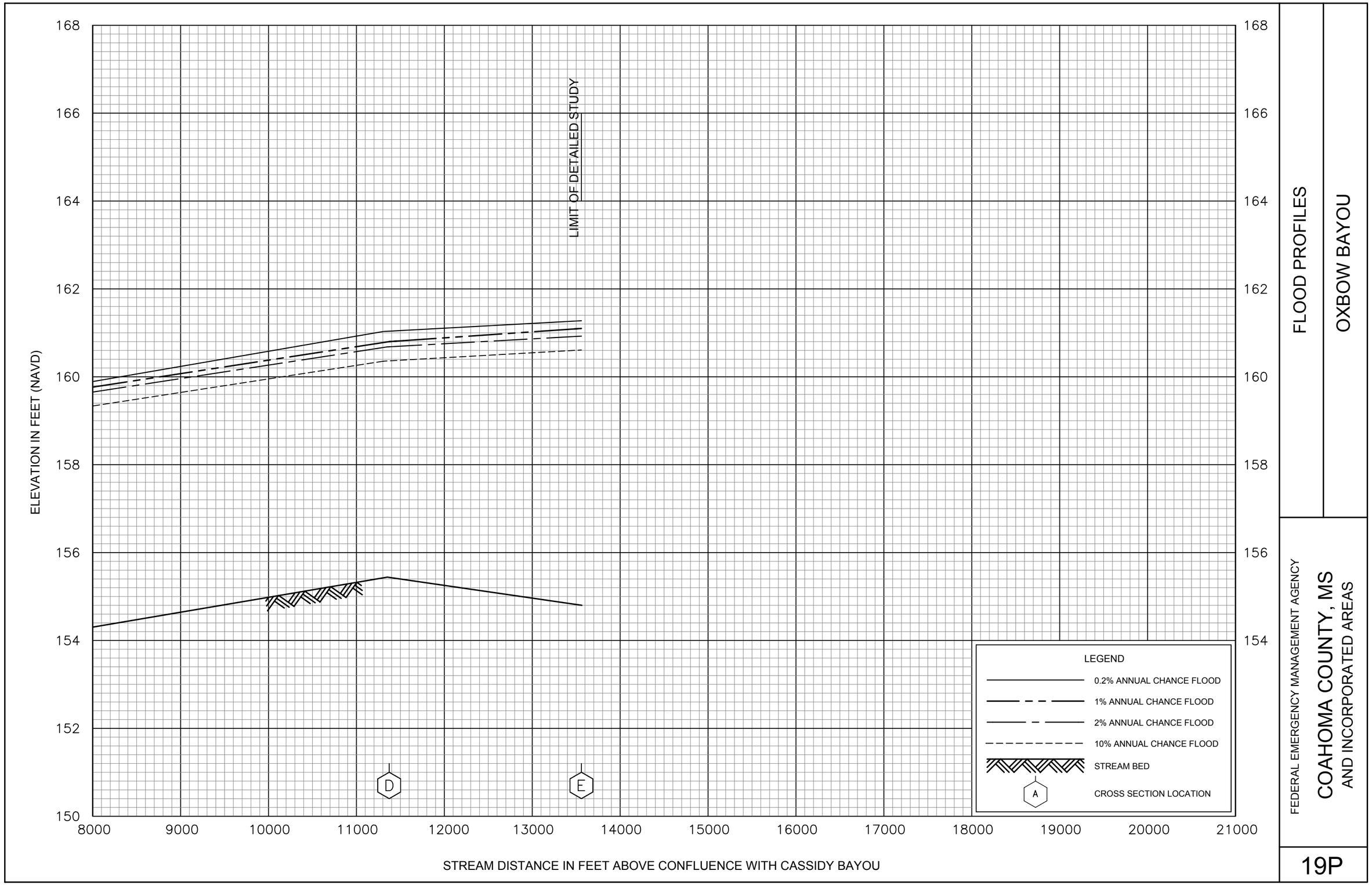
FLOOD PROFILES

OXBOW BAYOU

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

18P



FLOOD PROFILES

OXBOW BAYOU

FEDERAL EMERGENCY MANAGEMENT AGENCY

COAHOMA COUNTY, MS
AND INCORPORATED AREAS

19P