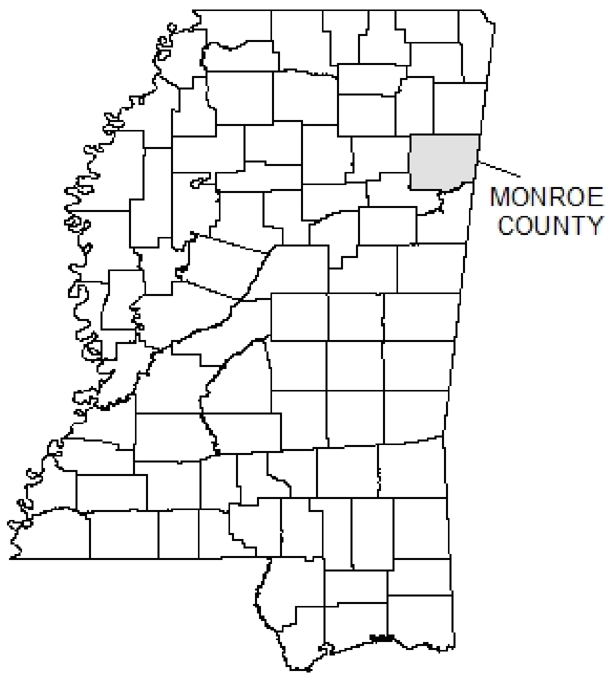
FLOOD INSURANCE STUDY

MONROE COUNTY, MISSISSIPPI
AND INCORPORATED AREAS



ABERDEEN, CITY OF	280115
AMORY, CITY OF	280116
GATTMAN, VILLAGE OF	280117
HATLEY, TOWN OF*	280249
MONROE COUNTY (UNINCORPORATED AREAS)	280275
NETTLETON, CITY OF	280344
SMITHVILLE, TOWN OF	280325

* Non-floodprone

EFFECTIVE:
Month, Day, 2016

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
28095CV000B

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program (NFIP) have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

Part or all of this FIS may be revised and republished at any time. In addition, part of this FIS may be revised by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS. It is, therefore, the responsibility of the user to consult with community officials and to check the community

Initial Countywide FIS Effective Date: March 16, 1988

Revised Countywide FIS Revision Date: TBD

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FLOOD INSURANCE STUDY

MONROE COUNTY, MISSISSIPPI AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and updates information on the existence and severity of flood hazards in the geographic area of Monroe County, Mississippi, including the Town of Smithville, the Cities of Amory and Aberdeen, the Village of Gattman, and the unincorporated areas of Monroe County (referred to collectively herein as Monroe County). The FIS aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood-risk data for various areas of the community that will be used to establish actuarial flood insurance rates and to assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the NFIP are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

This FIS report revises and supersedes all previous Flood Insurance Rate Maps (FIRMs) for the Cities of Aberdeen and Amory, Mississippi, (Reference 8, 9) Monroe County, Mississippi, and Incorporated Areas (Reference 1). This information will be used by the communities to update existing floodplain regulations as part of the regular phase of the National Flood Insurance Program (NFIP). The information will also be used by local and regional planners to further promote sound land use and floodplain development.

Please note that the Town of Hatley is non-floodprone.

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

1.2 Authority and Acknowledgments

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

In the initial countywide FIS dated March 16, 1988, the hydrologic and hydraulic analyses were performed by the U.S. Army Corp of Engineers (USACE), Mobile District (the Study Contractor) for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreement No. EMW-84-E-1506, Project Order No. 1. This study was completed in October 1985 (Reference 1).

For this countywide revision to the FIS, the hydrologic and hydraulic analyses for this new enhanced-approximate study were performed by AECOM, under Contract No. EMA-2006-CA-5617. This study was completed May 2009.

The hydrologic and hydraulic analyses for these new detailed and approximate studies were also performed by AECOM, under Contract No. EMW-2014-CA-00187-S01. This study was completed March 2016.

Base map information shown on this Flood Insurance Rate Map (FIRM) was provided in digital format by the State of Mississippi and the U.S. Census Bureau. The digital orthoimagery was photogrammetrically compiled at a scale of 1:400 from aerial photography dated March 2006.

The digital FIRMs were produced using the Mississippi State Plane Coordinate System, East Zone, FIPS ZONE 2301. The horizontal datum was the North American Datum of 1983, GRS 80 Spheroid. Differences in the datum and spheroid used in the production of the FIRMs for adjacent counties may result in slight positional differences in map features at the county boundaries. These differences do not affect the accuracy of information shown on the FIRM. Distance units were measured in U.S. Feet.

1.3 Coordination

For the initial countywide FIS dated March 16, 1988, an initial Consultation Coordination Officers (CCO) meeting is held with representatives from FEMA, the State of Mississippi, the communities, and the study contractor to explain the nature and purpose of a FIS, and to identify the streams to be studied by detailed methods. A final CCO meeting is held with representatives from FEMA, the communities, and the study contractor to review the results of the study. On January 14, 1987, the results of this FIS were reviewed and accepted at a final coordination meeting attended by representatives of the study contractor, FEMA, and the community.

For the Monroe County and Unincorporated Areas FIS from 1988, the Project Scoping Meeting was held on February 23, 1984. Attendees for the meeting included local citizens, county officials, and representatives of the Mississippi Research and Development Center, FEMA, and the study contractor.

For this countywide FIS, the Project Scoping Meeting was held on December 14, 2006, in Aberdeen, MS. Attendees for these meetings included representatives from the Mississippi Emergency Management Agency, Mississippi Department of Environmental Quality, Monroe County, FEMA, and the study contractor. Coordination with county officials, and Federal, State, and regional agencies produced a variety of information pertaining to floodplain regulations, available community maps, flood history, and other hydrologic data. All problems raised in the meetings have been addressed. A final meeting, the Preliminary DFIRM Community Coordination (PDCC), was held on Month DD, YEAR, to review the results of this study.

2.0 <u>AREA STUDIED</u>

2.1 Scope of Study

This FIS covers the geographic area of Monroe County, Mississippi, including the incorporated communities listed in Section 1.1.

A new detailed study was performed along the Tombigbee River.

For this FIS, Table 1, "Limits of New Detailed Study" lists the streams which were studied by detailed methods. Table 2, "Limits of Revised Detailed Study" lists the streams which were redelineated using data from previous studies.

Table 1. Limits of New Detailed Study

Flooding Source	Limits of New Detailed Study
Burketts Creek	From the confluence with the Tennessee – Tombigbee Canal to approximately 200 feet upstream of the diversion wall
Burketts Creek Diversion Channel	From the confluence with the Tennessee – Tombigbee Canal to the confluence of Upper Burketts Creek
Burketts Creek Tributary No. 1	From the confluence with Burketts Creek to approximately 1,030 feet upstream of Tschudi Road
Tombigbee River	From the Clay/Lowndes/Monroe County boundary to the county boundary
Upper Burketts Creek	From the confluence with Burketts Creek Diversion Channel to approximately 1,450 feet upstream of the Railroad.

Table 2. Limits of Revised Detailed Study

Flooding Source	Limits of Revised Detailed Study
City Ditch	From the confluence with the Tombigbee River to approximately 100 feet upstream of South Long Street
James Creek Tributary No. 1	From South Thayer Avenue to approximately 50 feet upstream of Drake Street
James Creek Tributary No. 2	From the Railroad to approximately 1,000 feet upstream of Hardy Street
Old Tombigbee River/Mattubby Creek	From the confluence with the Tombigbee River to approximately 3.8 miles upstream of Coontail Road
Roundhouse Branch	Approximately 570 feet upstream of Highway 278 West to the divergence from Burketts Creek Tributary No. 1
Stream 1	Approximately 2,150 feet downstream of State Highway 25 approximately 930 feet upstream of Tschudi Road
Tennessee Tombigbee Waterway	From Lock A to approximately 400 feet upstream of the confluence of Turner Branch; From Lock B to the Itawamba/Monroe County boundary
Town Creek	From the confluence with the Tombigbee River to approximately 1.0 mile upstream of U.S. Highway 45
Weaver Creek	From the confluence with Tombigbee River to approximately 60 feet downstream of Old Highway 6

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

No Letters of Map Change (LOMCs) were recorded for this countywide study.

2.2 Community Description

Monroe County is in northeast Mississippi and has a total area of 765 square miles. It is bordered by Lamar and Marion Counties, Alabama, on the east; Lee and Itawamba Counties, Mississippi, on the north; Chickasaw County, Mississippi, on the west; and Clay and Lowndes Counties, Mississippi, on the south. Monroe County's 2015 estimated population was estimated to be 35,827 (Reference 6).

Monroe County was the first county formed in Mississippi north of the City of Vicksburg. Aberdeen, the county seat, was formed by Robert Gordon, a jeweler from Cotton Gin Port, Mississippi. The area was formerly occupied by the Chickasaw Indians. The early settlers came from Alabama, Georgia, and Tennessee.

The part of Aberdeen east of the Tombigbee River was settled first, but as population increased, settlements were soon made west of the River. In the 1930s many factories were opened, mining began, and natural gas was discovered, giving rise to the county's present industry.

The topography is gently rolling with well defined drainage basins. The soils vary from somewhat poorly drained to well drained. Vegetation is mostly pine and hardwood. Monroe County has a warm, humid climate and abundant rainfall that annually averages approximately 55.5 inches. The average low temperature in January is 40.7 degrees Fahrenheit (°F) and the average high temperature in July is 80.0°F (Reference 7).

2.3 Principal Flood Problems

Seasonal rains that may last for several days and heavy rains from tropical storms and hurricanes have caused serious floods in Monroe County. Other factors contributing to flooding are bridges or culverts having inadequate capacity or are subject to constriction due to debris collection of siltation.

A flood that occurred in March 1973 in Monroe County caused damage to many homes and several businesses. The flood was determined to have a recurrence interval of approximately 65 years. The majority of flooding was from the Tombigbee River.

Increased runoff continues to aggravate flood problems due to land development and encroachment in the floodplain areas.

2.4 Flood Protection Measures

Flood protection measures undertaken by local governments have consisted of channel improvements by excavation or paving, and the replacement of inadequate culverts or bridges.

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.

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.

The constructions of the Tenn- Tom Waterway and the locks and dams have made significant changes in the flood patterns in Monroe County. Levee systems along the Tenn- Tom waterway are non-accredited levees. A non-accredited levee system is a levee system that does not meet the requirements of Section 65.10 of the National Flood Insurance. Therefore, even though non-accredited levees are physically shown on a FIRM, the areas behind the levee still show Special Flood Hazard Area (SFHA) and do not protect the 1-percent-annual-chance flood.

3.0 ENGINEERING METHODS

For the flooding sources studied by detailed methods in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded once on the average during any 10-, 50-, l00-, 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 l0-, 50-, 100-, and 500-year floods, have a l0-, 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 l00-year in any 50-year period is approximately 40 percent (4 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.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationship for each flooding source studied by detailed methods affecting the county.

3.1.1 Methods for Flooding Sources with New or Revised Analyses in Current Study

For this countywide study, hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source studied by detail and approximate methods affecting the community.

Discharge estimates were computed for the Tombigbee River in Monroe County downstream of the confluence of the Tombigbee River and the Tennessee-Tombigbee Waterway using gage data from the USGS gages near Amory, Aberdeen, and Columbus, MS.

For those gages with data more recent than 1988, updated flow values are calculated using the Bulletin 17B method (Reference 21). Bulletin 17B codifies the standard methodology for conducting flood-frequency studies in the United States; annual peak flow data are fit to a log-Pearson Type III distribution. This process is automated through the PeakFQ software (Reference 20).

Discharges for selected recurrence intervals for Burketts Creek, Burketts Creek Diversion Channel, Burketts Creek Tributary 1, and Upper Burketts Creek were determined using the USGS nationwide urban regression equations as described in USGS Water Supply Paper 2207 (Reference 15). All discharges downstream of the point where overflow from Burketts Creek Tributary 1 to Roundhouse Branch occurs were reduced to account for the flow diversion.

Discharges for the 1-percent annual chance recurrence interval for all new approximate study streams in Monroe County were determined using the Rural-East Regional USGS regression equations for Mississippi as described in the USGS Water Resources Investigations (WRI) report 94-4002 (Reference 14).

Drainage areas for new enhance-approximate streams were determined using a flow accumulation grid developed from the USGS 10 meter DEMs and corrected National Hydrologic Data (NHD) stream coverage. Flows along stream centerlines were calculated using the regression equations in conjunction with accumulated area for every 10 percent increase in flow along a particular stream. For new detailed streams, the regional regression equations published in *Flood Characteristics of Mississippi Streams* (USGS Water-Resources Investigations Report 91-4037) were used to estimate recurrence interval peak discharge values for rural streams. The discharge values computed using regression equations were either used directly or in area-weighted calculations in conjunction with USGS gage data (Reference 17). Discharge estimates are calculated for all streams which drain greater than one square mile or to the extent of the effective Zone A study limits, whichever is less.

A summary of the drainage area-peak discharge relationships for streams studied by detailed methods is shown in Table 3, "Summary of Discharges." Peak discharge data are not available for the detailed studies for City Ditch, James Creek Tributary No. 1, James Creek Tributary No. 2, Roundhouse Branch, and Stream 1.

3.1.2 Methods for Flooding Sources in the Initial Countywide Study

The Tenn- Tom Waterway project was constructed in the early to mid-1980s. For the reach of the Tombigbee River between the confluence of Town Creek and the confluence of the Tennessee -Tombigbee Waterway, pre-project discharge-frequencies for the Tombigbee River at Amory and Aberdeen were computed from observed gage data. Data after 1973, before construction began, were excluded from the computations. The pre-project curves were modified for completed project conditions using data from a HEC-1 runoff model (Reference 3).

Discharge-frequencies were computed for Lock A and the portion of Lock B Pool that lies within Monroe County. Regional frequency parameters developed by the U.S. Army Corp of Engineers (USACE) for use in designing features of the Tennessee-Tombigbee Waterway were selected for this purpose.

The discharge-frequencies for the Tombigbee River above Town Creek were taken from the Bigbee gage frequency curve (Reference 5). This curve had been modified to reflect completed project conditions. Discharges from the Bigbee gage were considered to be appropriate for use throughout the reach.

The regional equations from “Flood Frequency of Mississippi Streams” (Reference 13) were used to compute the discharge-frequency for Mattuby Creek.

Three methods were compared for computing discharge-frequencies for Town Creek. They were log-Pearson analysis of the Nettleton gage data, regional equations from “Flood Frequency of Mississippi Streams,” by the U.S Geological Survey (USGS) for the Mississippi State Highway Department, and USACE regional equations (Reference 13). The frequency curve from the Nettleton gage data gave higher discharge values for any given frequency than the other 2 methods. The gage curve was adopted, however, because it was based on 42 years of systematic records and a 90-year historic period. Comparison of observed flood peaks at the Nettleton gage, located at the upper end of the FIS reach, and flows on the Tombigbee at Amory indicate that the peaks on Town Creek attenuate between the gage and the mouth. The flows in the Tombigbee River coincidental within the flood peaks on Town Creek were calculated with a regression equation derived from data from the Tombigbee gage at Amory and the Town Creek gage at Nettleton.

No gage data were available on Weaver Creek. The discharge-frequencies were computed with the “Flood Frequency on Mississippi Streams” (Reference 13) regional equations. Floods on Weaver Creek and the Tombigbee River at their junction cannot be considered independent events since the same storms can cause flooding on both streams. Gage data were not available to estimate the coincidental flows.

Table 3. Summary of Discharges

		PEAK DISCHARGES (cfs)				
FLOODING SOURCE AND LOCATION	**DRAINAGE AREA (Square miles)**	**10% Annual Chance**	**4% Annual Chance**	**2% Annual Chance**	**1% Annual Chance**	**0.2% Annual Chance**
BURKETTS CREEK						
At the confluence with the Tenn- Tom Waterway	3.1	884	N/A	1,366	1,527	1,603
Approximately 1,100 feet upstream of the confluence with the Tenn- Tom Waterway	2.3	594	N/A	941	1,038	1,091
Approximately 440 feet upstream of Cowden Drive	1.9	533	N/A	823	901	988
Approximately 80 feet upstream of the confluence of Burketts Creek Tributary NO. 1	0.1	97	N/A	131	143	173

Table 3: Summary of Discharges (continued)

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (Square miles)	PEAK DISCHARGES (cfs) 10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
BURKETTS CREEK DIVERSION CHANNEL						
At the confluence with the Tenn- Tom Waterway	4.6	1,440	N/A	2,410	2,764	3,538
Approximately 2,000 feet upstream of State Highway 25	4.4	1,438	N/A	2,363	2,708	3,472
BURKETTS CREEK TRIBUTRARY NO. 1						
At the confluence with Burketts Creek	1.7	449	N/A	721	781	851
Approximately 440 feet upstream of the Railroad	1.2	617	N/A	943	1,067	1,321
Approximately 410 feet upstream of Hatley Road	0.7	592	N/A	905	1,018	1,267
Approximately 140 feet upstream of Tschudi Road	0.3	258	N/A	404	451	584
MATTUBBY CREEK						
Just upstream of the confluence with the Old Tombigbee River	123.0	12,700	N/A	20,900	24,400	35,000
ROUNDHOUSE BRANCH						
At confluence with Tenn- Tom Waterway	7.28	1,660	2,122	2,496	2,814	3,670
Just upstream of confluence of Roundhouse Branch Unnamed Tributary	2.70	832	1,051	1,228	1,377	1,774
Approximately 729 feet downstream of 109th Street	2.58	839	1,055	1,229	1,376	1,766
STREAM 1						
At confluence with Roundhouse Branch	3.09	950	1,208	1,418	1,592	2,064
Approximately 1,344 feet downstream of Old Highway 25	2.00	702	891	1,046	1,172	1,517

Table 3: Summary of Discharges (continued)

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (Square miles)	PEAK DISCHARGES (cfs) 10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
STREAM 1 (continued)						
Approximately 458 feet upstream of Old Highway 25	1.85	678	860	1,009	1,130	1,461
Approximately 1,500 feet upstream of State Highway 25 South	1.56	636	805	945	1,056	1,363
Approximately 1,315 feet upstream of Earl Frye Boulevard	0.98	478	603	708	789	1,017
TENNESSEE-TOMBIGBEE WATERWAY						
Lock A Pool at Spillway	24.6	5,250	N/A	8,360	9,780	12,750
Lock B Pool at Spillway	444.0	32,700	N/A	57,100	69,500	103,500
TOMBIGBEE RIVER						
At the Lowndes/Monroe County boundary	N/A	93,600	N/A	146,550	155,000	210,794
Approximately 1,700 feet upstream of the Lowndes/ Monroe County boundary	N/A	75,707	N/A	120,290	141,579	196,681
Approximately 1,000 feet downstream of U.S. Highway 45	2,171	69,600	N/A	110,900	130,600	181,500
Approximately 0.6 miles upstream of the confluence of Weaver Creek	N/A	73,405	N/A	119,390	142,177	217,300
Just downstream of confluence of Tenn- Tom Waterway	N/A	71,800	N/A	118,800	144,200	217,300
At confluence of Tenn- Tom Waterway	1,454	78,500	107,100	131,900	160,000	240,300
Approximately 4,672 feet upstream of Highway 278	765	60,740	82,210	99,720	118,400	166,900
TOWN CREEK						
At the confluence with the Tombigbee River	684	45,700	N/A	71,300	84,700	122,900

Table 3: Summary of Discharges (continued)

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (Square miles)	PEAK DISCHARGES (cfs) 10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
TOWN CREEK (continued)						
Just downstream of the confluence of Cowpenna Creek	646	49,500	N/A	77,900	92,800	135,400
UPPER BURKETTS CREEK						
At the confluence with Burketts Creek Diversion Channel	4.6	1,438	N/A	2,363	2,708	3,472
Approximately 50 feet upstream of the confluence with Burketts Creek Diversion Channel	4.4	1,437	N/A	2,279	2,611	3,347
Approximately 160 feet downstream of the Railroad	3.3	1,176	N/A	1,941	2,217	2,834
WEAVER CREEK						
At the confluence with the Tombigbee River	46.0	4,270	N/A	6,900	8,120	11,600
Just downstream of State Highway 25	42.8	4,390	N/A	7,130	8,480	12,000
Just downstream of U.S. Highway 278	34.6	4,300	N/A	7,030	8,500	12,000
Just downstream of unnamed city road 1.5 miles southeast of Hatley-Detroit Road	29.0	4,410	N/A	7,220	8,770	12,500

3.2 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. Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data tables in the FIS report. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS in conjunction with the data shown on the FIRM.

3.2.1 Methods for Flooding Sources with New or Revised Analyses in Current Study

Cross sections for the backwater analysis were defined at selected intervals along the stream to model conveyance at valley sections and at sections just upstream and downstream of bridges and culverts in order to compute the backwater effects of such structures. All bridges and culverts were field surveyed to provide accurate descriptions of their condition and hydraulic openings.

For this countywide revision, water-surface elevations for the 10-, 4-, 2-, 1-, and 0.2-percent-annual-chance recurrence intervals along the Tombigbee River and all new-detailed streams were computed through use of the HEC-RAS River Analysis System version 4.1.0 (Reference 18).

The approximate study methodology used Watershed Information System (WISE) (Reference 16) as a preprocessor to HEC-RAS. Tools within WISE allowed the engineer to verify that the cross section data was acceptable. The WISE program was used to generate the input data file for HEC-RAS. Then HEC-RAS (Reference 18) was used to determine the flood elevation at each cross-section of the modeled stream.

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

Channel roughness factors (Manning's "n") for these computations were assigned on the basis of field inspection and orthophotography of floodplain areas. The Manning's "n" values ranged from 0.06 to 0.16 for the overbanks and from 0.03 to 0.055 for the channels.

The hydraulic analyses for this study are based on the effects of 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.

3.2.2 Methods for Flooding Sources Incorporated from Previous Studies

For the initial countywide study, water-surface elevations for floods of the selected recurrence intervals were computed through use of the USACE HEC-2 step-backwater computer program (Reference 2). The hydraulic study on the reach of the Tenn- Tom Waterway from the confluence with the Tombigbee River to Lock B has been superseded in this revision.

Floodplains were mapped to include backwater effects that govern each flooding source near its downstream extent. Floodplains were reviewed for accuracy and adjusted as necessary.

3.3 Vertical Datum

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

Flood elevations shown in this FIS and on the FIRM are referenced to NAVD88. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. Some of the data used in this revision were taken from the prior effective FIS reports and FIRMs and adjusted to NAVD 88. The datum conversion factor from NGVD29 to NAVD88 in Monroe County is +0.16 feet.

For information on NAVD88, see Converting the National Flood Insurance Program to the North American Vertical Datum of 1988, FEMA Publication FIA-20/June 1992, or contact the Vertical Network Branch, National Geodetic Survey, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland 20910 (Internet address http://www.ngs.noaa.gov).

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

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

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance flood is employed to indicate additional areas of flood risk in the county. For each stream studied in detail, the 1- and 0.2-percent-annual-chance floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1" = 400' with a contour interval of 5 feet (Reference 23).

The 1-percent-annual-chance floodplain boundaries are shown on the FIRM (Exhibit 2). On this map, the 1-percent-annual-chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE) and 0.2-percent-annual-chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards (Zone X). 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 and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 1-percent-annual-chance floodplain boundaries are shown on the FIRM (Exhibit 2). For the initial countywide study, these boundaries were delineated using the FIRM for the City of Aberdeen (Reference 8) and Flood Hazard Boundary Maps (FHBMs) for the Village of Gattman and Monroe County, Mississippi (Reference 12, 10). For this revision, floodplain boundaries were delineated based on 10 meter Digital Elevation Models (DEMs) from the United States Geological Survey (Reference 22).

Some areas of the community that are protected from the 1- and 0.2-percent-annual-chance flood by a levee have been delineated as having potential risk due to possible failure or overtopping of the levee during larger floods.

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces the flood carrying capacity, increases the 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 National Flood Insurance Program, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent-annual-chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1-percent-annual-chance flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study 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. The results of the floodway computations are tabulated for selected cross sections in Table 4, “Floodway Data.” The computed floodways are shown on the FIRM (Exhibit 2). In cases were the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

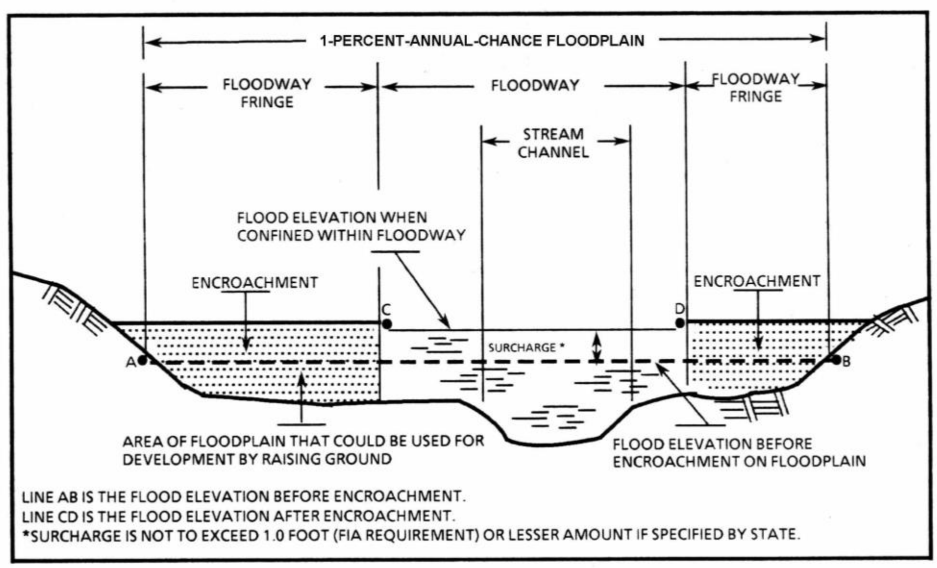
Encroachment into areas subject to inundation by floodwaters having hazardous velocities aggravates the risk of flood damage, and heightens potential flood hazards by further increasing velocities. A listing of stream velocities at selected cross sections is provided in Table 4. In order to reduce the risk of property damage in areas where the stream velocities are high, the community may wish to restrict development in areas outside the floodway.

Near the mouths of streams studied in detail, floodway computations were made without regard to flood elevations in the receiving water body. Therefore, “without floodway” elevations presented in Table 4 for certain downstream cross sections may be lower than the regulatory flood elevations in that area, which must take into account the 1-percent-annual-chance flood due to backwater from other sources.

Floodways have not been shown for the Tenn- Tom Waterway and no floodways were computed for streams studied by approximate methods. Along streams where floodways have not been computed, the community must ensure that the cumulative effect of development in the floodplain will not cause more than a 1.0-foot increase in the base flood elevations at any point within the county.

The area between the floodway and the 1-percent-annual-chance floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation (WSEL) of the flood more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 1.

Figure 1. Floodway Schematic



FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BURKETTS CREEK								
A	849	474	2,408	0.4	214.2	213.8[2]	213.8	0.0
B	2,080	782	3,745	0.3	214.2	213.8[2]	213.9	0.1
C	3,101	367	1,465	0.7	214.2	213.9[2]	213.9	0.0
D	3,846	44	204	5.1	218.5	218.5	219.0	0.5
E	4,666	78	316	3.3	223.2	223.2	223.6	0.4
F	5,527	83	474	2.2	225.2	225.2	225.9	0.7
G	6,587	67	310	2.9	231.1	231.1	231.2	0.1
H	7,805	57	287	3.1	234.2	234.2	234.3	0.1
I	8,559	85	364	2.5	235.9	235.9	236.2	0.3
J	10,168	40	377	0.4	239.8	242.4	242.7	0.3

[1]Feet above mouth
[2]Elevation computed without consideration of backwater effects from Tombigbee River

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONROE COUNTY, MS
AND INCORPORATED AREAS

FLOODWAY DATA

BURKETTS CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BURKETTS CREEK DIVERSION CHANNEL								
A	422	157	1,314	2.1	240.0	240.0	240.9	0.9
B	1,154	114	755	3.7	240.7	240.7	241.5	0.8
C	2,070	124	965	2.9	242.0	242.0	242.5	0.5
D	3,626	972	4,639	0.6	242.3	242.3	242.3	0.0
UPPER BURKETTS CREEK								
E	5,079	942	3,189	0.8	242.4	242.4	243.4	1.0
F	6,026	890	3,068	0.9	243.0	243.0	244.0	1.0
G	8,038	600	3,961	0.6	249.1	249.1	249.7	0.6

[1]Feet above dam

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

BURKETTS CREEK DIVERSION CHANNEL - UPPER BURKETTS CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BURKETTS CREEK TRIBUTARY NO. 1								
A	1,025	81	424	1.8	240.5	240.5	240.6	0.1
B	2,288	315	834	0.9	241.6	241.6	242.4	0.8
C	4,332	590	1,946	0.6	243.1	243.1	243.9	0.8
D	5,892	232	757	1.4	245.5	245.5	246.4	0.9
E	6,921	292	1,316	0.8	248.8	248.8	249.6	0.8
F	7,796	132	528	1.9	249.2	249.2	250.2	1.0
G	9,149	615	1,611	0.6	251.9	251.9	252.9	1.0
H	10,531	211	393	1.2	252.6	252.6	253.3	0.7

[1]Feet above confluence with Burketts Creek

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

BURKETTS CREEK TRIBUTARY NO. 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
CITY DITCH								
A	10,470	117	386	3.8	206.6	206.6	207.1	0.5
B	11,404	151	427	3.0	209.5	209.5	210.5	1.0
C	11,810	219	604	2.1	210.0	210.0	210.9	0.9
D	12,330	95	268	4.2	211.5	211.5	212.5	1.0
E	12,952	224	683	1.4	212.5	212.5	213.4	0.9
F	13,306	221	594	1.6	212.6	212.6	213.6	1.0
G	13,504	144	419	2.3	212.8	212.8	213.8	1.0
H	13,987	93	264	3.1	214.1	214.1	214.9	0.8
I	14,372	133	264	3.1	215.7	215.7	216.7	1.0

[1]Feet above mouth

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

CITY DITCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
JAMES CREEK TRIBUTARY NO. 1								
A	1,004	168	1,151	0.5	217.4	217.4	218.2	0.8
B	2,534	19	63	5.9	220.2	220.2	220.8	0.6
C	2,996	16	70	5.3	224.3	224.3	225.3	1.0
D	3,856	17	75	4.9	228.5	228.5	229.4	0.9
E	4,429	48	144	2.6	234.4	234.4	234.9	0.5

[1]Feet above Thayer Avenue

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

JAMES CREEK TRIBUTARY NO. 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
JAMES CREEK TRIBUTARY NO. 2								
A	57	90	200	2.2	200.4	200.4	200.8	0.4
B	1,257	109	414	1.0	205.4	205.4	206.1	0.7
C	1,857	116	494	1.4	211.7	211.7	212.5	0.8
D	2,857	32	150	4.1	213.1	213.1	213.9	0.8
E	3,671	43	175	2.9	215.7	215.7	216.3	0.6

[1]Feet above Railroad

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

JAMES CREEK TRIBUTARY NO. 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
OLD TOMBIGBEE RIVER								
A	7,223	448	7,886	3.1	192.1	187.9[2]	188.7	0.8
B	10,000	443	11,594	2.1	192.1	188.3[2]	189.2	0.9
MATTUBBY CREEK								
C	12,000	250	6,602	3.7	192.1	188.5[2]	189.4	0.9
D	13,514	150	2,748	8.9	192.1	189.3[2]	190.2	0.9
E	15,564	255	3,751	6.5	194.1	194.1	194.6	0.5
F	18,734	1,144	11,117	2.2	197.1	197.1	198.1	1.0
G	21,824	964	11,747	2.1	198.2	198.2	199.2	1.0
H	24,500	1,476	16,450	1.5	199.3	199.3	200.2	0.9
I	28,250	1,260	15,869	1.5	200.3	200.3	201.3	1.0
J	29,500	896	8,332	2.9	200.9	200.9	201.9	1.0
K	35,300	2,755	31,034	0.8	202.6	202.6	203.6	1.0

[1]Feet above mouth
[2]Elevation computed without consideration of backwater effects from Tombigbee River

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

OLD TOMBIGBEE RIVER – MATTUBBY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
ROUNDHOUSE BRANCH								
A	200	151	869	1.4	222.4	222.4	223.4	1.0
B	1,550	106	593	2.1	226.5	226.5	227.3	0.8
C	2,148	39	236	5.1	227.2	227.2	228.2	1.0
D	3,852	30	212	5.7	232.3	232.3	233.2	0.9
E	4,330	52	326	2.5	233.5	233.5	234.5	1.0
F	4,638	71	372	2.2	234.3	234.3	235.1	0.8
G	5,108	62	271	3.1	235.9	235.9	236.6	0.7
H	5,423	111	361	2.3	237.1	237.1	238.1	1.0
I	5,968	139	681	1.2	237.6	237.6	238.6	1.0
J	6,178	89	366	2.3	238.0	238.0	239.0	1.0
K	6,553	167	661	1.2	238.5	238.5	239.5	1.0
L	7,241	163	685	1.0	239.0	239.0	240.0	1.0
M	8,415	254	837	0.4	240.2	240.2	241.2	1.0
N	8,653	249	687	0.5	240.2	240.2	241.2	1.0
O	9,803	229	479	0.7	240.8	240.8	241.7	0.9

[1]Feet above Limit of Detailed Study (approximately 450 feet upstream of U.S. Highway 278 West)

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

ROUNDHOUSE BRANCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
STREAM 1								
A	42	124	546	1.7	233.2	233.2	234.2	1.0
B	2,210	140	848	1.1	238.4	238.4	239.4	1.0
C	3,578	51	217	3.8	239.2	239.2	240.2	1.0
D	5,234	25	216	3.5	244.6	244.6	245.2	0.6
E	5,404	160	810	0.9	244.7	244.7	245.7	1.0
F	6,216	384	1,547	0.4	245.2	245.2	246.2	1.0
G	6,928	114	414	1.4	245.3	245.3	246.3	1.0
H	8,133	105	352	1.2	245.9	245.9	246.8	0.9
I	9,523	281	585	0.8	246.7	246.7	247.4	0.7
J	10,953	104	291	1.5	248.0	248.0	249.0	1.0
K	12,453	77	127	3.5	254.1	254.1	254.9	0.8
L	13,835	20	110	3.6	267.0	267.0	267.5	0.5

[1] Feet above limit of detailed study (limit of detailed study is about 2,150 feet downstream of State Highway 25)

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

STREAM 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
TOMBIGBEE RIVER								
A	3	1,466/6,130	65,607	2.9	186.2	186.2	186.6	0.4
B	5,627	4,113/4,600	50,902	2.8	187.1	187.1	188.1	1.0
C	9,922	4,600	95,370	1.5	187.8	187.8	188.8	1.0
D	14,001	4,625	100,110	1.4	188.1	188.1	189.0	0.9
E	18,774	5,950	110,419	1.3	188.4	188.4	189.4	1.0
F	27,755	8,100	96,989	1.5	189.0	189.0	190.0	1.0
G	35,658	10,500	128,778	1.1	189.6	189.6	190.6	1.0
H	42,925	7,300	86,391	1.6	190.1	190.1	191.1	1.0
I	48,738	6,361	93,678	1.5	190.6	190.6	191.5	0.9
J	52,856	6,675	56,027	2.5	190.8	190.8	191.8	1.0
K	58,765	5,214	50,238	2.6	191.4	191.4	192.4	1.0
L	62,549	5,303	41,998	3.1	192.0	192.0	193.0	1.0
M	64,897	5,740	55,633	3.6	192.8	192.8	193.7	0.9
N	70,919	3,255	47,899	2.7	194.9	194.9	195.7	0.8
O	75,072	4,100	56,044	2.3	196.9	196.9	197.5	0.6
P	80,660	4,010	59,902	2.2	198.1	198.1	198.9	0.8
Q	85,645	3,715	58,599	2.2	199.1	199.1	200.0	0.9
R	93,194	3,475	60,570	2.2	201.4	201.4	202.3	0.9
S	97,546	2,665	44,566	2.9	202.3	202.3	203.1	0.8
T	103,493	2,550	52,082	2.5	204.2	204.2	205.1	0.9

[1] Feet above Lowndes County boundary

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

TOMBIGBEE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
TOMBIGBEE RIVER								
U	105,768	2,405	54,539	2.6	205.0	205.0	206.0	1.0
V	110,189	2,090	44,580	3.2	206.6	206.6	207.5	0.9
W	112,228	3,450	62,207	2.3	207.6	207.6	208.5	0.9

[1] Feet above Lowndes County boundary

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

TOMBIGBEE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
TOWN CREEK								
A	8,000	5,417	41,553	2.0	214.4	213.2[2]	214.2	1.0
B	10,000	5,163	52,504	1.6	214.7	214.3[2]	215.3	1.0
C	16,000	5,124	47,879	1.8	216.1	216.1	217.1	1.0
D	22,500	4,832	52,790	1.6	219.5	219.5	220.5	1.0
E	26,964	4,500	60,858	1.4	220.8	220.8	221.8	1.0
F	31,964	5,192	66,451	1.3	222.0	222.0	223.0	1.0
G	35,464	6,383	69,380	1.3	223.1	223.1	224.1	1.0
H	39,964	5,870	67,018	1.4	224.9	224.9	225.9	1.0
I	44,464	4,720	70,106	1.3	226.6	226.6	227.6	1.0
J	48,612	1,253	15,098	6.1	229.6	229.6	230.5	0.9
K	53,820	2,189	37,719	2.5	235.7	235.7	236.7	1.0

[1]Feet above mouth
[2]Elevation computed without consideration of flooding controlled effects from Tombigbee River

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONROE COUNTY, MS
AND INCORPORATED AREAS

FLOODWAY DATA

TOWN CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
WEAVER CREEK								
A	7,500	656	2,853	2.4	205.5	201.7[2]	202.7	1.0
B	19,000	1,911	6,355	1.3	212.3	212.3	213.3	1.0
C	24,000	1,065	4,930	1.6	217.7	217.7	218.6	0.9
D	26,300	549	5,461	1.5	220.6	220.6	221.5	0.9
E	27,500	320	3,018	2.8	222.9	222.9	223.3	0.4
F	31,970	456	3,998	2.1	227.9	227.9	228.4	0.5
G	36,800	952	5,989	1.4	230.6	230.6	231.6	1.0
H	42,400	424	3,053	2.8	235.2	235.2	236.2	1.0
I	44,000	275	2,536	3.2	239.3	239.3	239.8	0.5
J	52,000	1,169	7,482	1.1	243.7	243.7	244.6	0.9
K	56,300	1,563	8,629	0.9	246.2	246.2	247.2	1.0
L	61,300	375	3,451	2.5	252.6	252.6	253.5	0.9
M	63,000	1,058	9,057	0.9	255.4	255.4	256.3	0.9
N	65,300	1,025	8,132	1.1	256.1	256.1	257.1	1.0
O	69,100	1,164	5,590	1.5	258.5	258.5	259.5	1.0
P	72,700	886	4,982	1.8	262.4	262.4	263.4	1.0
Q	79,100	835	4,326	2.0	267.8	267.8	268.8	1.0
R	82,670	1,065	6,991	1.3	272.6	272.6	273.6	1.0

[1]Feet above mouth
[2]Elevation computed without consideration of backwater effects from Tombigbee River

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONROE COUNTY, MS
AND INCORPORATED AREAS

FLOODWAY DATA

WEAVER CREEK

5.0 INSURANCE APPLICATIONS

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

Zone A

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

Zone AE

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

Zone X

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

6.0 FLOOD INSURANCE RATE MAP

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

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

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

The countywide FIRM presents flooding information for the entire geographic area of Monroe County, Mississippi. Previously, FIRMs were prepared for each incorporated community and the unincorporated areas of the County identified as flood-prone. This countywide FIRM also includes flood-hazard information that was presented separately on Flood Boundary and Floodway Maps (FBFMs), where applicable. Historical data relating to the maps prepared for each community are presented in Table 5, "Community Map History."

Table 5. Community Map History

7.0 OTHER STUDIES

FHBMs have been previously printed for the Village of Gattman, and Monroe County, Mississippi, and the Town of Smithville (Reference 12, 10, 11). An FIS has been prepared for Monroe County, Mississippi (Reference 1).

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

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting FEMA Region IV, Federal Insurance and Mitigation Administration, Koger Center – Rutgers Building, 3003 Chamblee Tucker Road, Atlanta, Georgia, 30341.

9.0 BIBLIOGRAPHY AND REFERENCES

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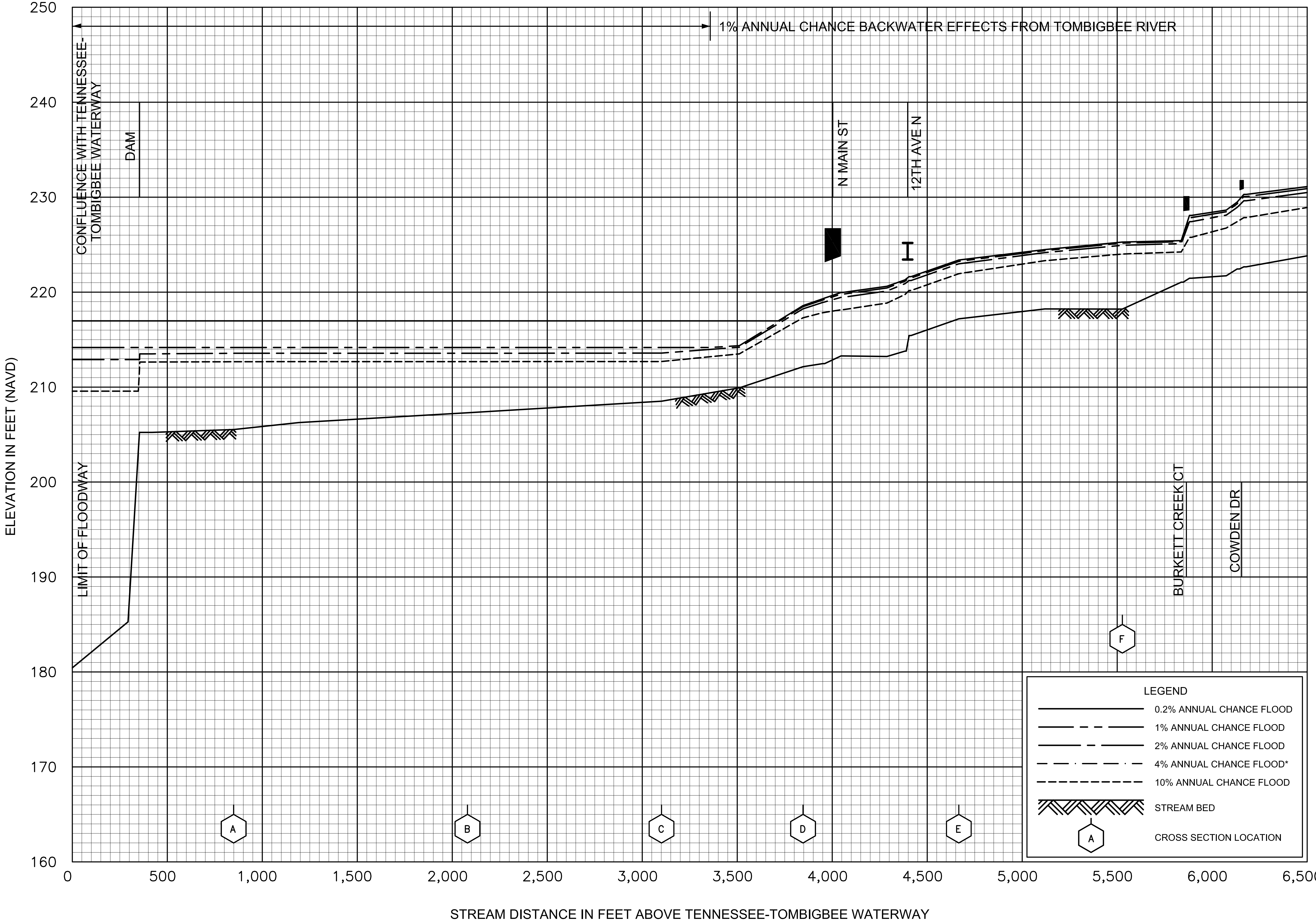
22) Mississippi Automated Resource Information System (MARIS), Countywide Elevation Grid for Mississippi, 10 meter, 2004.

23) Atlantic Group, Tennessee-Tombigbee Study Basin, Northeastern Mississippi Light Detection and Ranging, Huntsville, Alabama, July 2012.



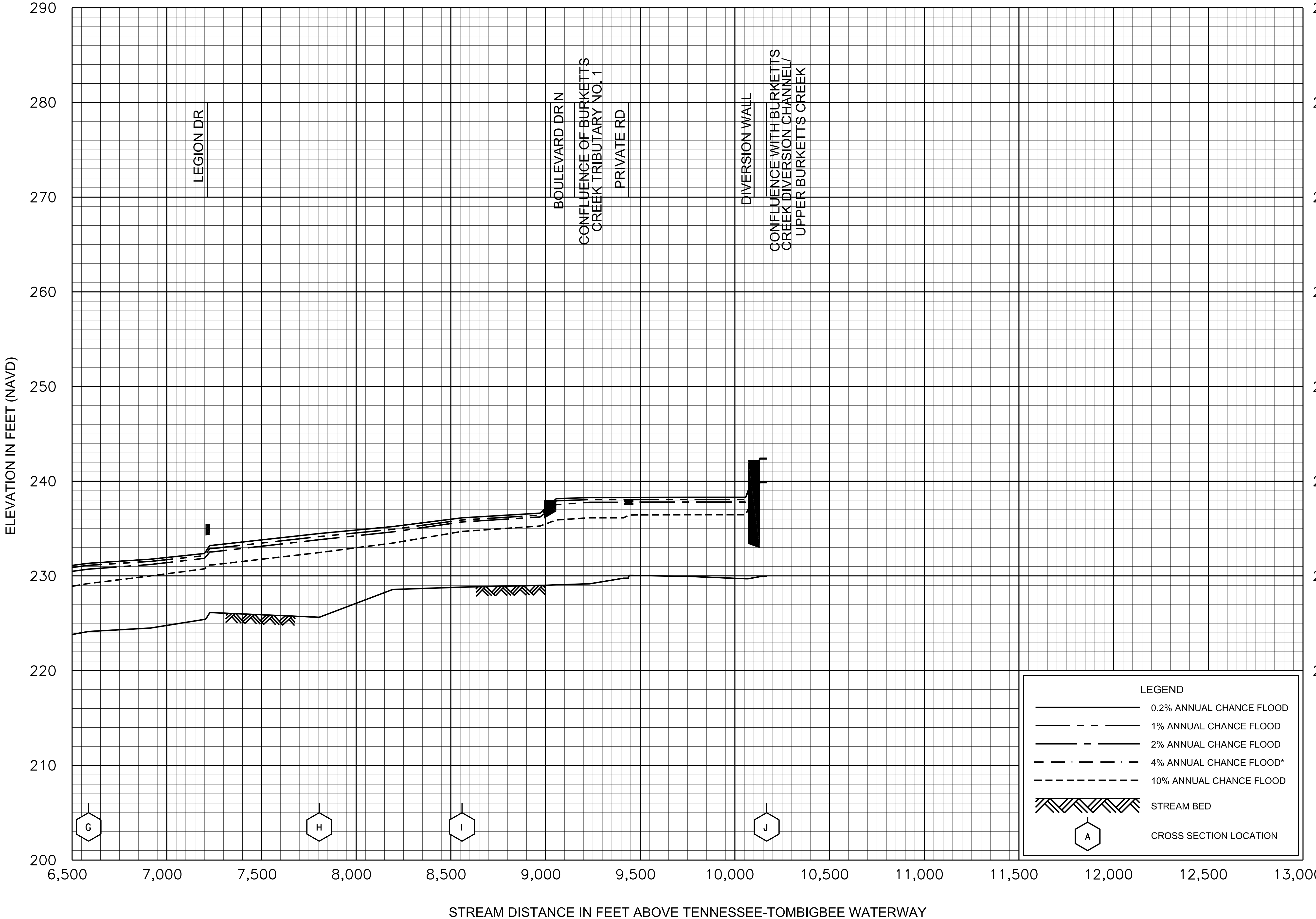
FLOOD PROFILES

BURKETTS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS

01P



FLOOD PROFILES

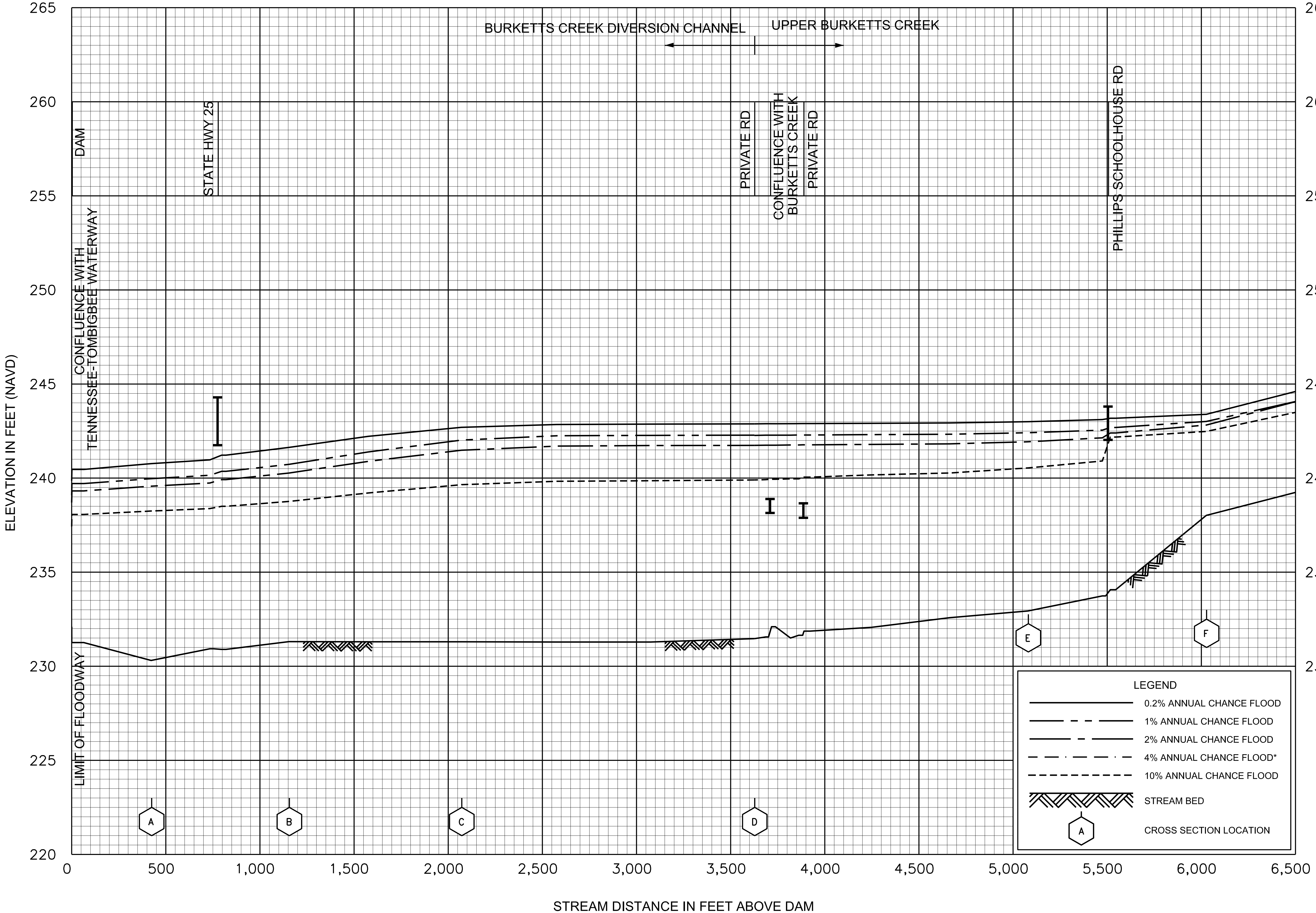
BURKETTS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

02P



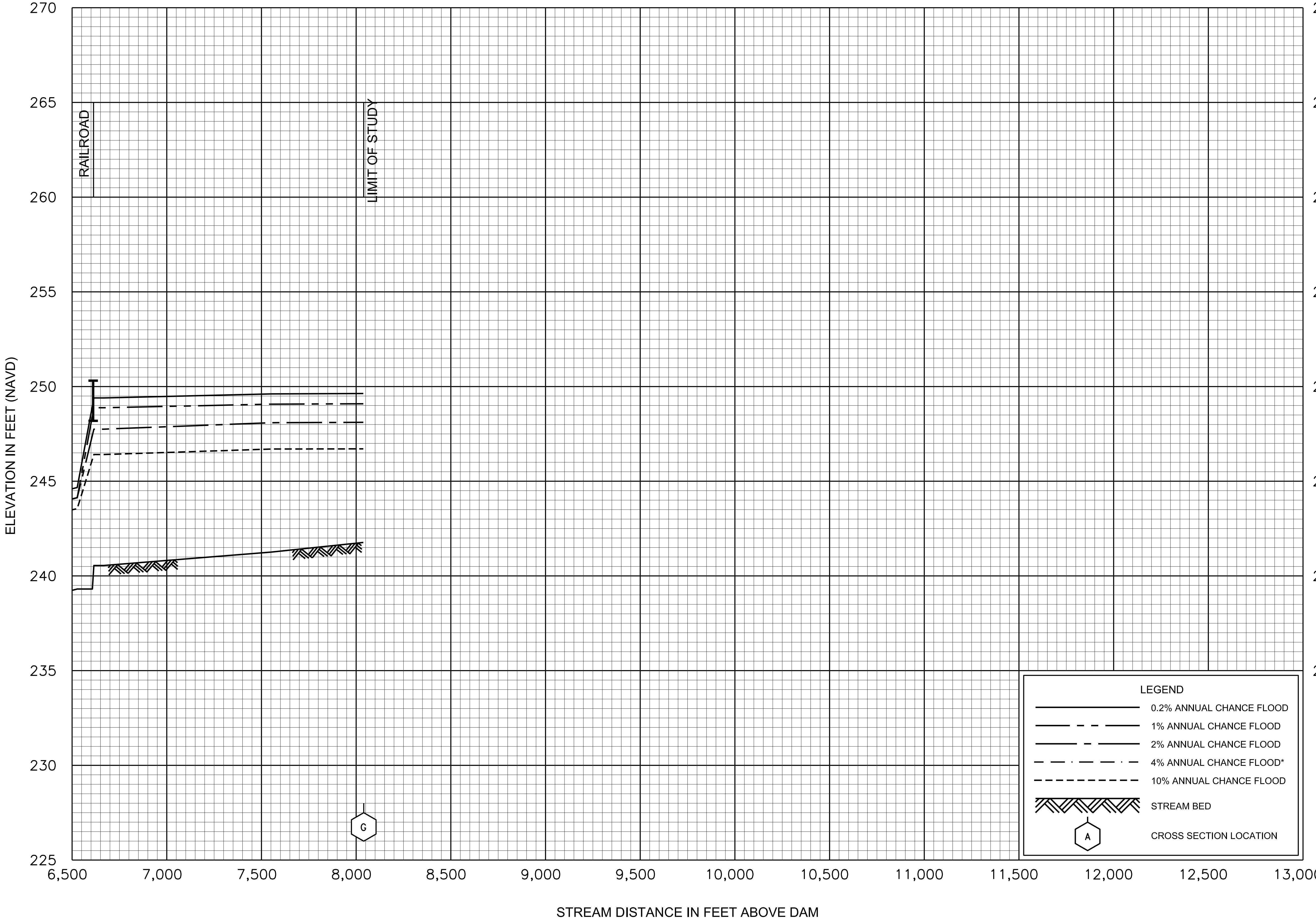
FLOOD PROFILES

BURKETTS CREEK DIVERSION CHANNEL - UPPER BURKETTS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS

03P



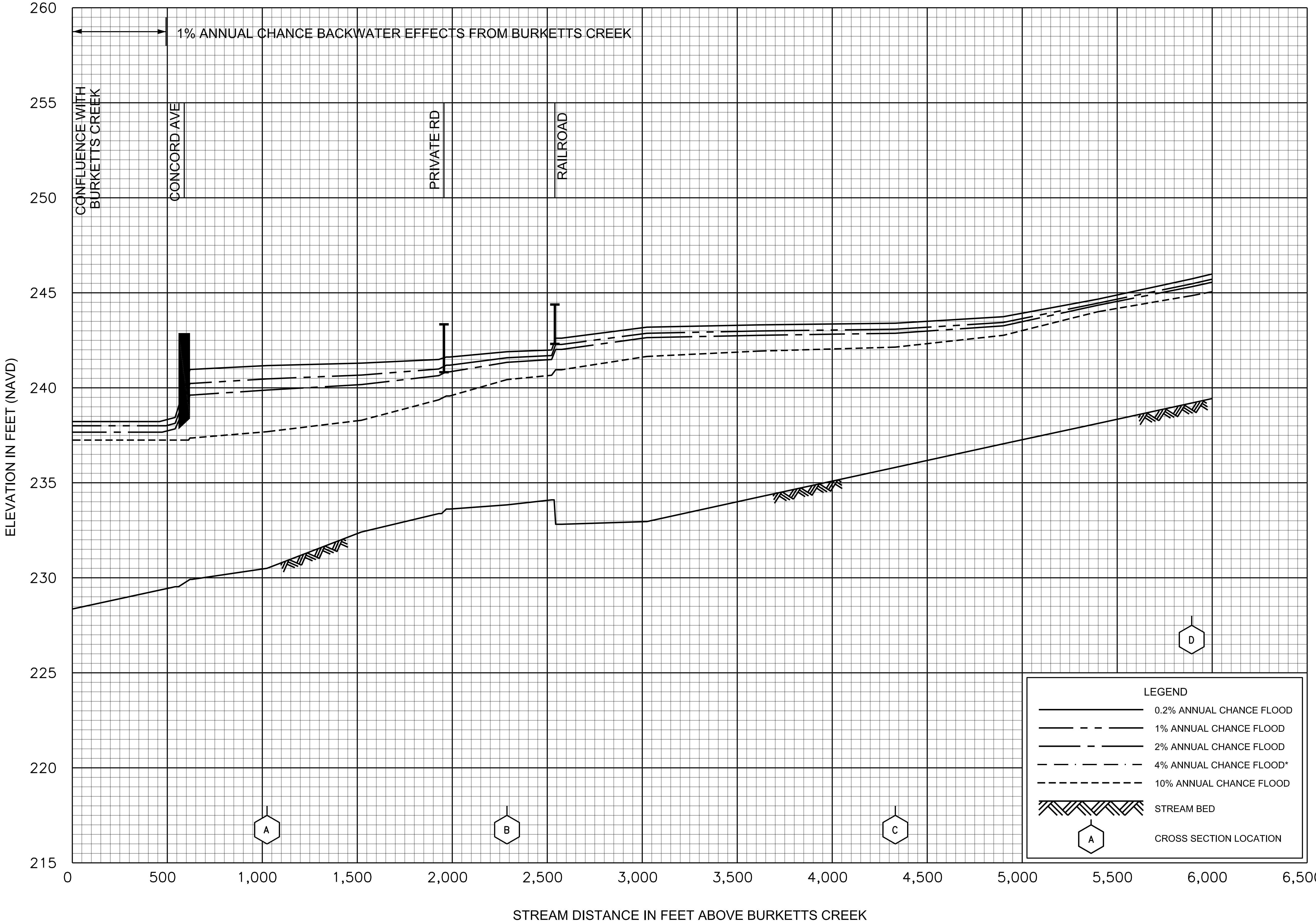
FLOOD PROFILES

BURKETTS CREEK DIVERSION CHANNEL - UPPER BURKETTS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS

04P

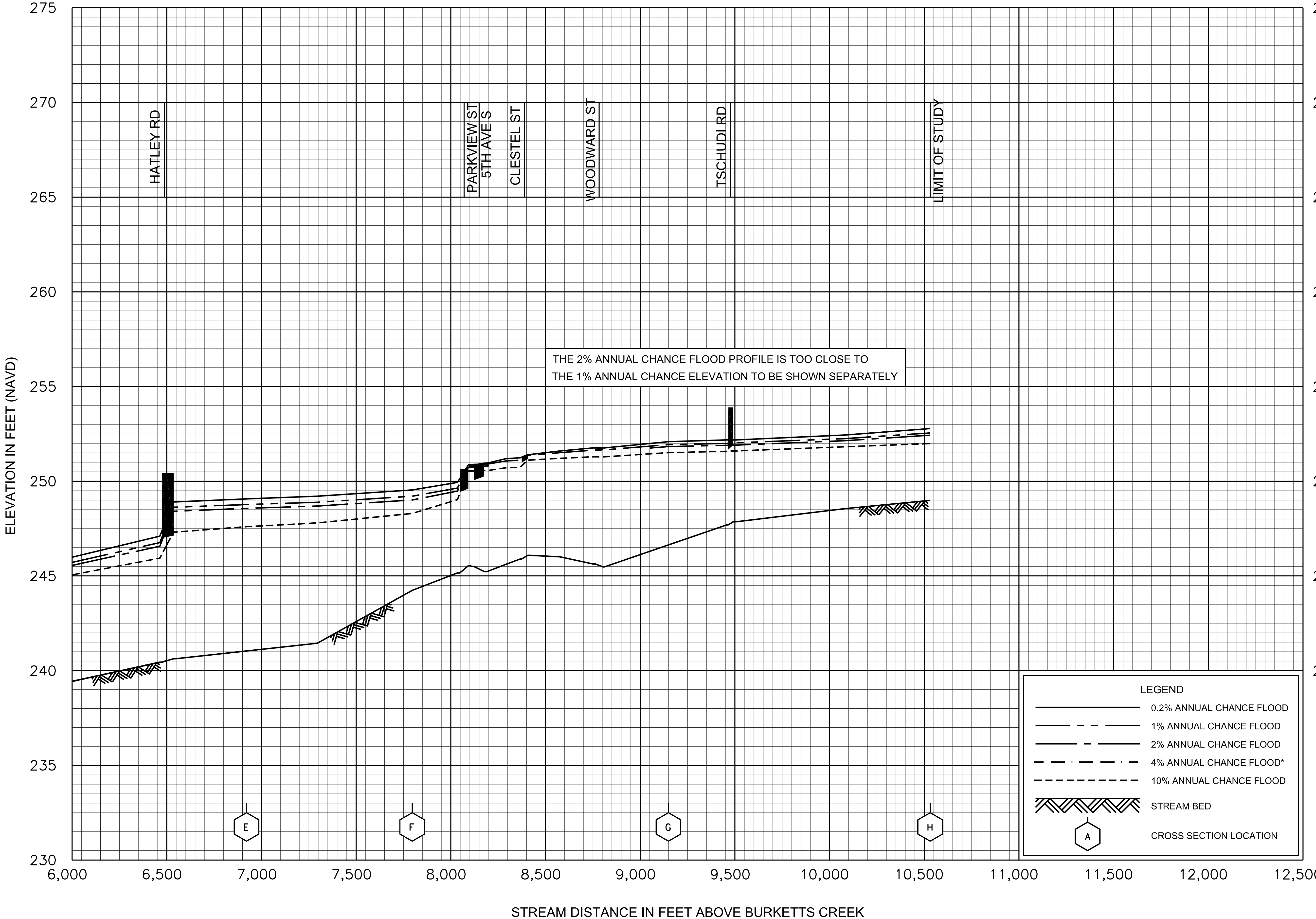


FLOOD PROFILES

BURKETTS CREEK TRIBUTARY NO. 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS

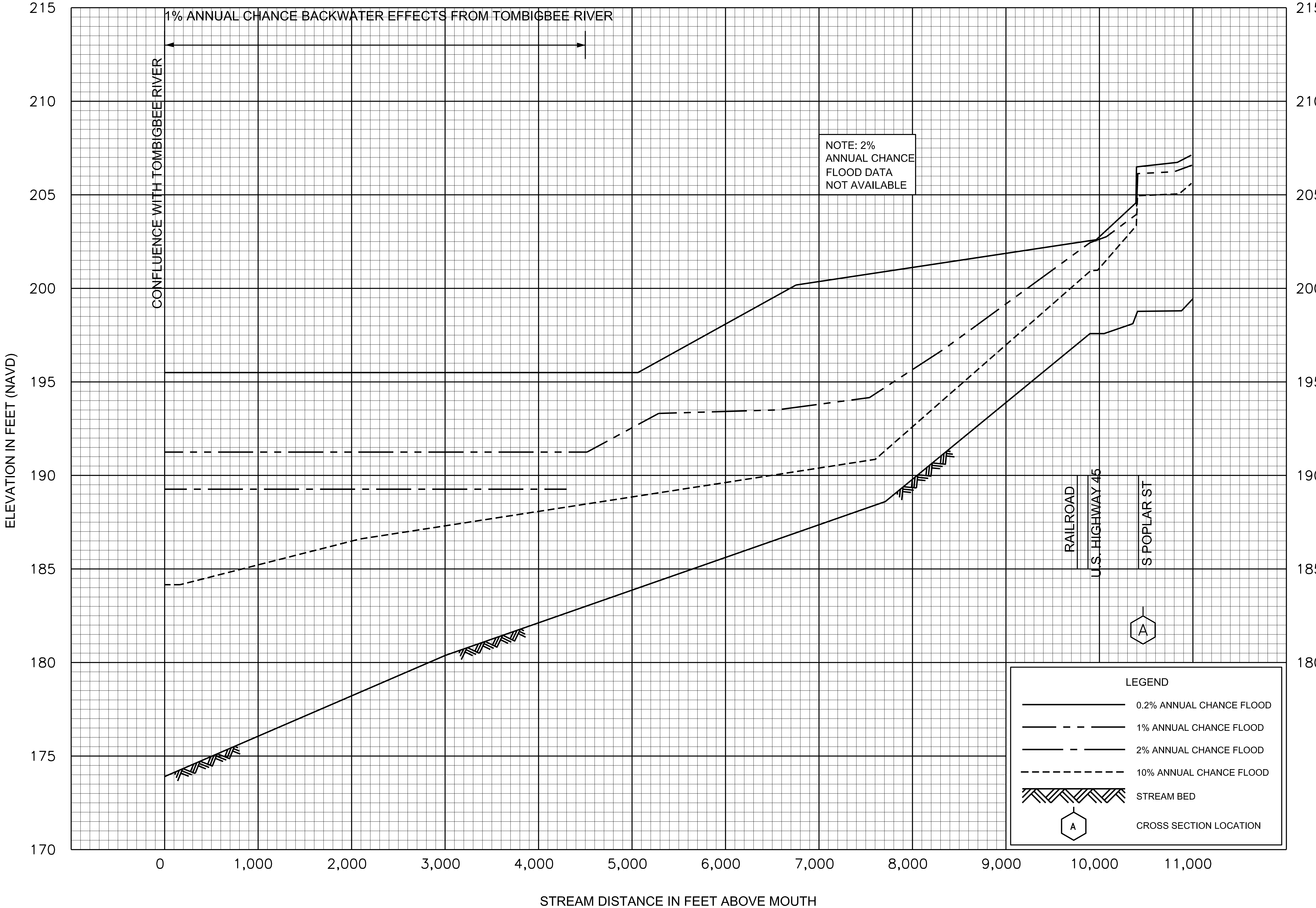


FLOOD PROFILES

BURKETTS CREEK TRIBUTARY NO. 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS

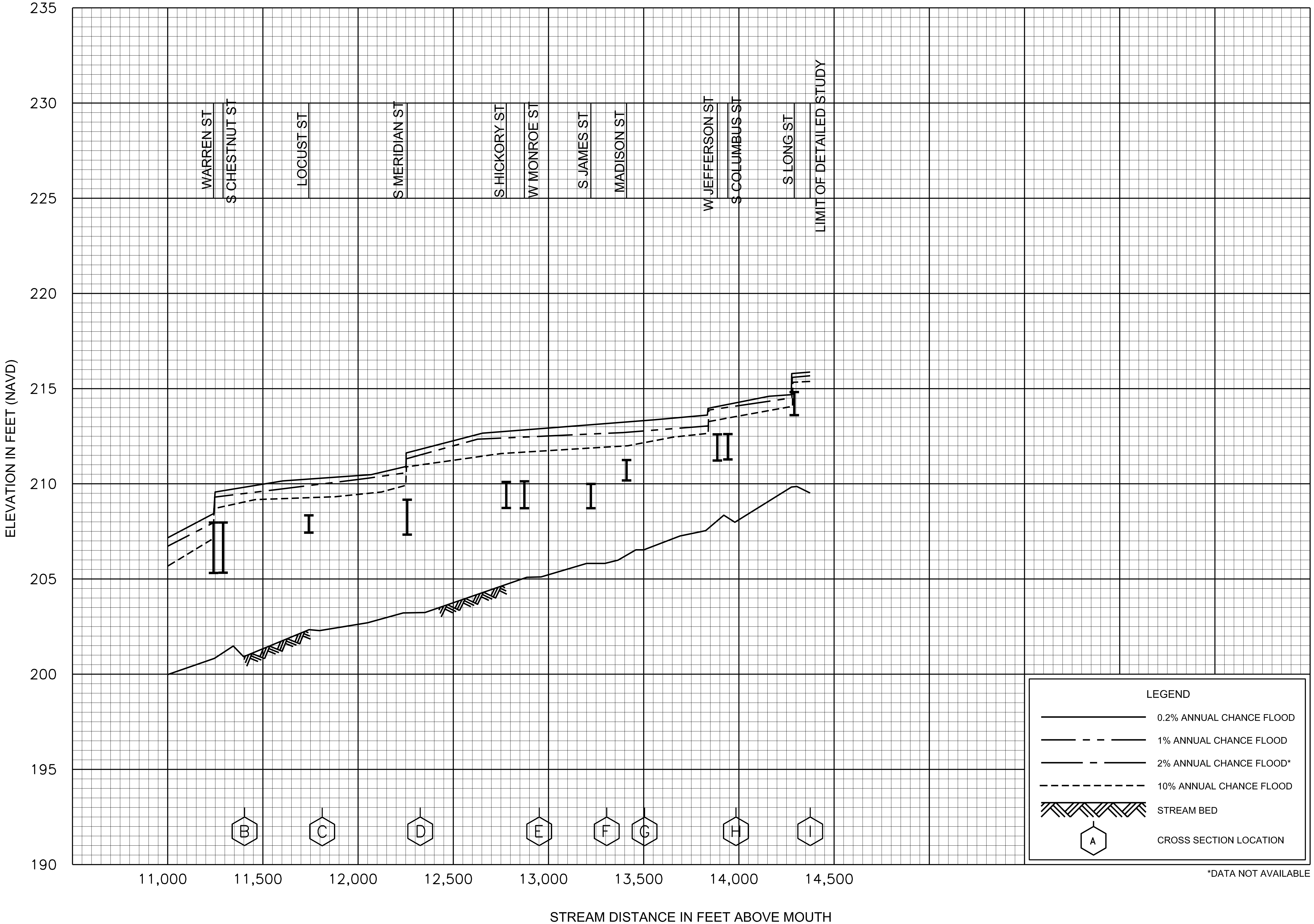


FLOOD PROFILES

CITY DITCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS



FLOOD PROFILES

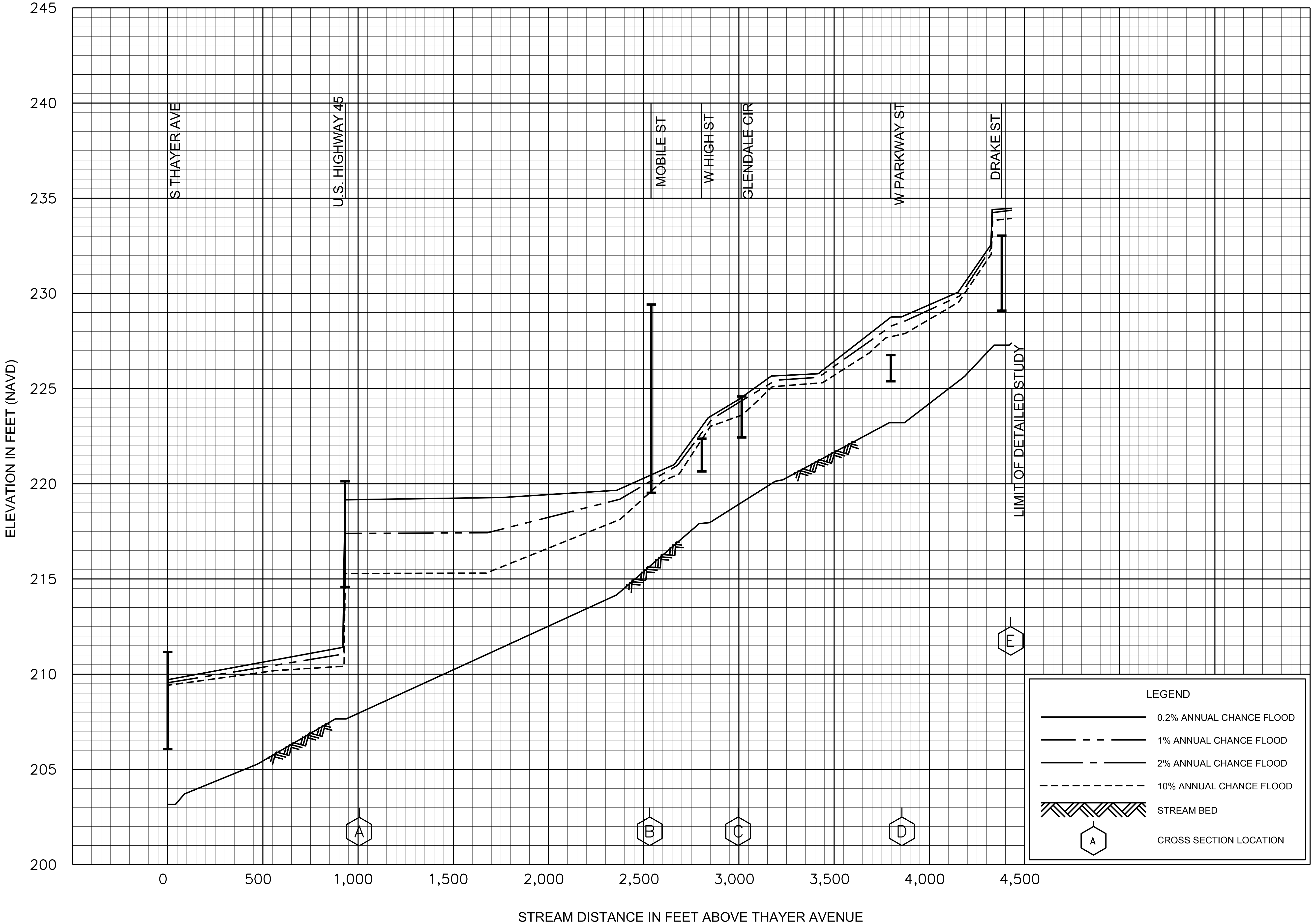
CITY DITCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

08P

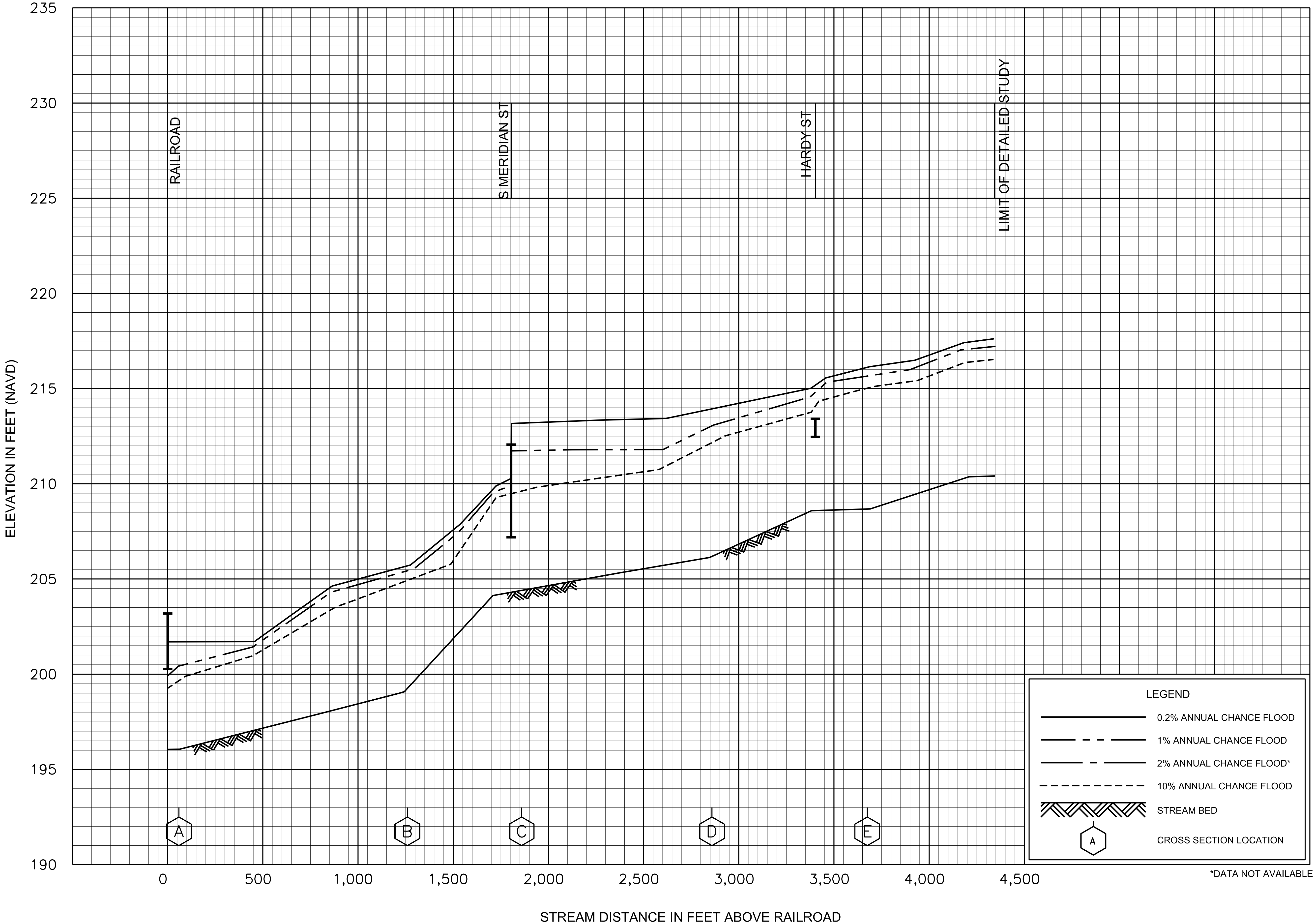


FLOOD PROFILES

JAMES CREEK TRIBUTARY NO. 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS



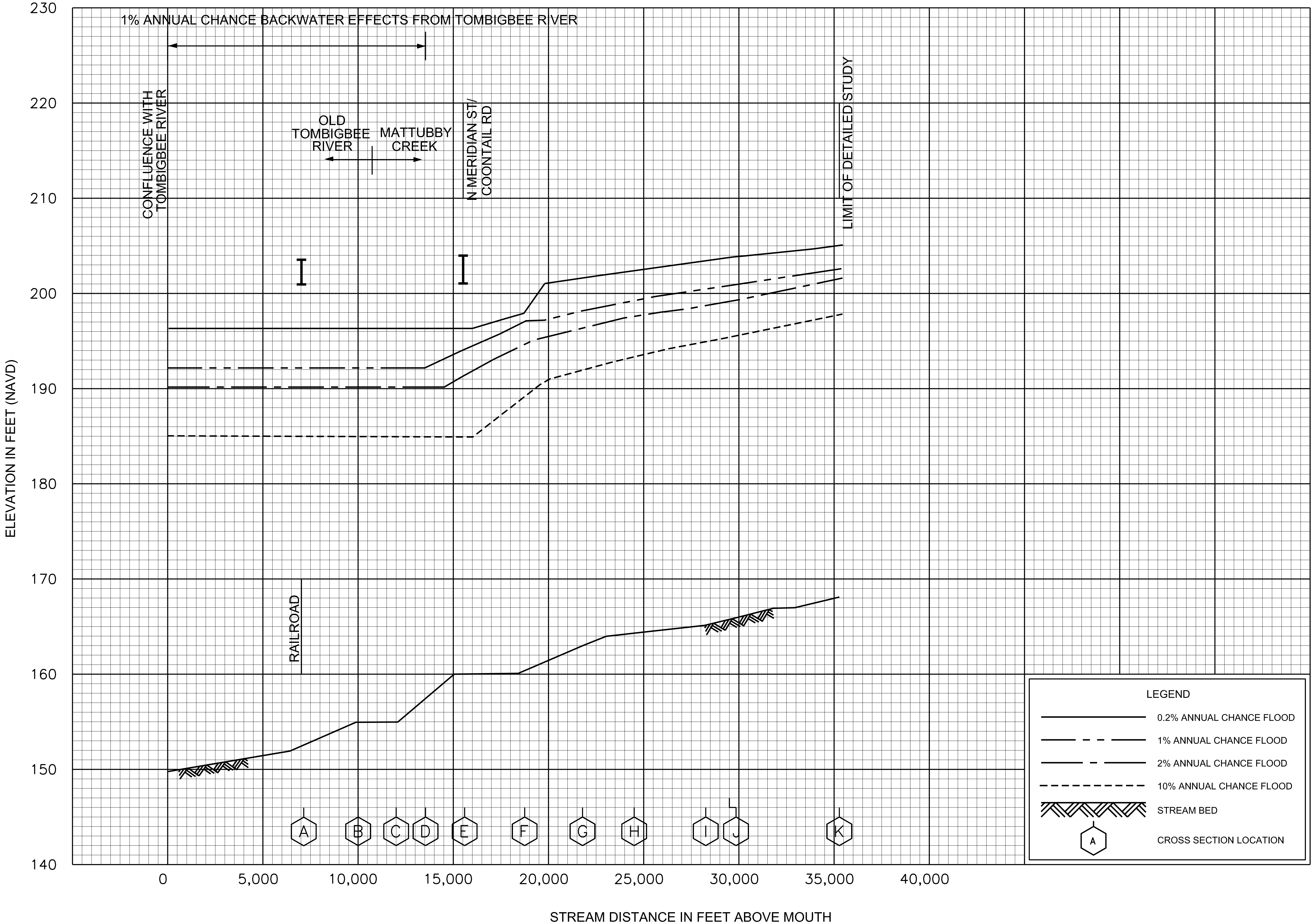
FLOOD PROFILES

JAMES CREEK TRIBUTARY NO. 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

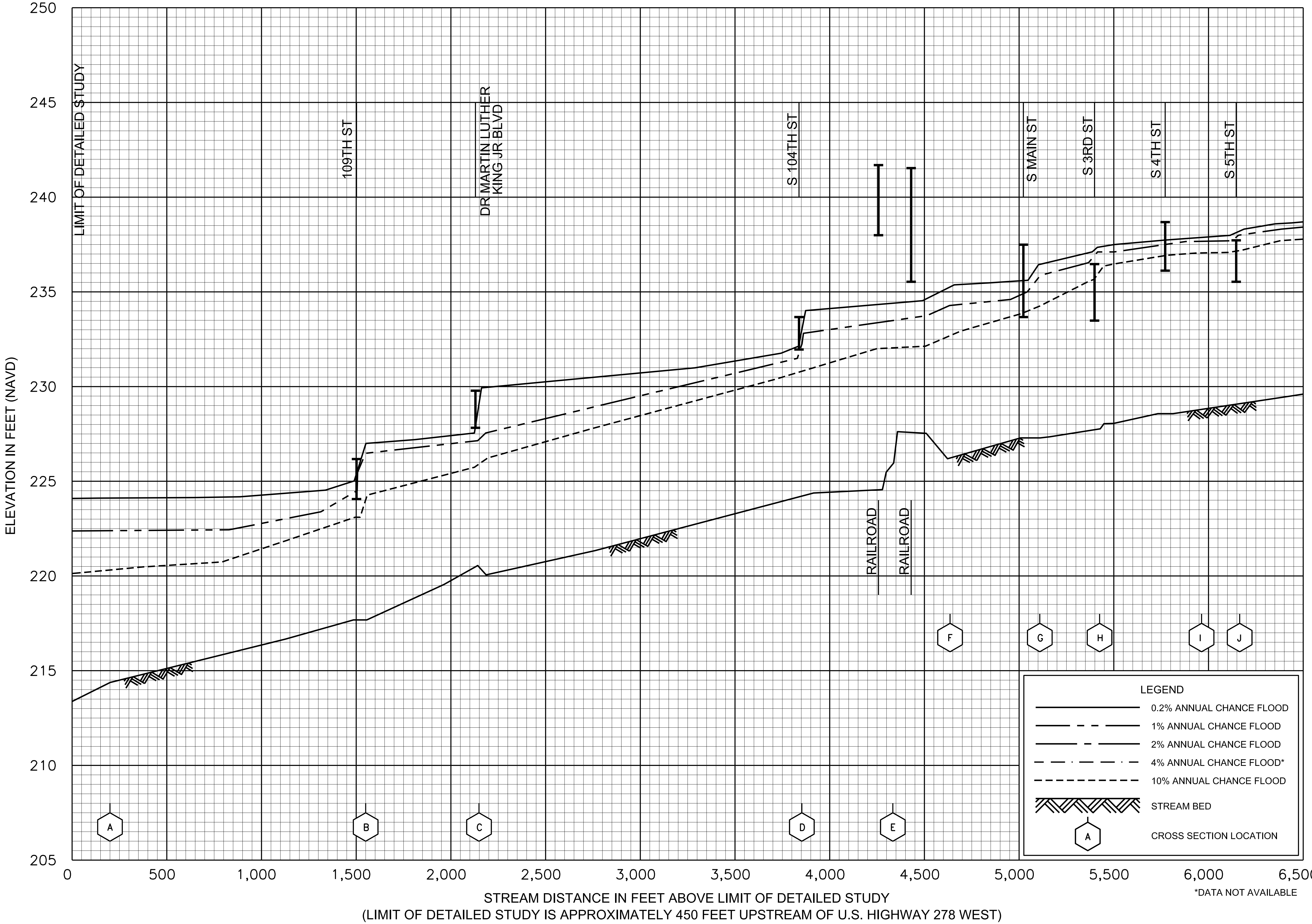


FLOOD PROFILES

OLD TOMBIGBEE RIVER - MATTUBBY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS



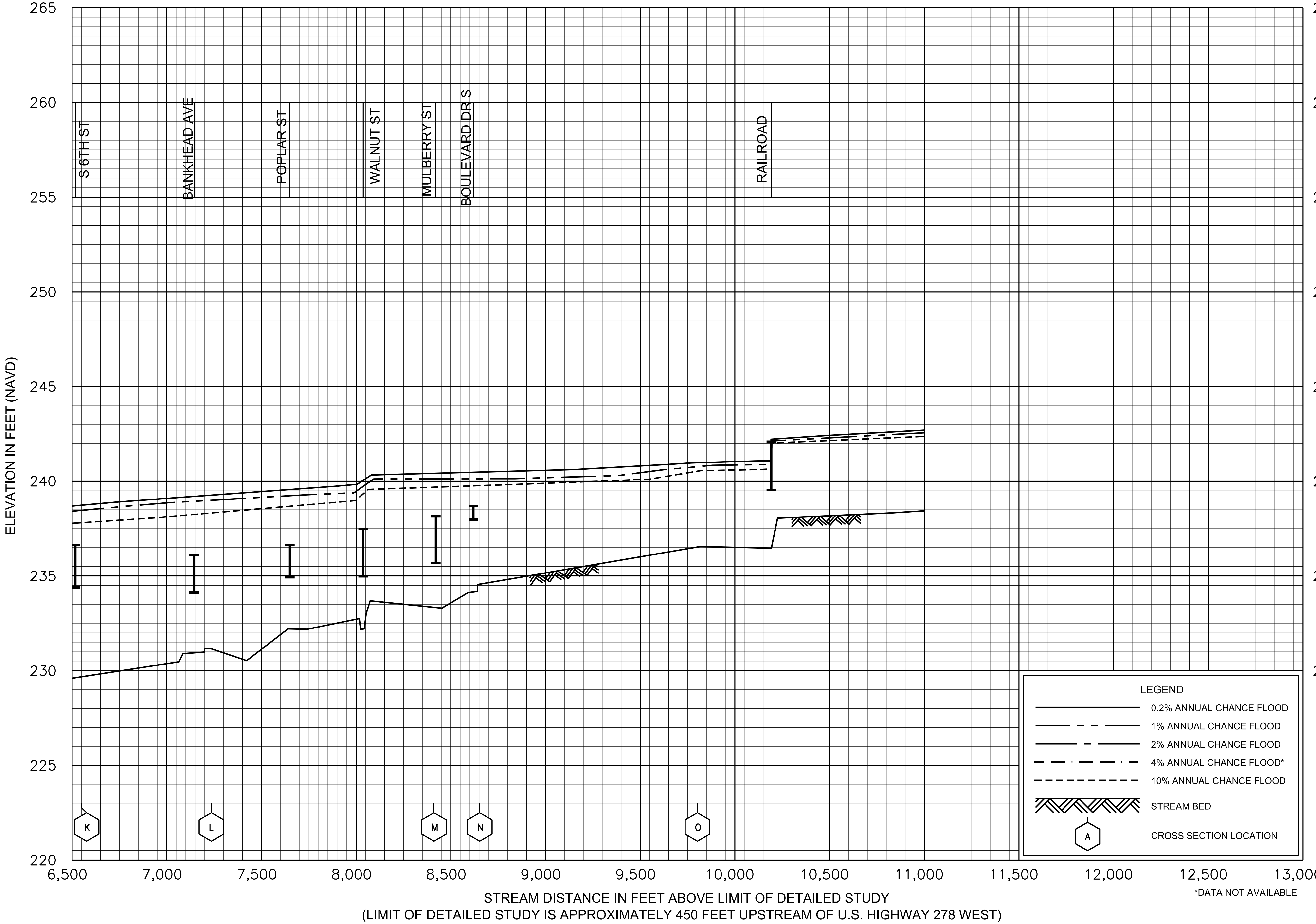
FLOOD PROFILES

ROUNDHOUSE BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

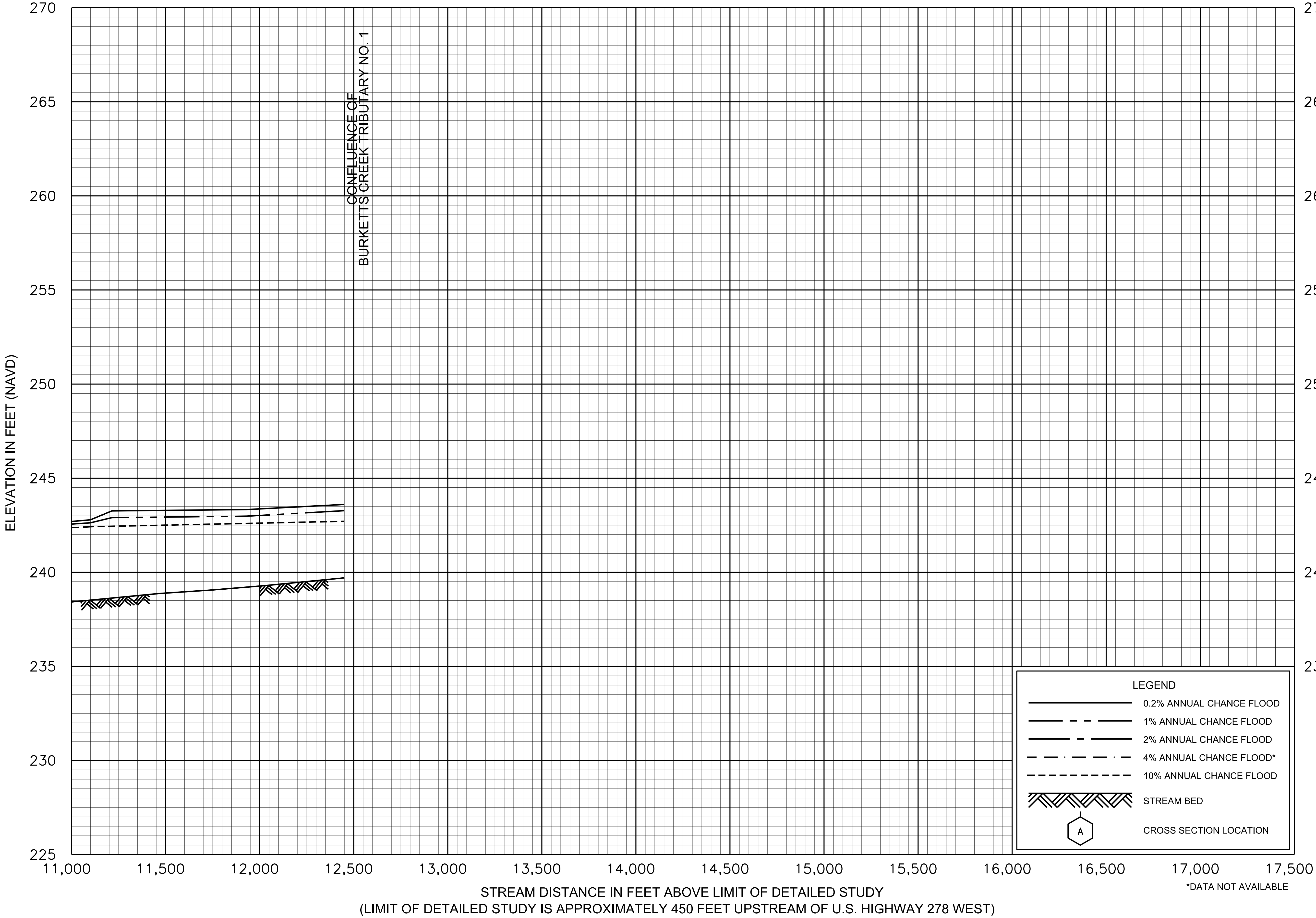


FLOOD PROFILES

ROUNDHOUSE BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS



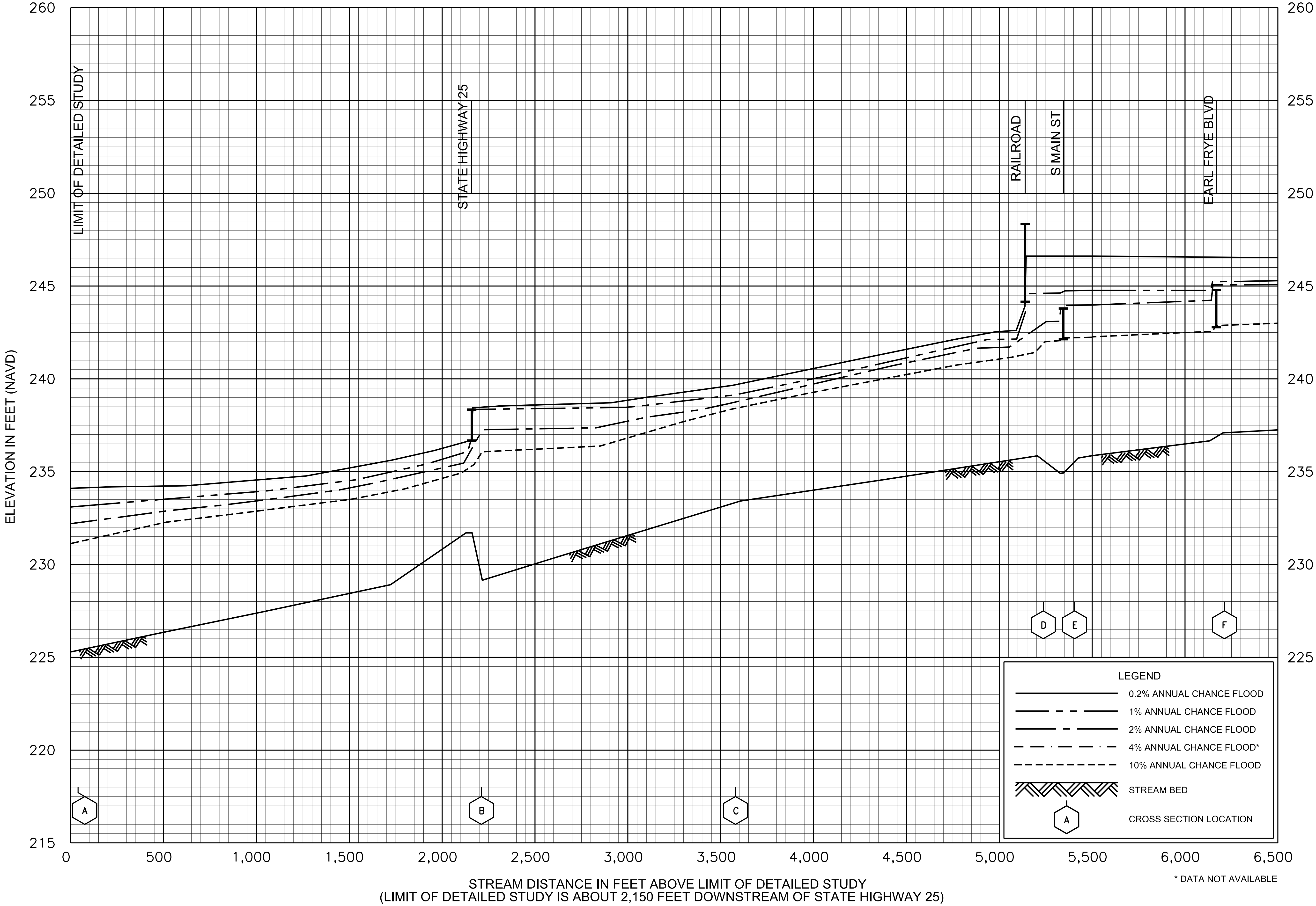
FLOOD PROFILES

ROUNDHOUSE BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS

14P

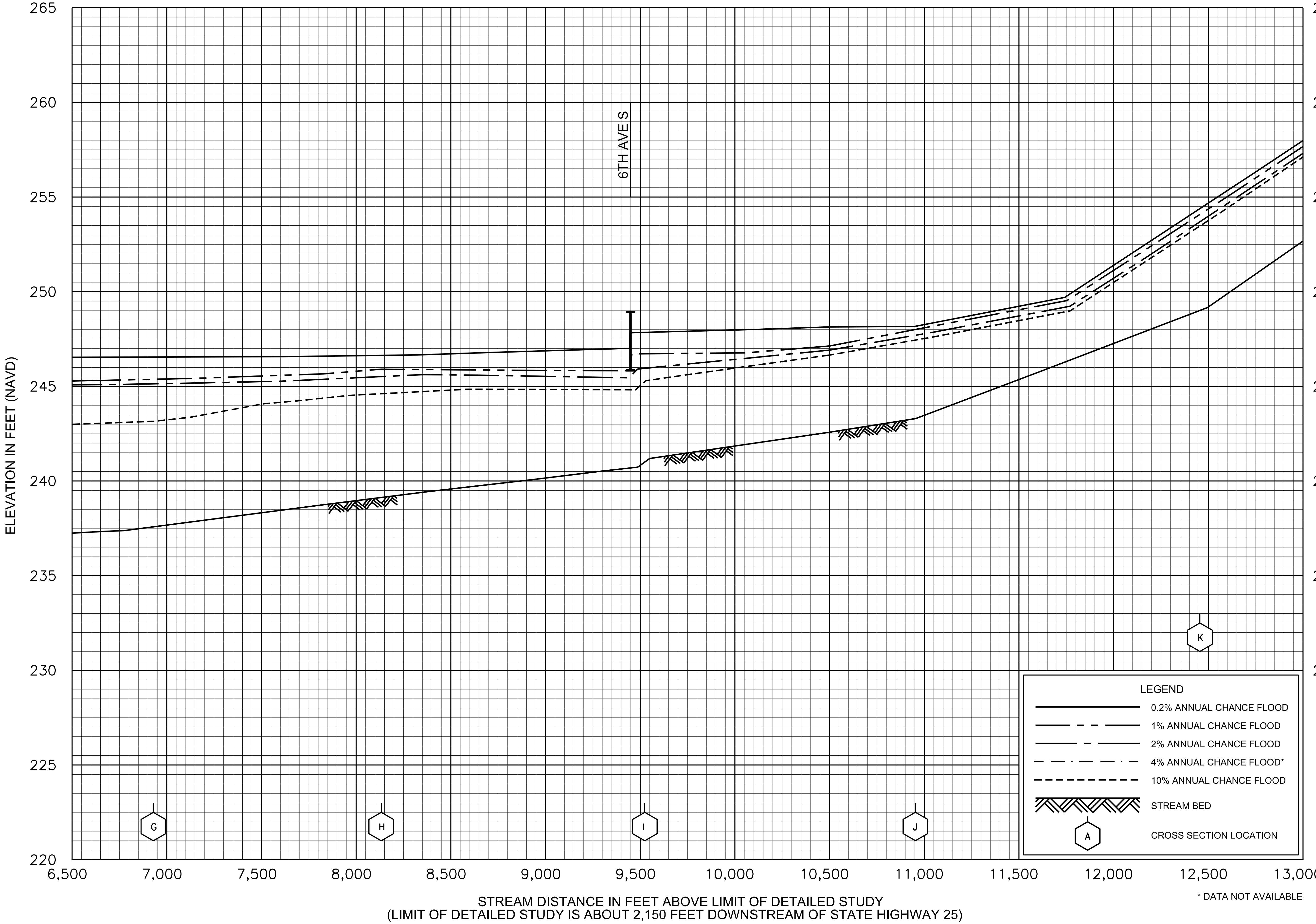


FLOOD PROFILES

STREAM 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS

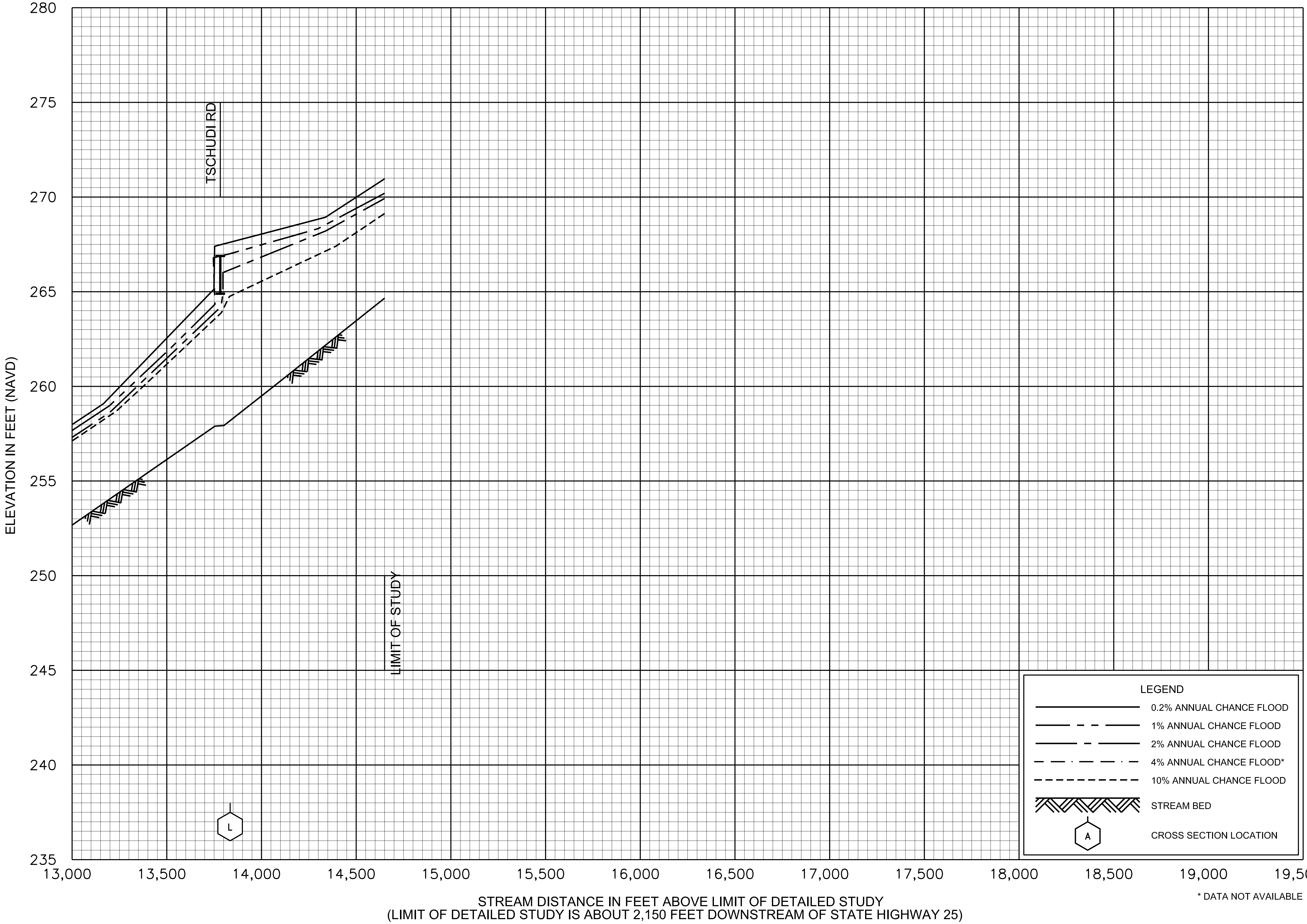


FLOOD PROFILES

STREAM 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS



* DATA NOT AVAILABLE

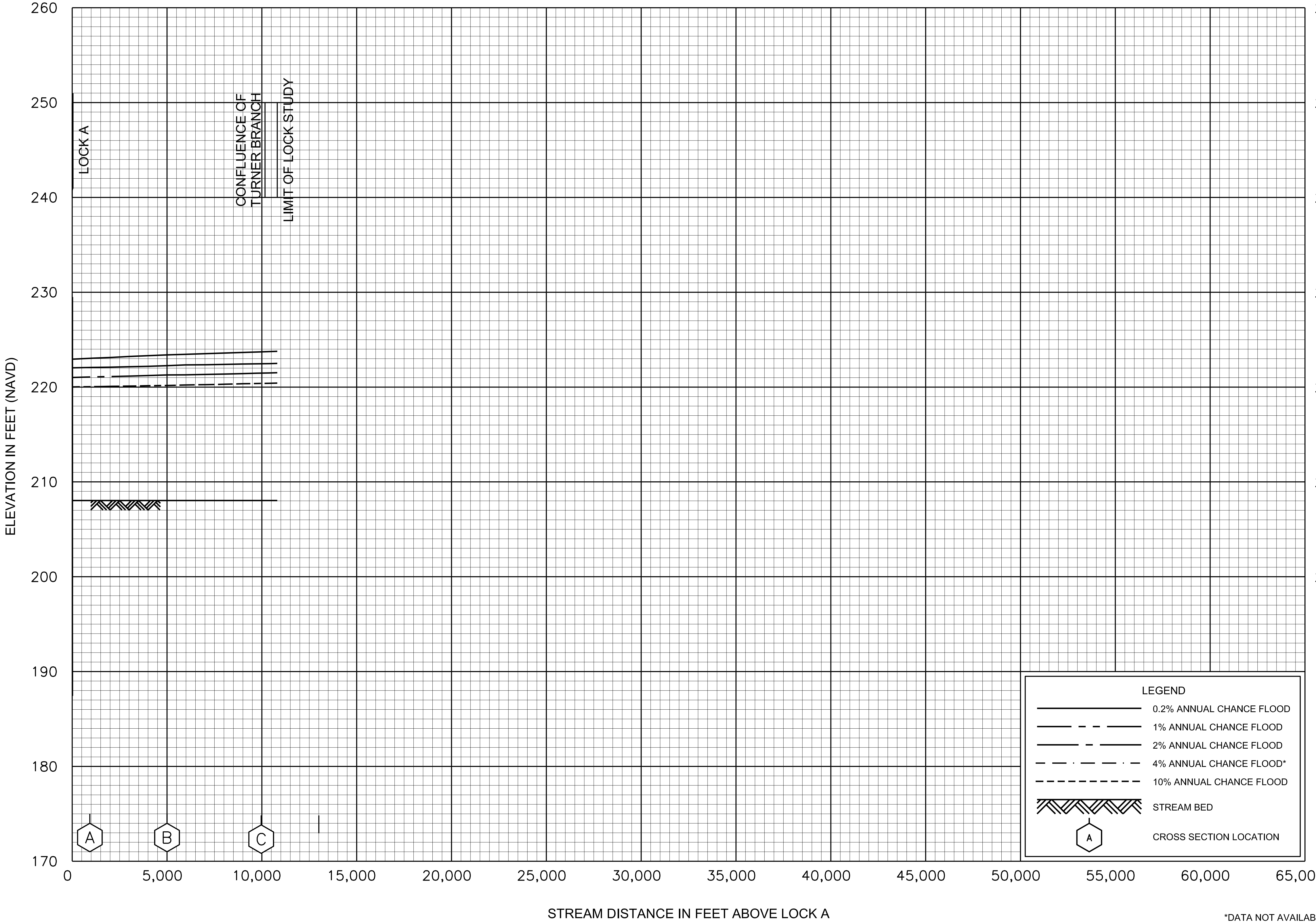
FLOOD PROFILES

STREAM 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS



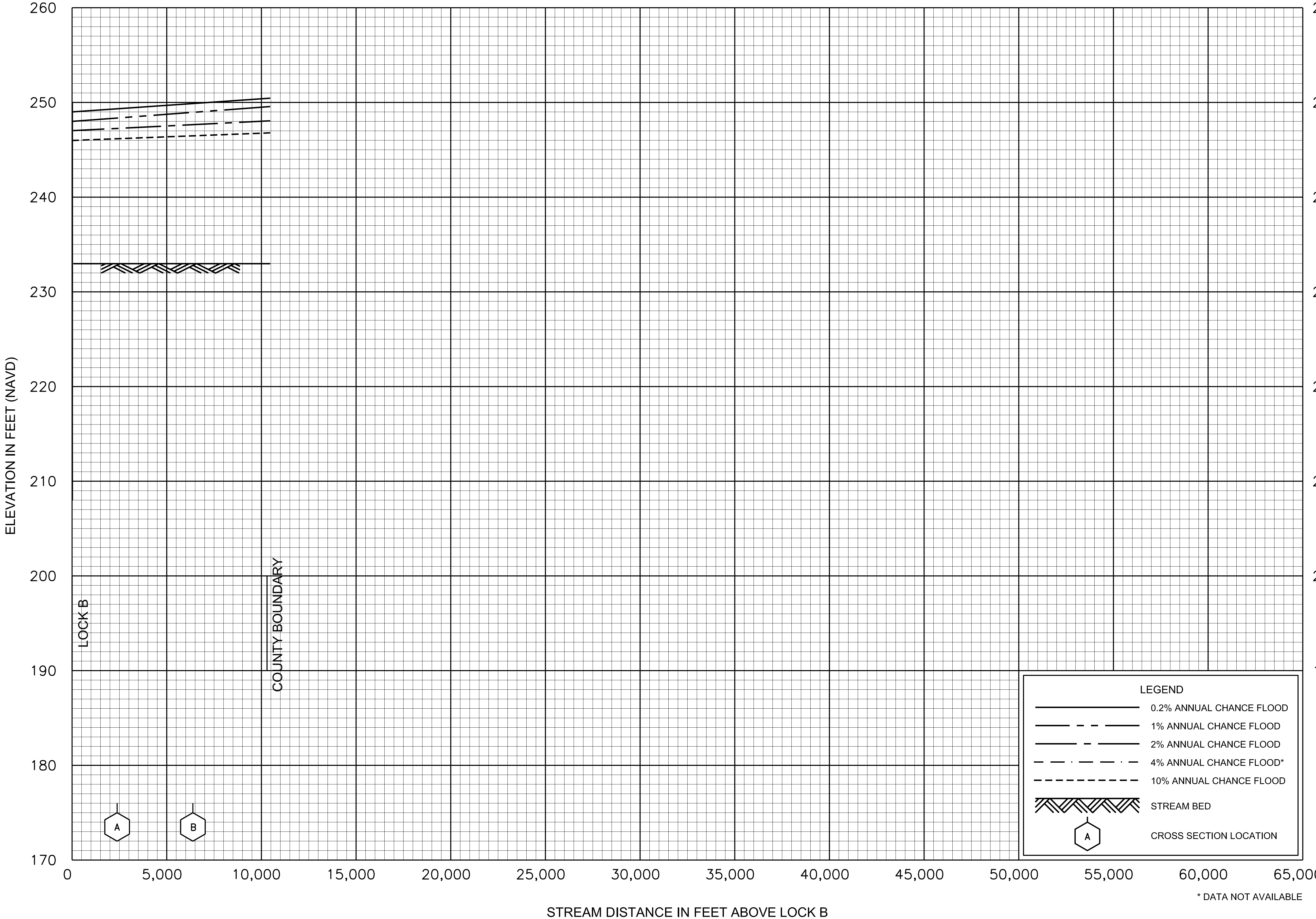
*DATA NOT AVAILABLE

FLOOD PROFILES

TENNESSEE-TOMBIGBEE WATERWAY

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS



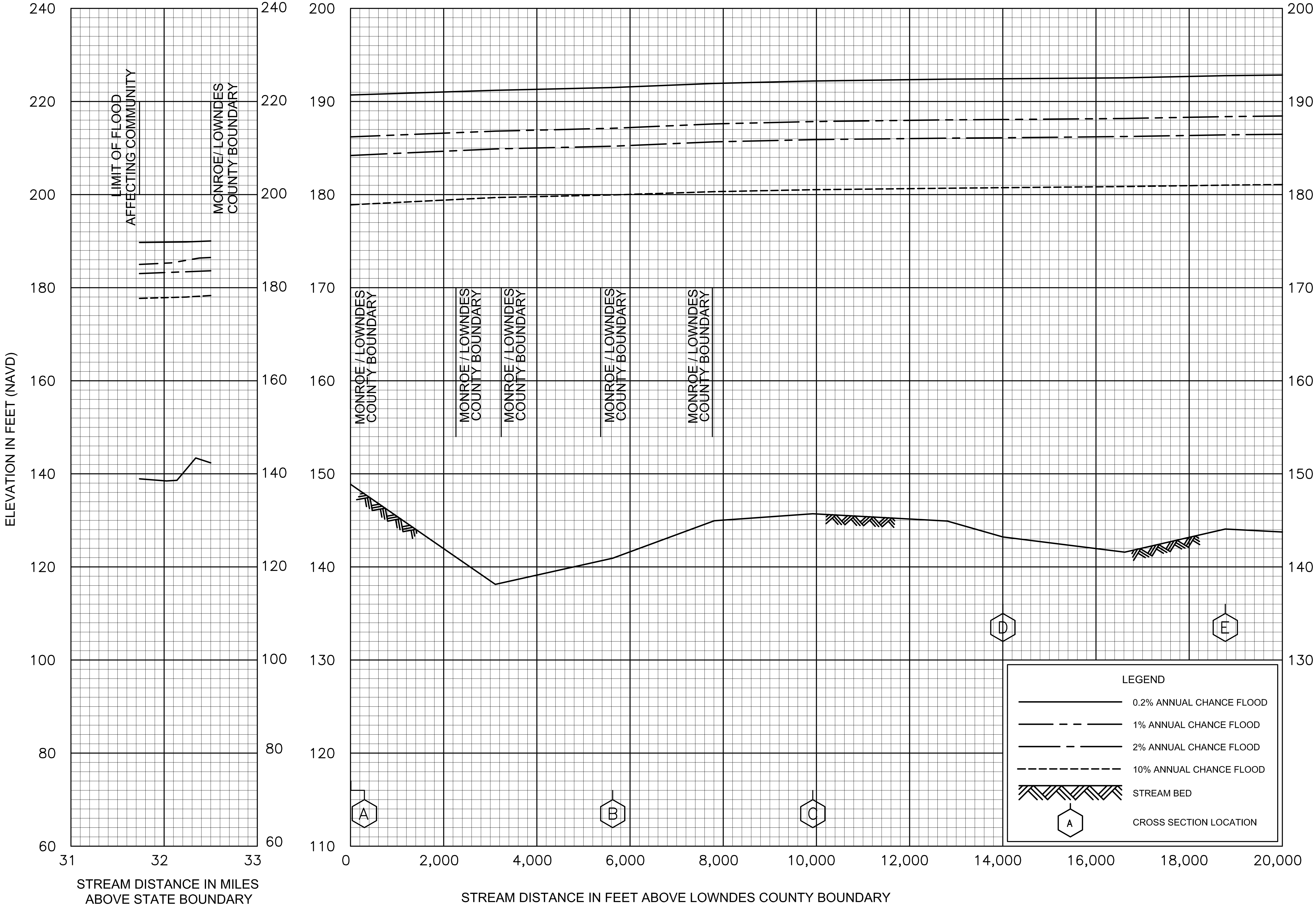
FLOOD PROFILES

TENNESSEE-TOMBIGBEE WATERWAY

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS

18P



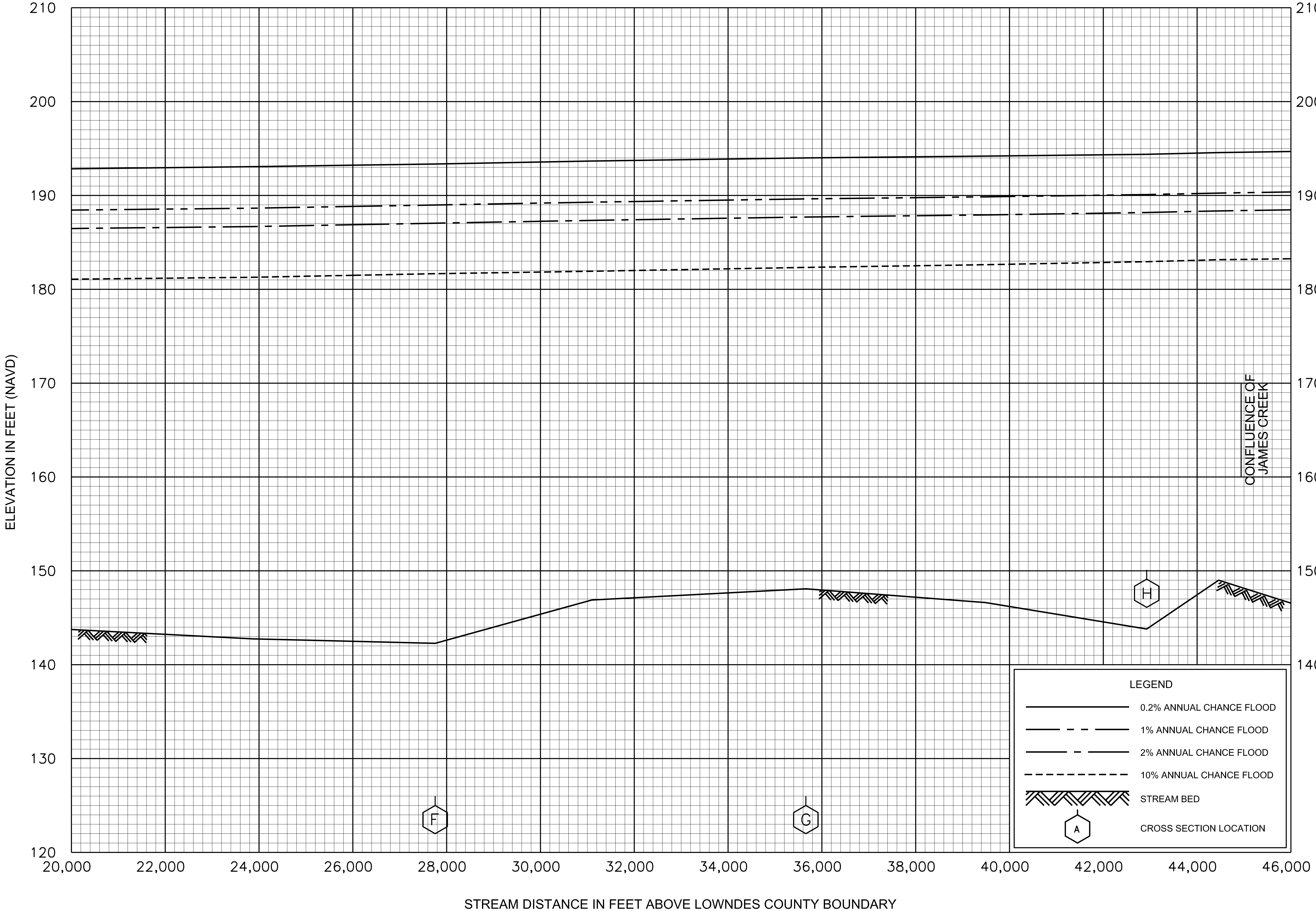
FLOOD PROFILES

TOMBIGBEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS

19P

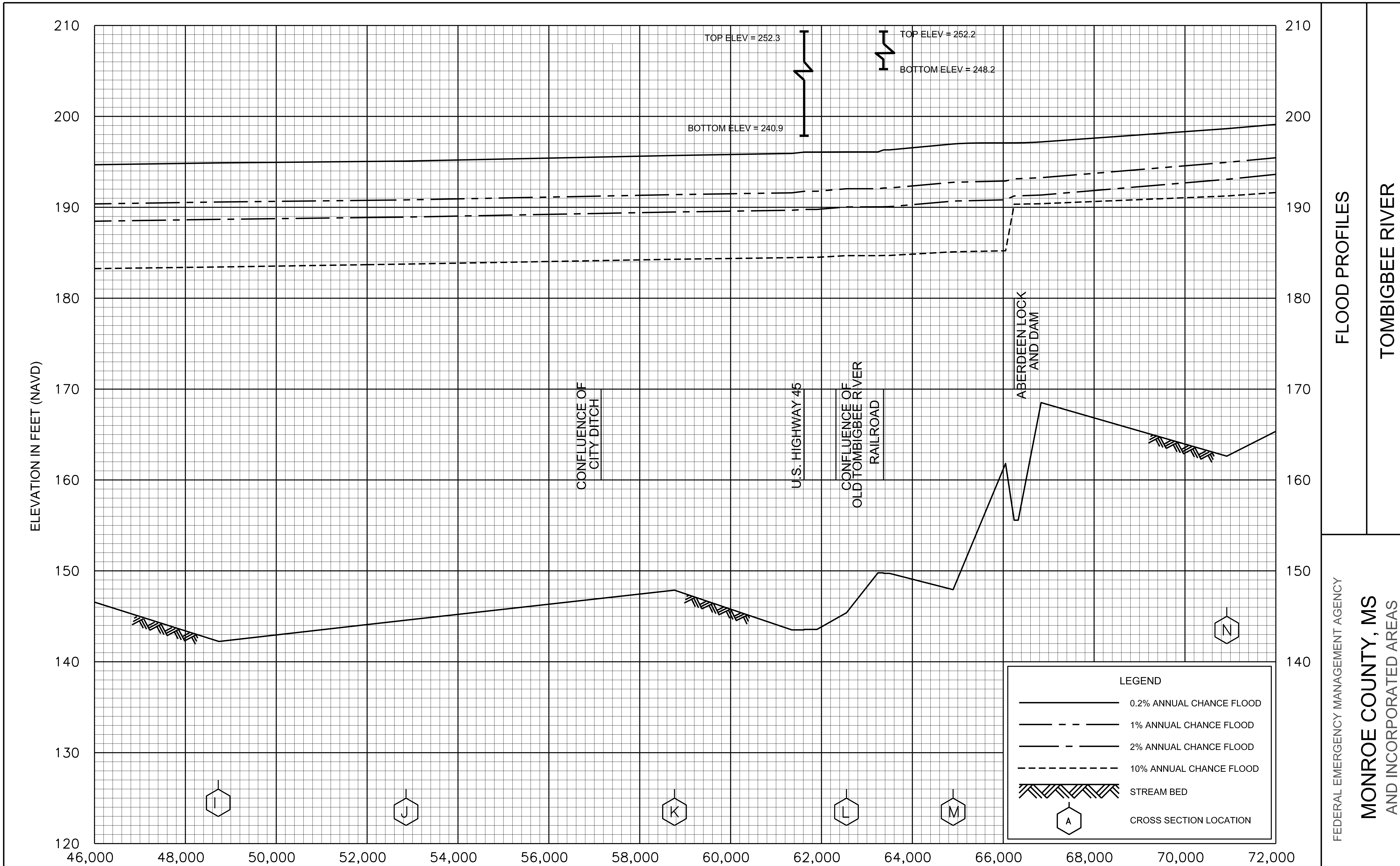


FLOOD PROFILES

TOMBIGBEE RIVER

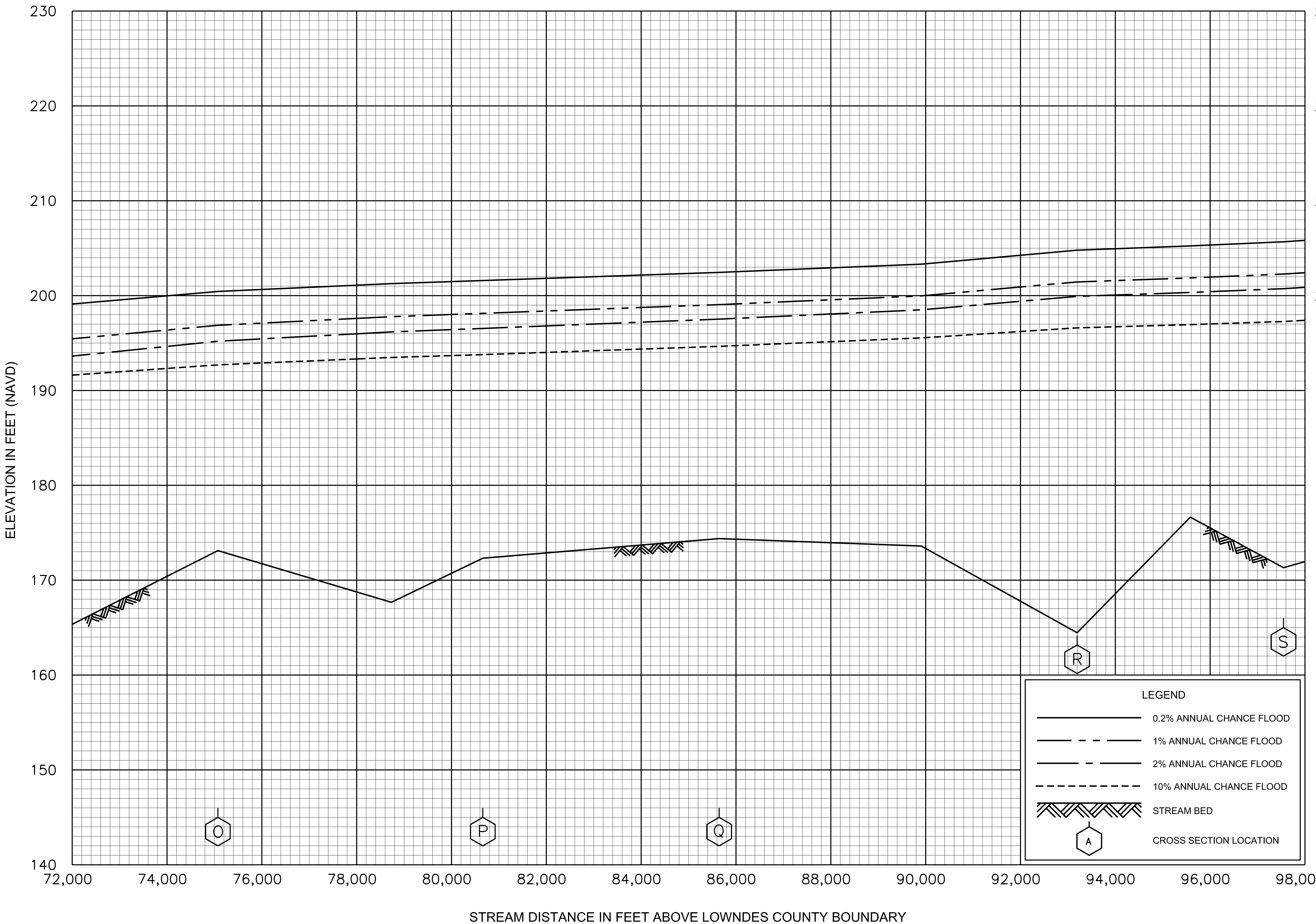
FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS



TOP ELEV = 252.3
BOTTOM ELEV = 240.9
TOP ELEV = 252.2
BOTTOM ELEV = 248.2
CONFLUENCE OF CITY DITCH
U.S. HIGHWAY 45
CONFLUENCE OF OLD TOMBIGBEE RIVER
RAILROAD
ABERDEEN LOCK AND DAM
ELEVATION IN FEET (NAVD)
STREAM DISTANCE IN FEET ABOVE LOWNDES COUNTY BOUNDARY
LEGEND
0.2% ANNUAL CHANCE FLOOD
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD
10% ANNUAL CHANCE FLOOD
STREAM BED
CROSS SECTION LOCATION
FLOOD PROFILES
TOMBIGBEE RIVER
FEDERAL EMERGENCY MANAGEMENT AGENCY
MONROE COUNTY, MS
AND INCORPORATED AREAS

21P



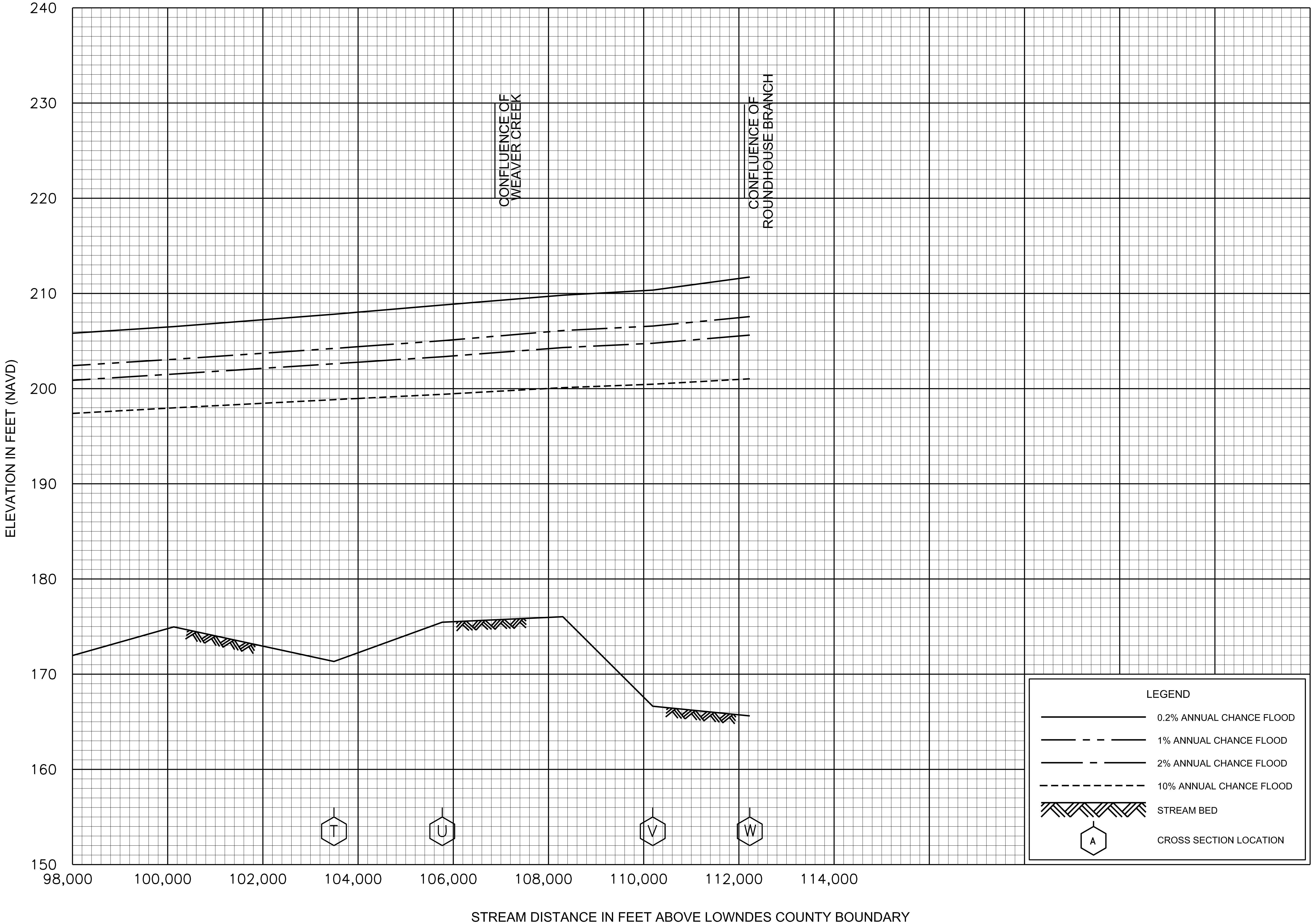
FLOOD PROFILES

TOMBIGBEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

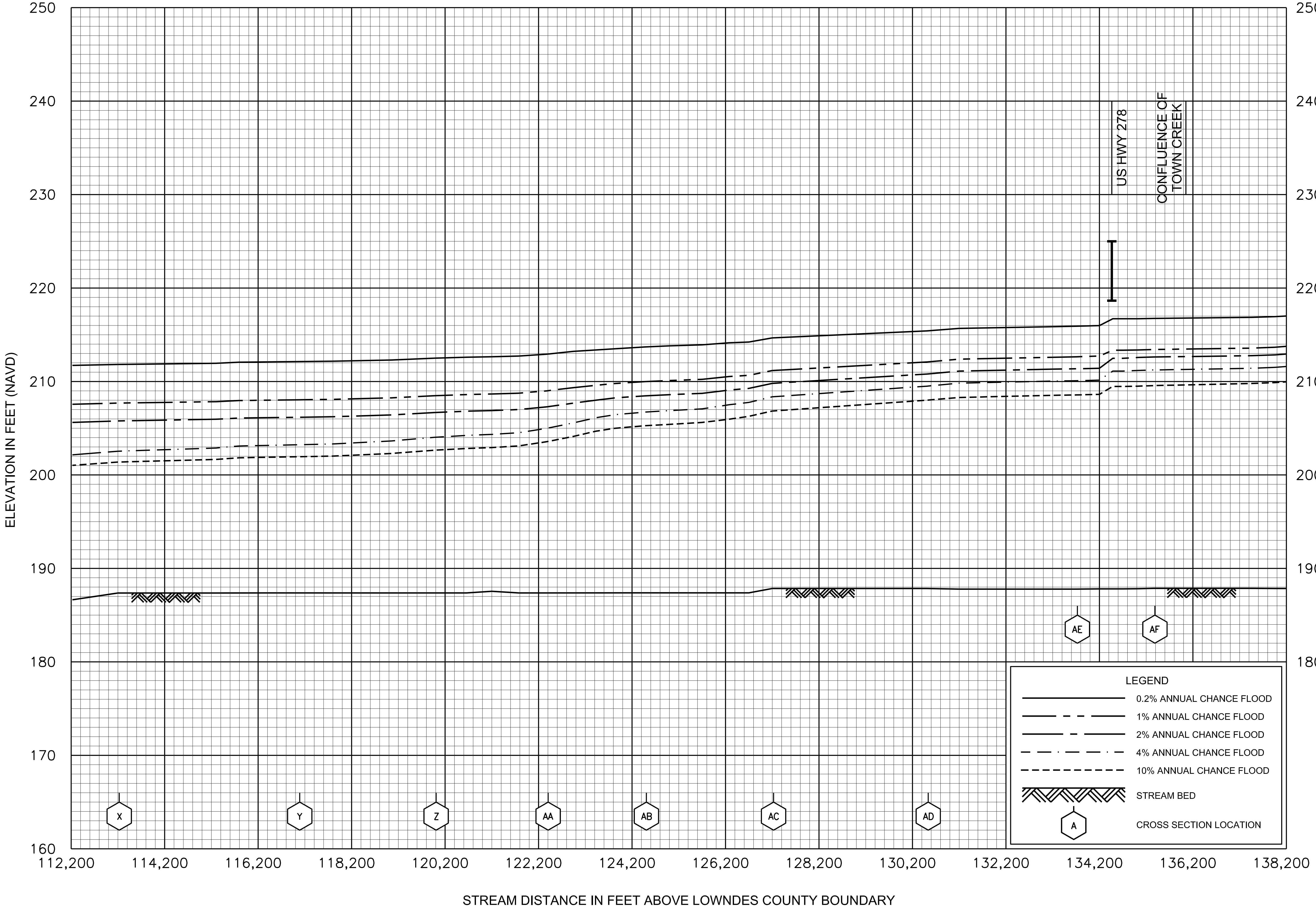


FLOOD PROFILES

TOMBIGBEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS AND INCORPORATED AREAS



FLOOD PROFILES

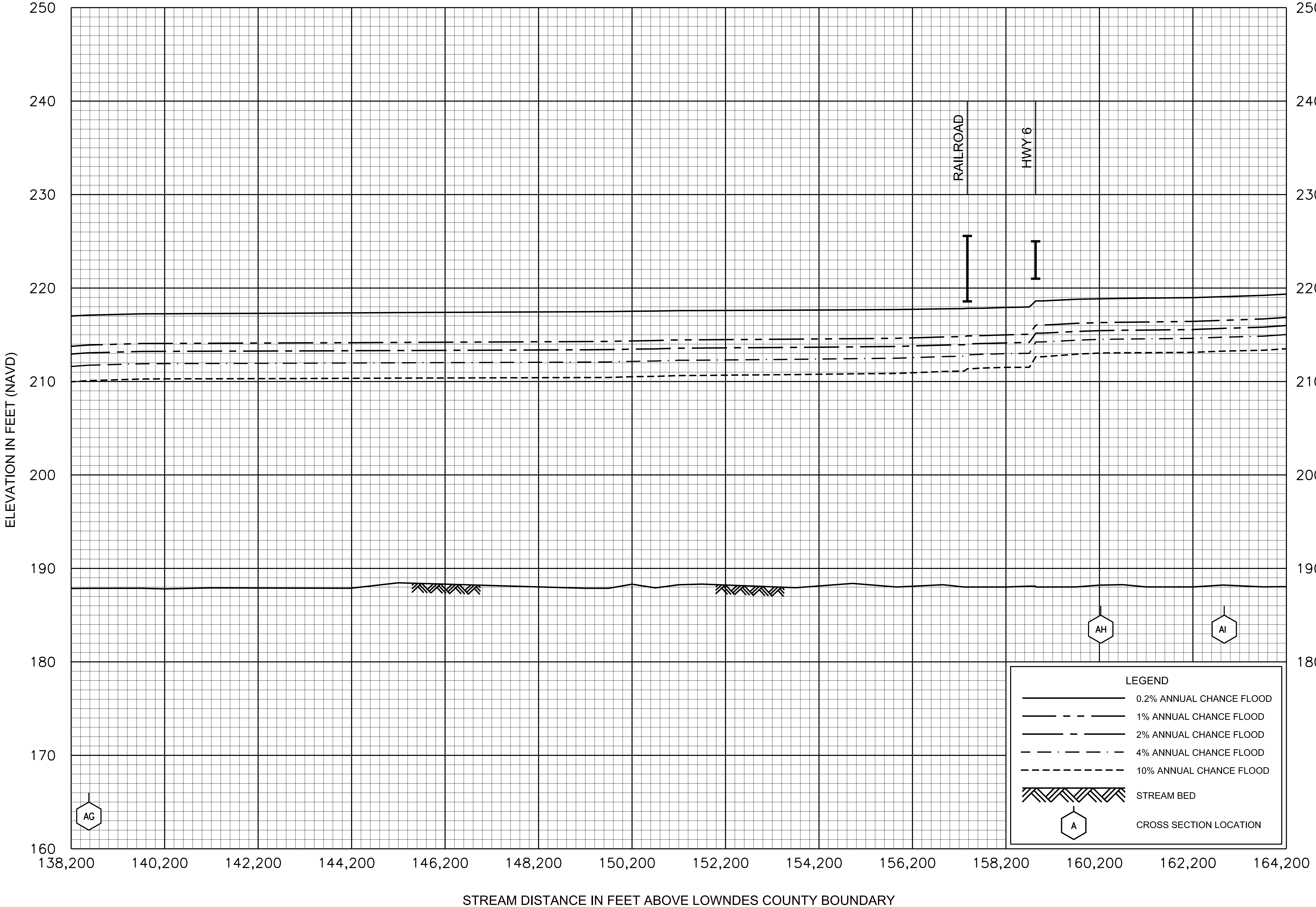
TOMBIGBEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

24P



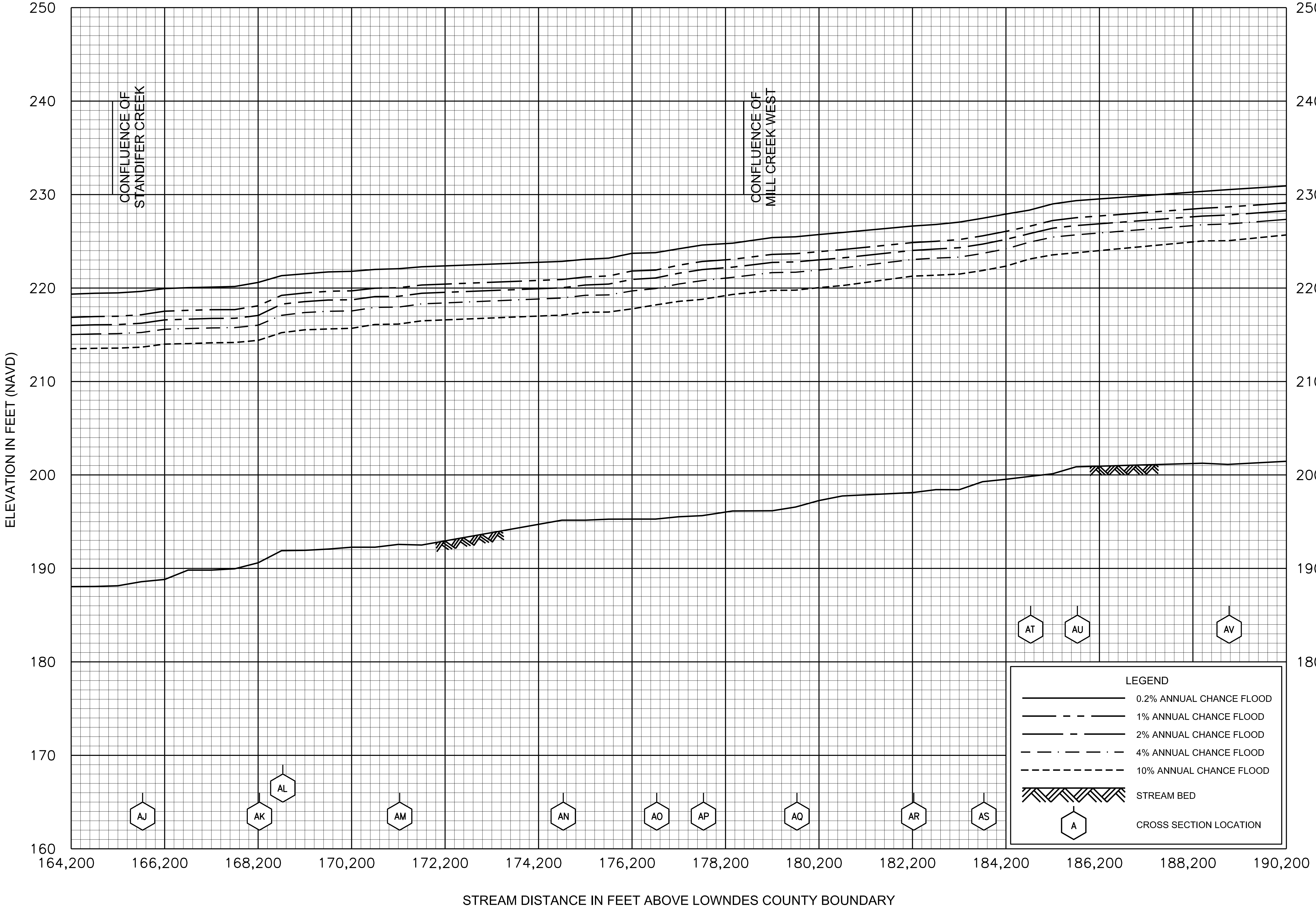
FLOOD PROFILES

TOMBIGBEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS



FLOOD PROFILES

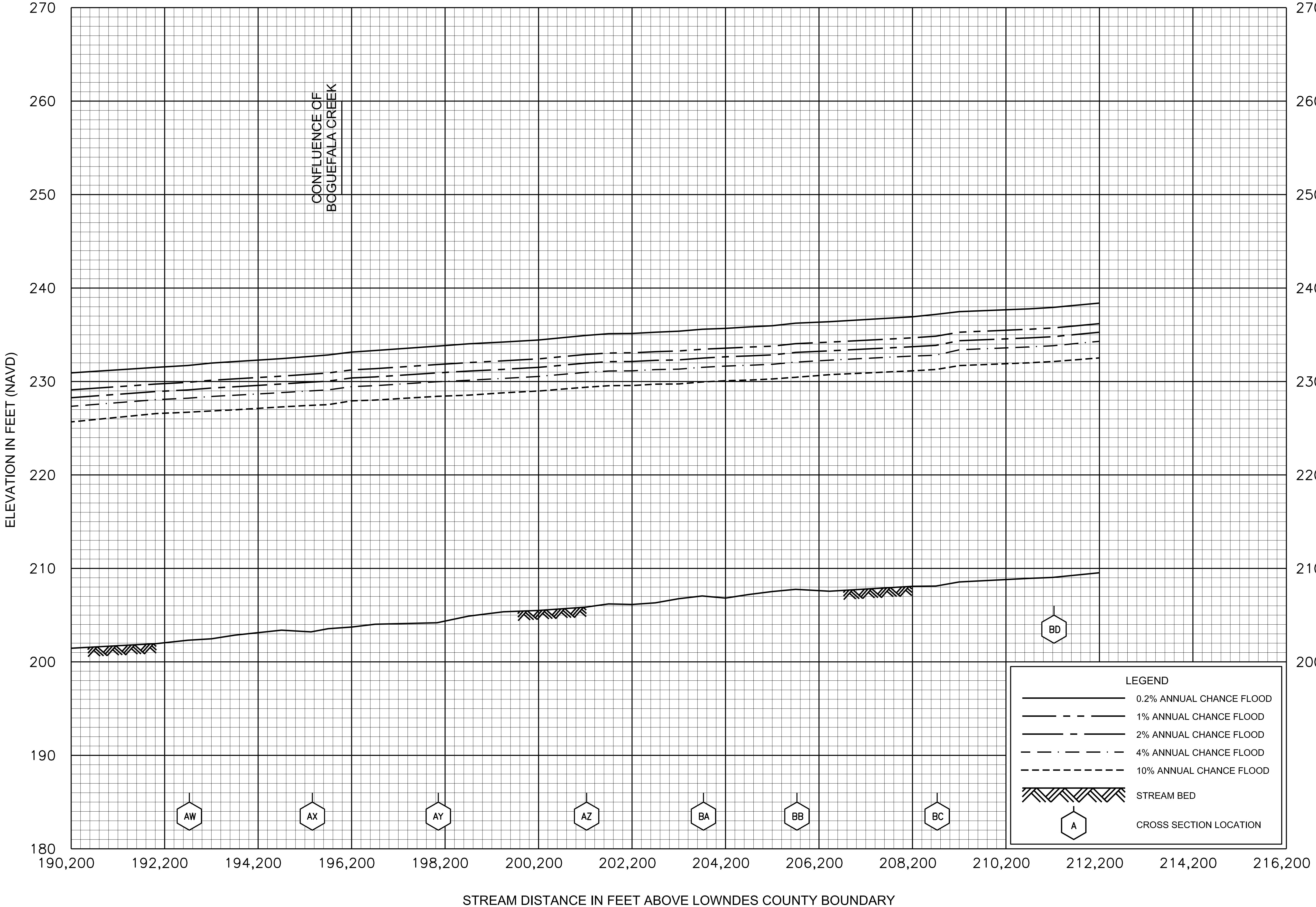
TOMBIGBEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

25aP

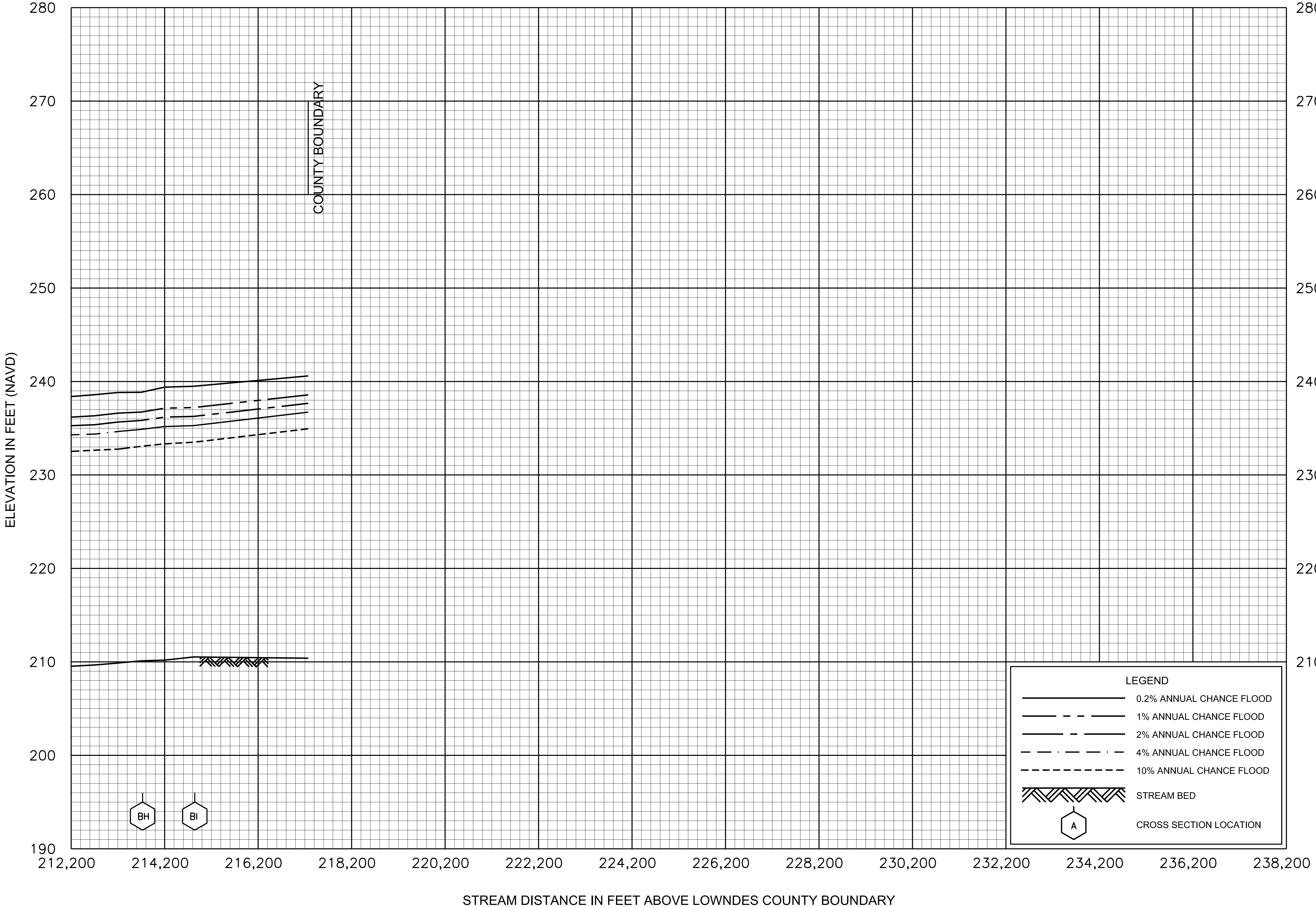


FLOOD PROFILES

TOMBIGBEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS



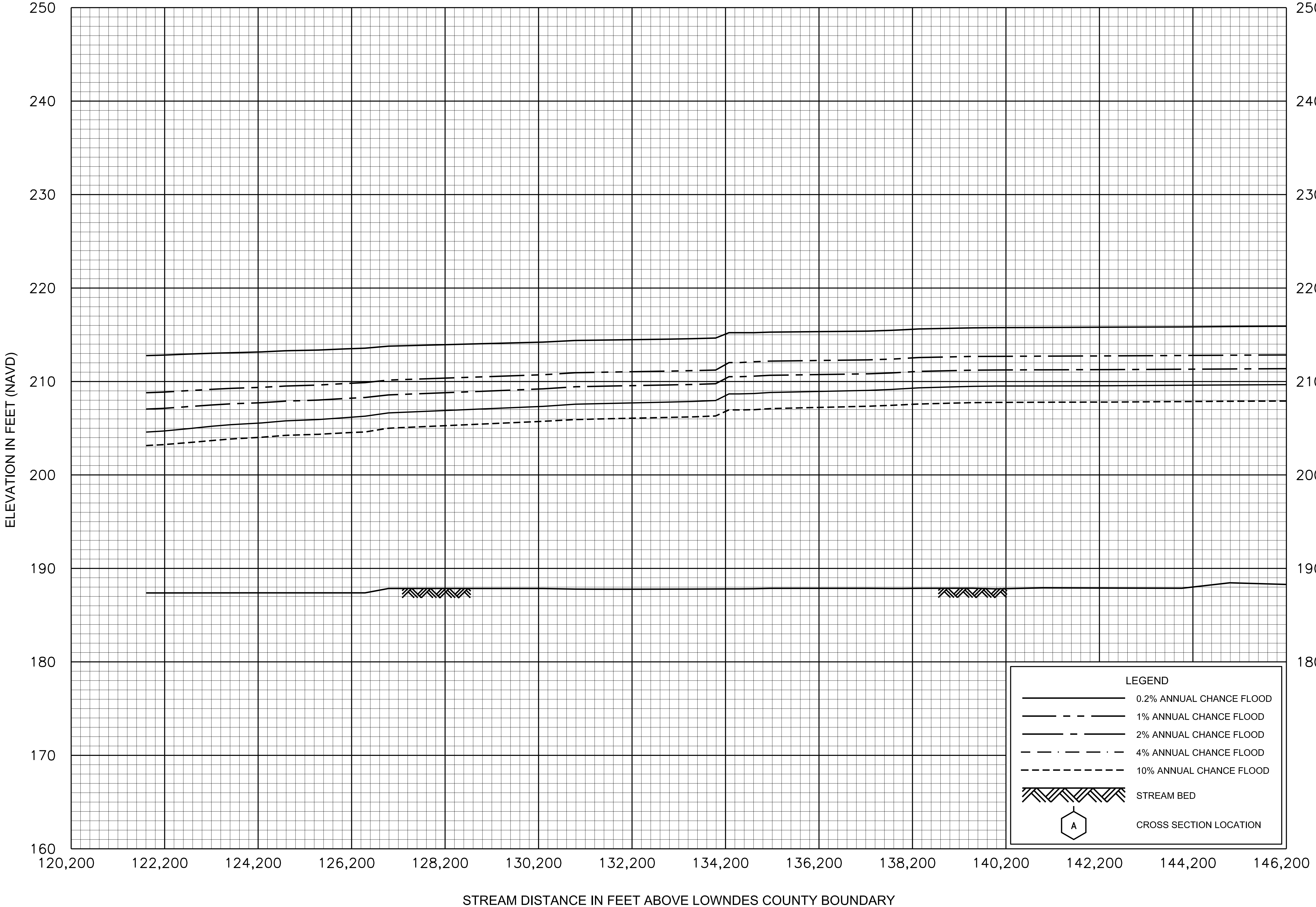
FLOOD PROFILES

TOMBIGBEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS



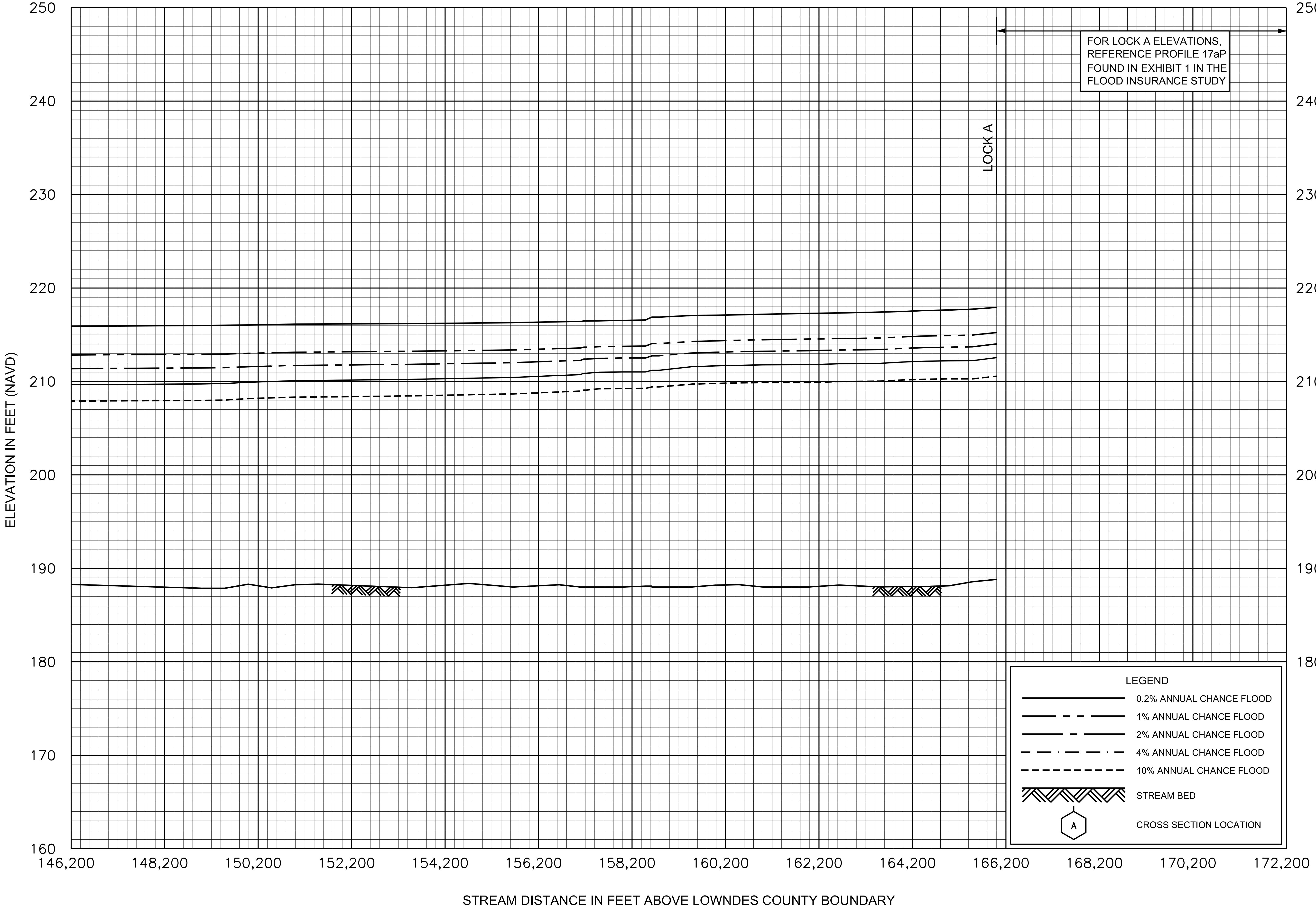
FLOOD PROFILES

TOMBIGBEE RIVER - WITHOUT LEVEE

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS

25dP



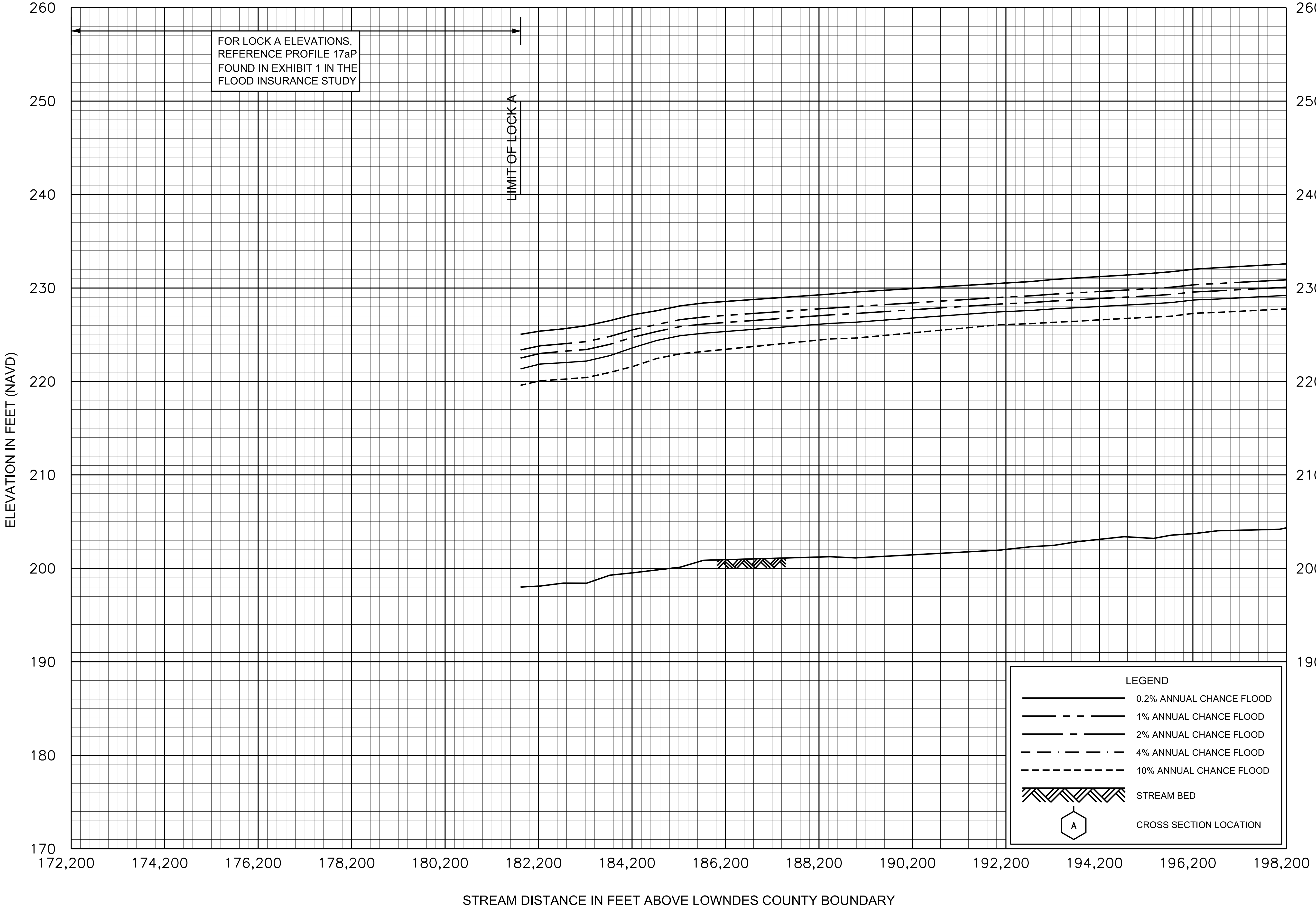
FLOOD PROFILES

TOMBIGBEE RIVER - WITHOUT LEVEE

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS

25eP



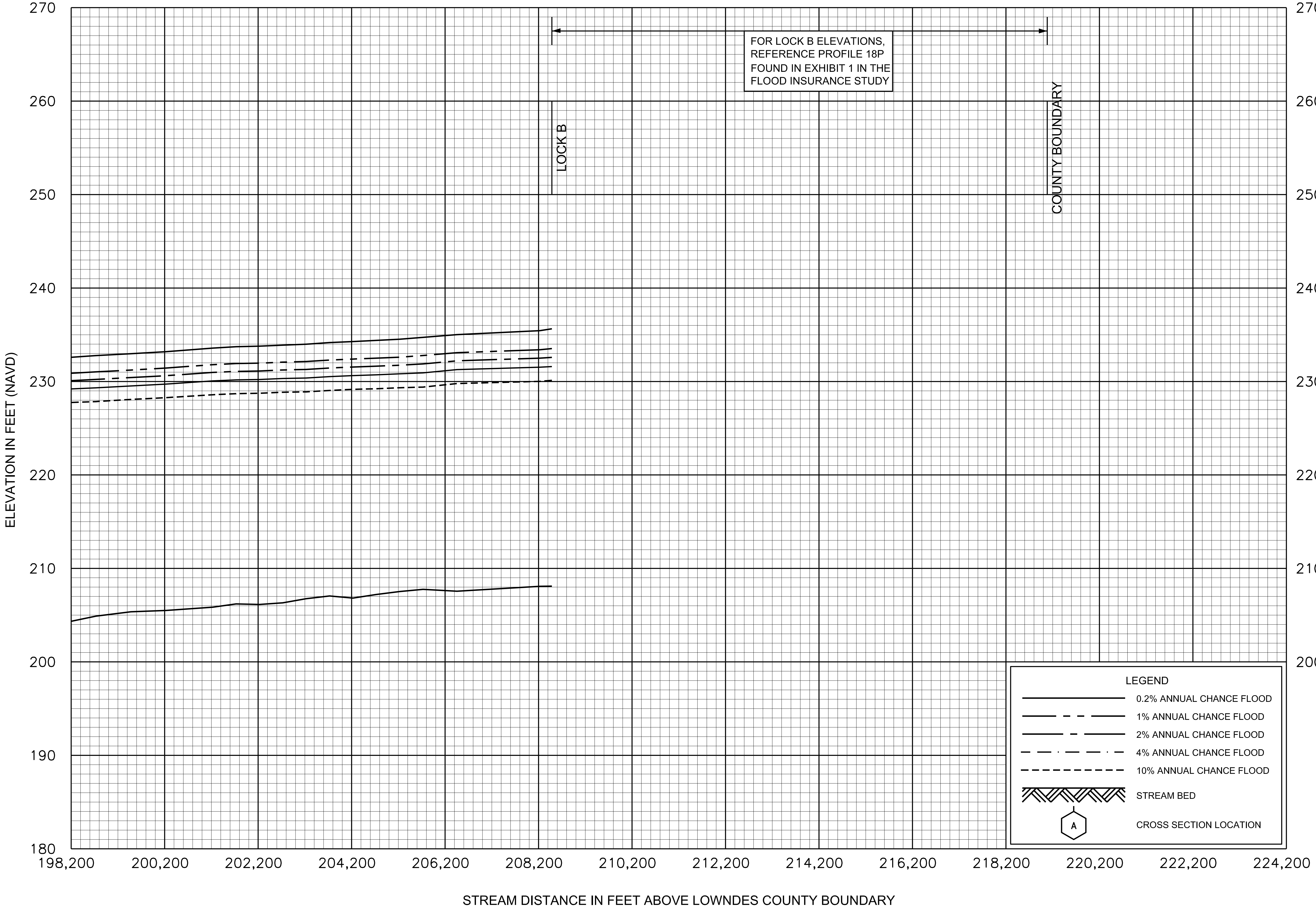
FLOOD PROFILES

TOMBIGBEE RIVER - WITHOUT LEVEE

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS

25fP



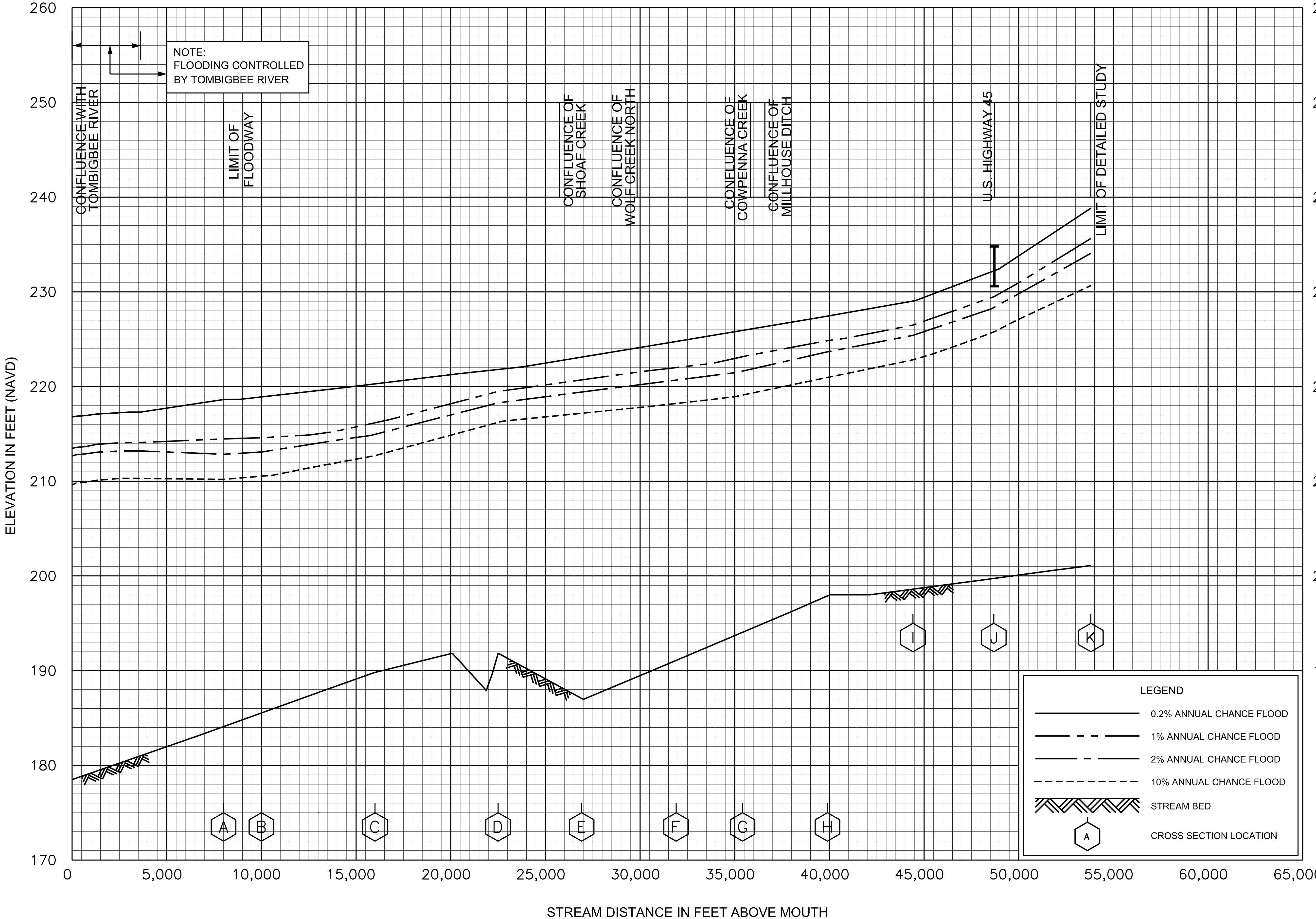
FLOOD PROFILES

TOMBIGBEE RIVER - WITHOUT LEVEE

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS

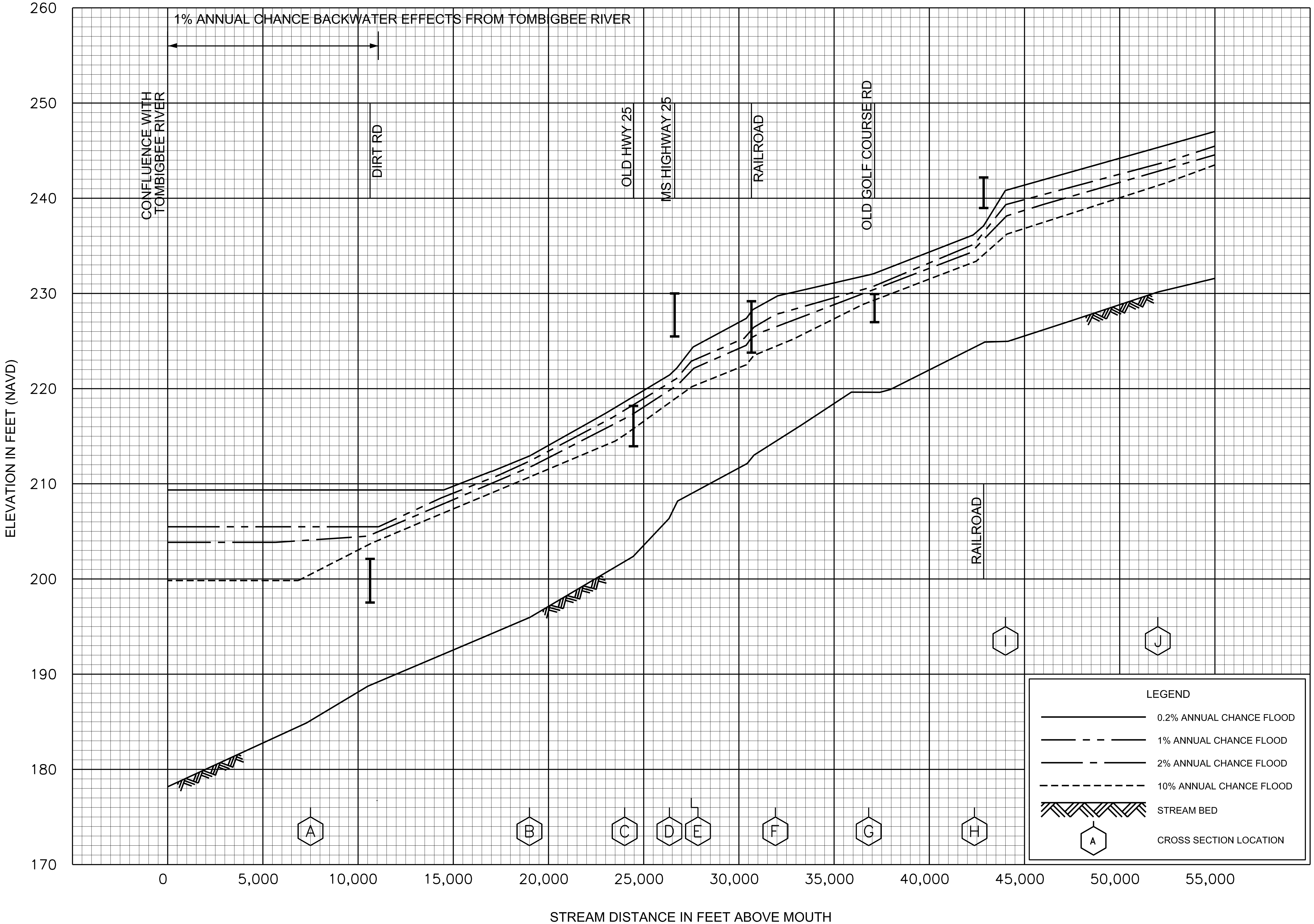


FLOOD PROFILES

TOWN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS
AND INCORPORATED AREAS



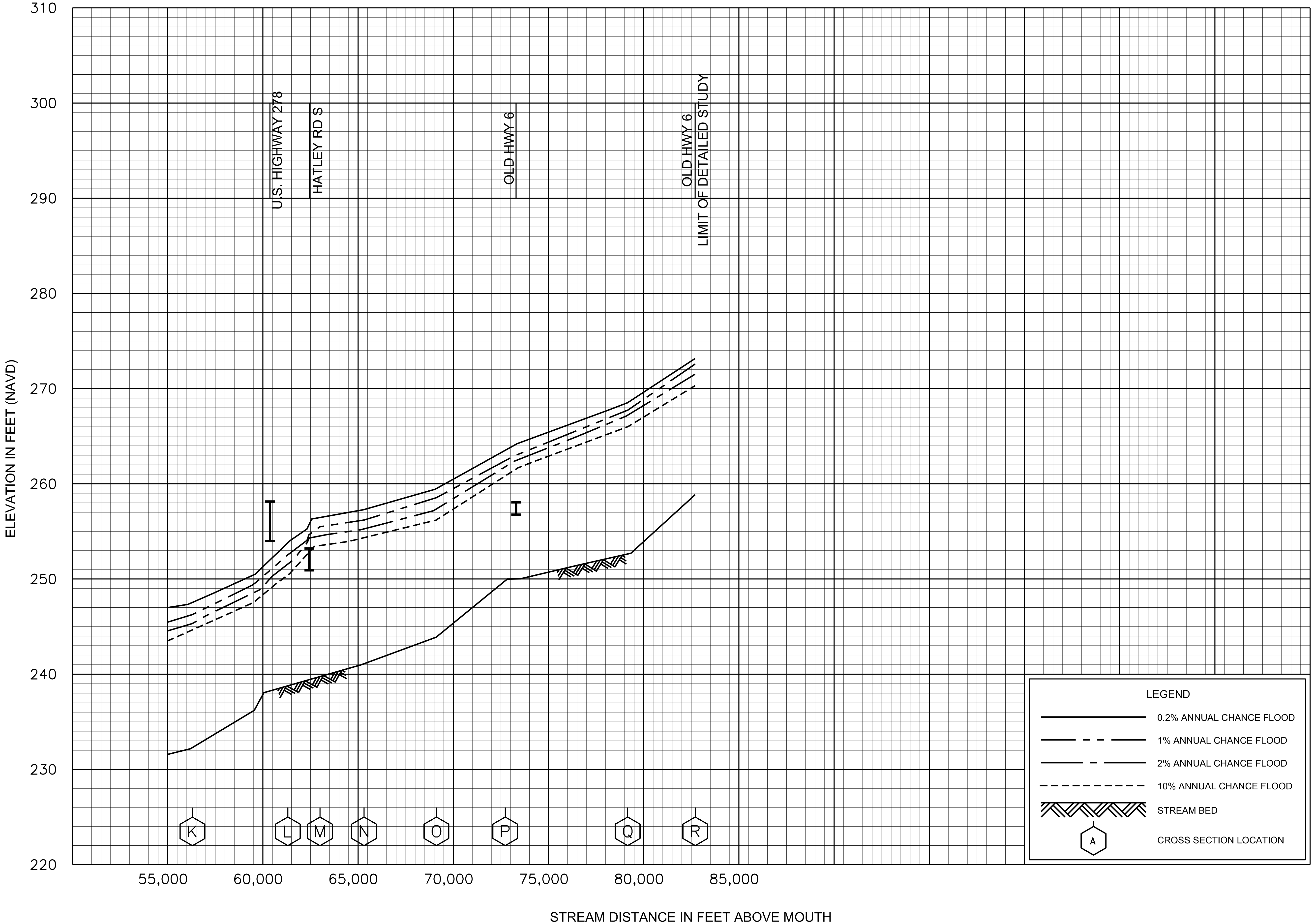
FLOOD PROFILES

WEAVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS



FLOOD PROFILES

WEAVER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, MS

AND INCORPORATED AREAS