FLOOD INSURANCE STUDY

DESOTO COUNTY, MISSISSIPPI,

AND INCORPORATED AREAS
VOLUME 1 OF 2

COMMUNITY NAME	COMMUNITY NUMBER
DESOTO COUNTY (UNINCORPORATED AREAS)	280050
HERNANDO, CITY OF	280292
HORN LAKE, CITY OF	280051
OLIVE BRANCH, CITY OF	280286
SOUTHAVEN, CITY OF	280331
WALLS, TOWN OF	280232

REVISED:

Federal Emergency Management Agency
FLOOD INSURANCE STUDY NUMBER
28033CV001B

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 repository to obtain the most current FIS components.

Initial Countywide FIS Effective Date:	May 3, 1990
Revised Countywide FIS Dates:	June 19, 1997 (Reprinted with corrections to the Summary of Discharges Table and Floodway Data Table on November 5, 1997) August 23, 2000 June 4, 2007

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FLOOD INSURANCE STUDY
DeSOTO COUNTY, MISSISSIPPI, AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and supersedes the FIS reports and/or Flood Insurance Rate Maps (FIRMs) in the geographic area of DeSoto County, Mississippi, including the City of Hernando, City of Horn Lake, City of Olive Branch, City of Southaven, Town of Walls, and unincorporated areas of DeSoto County (herinafter referred to collectively as Desoto County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates. This information will also be used by DeSoto County to update existing floodplain regulations as part of the Regular Phase of the National Flood Insurance Program (NFIP), and by local and regional planners to further promote sound land use and floodplain development. Minimum floodplain management requirements for participation in the NFIP are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

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.

For the original May 3, 1990, countywide FIS, the hydrologic and hydraulic analyses for Camp Creek, Licks Creek, Nolehoe Creek, and Bean Patch Creek were performed by Allen and Hoshall, Inc., for the Federal Emergency Management Agency (FEMA), under Contract No. EMA-86-C-0114. That work was completed in September 1987. Additional hydrologic and hydraulic analyses were obtained from the U.S. Army Corps of Engineers (USACE), Memphis District, reports (References 15 and 16). Data for the Mississippi River were obtained from the USACE (Reference 19). The hydrologic and hydraulic analyses for Horn Lake Creek, Cow Pen Creek, and Rock Creek, within the corporate limits of the City of Horn Lake, were performed by the U.S. Geological Survey (USGS) for FEMA, under Contract No. EMW-85-E-1823. That work was completed in November 1986.

For the June 19, 1997, FIS revision, the hydrologic and hydraulic analyses were prepared for FEMA by the USACE, Memphis District, under Inter-Agency Agreement No. EMW-92-E-3842. That work was completed in December 1993.

For the August 23, 2000, FIS revision, the Letter of Map Revision (LOMR) effective on October 8, 1996, was incorporated. It reflected channelization, a golf cart bridge replacement, and construction of a new culvert along Camp Creek in the City of Olive Branch. The hydraulic analysis was prepared by Russell & Company. The August revision also incorporated the LOMR effective on July 7, 1998, which reflected more detailed topographic information, fill placement, and updated hydraulic modeling along Camp Creek, also in the city of Olive Branch. The hydraulic analyses were prepared by Rutherford & Associates and Russell & Company.

The hydrologic and hydraulic analyses for the June 4, 2007, study were performed by the State of Mississippi for the Federal Emergency Management Agency (FEMA), under Contract No. EMA-2003-GR-5370. This study was completed in September 2005.

The digital base map information files were provided by the Geographic Information Systems Department of DeSoto County, 365 Losher Street, Suite 200, Hernando, Mississippi 38632. This data included digital orthophotography flown in February 2004, with the data ranging from 6 inch pixel resolution for urban areas, to 2 feet pixel resolution for rural areas.

The digital FIRM was produced using the State Plane Coordinate System, Mississippi West, FIPSZONE 2302. The horizontal datum was the North American Datum of 1983, GRS 80 spheroid. Distance units were measured in U.S. feet.

1.3 Coordination

An initial Consultation Coordination Officer's (CCO) meeting is held with representatives from FEMA, the community, 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 community, and the study contractor to review the results of the study.

For the original May 3, 1990, countywide FIS, a meeting was held on January 26, 1986, with representatives of FEMA, DeSoto County, and Allen and Hoshall, Inc. The USACE was contacted for existing data. The vertical ground data used to establish the network of Elevation Reference Marks were provided by the USGS. On June 20 and 21, 1989, a final CCO meeting was held with representatives of Allen and Hoshall, Inc., FEMA, and the communities.

For the June 19, 1997, FIS revision, an initial CCO meeting was held on July 23, 1991, and was attended by representatives of the USACE, FEMA, and the county. The following were contacted to acquire information: DeSoto County Engineer, DeSoto County Planning Office, Southaven City Engineer, Southaven City Planning Director, City of Horn Lake Engineer, Jones Engineering, Smith Engineering, Rutherford & Associates Engineers, and Reeves & Sweeny Engineers.

For the June 4, 2007, FIS revision, an initial Pre-Scoping Meeting was held on April 15, 2004. A Project Scoping Meeting was held on June 10, 2004, followed by a Post-Scoping Meeting on July 21, 2004. Attendees for these meetings included representatives from the Mississippi Department of Environmental Quality, Mississippi Emergency Management Agency, FEMA National Service Provider, DeSoto County, the City of Olive Branch, the City of Southaven, U.S. Army Corps of Engineers Memphis and Vicksburg Districts, and the State 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. The Preliminary DFIRM Community Coordination meeting was held on November 4, 2005.

2.0 AREA STUDIED

2.1 Scope of Study

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

For the May 3, 1990 FIS, the following flooding sources were studied by detailed methods: Camp Creek, Licks Creek, Nolehoe Creek, Bean Patch Creek, Horn Lake Creek, Rocky Creek, Cow Pen Creek, Southaven Creek, Lateral A, Lateral E, and the Mississippi river.

For the June 19, 1997 revision, the following streams were restudied and/or newly studied by detailed methods:

Stream	Limits of Revision/New Detailed Study
Horn Lake Creek	From the downstream county boundary to the downstream side of Getwell Road
Rocky Creek	From the confluence with Horn Lake Creek to a point approximately 2,000 feet upstream of Plum Point Road
Lateral E	From the confluence with Horn Lake Creek to the downstream side of Tchulahoma Road
Cow Pen Creek	From the confluence with Horn Lake Creek to the downstream side of Illinois Central Railroad
Pigeon Roost Creek	From a point approximately 1,580 feet downstream of Ingrams Mill Road to a point approximately 3.9 miles upstream of Ingrams Mill Road
Lateral D	From the confluence with Horn Lake Creek to a point approximately 1.5 miles upstream of Church Road
Red Banks Creek	From the confluence with Pigeon Roost Creek to a point approximately 0.9 miles upstream of Red Banks Road

Southaven Creek and Lateral A were revised to reflect the revised backwater from their respective main streams.

For the August 23, 2000 revision, two previously issued LOMRs were incorporated. The first LOMR, effective on October 8, 1996, revised Camp Creek from a point approximately one mile downstream of U.S. Route 78 to a point approximately 2,000 feet upstream of Goodman Road. The second LOMR, effective on July 7, 1998, includes a revision to Camp Creek from a point approximately 1,700 feet upstream of the confluence of Nolehoe Creek.

For the June 4, 2007, FIS revision, the following table lists the streams which were restudied and/or newly studied by detailed methods:

TABLE 1. STREAMS STUDIED BY DETAILED METHODS

Stream	Limits of Revision/New Detailed Study
Bean Patch Creek	From a point approximately 450 feet downstream of College Road to a point approximately 200 feet downstream of Getwell Road
Camp Creek	From a point approximately 580 feet downstream of College Road to a point approximately 620 feet downstream of Montrose Drive
Cow Pen Creek	From a point approximately 1,130 feet upstream of Goodman Road to Church Road
Horn Lake Creek Tributary 1	From the confluence with Horn Lake Creek to a point approximately 410 feet upstream of Nail Road
Hurricane Creek Tributary 2	From a point approximately 320 feet upstream of Horn Lake Road to a point approximately 0.6 mile upstream of Sunset Farms Drive
Johnson Creek	From the confluence with Lake Cormorant Bayou to a point approximately 1.1 miles upstream of the confluence with Johnson Creek Tributary 6
Johnson Creek Tributary 1	From the confluence with Johnson Creek to a point approximately 1,810 feet upstream of Cheatham Road
Lateral A	From the confluence with Horn Lake Creek to a point approximately 2,600 feet upstream of Goodman Road
Lateral A Tributary 1	From the confluence with Lateral A to a point approximately 150 feet downstream of Horn Lake Road
Licks Creek	From the confluence with Camp Creek to a point approximately 150 feet downstream of Lancaster Drive
Nolehoe Creek	From the confluence with Camp Creek to a point approximately 690 feet upstream of Goodman Road

The areas studied by detailed methods were selected with priority given to all known flood hazards and areas of projected development or proposed construction.

Limited detail analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon, by FEMA and the State of Mississippi. For the June 4, 2007, FIS revision, the following table lists the streams which were restudied and/or newly studied by limited detail methods:

TABLE 2. STREAMS STUDIED BY LIMITED DETAIL METHODS

Stream	Limits of Revision/New Limited Detail Study
Bean Patch Creek	From the confluence with Camp Creek to a point approximately 450 feet downstream of College Road
Bean Patch Creek Tributary 1	From the confluence with Bean Patch Creek to a point approximately 750 feet downstream of Malone Road
Bean Patch Creek Tributary 2	From the confluence with Bean Patch Creek to Malone Road
Bean Patch Creek Tributary 3	From the confluence with Bean Patch Creek to a point approximately 1,450 feet upstream of College Road
Byhalia Creek	From the confluence with Pigeon Roost Creek to the county boundary
Camp Creek	From the confluence with Coldwater River to a point approximately 580 feet downstream of College Road
	From a point approximately 620 feet downstream of Montrose Drive to a point approximately 1,800 feet upstream of Alexander Road
Camp Creek Tributary 1	From the confluence with Camp Creek to a point approximately 180 feet downstream of Ross Road
Camp Creek Tributary 2	From the confluence with Camp Creek to a point approximately 160 feet downstream of Dunn Lane
Cane Creek Tributary 1	From the confluence with Cane Creek to a point approximately 2,100 feet upstream of Robertson Gin Road

TABLE 2. STREAMS STUDIED BY LIMITED DETAIL METHODS - continued

Stream	Limits of Revision/New Limited Detail Study
Cane Creek Tributary 1.1	From the confluence with Cane Creek Tributary 1 to a point approximately 4,300 feet upstream of the confluence with Cane Creek Tributary 1
Coldwater River	From a point approximately 2.8 miles downstream of Highway 51 to the county boundary
Coldwater River Tributary 5	From the confluence with Coldwater River to a point approximately 2,400 feet upstream of Bethel Road
Coldwater River Tributary 6	From the confluence with Coldwater River to a point approximately 160 feet downstream of Red Banks Road
Coldwater River Tributary 7	From the confluence with Coldwater River a point approximately 2.6 miles upstream of Center Hill Road
Coldwater River Tributary 7.1	From the confluence with Coldwater River Tributary 7 to a point approximately 2,480 feet upstream of Center Hill Road
Coldwater River Tributary 8	From the confluence with Coldwater River to a point approximately 2,050 feet upstream of Center Hill Road
Coldwater River Tributary 8.1	From the confluence with Coldwater River Tributary 8 to a point approximately 0.9 mile upstream of the confluence with Coldwater River Tributary 8
Dry Creek	From the confluence with Coldwater River to a point approximately 1.6 miles upstream of Byhalia Road
Hurricane Creek	From a point approximately 1,550 feet upstream of Odom Road to a point approximately 420 feet upstream of Bridgemore Drive

* Flooding along Cane Creek Tributary 1.1 controlled by backwater from Cane Creek Tributary 1. Flood profile for Cane Creek Tributary 1.1 not included.

TABLE 2. STREAMS STUDIED BY LIMITED DETAIL METHODS - continued

Stream	Limits of Revision/New Limited Detail Study
Hurricane Creek Tributary 3.1	From a point approximately 1,050 feet upstream of Nesbit Road to a point approximately 710 feet downstream of Highway 51.
Hurricane Creek Tributary 3.1.1	From the confluence with Hurricane Creek Tributary 3.1 to a point approximately 575 feet upstream of Starlanding Road
Hurricane Creek Tributary 3.1.2	From the confluence with Hurricane Creek Tributary 3.1 to a point approximately 255 feet downstream of Highway 51
Hurricane Creek Tributary 4	From the confluence with Hurricane Creek to a point approximately 910 feet downstream of Harrow Cove
Hurricane Creek Tributary 5	From the confluence with Hurricane Creek to a point approximately 1,000 feet downstream of Bankston Road
Hurricane Creek Tributary 6	From the confluence with Hurricane Creek to a point approximately 90 feet downstream of Clubhouse Drive
Hurricane Creek Tributary 7	From the confluence with Hurricane Creek to a point approximately 420 feet upstream of Starlanding Road
Hurricane Creek Tributary 7.1	From the confluence with Hurricane Creek Tributary 7 to a point approximately 760 feet upstream of Starlanding Road
Hurricane Creek Tributary 8	From the confluence with Hurricane Creek to a point approximately 950 feet upstream of Getwell Road
Jackson Creek	From the downstream county boundary to a point approximately 1.4 miles upstream of State Route 304
Jackson Creek Tributary 1	From the confluence with Jackson Creek to a point approximately 0.9 mile upstream of Wilson Mills Road
Johnson Creek	From approximately 1.1 miles upstream of the confluence with Johnson Creek Tributary 4 to a point approximately 3,580 feet upstream of Church Road
Johnson Creek Tributary 2	From the confluence with Johnson Creek to a point approximately 300 feet upstream of Starlanding Road

TABLE 2. STREAMS STUDIED BY LIMITED DETAIL METHODS - continued

Stream	Limits of Revision/New Limited Detail Study
Johnson Creek Tributary 3	From the confluence with Johnson Creek to a point approximately 1,490 feet upstream of Poplar Corner Road
Johnson Creek Tributary 4	From the confluence with Johnson Creek to a point approximately 4,100 feet upstream of Starlanding Road
Johnson Creek Tributary 5	From the confluence with Johnson Creek to the upstream side of Fogg Road
Johnson Creek Tributary 6	From the confluence with Johnson Creek to the upstream side of Fogg Road
Lake Cormorant Bayou	From the county boundary to the upstream confluence with Johnson Creek and Norfolk Bayou
Licks Creek	From a point approximately 150 feet downstream of Lancaster Drive to a point approximately 1.5 miles upstream of Hacks Cross Road
Mussacuna Creek	From a point approximately 1,700 feet downstream of the City of Hernando Corporate Limits to a point approximately 980 feet upstream of Magnolia Driver
Norfolk Bayou*	From the confluence with Lake Cormorant Bayou to a point approximately 190 feet downstream of Highway 61
Pigeon Roost Creek	From the confluence with Coldwater River to a point approximately 0.7 mile upstream of the confluence with Byhalia Creek
Red Banks Creek	From a point approximately 4,370 feet upstream of Red Banks Road to county boundary
Short Creek	From the confluence with Coldwater River to a point approximately 1.8 miles upstream of Byhalia Road

* Flooding along Norfolk Bayou controlled by backwater from Lake Cormorant Bayou/Johnson Creek. Flood profile for Norfolk Bayou not included.

TABLE 2. STREAMS STUDIED BY LIMITED DETAIL METHODS - continued

Stream	Limits of Revision/New Limited Detail Study
Short Creek Tributary 1	From the confluence with Short Creek to a point approximately 1.0 mile upstream of the confluence with Short Creek
Short Fork Creek	From the confluence with the Coldwater River to a point approximately 130 feet downstream of the City of Hernando Corporate Limits
Short Fork Creek Tributary 1	From the confluence with Short Fork Creek to a point approximately 1,720 feet upstream of Byhalia Road
Short Fork Creek Tributary 2	From the confluence with Short Fork Creek to a point approximately 850 feet downstream of Foxwood Circle West
Short Fork Creek Tributary 3	From the confluence with Short Fork Creek to a point approximately 860 feet downstream of Pecan Drive
Turkey Creek	From the confluence with Camp Creek to a point approximately 750 feet upstream of Woolsey Road
Whites Creek	From the county boundary to a point approximately 2,000 feet upstream of the confluence with Whites Creek Tributary 1
Whites Creek Tributary 1	From the confluence with Whites Creek to a point approximately 2,100 feet upstream of the confluence with Whites Creek

Also, floodplain boundaries of stream that have been previously studied by detailed methods were redelineated based on more detailed and up-to-date topographic information.

Numerous flooding sources in the county were studied by approximate methods, and are the basis of the revised Zone A mappings included on the FIRMs. These streams include portions or all of the following: Cane Creek, Hurricane Creek, Hurricane Creek Tributary 3, Jackson Creek, Lake Cormorant Bayou, Mussacuna Creek and Tributaries, Panther Creek and Tributaries, and Wolf Creek and Tributaries.

This countywide FIS also incorporates the determination of letters issued by FEMA resulting in map changes that are still valid.

2.2 Community Description

DeSoto county is in northwestern Mississippi and is bordered by Shelby County, Tennessee, on the north; Crittenden County, Arkansas, and Tunica County, Mississippi, on the west; Tate County, Mississippi, on the south; and Marshall County, Mississippi, on the east. The county covers approximately 488 square miles, and has 5 strong municipalities, with over 55,000 parcels. The county is served by Interstate Routes 55 and 78, U.S. Highway 61, and State Highways 301, 304, and 305. The county is also served by the Burlington Northern Railroad and the Illinois Central Railroad.

Desoto County is the fastest growing county in Mississippi, as well as the fastest growing county in the Memphis metropolitan areas over the past 15 years. The population growth has averaged 5.8% per year over the past 15 years. The 2003 population of DeSoto County was reported to be 124,378 (Reference 22).

The economy of DeSoto County is diverse and consists of agriculture, trade, and manufacturing. The agriculture is balanced between crop farming and dairy and livestock production (Reference 1).

The topography of DeSoto County consists of rolling hills with large flat areas in creek and river bottoms. The climate of the county is generally mild and humid, with abundant rainfall that averages 52.2 inches annually. Temperatures range from monthly averages of 39 degrees Fahrenheit (°F) in January to 81°F in July (Reference 10).

2.3 Principal Flood Problems

Intense thunderstorms are a major cause of periodic localized flooding in DeSoto County. Along Camp Creek, Licks Creek, Nolehoe Creek, and Bean Patch Creek, the principal flooding problems arise from overflow into relatively flat overbanks. Camp Creek also tends to flood periodically at the mouth of the Coldwater River. Silt deposits and river backwater are the main cause of flooding along the Coldwater River.

Along Cow Pen Creek, Southaven Creek, Horn Lake Creek, and Rocky Creek, urbanization of the floodplain is a major cause of flooding.

The following gages are located on Pigeon Roost Creek:

Location	Gage Number	Period of Record	Drainage Area (sq. mi.)
Pigeon Roost Creek, near Watson	ARS17	1961-1975	54.1
Pigeon Roost Creek, near Byhalia	ARS34 USGS 07276500	1942-1949 1961-1975	115.0 115.0
Cuffawa Creek, near Chulahoma	ARS 32	1961-1975	32.7
Pigeon Roost Creek	USGS 07277000	1940-1984*	226.0

* Only peak stage data available for 1958-1984

Damaging floods have occurred in the Horn Lake and Southaven area in the past. Some of the more recent floods causing significant damage occurred in 1973 and 1975. The

Horn Lake Creek basin is experiencing rapid growth, with extensive development occurring adjacent to Horn Lake Creek and its tributaries. Flooding of streets and roads is a major problem along the stream, particularly along U.S. Highway No. 51 and Goodman Road. Previous floods have forced the closure of these two roads.

During this latest revision, the Arkabutla Reservoir was highlighted by the community as being a flooding problem, with past flooding occurring outside an easement which exists around the reservoir.

2.4 Flood Protection Measures

DeSoto County is protected from the 1-percent-annual-chance flood of the Mississippi River by a levee that runs near the western county boundary. This levee was built and is maintained by the USACE.

There are two dams in the City of Southaven on Greenbrook and Stonehedge Lakes. Greenbrook Lake is located on an unnamed tributary of Rocky Creek and has a drainage area of 1.34 squire miles. The dam provides a lake area of 72 acres at the crest of the spillway. Stonehedge Lake is located on Horn Lake Creek and Lateral E. The lake has a drainage area of 1.13 square miles and a lake surface of 33 acres at the crest of the spillway.

As described in the Horn Lake Creek and Tributaries General Design Memorandum, channel improvements were made on Horn Lake Creek and Rocky Creek (Reference 17). The channel improvements on Horn Lake Creek consist of drift removal and vegetation clearing. Vegetation clearing was conducted on Rocky Creek. These improvements were incorporated into the hydraulic analyses for the August 2000 revision, but have no significant effect on the 1-percent-annual-chance flood profiles.

Other flood protection measures are not known to exist within the study area, though some drainage structures have been enlarged on county roads. In addition, segments of Cow Pen Creek's channel have been cleared and snagged. These measures, however, do not protect the county from an extensive event such as the 1-percent-annual-chance flood.

Note that prior to this latest revision, Camp Creek was cleaned and widened, with these existing conditions utilized in this study.

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-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term, <u>average</u> period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 1-percent-annual-chance flood 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 peak discharge-frequency relationships for each flooding source studied by detailed methods affecting the community.

May 3, 1990, Countywide FIS Analyses

Peak discharges for Licks Creek, Camp Creek, and Nolehoe Creek were developed using the hydrograph method based on storm frequency rainfall data developed from Technical Paper No. 40 and the USACE HEC-1 computer model (References 11 and 23). The sub-area runoff hydrographs were routed and combined through the basin using the HEC-2 step-backwater computer program (Reference 12). Peak discharges for Bean Patch Creek were developed based on a USGS regional flood-frequency report (Reference 28).

For Southaven Creek and Lateral A, the peak frequency flows were generated by applying known ratios of similar creeks to each creek's 10-percent-annual-chance flood hydrograph. These 10-percent-annual-chance flood hydrographs were developed for a 24-hour storm using Technical Paper No. 40 and HEC-1 (References 11 and 23).

June 19, 1997, FIS Revision

Peak discharges for Horn Lake Creek, Cow Pen Creek, Rocky Creek, Lateral D, and Lateral E were developed using the storm frequency rainfall data developed in Technical Paper NO. 40 and the USACE HEC-1 computer program (References 11 and 23). The hypothetical storms were applied to the synthetic unit hydrographs to produce run-off hydrographs. The unit hydrographs were derived using Snyder's method. To develop composite hydrographs at all pertinent locations, the runoff hydrographs were combined and ruted using the Modified Puls method of hydrologic routing. Discharge-storage relationships necessary for Modified Puls routing were developed using the HEC-2 computer program, and were input into the HEC-1 model (Reference 11). Level-pool routing, a routing procedure in HEC-1, was conducted for Stonehedge Lake on Horn Lake Creek and Lateral E and for Greenbrook Lake on Rocky Creek. Hydrographs were routed through these lakes assuming that flood control storage was not available.

Peak discharges for Pigeon Roost and Red Banks Creeks were taken from the report entitled "Hydrologic Analysis for the Coldwater River Watershed" (Reference 21). Peak discharges from this report were developed using the HEC-1 computer program (Reference 11).

August 23, 2000, FIS Revision

No new hydrologic analyses were developed.

June 4, 2007, Countywide Revision

Peak discharges for the streams studied by detailed and limited detail methods were calculated based on either USGS regional regression equations (Reference 27), or based on the SCS (NRCS) method using the USACE HEC-HMS version 2.1 computer program (Reference 13).

For the discharges calculated with HEC-HMS, SCS Curve Numbers (CN) were calculated for each subbasin based on combinations of land use and soil type data. Average antecedent moisture conditions were assumed. Time of Concentration (TC) values were calculated based on the SCS Lag method, using subbasin slope, CN, and hydraulic length.

For the discharges calculated based on regional regression equations, the rural regression values were updated to reflect stream gage weighting and/or urbanization as necessary.

A summary of the drainage area-peak discharge relationships for all the streams is shown in Table 3, "Summary of Discharges."

TABLE 3. SUMMARY OF DISCHARGES

Detailed Study Streams

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs)			
		10-percent	2-percent	1-percent	0.2-percent
BEAN PATCH CREEK					
At College Road	3.7	1,800	2,629	3,089	3,924
At Church Road	1.0	676	971	1,133	1,426
CAMP CREEK					
At Church Road	30.9	13,651	19,503	22,748	28,641
At Highway 78	7.7	4,012	5,533	6,366	7,866
At Highway 178	5.3	3,360	4,599	5,275	6,490
COW PEN CREEK					
At confluence with Horn Lake Creek	4.9	3,471	4,566	4,980	5,928
At Goodman Road	4.6	3,357	4,427	4,844	5,849
HORN LAKE CREEK					
At State Line Road	41.6	11,347	16,210	18,290	24,204
At Goodman Road	14.7	8,671	11,889	13,197	16,297
HORN LAKE CREEK TRIBUTARY 1					
At Goodman Road	1.3	1,465	1,918	2,150	2,591
At nail Road	0.6	783	1,022	1,126	1,402
HURRICANE CREEK TRIBUTARY 2					
At Sunset Farms Drive	3.8	1,646	2,233	2,559	3,080
At City of Hernando Corporate Limits	1.7	1,059	1,417	1,633	1,952
JOHNSON CREEK					
At Highway 61	33.4	6,252	9,146	10,718	13,422
At Baldwin Road	18.3	4,538	6,472	7,523	9,264
JOHNSON CREEK TRIBUTARY 1					
At Highway 61	4.2	958	1,282	1,442	1,713
At confluence with Johnson Creek	6.6	1,088	1,492	1,687	2,031
LATERAL A					
At confluence of Lateral A Tributary 1	1.2	1,467	1,938	2,151	2,632
At Goodman Road	0.4	601	790	875	1,067

TABLE 3. SUMMARY OF DISCHARGES - continued

Detailed Study Streams

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs) 10-percent	2-percent	1-percent	0.2-percent
LATERAL A TRIBUTARY 1					
At confluence with Lateral A	0.3	337	442	487	602
LATERAL D					
At confluence with Horn Lake Creek	3.4	2,937	3,926	4,276	5,010
At Church Road	2.1	1,675	2,273	2,516	2,944
LATERAL E					
At confluence with Stonehedge Lake	1.9	905	1,220	1,357	1,693
LICKS CREEK					
At confluence with Camp Creek	9.9	4,395	6,293	7,348	9,268
At Highway 78	4.8	2,308	3,227	3,733	4,651
MISSISSIPPI RIVER					
At downstream County Boundary	*	*	*	1,970,000	*
NOLEHOE CREEK					
At confluence with Camp Creek	9.3	4,310	6,181	7,217	9,095
At Malone Road	1.7	1,333	1,842	2,120	2,622
PIGEON ROOST CREEK					
At confluence with Red Banks Creek	223.1	43,000	63,500	74,500	97,000
RED BANKS CREEK					
At confluence with Pigeon Roost Creek	40.8	13,000	19,500	22,500	29,000
ROCKY CREEK					
At confluence with Horn Lake Creek	7.3	3,754	4,856	5,293	6,366
At Interstate 55	6.5	3,880	4,898	5,314	6,312
SOUTHAVEN CREEK					
At confluence with Horn Lake Creek	2.7	1,800	*	2,840	*
BEAN PATCH CREEK					
At confluence with Camp Creek	11.3	*	*	7,439	*
At Pleasant Hill Road	5.9	*	*	5,085	*

* Data not available

TABLE 3. SUMMARY OF DISCHARGES - continued

Limited Detail Study Streams

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs) 10-percent	2-percent	1-percent	0.2-percent
BEAN PATCH CREEK TRIBUTARY 1					
At confluence with Bean Patch Creek	1.5	*	*	1,912	*
At Sandy Betts Road	0.6	*	*	818	*
BEAN PATCH CREEK TRIBUTARY 2					
At confluence with Bean Patch Creek	1.2	*	*	1,449	*
BEAN PATCH CREEK TRIBUTARY 3					
At confluence with Bean Patch Creek	0.7	*	*	755	*
At upstream study limit	0.2	*	*	207	*
BYHALIA CREEK					
At Myers Road	32.7	*	*	22,466	*
At County Boundary	26.4	*	*	19,823	*
CAMP CREEK					
At confluence with Coldwater River	63.6	*	*	32,123	*
At Montrose Drive	1.3	*	*	1,270	*
CAMP CREEK TRIBUTARY 1					
At Craft Road	0.1	*	*	1,496	*
At upstream study limit	1.3	*	*	108	*
CAMP CREEK TRIBUTARY 2					
At confluence with Camp Creek	1.6	*	*	1,506	*
At Lakeview Drive	0.3	*	*	317	*
CANE CREEK TRIBUTARY 1					
At confluence with Cane Creek	3.8	*	*	2,321	*
At Robertson Gin Road	3.0	*	*	2,466	*
CANE CREEK TRIBUTARY 1.1					
At confluence with Cane Creek Tributary 1	1.2	*	*	1,230	*

* Data not available

TABLE 3. SUMMARY OF DISCHARGES – continued

Limited Detail Study Streams

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs) 10-percent	2-percent	1-percent	0.2-percent
COLDWATER RIVER					
At confluence with Camp Creek	548.0	*	*	108,968	*
At confluence with Pigeon Roost Creek	450.5	*	*	79,804	*
At County Boundary	176.2	*	*	15,548	*
COLDWATER RIVER TRIBUTARY 5					
At confluence with Coldwater River	4.5	*	*	4,010	*
At Bethel Road	2.4	*	*	2,530	*
COLDWATER RIVER TRIBUTARY 6					
At confluence with Coldwater River	0.8	*	*	837	*
COLDWATER RIVER TRIBUTARY 7					
At Center Hill Road	1.9	*	*	1,544	*
At upstream study limit	0.2	*	*	169	*
COLDWATER RIVER TRIBUTARY 7.1					
At Burton Road	0.6	*	*	702	*
COLDWATER RIVER TRIBUTARY 8					
At confluence with Coldwater River	1.9	*	*	1,811	*
At Center Hill Road	0.4	*	*	394	*
COLDWATER RIVER TRIBUTARY 8.1					
At confluence with Coldwater River Tributary 8	0.2	*	*	192	*
DRY CREEK					
At confluence with Coldwater River	4.3	*	*	2,881	*
HURRICANE CREEK					
At Odom Road	20.4	*	*	9,903	*
At confluence with Hurricane Creek Tributary 4	14.4	*	*	7,270	*
At Highway 51	12.3	*	*	6,666	*
1,700 feet upstream of confluence with Hurricane Creek Tributary 6	10.1	*	*	5,954	*

* Data not available

TABLE 3. SUMMARY OF DISCHARGES – continued

Limited Detail Study Streams

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs) 10-percent	2-percent	1-percent	0.2-percent
HURRICANE CREEK – continued					
1,200 feet upstream of confluence with Hurricane Creek Tributary 7	4.7	*	*	3,353	*
3,850 feet downstream of Getwell Road	2.3	*	*	2,035	*
1,550 feet downstream of Getwell Road	1.4	*	*	1,217	*
At Pleasant Hill Road	0.6	*	*	647	*
At Bridgemore Drive	0.4	*	*	453	*
HURRICANE CREEK TRIBUTARY 3.1					
At confluence with Hurricane Creek Tributary 3.1.1	4.8	*	*	2,943	*
1,500 feet downstream of railroad	3.5	*	*	2,233	*
At Starlanding Road	3.1	*	*	2,193	*
At confluence with Hurricane Creek Tributary 3.1.2	1.5	*	*	1,266	*
2,500 feet upstream of confluence with Hurricane Creek Tributary 3.1.2	1.1	*	*	1,072	*
HURRICANE CREEK TRIBUTARY 3.1.1					
1,900 feet downstream of Starlanding Road	0.2	*	*	292	*
At Starlanding Road	0.1	*	*	232	*
HURRICANE CREEK TRIBUTARY 3.1.2					
At Highway 51	1.0	*	*	1,130	*
HURRICANE CREEK TRIBUTARY 4					
2,300 feet upstream of confluence with Hurricane Creek	4.4	*	*	3,469	*
At railroad	2.0	*	*	1,960	*
1,950 feet downstream of limit of study	0.4	*	*	614	*
HURRICANE CREEK TRIBUTARY 5					
At mouth	1.9	*	*	1,521	*
At Highway 51	1.4	*	*	1,196	*
950 feet upstream of Pleasant Hill Road	0.9	*	*	910	*

* Data not available

TABLE 3. SUMMARY OF DISCHARGES – continued

Limited Detail Study Streams

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs) 10-percent	2-percent	1-percent	0.2-percent
HURRICANE CREEK TRIBUTARY 6					
1,700 feet upstream of confluence with Hurricane Creek	1.3	*	*	1,110	*
At Green T Road	0.7	*	*	854	*
2,000 feet upstream of Green T Road	0.5	*	*	748	*
HURRICANE CREEK TRIBUTARY 7					
At confluence with Hurricane Creek	3.9	*	*	2,627	*
6,750 feet upstream of confluence with Hurricane Creek Tributary 7.1	1.5	*	*	1,319	*
4,200 feet downstream of Starlanding Road	0.7	*	*	713	*
At Starlanding Road	0.2	*	*	407	*
HURRICANE CREEK TRIBUTARY 7.1					
At Baptist Road	1.6	*	*	1,250	*
4,200 feet upstream of Baptist Road	1.2	*	*	1,112	*
2,150 feet downstream of Starlanding Road	0.5	*	*	569	*
At Starlanding Road	0.3	*	*	394	*
HURRICANE CREEK TRIBUTARY 8					
950 feet up stream of confluence with Hurricane Creek	0.8	*	*	882	*
2,450 feet downstream of Getwell Road	0.6	*	*	684	*
At Getwell Road	0.3	*	*	370	*
JACKSON CREEK					
At Green River Road	13.1	*	*	3,683	*
At confluence of Jackson Creek Tributary 1	9.6	*	*	3,242	*
JACKSON CREEK TRIBUTARY 1					
At confluence with Jackson Creek	4.8	*	*	1,162	*
At Wilson Mills Road	1.2	*	*	725	*

* Data not available

TABLE 3. SUMMARY OF DISCHARGES – continued

Limited Detail Study Streams

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs) 10-percent	2-percent	1-percent	0.2-percent
JOHNSON CREEK					
4,500 feet downstream of confluence with Johnson Creek Tributary 5	14.5	*	*	6,760	*
At Austin Road	8.4	*	*	4,228	*
900 feet downstream of confluence with Johnson Creek Tributary 6	8.0	*	*	4,155	*
At State Highway 301	7.0	*	*	4,056	*
1,250 feet upstream of State Highway 301	4.5	*	*	2,643	*
900 feet downstream of limit of study	3.3	*	*	2,247	*
100 feet downstream of limit of study	0.8	*	*	741	*
JOHNSON CREEK TRIBUTARY 2					
3,900 feet upstream of confluence with Johnson Creek	1.2	*	*	1,117	*
At Starlanding Road	0.9	*	*	877	*
JOHNSON CREEK TRIBUTARY 3					
1,250 feet upstream of confluence with Johnson Creek	5.3	*	*	2,500	*
At Delta View Road	4.5	*	*	2,170	*
At Church Road	3.3	*	*	1,669	*
2,700 upstream of Church Road	2.9	*	*	1,560	*
500 feet downstream of limit of study	2.1	*	*	1,301	*
JOHNSON CREEK TRIBUTARY 4					
800 feet upstream of confluence with Johnson Creek	2.7	*	*	1,918	*
950 feet upstream of Starlanding Road	1.6	*	*	1,403	*
JOHNSON CREEK TRIBUTARY 5					
3,200 feet upstream of confluence with Johnson Creek	5.0	*	*	2,817	*
800 feet downstream of State Highway 301	3.8	*	*	2,302	*
At Starlanding Road	3.0	*	*	1,979	*
3,750 feet downstream of Fogg Road	1.8	*	*	1,435	*
At Fogg Road	1.3	*	*	1,274	*

* Data not available

TABLE 3. SUMMARY OF DISCHARGES – continued

Limited Detail Study Streams

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs) 10-percent	2-percent	1-percent	0.2-percent
JOHNSON CREEK TRIBUTARY 6					
2,400 feet upstream of confluence with Johnson Creek	2.4	*	*	1,801	*
At Fogg Road	1.9	*	*	1,741	*
LAKE CORMORANT BAYOU					
At Highway 61	55.5	*	*	13,191	*
LICKS CREEK					
At Hacks Cross Road	1.1	*	*	1,098	*
At upstream study limit	0.2	*	*	185	*
MUSSACUNA CREEK					
At City of Hernando Corporate Limits	2.5	*	*	2,156	*
At Magnolia Drive	0.6	*	*	876	*
NORFOLK BAYOU					
At confluence with Lake Cormorant Bayou	18.7	*	*	1,296	*
PIGEON ROOST CREEK					
At confluence with Coldwater River	225.9	*	*	74,500	*
RED BANKS CREEK					
At County Boundary	34.5	*	*	21,145	*
SHORT CREEK					
At Vaiden Lane	3.8	*	*	3,348	*
At Byhalia Road	2.2	*	*	2,177	*
SHORT CREEK TRIBUTARY 1					
At confluence with Short Creek	0.2	*	*	412	*
SHORT FORK CREEK					
At Johnston Road	14.0	*	*	10,829	*
At confluence of Short Fork Creek Tributary 2	6.2	*	*	5,892	*
SHORT FORK CREEK TRIBUTARY 1					
At confluence with Short Fork Creek	3.6	*	*	2,845	*
At Byhalia Road	0.3	*	*	351	*

* Data not available

TABLE 3. SUMMARY OF DISCHARGES – continued

Limited Detail Study Streams

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs) 10-percent	2-percent	1-percent	0.2-percent
SHORT FORK CREEK TRIBUTARY 2					
At confluence with Short Fork Creek	1.4	*	*	1,386	*
At Byhalia Road	1.0	*	*	962	*
SHORT FORK CREEK TRIBUTARY 3					
At confluence with Short Fork Creek	0.9	*	*	1,045	*
TURKEY CREEK					
At Craft Road	2.4	*	*	2,200	*
At Highway 305	0.7	*	*	875	*
WHITES CREEK					
1,400 feet downstream of Wetonga Lane	4.6	*	*	3,163	*
2,600 feet upstream of Wetonga Lane	3.2	*	*	2,379	*
1,300 feet upstream of confluence with Whites Creek Tributary 1	0.7	*	*	889	*
WHITES CREEK TRIBUTARY 1					
1,150 feet upstream of mouth	1.4	*	*	1,371	*

* Data not available

Additional flood elevation data for selected recurrence intervals are shown in Table 4, “Summary of Stillwater Elevations.”

TABLE 4. SUMMARY OF STILLWATER ELEVATIONS

FLOODING SOURCE	ELEVATION (FEET NAVD) 10-percent	2-percent	1-percent	0.2-percent
Arkabutla Reservoir	*	*	244.6	*

* Data not available

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 Flood Insurance Rate Map (FIRM) represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data table 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 report in conjunction with the data shown on the FIRM.

May 3, 1990, Countywide FIS Analyses

Water-surface elevations of floods of the selected recurrence intervals were computed using the USACE HEC-2 step-backwater computer program (Reference 12). The Mississippi River elevations were obtained from the USACE (Reference 19). The starting water-surface elevations for the streams studied, except for the Mississippi River, were developed using the slope/area method.

Areas of the county that are protected by levees are subject to potential risk due to possible failure or overtopping of the levee. These areas were delineated by applying the 1-percent-annual-chance flood elevation determined from the “levee in place” analysis.

Roughness coefficients (Manning’s “n”) for the backwater analysis were assigned on the basis of field inspection of floodplain areas. Channel “n” values ranged from 0.013 to 0.060, and overbank “n” value ranged from 0.060 to 0.080.

June 19, 1997, FIS Revision

Floodplain overbank extension was accomplished using a one-foot contour interval map for the area developed using aerial photography and an analytical plotter. When necessary, USGS topographic maps were used to supplement the aerial topographic information (Reference 26).

Water-surface elevations of floods of the selected recurrence intervals were computed using the USACE HEC-2 step-backwater computer program (Reference 12). Starting water-surface elevations were determined using the slope/area method.

Roughness factors (Manning’s “n”) used in the hydraulic computations were chosen by field inspection and engineering experience. Existing channel roughness for Horn Lake and Rocky Creeks were adjusted to reflect scheduled USACE channel improvements (See Section 2.4). A roughness coefficient was used for both drift removal and vegetative clearing. For the remaining streams, channel “n” values ranged from 0.035 to 0.070, and overbank “n” values ranged from 0.080 to 0.130.

August 23, 2000, FIS Revision

Water-surface elevations of floods of the selected recurrence interval were computed using the USACE HEC-2 step-backwater computer program (Reference 12).

June 4, 2007, Countywide Revision

Cross section geometries were obtained from a combination of terrain data and field surveys. Bridges and culverts located within the detailed study limits were field surveyed to obtain elevation data and structural geometry.

Downstream boundary conditions for the hydraulics models were set to normal depth using a starting slope calculated from values taken from topographic data, or where applicable, derived from the water surface elevations of existing effective flood elevations or recalculated flood elevations. Water surface profiles were computed through the use of the USACE HEC-RAS version 3.1.2 computer program (Reference 14). The model was run for the 10-, 2,- 1-, and 0.2-percent-annual-chance storms for detailed study streams, and run for the 1-percent-annual-chance storm for the limited detail and approximate studies. The revised study of Cow Pen Creek was preformed by the Memphis District Army Corps of Engineers (Reference 18). Frequency flood elevations for Arkabutla Reservoir were derived from daily stage and discharge records for the lake (Reference 20).

Manning's "n" values used in the hydraulic computations for both channel and overbank areas were based on recent digital orthophotography and field investigations.

Table 5, "Summary of Roughness Coefficients," shows the ranges of the channel and overbank roughness factors used in the computations for all of the streams studied by detailed and limited detail methods.

TABLE 5. SUMMARY OF ROUGHNESS COEFFICIENTS

Detailed Study Streams

FLOODING SOURCE	CHANNEL "N"	OVERBANK "N"
BEAN PATCH CREEK	0.035-0.070	0.030-0.130
CAMP CREEK	0.020-0.050	0.035-0.150
COW PEN CREEK	0.040-0.060	0.080-0.110
HORN LAKE CREEK TRIBUTARY 1	0.045-0.060	0.050-0.150
HURRICANE CREEK TRIBUTARY 2	0.040-0.050	0.050-0.080
JOHNSON CREEK	0.035-0.050	0.020-0.130
JOHNSON CREEK TRIBUTARY 1	0.030-0.040	0.020-0.130
LATERAL A	0.038-0.055	0.040-0.150
LATERAL A TRIBUTARY 1	0.040-0.050	0.035-0.065
LICKS CREEK	0.030-0.080	0.030-0.160
NOLEHOE CREEK	0.035-0.060	0.030-0.130

TABLE 5. SUMMARY OF ROUGHNESS COEFFICIENTS -continued

Limited Detailed Study Streams

FLOODING SOURCE	CHANNEL "N"	OVERBANK "N"
BEAN PATCH CREEK	0.035-0.040	0.040-0.080
BEAN PATCH CREEK TRIBUTARY 1	0.035-0.060	0.045-0.150
BEAN PATCH CREEK TRIBUTARY 2	0.010-0.050	0.050-0.141
BEAN PATCH CREEK TRIBUTARY 3	0.050	0.050-0.150
BYHALIA CREEK	0.035-0.040	0.040-0.150
CAMP CREEK	0.035-0.060	0.038-0.080
CAMP CREEK TRIBUTARY 1	0.035-0.050	0.040-0.080
CAMP CREEK TRIBUTARY 2	0.040-0.050	0.040-0.100
CANE CREEK TRIBUTARY 1	0.040	0.050-0.070
CANE CREEK TRIBUTARY 1.1	0.045	0.05
COLDWATER RIVER	0.035-0.100	0.040-0.200
COLDWATER RIVER TRIBUTARY 5	0.035-0.040	0.040-0.050
COLDWATER RIVER TRIBUTARY 6	0.035	0.040-0.100
COLDWATER RIVER TRIBUTARY 7	0.030-0.100	0.040-0.150
COLDWATER RIVER TRIBUTARY 7.1	0.035-0.070	0.040-0.150
COLDWATER RIVER TRIBUTARY 8	0.040-0.080	0.030-0.150
COLDWATER RIVER TRIBUTARY 8.1	0.040	0.080-0.150
DRY CREEK	0.040-0.045	0.045-0.100
HURRICANE CREEK	0.045-0.050	0.045-0.065
HURRICANE CREEK TRIBUTARY 3.1	0.040-0.045	0.045-0.080
HURRICANE CREEK TRIBUTARY 3.1.1	0.045-0.060	0.050-0.080
HURRICANE CREEK TRIBUTARY 3.1.2	0.040	0.045-0.060
HURRICANE CREEK TRIBUTARY 4	0.045-0.055	0.045-0.080
HURRICANE CREEK TRIBUTARY 5	0.040-0.050	0.050-0.080
HURRICANE CREEK TRIBUTARY 6	0.045	0.040-0.060
HURRICANE CREEK TRIBUTARY 7	0.045-0.050	0.050-0.060
HURRICANE CREEK TRIBUTARY 7.1	0.045-0.050	0.055-0.080
HURRICANE CREEK TRIBUTARY 8	0.045	0.040-0.060
JACKSON CREEK	0.030	0.035-0.040
JACKSON CREEK TRIBUTARY 1	0.030-0.035	0.040-0.060
JOHNSON CREEK	0.045-0.060	0.045-0.100
JOHNSON CREEK TRIBUTARY 2	0.035-0.050	0.040-0.150
JOHNSON CREEK TRIBUTARY 3	0.045-0.055	0.050-0.080
JOHNSON CREEK TRIBUTARY 4	0.045-0.055	0.050-0.080
JOHNSON CREEK TRIBUTARY 5	0.050	0.045-0.080
JOHNSON CREEK TRIBUTARY 6	0.045-0.050	0.050-0.100

TABLE 5. SUMMARY OF ROUGHNESS COEFFICIENTS - continued

Limited Detail Study Streams		
FLOODING SOURCE	CHANNEL "N"	OVERBANK "N"
LAKE CORMORANT BAYOU	0.035	0.040
LICKS CREEK	0.035-0.098	0.030-0.150
MUSSACUNA CREEK	0.045-0.050	0.050-0.150
NORFOLK BAYOU	0.035-0.040	0.045-0.050
PIGEON ROOST CREEK	0.060	0.070-0.136
RED BANKS CREEK	0.030-0.050	0.040-0.150
SHORT CREEK	0.035-0.045	0.040-0.100
SHORT CREEK TRIBUTARY 1	0.035-0.040	0.045-0.070
SHORT FORK CREEK	0.030-0.050	0.030-0.100
SHORT FORK CREEK TRIBUTARY 1	0.035-0.050	0.035-0.100
SHORT FORK CREEK TRIBUTARY 2	0.035-0.040	0.040-0.080
SHORT FORK CREEK TRIBUTARY 3	0.050-0.055	0.15
TURKEY CREEK	0.040-0.055	0.030-0.100
WHITES CREEK	0.035-0.040	0.040-0.070
WHITES CREEK TRIBUTARY 1	0.040	0.040-0.080

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the Flood Insurance Rate Map (Exhibit 2).

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

Qualifying bench marks within a given jurisdiction that are cataloged by the National Geodetic Survey (NGS) and entered into the National Spatial Reference System (NSRS) as First or Second Order Vertical and have a vertical stability classification of A, B, or C are shown and labeled on the FIRM with their 6-character NSRS permanent Identifier.

Bench marks cataloged by the NGS and entered into the NSRS vary widely in vertical stability classification. NSRS vertical stability classifications are as follows:

> Stability A: Monuments of the most reliable nature, expected to hold position/elevation well (e.g., mounted in bedrock)
>
> Stability B: Monuments which generally hold their position/elevation well (e.g., concrete bridge abutment)
>
> Stability C: Monuments which may be affected by surface ground movements (e.g., concrete monuments below frost line)

Stability D: Mark of questionable or unknown vertical stability (e.g., concrete monument above frost line, or steel witness post)

In addition to NSRS benchmarks, the FIRM may also show vertical control monument established by a local jurisdiction; these monuments will be shown on the FIRM with the appropriate designations. Local monuments will only be placed on the FIRM if the community has requested that they be included, and if the monuments meet the aforementioned NSRS inclusion criteria.

To obtain current elevation, description, and/or location information for bench marks shown on the FIRM for this jurisdiction, please contact the Information Services Branch of the NGS a (301) 713-3242, or visit its website at http://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 Technical Support Data Notebook associated with the FIS report and FIRM for this community. Interested individuals may contact FEMA to access these data.

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 in use for newly created or revised FIS reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD29). With the finalization of the North American Vertical Datum of 1988 (NAVD88), many FIS reports and FIRMs are being prepared using NAVD88 as the referenced vertical datum.

All flood elevations shown in this FIS report and on the FIRM are referenced to NAVD88. Structure and ground elevations in the community must, therefore, be referenced to NAVD88. It is important to note that adjacent communities may be referenced to NGVD29. This may result in differences in Base Flood Elevations (BFEs) across the corporate limits between the communities.

The elevations shown in the FIS report and on the FIRM for DeSoto County are referenced to NAVD88. Ground, structure, and flood elevations may be compared and/or referenced to NGVD29 by applying a conversion factor. To convert elevations from NAVD88 to NGVD29, add 0.07 feet to the NAVD88 elevation. The 0.07 feet value is an average for the entire county. The adjustment value was determined using the USACE Corpscon 6.0.1 computer program (USACE, 2004) and topographic maps (U.S. Department of the Interior, 1972). The BFEs shown on the FIRM represent whole-foot rounded values. For example, a BFE of 12.4 feet will appear as 12 feet on the FIRM, and 12.6 feet as 13 feet. Users who wish to convert the elevations in this FIS report to NGVD29 should apply the stated conversion factor to elevations shown on the Flood Profiles and supporting data tables in the FIS report, which are shown at a minimum to the nearest 0.1-foot.

For more information regarding conversion between the NGVD and the NAVD, see the FEMA publication entitled *Converting the National Flood Insurance Program to the*

North American Vertical Datum of 1988 (FEMA, 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 provides 1-percent-annual-chance flood elevations and delineations of the 1- and 0.2-percent-annual-chance floodplain boundaries and 1-percent-annual-chance floodway to assist communities in developing floodplain management measures. This information is presented on the FIRM and in many components of the FIS report, including Flood Profiles, Floodway Data Table and Summary of Stillwater Elevations Table. Users should reference the data presented in the FIS report as well as additional information that may be available at the local map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance flood is employed to indicate additional areas of flood risk in the community. For each stream studied by detailed methods, the 1- and 0.2-percent-annual-chance floodplain boundaries have been delineated using the flood elevations determined at each cross section.

For the May 3, 1990, FIS, the floodplain boundaries were interpolated between cross-sections using topographic maps at scales of 1:24,000 and 1:62,500 with contour intervals of 10 and 20 feet, respectively (References 25 and 26).

For the June 19, 1997, FIS revision, the floodplain boundaries were interpolated between cross-sections using topographic maps, which were compiled from aerial photographs, at a scale of 1:24,000 with a contour interval of 10 feet (Reference 26).

For the August 23, 2000, FIS revision, the floodplain boundaries were interpolated between cross sections using topographic maps, dated October 1995, at a scale of 1”=500’, with a contour interval of 5 feet; and dated April 1997, at a scale of 1”=60’, with a contour interval of 1 foot. For the 2000 revision, the 1-percent-annual-chance floodplain boundaries for the streams studied by approximate methods were delineated using the previously published Flood Hazard Boundary Map for DeSoto County and the FIRM for the City of Hernando (References 2 and 24).

For this revision, 1-foot and 5-feet interval digital topographic contours provided by the County were used to delineate the floodplain boundaries. The majority of the topographic data was acquired in 2001, with the area covering the “Delta region” west of the Arkabutla Reservoir being acquired in 2004. Both data sets were derived from photogrammetric methods.

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

For the streams studied by limited detail and approximate methods, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM (Exhibit 2).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent-annual-chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 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 floodway presented in this FIS report and on the FIRM was 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 have been tabulated for selected cross sections of detailed study streams (Table 6). For detailed study streams, in cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

Portions of the floodways for Horn Lake Creek and Pigeon Roost Creek extend beyond the county boundary.

Floodways were not computed for the Mississippi River and Southaven Creek

Near the mouths of streams studied in detail, floodway computations are made without regard to flood elevations on the receiving water body. Therefore, “Without Floodway” elevations presented in Table 6, “Floodway Data,” for certain downstream cross sections are lower than the regulatory flood elevations in that area, which must take into account the 1-percent-annual-chance flooding due to backwater from other sources.

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. For detailed study streams, a listing of stream velocities at selected cross sections is provided in Table 6. In order to reduce the risk of property damage in areas where the stream velocities are high, the county may wish to restrict development in areas outside the floodway.

The area between the floodway and 1-percent-annual-chance floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 1-percent-annual-chance 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.

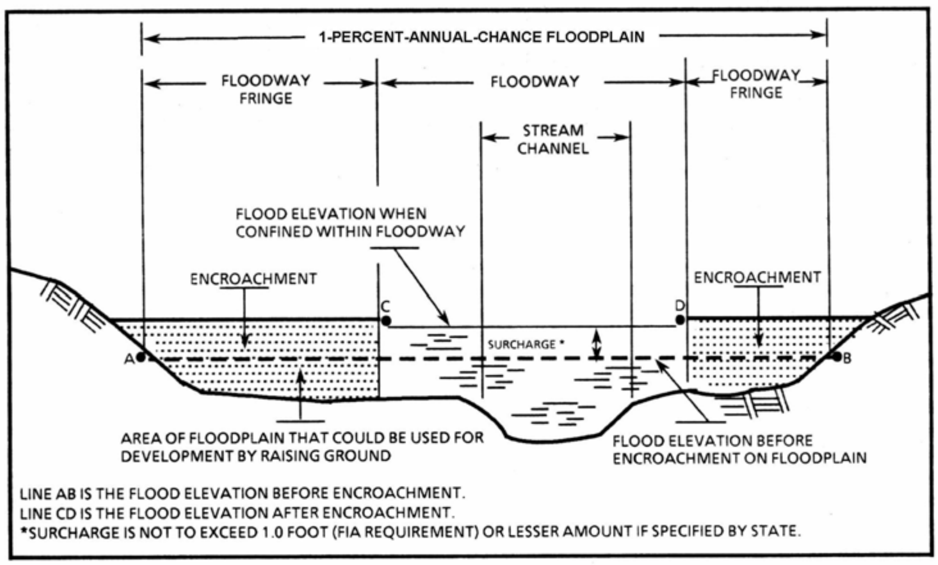

FIGURE 1. FLOODWAY SCHEMATIC

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Bean Patch Creek								
E	24,221[1]	97	488	6.3	319.3	319.3	319.4	0.1
F	28,309[1]	85	606	3.3	334.0	334.0	334.6	0.6
G	32,728[1]	228	617	2.6	347.0	347.0	347.9	0.9
H	35,296[1]	72	260	3.5	357.4	357.4	357.5	0.1
I	38,681[1]	30	52	4.9	372.1	372.1	372.4	0.3
Camp Creek								
A	15,339[2]	3,300	19,940	5.8	261.4	261.4	262.1	0.7
B	21,873[2]	3,250	16,332	5.2	266.7	266.7	267.5	0.8
C	27,751[2]	4,700	26,452	5.2	274.7	274.7	275.5	0.8
D	35,049[2]	2,700	12,968	7.5	282.6	282.6	283.3	0.7
E	42,767[2]	2,200	8,956	7.7	291.0	291.0	291.8	0.8
F	47,142[2]	1,400	4,482	5.1	297.1	297.1	298.0	0.9
G	51,620[2]	1,587	4,841	4.7	303.0	303.0	303.3	0.3
H	54,396[2]	1,241	5,659	2.6	306.4	306.4	307.2	0.8
I	58,390[2]	101	1,319	5.8	311.3	311.3	312.1	0.8
J	62,702[2]	184	1,231	5.6	319.5	319.5	320.3	0.8
K	67,463[2]	116	1,245	4.7	333.4	333.4	333.6	0.2
L	76,120[2]	545	995	3.2	348.4	348.4	348.6	0.2
M	79,292[2]	65	154	8.2	357.0	357.0	357.5	0.5

[1] Feet above confluence with Camp Creek
[2] Feet above confluence with Coldwater River

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

DeSOTO COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

BEAN PATCH CREEK - CAMP CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Cow Pen Creek								
A	5,597	450	899	5.5	257.1	256.4[2]	257.2	0.8
B	6,880	450	974	7.1	260.6	260.6	260.8	0.2
C	8,026	400	1,527	3.2	262.4	262.4	262.8	0.4
D	9,615	300	956	5.1	264.0	264.0	264.5	0.5
E	9,768	157	853	5.7	264.3	264.3	265.0	0.7
F	10,560	133	754	6.4	265.8	265.8	266.3	0.5
G	11,621	167	615	6.5	268.6	268.6	268.6	0.0
H	13,105	120	721	5.8	271.8	271.8	271.9	0.1
I	13,200	250	1,277	4.3	273.7	273.7	274.0	0.3
J	15,100	238	822	4.0	278.0	278.0	278.5	0.5
K	17,424	310	1,405	2.2	283.2	283.2	284.1	0.9
L	19,420	315	1,232	2.1	290.0	290.0	290.4	0.4
M	20,724	120	528	5.0	292.5	292.5	293.5	1.0
N	21,859	210	877	2.0	296.9	296.9	297.8	0.9
O	22,757	120	266	6.4	300.2	300.2	300.5	0.3
P	23,623	20	165	10.3	308.1	308.1	308.6	0.5

[1] Feet above confluence with Horn Lake Creek
[2] Elevations computed without consideration of backwater effects from Horn Lake Creek

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY
DeSOTO COUNTY, MS
AND INCORPORATED AREAS

FLOODWAY DATA

COW PEN CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Horn Lake Creek								
A	67,690	1,293[3]	9,254	2.0	233.4	233.4	234.4	1.0
B	69,337	1,082	7,157	2.6	234.8	234.8	235.7	0.9
C	73,070	1,190	9,051	2.0	238.4	238.4	239.4	1.0
D	77,611	1,803	10,409	1.7	242.4	242.4	243.4	1.0
E	78,545	1,675	10,891	1.7	243.4	243.4	244.4	1.0
F	80,773	1,750	11,354	1.6	246.6	246.6	247.6	1.0
G	85,103	1,645	8,687	2.1	249.1	249.1	250.1	1.0
H	90,436	1,550	8,907	1.9	254.7	254.7	255.7	1.0
I	93,129	1,630	9,705	1.7	257.2	257.2	257.8	0.6
J	96,080	2,540	12,003	1.3	259.1	259.1	259.5	0.4
K	98,678	1,400	7,124	2.1	262.4	262.4	262.9	0.5
L	101,318	1,556	6,456	2.4	266.2	266.2	266.7	0.5
M	102,469	1,960	8,343	1.6	269.3	269.3	270.3	1.0
N	103,430	1,841	7,092	1.9	270.4	270.4	271.4	1.0
O	103,921	1,791	6,925	1.9	271.2	271.2	271.9	0.7
P	105,120	1,327	7,024	1.9	271.8	271.8	272.6	0.8
Q	107,918	1,100	5,760	1.9	273.9	273.9	274.8	0.9
R	111,339	151	914	11.3	279.5	279.5	280.5	1.0
S	113,414	1,040	8,402	2.9	282.2	282.2	282.6	0.4
T	114,946	700	3,186	2.6	284.5	284.5	285.4	0.9
U	116,477	700	2,139	2.8	288.1	288.1	288.5	0.4

[1] Feet above confluence with Horn Lake
[2] Value is inaccurate, as the floodway width has been adjusted in this area to match topographic-based floodplain redelineation
[3] Width extends beyond county boundary

Based on DeSoto County FIS dated 08/23/2000

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY
DeSOTO COUNTY, MS
AND INCORPORATED AREAS

FLOODWAY DATA

HORN LAKE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Horn Lake Creek (continued)								
V	117,501[1]	88	1,182	5.1	289.6	289.6	290.4	0.8
W	118,805[1]	673	2,693	2.2	294.8	294.8	295.3	0.5
X	119,946[1]	673	1,786	2.7	297.4	297.4	298.4	1.0
Y	122,047[1]	500	2,252	2.1	305.7	305.7	306.7	1.0
Z	124,397[1]	420	1,686	2.1	310.7	310.7	311.7	1.0
AA	125,822[1]	580	3,033	1.1	317.0	317.0	317.8	0.8
AB	127,010[1]	620	1,897	1.8	318.5	318.5	319.5	1.0
AC	128,198[1]	736	1,479	1.7	323.7	323.7	323.8	0.1
AD	131,102[1]	350	917	2.7	333.7	333.7	334.6	0.9
AE	133,637[1]	220	599	2.5	345.5	345.5	345.7	0.2
AF	134,587[1]	210	661	2.3	348.0	348.0	348.9	0.9
AG	137,090[1]	128	84	6.3	363.9	363.9	363.9	0.0
Horn Lake Creek Tributary 1								
A	5,593[2]	229	2,014	0.8	266.0	266.0	266.9	0.9
B	8,045[2]	93	426	2.6	282.5	282.5	282.9	0.4
C	9,597[2]	339	2,103	0.5	292.0	292.0	292.1	0.1

[1] Feet above confluence with Horn Lake
[2] Feet above confluence with Horn Lake Creek

Portions of this table are based on DeSoto County FIS dated 08/23/2000

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY
DeSOTO COUNTY, MS
AND INCORPORATED AREAS

FLOODWAY DATA

HORN LAKE CREEK - HORN LAKE CREEK TRIBUTARY 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Hurricane Creek								
A	2,872[1]	111	5860	5.1	244.8	244.8	245.1	0.3
B	5,323[1]	162	1708	8.8	248.7	248.7	248.9	0.2
C	8,168[1]	131	1393	10.7	251.8	251.8	251.9	0.1
D	12,137[1]	128	1886	6.5	258.0	258.0	258.0	0.0
E	16,092[1]	131	1742	7.0	262.0	262.0	262.0	0.0
Hurricane Creek Tributary 2								
A	11,566[2]	1,140	2,300	1.4	244.6	240.3[4]	241.3	1.0
B	16,042[2]	127	559	4.3	249.5	249.5	250.2	0.7
C	19,536[2]	180	501	3.6	261.1	261.1	261.9	0.8
D	24,109[2]	45	255	4.5	275.2	275.2	275.8	0.6
Johnson Creek								
A	2,842[3]	1,499	17,088	0.6	207.8	207.8[5]	208.4	0.6
B	8,875[3]	1,259	14,712	0.7	207.8	207.8[5]	208.8	1.0
C	17,962[3]	587	3,256	3	212.5	212.5	213.1	0.6
D	20,420[3]	518	3,000	2.5	213.5	213.5	214.4	0.9
E	24,131[3]	141	1,401	4.8	216.7	216.7	217.6	0.9

[1] Feet above U.S. Interstate 69
[2] Feet above confluence with Hurricane Creek
[3] Feet above confluence with Lake Cormorant Bayou
[4] Elevations computed without consideration of backwater effects from Arkabutla Lake
[5] Elevations computed without consideration of backwater effects from Lake Cormorant Bayou

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

DeSOTO COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

HURRICANE CREEK - HURRICANE CREEK TRIBUTARY 2 - JOHNSON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Johnson Creek Tributary 1								
A	1,600[1]	1,230	1,177	1.4	207.8	202.7[4]	202.7	0.0
B	7,416[1]	1,017	3,036	0.6	207.8	203.7[4]	204.5	0.8
C	14,201[1]	386	950	1.5	207.8	206.0[4]	206.9	0.9
D	20,691[1]	1,215	8,044	0.1	208.3	208.3	209.2	0.9
E	27,674[1]	277	701	0.7	208.3	208.3	209.2	0.9
Lateral A								
A	3,506[2]	134	585	3.7	246.1	243.3[5]	244.1	0.8
B	7,380[2]	211	409	3.0	254.8	254.8	255.6	0.8
C	9,533[2]	66	304	4.1	263.5	263.5	264.4	0.9
D	12,883[2]	50	84	3.6	275.6	275.6	275.6	0.0
Lateral A Tributary 1								
A	2,940[3]	43	124	3.9	259.0	259.0	259.3	0.3

[1] Feet above confluence with Johnson Creek
[2] Feet above confluence with Horn Lake Creek
[3] Feet above confluence with Lateral A
[4] Elevations computed without consideration of backwater effects from Lake Cormorant Bayou
[5] Elevations computed without consideration of backwater effects from Horn Lake Creek

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

DeSOTO COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

JOHNSON CREEK TRIBUTARY 1 - LATERAL A - LATERAL A TRIBUTARY 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Lateral D								
A	1,056	256	1,376	3.1	286.2	286.2	287.2	1.0
B	3,643	180	937	3.6	293.2	293.2	294.2	1.0
C	5,069	103	594	5.7	296.6	296.6	297.1	0.5
D	5,602	60	412	5.4	299.0	299.0	299.8	0.8
E	7,762	70	524	4.2	305.5	305.5	305.9	0.4
F	9,768	33	229	6.3	311.0	311.0	311.2	0.2
G	11,880	50	277	5.3	321.8	321.8	322.1	0.3
H	12,936	57	327	4.4	325.6	325.6	325.9	0.3
I	13,559	53	225	4.7	328.1	328.1	328.3	0.2
Lateral E								
A	2,640	300	261	3.5	296.8	296.8	297.1	0.3
B	4,256	244	604	1.5	304.6	304.6	305.4	0.8
C	5,650	45	152	5.9	309.5	309.5	310.3	0.8
D	6,864	27	293	3.1	314.2	314.2	314.9	0.7
E	9,346	80	206	6.5	328.9	328.9	329.0	0.1
F	9,948	45	199	6.7	333.5	333.5	333.7	0.2
G	10,581	24	143	9.4	338.4	338.4	339.3	0.9

[1] Feet above confluence with Horn Lake Creek

Based on DeSoto County FIS dated 08/23/2000

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

DeSOTO COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

LATERAL D - LATERAL E

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Licks Creek								
A	3,740	150	975	7.5	306.1	303.9[2]	303.9	0.0
B	9,456	103	850	6.5	318.1	318.1	318.9	0.8
C	14,009	594	3,094	1.8	331.7	331.7	332.6	0.9
D	19,252	94	538	5.6	343.2	343.3	343.3	0.1
E	24,101	175	1,329	1.7	357.5	357.5	358.3	0.8
Nolehoe Creek								
A	3,257	103	858	8.4	310.5	308.5[2]	308.5	0.0
B	5,732	87	888	7.6	314.7	314.7	314.8	0.1
C	9,342	94	950	5.2	321.6	321.6	321.7	0.1
D	14,706	103	900	3.5	331.7	331.7	331.8	0.1
E	18,963	90	539	3.9	347.1	347.1	347.1	0.0
F	20,977	314	620	2.5	351.8	351.8	352.8	1.0

[1] Feet above confluence with Camp Creek
[2] Elevations computed without consideration of backwater effects from Camp Creek

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY
DeSOTO COUNTY, MS
AND INCORPORATED AREAS

FLOODWAY DATA

LICKS CREEK - NOLEHOE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Pigeon Roost Creek								
B	15,998[1]	3,908	31,317	2.4	276.6	276.6	277.6	1.0
C	17,398[1]	4,649	39,152	1.9	277.8	277.8	278.8	1.0
D	21,300[1]	4,167	43,956	1.7	282.6	282.6	283.5	0.9
E	26,199[1]	4,387	47,377	1.6	285.0	285.0	285.8	0.8
F	31,400[1]	2,953	19,996	2.6	288.1	288.1	289.1	1.0
G	36,300[1]	3,650[3]	27,994	1.9	293.0	293.0	294.0	1.0
H	38,090[1]	2,900[3]	20,643	2.4	295.1	295.1	296.1	1.0
Red Banks Creek								
A	8,131[2]	1,654	10,353	2.2	285.0	283.9[4]	284.9	1.0
B	11,088[2]	1,153	7,107	3.2	289.2	289.2	290.1	0.9
C	15,502[2]	295	1,515	14.9	298.5	298.5	298.7	0.2

[1] Feet above confluence with Coldwater River
[2] Feet above confluence with Pigeon Roost Creek
[3] Width extends beyond county boundary
[4] Elevations computed without consideration of backwater effects from Pigeon Roost Creek

Based on DeSoto County FIS dated 08/23/2000

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

DeSOTO COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

PIGEON ROOST CREEK - RED BANKS CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Rocky Creek								
A	422	700	1,679	3.2	269.9	267.7[2]	268.7	1.0
B	2,165	490	1,790	3.0	271.9	372.2	273.2	1.0
C	5,702	850	2,769	1.9	279.2	279.2	280.1	0.9
D	6,970	53	519	10.4	281.7	281.7	282.3	0.6
E	8,026	66	645	8.3	285.6	285.6	285.9	0.3
F	9,082	472	3,222	1.7	288.2	288.2	288.9	0.7
G	10,507	410	2,203	2.5	288.5	288.5	289.5	1.0
H	11,447	423	841	5.6	290.1	290.1	290.9	0.8
I	13,200	500	1,910	2.5	294.8	294.8	295.8	1.0
J	13,834	200	881	5.3	297.0	297.0	297.8	0.8
K	14,890	350	2,264	2.1	301.2	301.2	302.0	0.8
L	15,513	350	1,479	2.4	302.1	302.1	303.1	1.0
M	17,160	200	1,227	2.9	306.1	306.1	307.1	1.0
N	18,000	296	918	2.8	310.6	310.6	311.1	0.5
O	18,638	400	1,685	1.5	313.8	313.8	314.7	0.9
P	19,003	250	924	2.8	314.9	314.9	315.8	0.9
Q	20,592	40	378	6.7	321.6	321.6	322.2	0.6
R	22,968	53	327	4.3	331.3	331.3	332.1	0.8
S	24,431	248	266	5.3	340.1	340.1	340.2	0.1
T	26,580	80	515	2.7	353.3	353.3	354.3	1.0
U	28,618	102	263	5.3	365.9	365.9	366.9	1.0

[1] Feet above confluence with Horn Lake Creek
[2] Elevations computed without consideration of backwater effects from Horn Lake Creek

Based on DeSoto County FIS dated 08/23/2000

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY
DeSOTO COUNTY, MS
AND INCORPORATED AREAS

FLOODWAY DATA

ROCKY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Unnamed Tributary of Nonconnah Creek								
A	200	1,094	3,482	3.4	335.4	335.4	336.4	1.0
B	1,783	457	2,129	3.7	339.0	339.0	339.9	0.9
C	4,070	131	1,408	5.6	343.7	343.7	344.4	0.7
D	5,182	595	2,386	2.2	345.3	345.3	346.1	0.8
E	6,831	469	1,346	3.5	347.4	347.4	348.4	1.0
F	8,447	193	592	5.2	351.6	351.6	352.6	1.0

[1] Feet above State Boundary

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

DeSOTO COUNTY, MS

AND INCORPORATED AREAS

FLOODWAY DATA

UNNAMED TRIBUTARY OF NONCONNAH CREEK

5.0 INSURANCE APPLICATION

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

Zone A

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

Zone AE

Zone AE is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS by detailed methods. In most instances, 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 risk zone that corresponds to areas outside the 0.2-percent-annual-chance floodplain, areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 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 risk 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 the zones and BFEs in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

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

The countywide FIRM presents flooding information for the entire geographic area of Desoto County. Previously, FIRMs were prepared for each incorporated community and the unincorporated areas of the County identified as flood-prone. This countywide FIRM also includes flood-hazard information that was 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 7, “Community Map History.”

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
DeSoto County (Unincorporated Areas)	April 7, 1978	---	May 3, 1990	---
Hernando, City of	January 21, 1977	---	August 19, 1985	May 3, 1990
Horn Lake, City of	February 1, 1974	March 19, 1976 May 28, 1976 March 7, 1980	May 3, 1990	---
Olive Branch, City of	December 10, 1976	---	July 2, 1987	May 3, 1990
Southaven, City of	April 7, 1978	---	September 18, 1987	May 3, 1990
Walls, Town of*	May 3, 1990	---	May 3, 1990	---

* Villages of Memphis and Walls combined to form Town of Walls. Dates shown for Town of Walls corresponds to prior Village of Memphis dates

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY
DeSoto COUNTY, MS
AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

7.0 OTHER STUDIES

FISs have been prepared for Shelby County, Tennessee, and Incorporated Areas; the Unincorporated Areas of Crittenden County, Arkansas; and the Unincorporated Areas of Tate, Tunica, and Marshall Counties, Mississippi (References 3 and 6-9).

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

8.0 LOCATION OF DATA

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

9.0 BIBLIOGRAPHY AND REFERENCES

1. DeSoto Council, Community Data Sheet, Hernando, Mississippi, 1987.

2. Federal Emergency Management Agency, Flood Insurance Rate Map, City of Hernando, DeSoto County, Mississippi, Washington, D.C., August 1985.

3. Federal Emergency Management Agency, Flood Insurance Study, Crittenden County, Arkansas (Unincorporated Areas), Washington, D.C., August 23, 1999.

4. Federal Emergency Management Agency, Flood Insurance Study, DeSoto County, Mississippi, and Incorporated Areas, Washington, D.C., June 19, 1997.

5. Federal Emergency Management Agency, Flood Insurance Study, DeSoto County, Mississippi, and Incorporated Areas, Washington, D.C., August 23, 2000.

6. Federal Emergency Management Agency, Flood Insurance Study, Marshall County, Mississippi (Unincorporated Areas), Washington, D.C., January 17, 1991.

7. Federal Emergency Management Agency, Flood Insurance Study, Shelby County, Tennessee, and Incorporated Areas, Washington, D.C., December 2, 1994.

8. Federal Emergency Management Agency, Flood Insurance Study, Tate County, Mississippi (Unincorporated Areas), Washington, D.C., September 27, 1985.

9. Federal Emergency Management Agency, Flood Insurance Study, Tunica County, Mississippi (Unincorporated Areas), Washington, D.C., July 3, 1990.

10. Mississippi Research and Development Center, Information Services Division, Data Base Services Branch, Mississippi Community Data for DeSoto County, Jackson, Mississippi, January 1984.

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15. U.S. Army Corps of Engineers, Memphis District, <u>Floodplain Information Horn Lake Creek and Tributaries, Vicinity of Horn Lake, Mississippi</u>, 1974.

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21. U.S. Army Corps of Engineers, Vicksburg District, <u>Hydrologic Analysis of the Coldwater River Watershed, Final Report</u>, August 1990.

22. U.S. Census Bureau, website -- 2000 Census of Population and Housing, February 2005.

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25. U.S. Department of the Interior, Geological Survey, <u>15-Minute Series Topographic Maps</u>, Scale 1:62,500, Contour Interval 20 Feet: Hernando, Mississippi-Tennessee, 1944; Horn Lake, Mississippi-Tennessee, 1932; Horseshoe Lake, Arkansas-Mississippi-Tennessee, 1960.

26. U.S. Department of the Interior, Geological Survey, <u>7.5-Minute Series Topographic Maps</u>, Scale 1:24,000, Contour Interval 10 Feet: Arkabutla East, Mississippi, Provisional Edition, 1982; Arkabutla West, Mississippi, Provisional Edition, 1983; Banks, Mississippi, Provisional Edition, 1982; Byhalia, Mississippi, 1971; Coldwater, Mississippi, 1982; Frees Corners, Mississippi, Provisional Edition, 1982; Hernando,

Mississippi, Provisional Edition, 1982; Horn Lake, Mississippi, 1982; Lake Cormorant, Mississippi-Tennessee-Arkansas, Provisional Edition, 1982; Lewisburg, Mississippi, 1982; Olive Branch, Mississippi-Tennessee, Provisional Edition, 1982; Pleasant Hill, Mississippi, 1982; Robinsonville, Mississippi-Arkansas, 1981.

27. U.S. Department of the Interior, Geological Survey, Flood Characteristics of Mississippi Streams, Water-Resources Investigations Report 91-4037, Jackson, Mississippi, 1991.

10.0 REVISIONS DESCRIPTION

This section has been added to provide information regarding significant revisions made since the original FIS report and DFIRM were printed. Future revisions may be made that do not result in the republishing of the FIS report.

10.1 First Revision (Revised Xxxxxxxxx, XX, 201X)

a. Acknowledgments

The hydrologic and hydraulic analyses for this revision were performed by the State of Mississippi for FEMA under Contract No. EMA-CA-5932. This study was completed in June 2011.

The digital base map information files were provided by the State of Mississippi. The digital orthophotography was acquired in September 2010, with the imagery processed to a 1-meter pixel resolution (U.S. Department of Agriculture, 2010).

The digital topographic data source for Desoto County is LiDAR developed in 2009 and provided by the US Army Corps of Engineers (USACE, 2009).

b. Coordination

A Project Scoping Meeting was held on October 8, 2009 in Nesbit, MS. Attendees for these meetings included representatives from the Mississippi Department of Environmental Quality, Mississippi Emergency Management Agency, Desoto County, the Cities of Hernando, Horn Lake, Olive Branch, and Southaven, the Town of Walls, the State, 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. On Xxxxx, XX, 20XX, the results of this FIS revision were presented at a final coordination meeting attended by representatives of the State of Mississippi and its contractor, FEMA, and the community.

c. Scope

In this revision, the following table lists the flooding sources, which were newly studied by detailed methods.

TABLE 8. REVISED STREAMS STUDIED BY DETAILED METHODS

Stream	Limits of New Detailed Study
Camp Creek	From a point 7,700 feet upstream of Holly Springs Road to a point approximately 600 feet downstream of College Road
Hurricane Creek	From a point 390 feet downstream of U.S. Interstate 69 to a point just upstream of railroad.

In this revision, the following table lists the flooding sources, which were newly studied by limited detailed methods.

TABLE 9. REVISED STREAMS STUDIED BY LIMITED DETAILED METHODS

Stream	Limits of New Detailed Study
Cedar Creek	From a point 900 feet downstream of Stateline Road to a point 7,772 feet upstream of Stateline Road
Grants Creek	From a point 1,275 feet downstream of Stateline Road to a point 1,640 feet upstream of railroad.
Horn Lake Creek	From a point just downstream of Getwell Road to a point 2,203 feet upstream of Getwell Road.
Hurricane Creek	From a point approximately 1,530 feet downstream of Railroad Bridge to a point 6,317 feet upstream of U.S. Interstate 55 North.
Hurricane Creek Tributary 3.1	From a point 733 feet downstream of U.S. Highway 51 to a point just downstream of U.S. Interstate 55.
Hurricane Creek Tributary 3.1.2	From a point 270 feet downstream of U.S. Highway 51 to a point approximately 280 feet downstream of U.S. Interstate 55.
Hurricane Creek Tributary 5.1	From a point 681 feet upstream of the confluence with Hurricane Creek Tributary 5 to a point 1,819 feet upstream of Nesbit Road.
Johns Creek	From a point 1,133 feet downstream of Stateline Road to a point 934 feet upstream of Meadow Creek Drive.
Johns Creek Tributary	From the confluence with Johns Creek to a point just downstream of Oakwood Lane.
Lateral D	From Swinea Road to a point just downstream of Stargate Drive.

TABLE 9. REVISED STREAMS STUDIED BY LIMITED DETAILED METHODS -

Stream	Limits of New Detailed Study
Lateral E	From a point 750 feet downstream of Tchulahoma Road to a point approximately 400 feet downstream of Goodman Road
Lateral F	From Swinea Road to Muscauna Creek Tributary 5.2
Muscasacuna Creek Tributary 5.2.1	From a point 1,900 feet downstream of Oak Grove Road to a point approximately 830 feet downstream of State Highway 304.
Nolehoe Creek	From a point approximately 673 feet upstream of State Highway 302 to a point just downstream of Getwell Road.
Shelby Creek	From a point 183 feet downstream of State Highway 178 to a point approximately 190 feet downstream of U.S. Highway 78
Short Fork Creek	From a point 3,412 feet downstream of Thousand Oaks Drive to a point 472 feet upstream of Creekside Boulevard.

An approximate study was done on an Unnamed Tributary to Mussacuna Creek from the confluence with Musaccuna Creek to a point 440 feet upstream of Hill Street.

This FIS revision also incorporates the determination of letters issued by FEMA resulting in Letters of Map Change as shown in Table 10, "Letters of Map Revision (LOMRs) Incorporated into Current Study."

Table 10: Letters of Map Revision (LOMRs)
Incorporated into Current Study

Case Number	Flooding Source(s)	Communities Affected	Effective Date
07-04-4518P	Horn Lake Creek	City of Southaven	10/09/2007
08-04-0546P	Camp Creek	City of Olive Branch	4/30/2008
08-04-2647P	Camp Creek	City of Olive Branch	7/18/2008
09-04-2542P	Unnamed Tributary of Nonconnah Creek	City of Olive Branch, Desoto County	12/16/2009
10-04-1806P	Camp Creek	City of Olive Branch	3/09/2011
10-04-5201P	Licks Creek	City of Olive Branch	8/5/2011

Floodplain boundaries for the previously mentioned streams were updated only. Therefore, only the panels affected by these floodplain boundaries have been updated. The following panels were updated:

28033C0055H	28033C0070H	28033C0078H	28033C0079H
28033C0081H	28033C0083H	28033C0090H	28033C0091H
28033C0092H	28033C0093H	28033C0094H	28033C0101H
28033C0102H	28033C0103H	28033C0104H	28033C0110H
28033C0111H	28033C0112H	28033C0115H	28033C0150H
28033C0206H	28033C0207H	28033C0209H	28033C0220H
28033C0230H	28033C0235H	28033C0240H	28033C0255H

d. Hydrologic and Hydraulic Analyses

Hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source studied by limited detail methods affecting the communities. Peak discharges were calculated based on USGS regional regression equations (U.S. Department of the Interior, 1991). For the discharges calculated based on regional regression equations, the rural regression values were modified to reflect stream gage weighting and/or urbanization as necessary.

A summary of the drainage area-peak discharge relationships for all the streams is shown in Table 8, "Revised Summary of Discharges."

TABLE 11. REVISED SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs)			
		10-percent	2-percent	1-percent	0.2-percent
CAMP CREEK					
Approximately 3.5 miles upstream of the confluence with Coldwater River	61.3	22,211	30,604	35,219	43,555
Approximately 7.5 miles upstream of the confluence with Coldwater River	40.3	18,276	25,133	28,905	35,723
Approximately 9.9 miles upstream of the confluence with Coldwater River	31.0	16,021	21,954	25,204	31,095
CEDAR CREEK					
Approximately 650 feet downstream of Stateline Road	2.0	*	*	1,400	*
Approximately 1,600 feet upstream of Stateline Road	1.7	*	*	1,296	*
Approximately 2,880 feet upstream of Stateline Road	1.2	*	*	1,044	*

* Data not available

TABLE 11. REVISED SUMMARY OF DISCHARGES cont.

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs)			
		10-percent	2-percent	1-percent	0.2-percent
GRANTS CREEK					
Approximately 1,240 feet downstream of Stateline Road	2.0	*	*	2,570	*
Approximately 430 feet downstream of railroad	0.86	*	*	1,342	*
Approximately 1,370 feet upstream of railroad	0.55	*	*	602	*
HORN LAKE CREEK					
Approximately 154 feet downstream of Getwell Road	0.6	*	*	470	*
HURRICANE CREEK					
Approximately 550 feet downstream of U.S. Interstate 69	36.5	10,742	13,590	14,938	17,013
Approximately 8,350 feet upstream of U.S. Interstate 69	31.4	8,853	11,096	12,166	13,790
Approximately 1,500 feet downstream of railroad	19.9	8,625	10,806	11,834	13,392
HURRICANE CREEK TRIBUTARY 3.1					
Approximately 1,050 feet downstream of U.S. Highway 51	1.1	*	*	1,278	*
Approximately 1,700 feet downstream of U.S. Interstate 55	0.5	*	*	683	*
HURRICANE CREEK TRIBUTARY 3.1.2					
Approximately 360 feet downstream of U.S. Highway 51	1.0	*	*	1,325	*
Approximately 1,600 feet upstream of State Highway 27	0.4	*	*	637	*
HURRICANE CREEK TRIBUTARY 5.1					
Approximately 275 feet upstream of confluence with Hurricane Creek Tributary 5	0.4	*	*	689	*
JOHNS CREEK					
Approximately 1,135 feet downstream of Stateline Road	1.3	*	*	1,438	*
At Donna Drive	0.3	*	*	536	*
JOHNS CREEK TRIBUTARY					
At mouth	0.6	*	*	955	*

* Data Not Available

TABLE 11. REVISED SUMMARY OF DISCHARGES cont.

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs) 10-percent	2-percent	1-percent	0.2-percent
LATERAL D					
Approximately 170 feet upstream of Swinnea Road	0.9	*	*	1,137	*
LATERAL E					
Just downstream of Tchulahoma Road	0.5	*	*	735	*
LATERAL F					
Approximately 2,609 feet downstream of Swinnea Road	1.4	*	*	1,277	*
Approximately 1.7 miles upstream of confluence with Horn Lake Creek	0.6	*	*	694	*
MUSSACUNA CREEK TRIBUTARY 5.2.1					
Approximately 3,180 feet downstream of Oak Grove Road	0.3	*	*	413	*
NOLEHOE CREEK					
Approximately 1,110 feet downstream of State Highway 302 (Goodman Road)	0.5	*	*	2,318	*
SHELBY CREEK					
At State Highway 178	2.4	*	*	2,423	*
SHORT FORK CREEK					
Approximately 2,800 feet downstream of Thousand Oaks Drive	1.2	*	*	1,547	*
UNNAMED TRIBUTARY TO NONCONNAH CREEK					
Approximately 990 feet upstream of State Boundary	9.2	*	*	11,754	*
Approximately 7,900 feet upstream of State Boundary	3.1	*	*	4,683	*

* Data not available

Cross section geometries were obtained from a combination of terrain data and field surveys. Bridges and culverts located within the detailed study and limited detailed study limits were field surveyed to obtain elevation data and structural geometry. Manning's "n" values for Camp Creek are 0.04 for the channel and 0.05-0.10 for the overbanks. For Hurricane Creek, the Manning's "n" values are 0.03-0.04 for the channel and 0.065-0.10 for the overbanks. The Manning's "n" values used for the revised limited detail studies are 0.05 for the channel and 0.15 for the overbanks.

Downstream boundary conditions for the hydraulic models were set to normal depth using a starting slope calculated from values taken from topographic data, or where applicable, derived from the water-surface elevations. Water-surface profiles were computed through the use of the USACE HEC-RAS version 4.1 computer program (USACE, 2010). The model was run for the 1-percent annual chance storm for the limited detail studies.

e. Floodplain Boundaries

The 1.0- and 0.2- percent annual-chance floodplain boundaries are shown on the FIRM (Exhibit 2) for streams studied by detailed methods. In cases where the 1.0- and 0.2-percent annual-chance floodplain boundaries are close together, only the 1.0-percent annual-chance floodplain boundary has been shown.

For the streams studied by the limited detailed method, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM (Exhibit 2). Floodplain boundaries were generated using LiDAR developed in 2009 by the USACE (USACE, 2009).

f. Floodways

Floodways were computed for Camp Creek and Hurricane Creek. In addition, floodway data for Unnamed Tributary of Nonconnah Creek has been included from LOMR 09-04-2542P. The floodway data for these streams is provided in Table 6, "Floodway Data."

g. Bibliography and References

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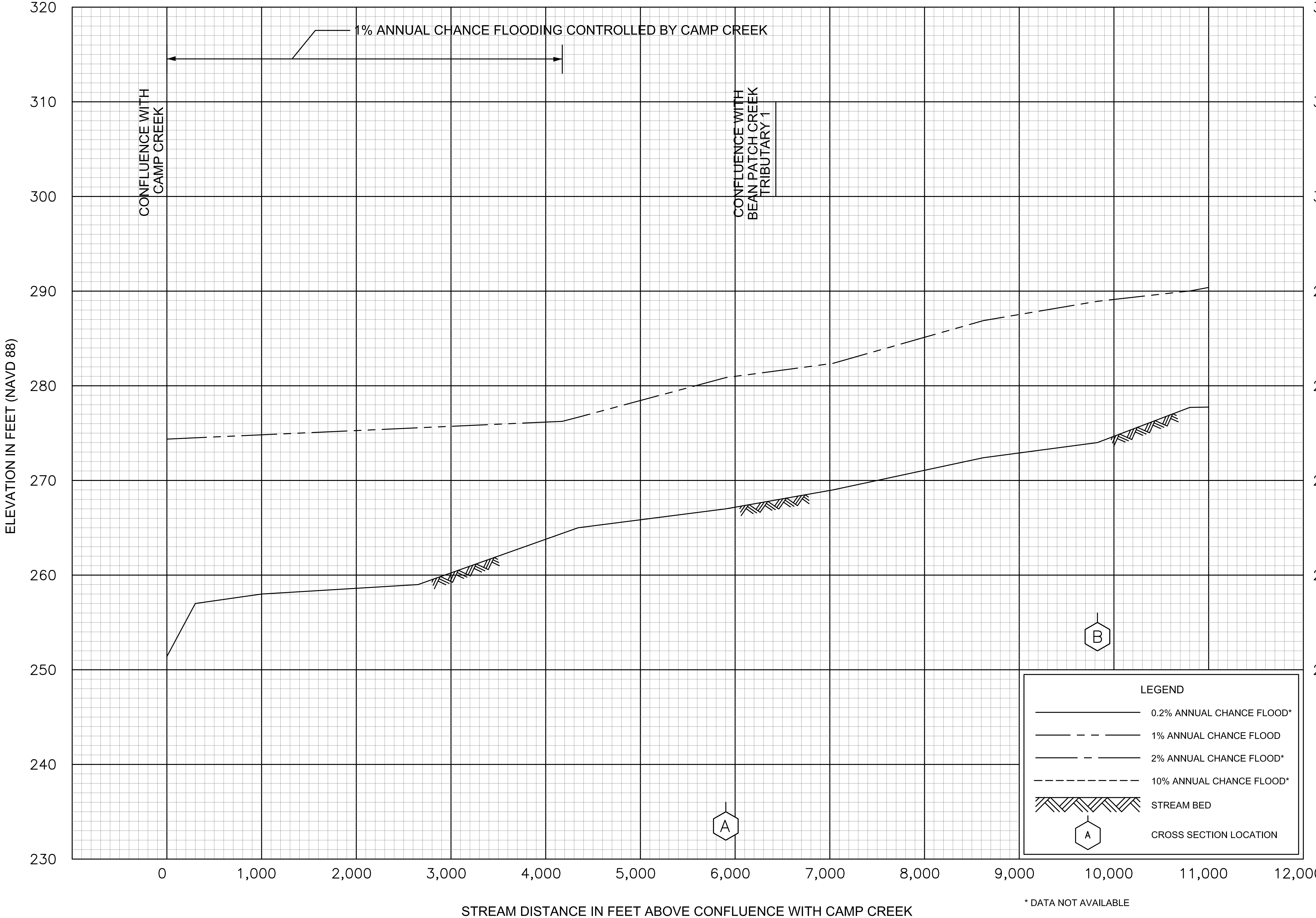
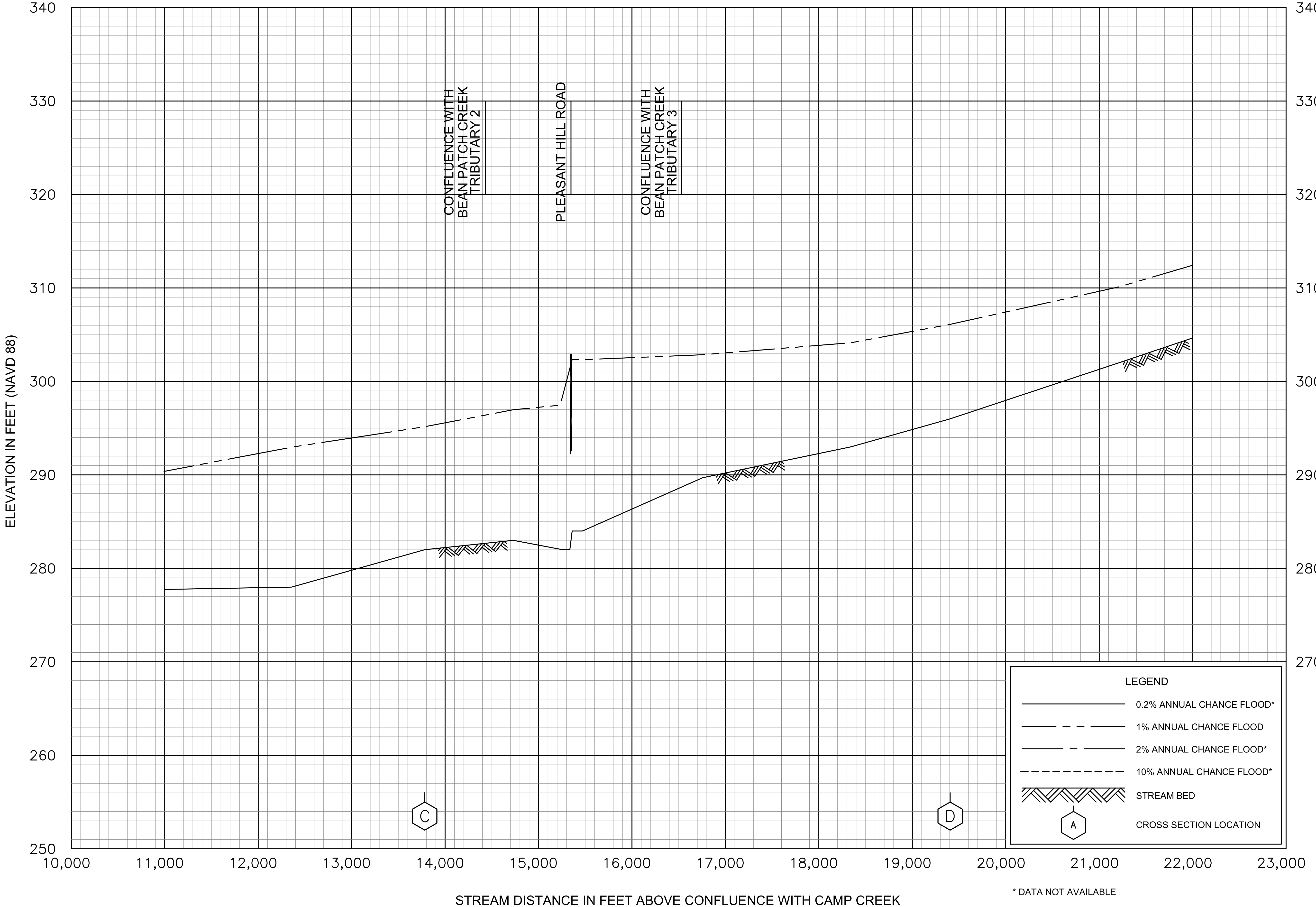


FLOOD PROFILES

BEAN PATCH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS AND INCORPORATED AREAS

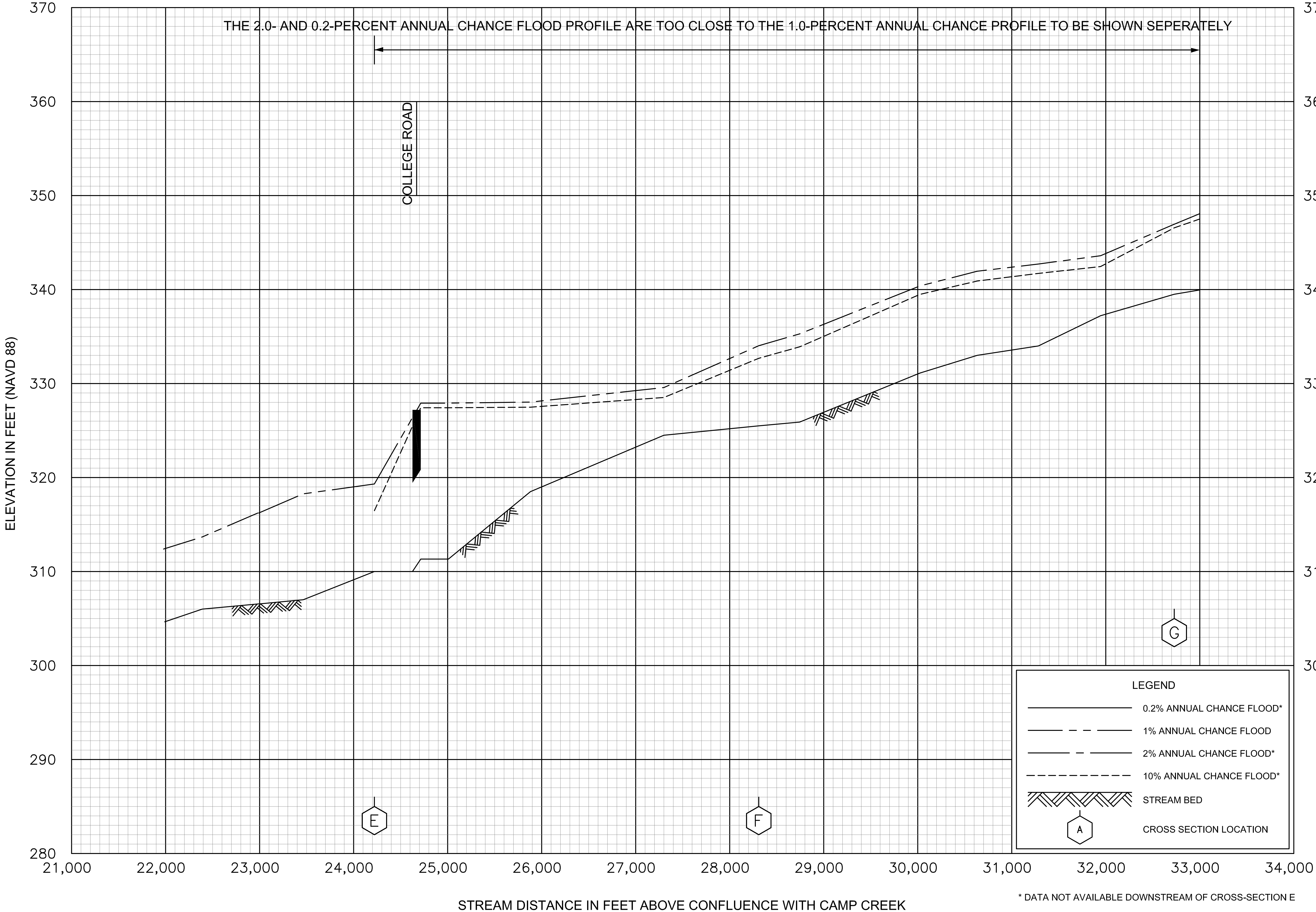


FLOOD PROFILES

BEAN PATCH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



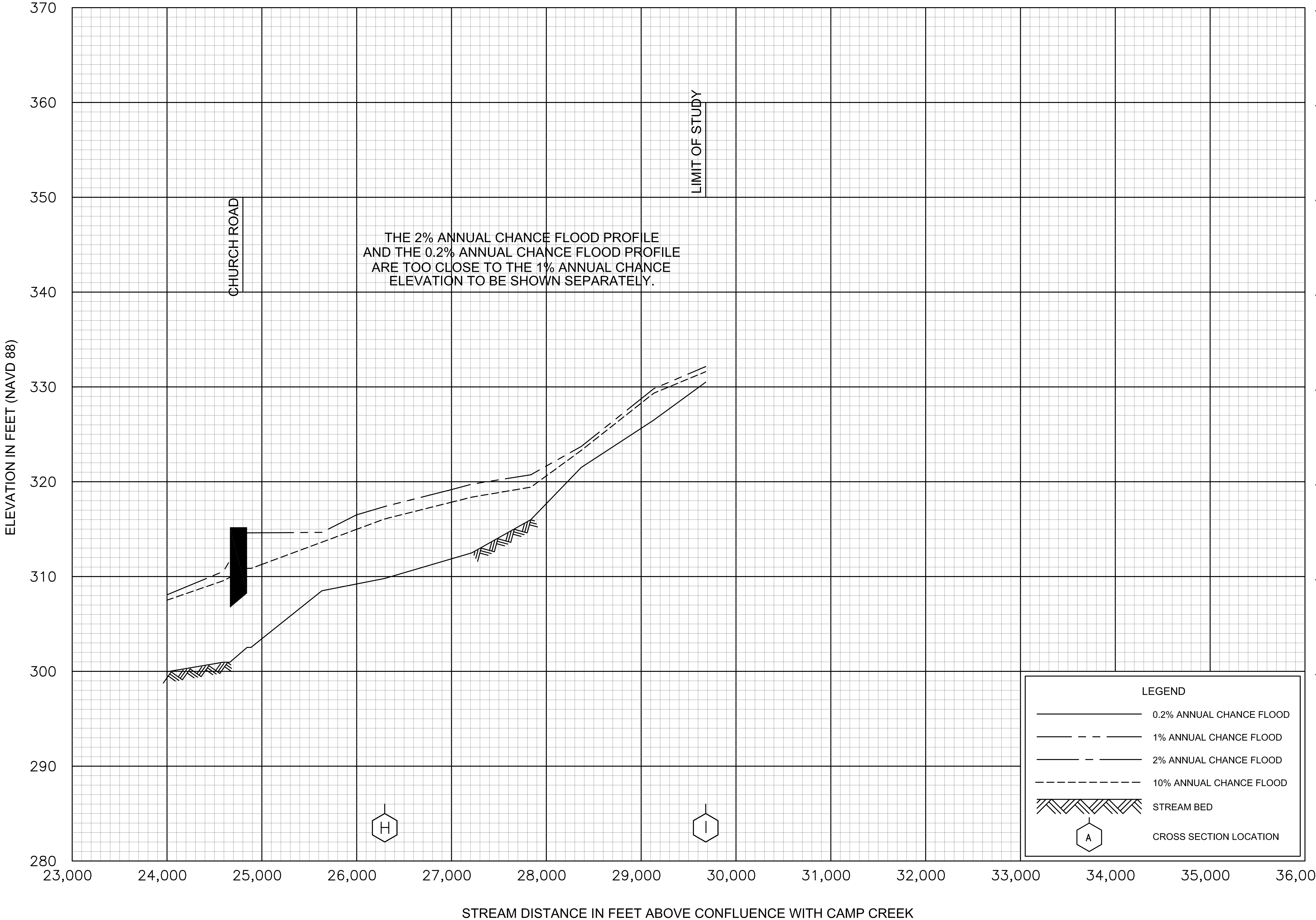
* DATA NOT AVAILABLE DOWNSTREAM OF CROSS-SECTION E

FLOOD PROFILES

BEAN PATCH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



FLOOD PROFILES

BEAN PATCH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

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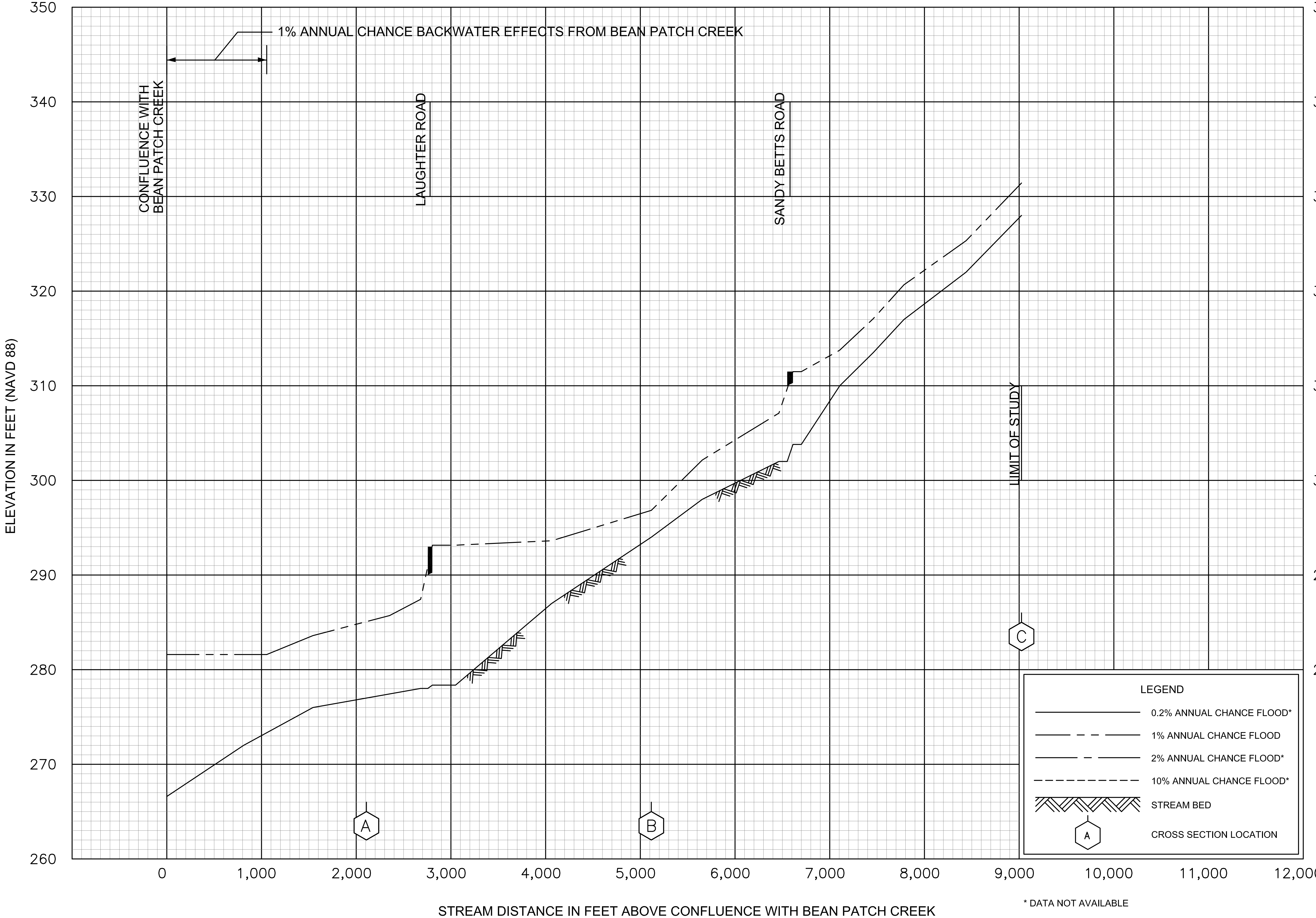


FLOOD PROFILES

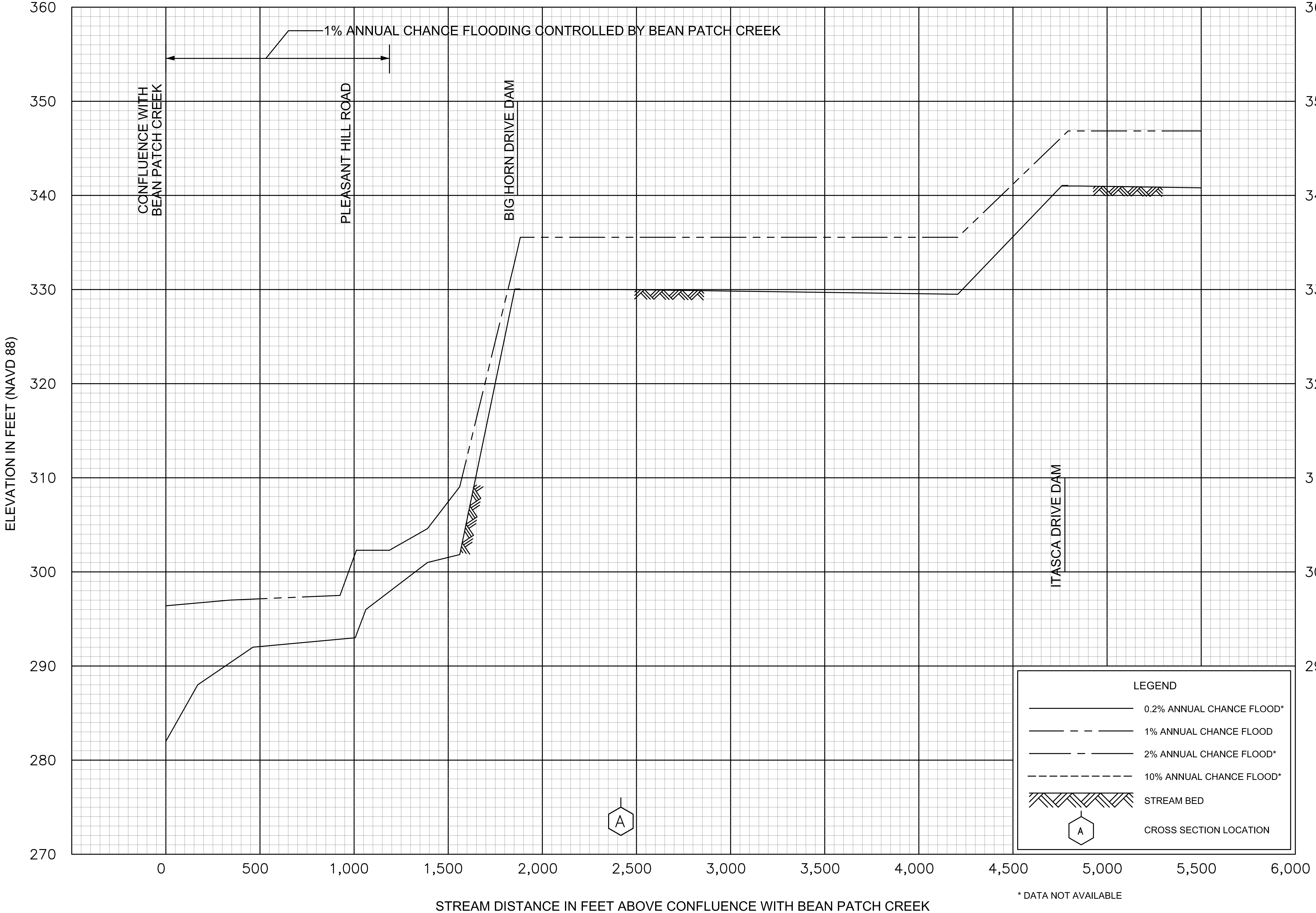
BEAN PATCH CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

05P



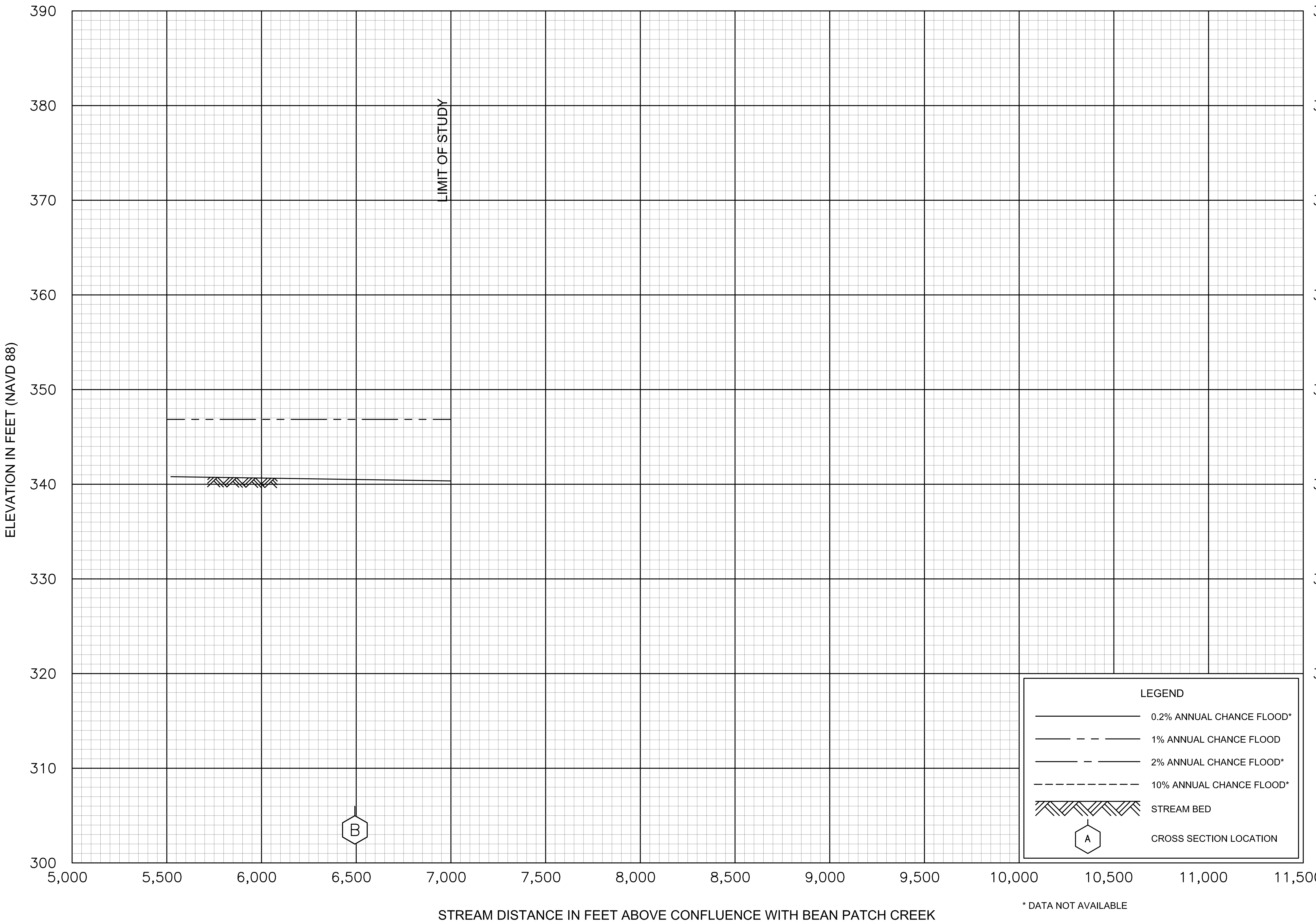
FLOOD PROFILES

BEAN PATCH CREEK TRIBUTARY 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



* DATA NOT AVAILABLE

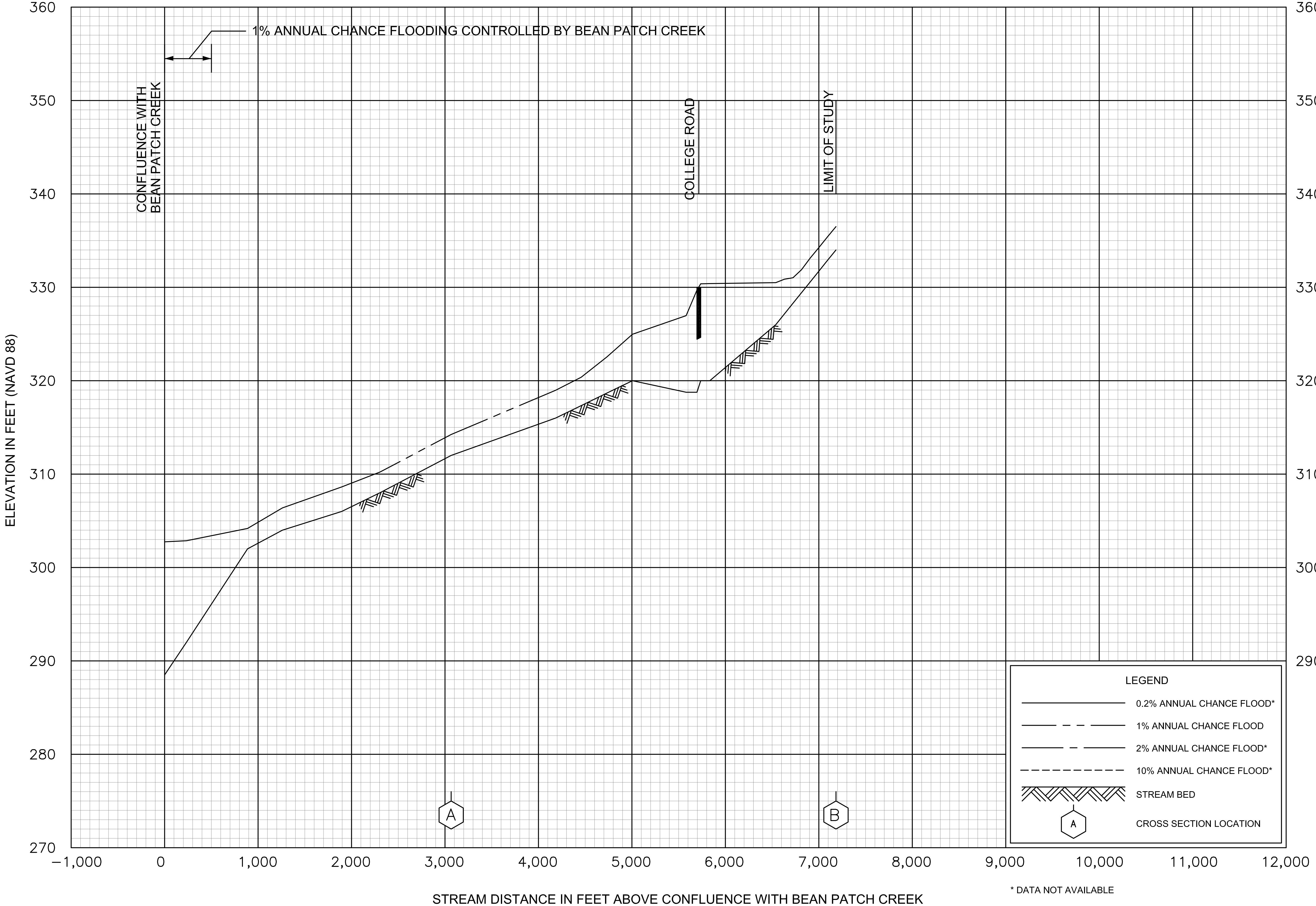
FLOOD PROFILES

BEAN PATCH CREEK TRIBUTARY 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



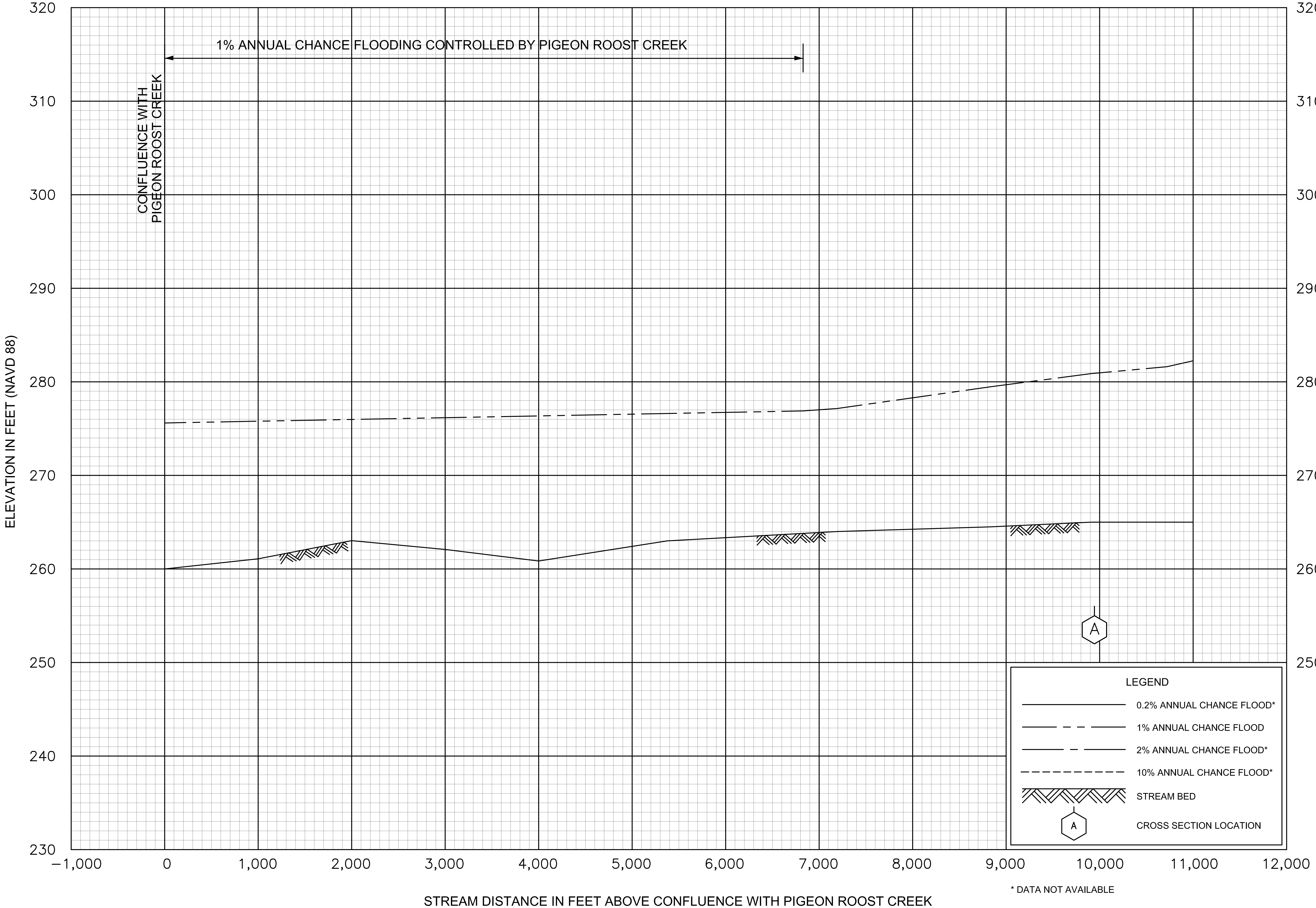
FLOOD PROFILES

BEAN PATCH CREEK TRIBUTARY 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



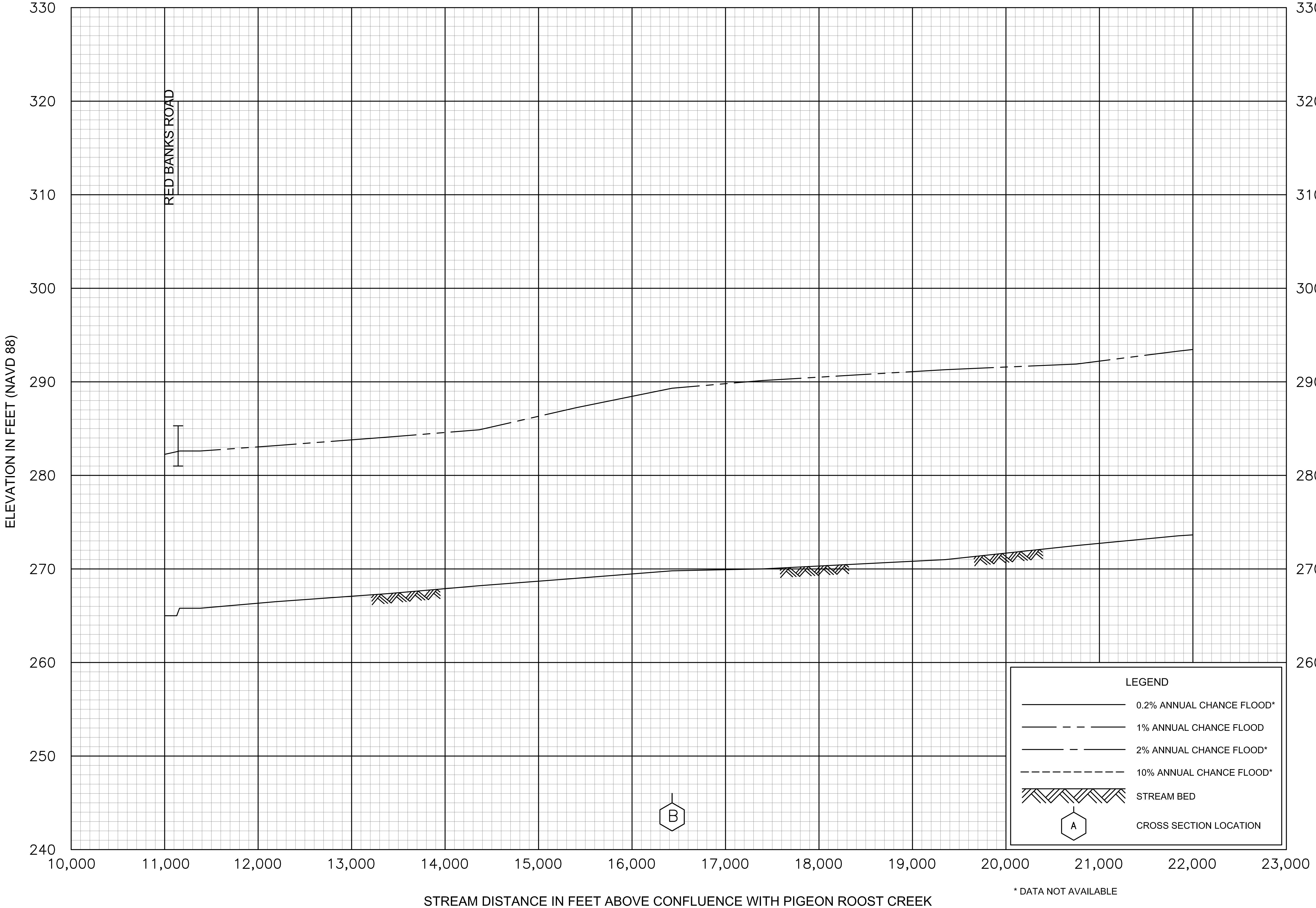
FLOOD PROFILES

BYHALIA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

09P



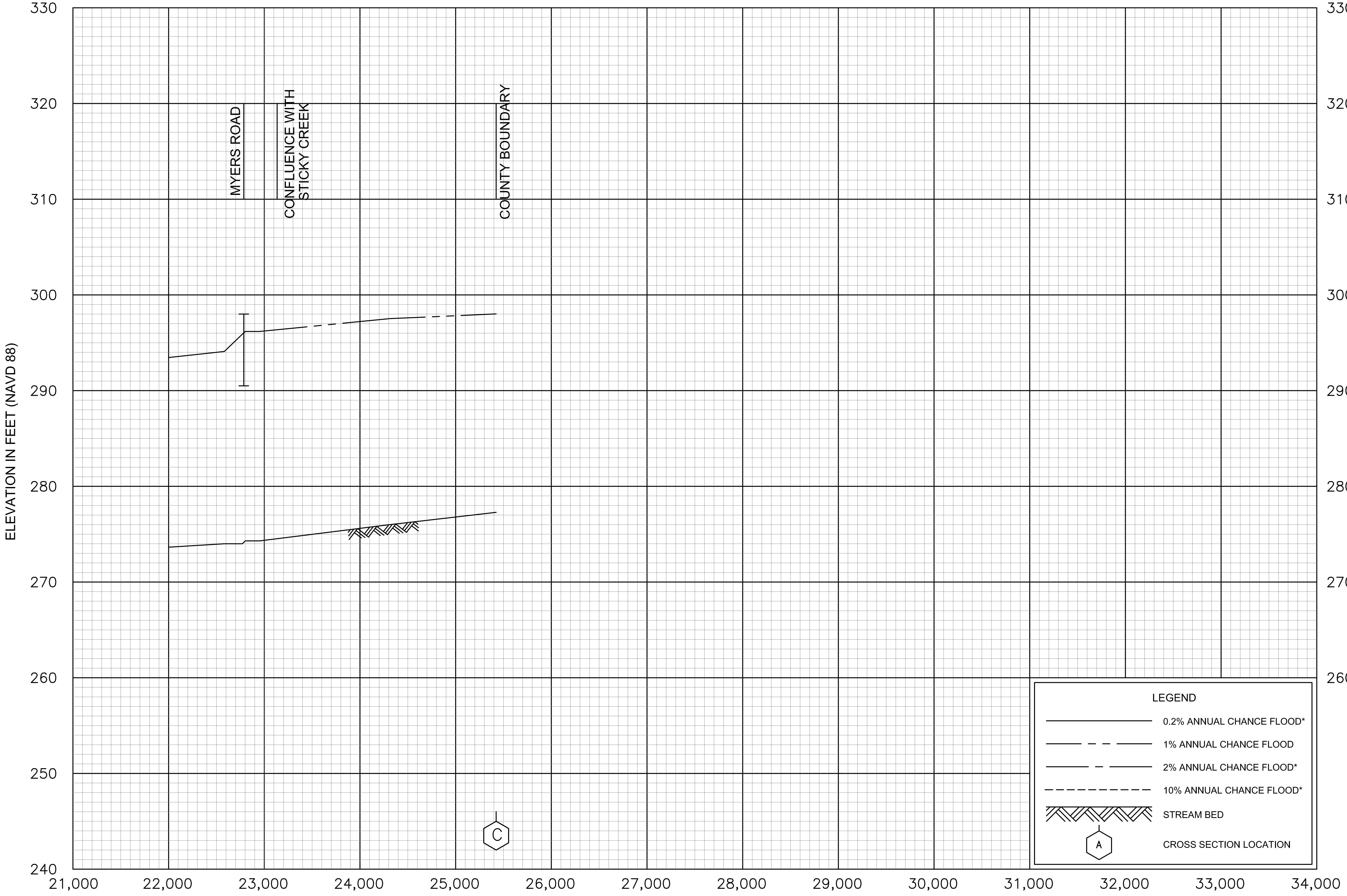
FLOOD PROFILES

BYHALIA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

10P



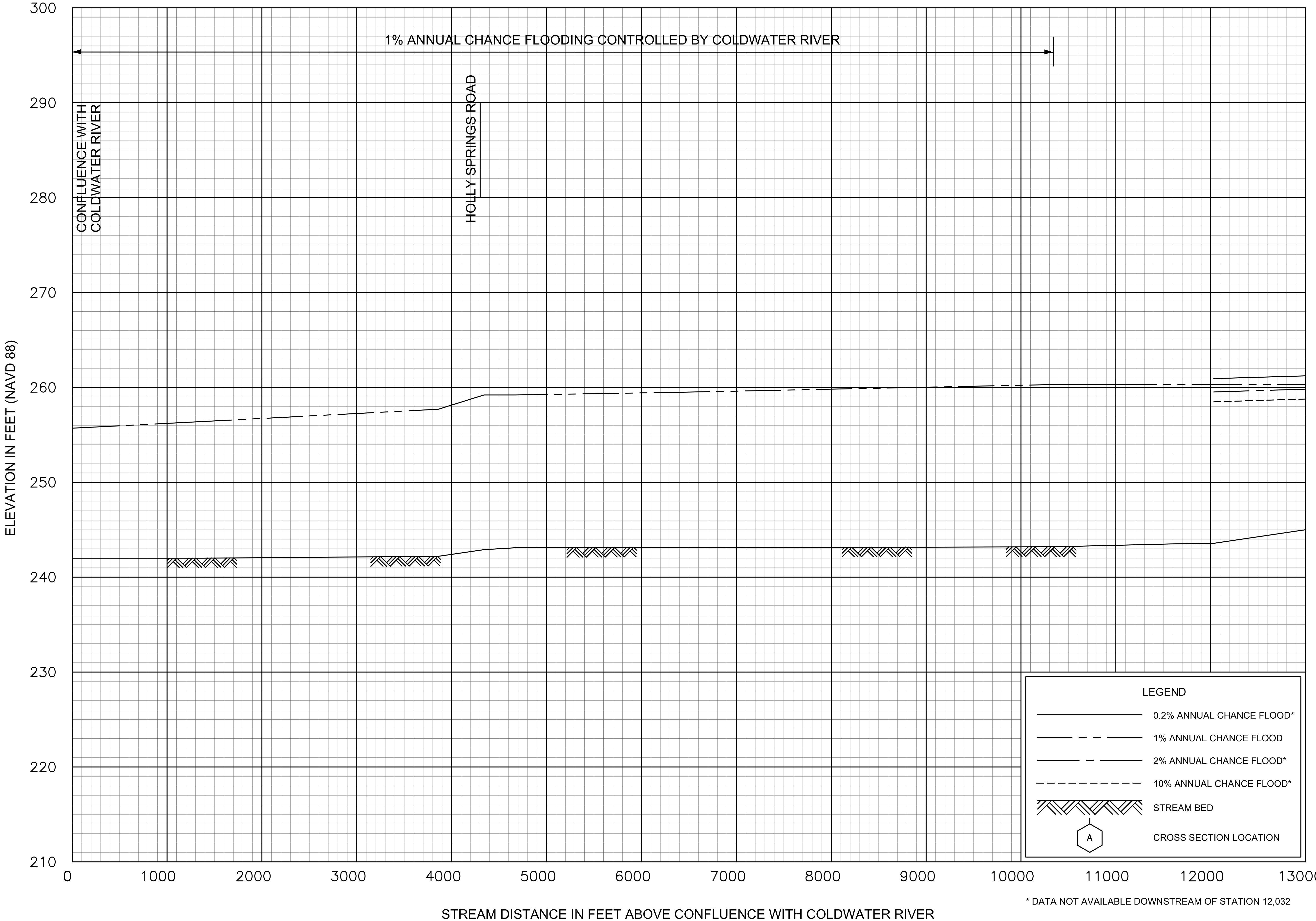
* DATA NOT AVAILABLE

FLOOD PROFILES

BYHALIA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS AND INCORPORATED AREAS



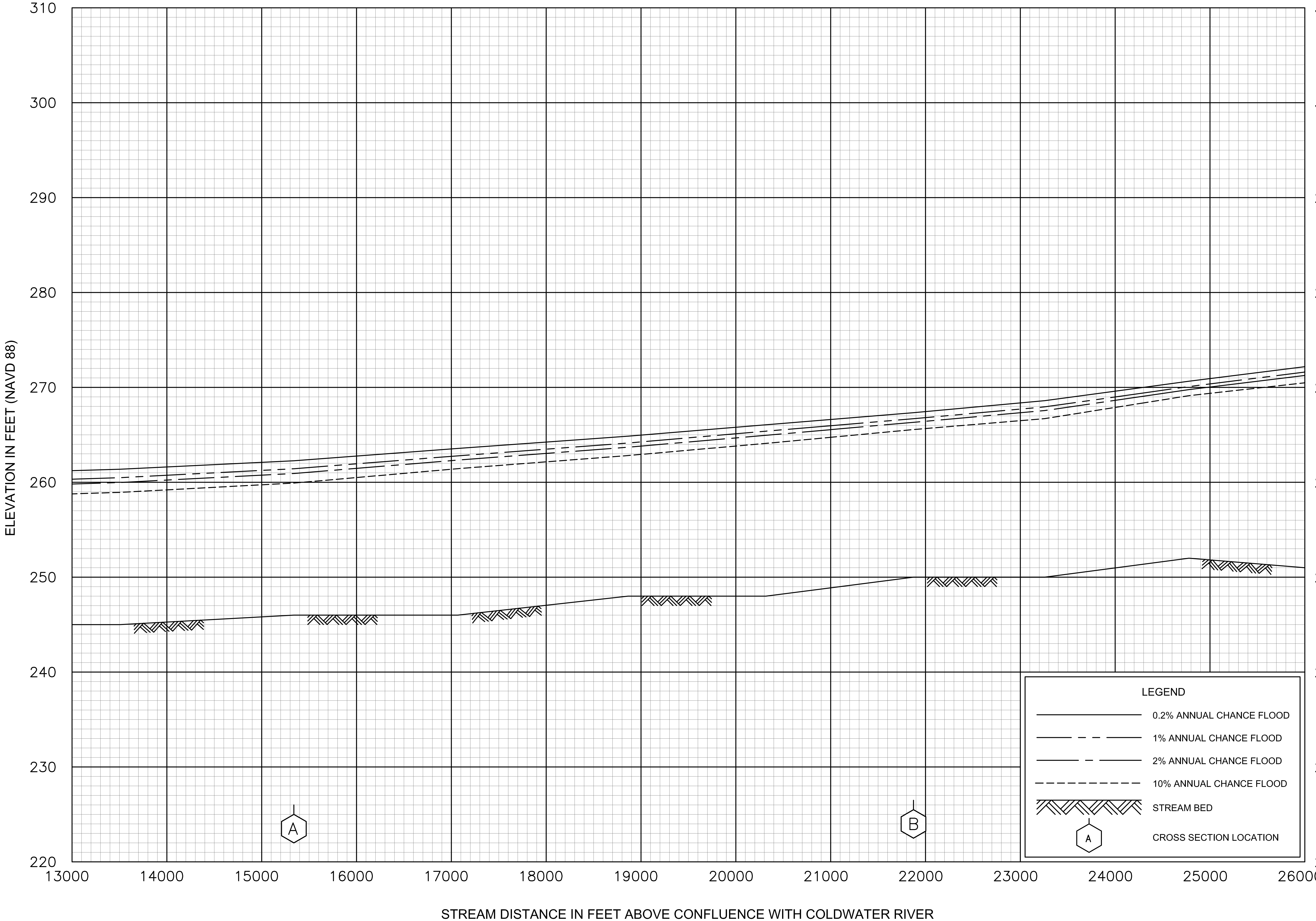
FLOOD PROFILES

CAMP CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



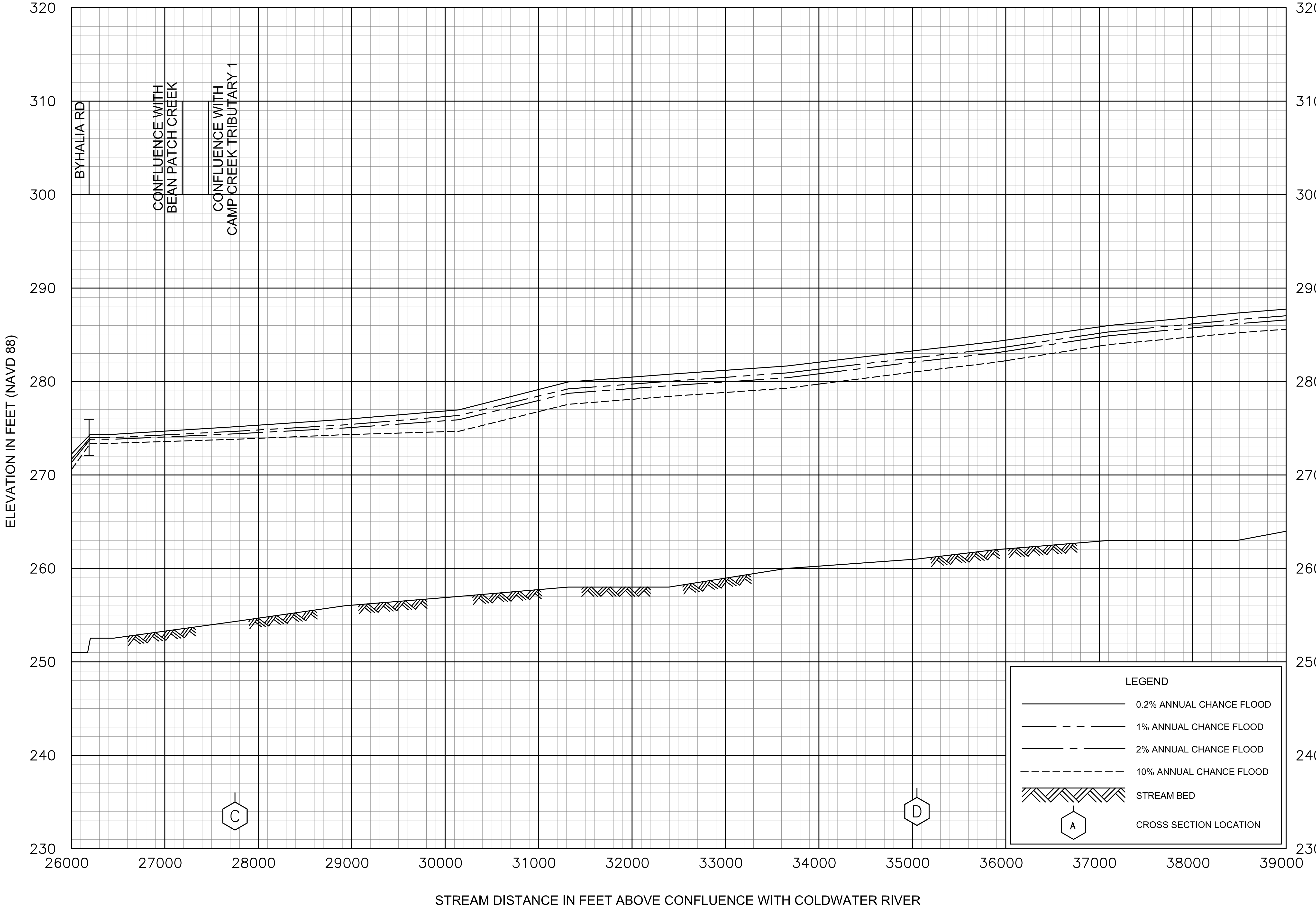
FLOOD PROFILES

CAMP CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

13P

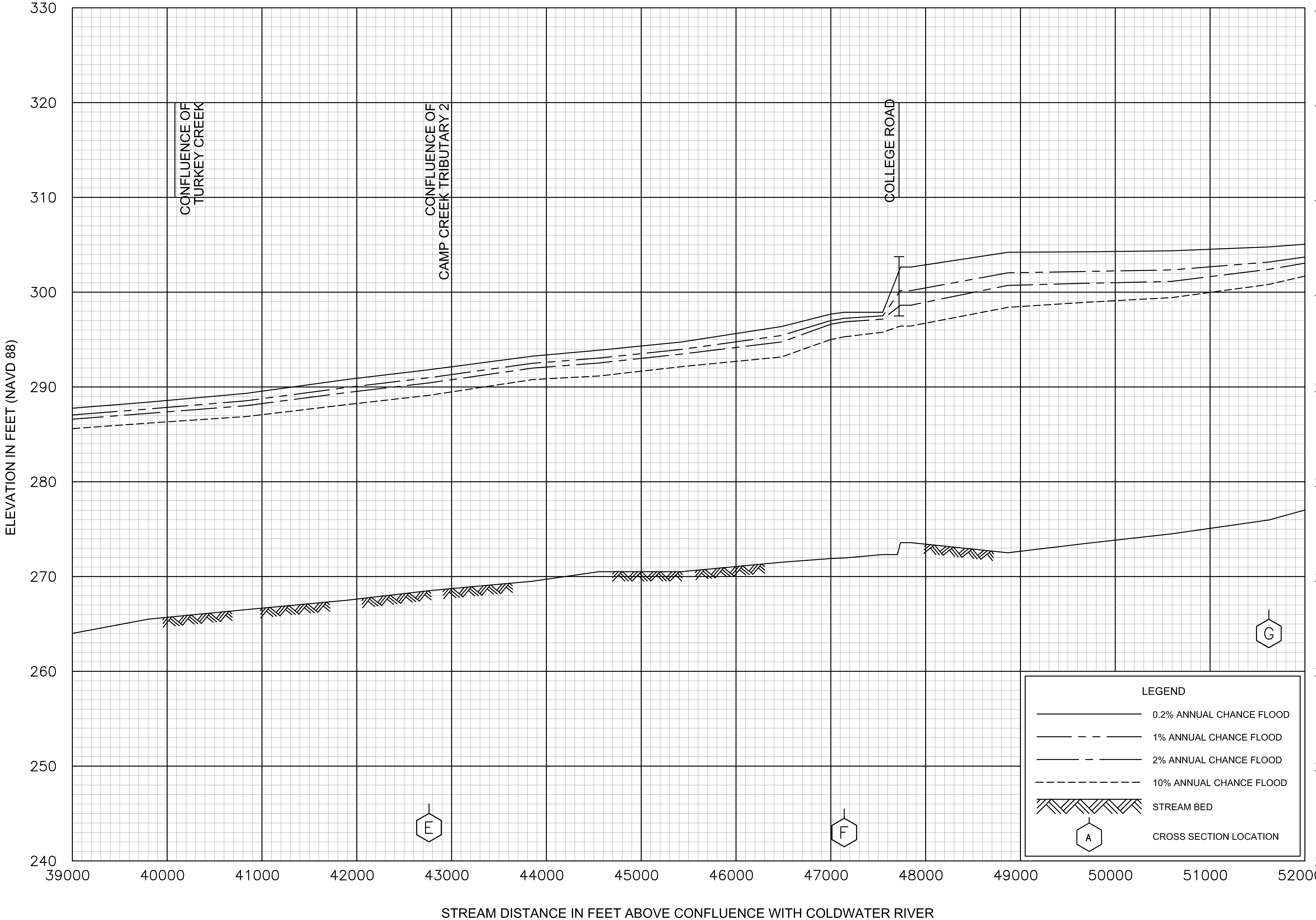


FLOOD PROFILES

CAMP CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



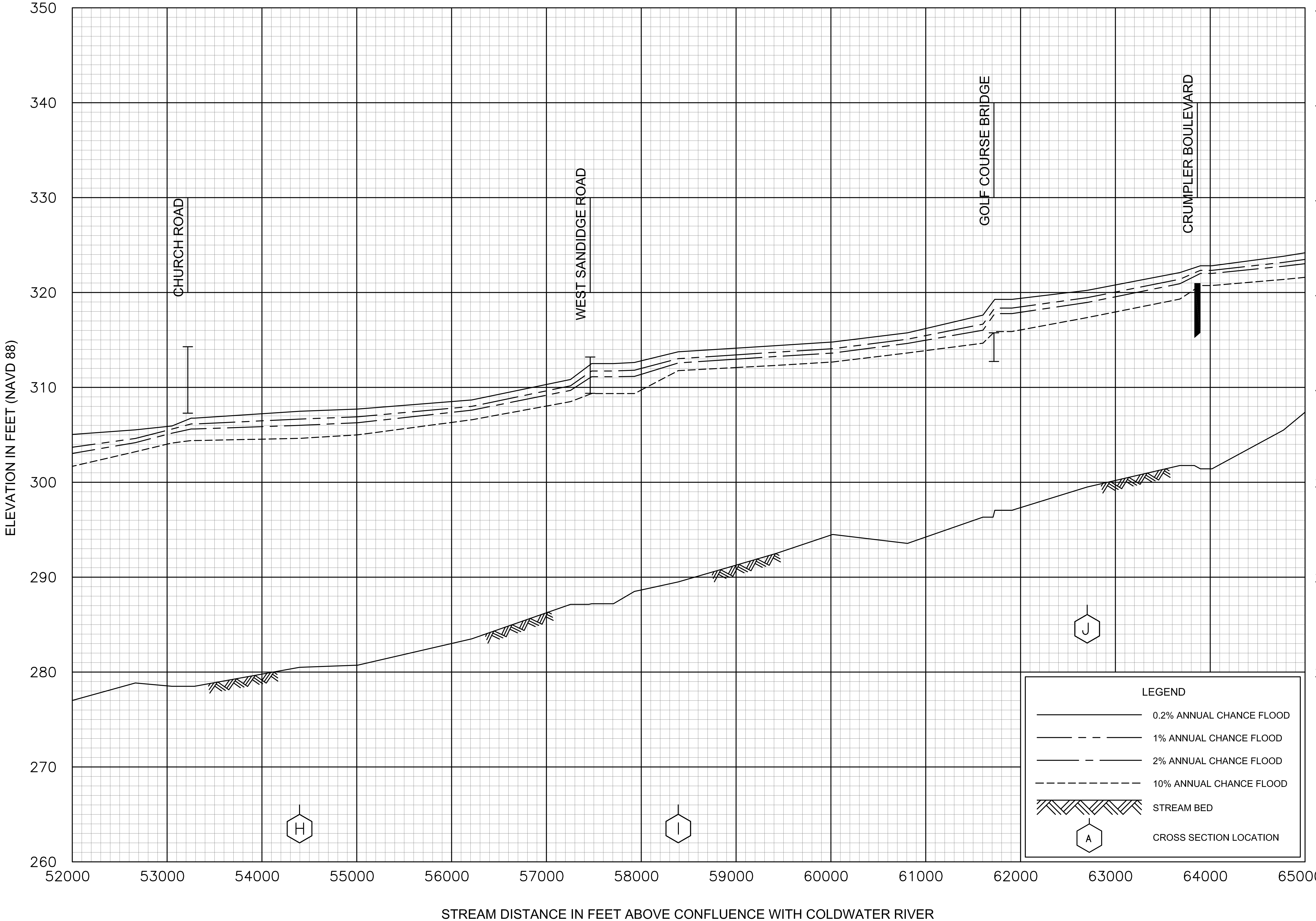
FLOOD PROFILES

CAMP CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

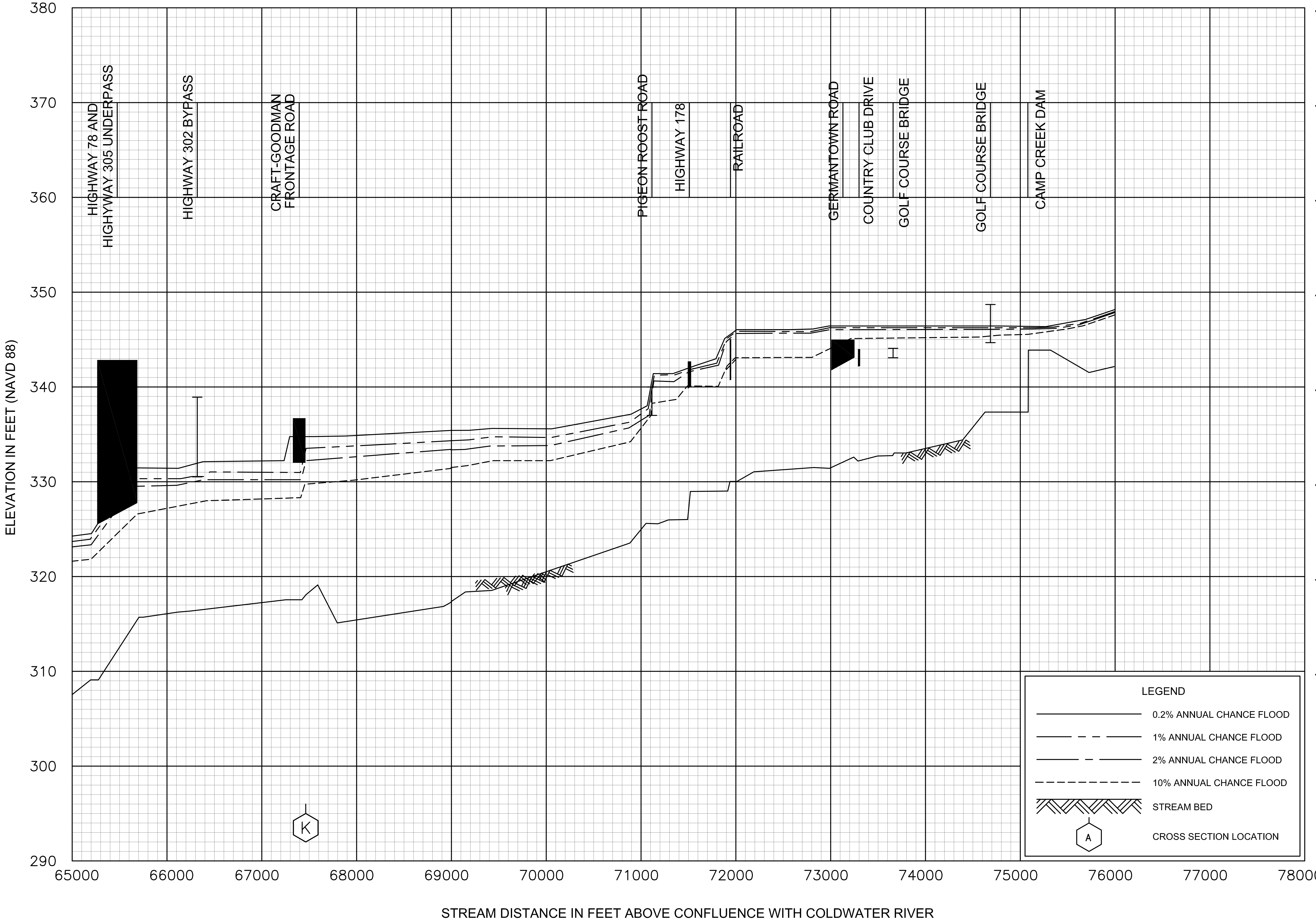


FLOOD PROFILES

CAMP CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



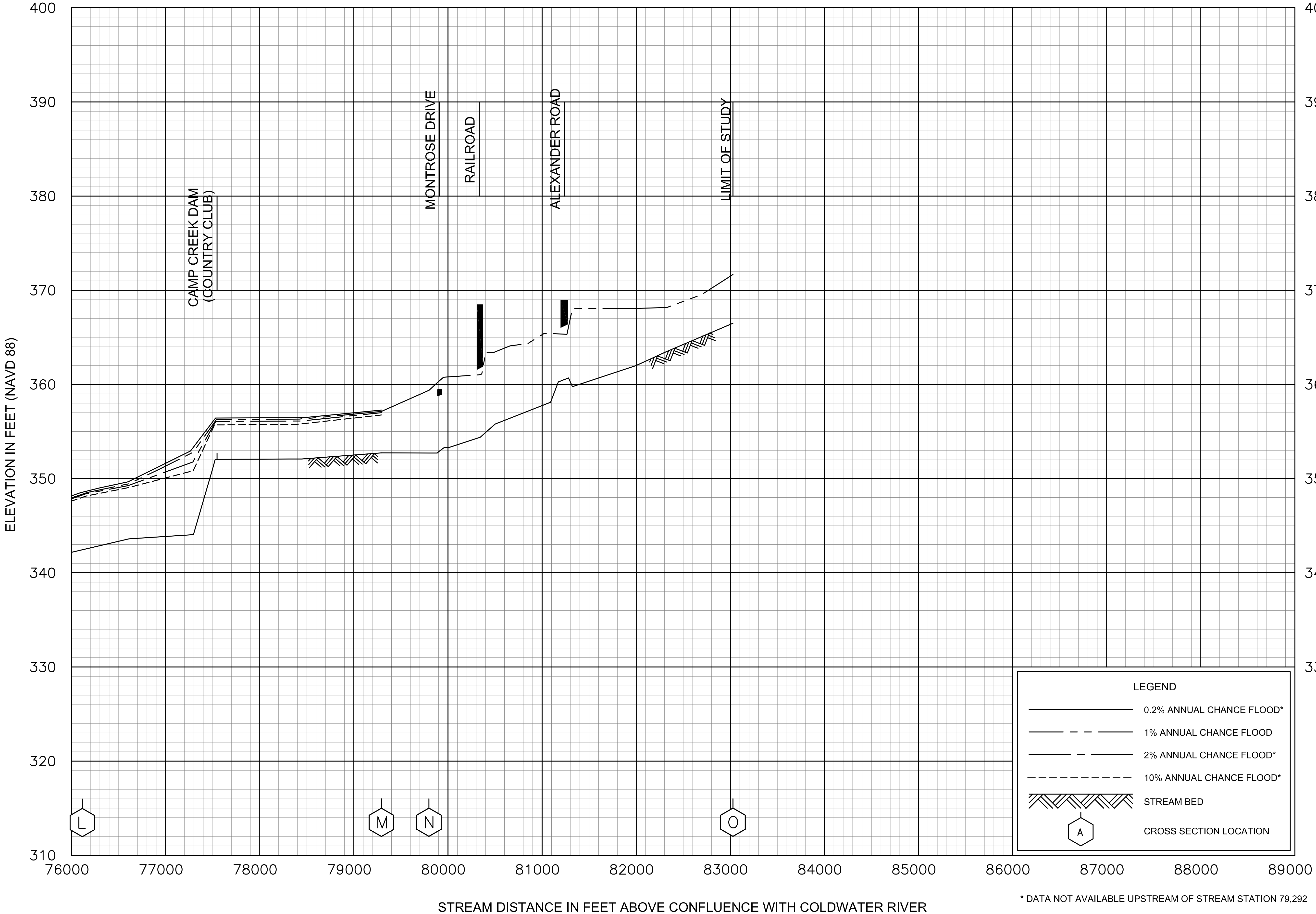
FLOOD PROFILES

CAMP CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

17P



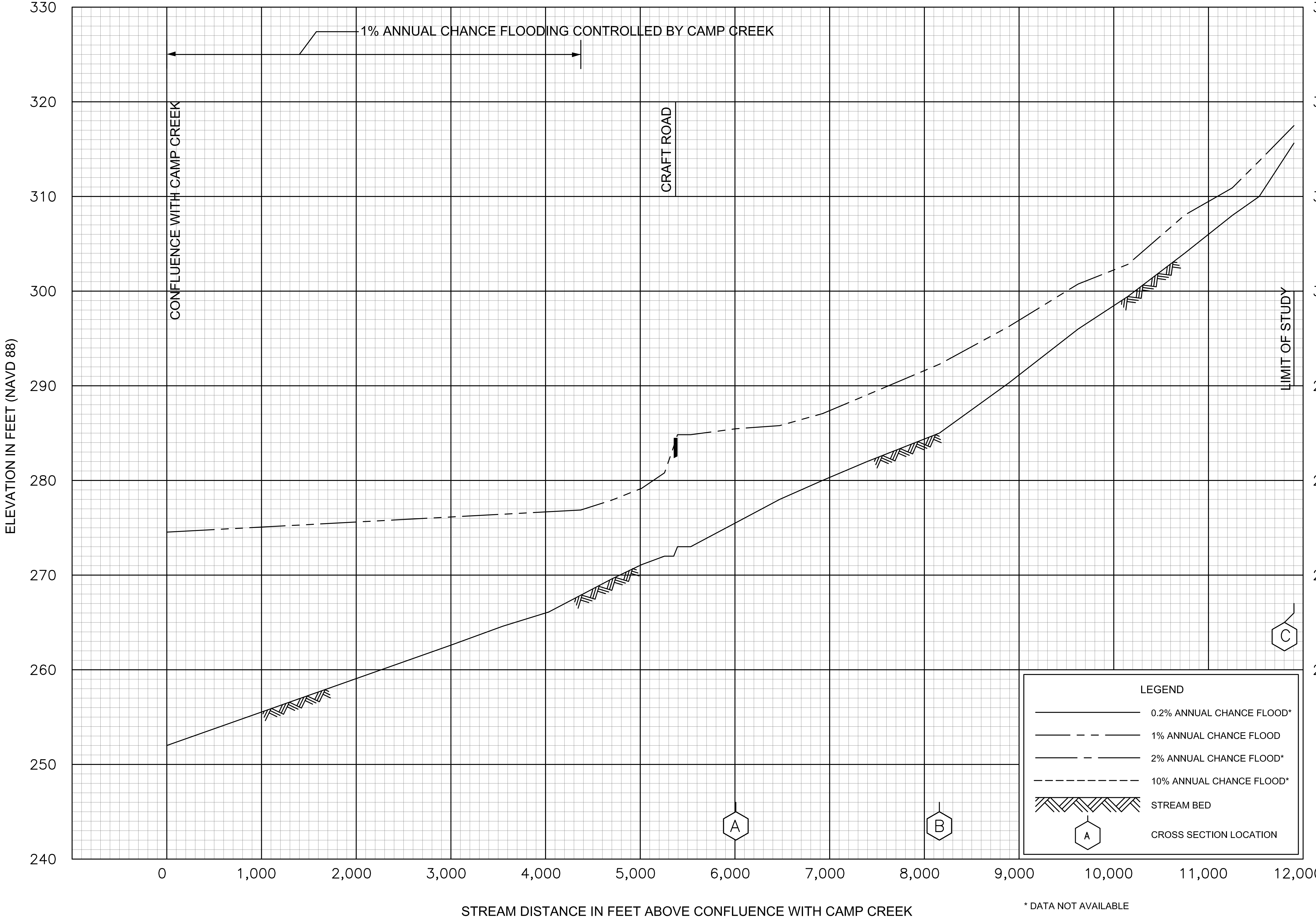
* DATA NOT AVAILABLE UPSTREAM OF STREAM STATION 79,292

FLOOD PROFILES

CAMP CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



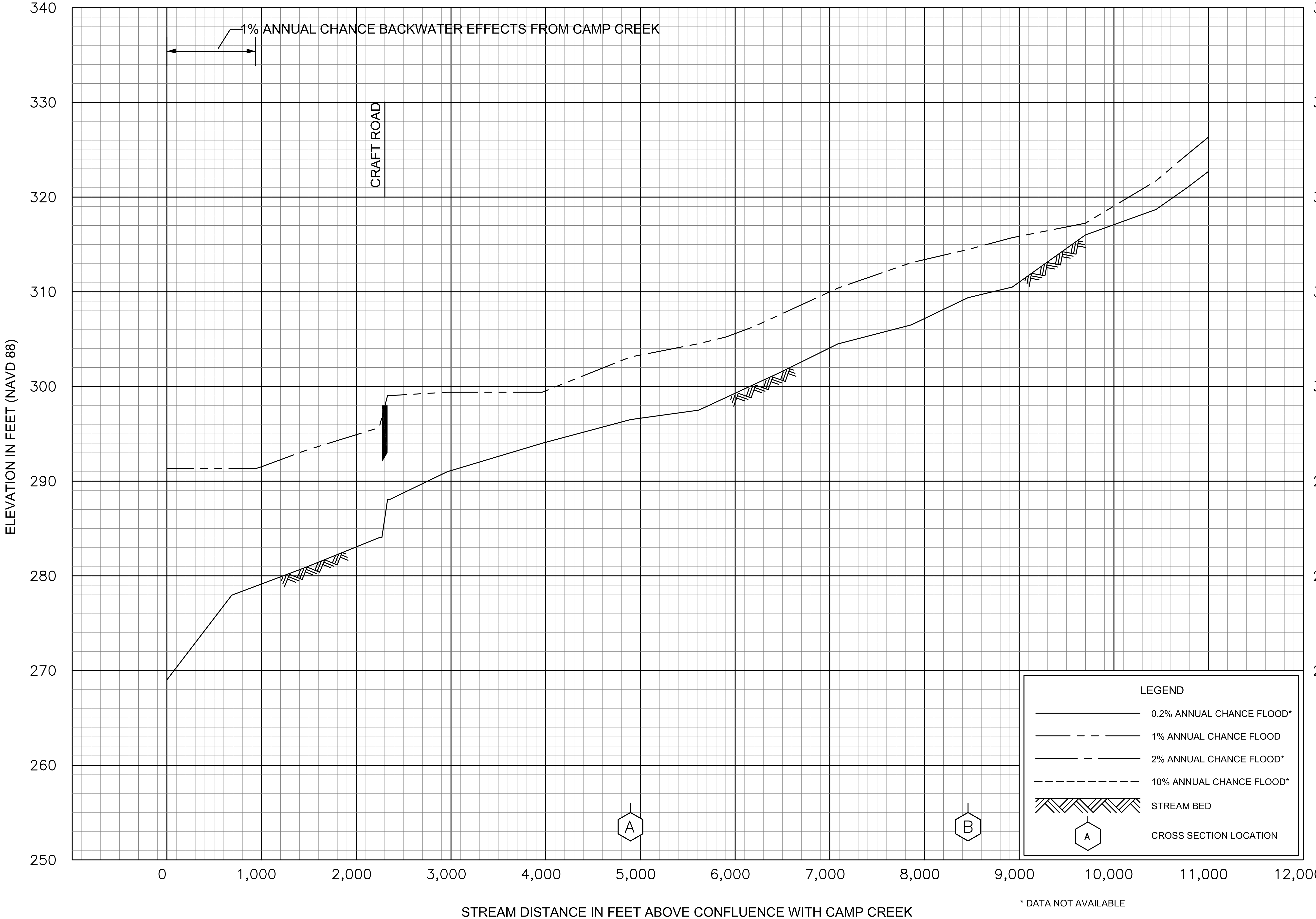
FLOOD PROFILES

CAMP CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



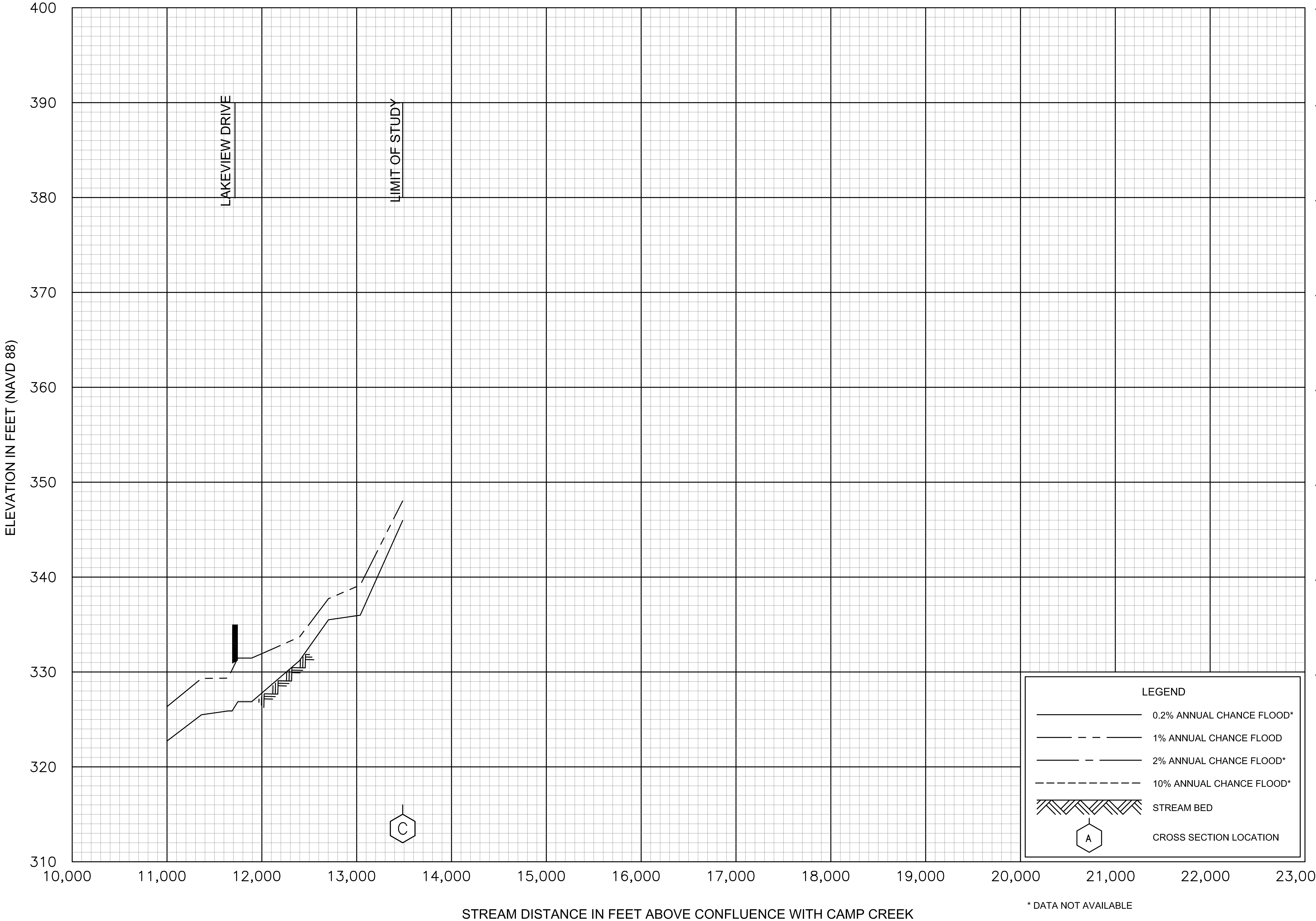
FLOOD PROFILES

CAMP CREEK TRIBUTARY 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

20P

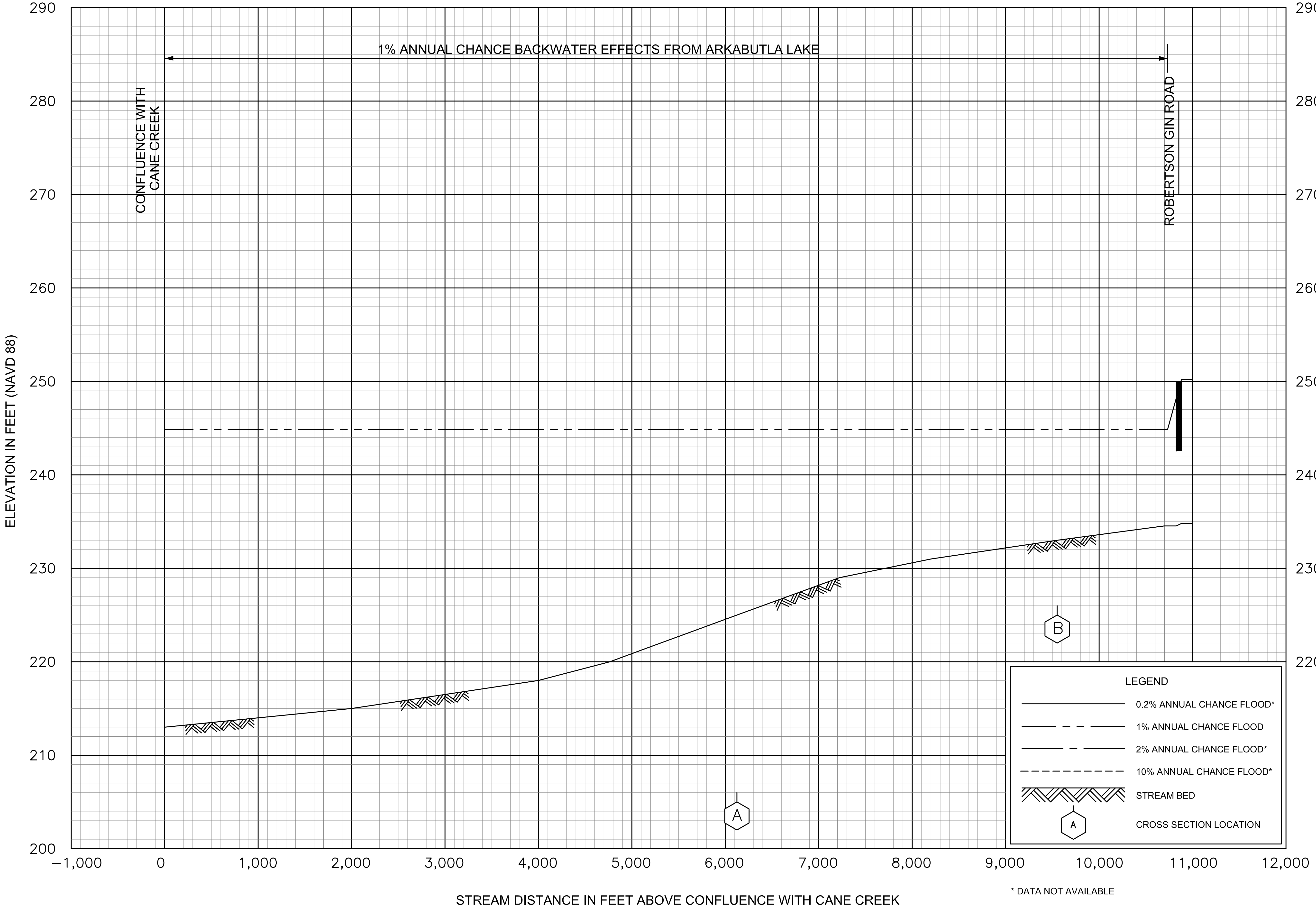


FLOOD PROFILES

CAMP CREEK TRIBUTARY 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



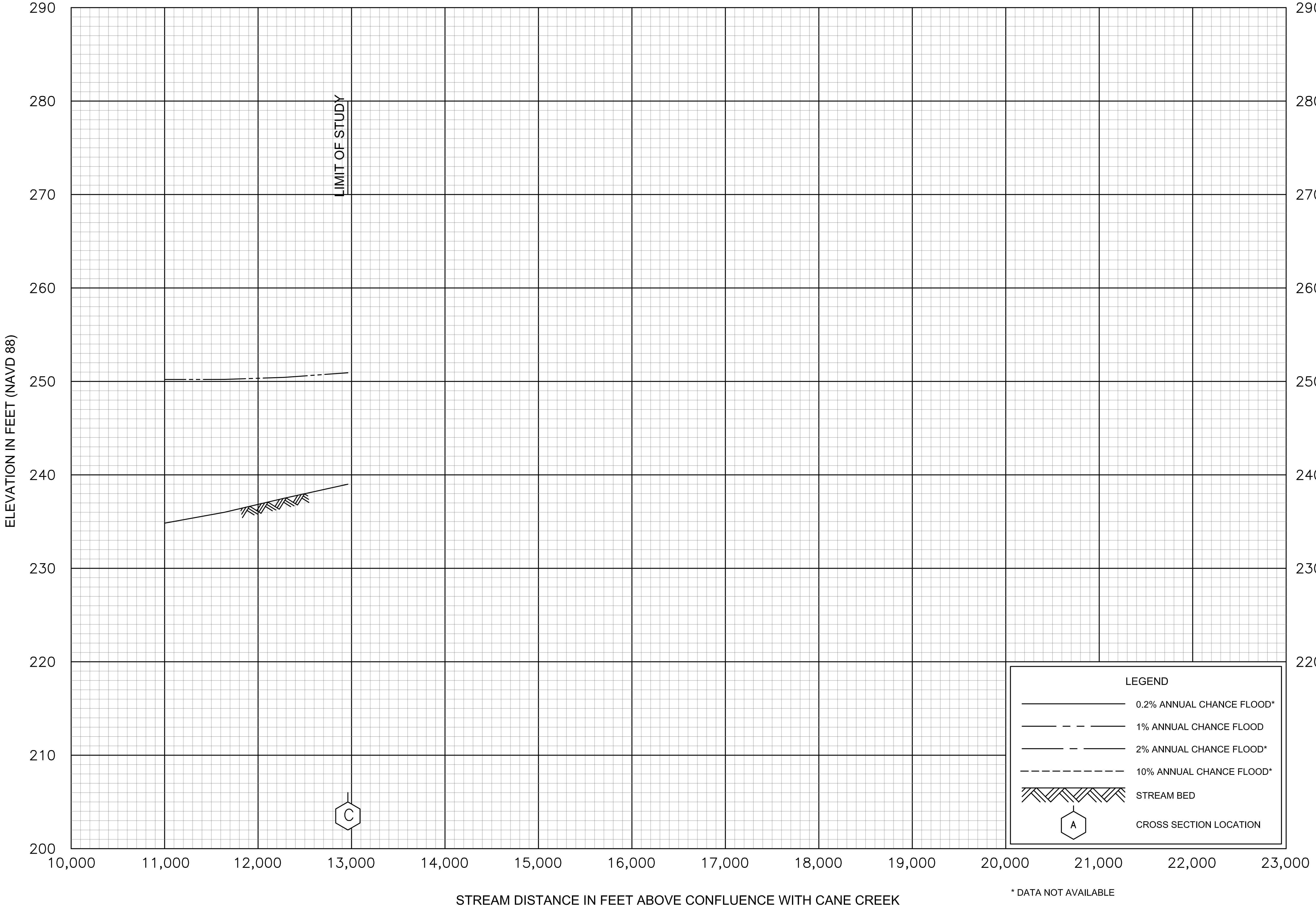
FLOOD PROFILES

CANE CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



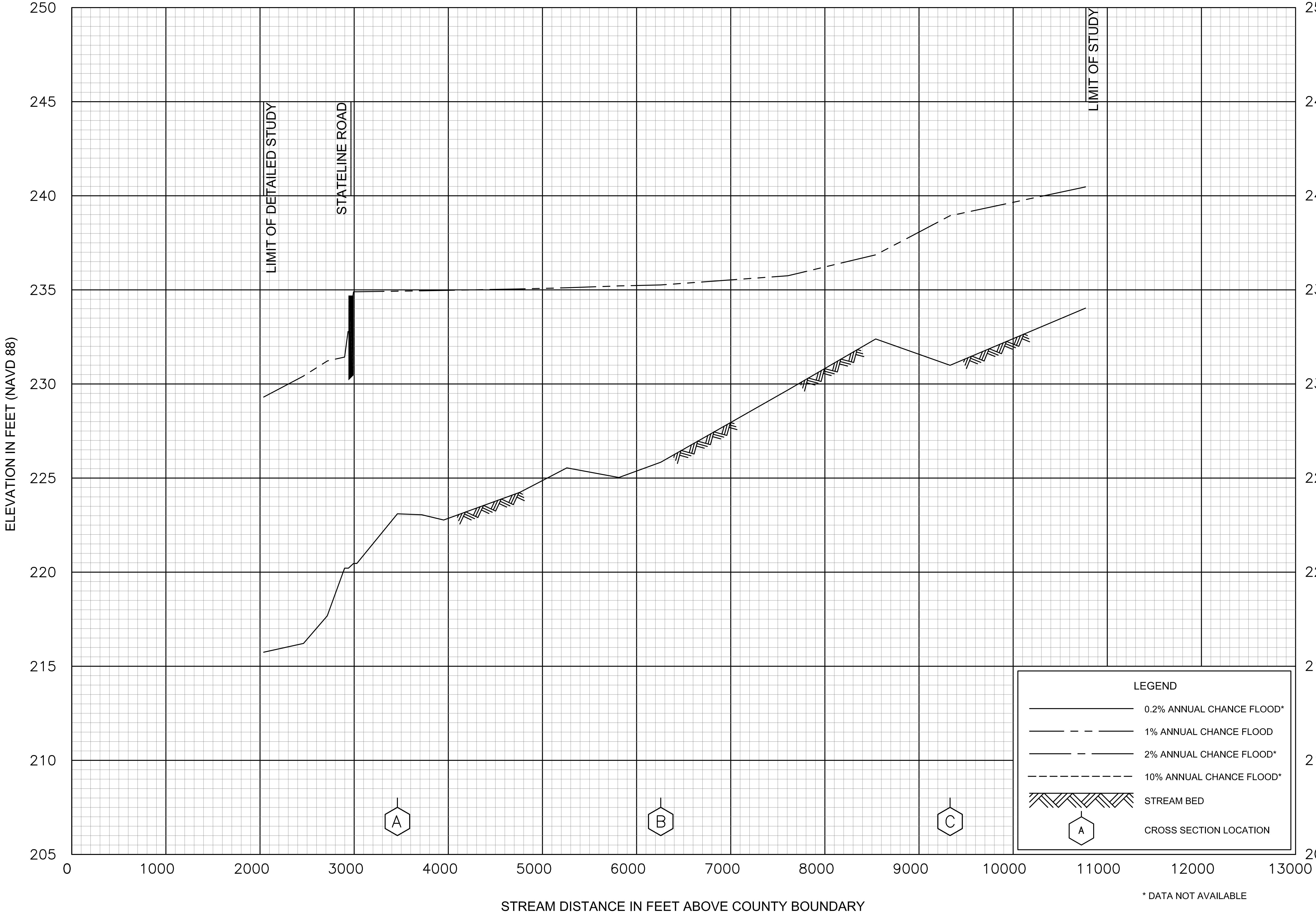
FLOOD PROFILES

CANE CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



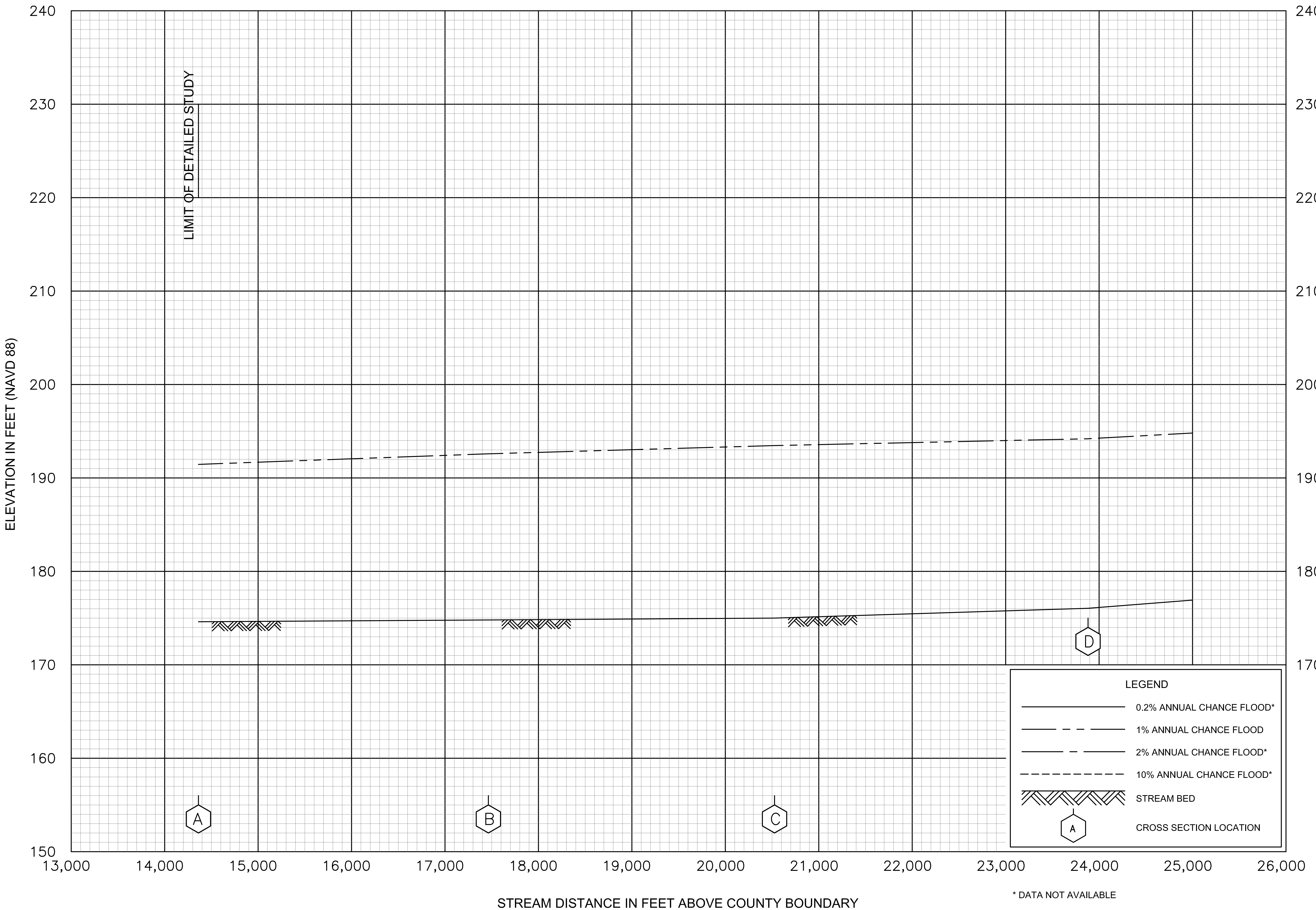
FLOOD PROFILES

CEDAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



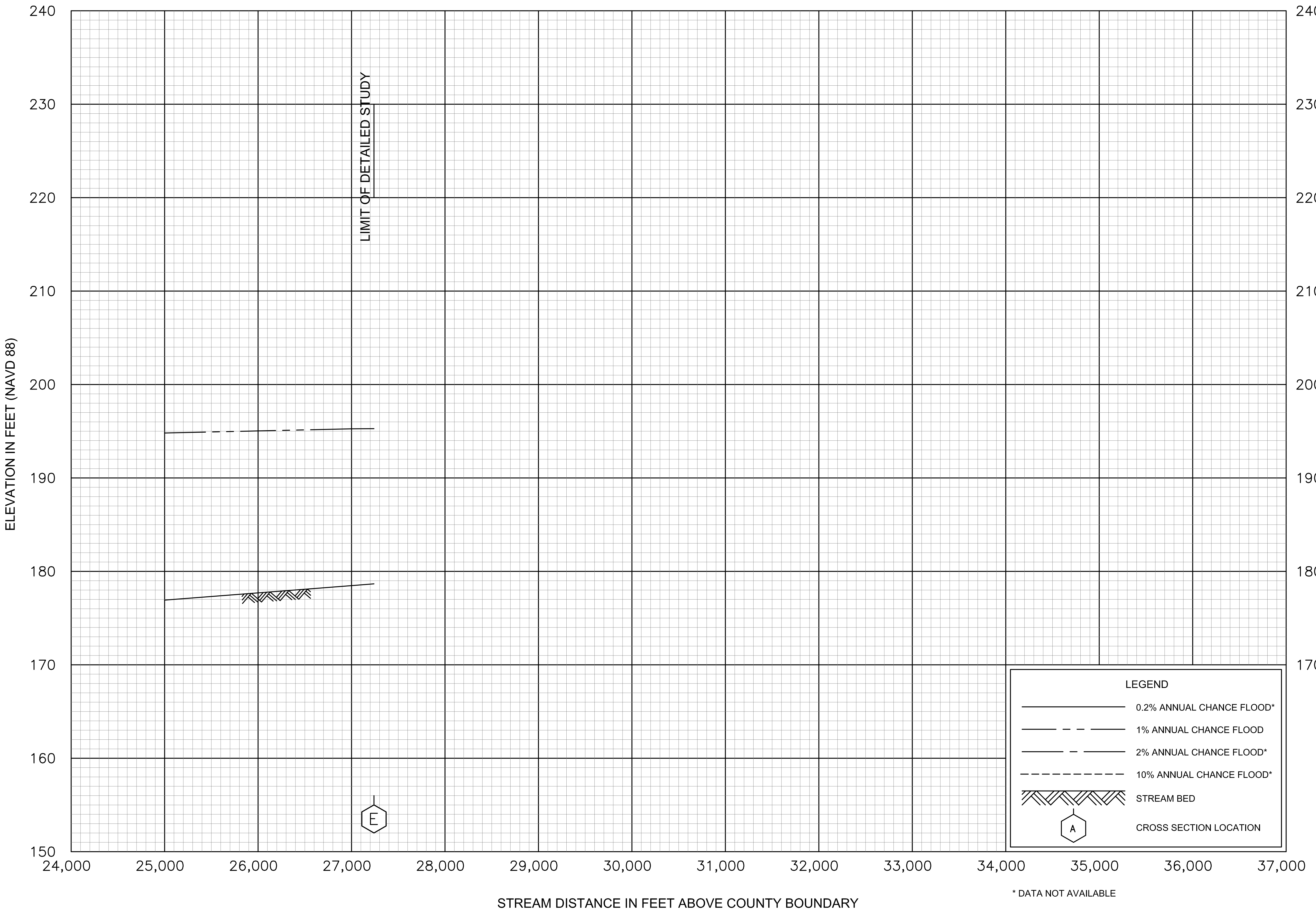
FLOOD PROFILES

COLDWATER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



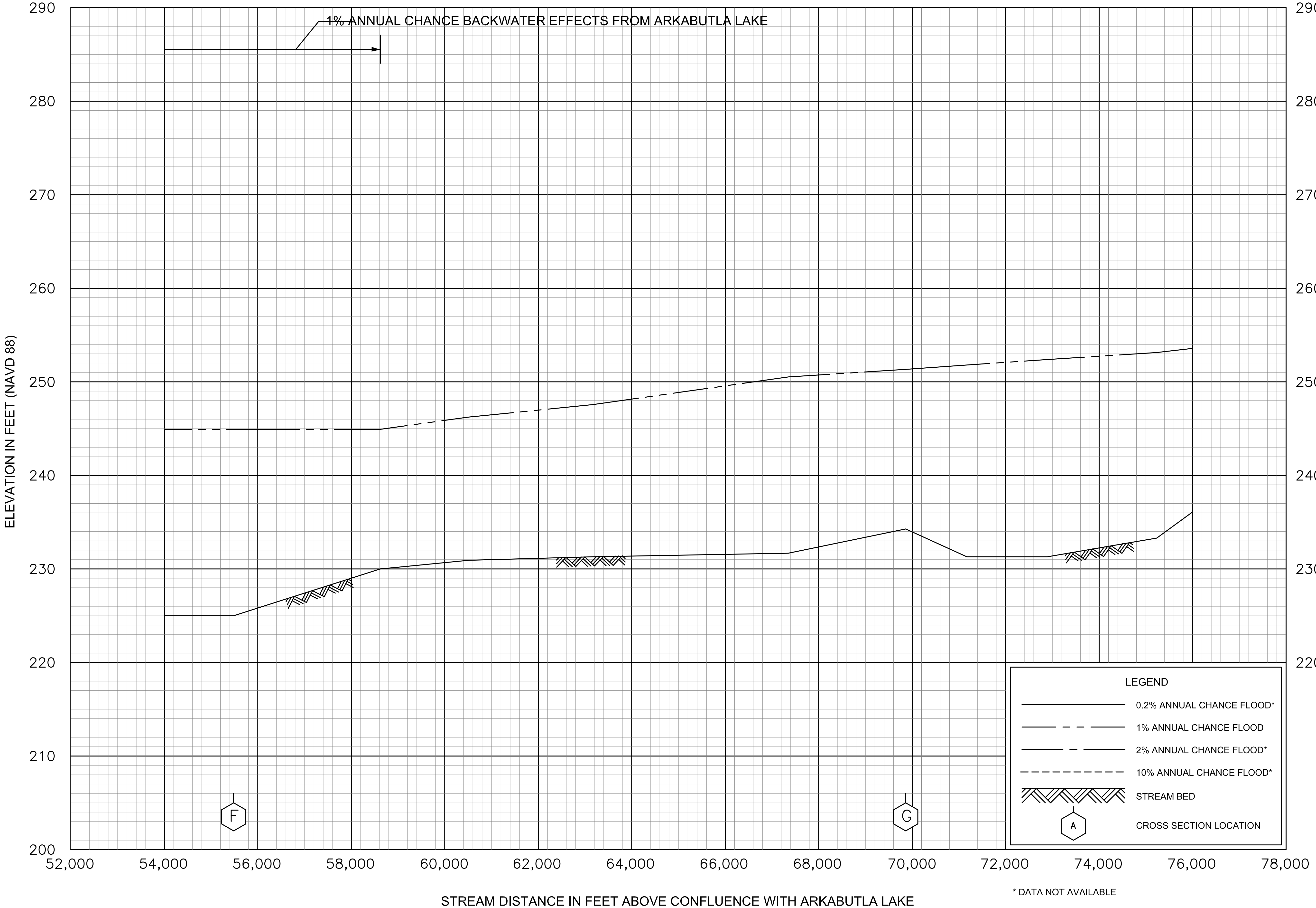
FLOOD PROFILES

COLDWATER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



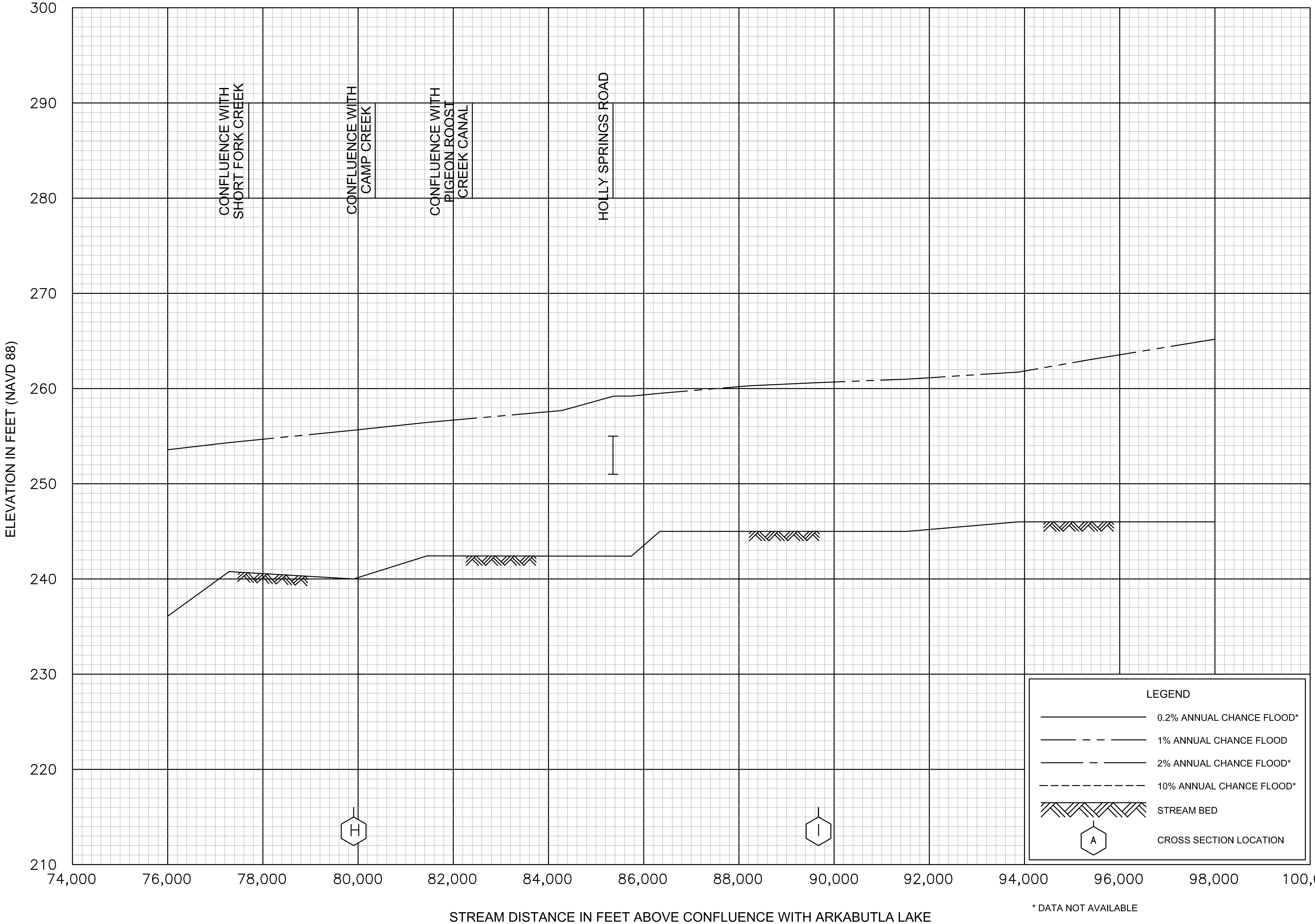
FLOOD PROFILES

COLDWATER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

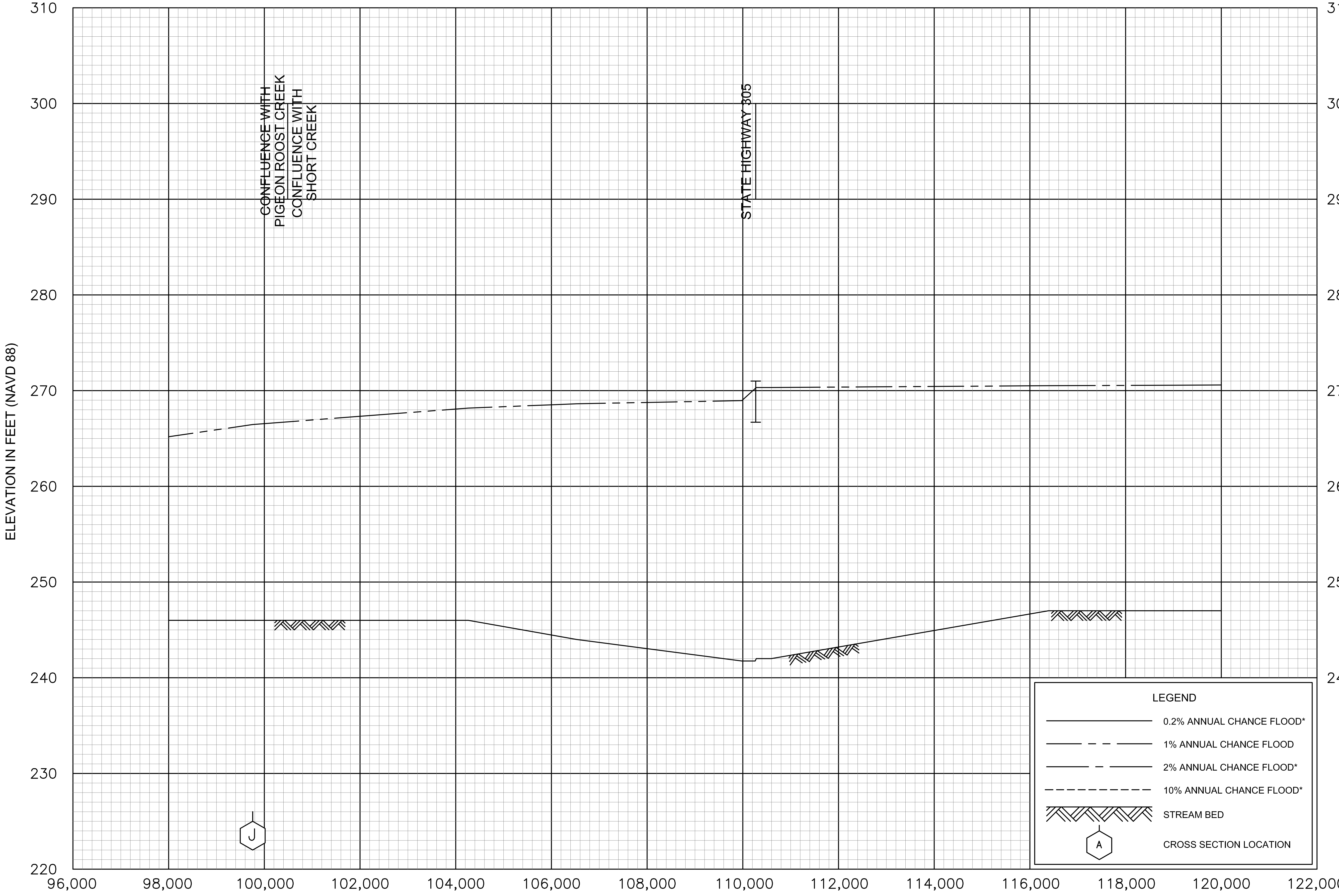


FLOOD PROFILES

COLDWATER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



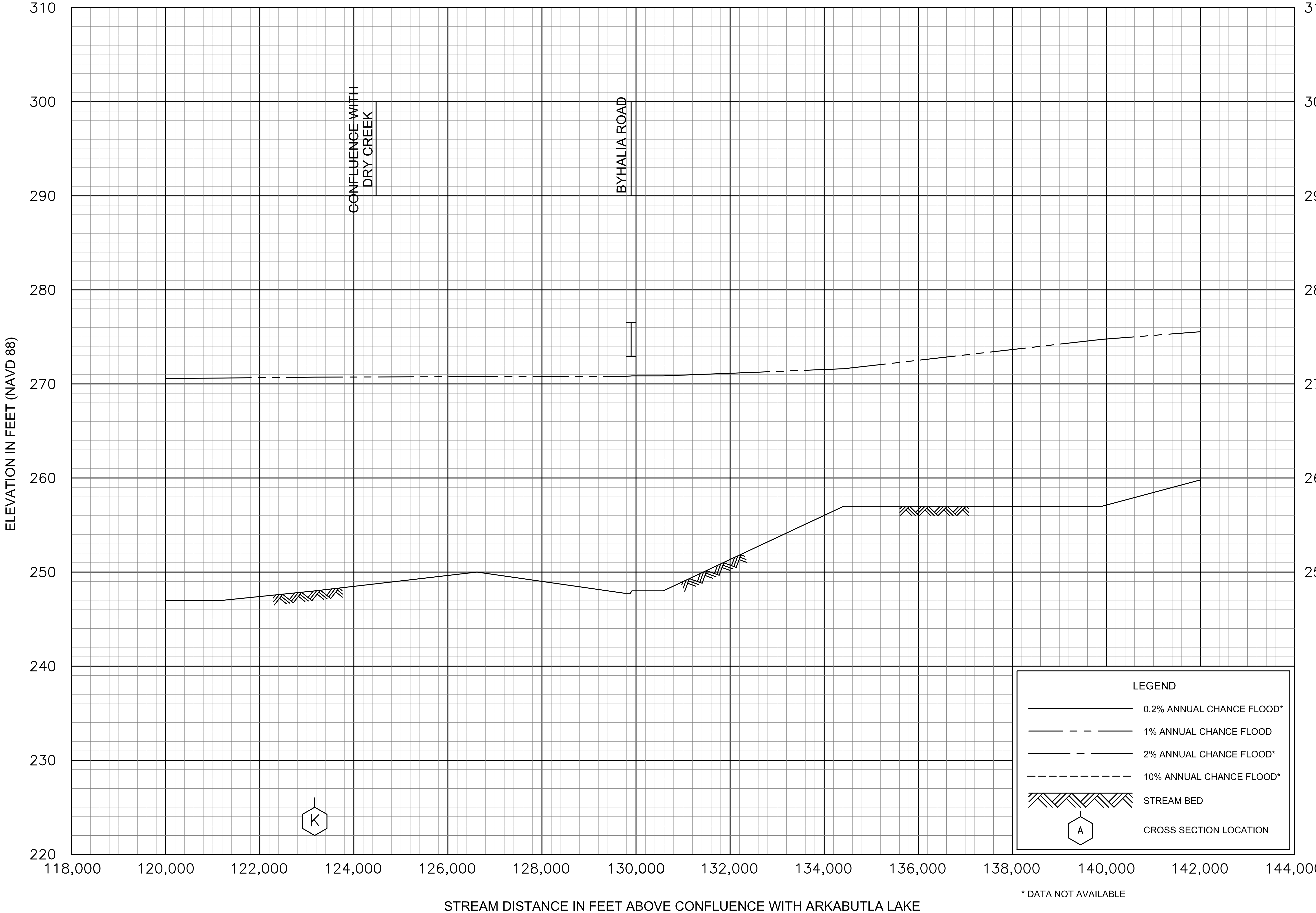
* DATA NOT AVAILABLE

FLOOD PROFILES

COLDWATER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



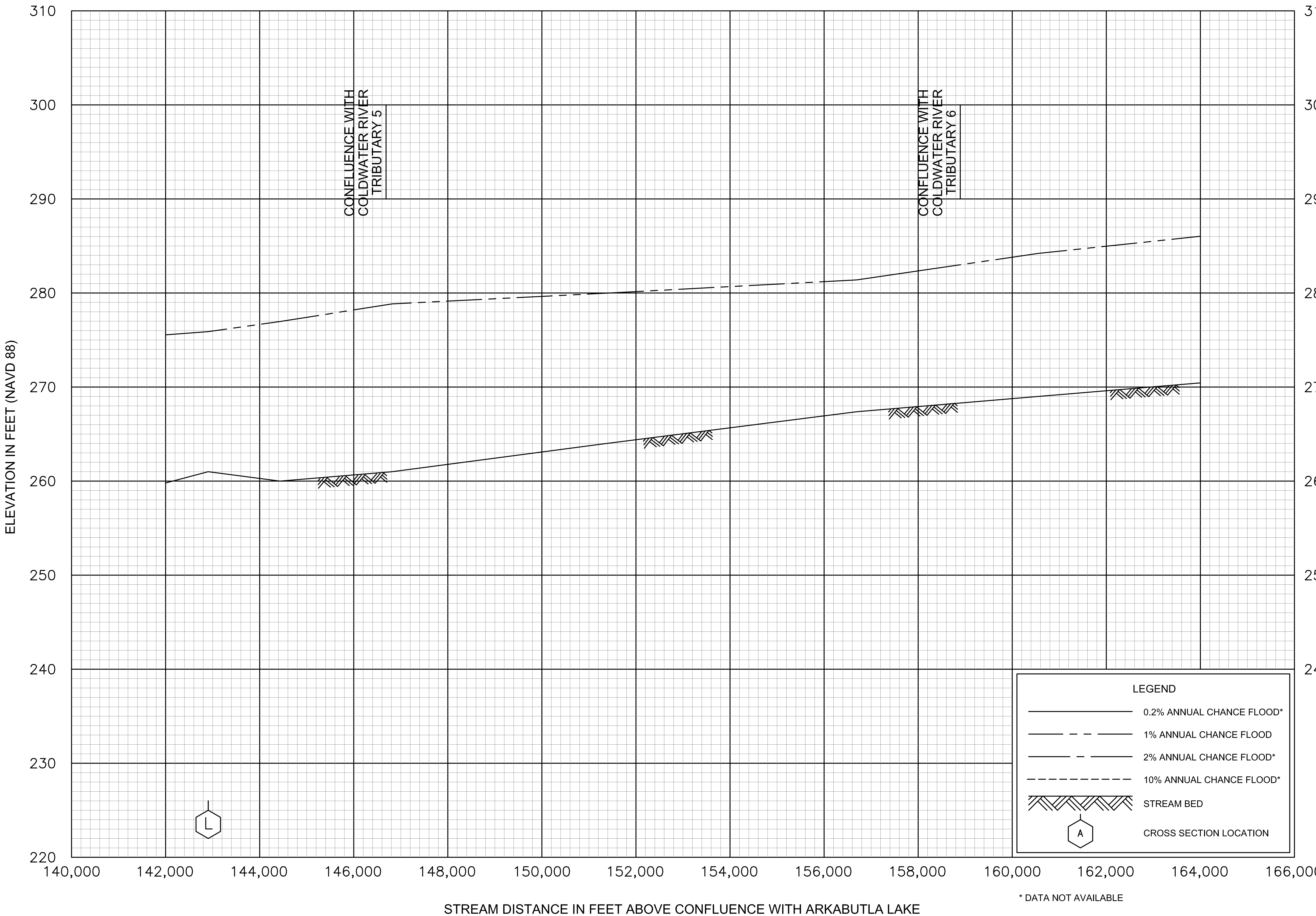
FLOOD PROFILES

COLDWATER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



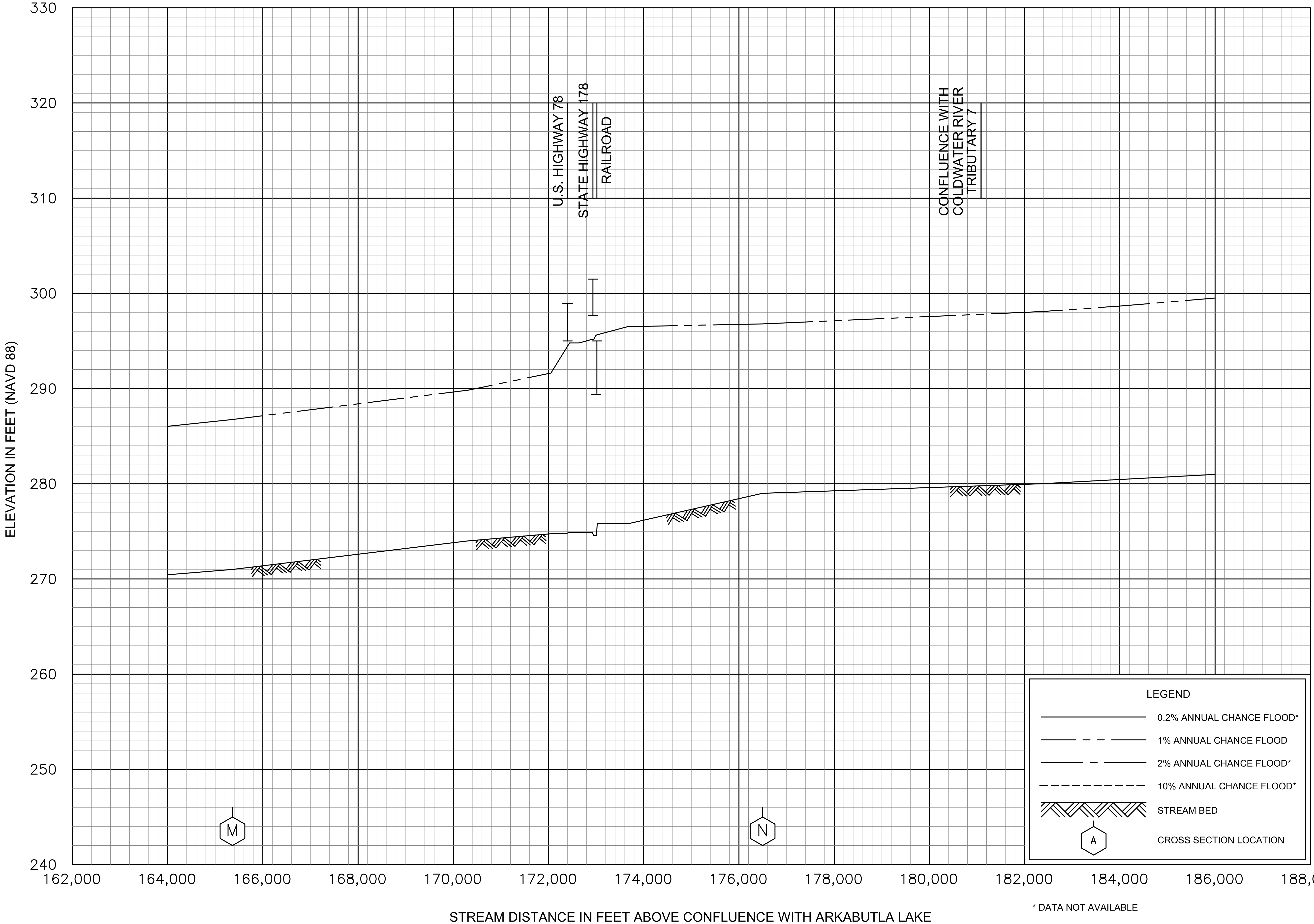
FLOOD PROFILES

COLDWATER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

31P

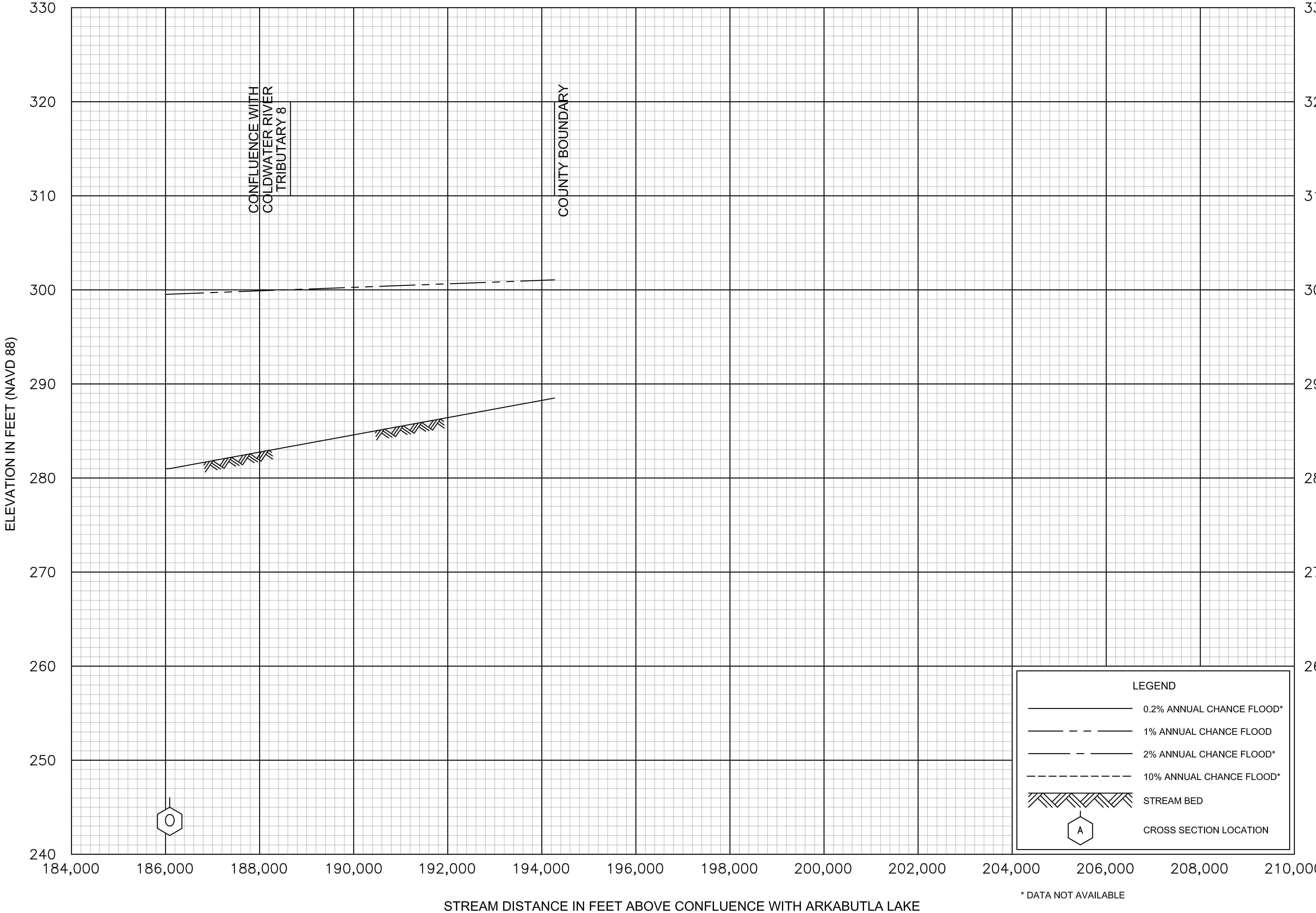


FLOOD PROFILES

COLDWATER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



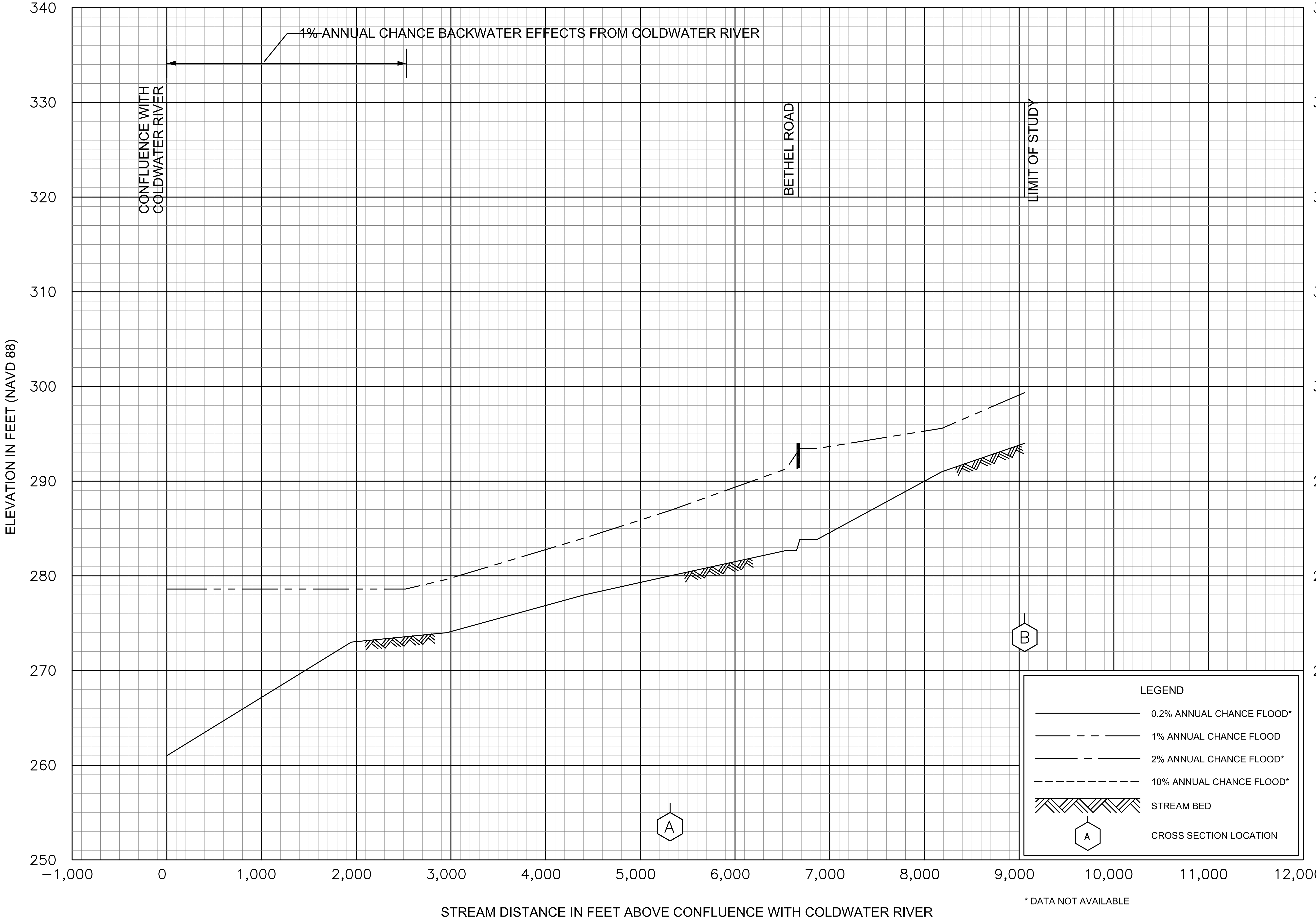
FLOOD PROFILES

COLDWATER RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



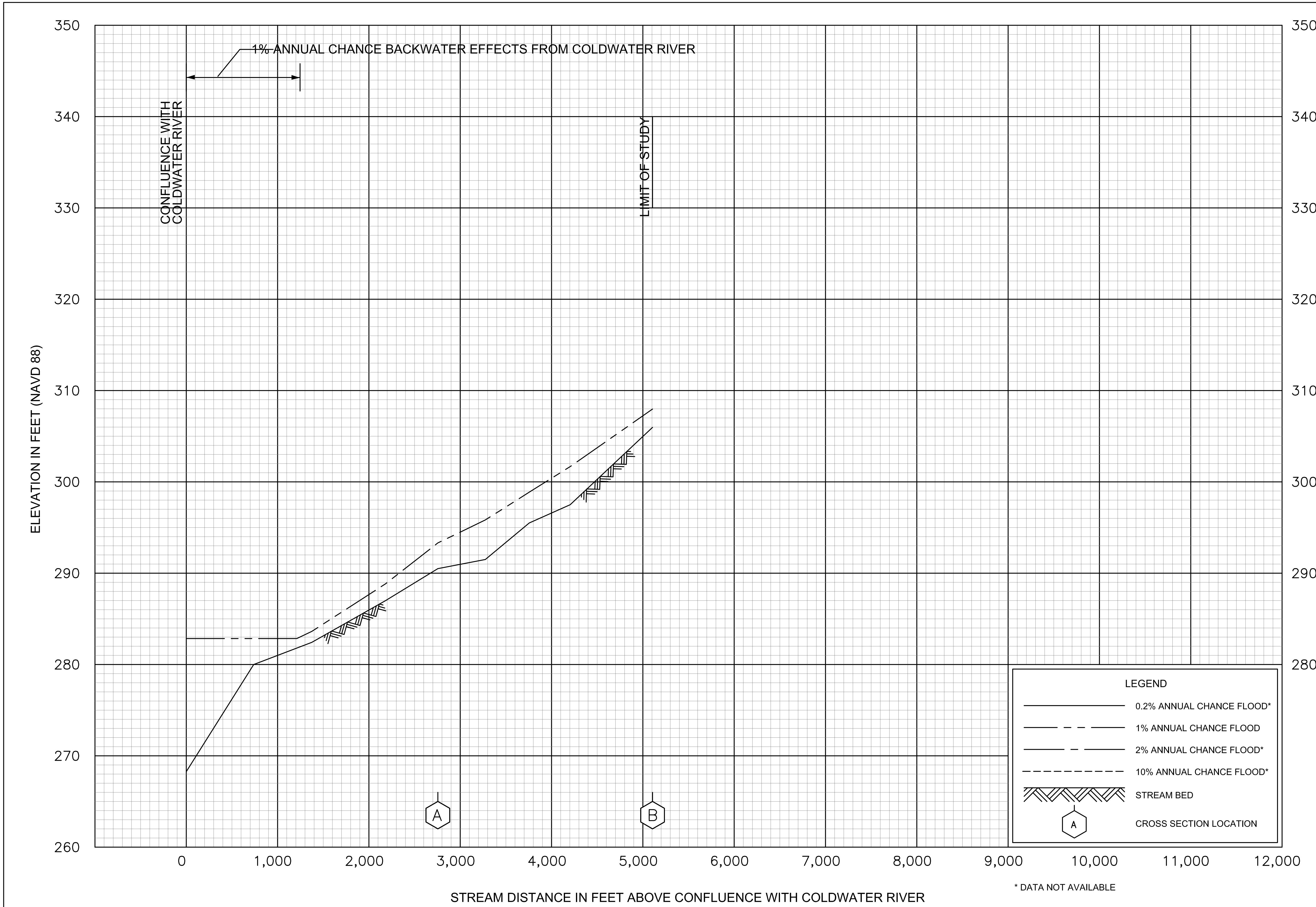
FLOOD PROFILES

COLDWATER RIVER TRIBUTARY 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



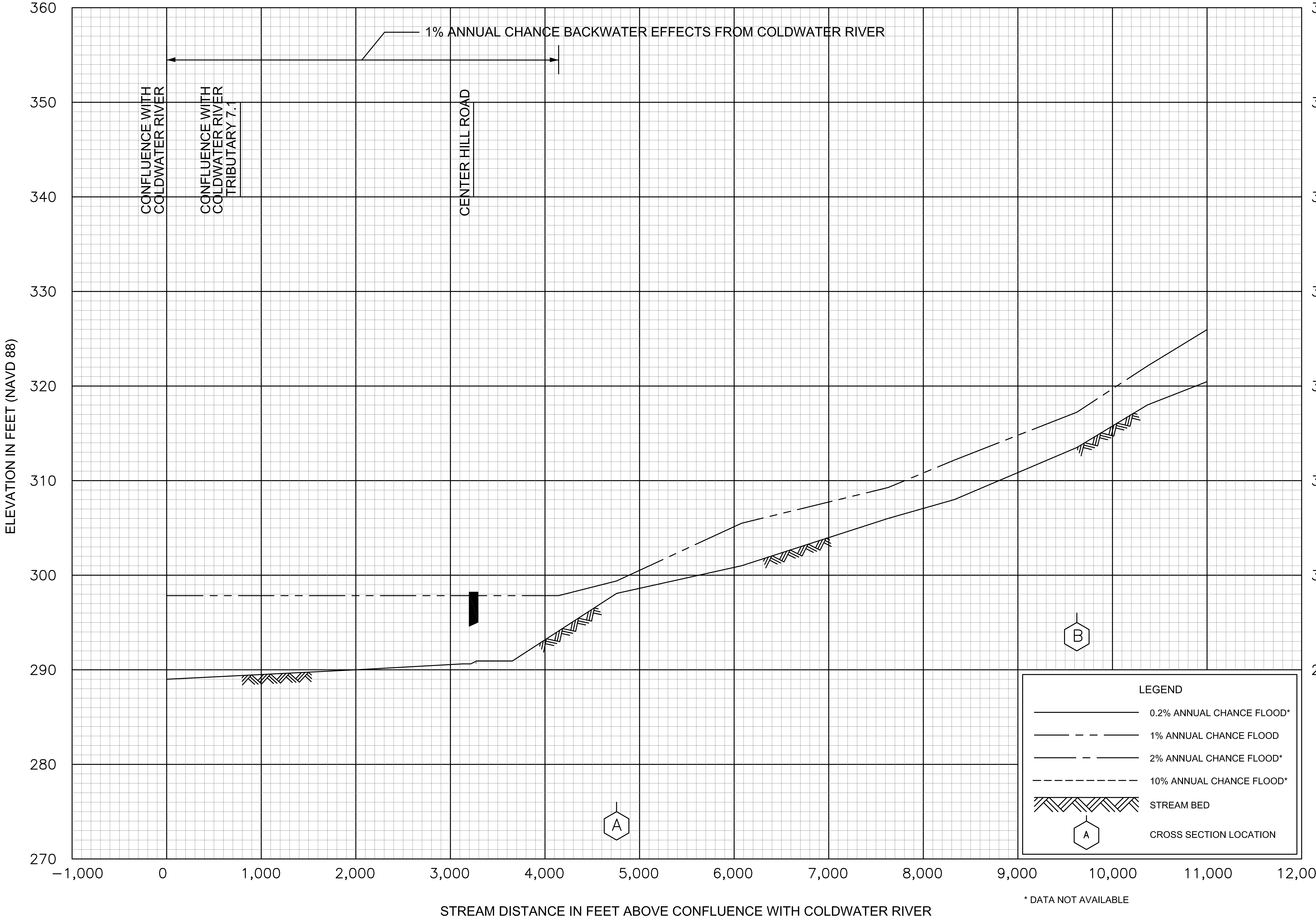
FLOOD PROFILES

COLDWATER RIVER TRIBUTARY 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



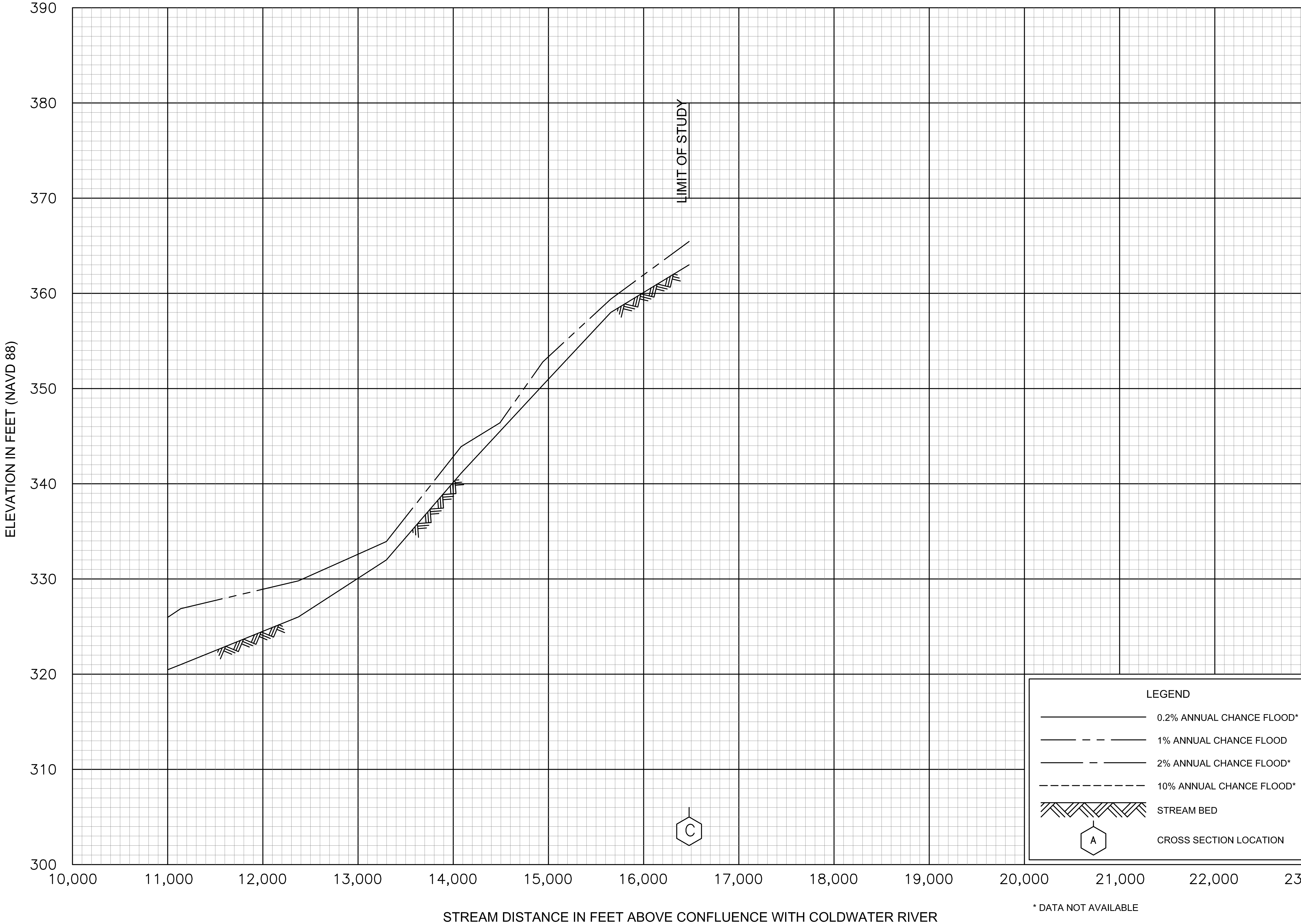
FLOOD PROFILES

COLDWATER RIVER TRIBUTARY 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

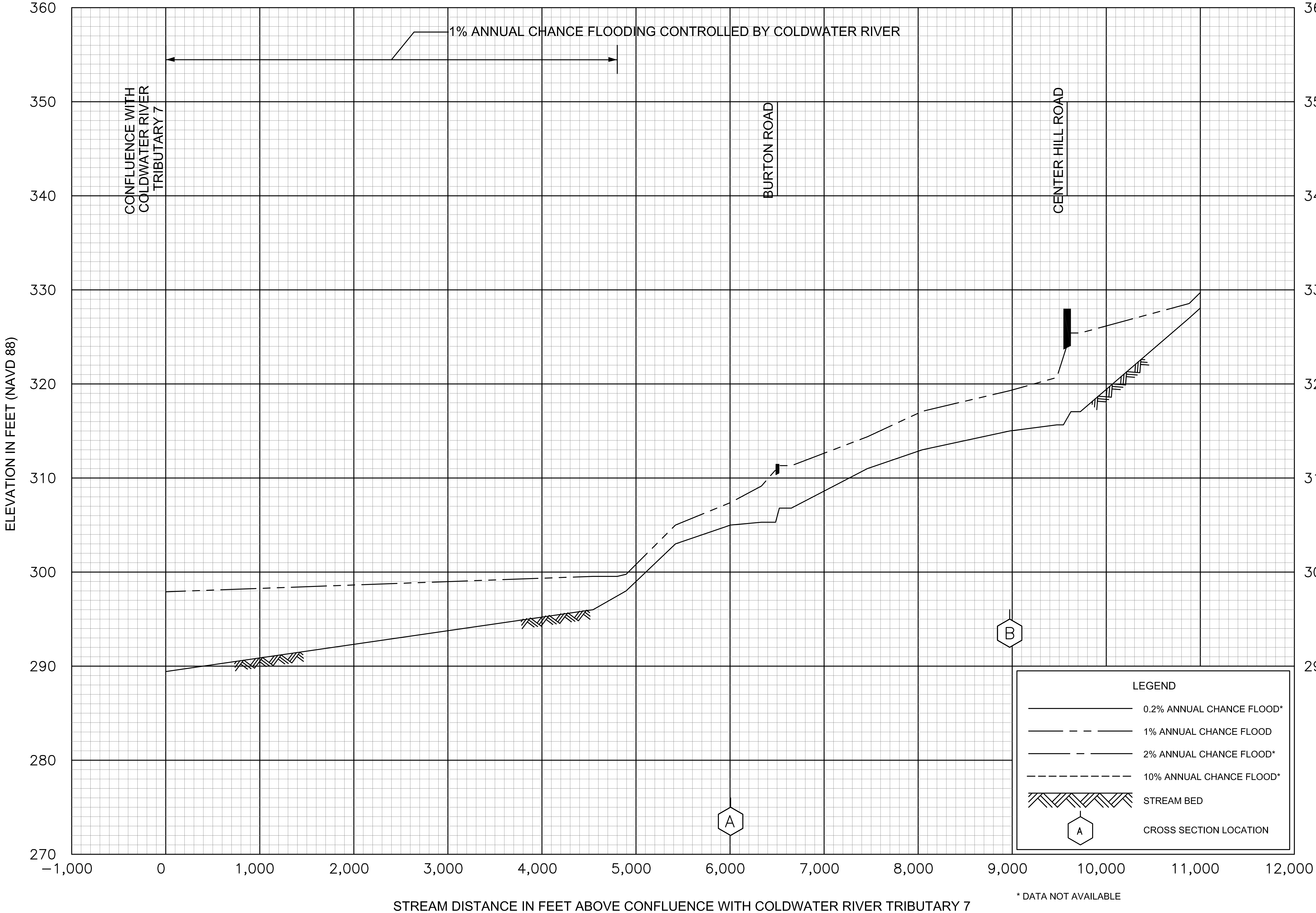


FLOOD PROFILES

COLDWATER RIVER TRIBUTARY 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

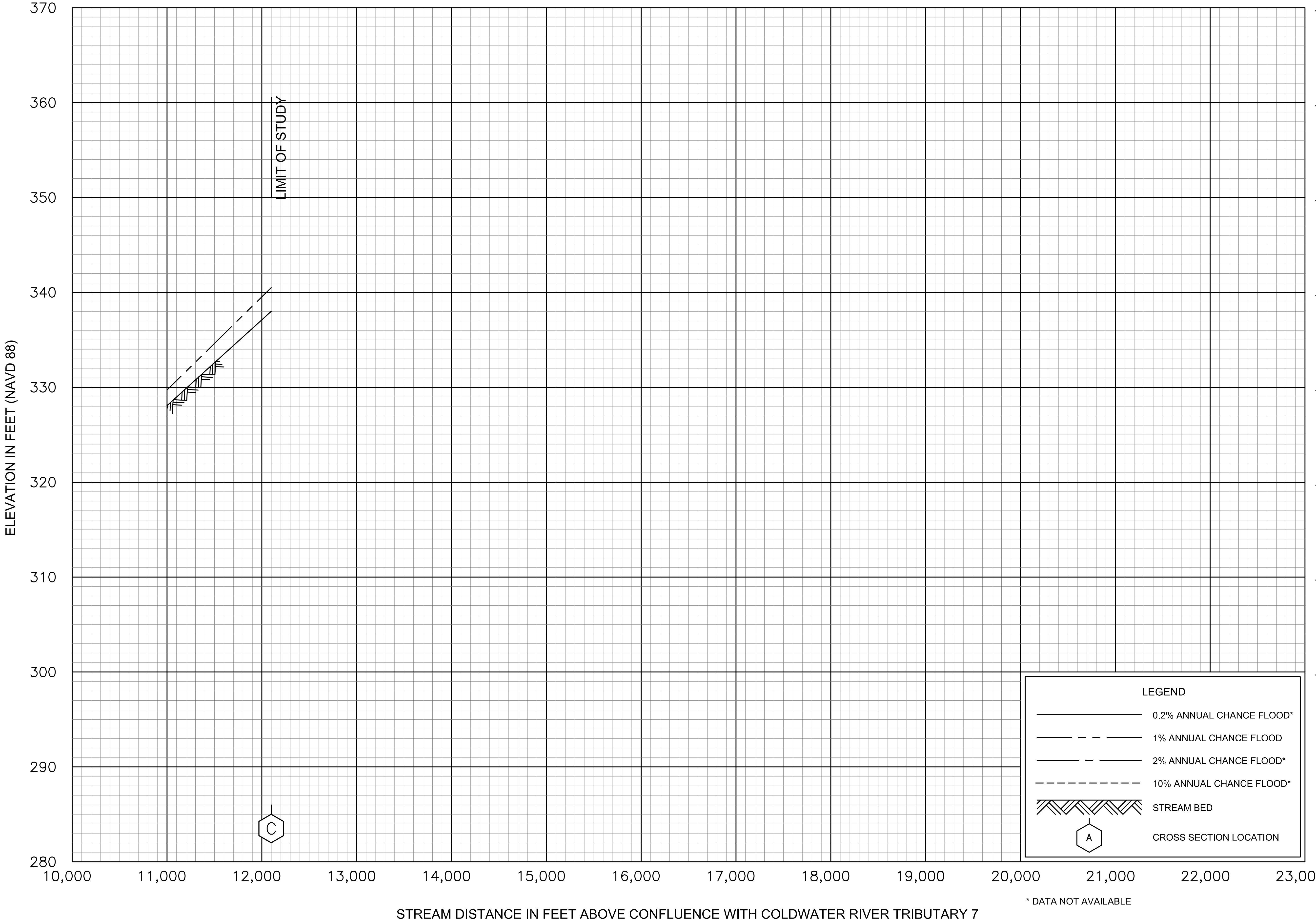


FLOOD PROFILES

COLDWATER RIVER TRIBUTARY 7.1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

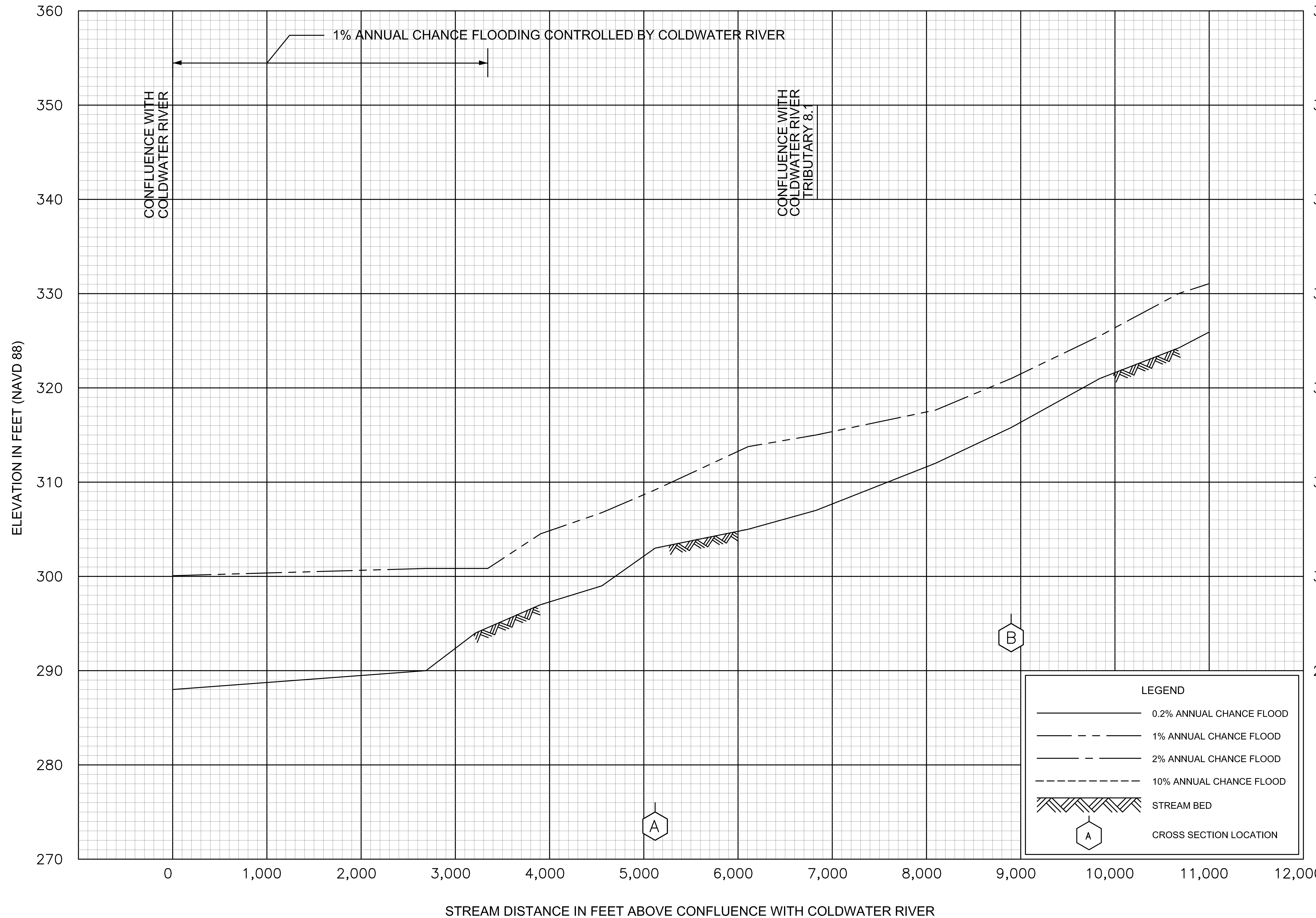


FLOOD PROFILES

COLDWATER RIVER TRIBUTARY 7.1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

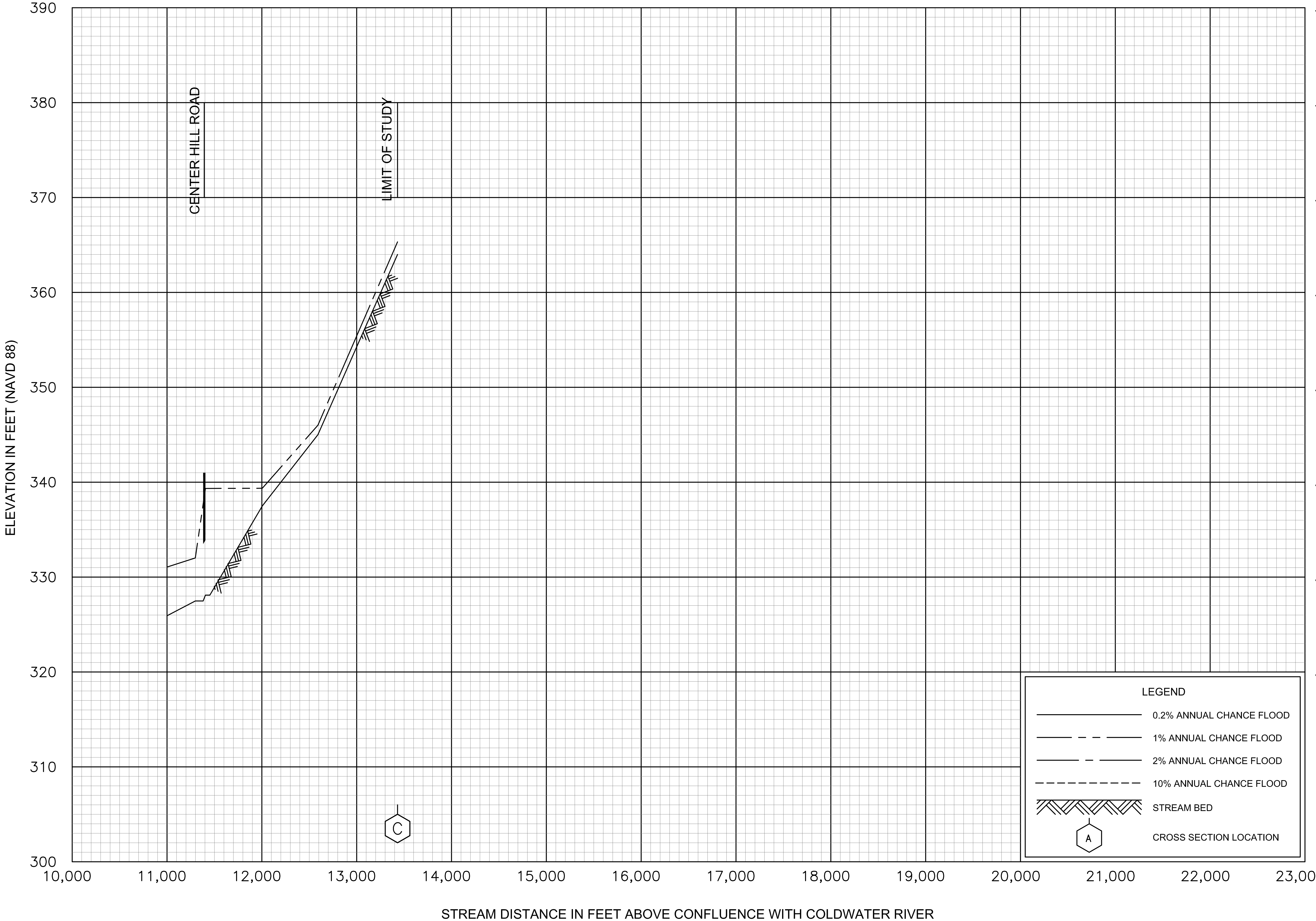


FLOOD PROFILES

COLDWATER RIVER TRIBUTARY 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



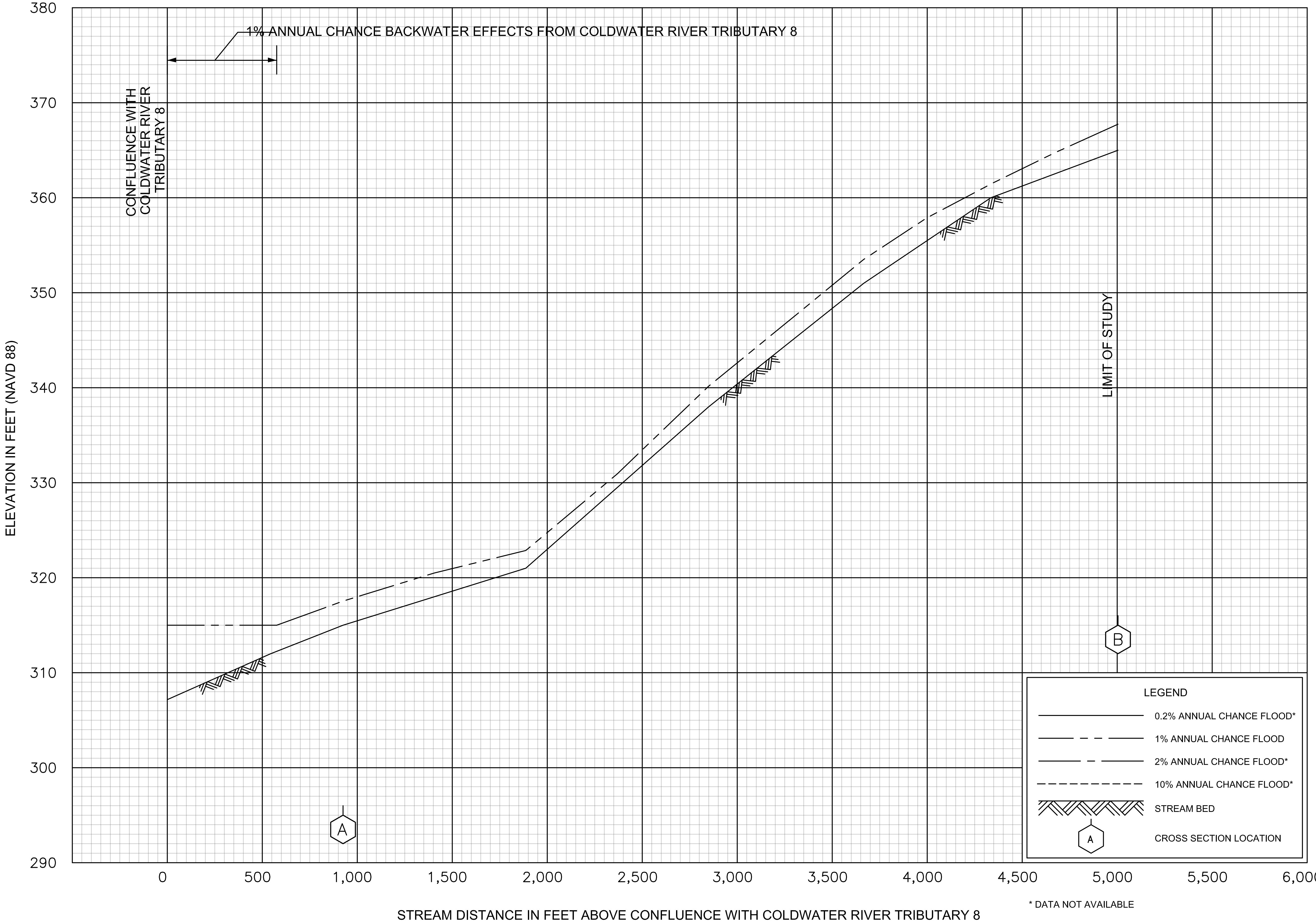
FLOOD PROFILES

COLDWATER RIVER TRIBUTARY 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

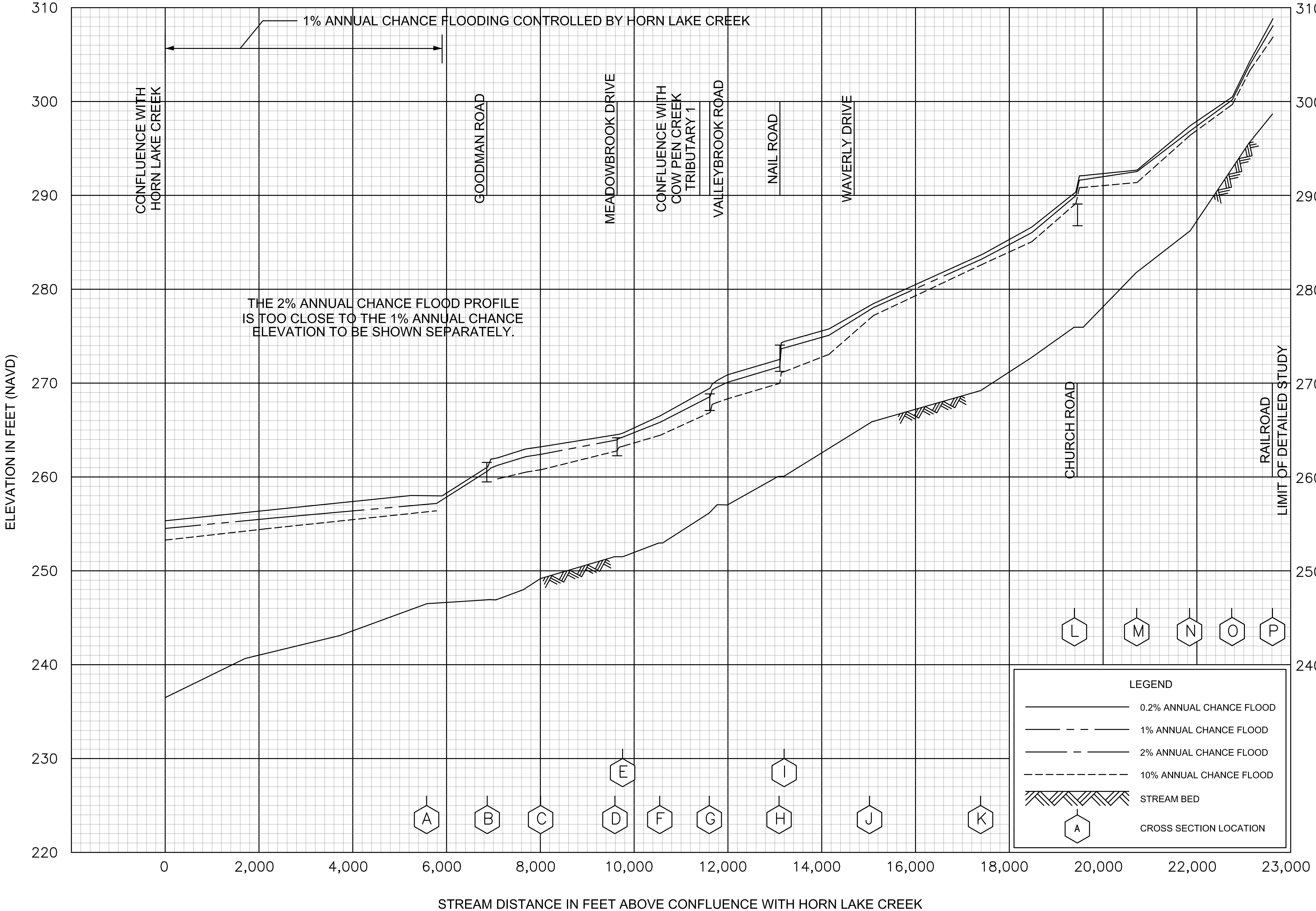


FLOOD PROFILES

COLDWATER RIVER TRIBUTARY 8.1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



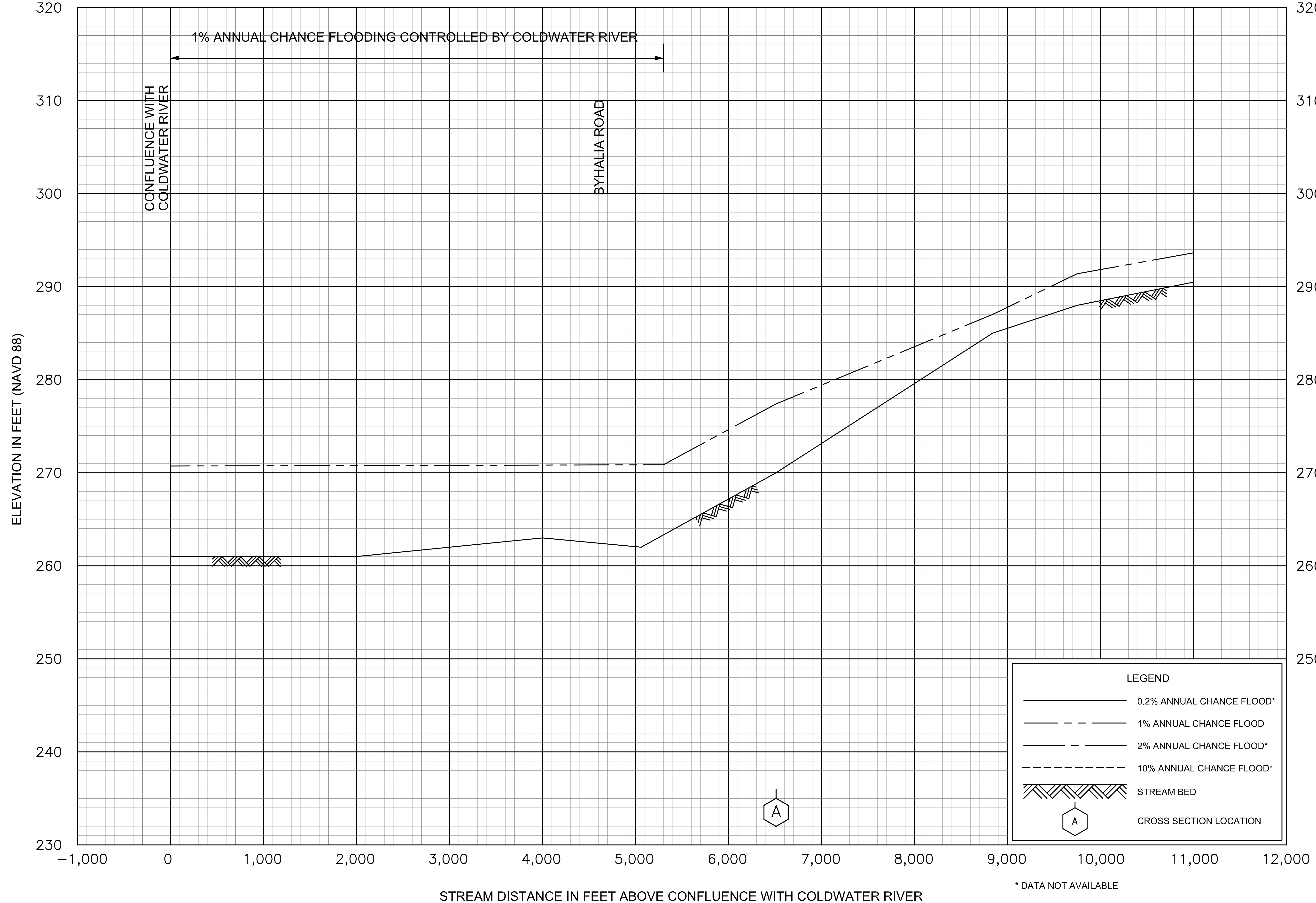
FLOOD PROFILES

COW PEN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

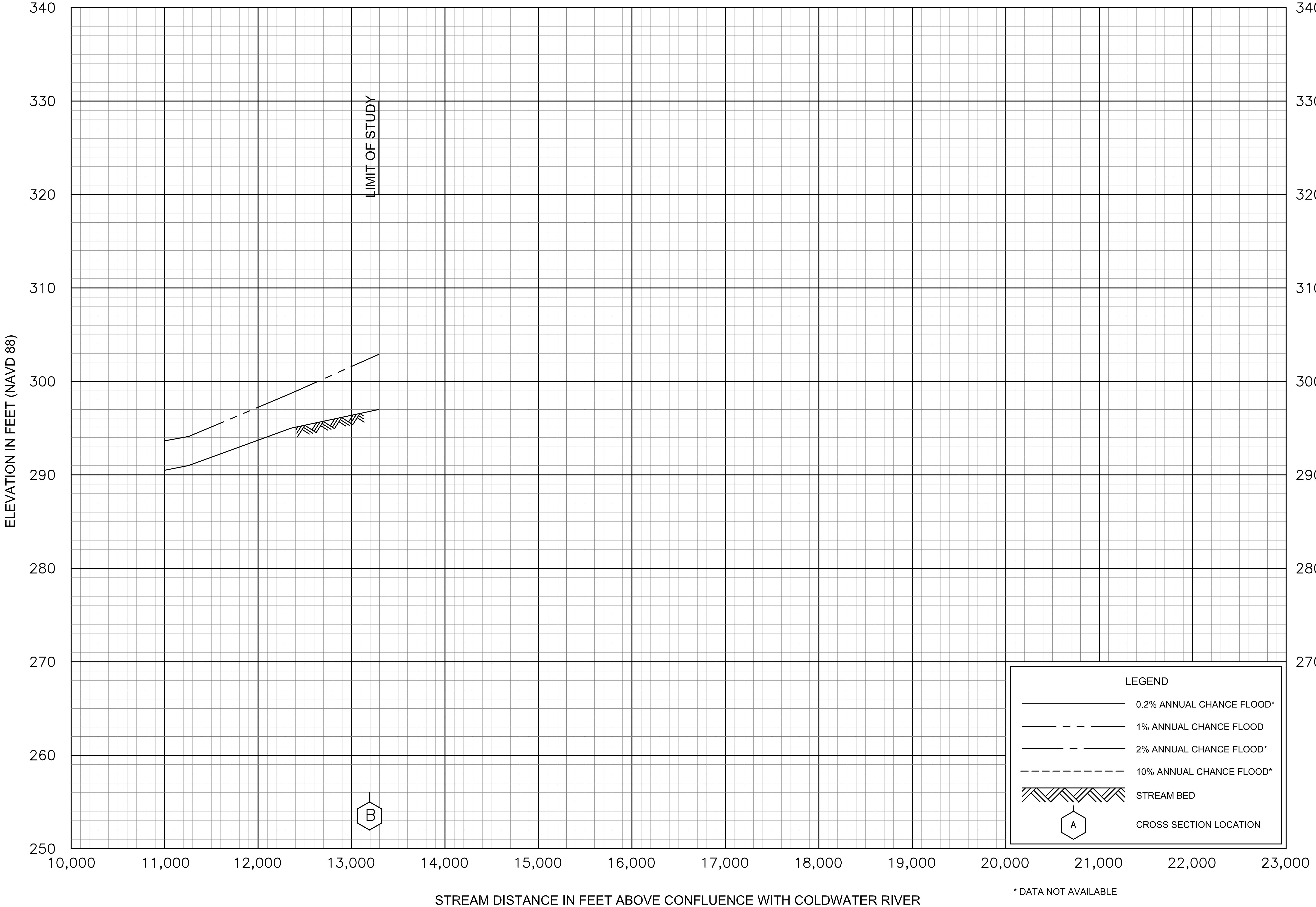


FLOOD PROFILES

DRY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



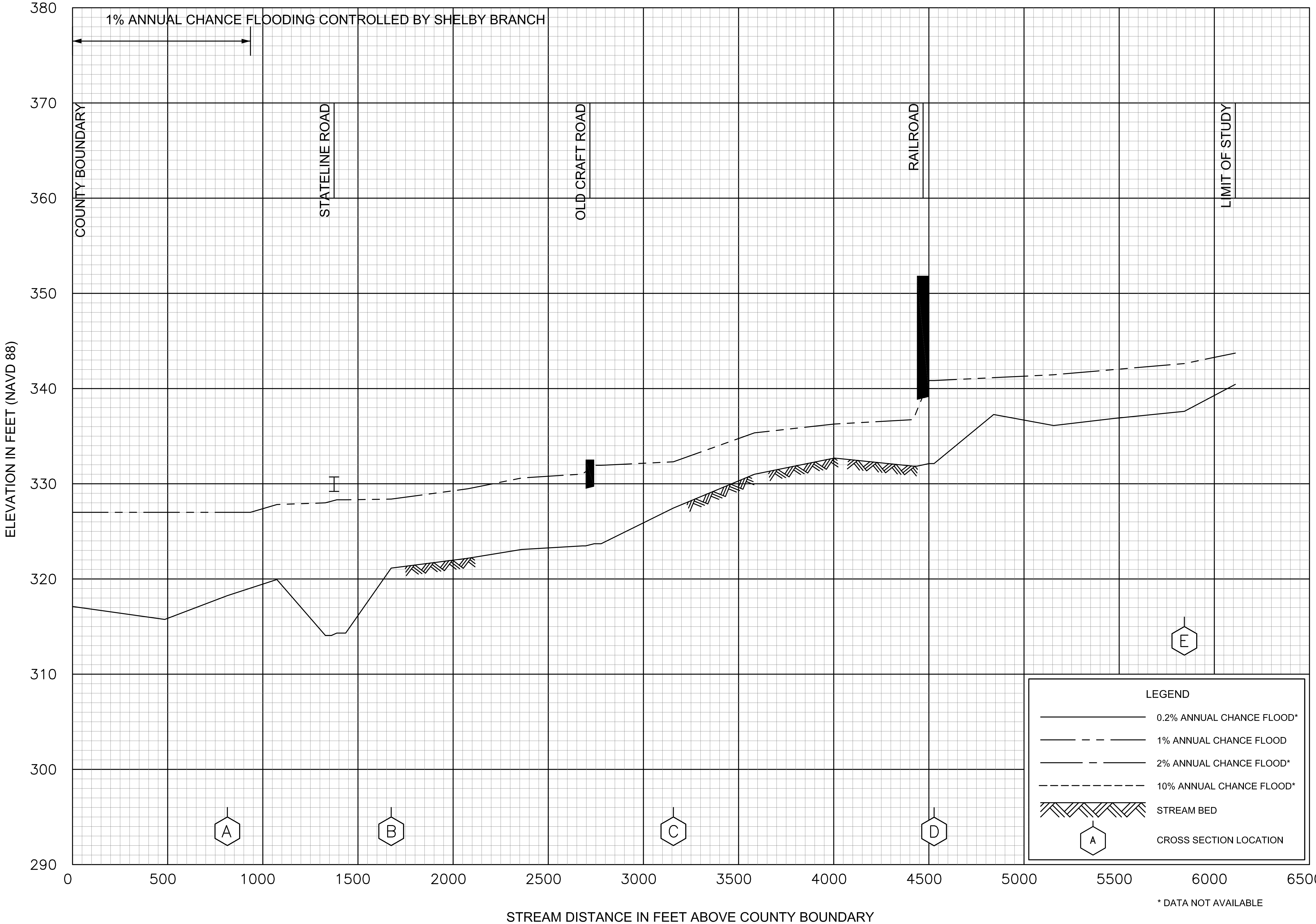
FLOOD PROFILES

DRY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

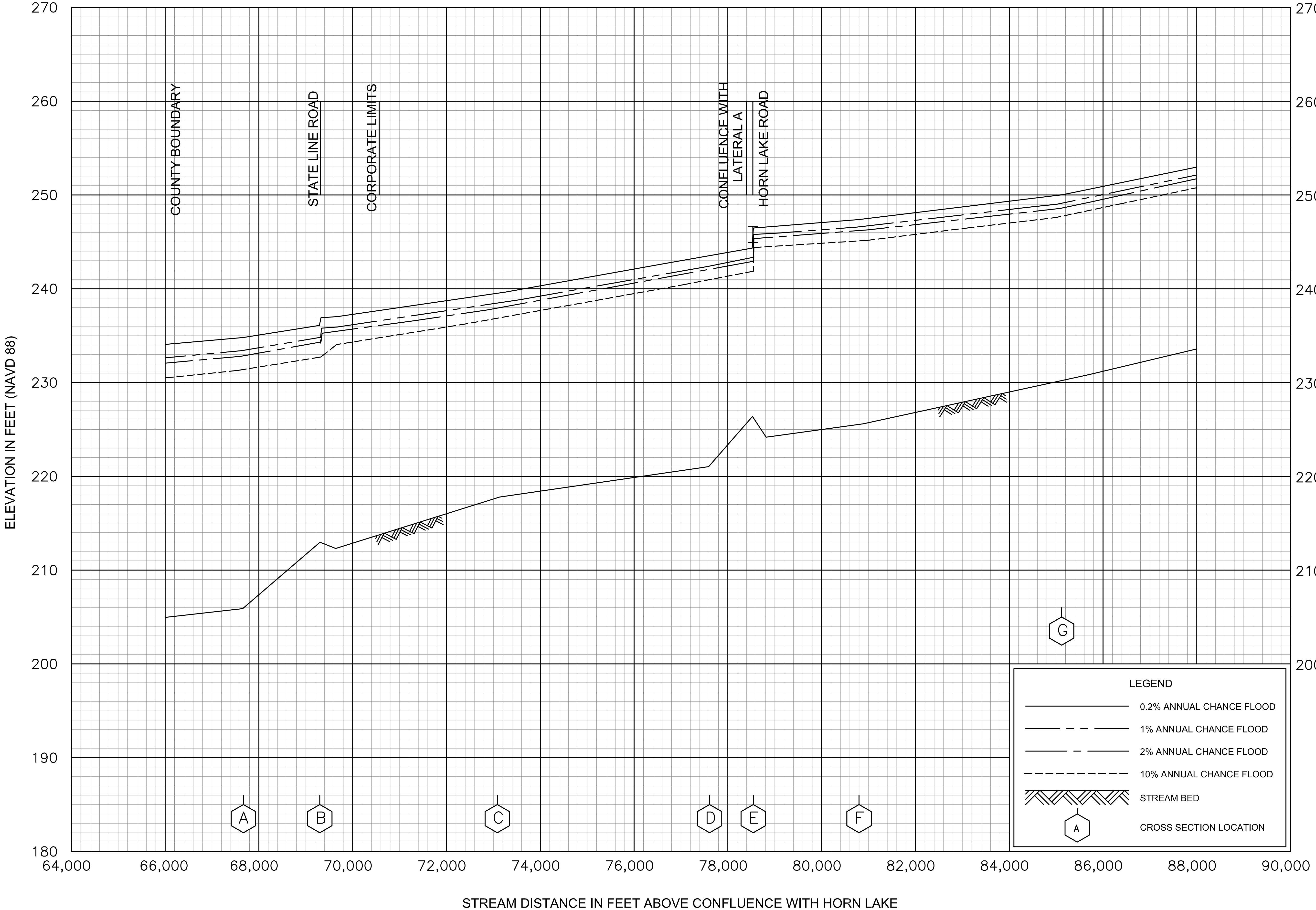


FLOOD PROFILES

GRANTS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

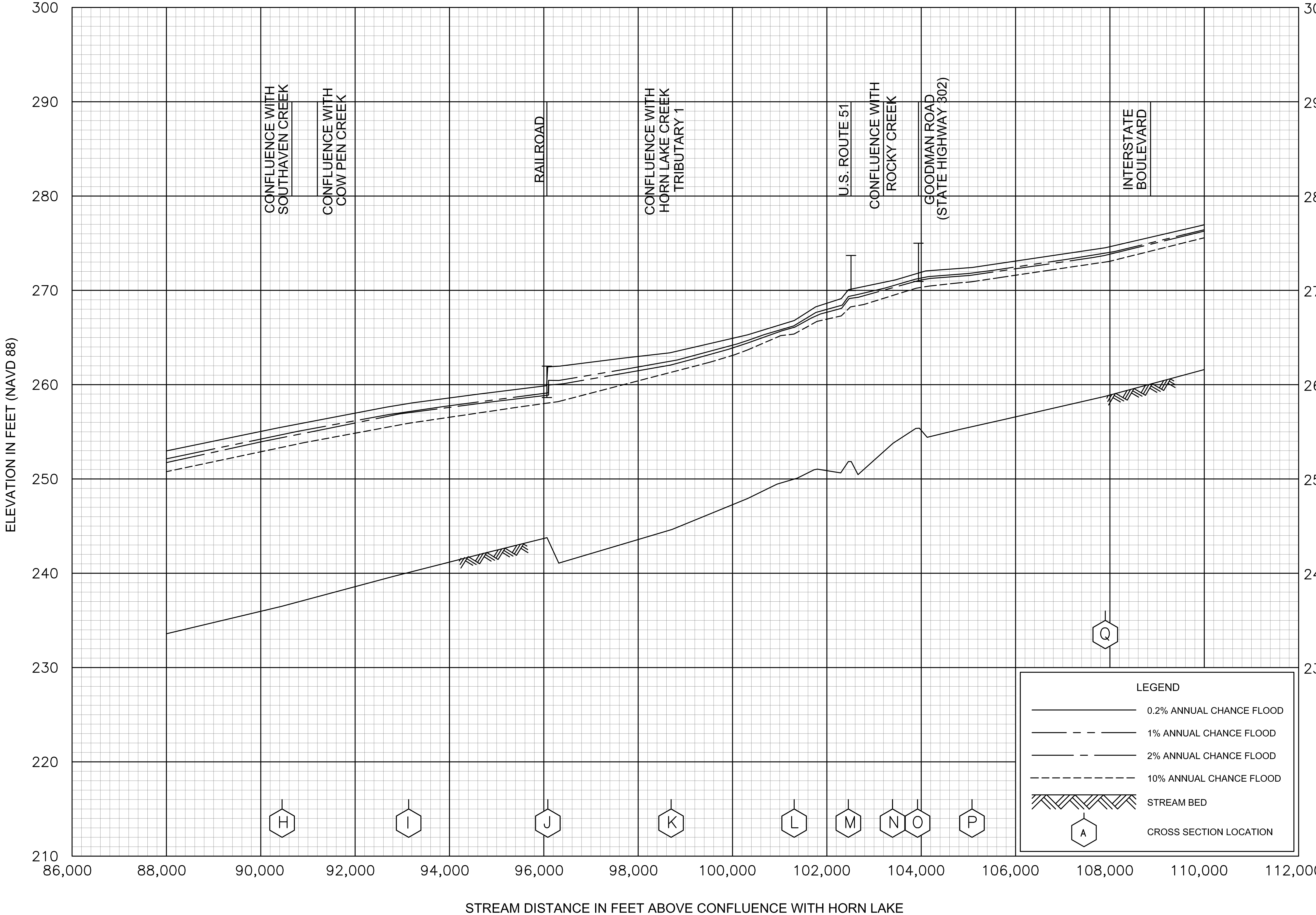


FLOOD PROFILES

HORN LAKE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



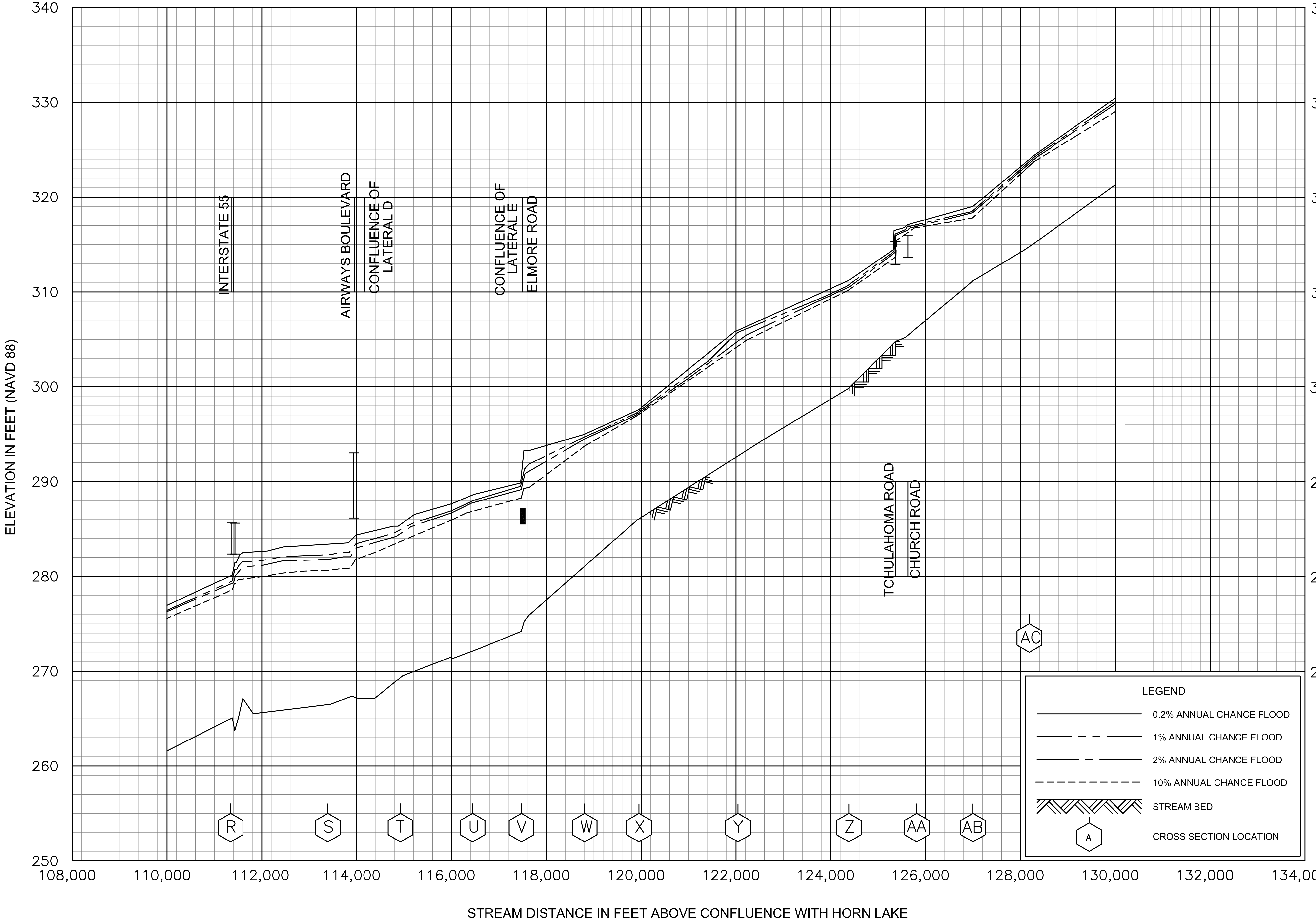
FLOOD PROFILES

HORN LAKE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



FLOOD PROFILES

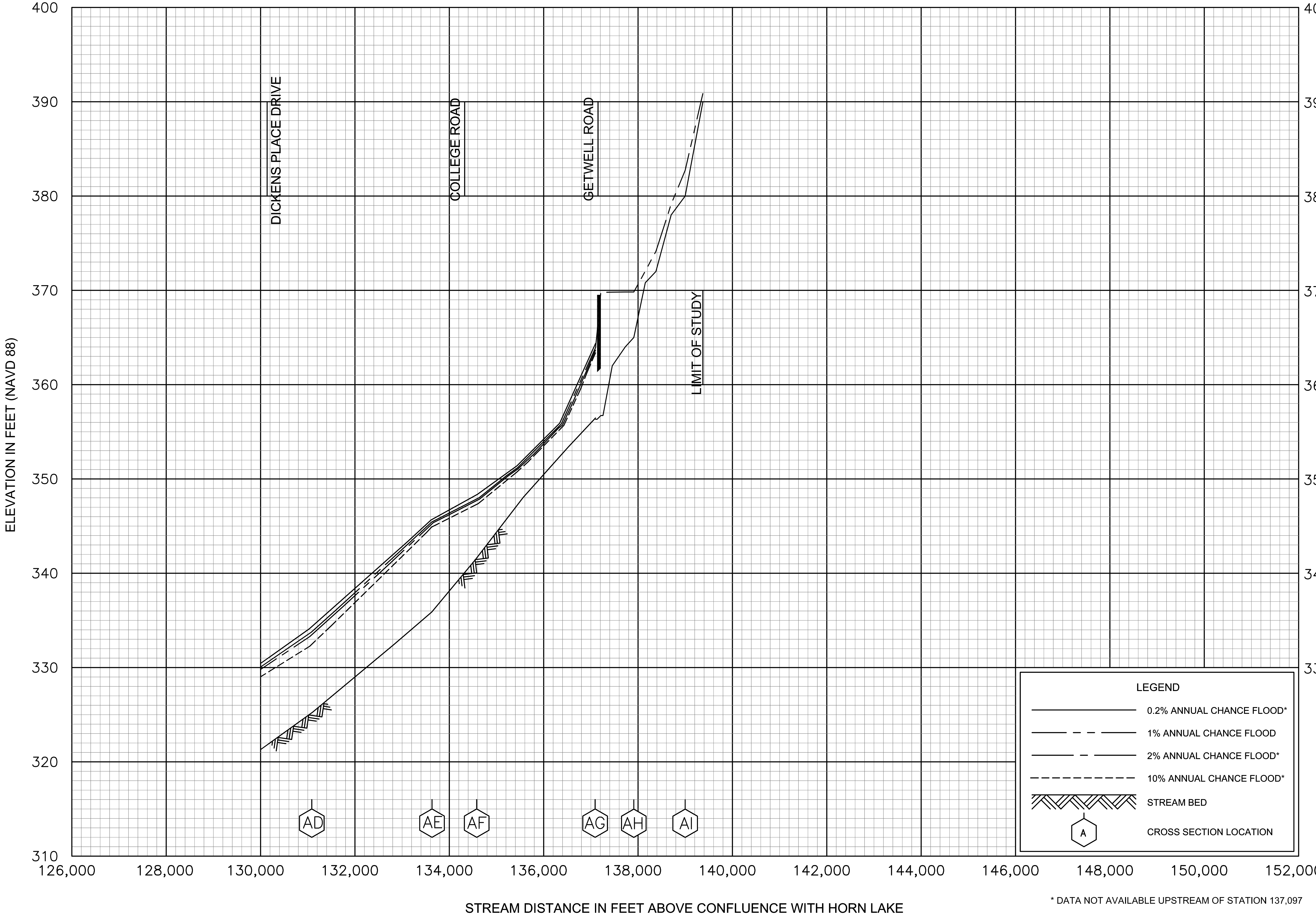
HORN LAKE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

49P



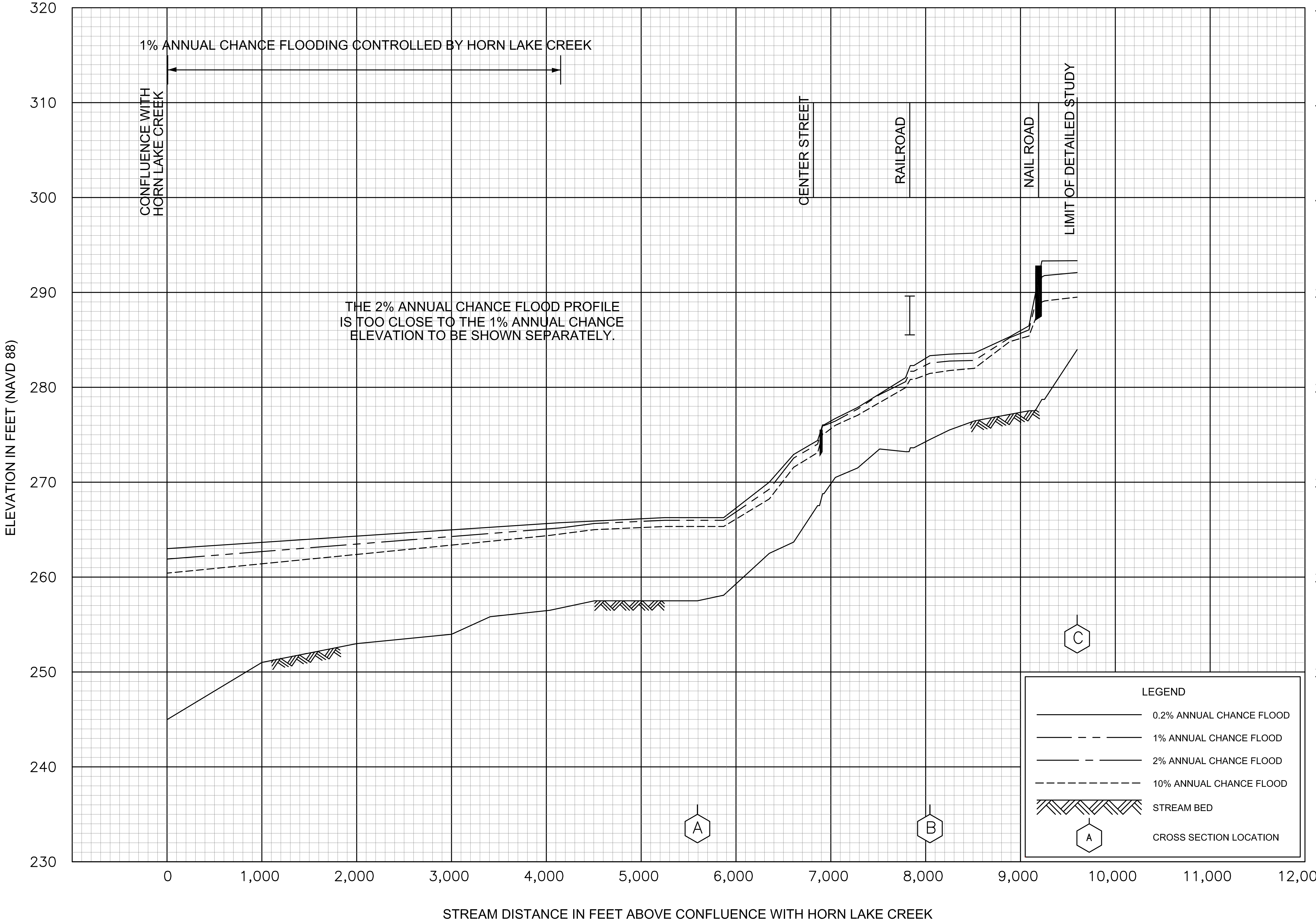
FLOOD PROFILES

HORN LAKE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



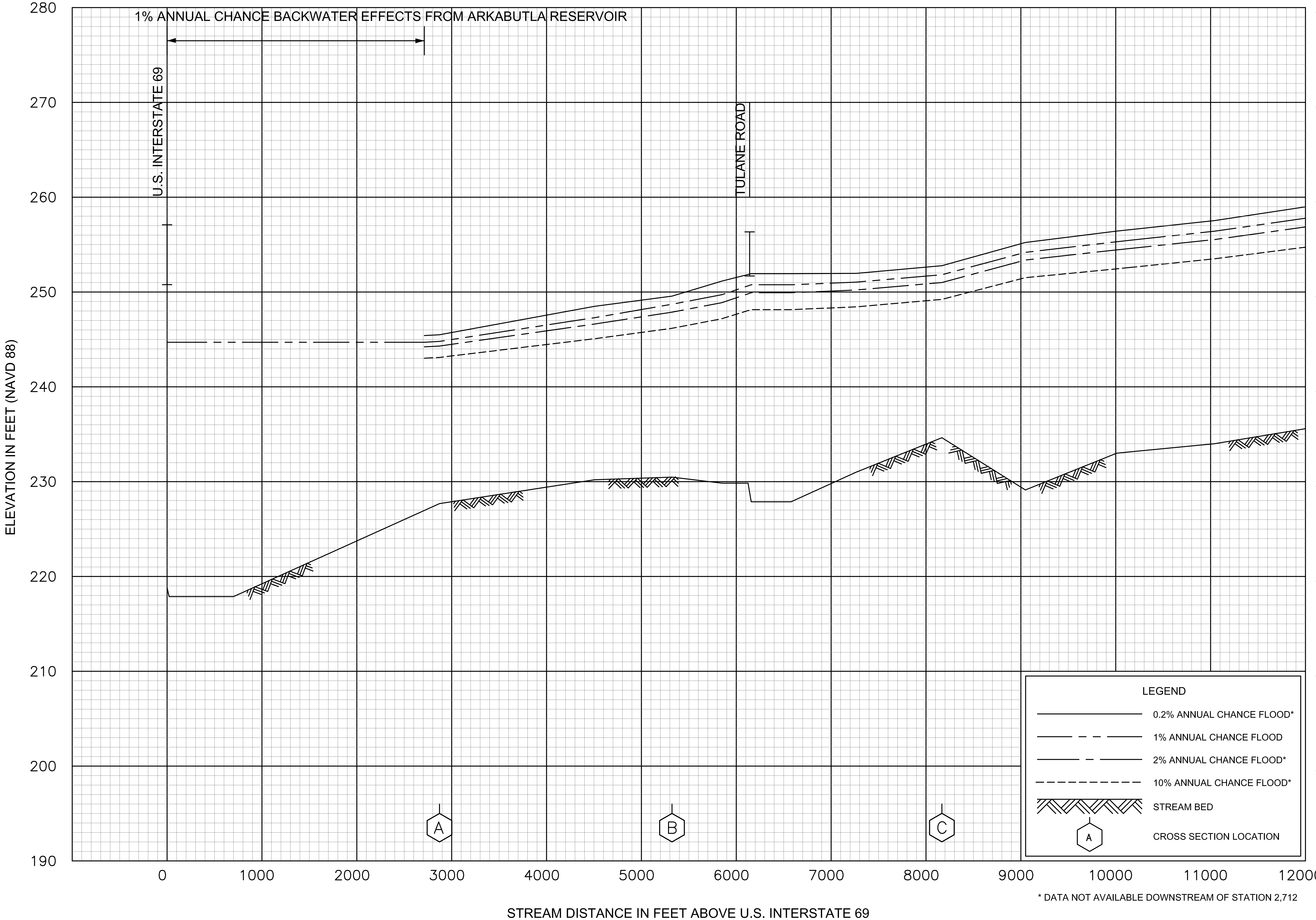
FLOOD PROFILES

HORN LAKE CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

51P

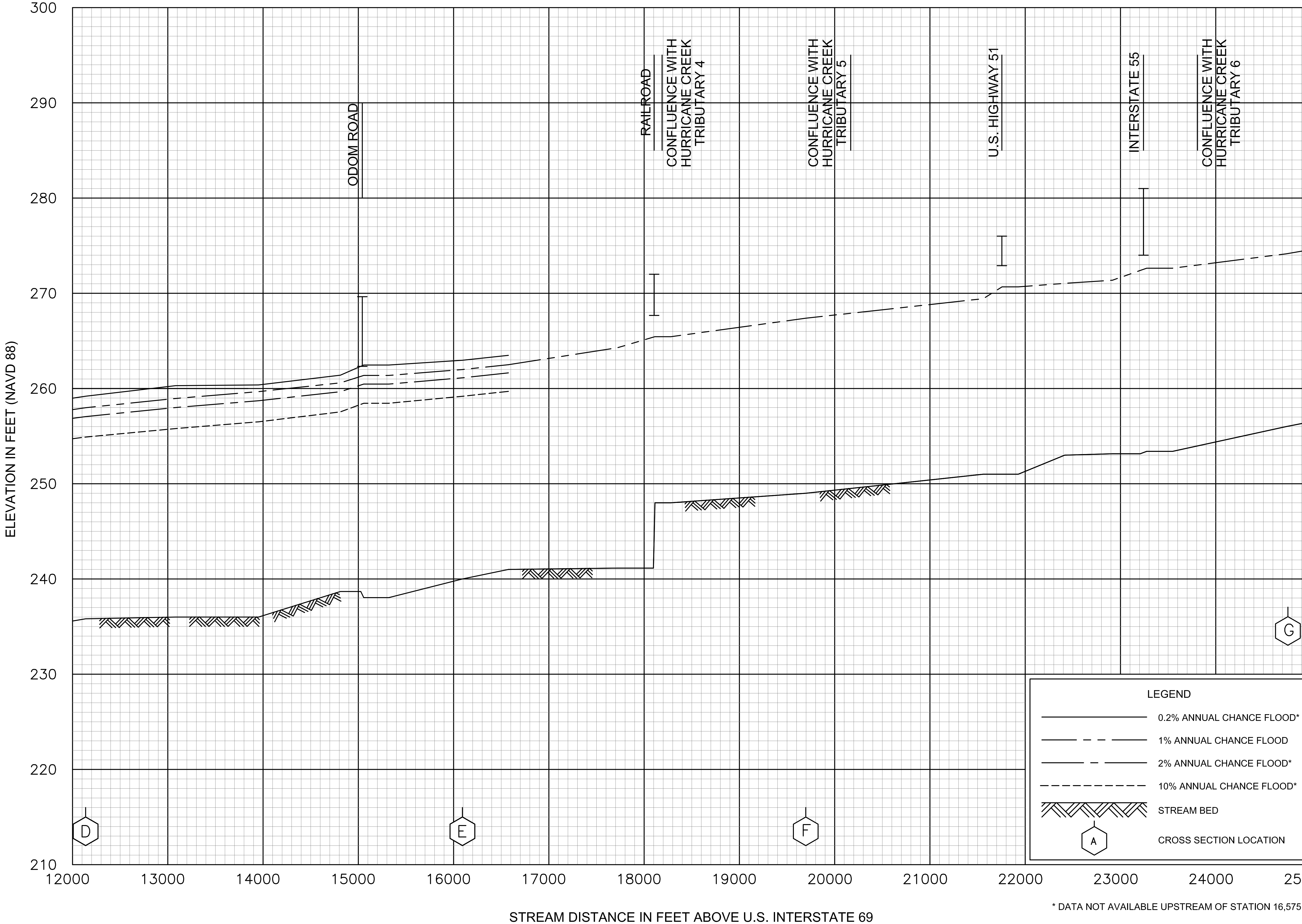


FLOOD PROFILES

HURRICANE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

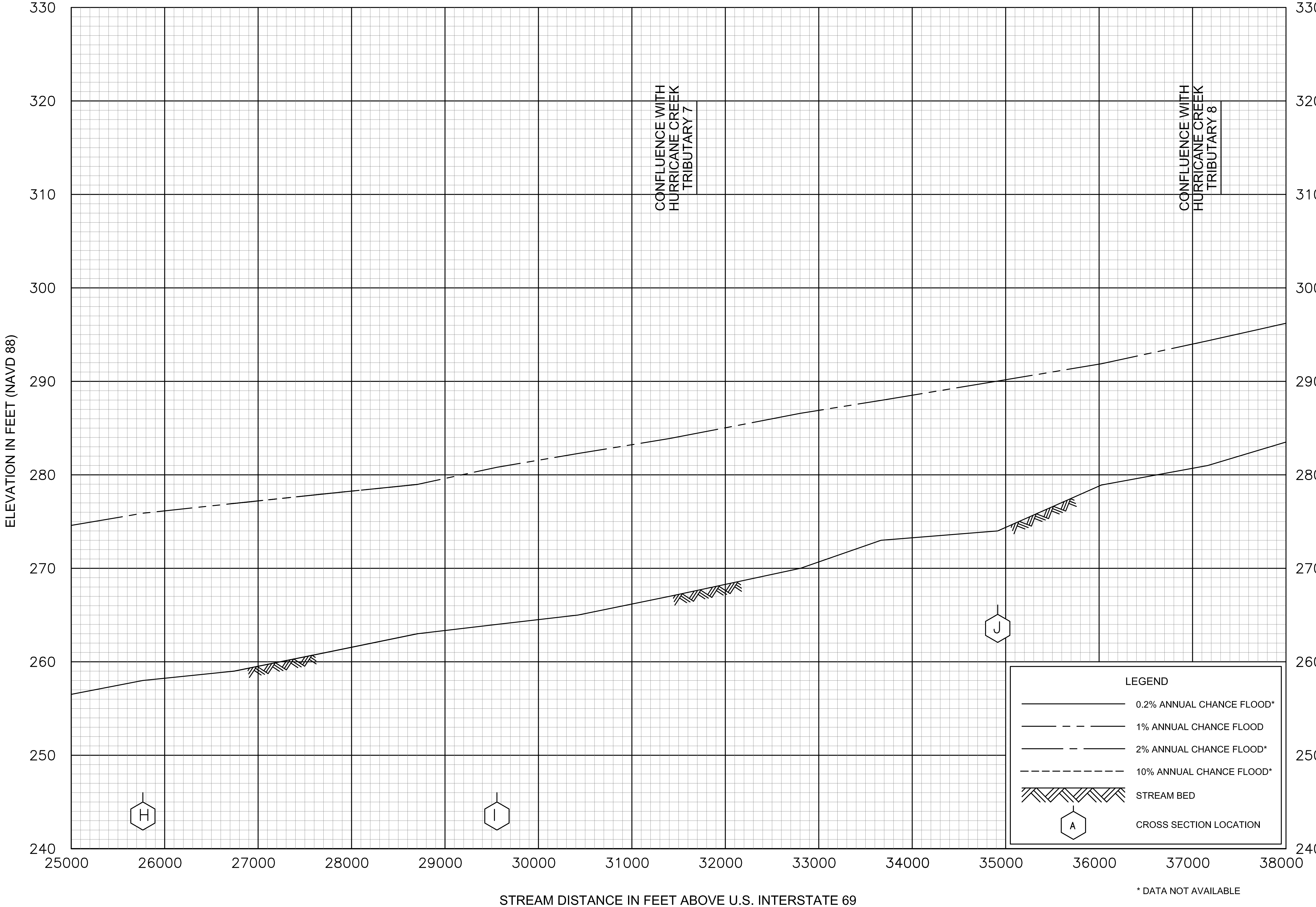


FLOOD PROFILES

HURRICANE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



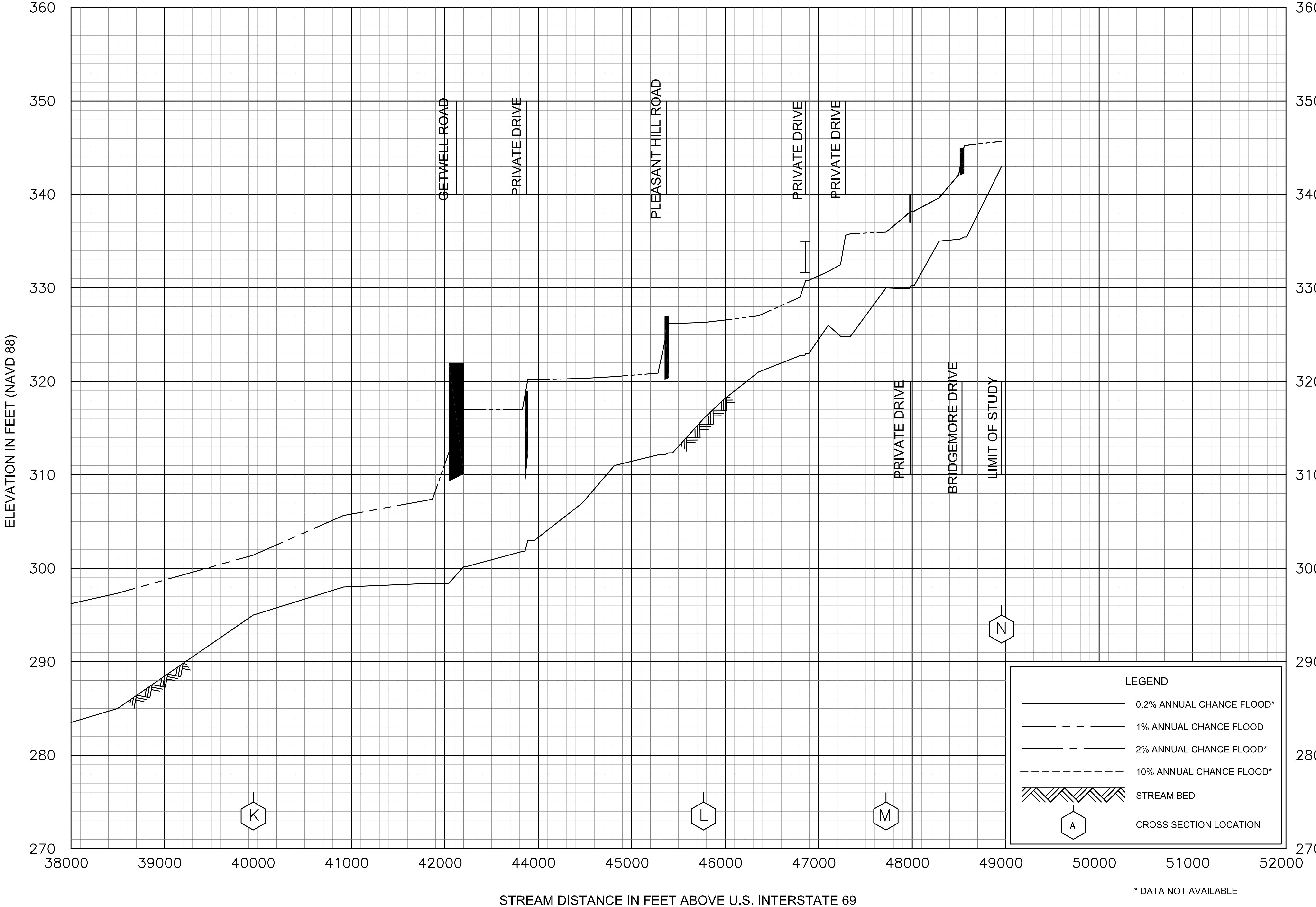
FLOOD PROFILES

HURRICANE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

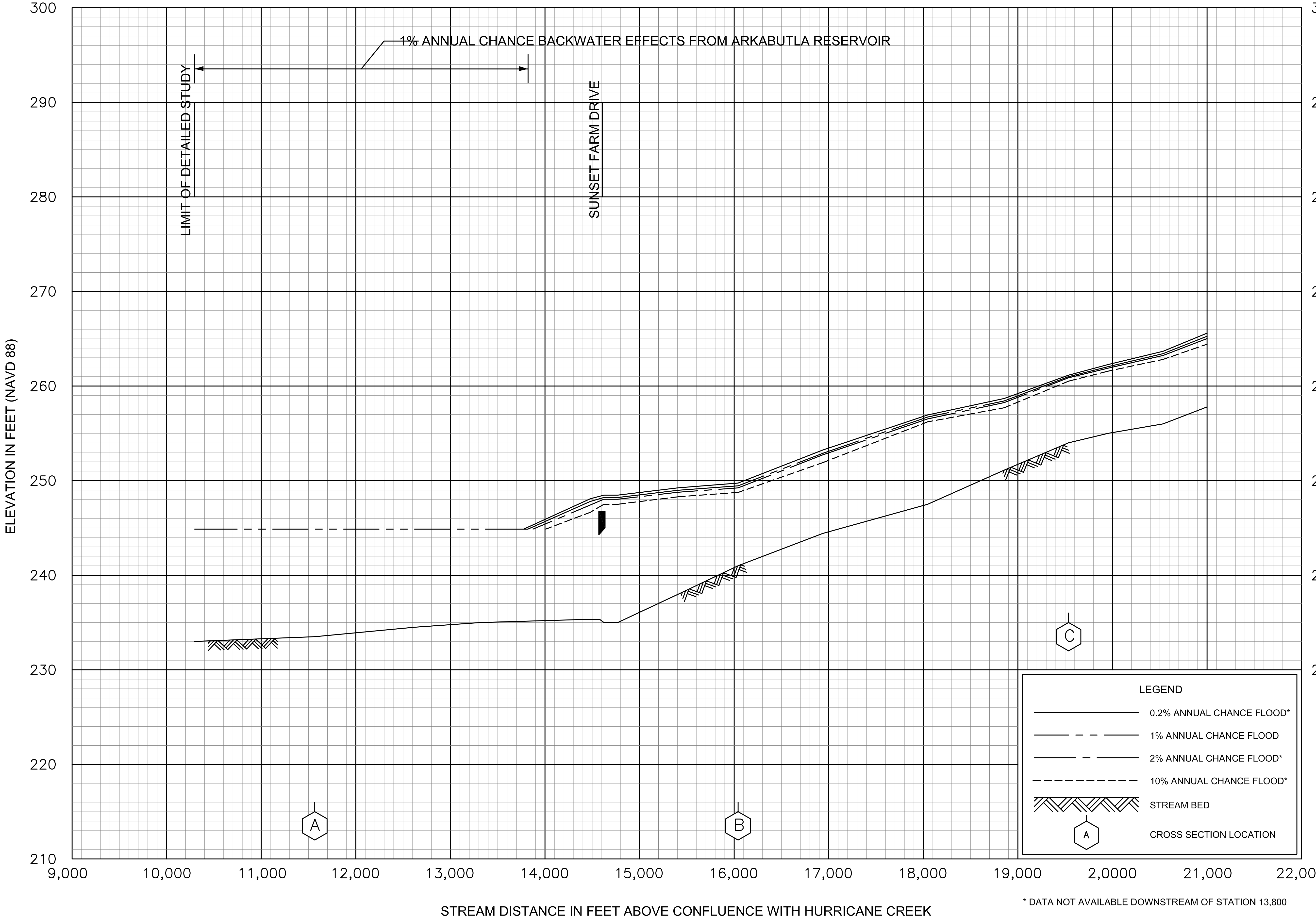


FLOOD PROFILES

HURRICANE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



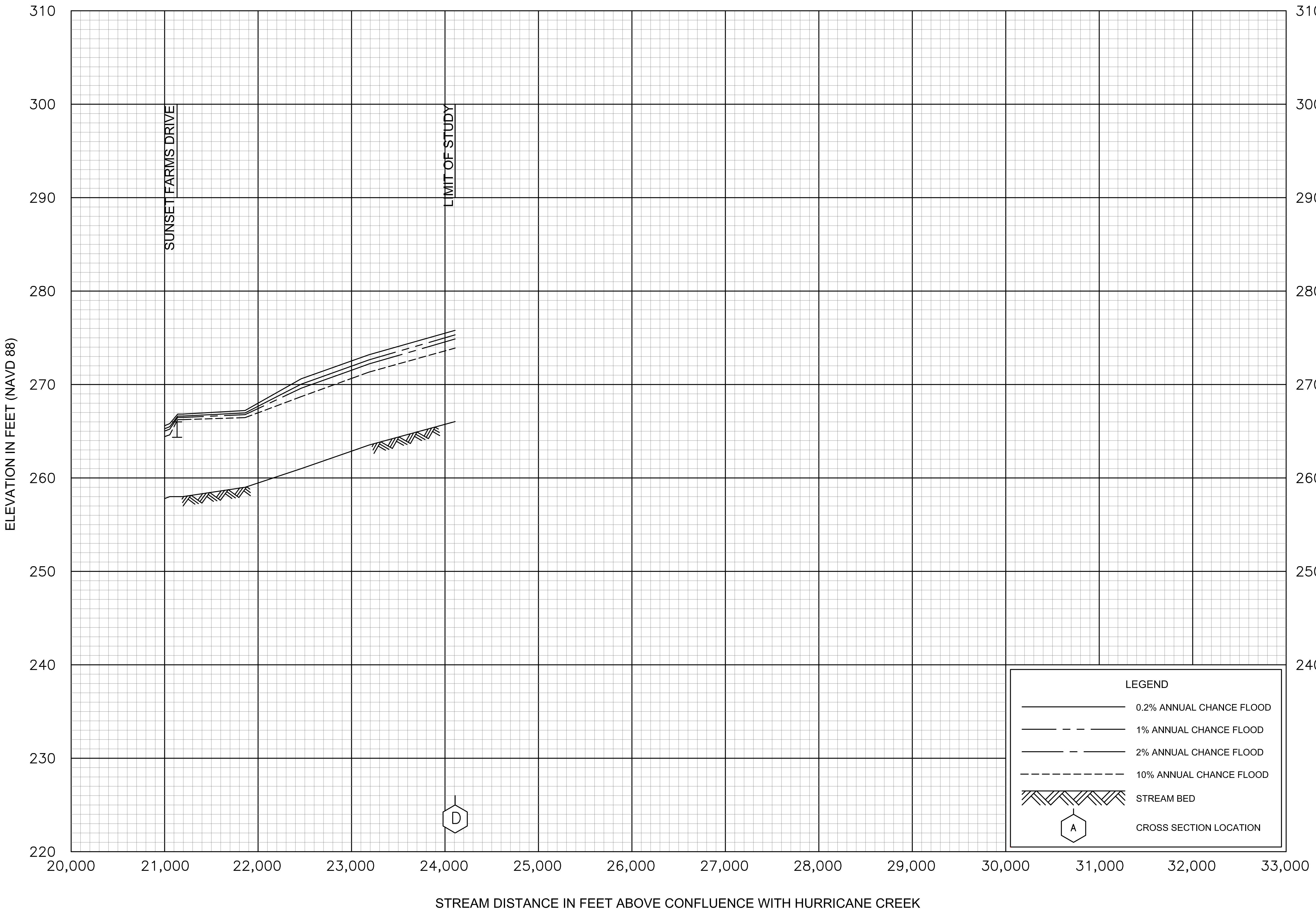
FLOOD PROFILES

HURRICANE CREEK TRIBUTARY 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

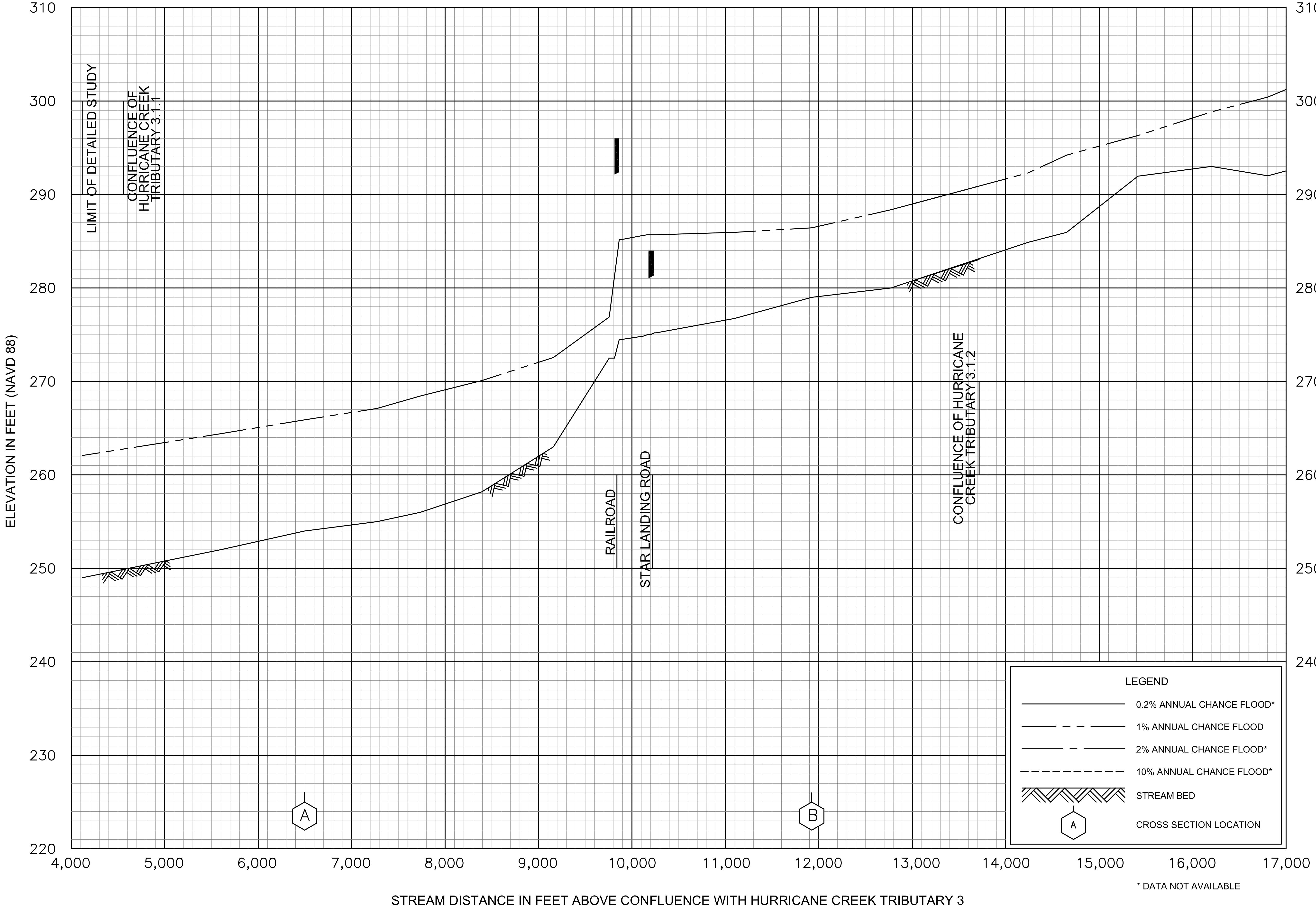


FLOOD PROFILES

HURRICANE CREEK TRIBUTARY 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

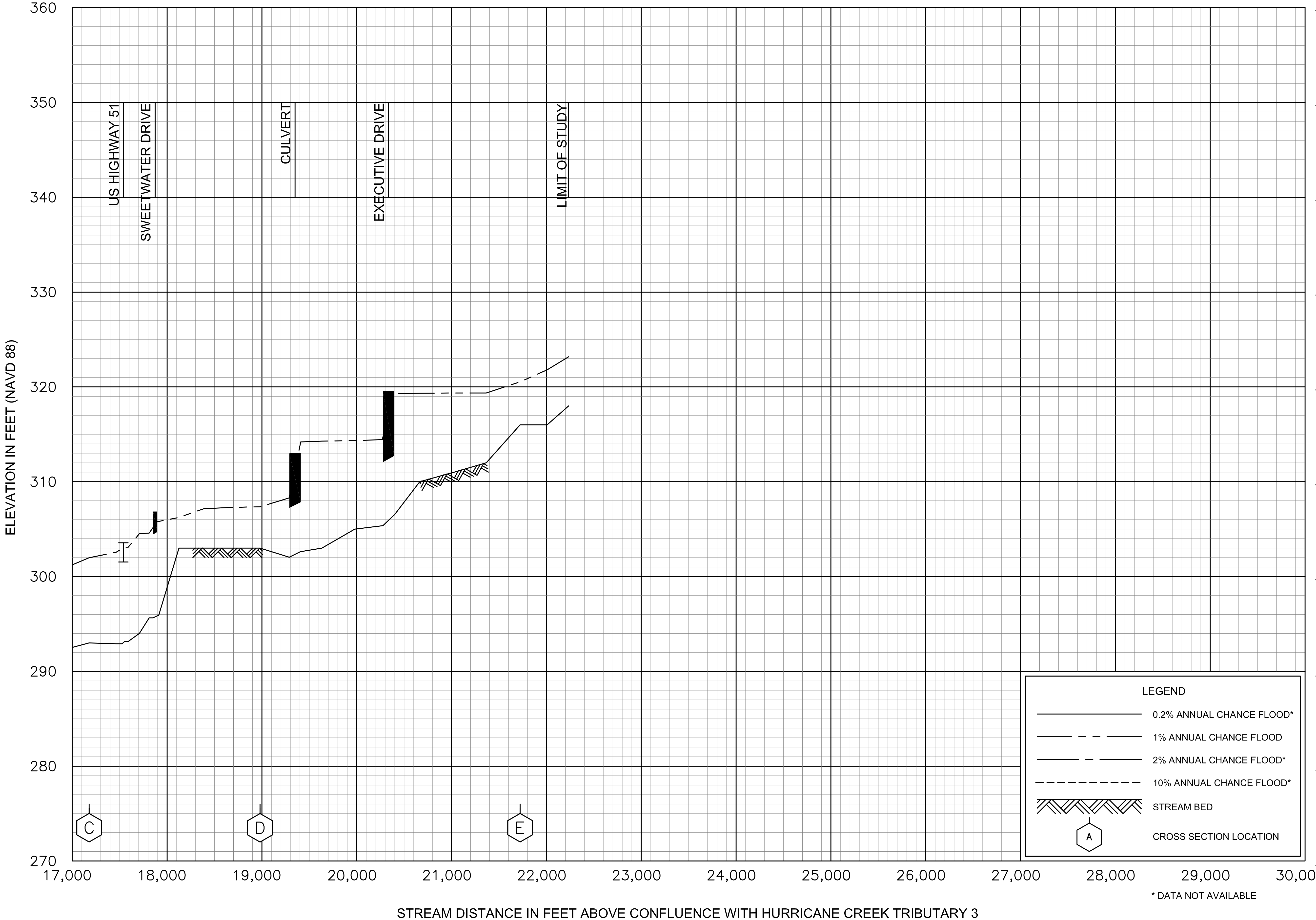


FLOOD PROFILES

HURRICANE CREEK TRIBUTARY 3.1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



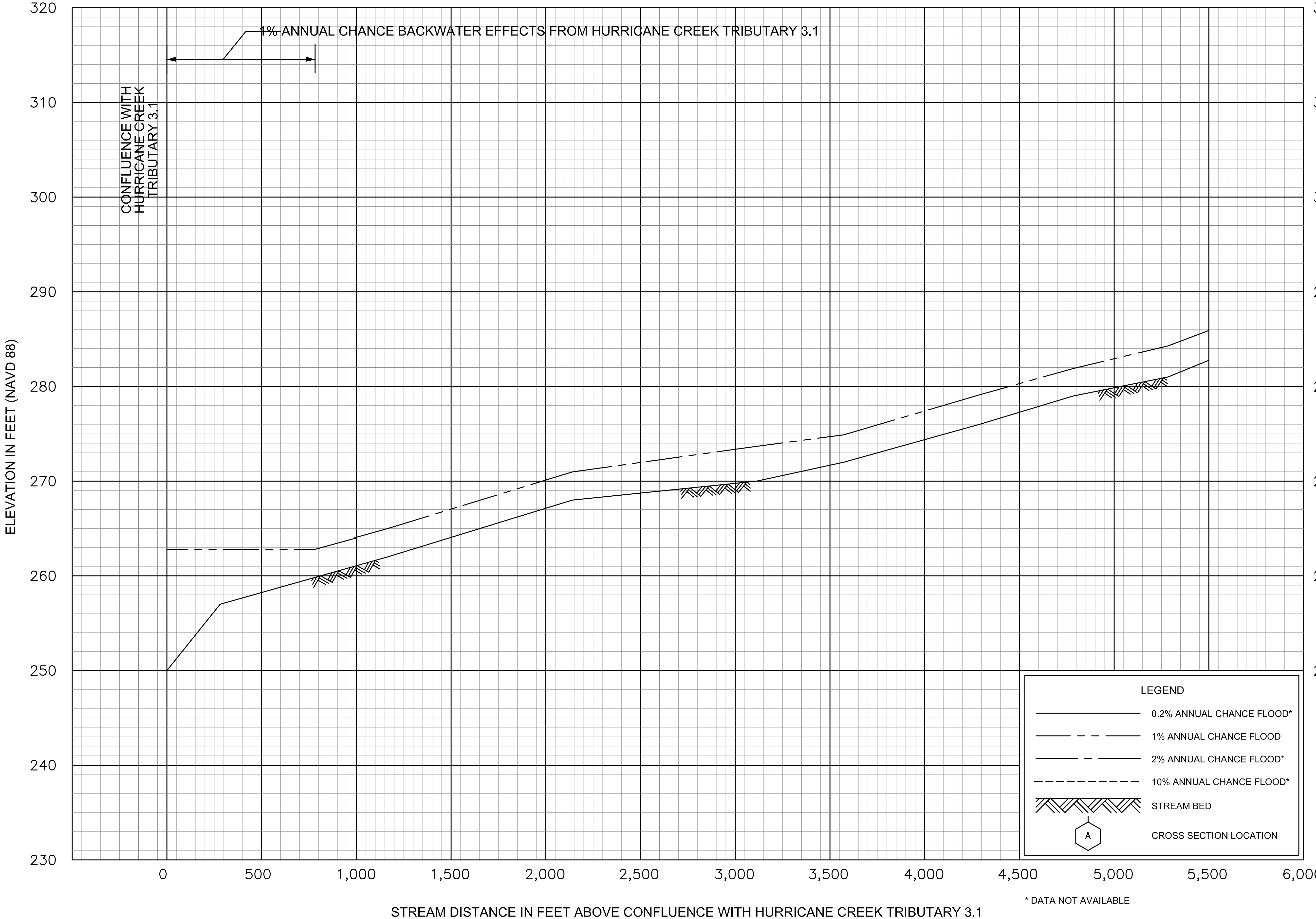
FLOOD PROFILES

HURRICANE CREEK TRIBUTARY 3.1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



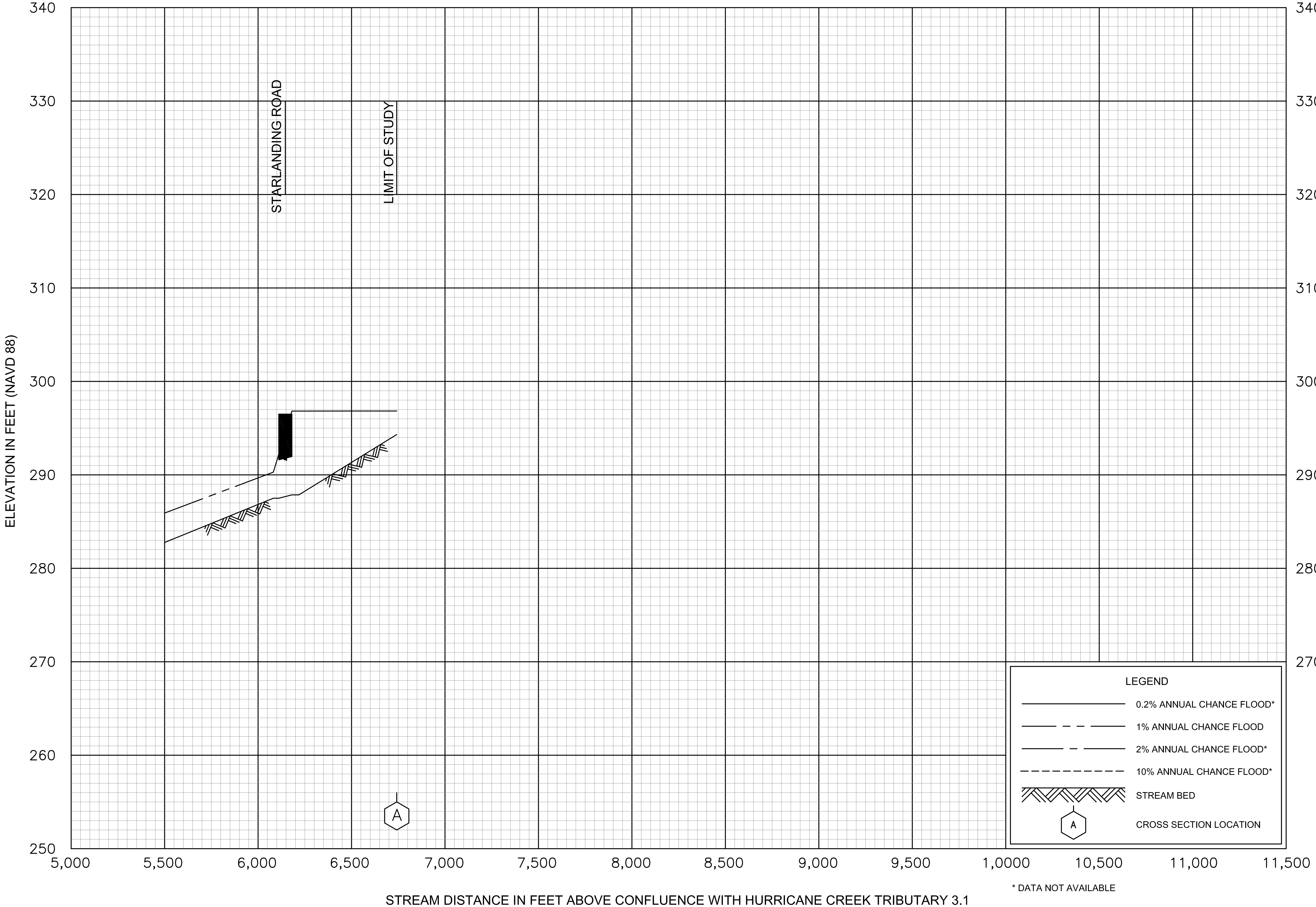
FLOOD PROFILES

HURRICANE CREEK TRIBUTARY 3.1.1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

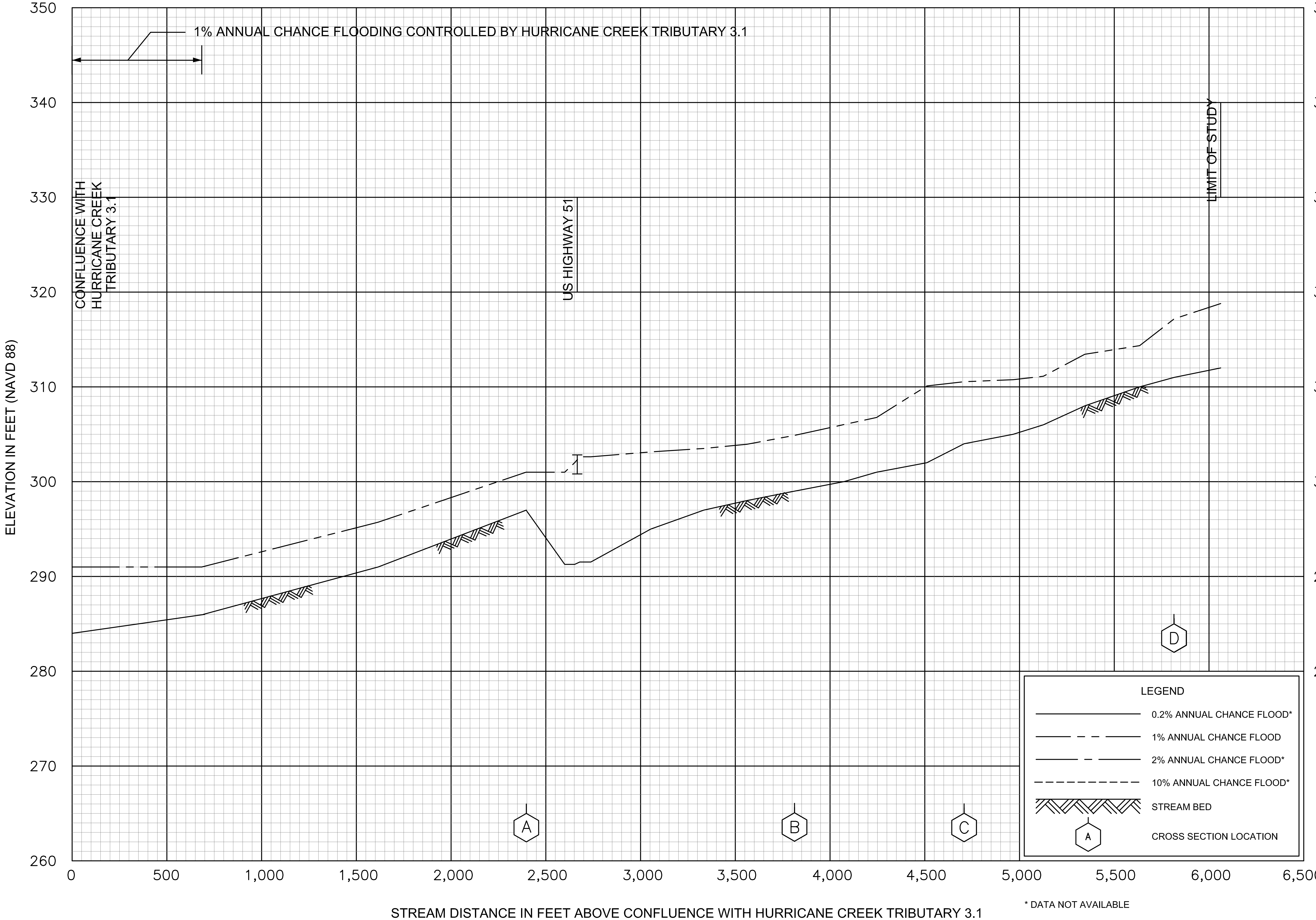


FLOOD PROFILES

HURRICANE CREEK TRIBUTARY 3.1.1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



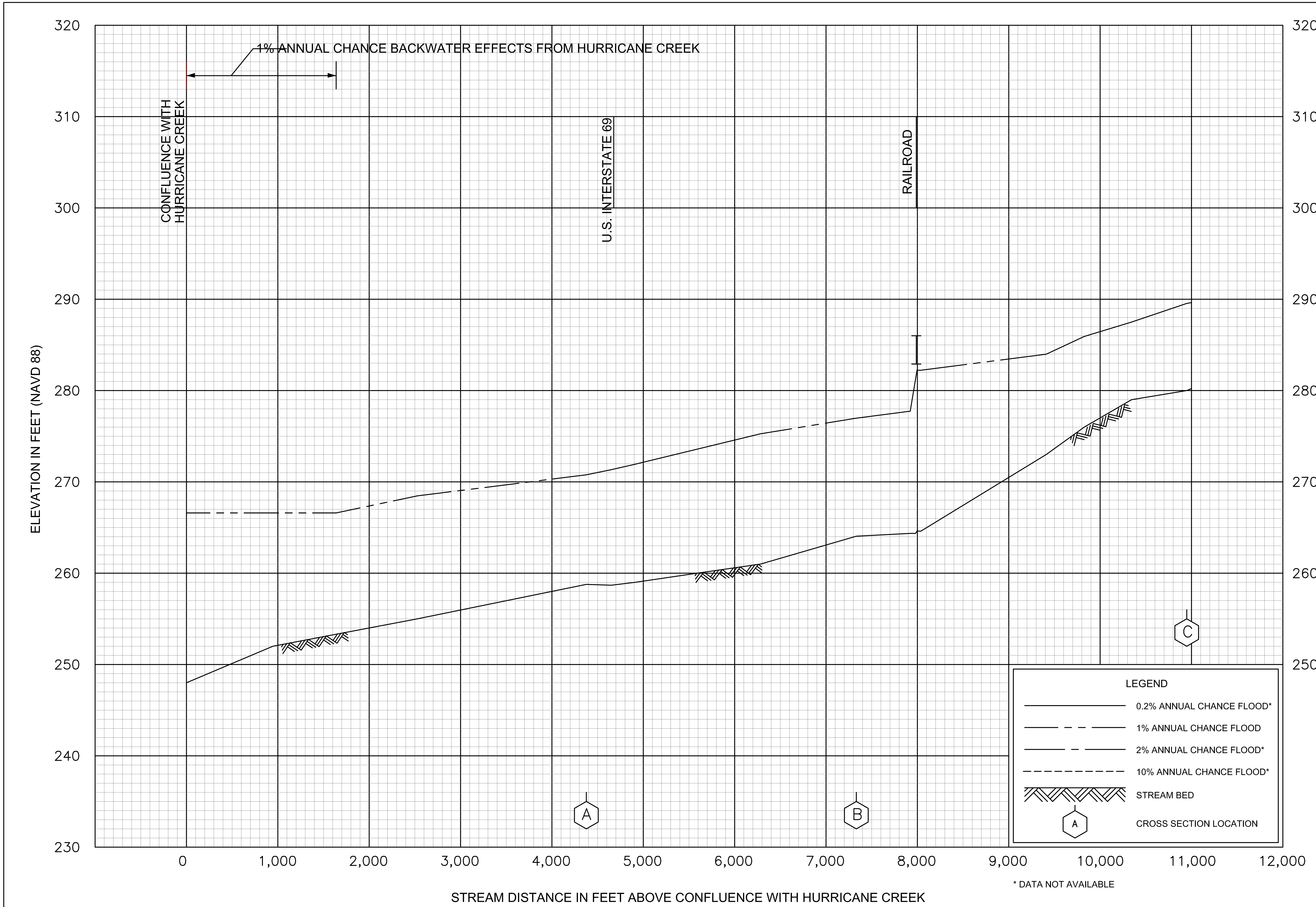
FLOOD PROFILES

HURRICANE CREEK TRIBUTARY 3.1.2

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



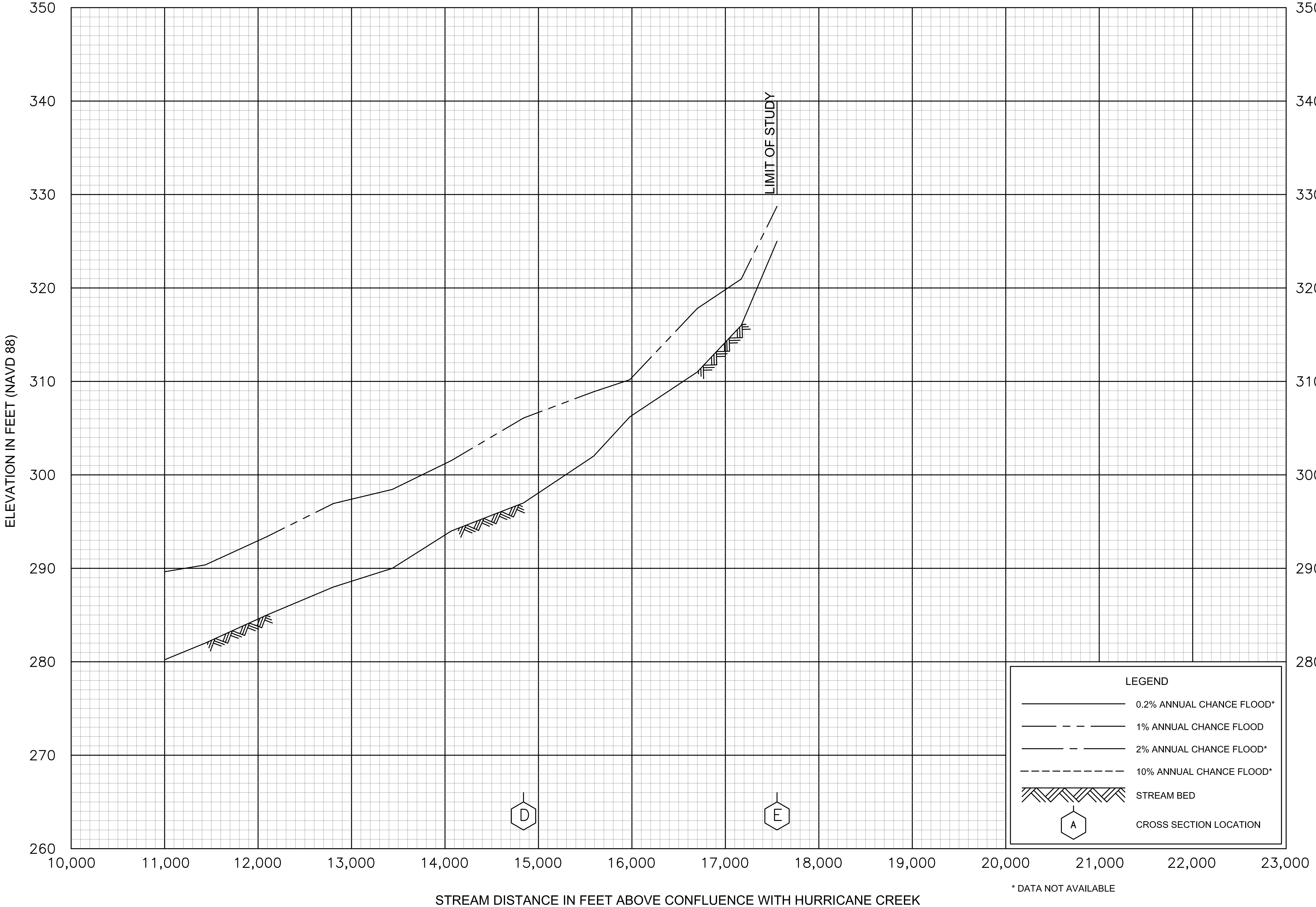
FLOOD PROFILES

HURRICANE CREEK TRIBUTARY 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

63P



* DATA NOT AVAILABLE

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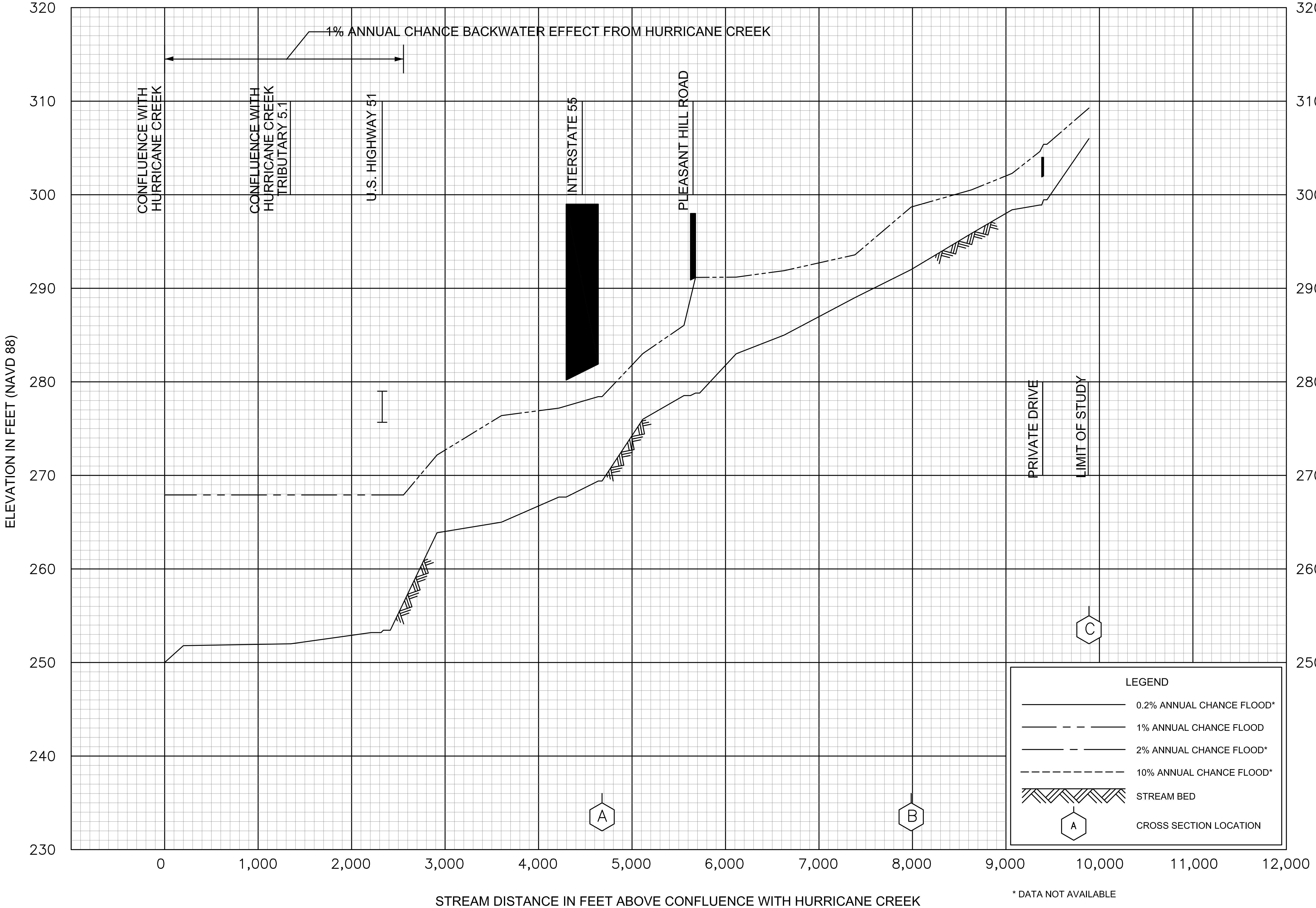
HURRICANE CREEK TRIBUTARY 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



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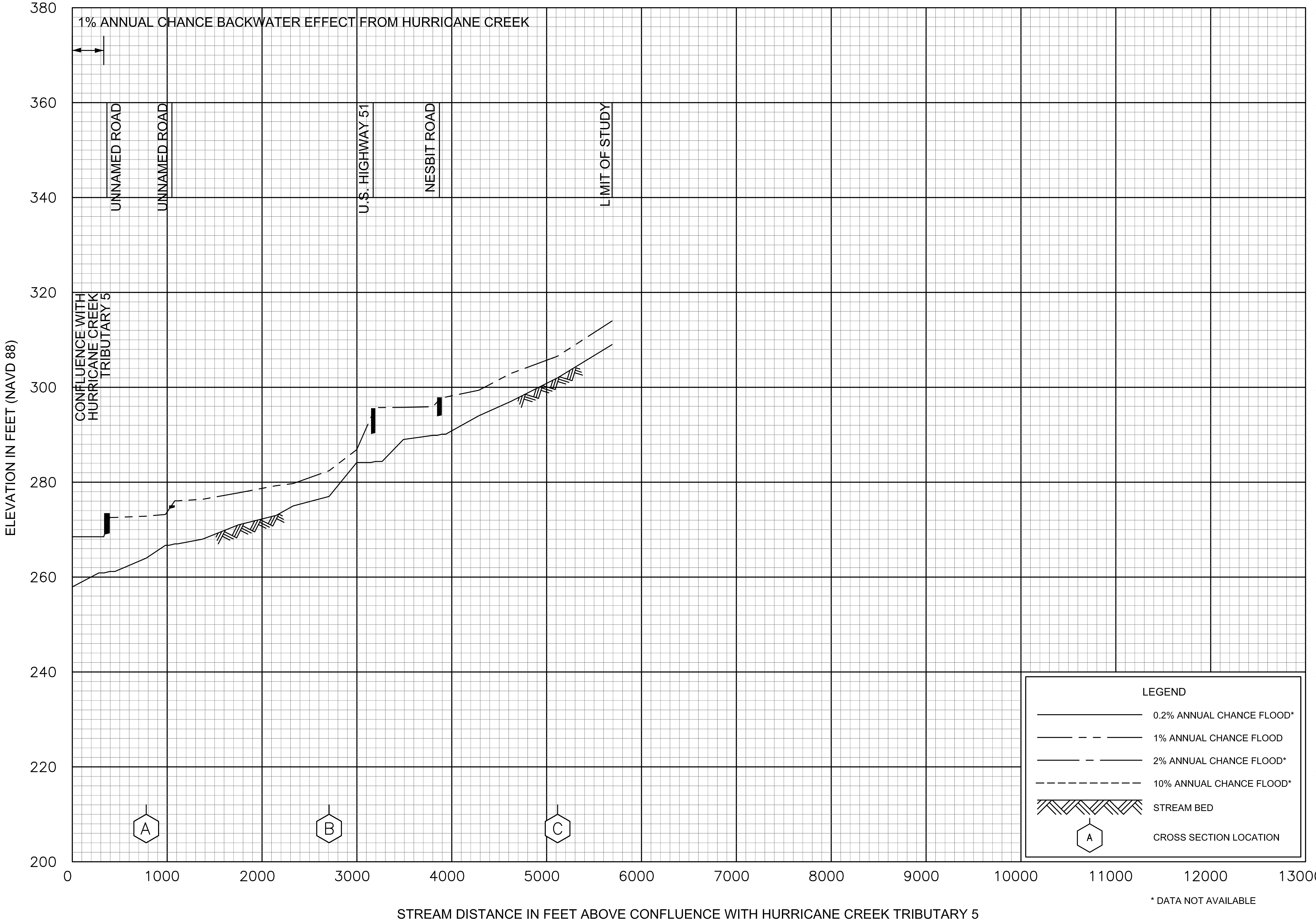
HURRICANE CREEK TRIBUTARY 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



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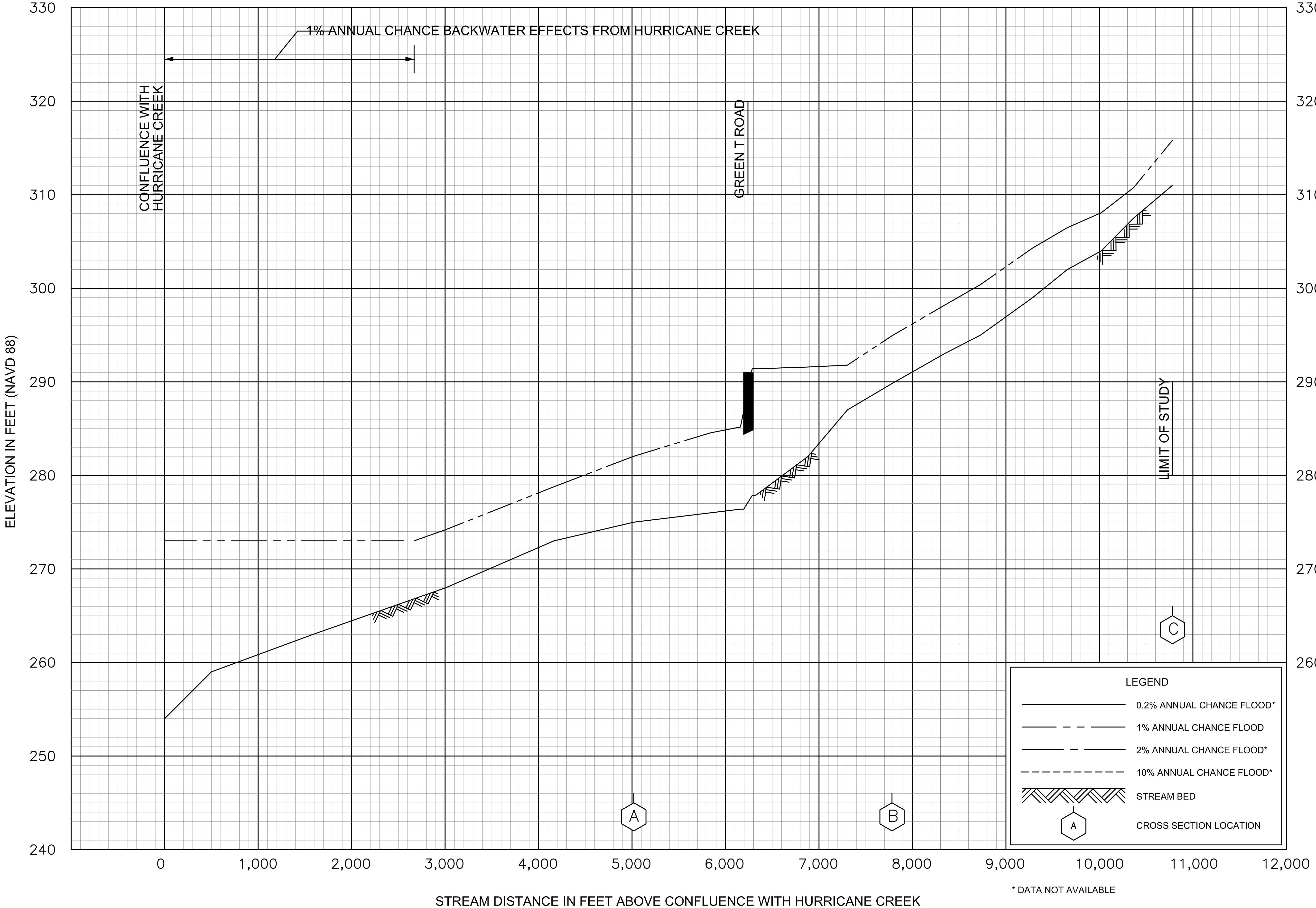
HURRICANE CREEK TRIBUTARY 5.1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



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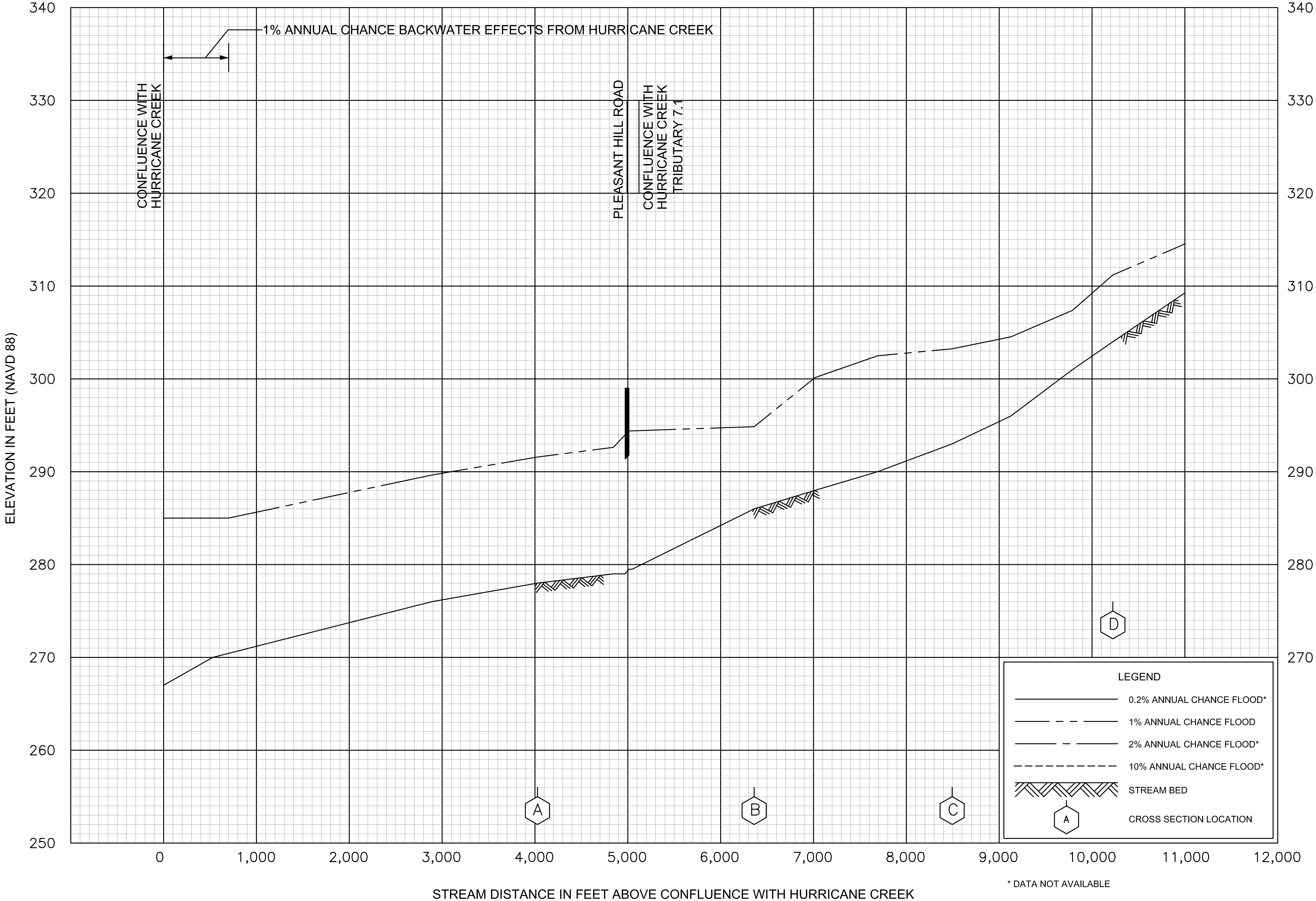
FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

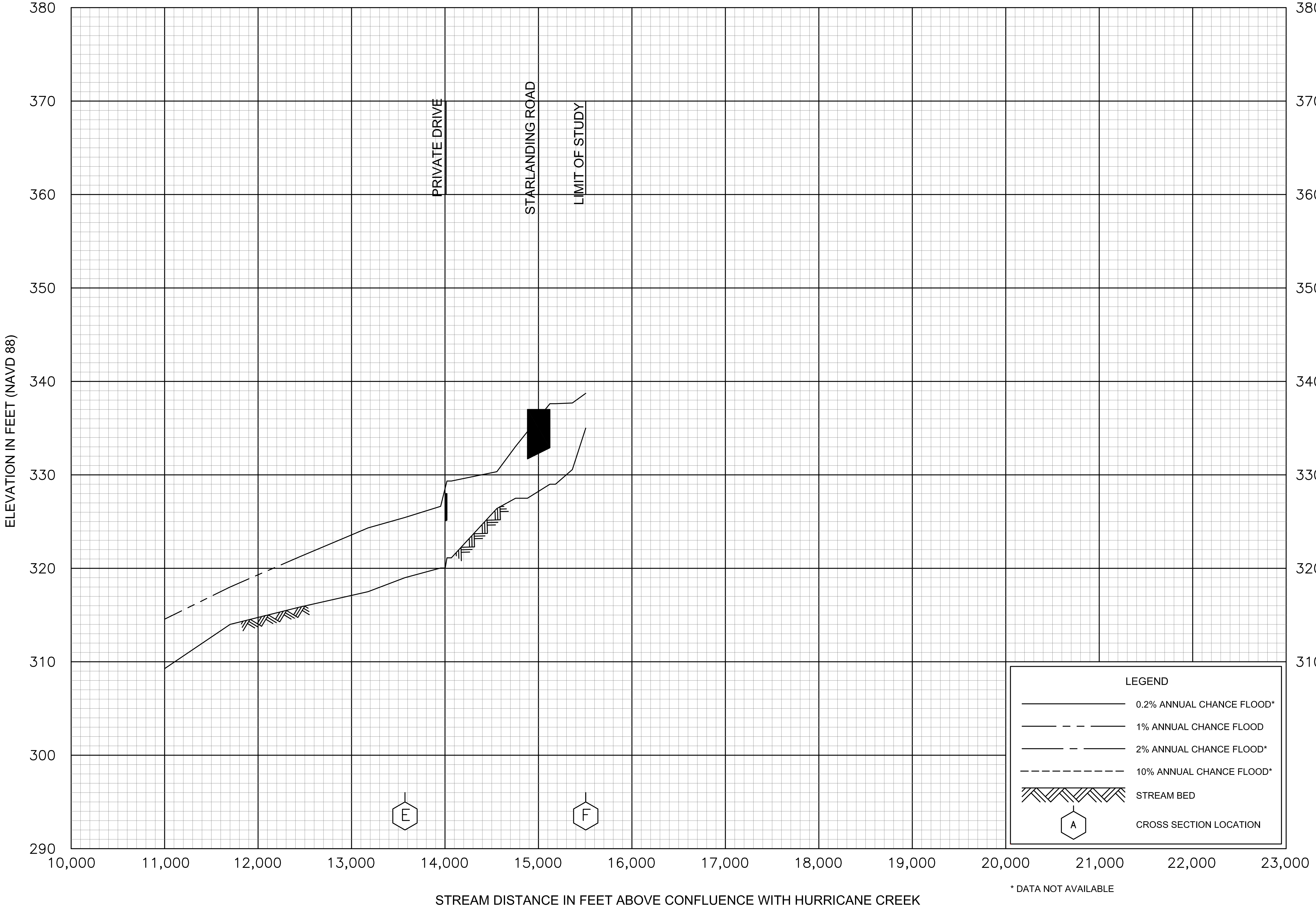


FLOOD PROFILES

HURRICANE CREEK TRIBUTARY 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

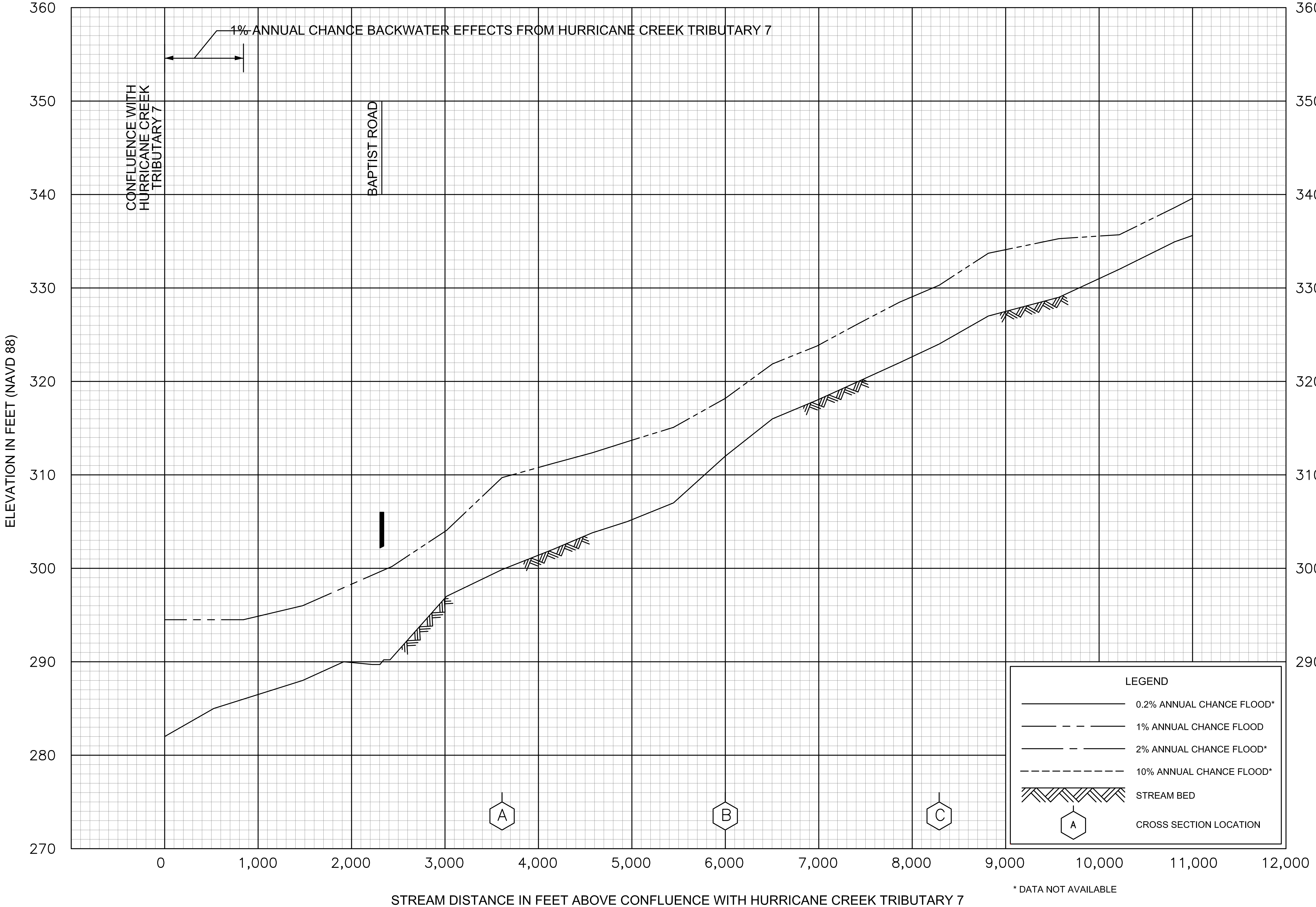


FLOOD PROFILES

HURRICANE CREEK TRIBUTARY 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

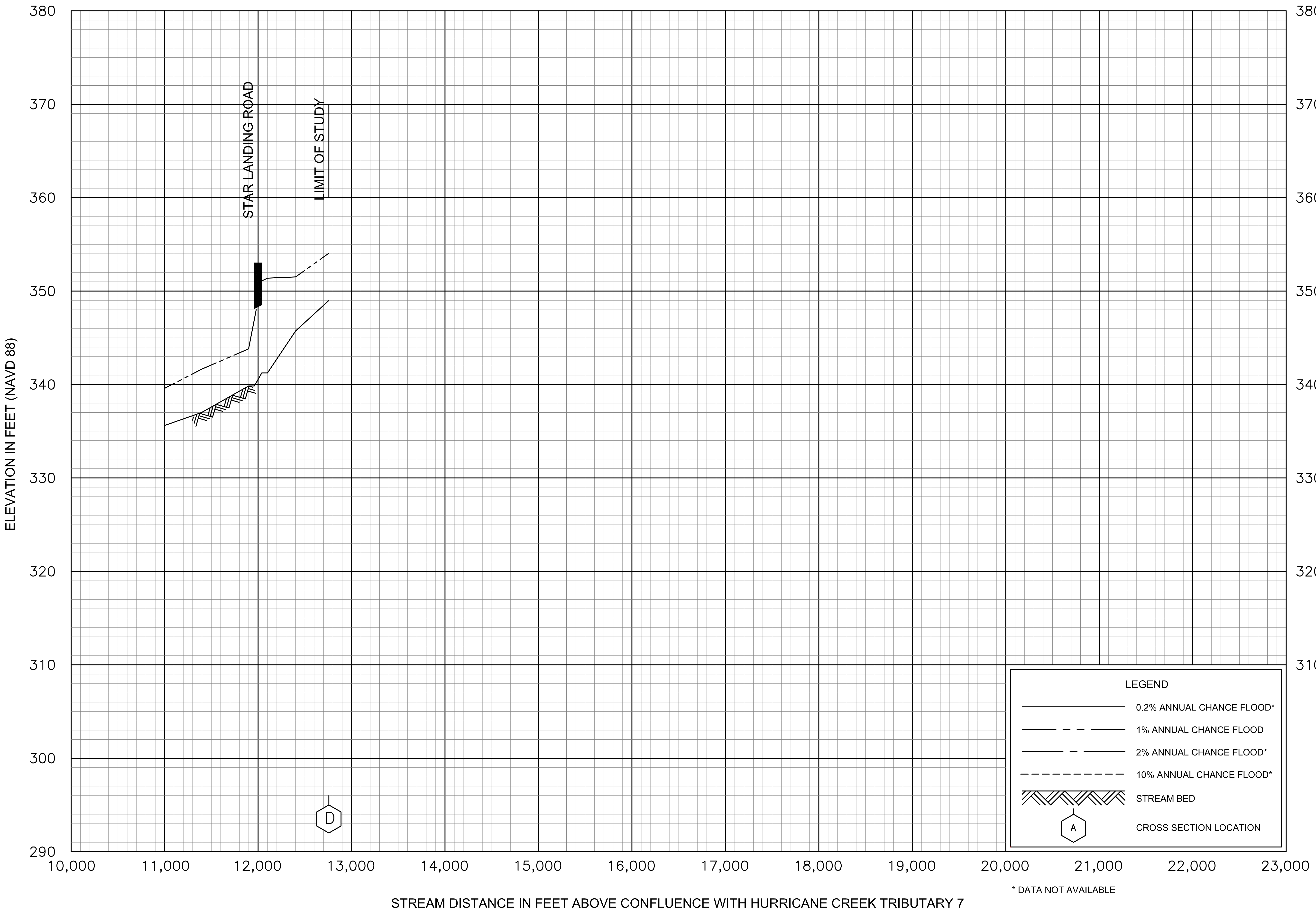


FLOOD PROFILES

HURRICANE CREEK TRIBUTARY 7.1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS AND INCORPORATED AREAS



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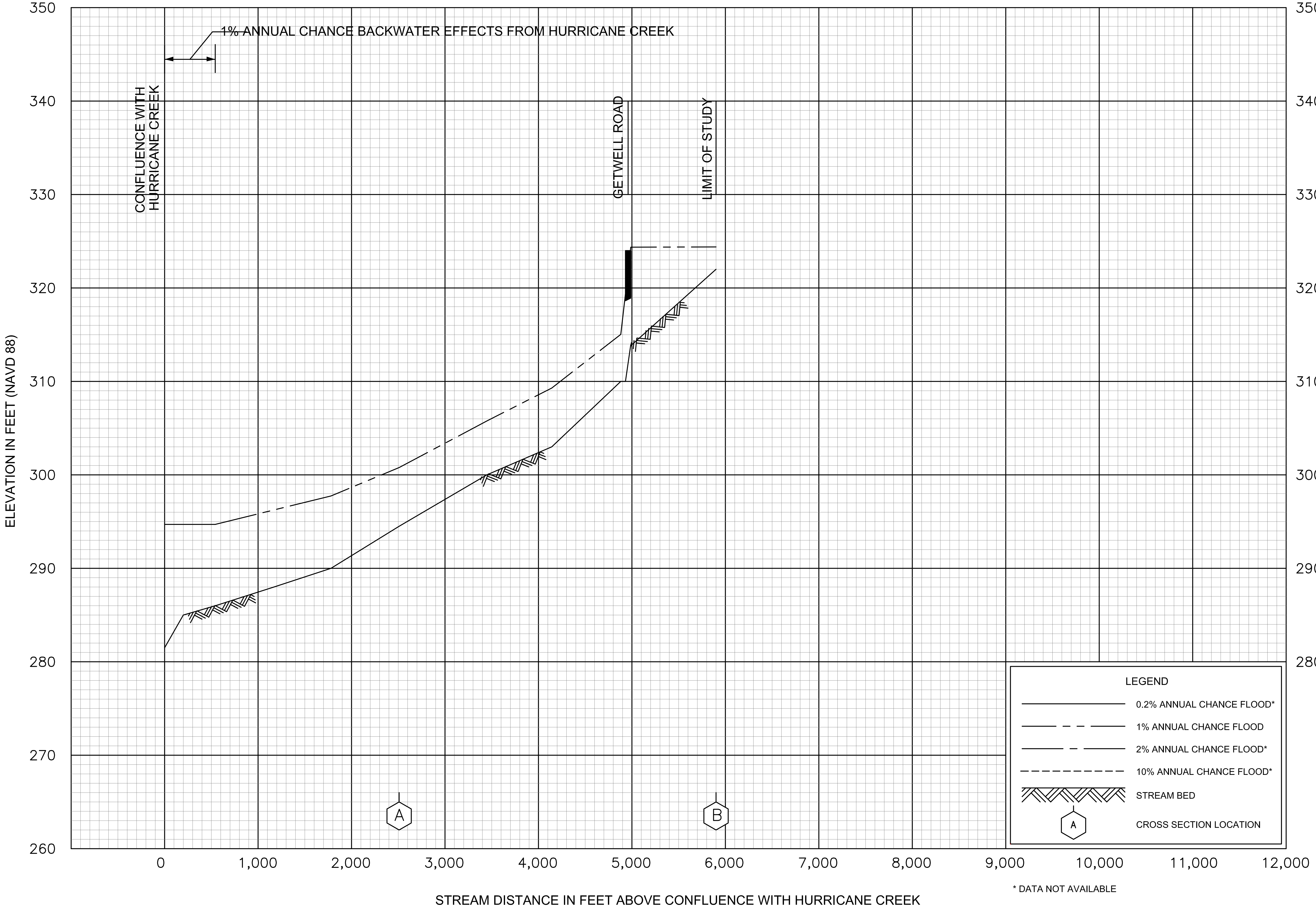
FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

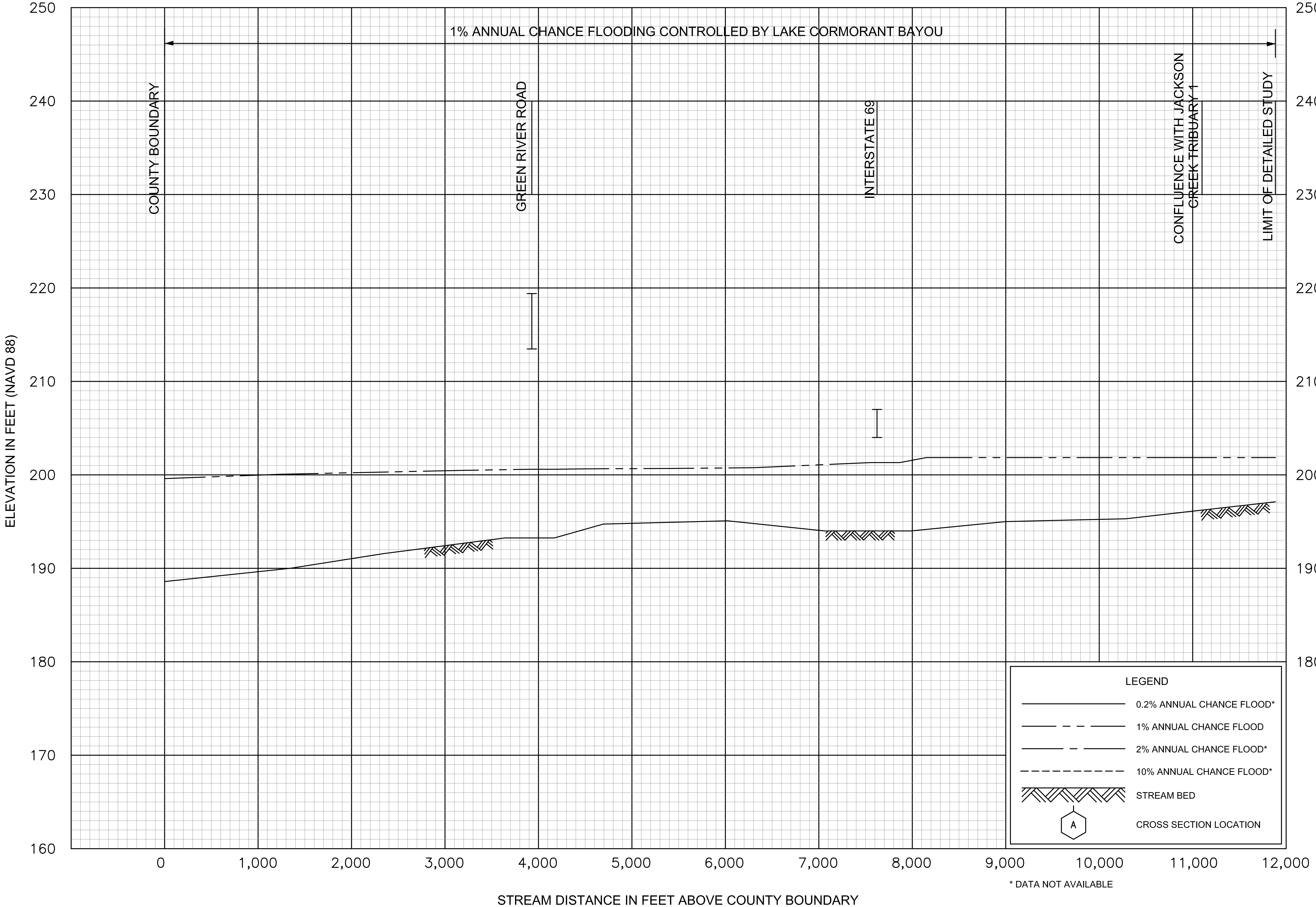


FLOOD PROFILES

HURRICANE CREEK TRIBUTARY 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



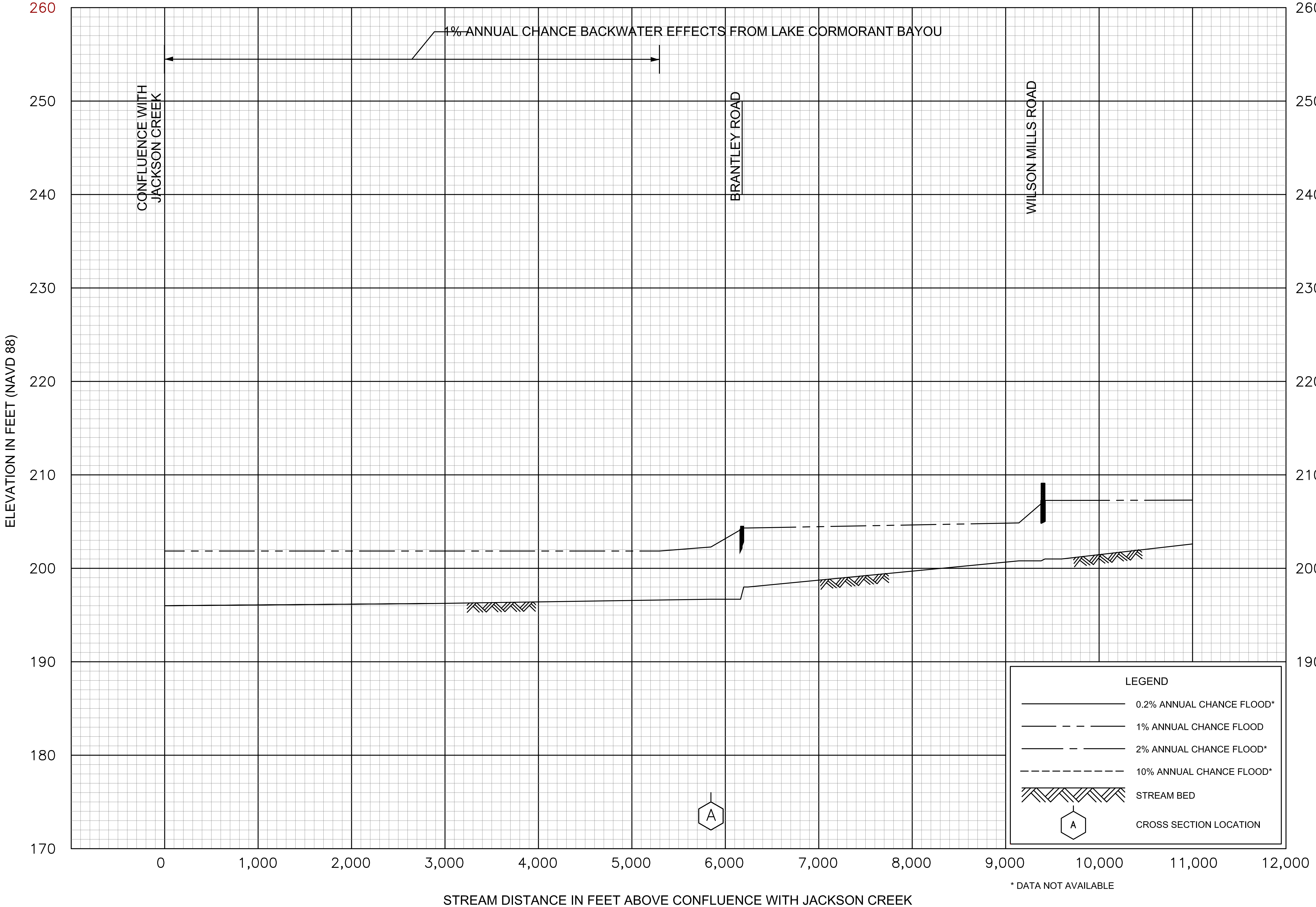
FLOOD PROFILES

JACKSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

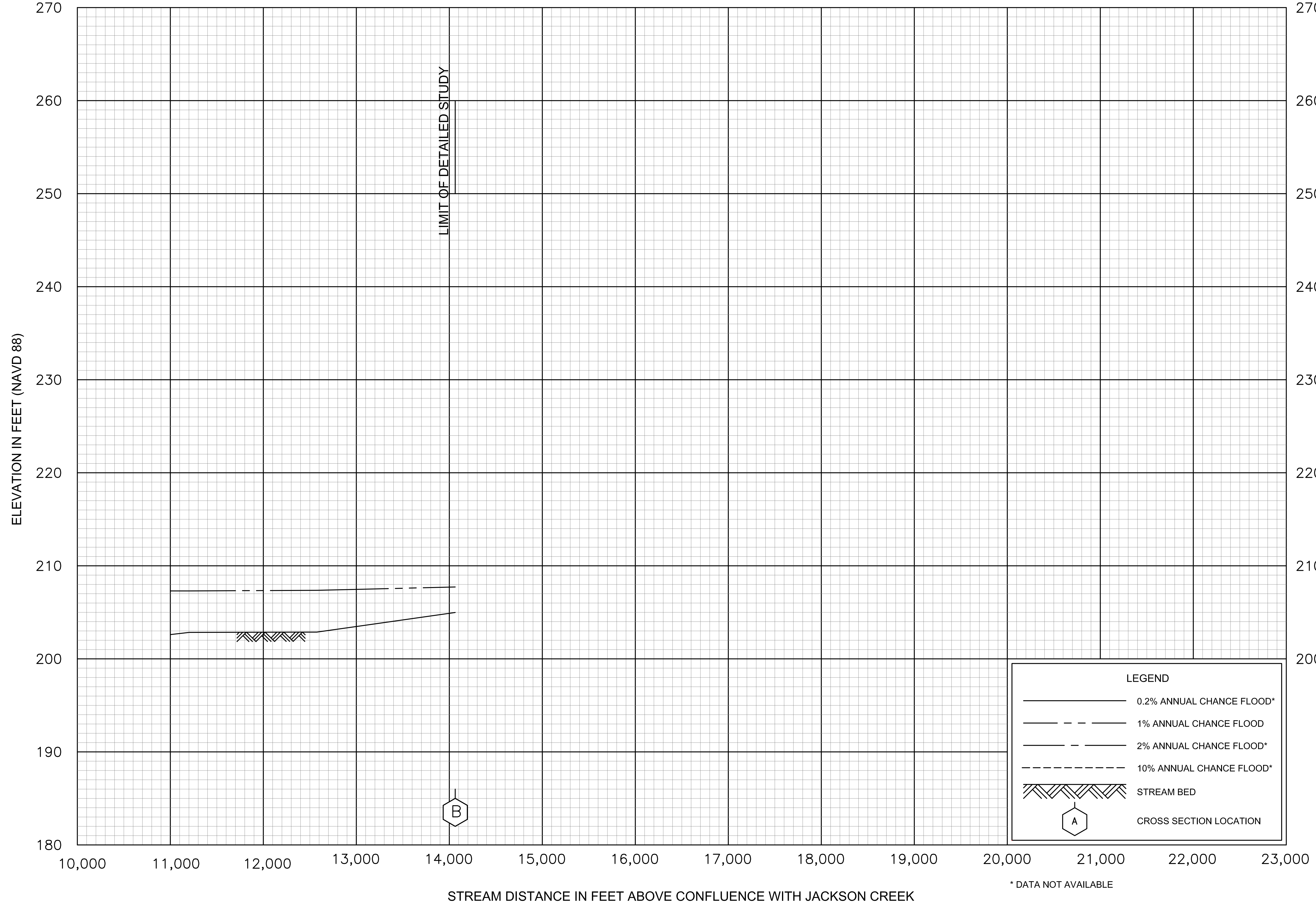


FLOOD PROFILES

JACKSON CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

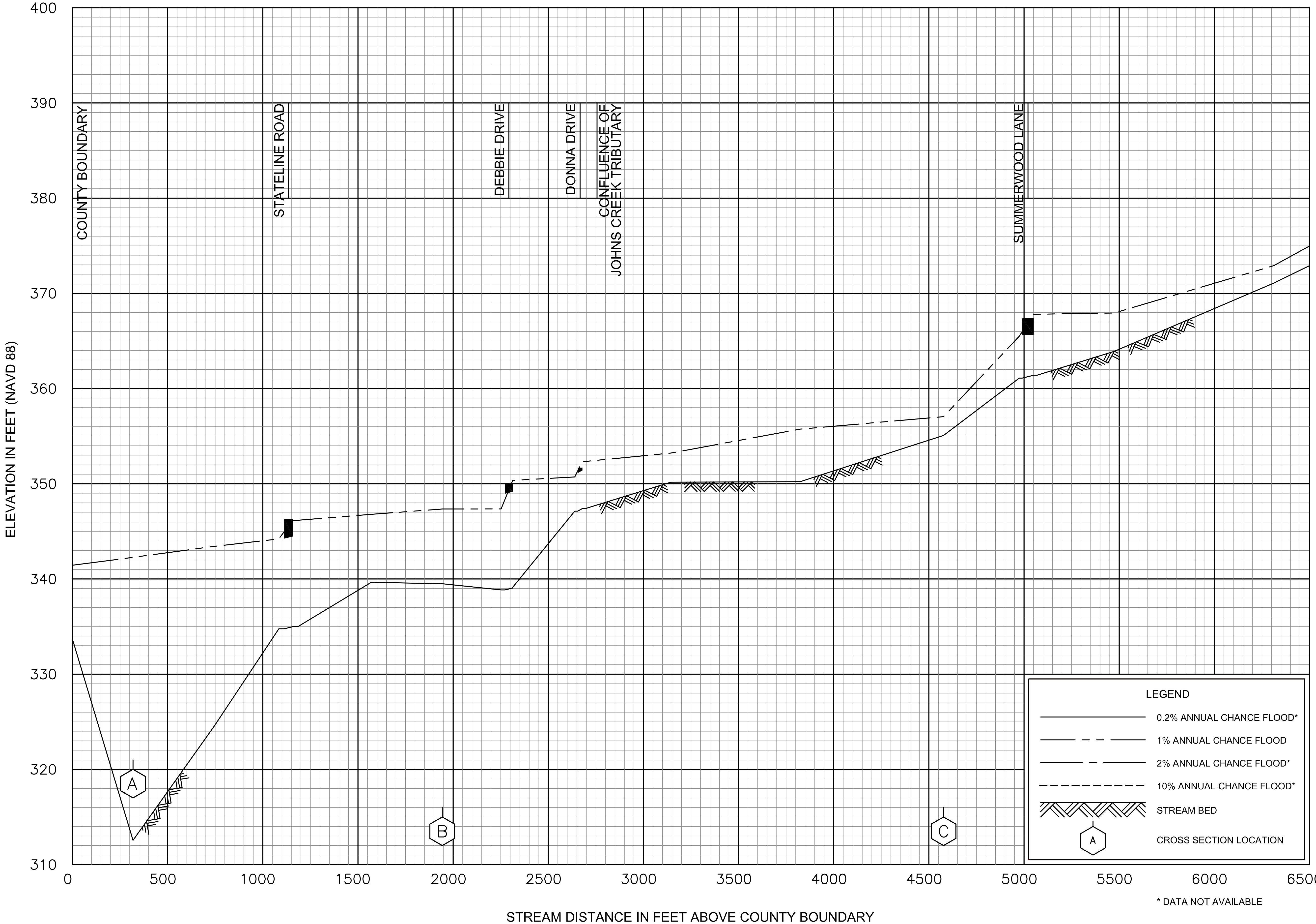


FLOOD PROFILES

JACKSON CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



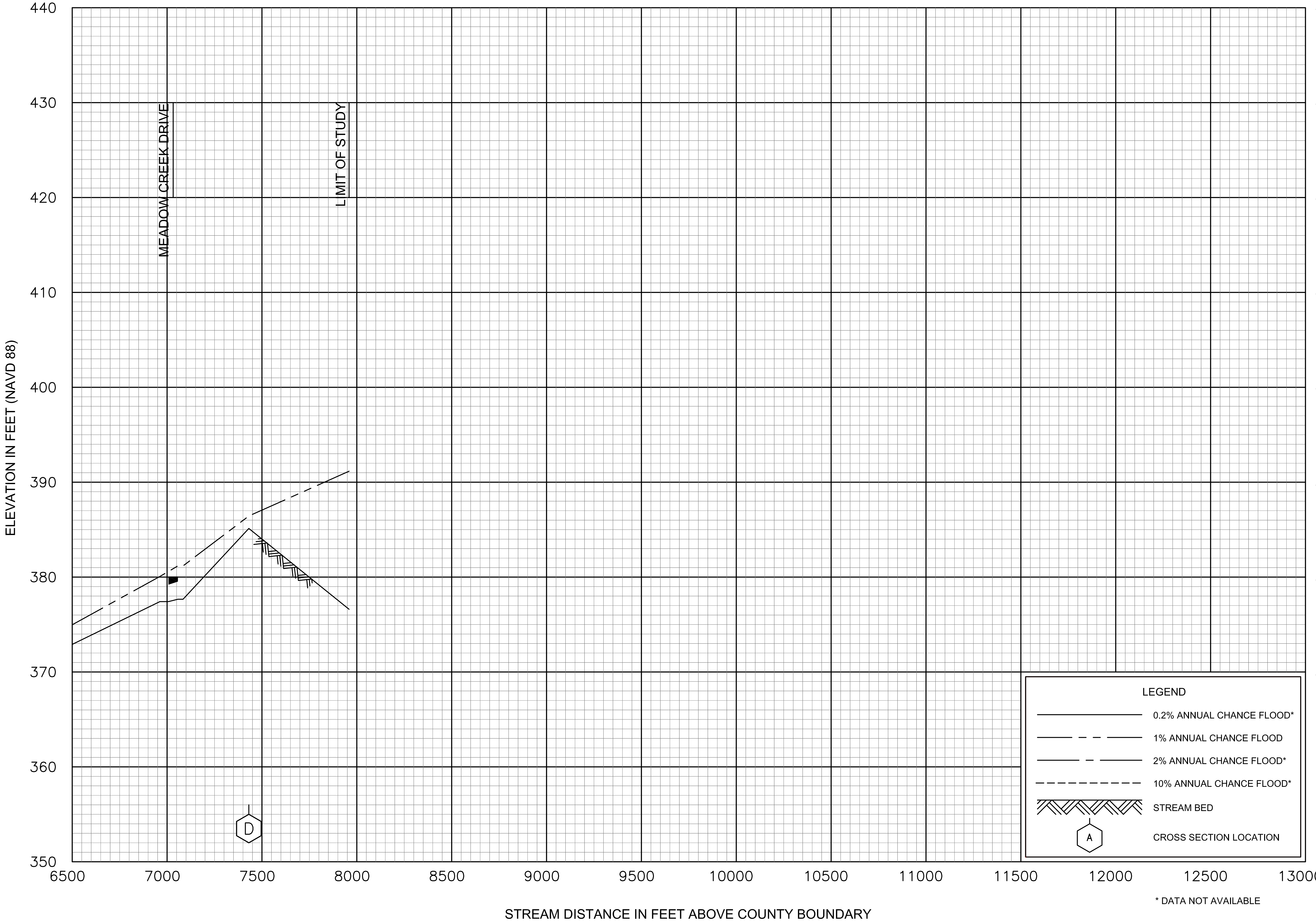
FLOOD PROFILES

JOHNS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

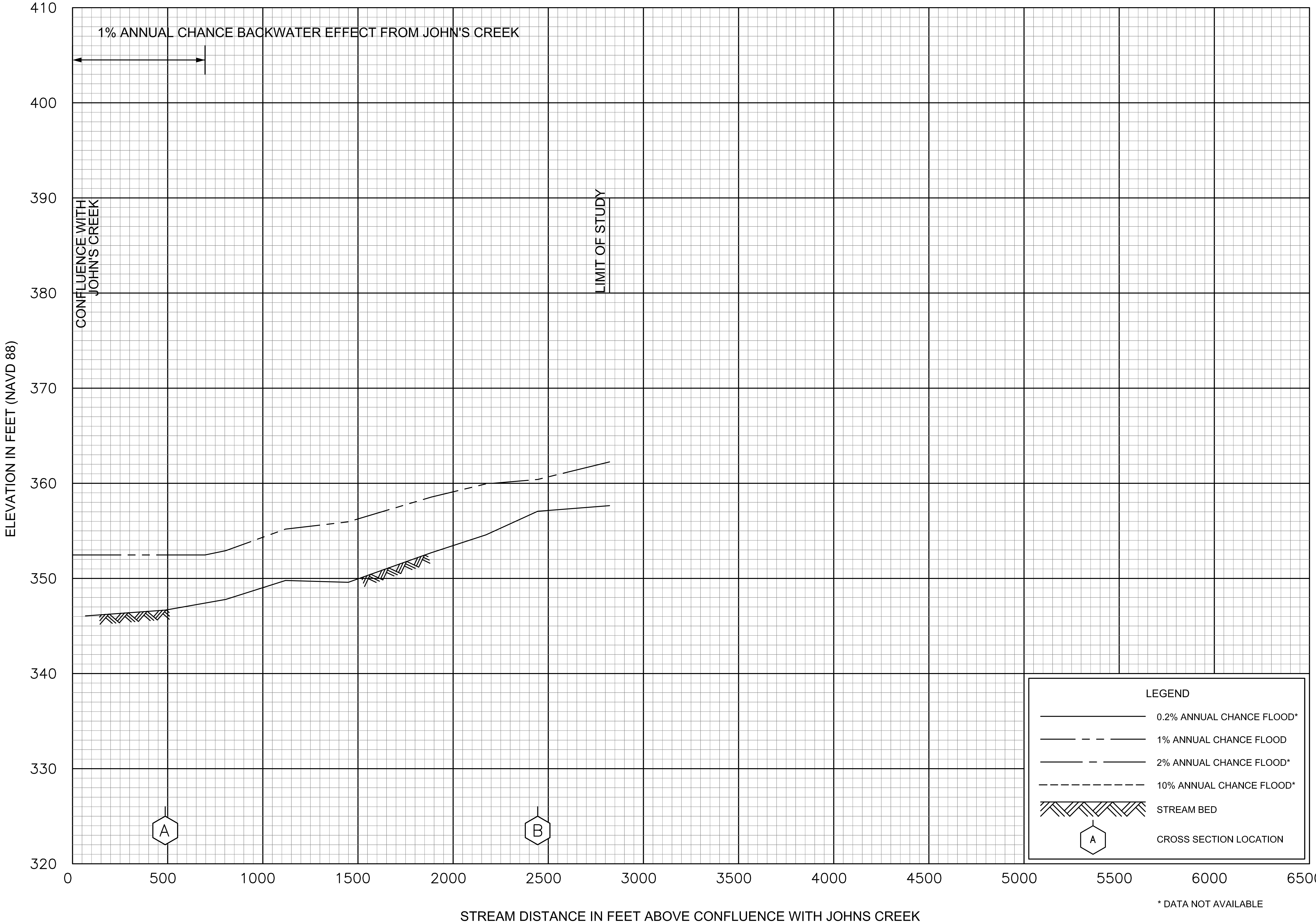


FLOOD PROFILES

JOHNS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



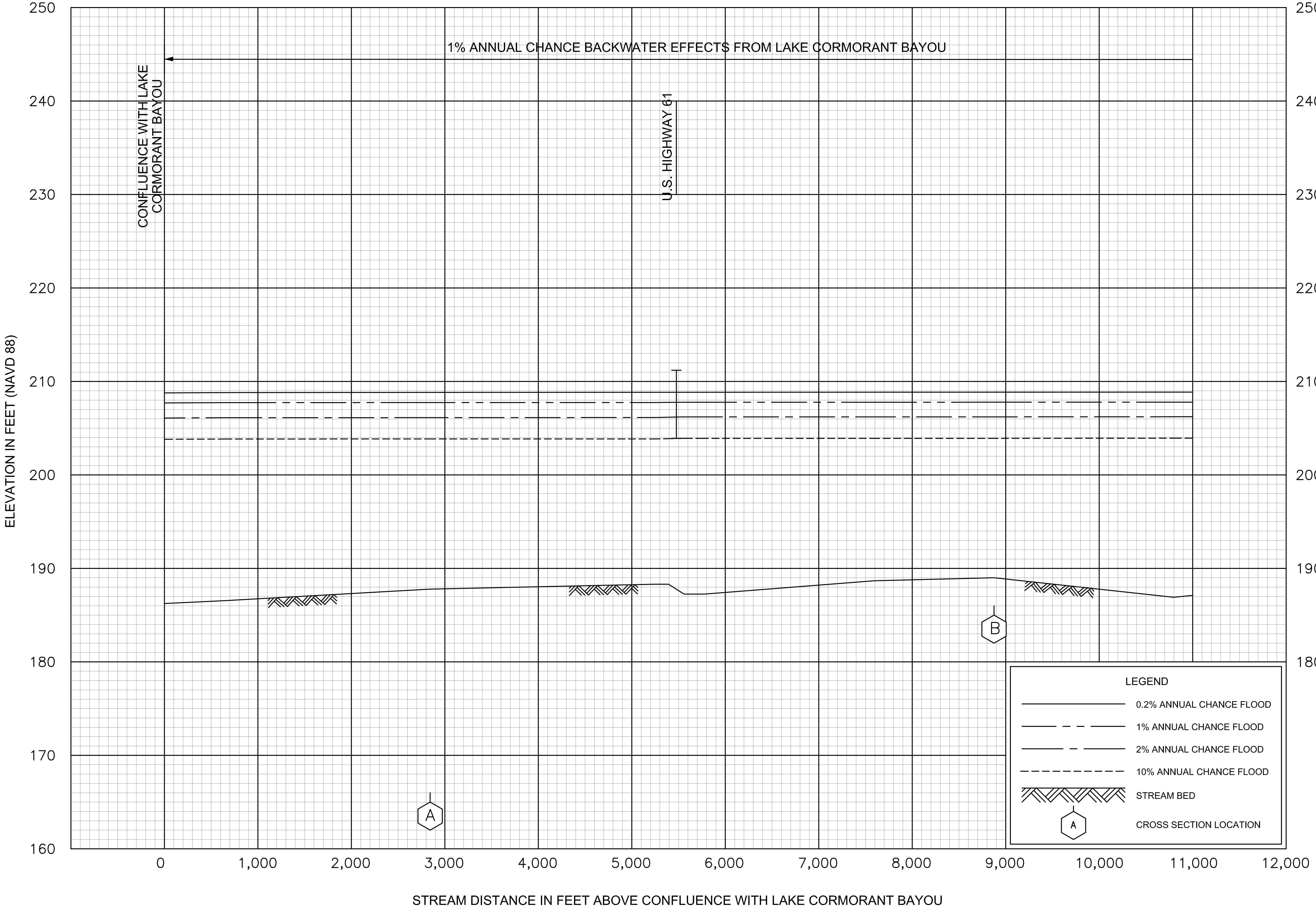
* DATA NOT AVAILABLE

FLOOD PROFILES

JOHNS CREEK TRIBUTARY

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



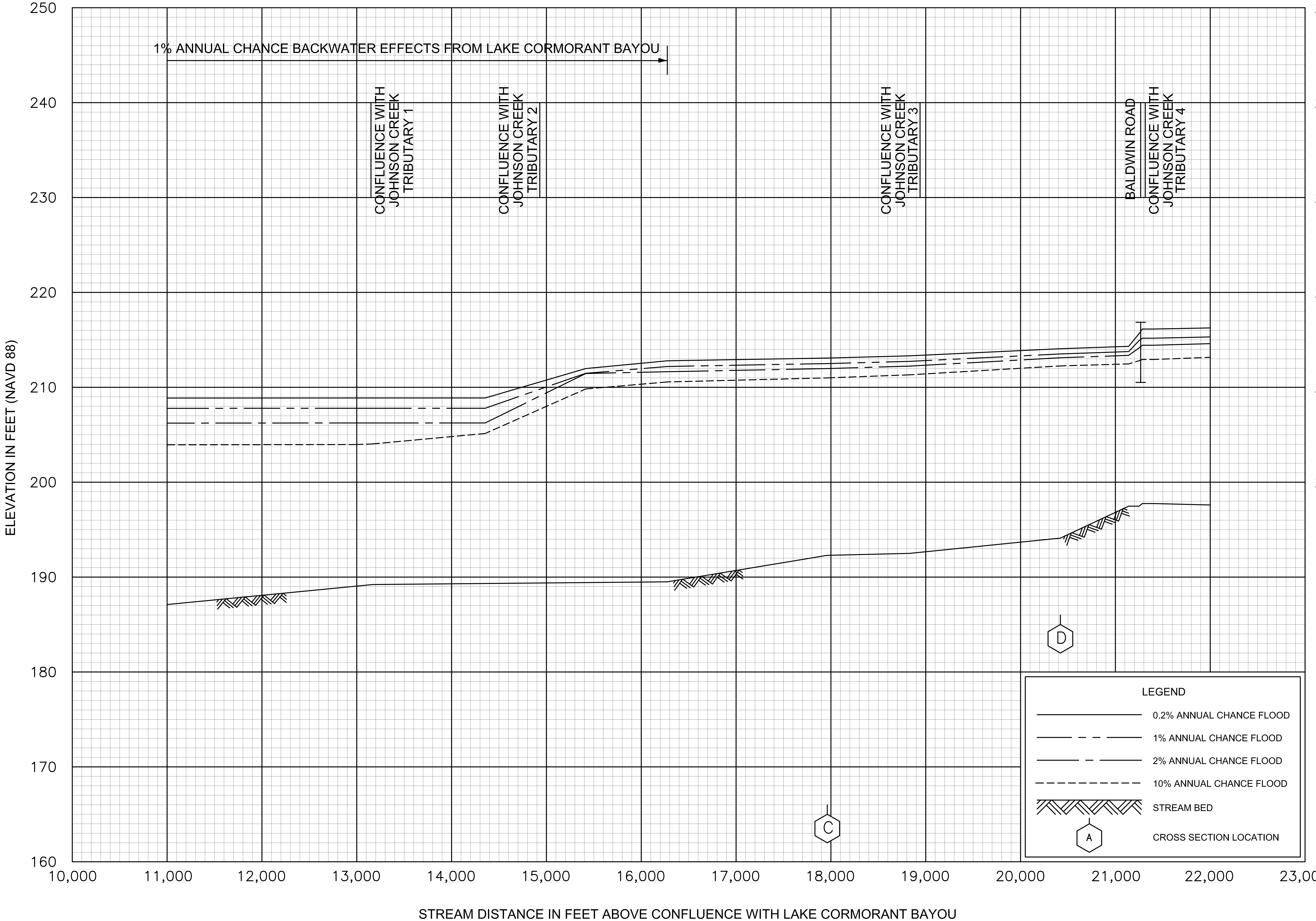
FLOOD PROFILES

JOHNSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



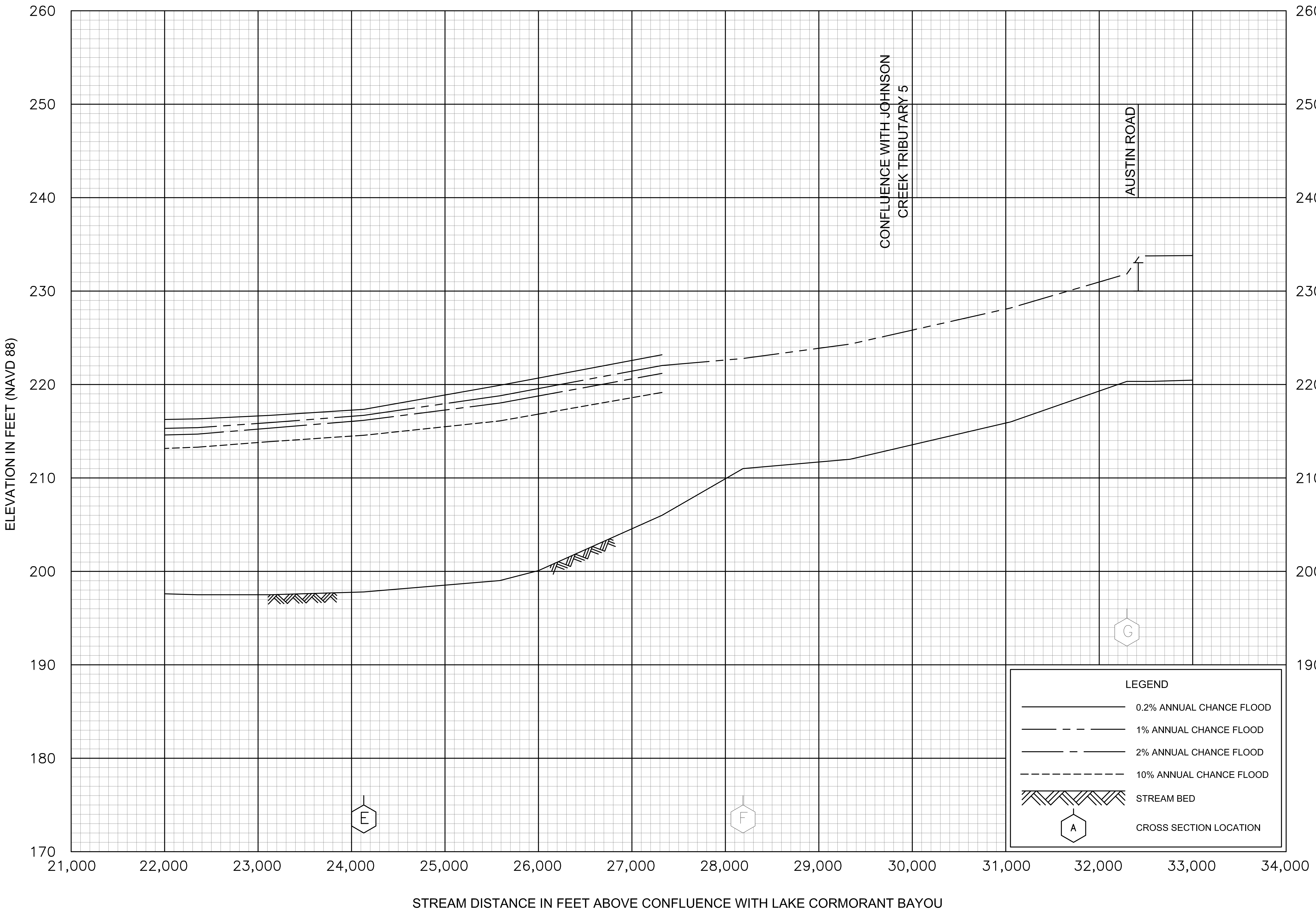
FLOOD PROFILES

JOHNSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



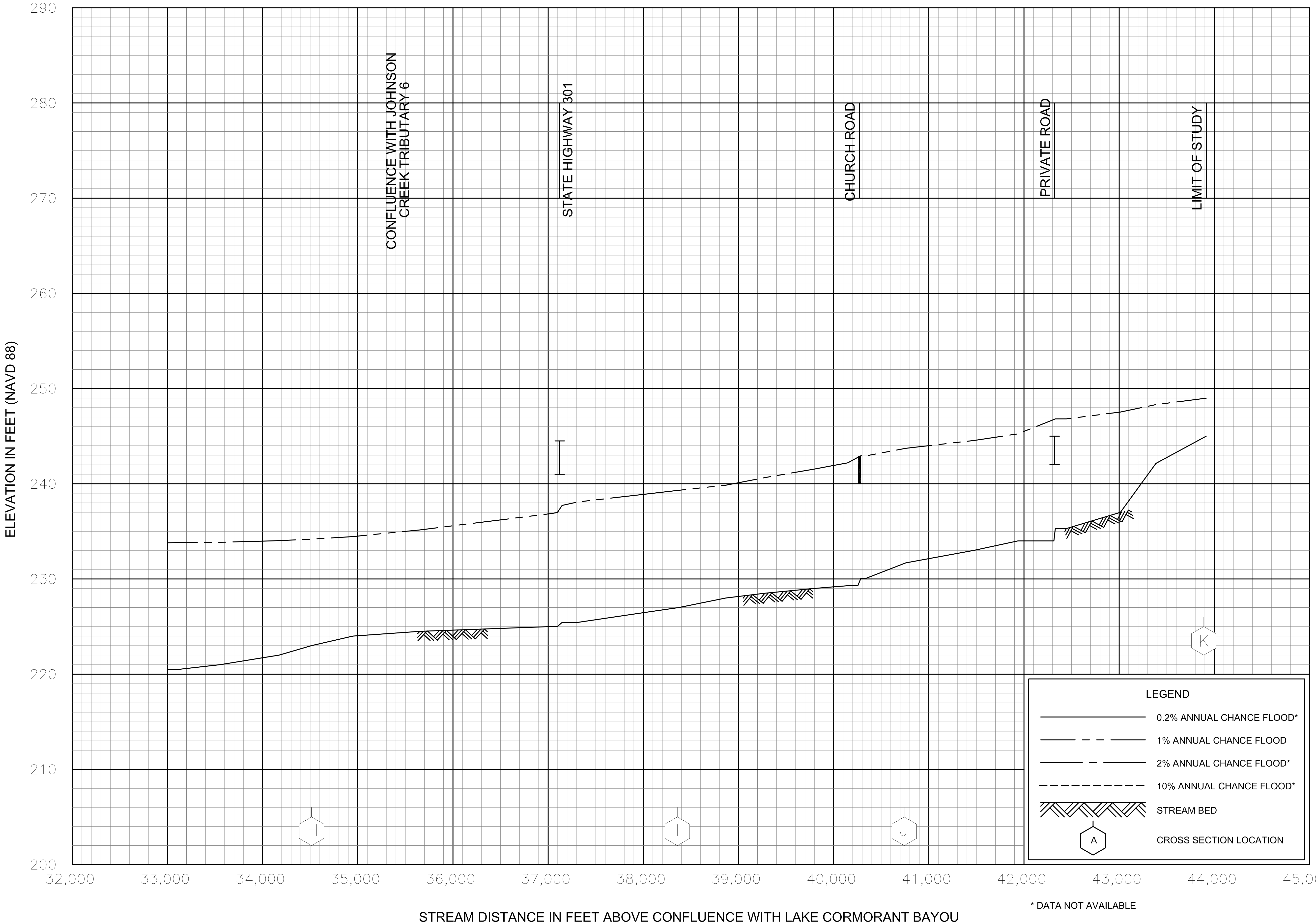
FLOOD PROFILES

JOHNSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



* DATA NOT AVAILABLE

FLOOD PROFILES

JOHNSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

DESOTO COUNTY, MISSISSIPPI,
AND INCORPORATED AREAS
VOLUME 2 OF 2

COMMUNITY NAME	COMMUNITY NUMBER
DESOTO COUNTY (UNINCORPORATED AREAS)	280050
HERNANDO, CITY OF	280292
HORN LAKE, CITY OF	280051
OLIVE BRANCH, CITY OF	280286
SOUTHAVEN, CITY OF	280331
WALLS, TOWN OF	280232

REVISED:

Federal Emergency Management Agency
FLOOD INSURANCE STUDY NUMBER
28033CV002B

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 repository to obtain the most current FIS components.

Initial Countywide FIS Effective Date:	May 3, 1990
Revised Countywide FIS Dates:	June 19, 1997 (Reprinted with corrections to the Summary of Discharges Table and Floodway Data Table on November 5, 1997) August 23, 2000 June 4, 2007

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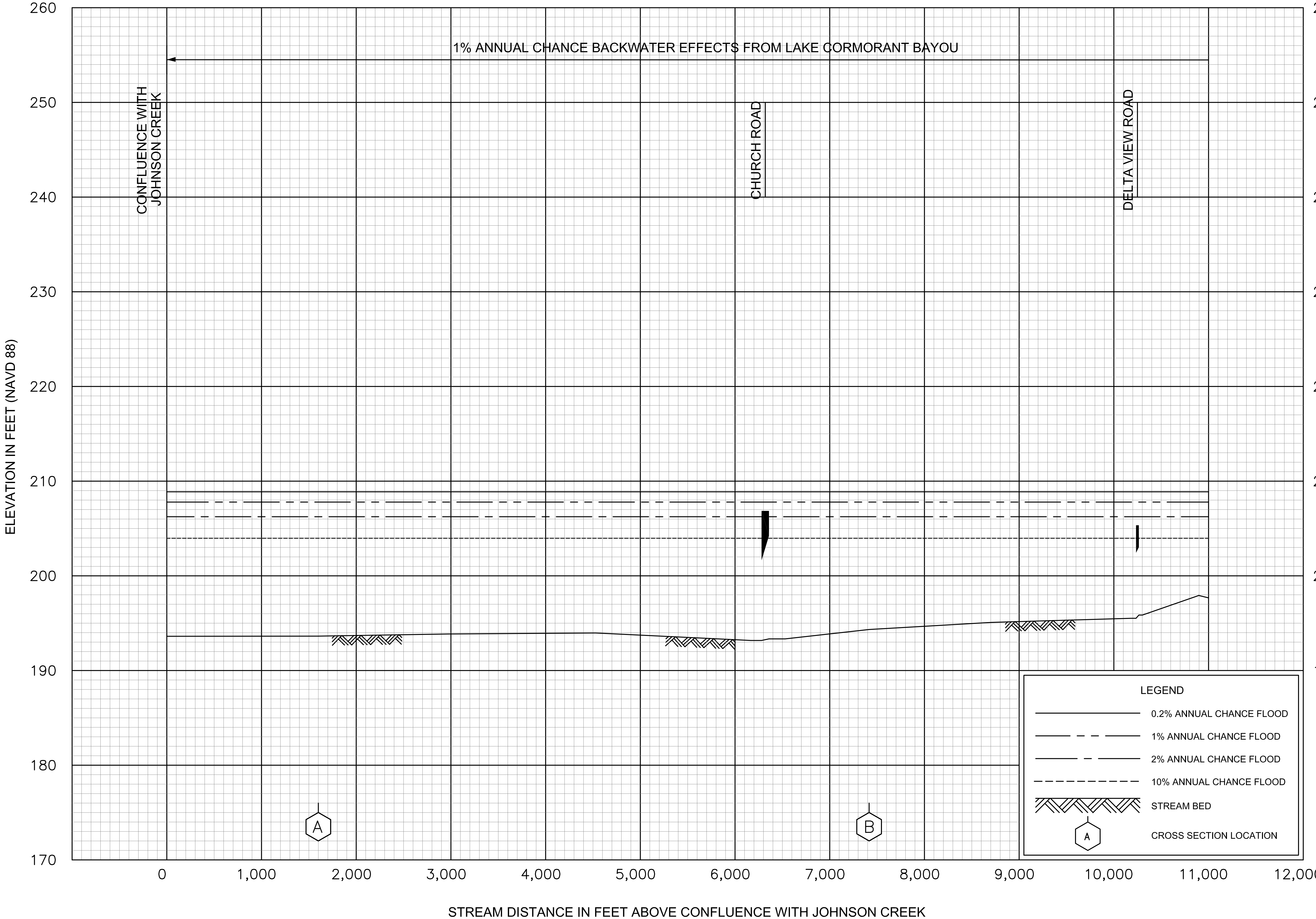
EXHIBITS - continued

Exhibit 1 - Flood Profiles - continued

TABLE OF CONTENTS VOLUME TWO - continued

EXHIBITS - continued

Exhibit 1 - Flood Profiles - continued



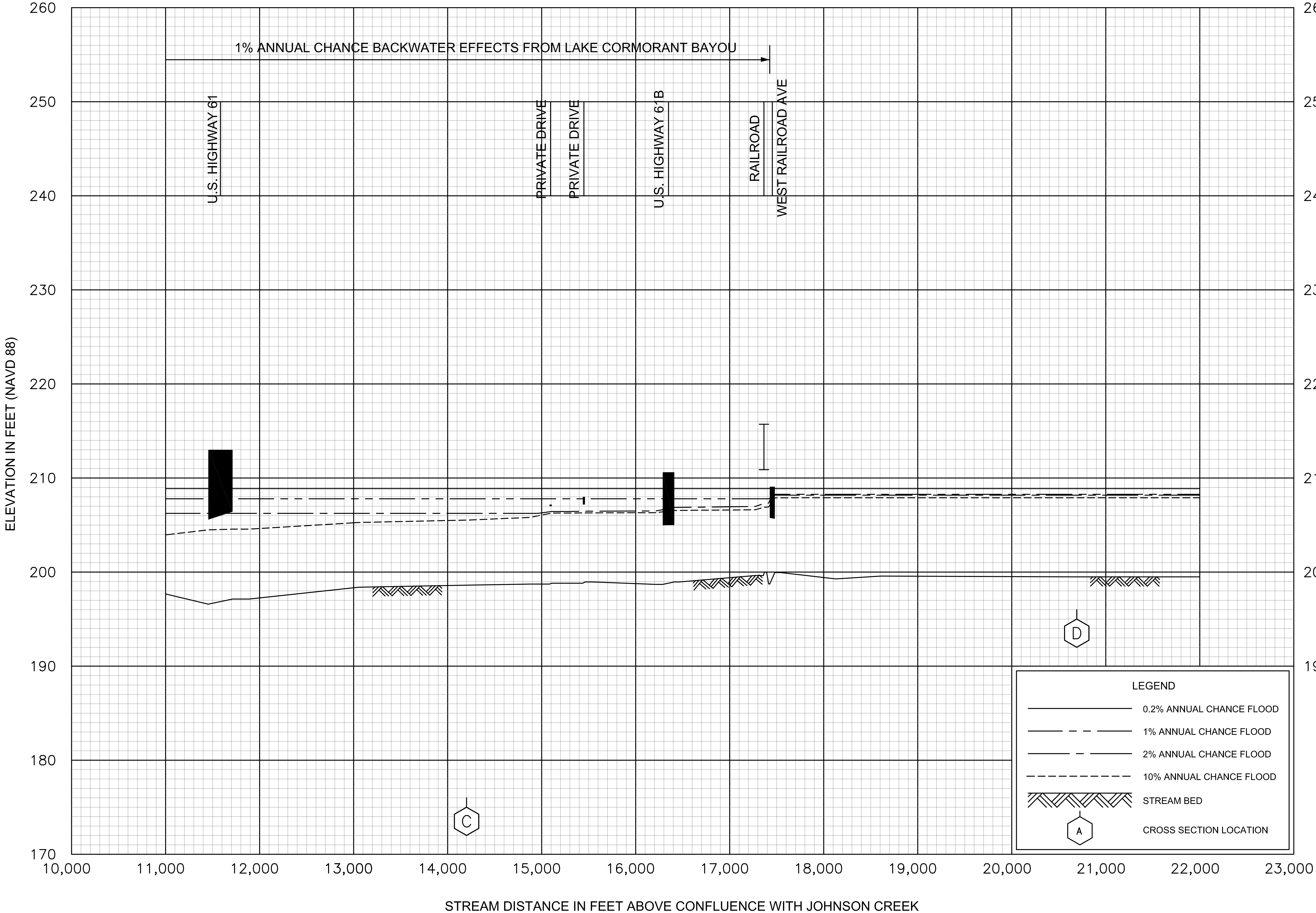
FLOOD PROFILES

JOHNSON CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



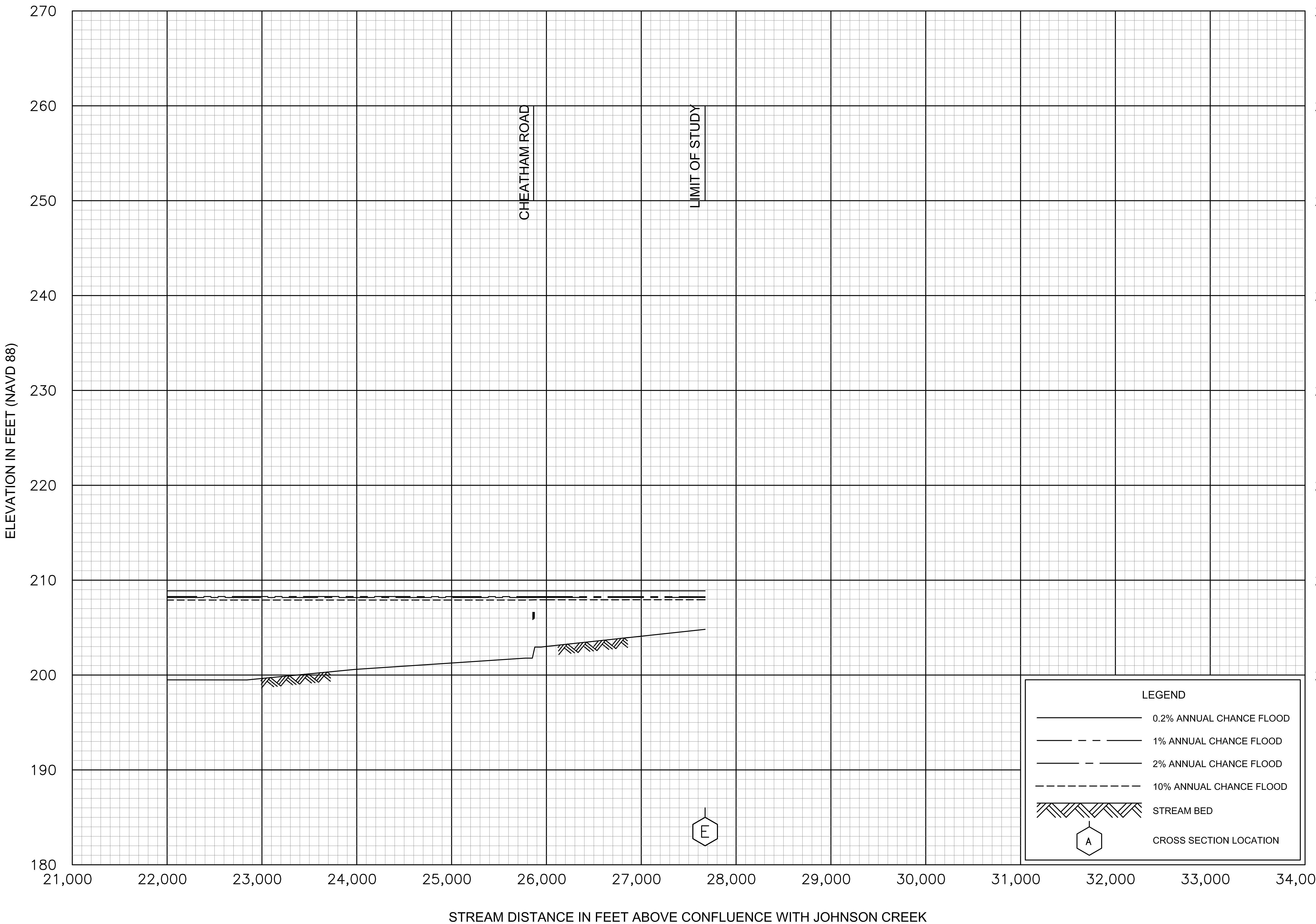
FLOOD PROFILES

JOHNSON CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



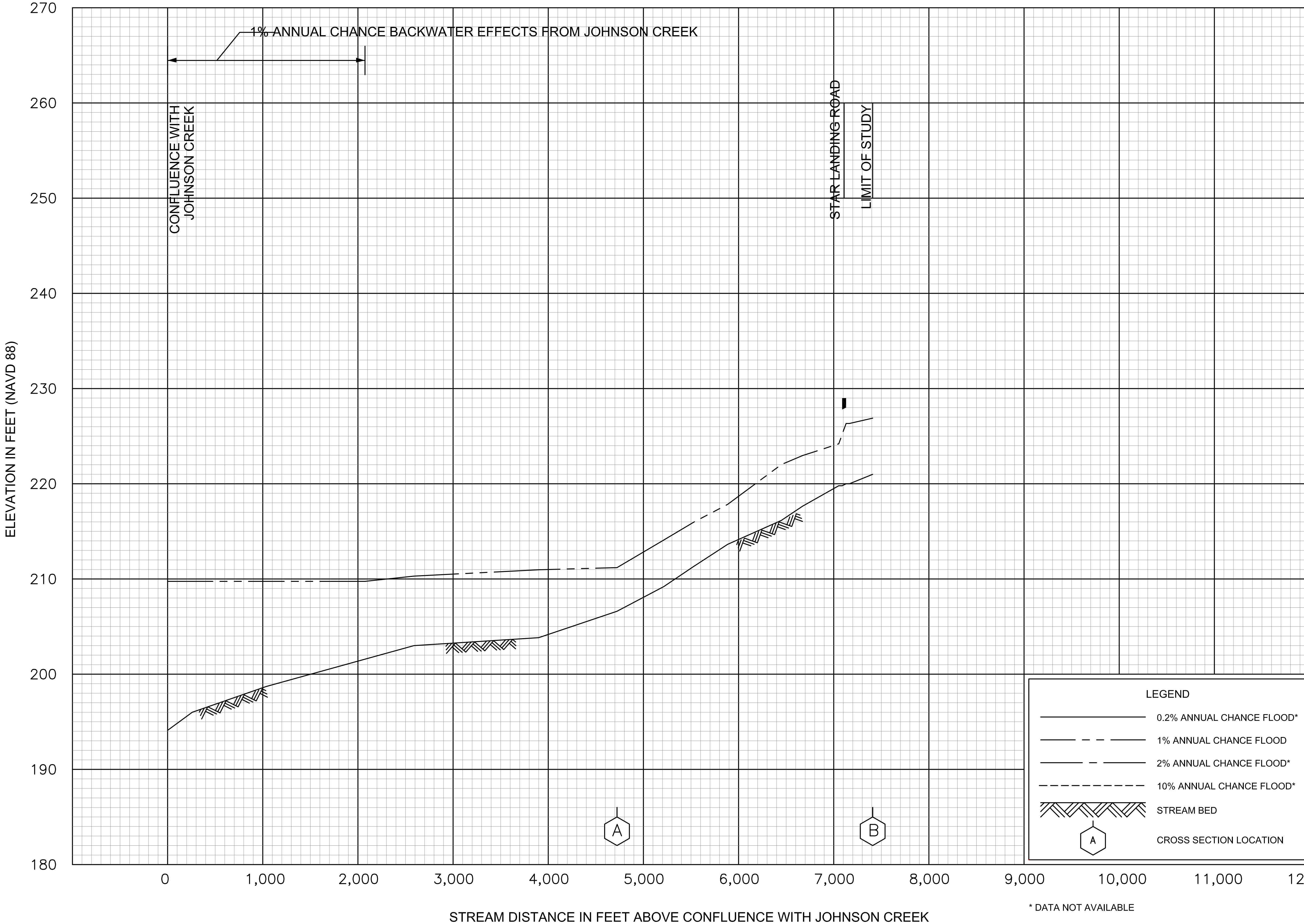
FLOOD PROFILES

JOHNSON CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



FLOOD PROFILES

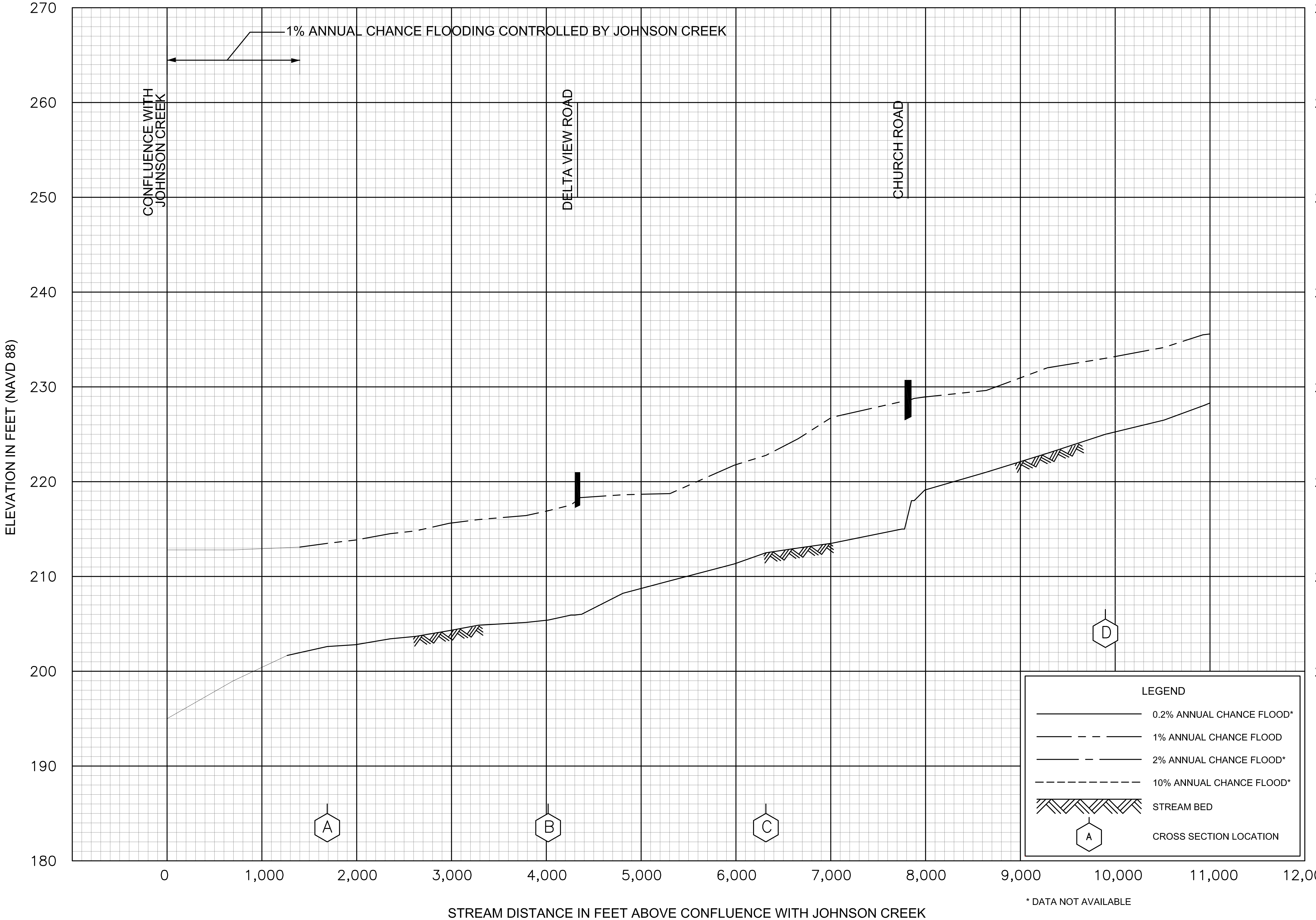
JOHNSON CREEK TRIBUTARY 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

86P

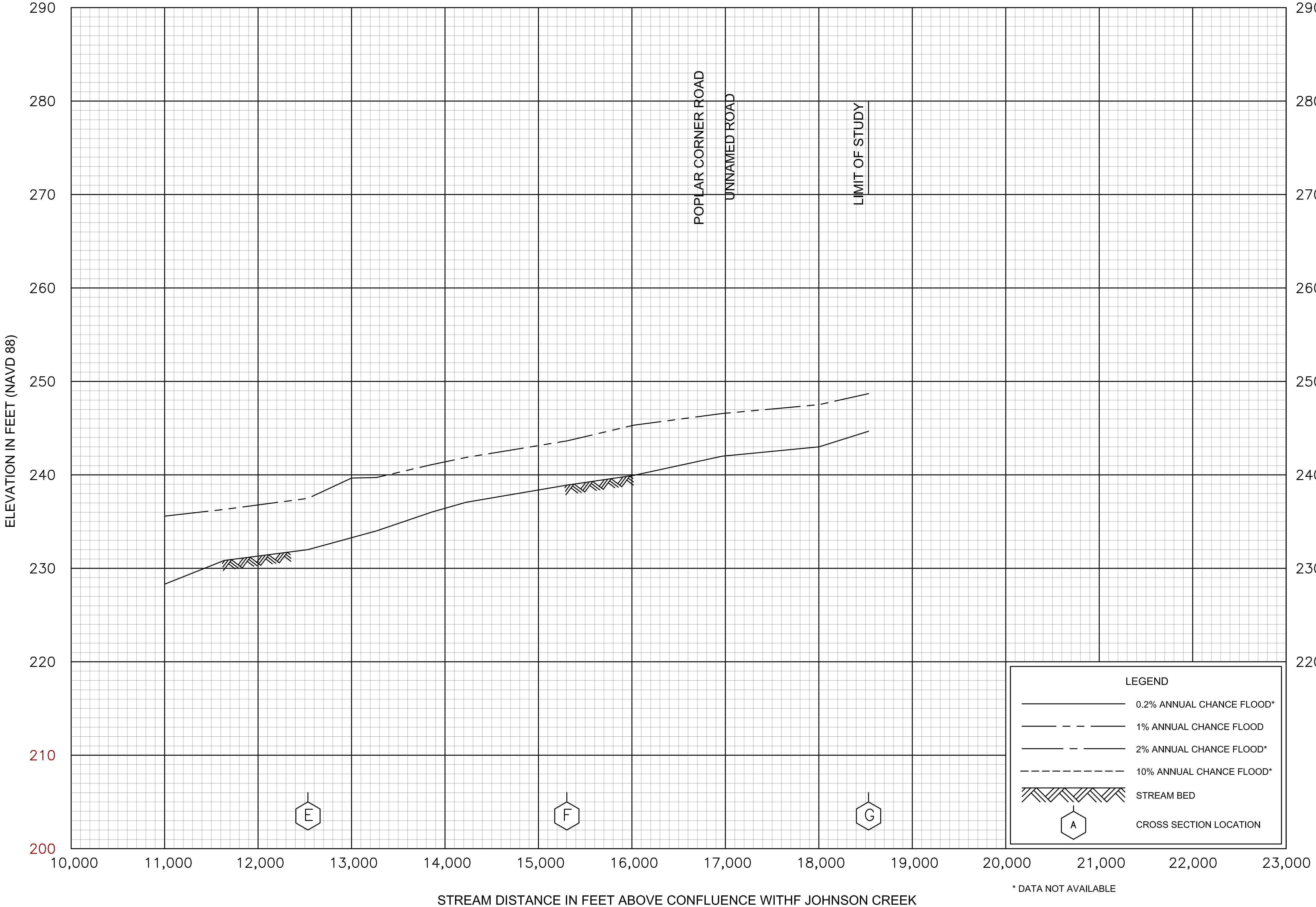


FLOOD PROFILES

JOHNSON CREEK TRIBUTARY 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



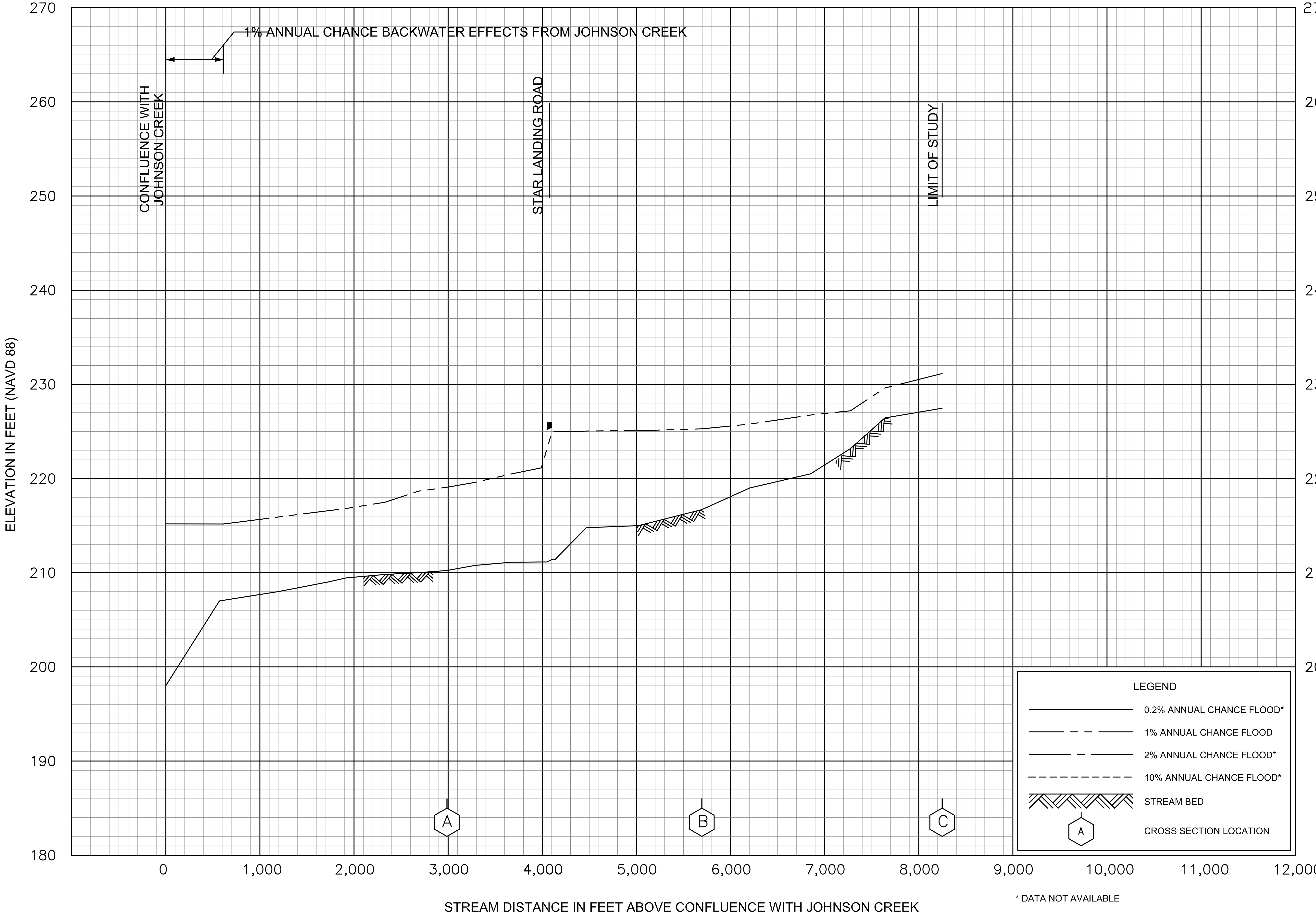
FLOOD PROFILES

JOHNSON CREEK TRIBUTARY 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



* DATA NOT AVAILABLE

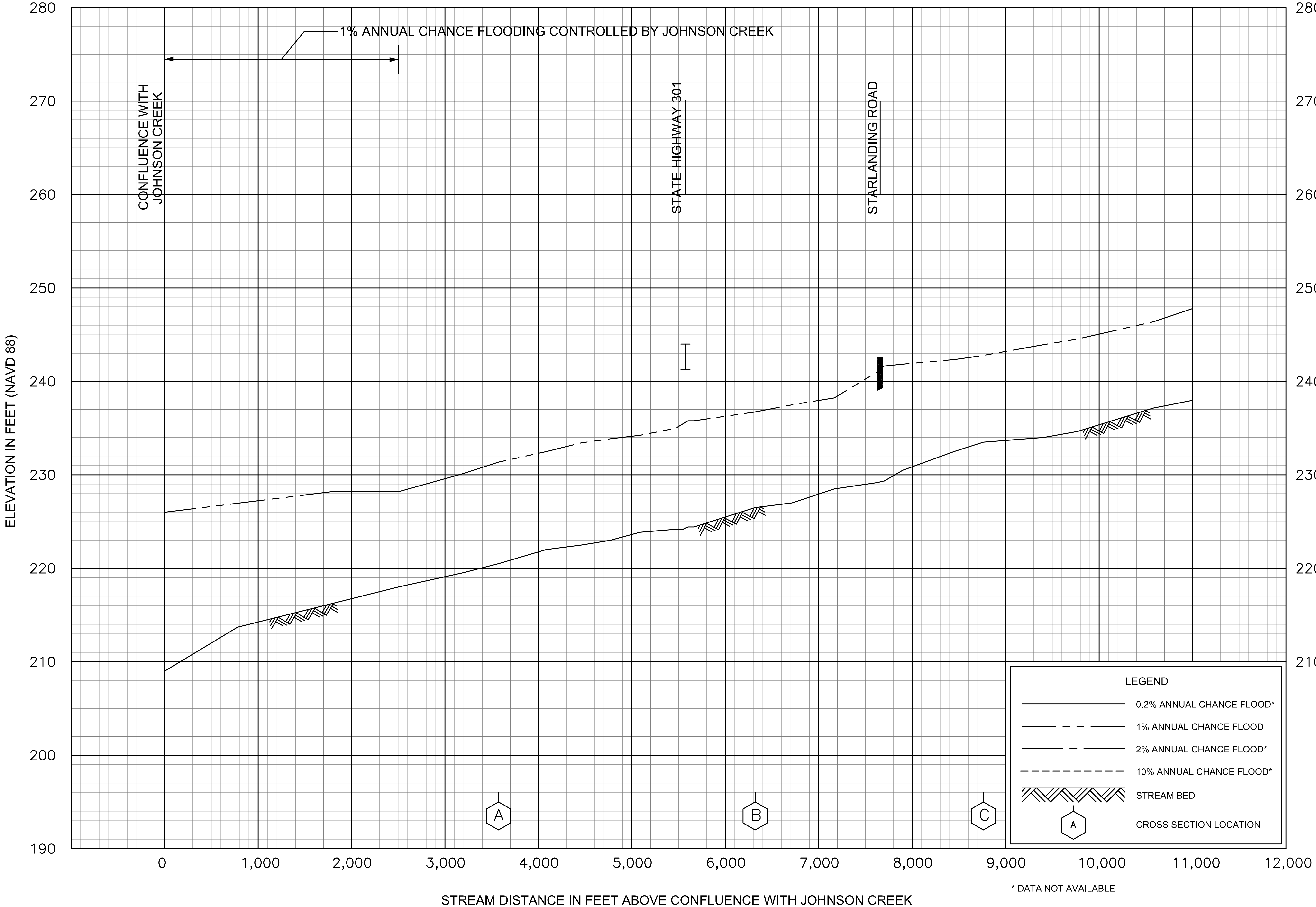
FLOOD PROFILES

JOHNSON CREEK TRIBUTARY 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



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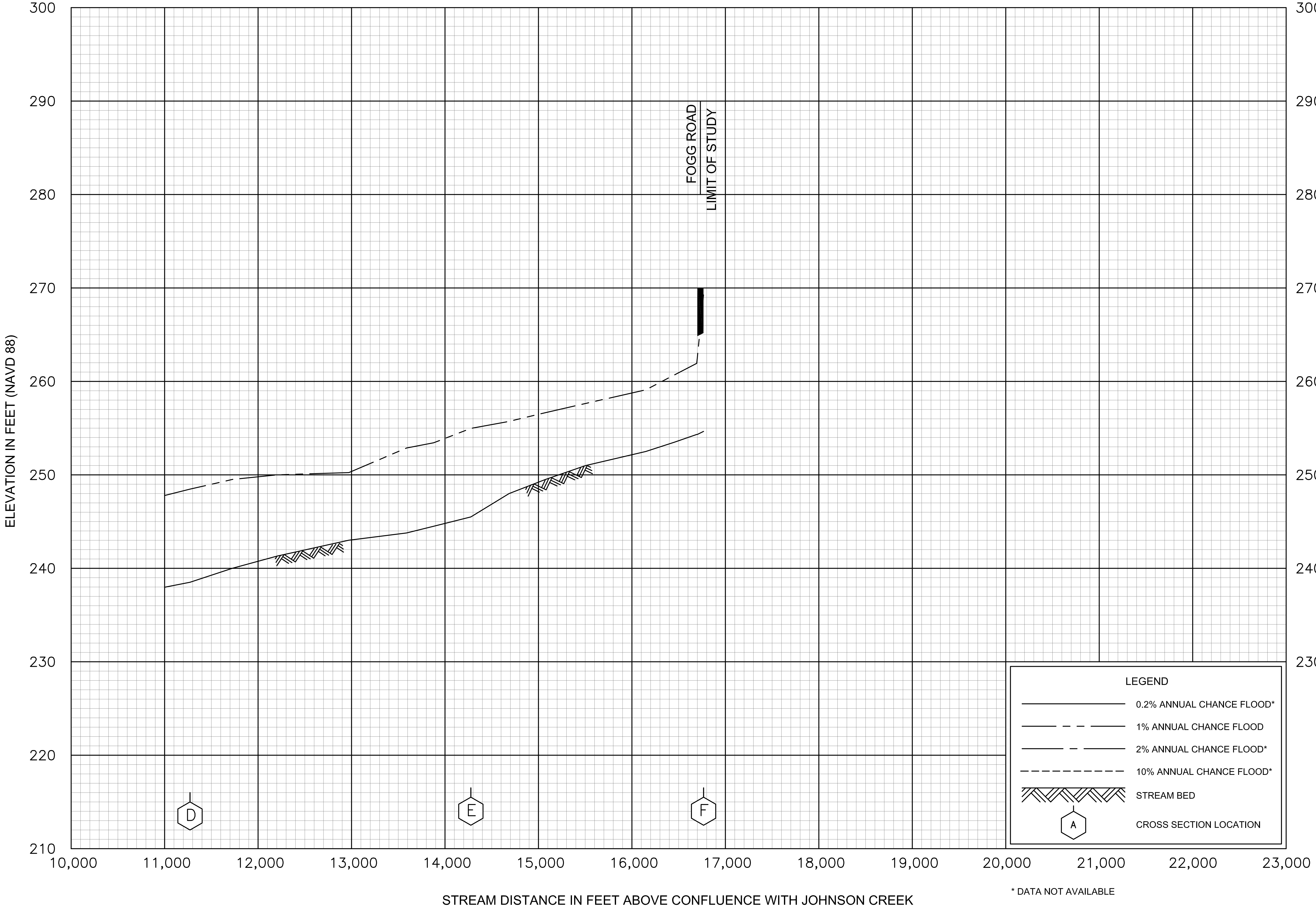
JOHNSON CREEK TRIBUTARY 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



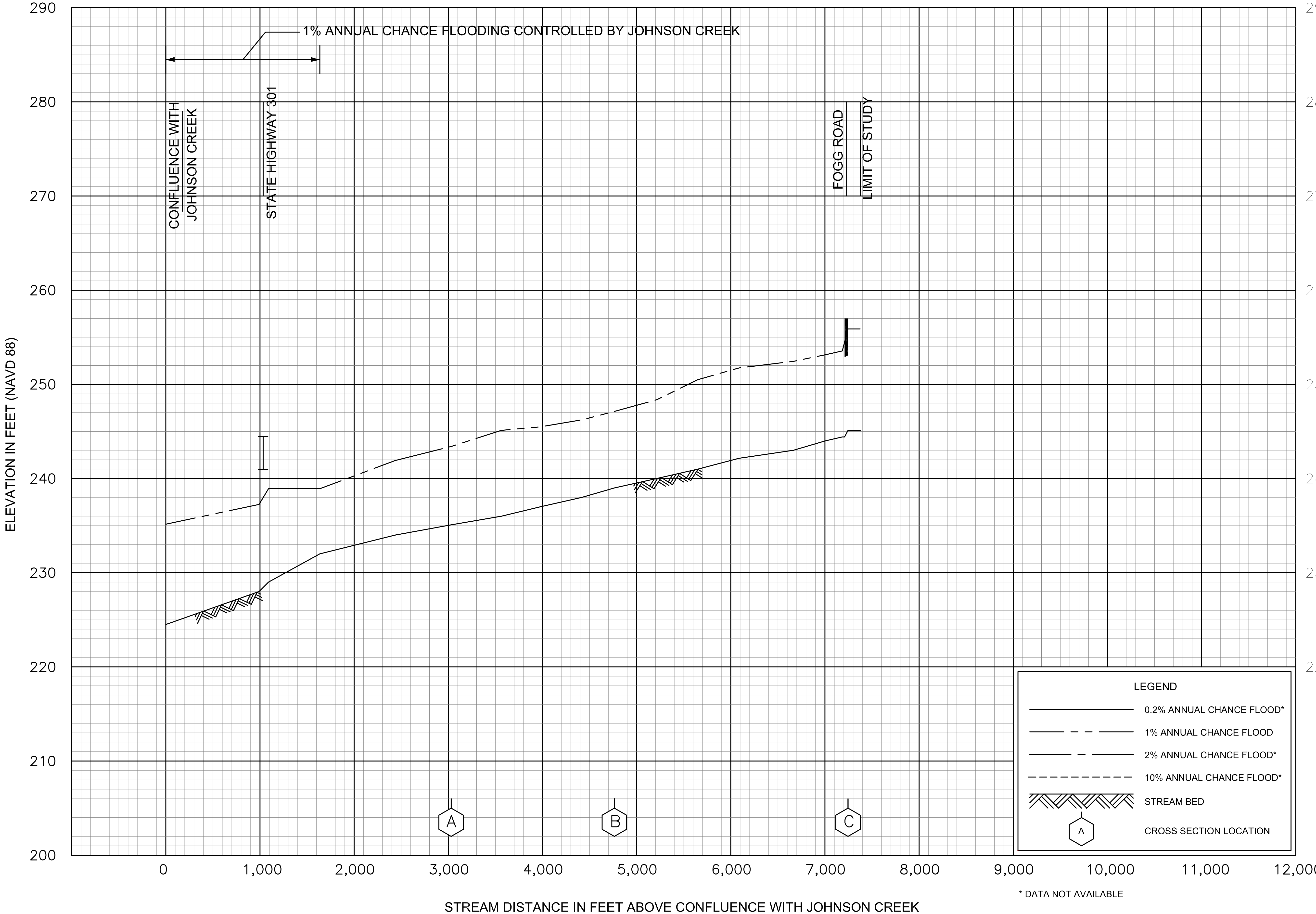
FLOOD PROFILES

JOHNSON CREEK TRIBUTARY 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

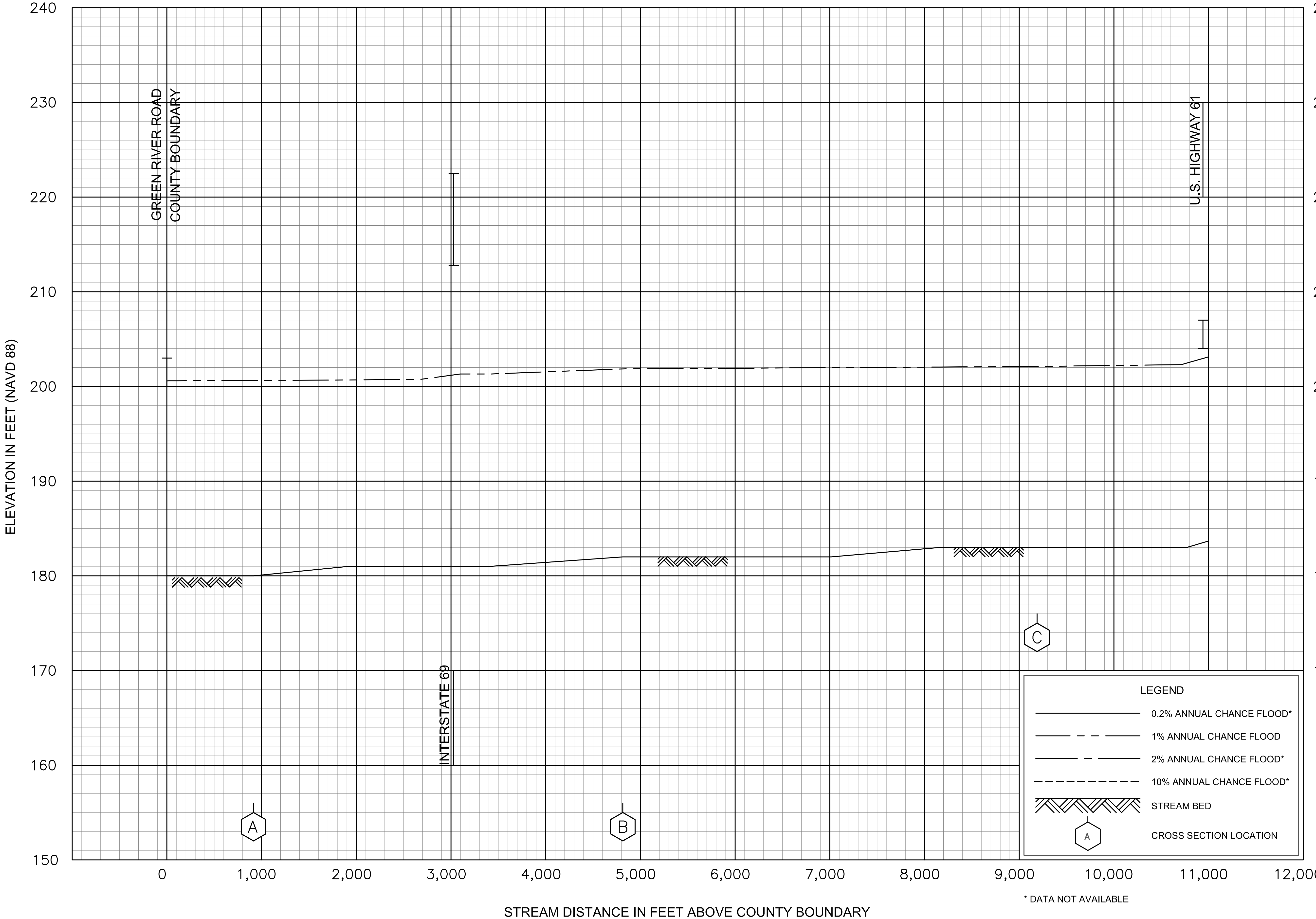


FLOOD PROFILES

JOHNSON CREEK TRIBUTARY 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



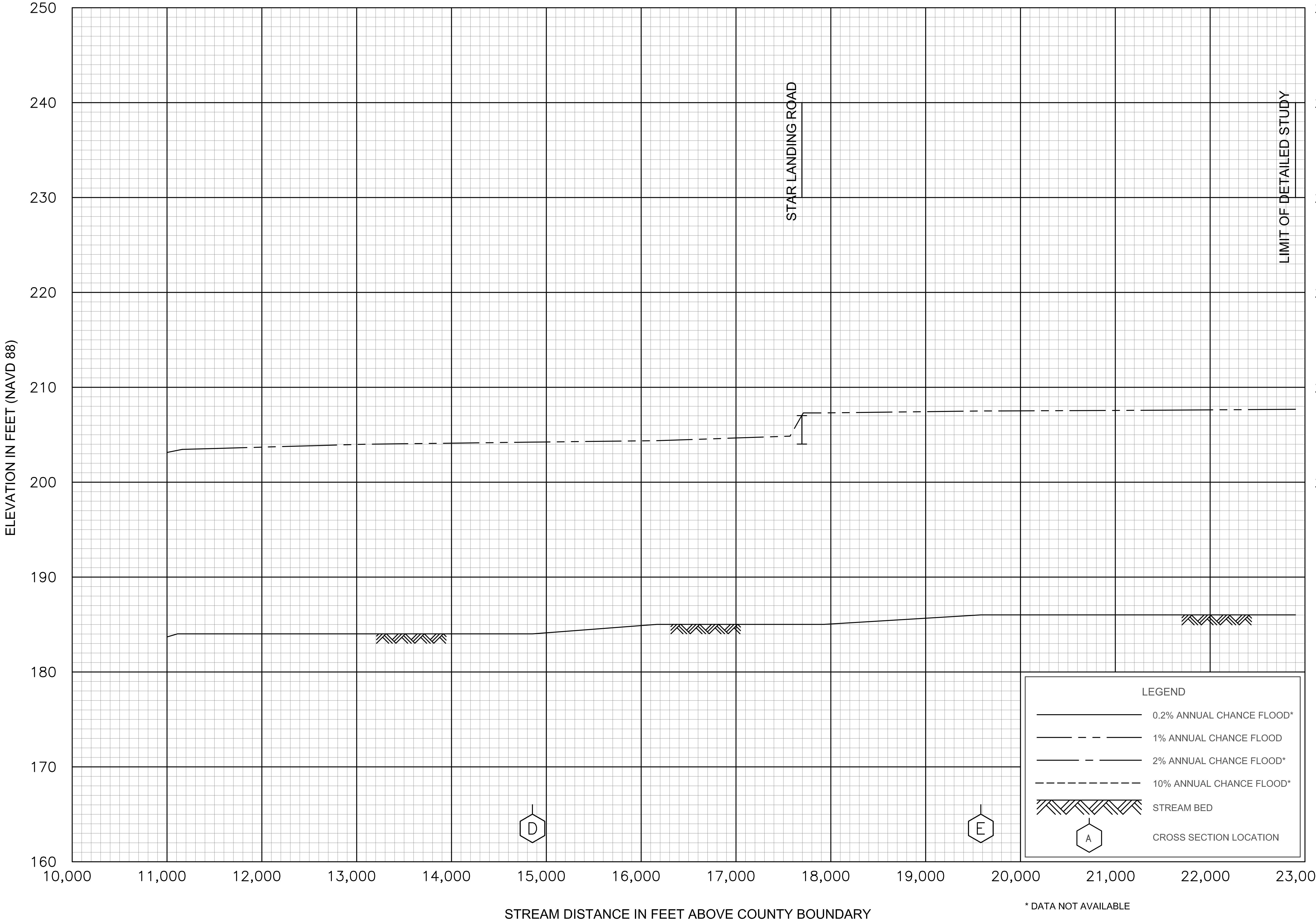
FLOOD PROFILES

LAKE CORMORANT BAYOU

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



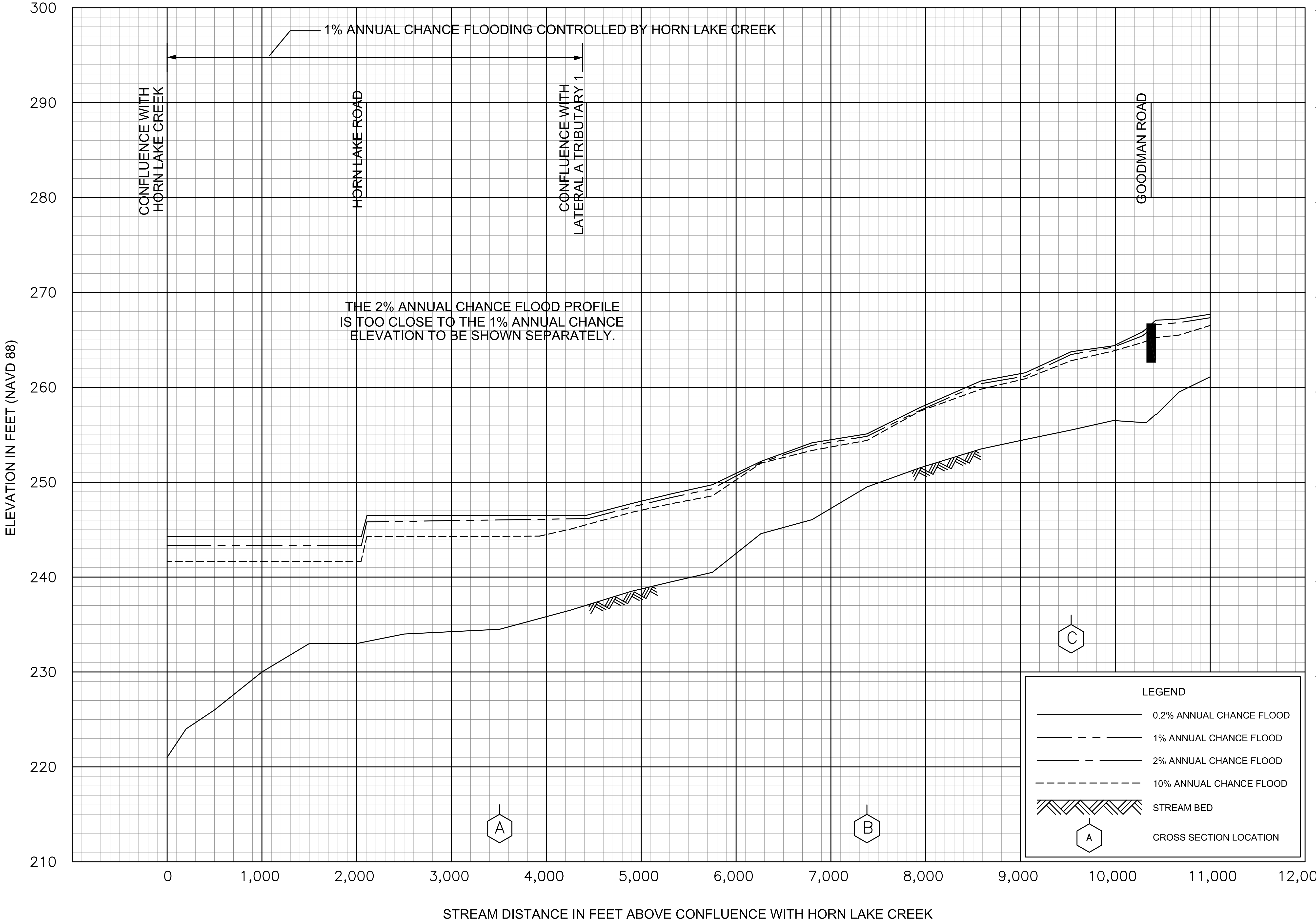
FLOOD PROFILES

LAKE CORMORANT BAYOU

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



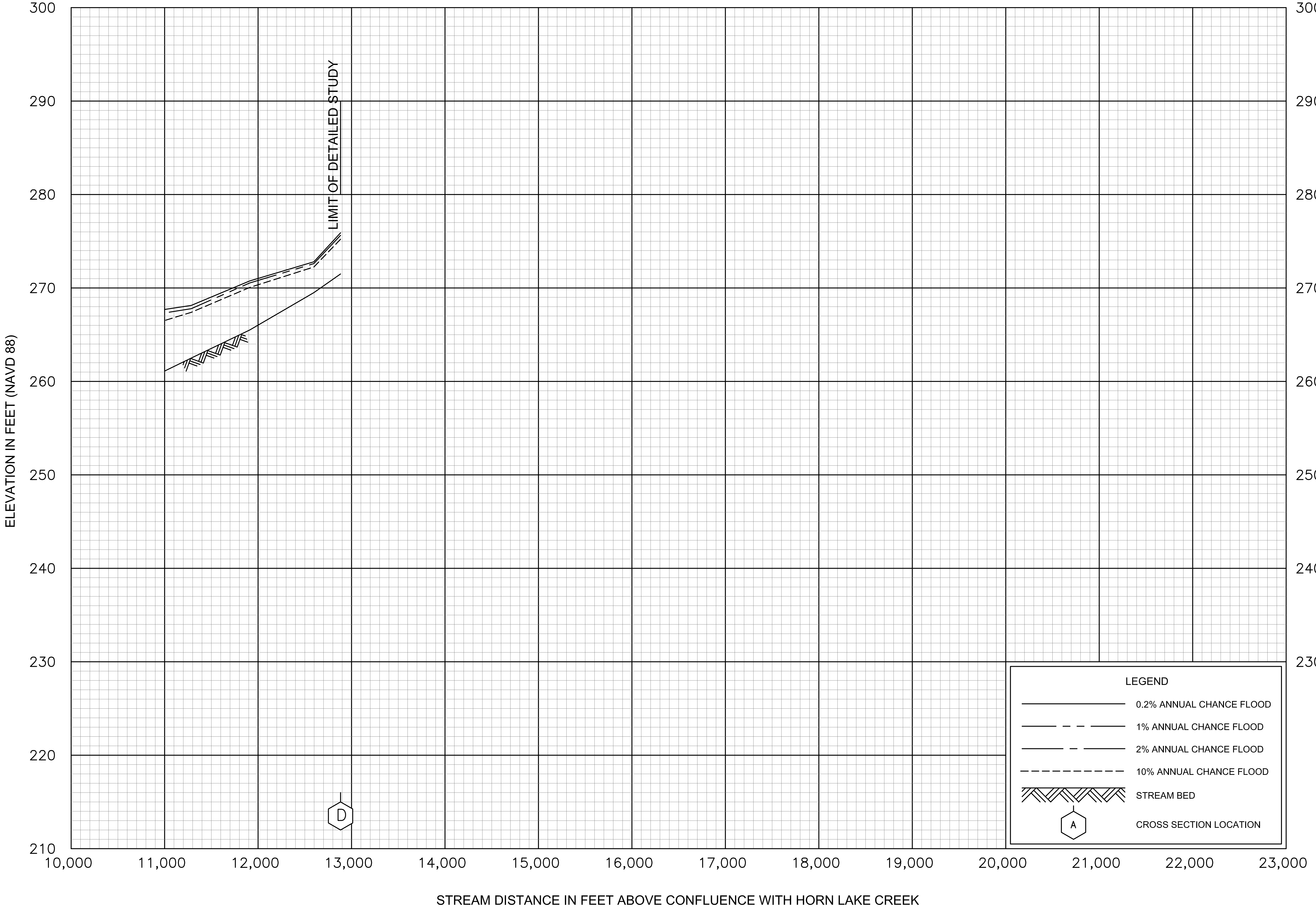
FLOOD PROFILES

LATERAL A

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

95P

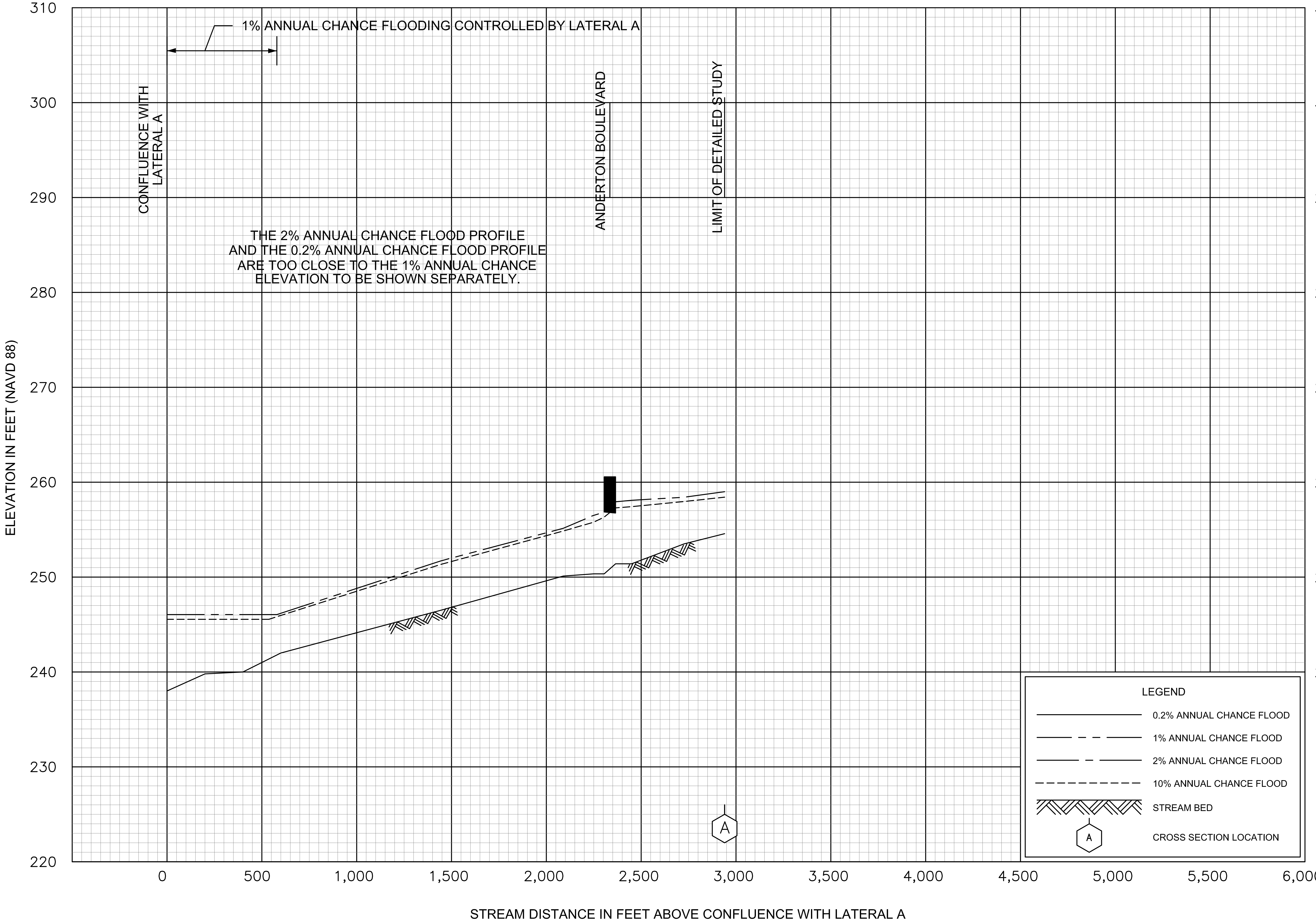


FLOOD PROFILES

LATERAL A

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

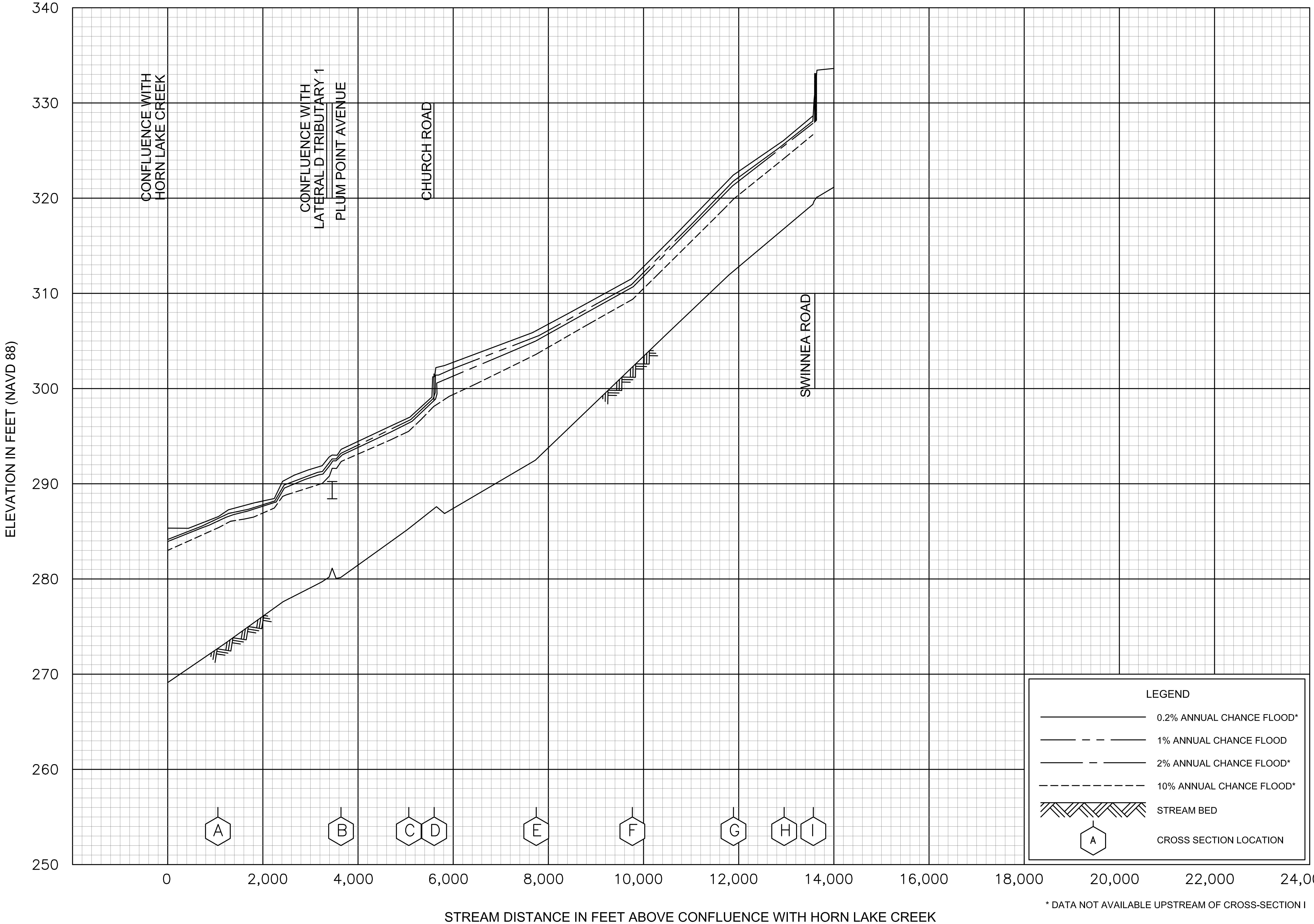


FLOOD PROFILES

LATERAL A TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



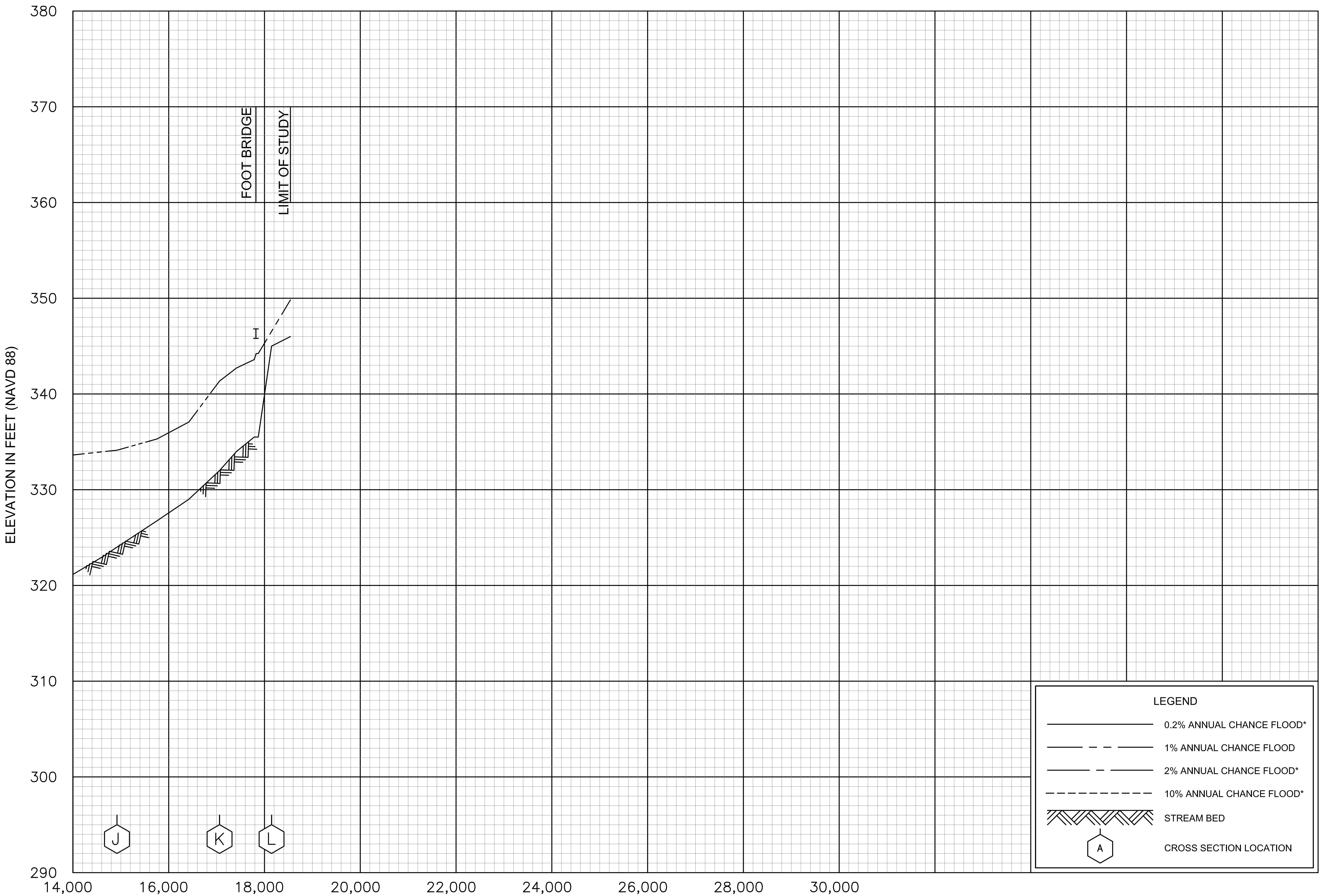
FLOOD PROFILES

LATERAL D

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH HORN LAKE CREEK

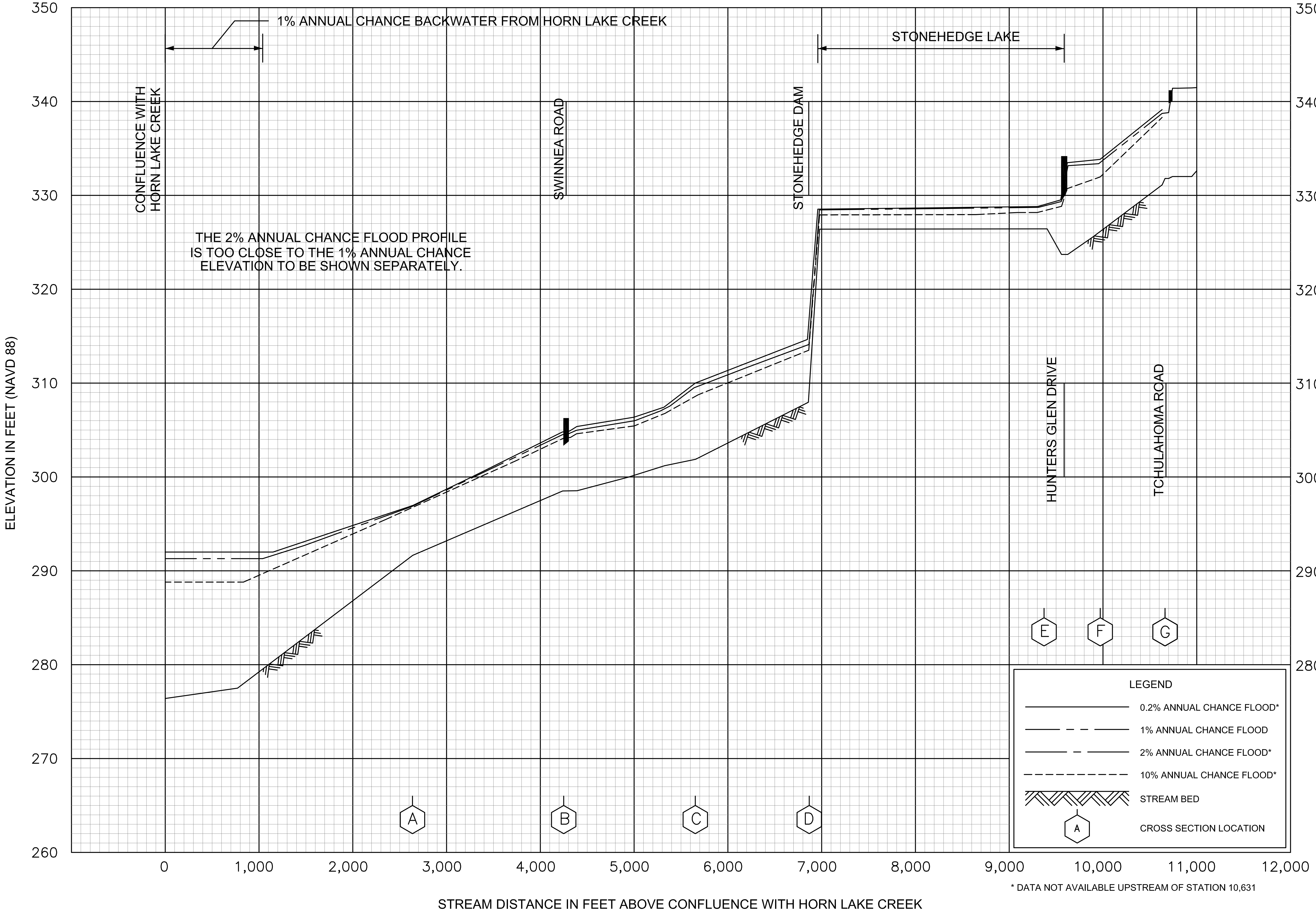
* DATA NOT AVAILABLE

FLOOD PROFILES

LATERAL D

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



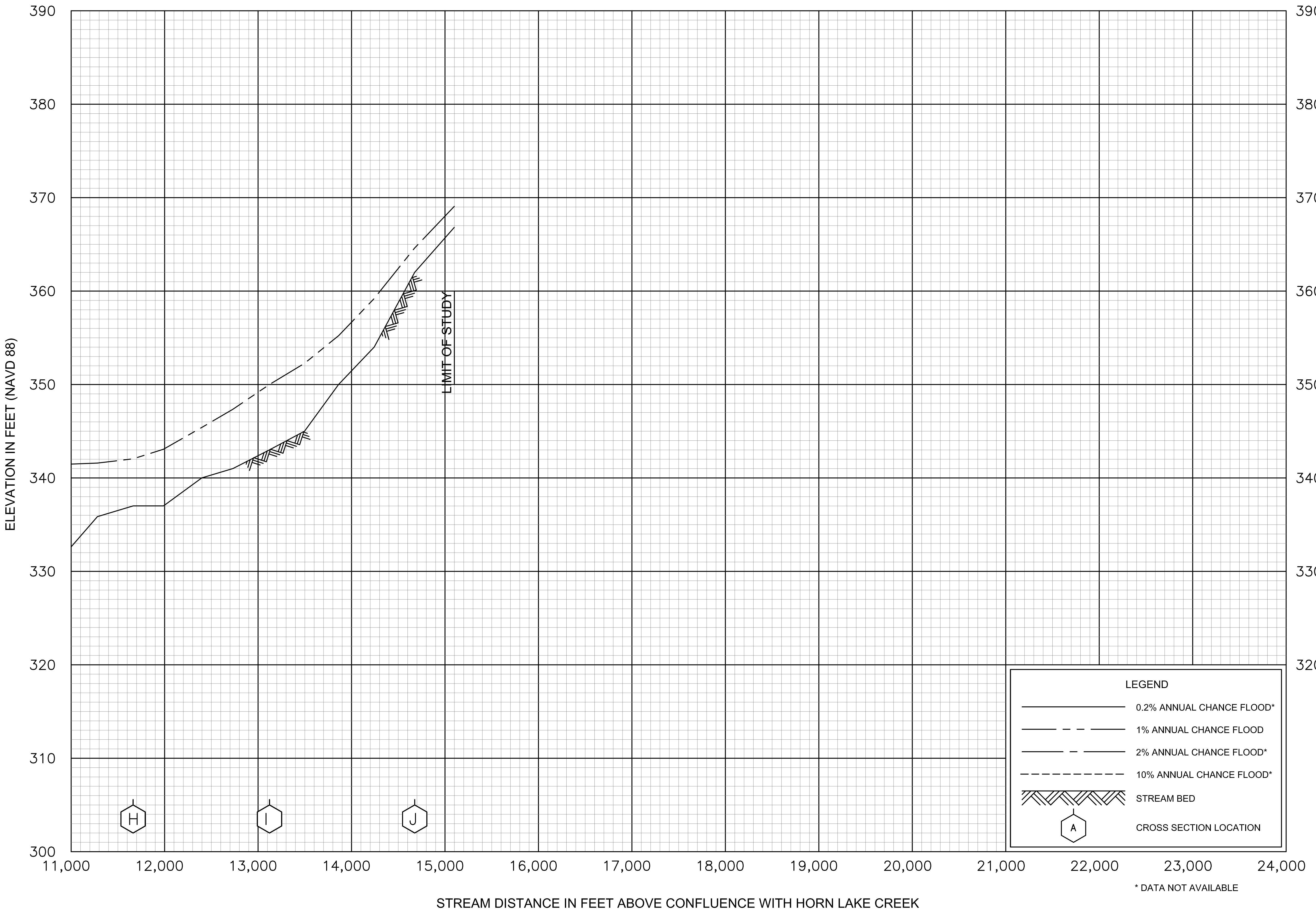
FLOOD PROFILES

LATERAL E

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY
AND INCORPORATED AREAS

100P



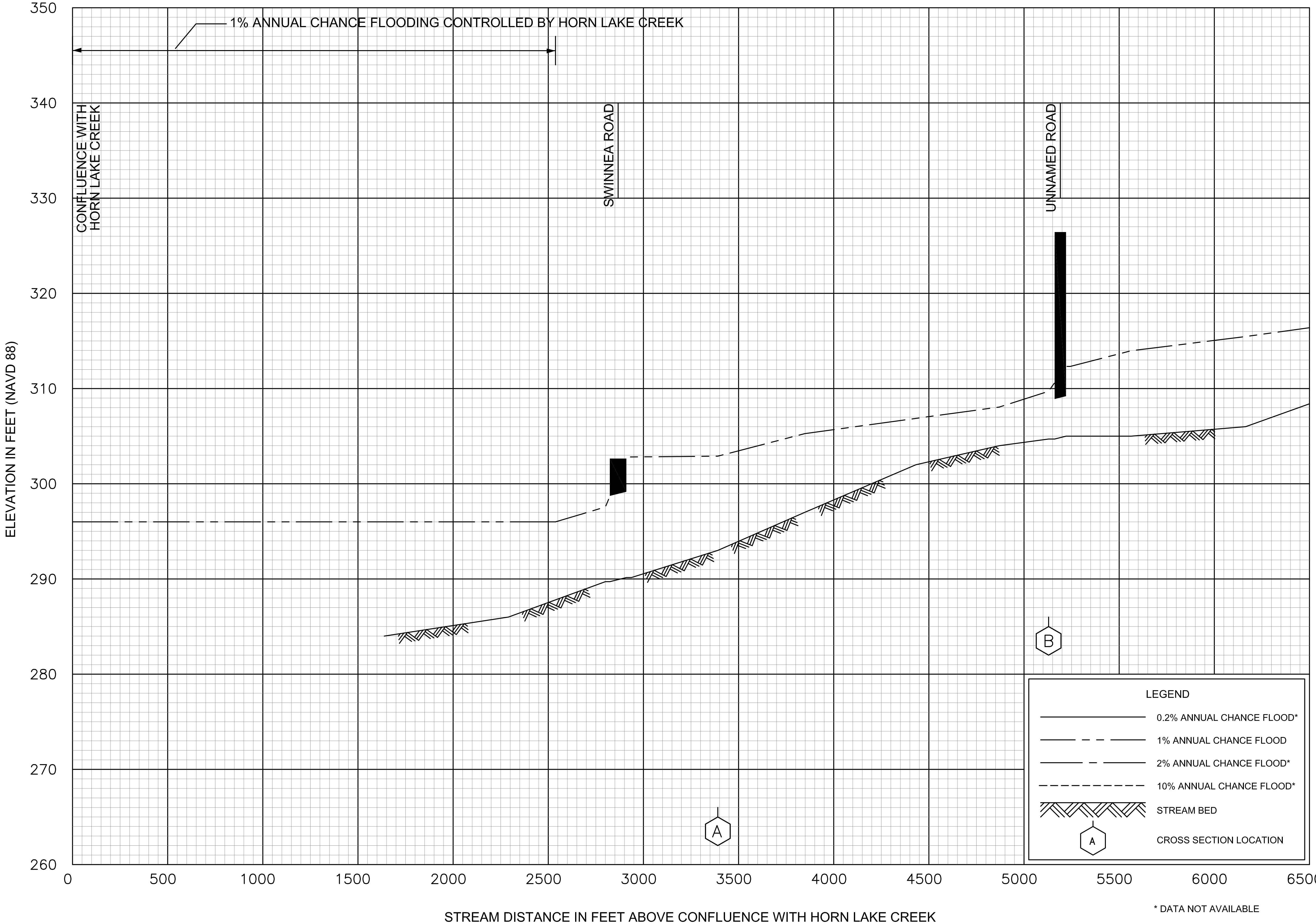
FLOOD PROFILES

LATERAL E

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY

AND INCORPORATED AREAS



FLOOD PROFILES

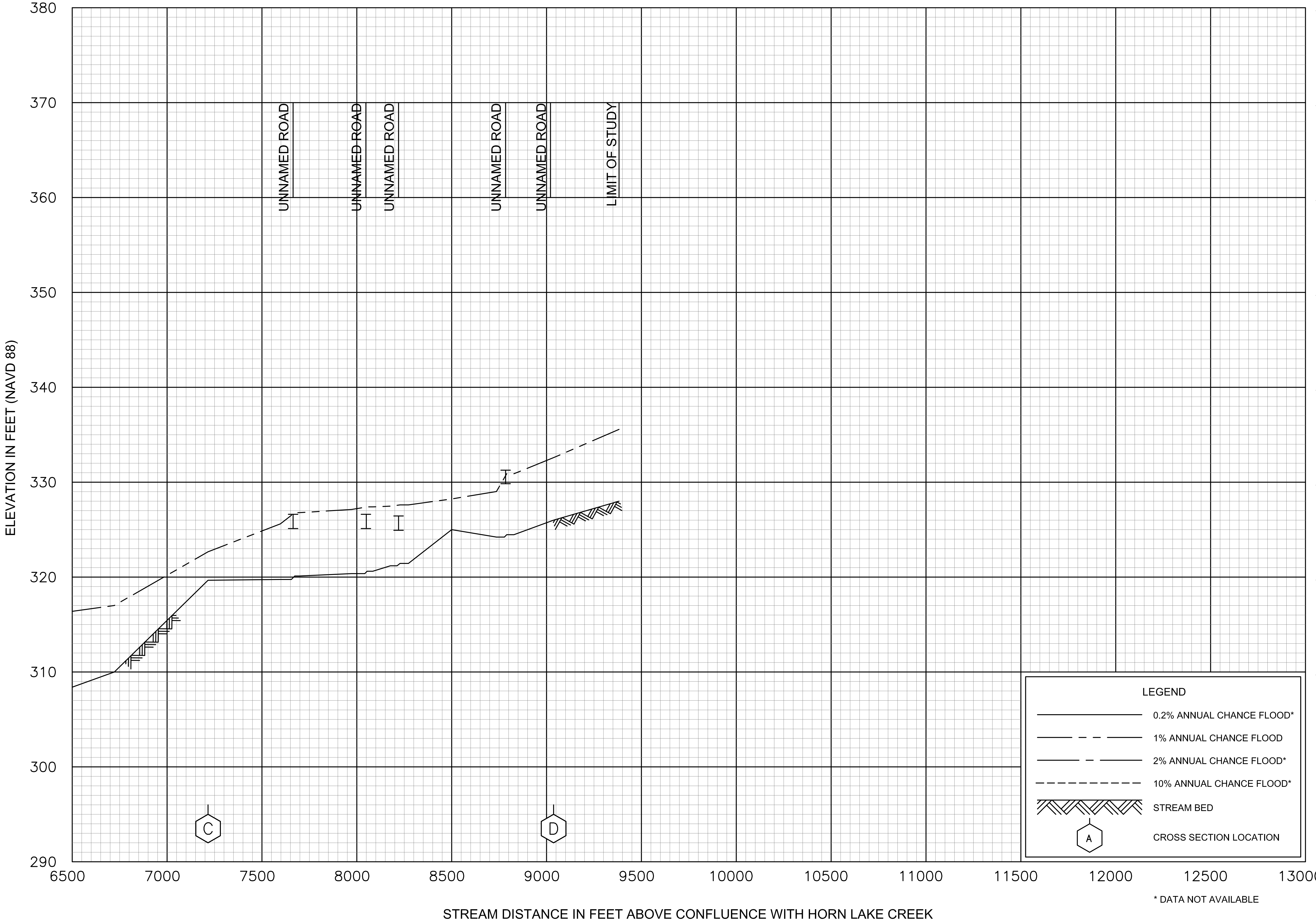
LATERAL F

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

102P



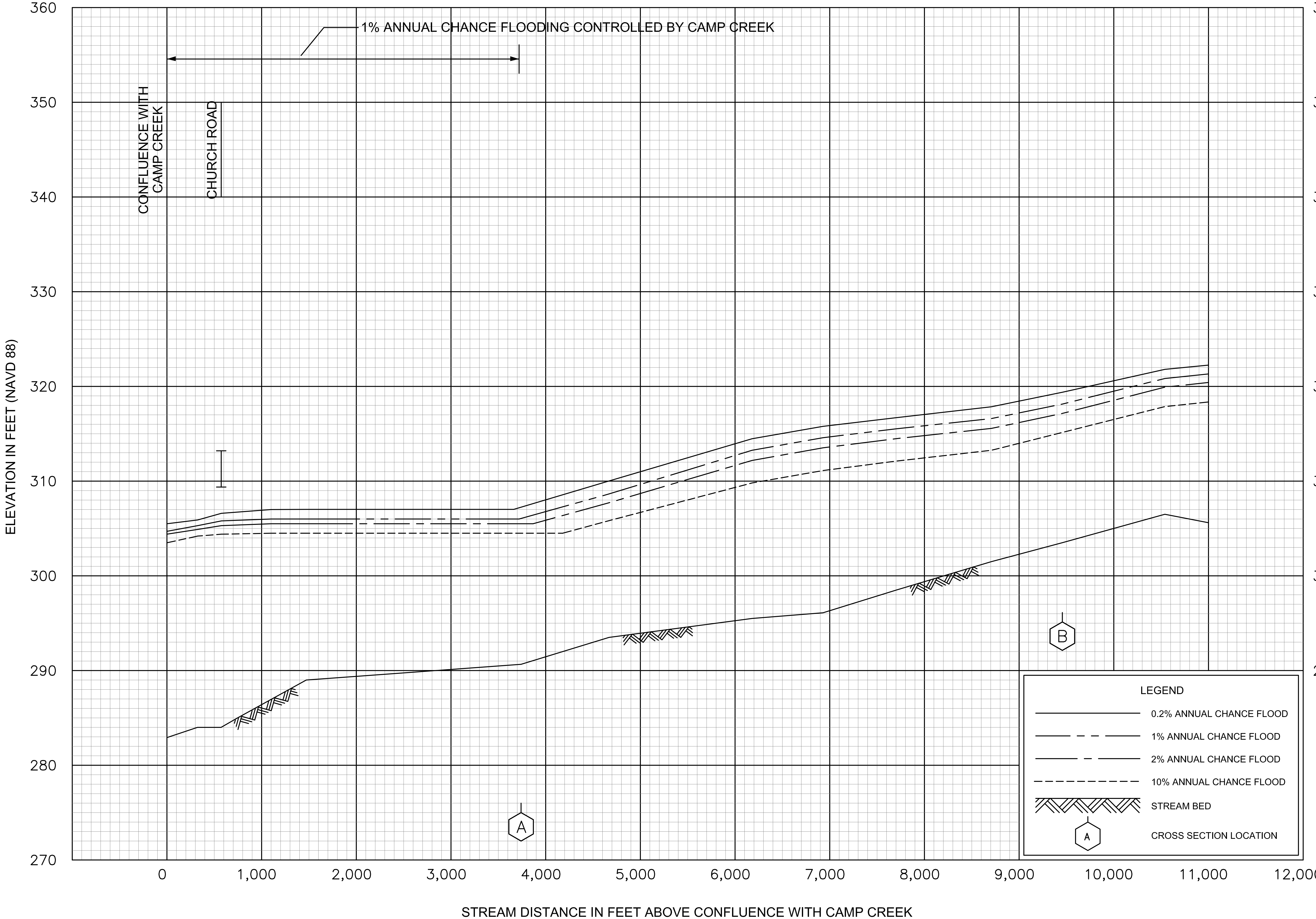
FLOOD PROFILES

LATERAL F

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



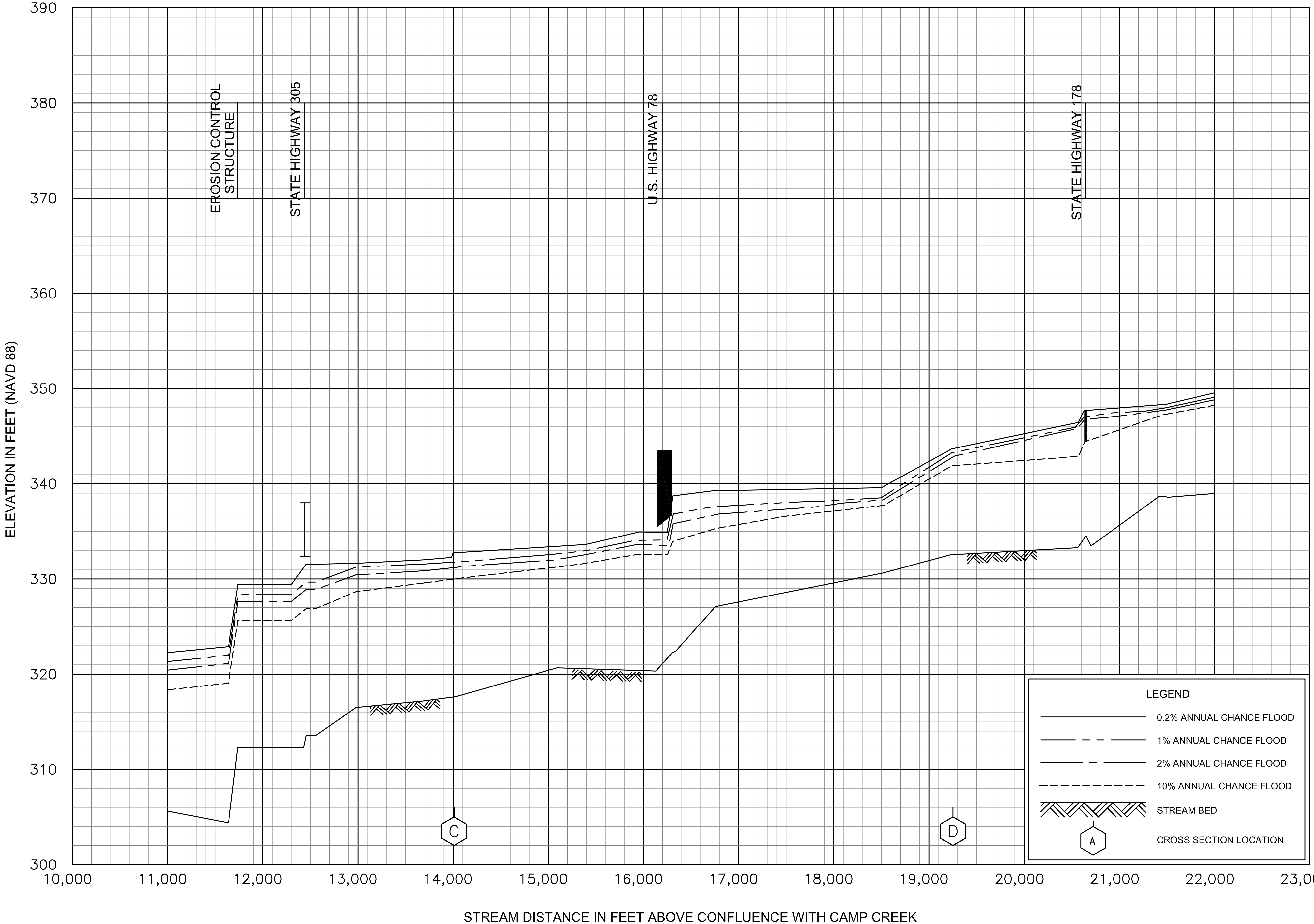
FLOOD PROFILES

LICKS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

104P



FLOOD PROFILES

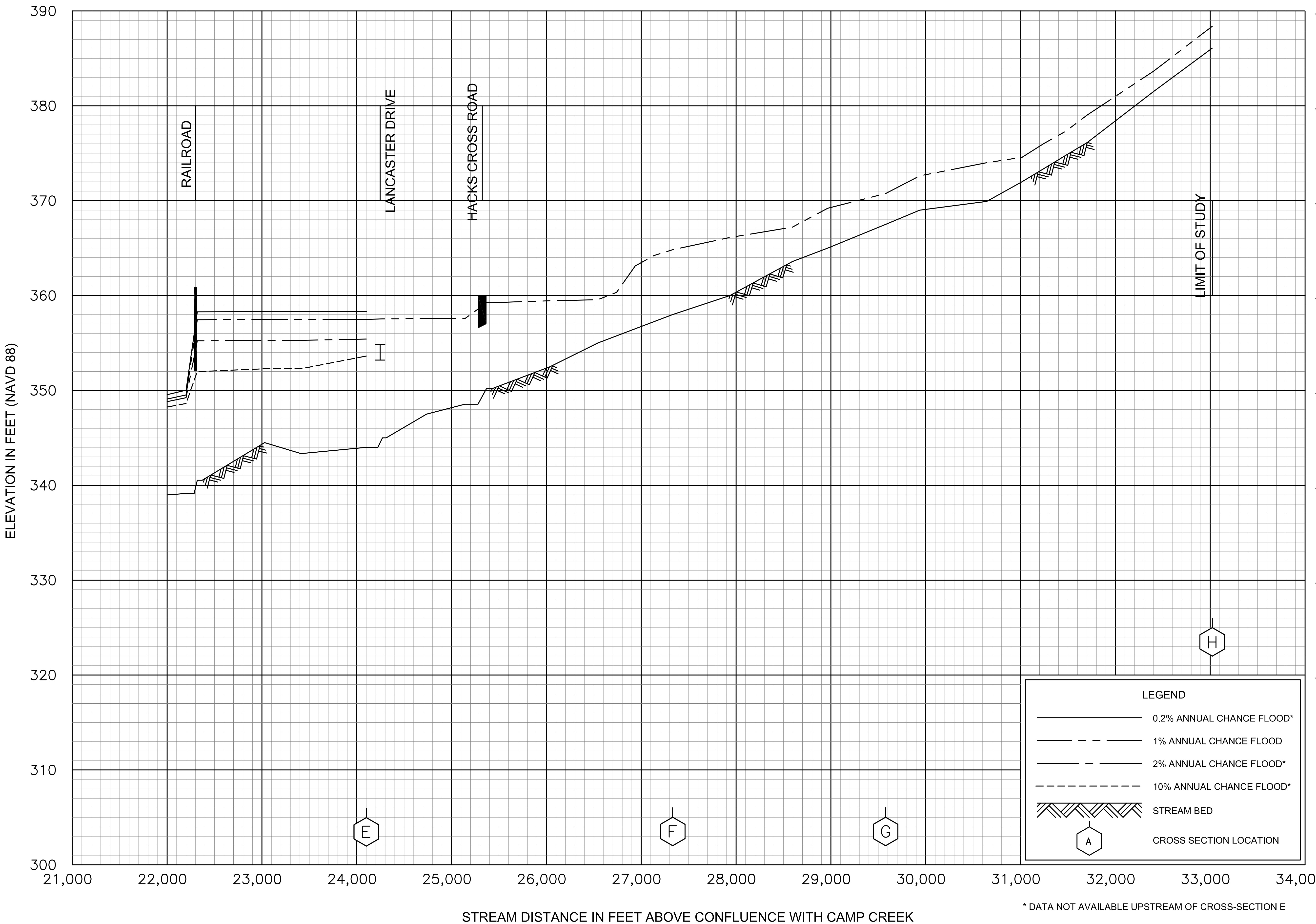
LICKS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

105P



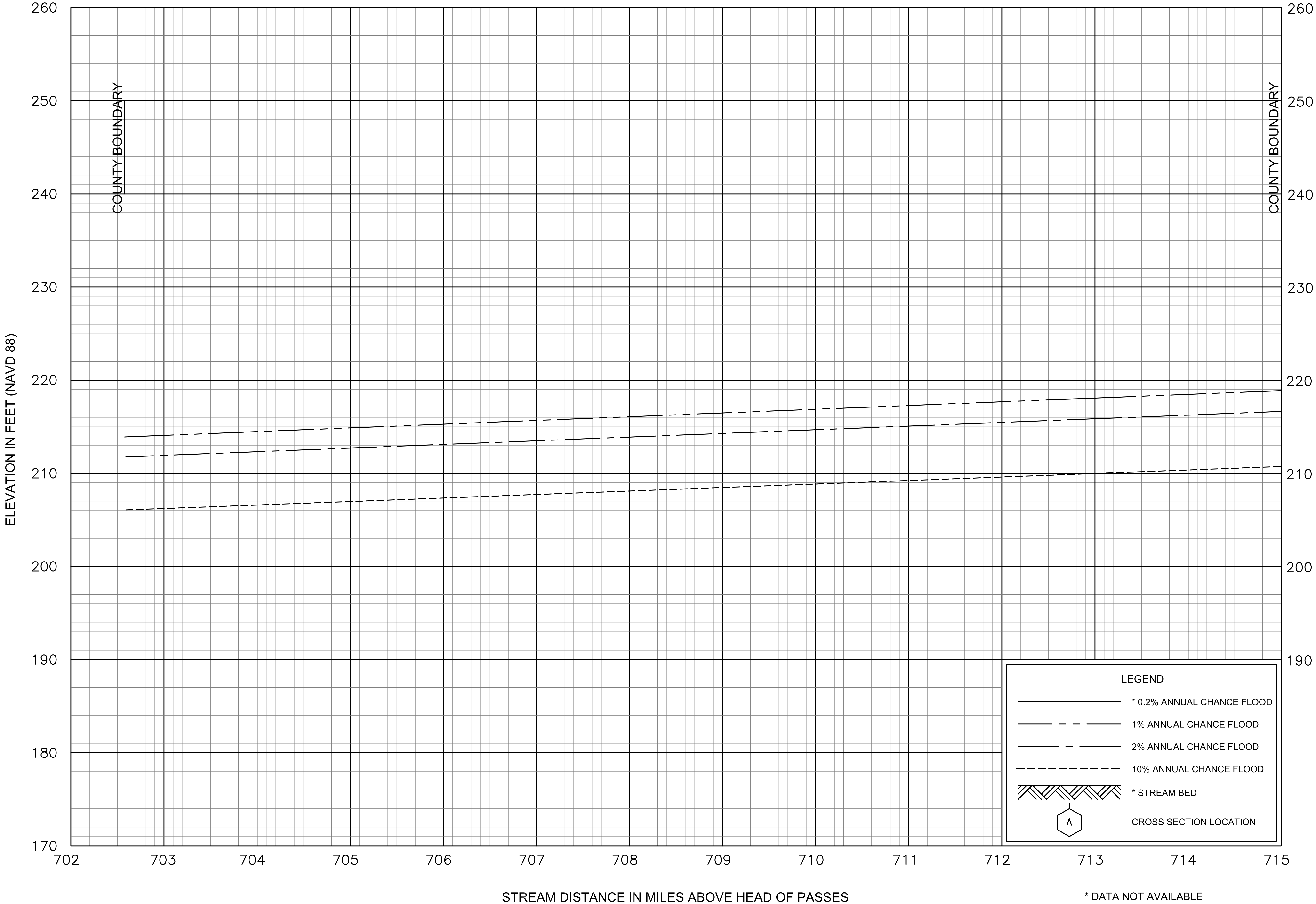
FLOOD PROFILES

LICKS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



* DATA NOT AVAILABLE

FLOOD PROFILES

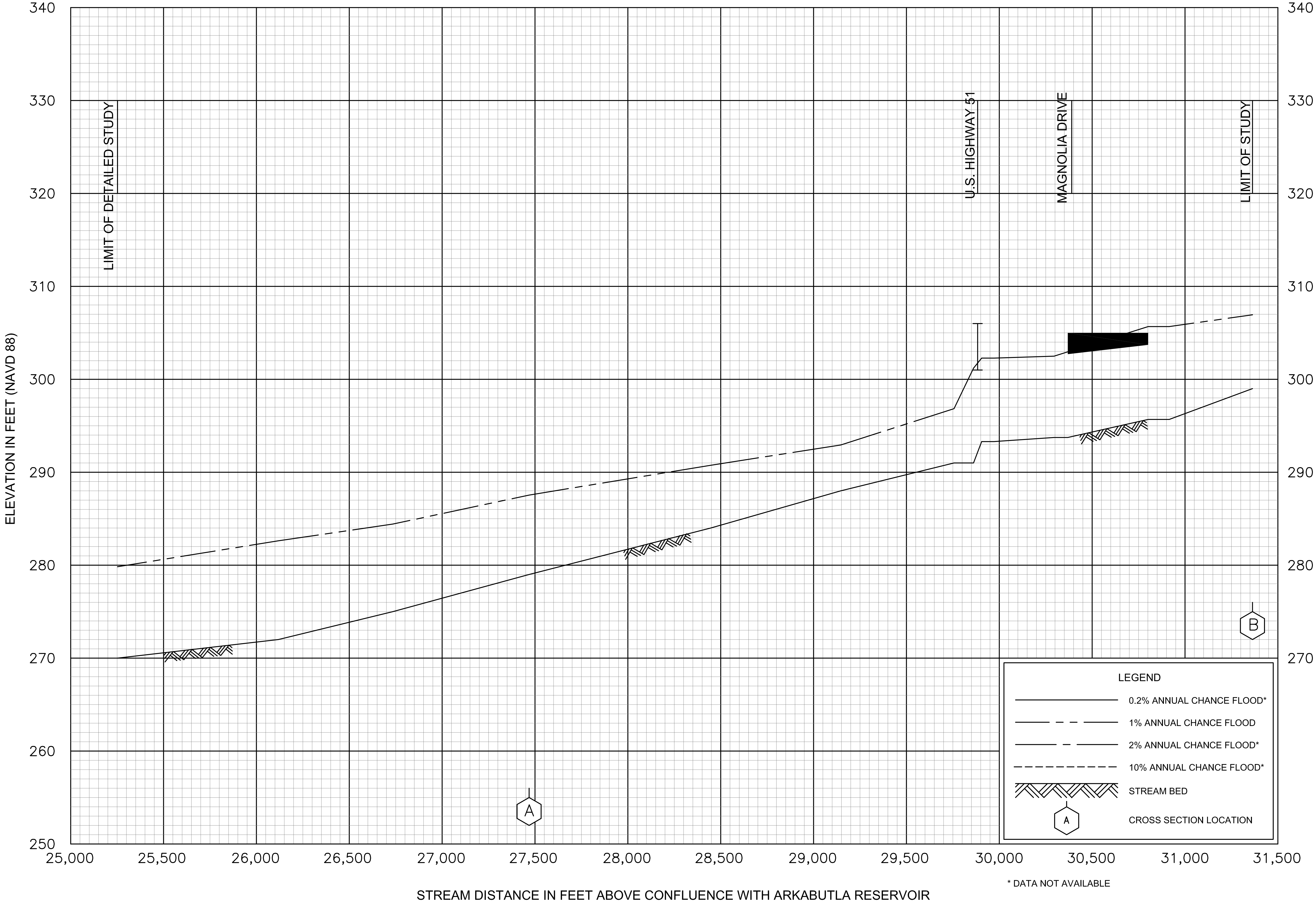
MISSISSIPPI RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

107P



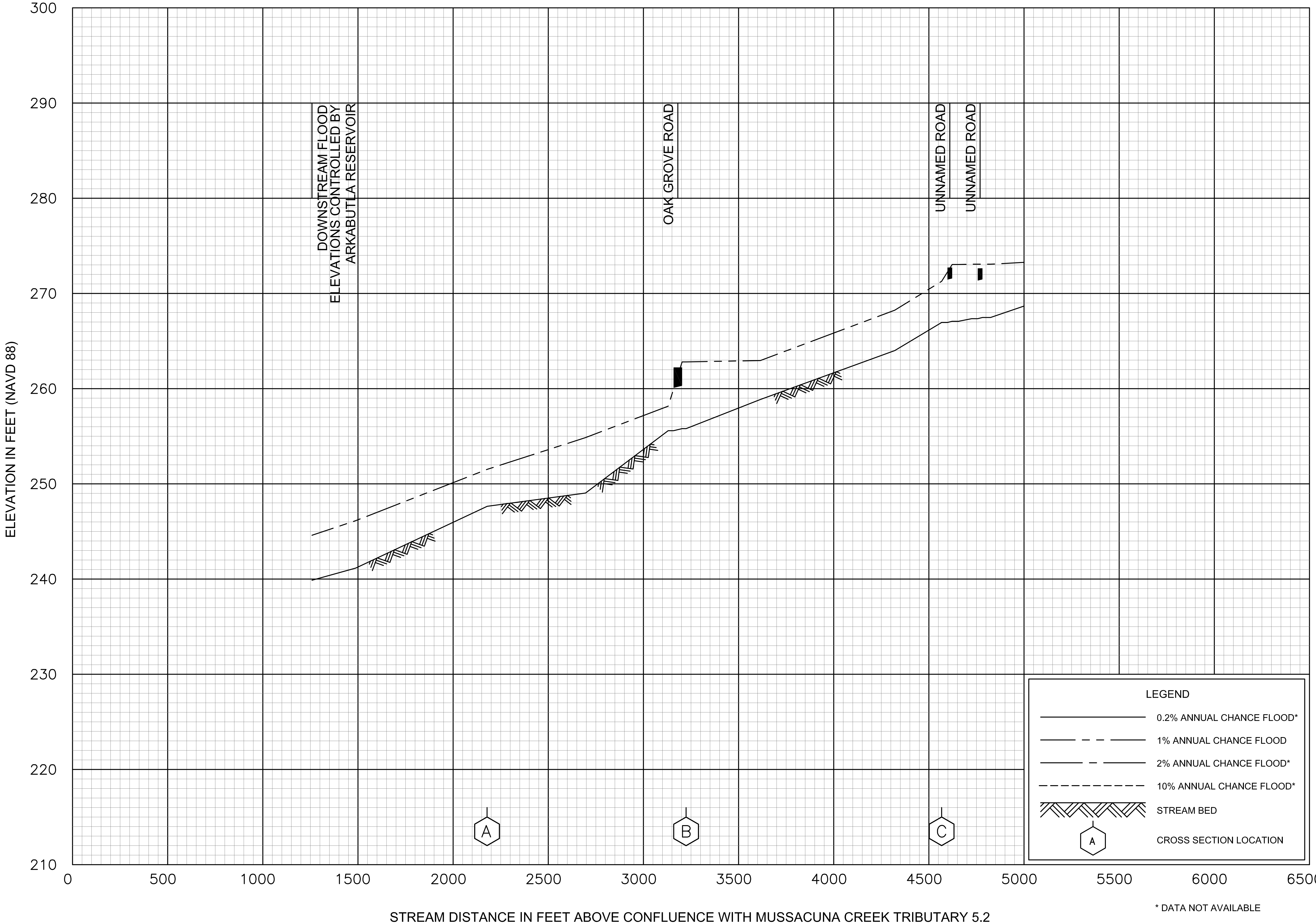
FLOOD PROFILES

MUSSACUNA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



* DATA NOT AVAILABLE

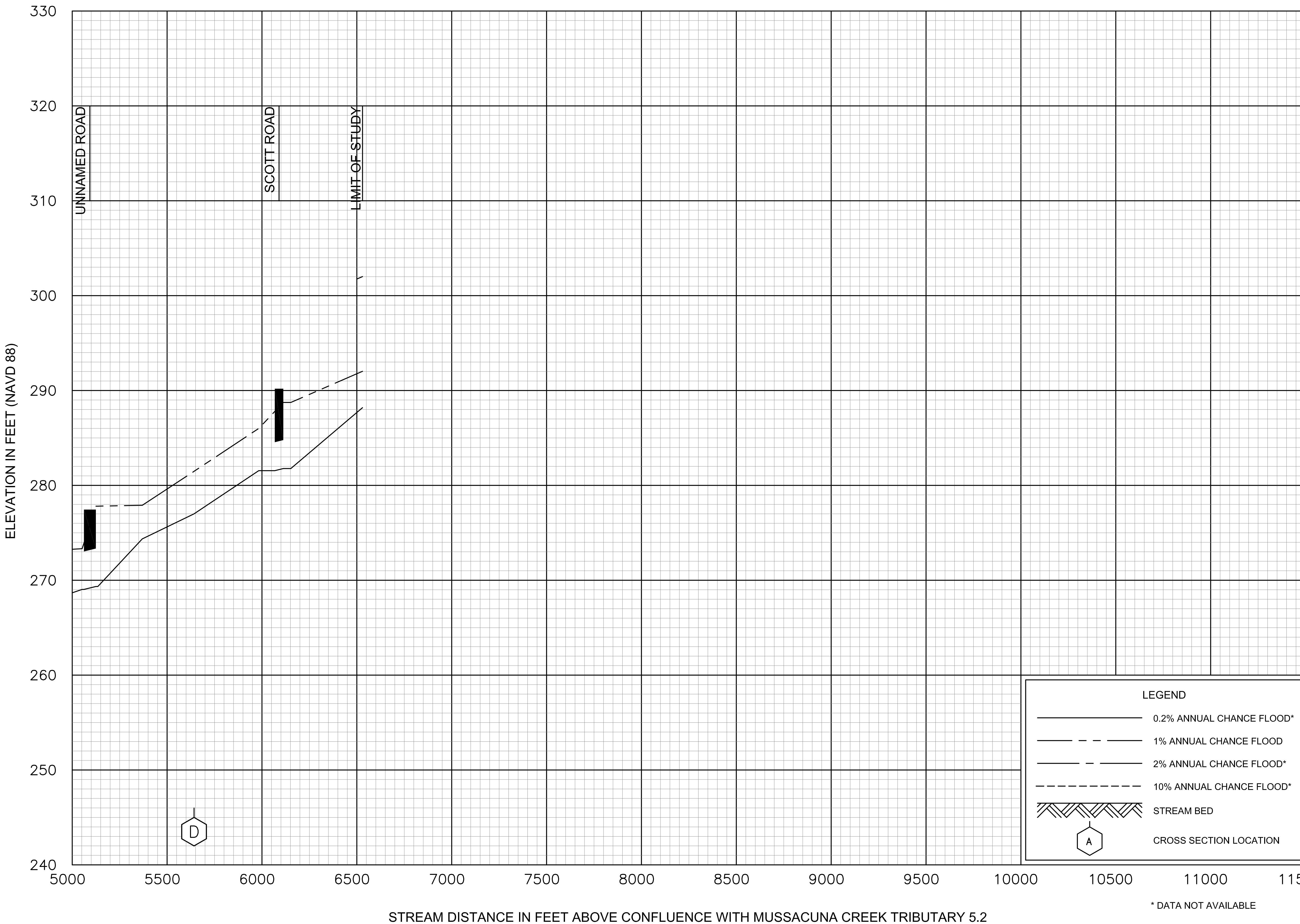
FLOOD PROFILES

MUSSACUNA CREEK TRIBUTARY 5.2.1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



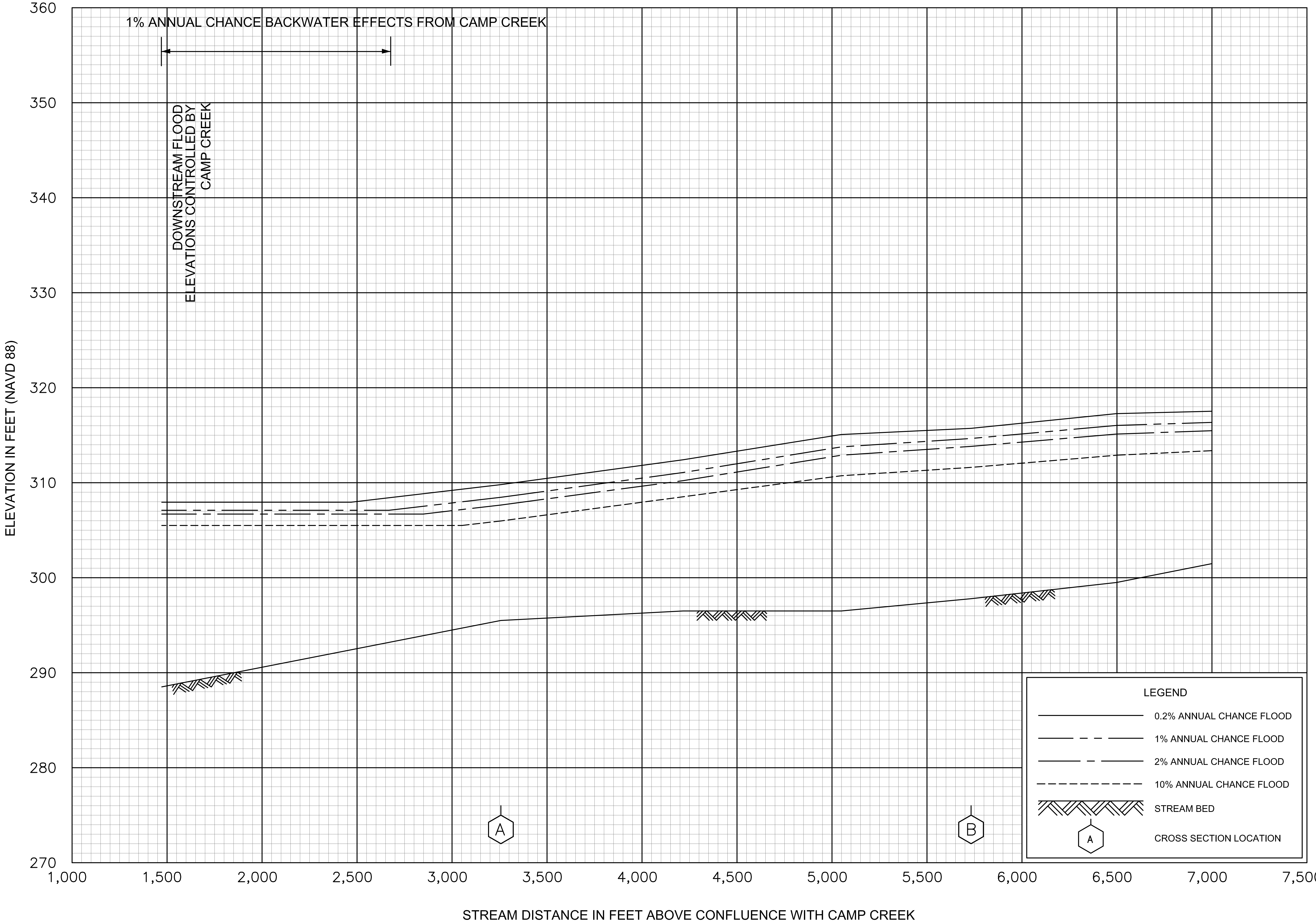
FLOOD PROFILES

MUSSACUNA CREEK TRIBUTARY 5.2.1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

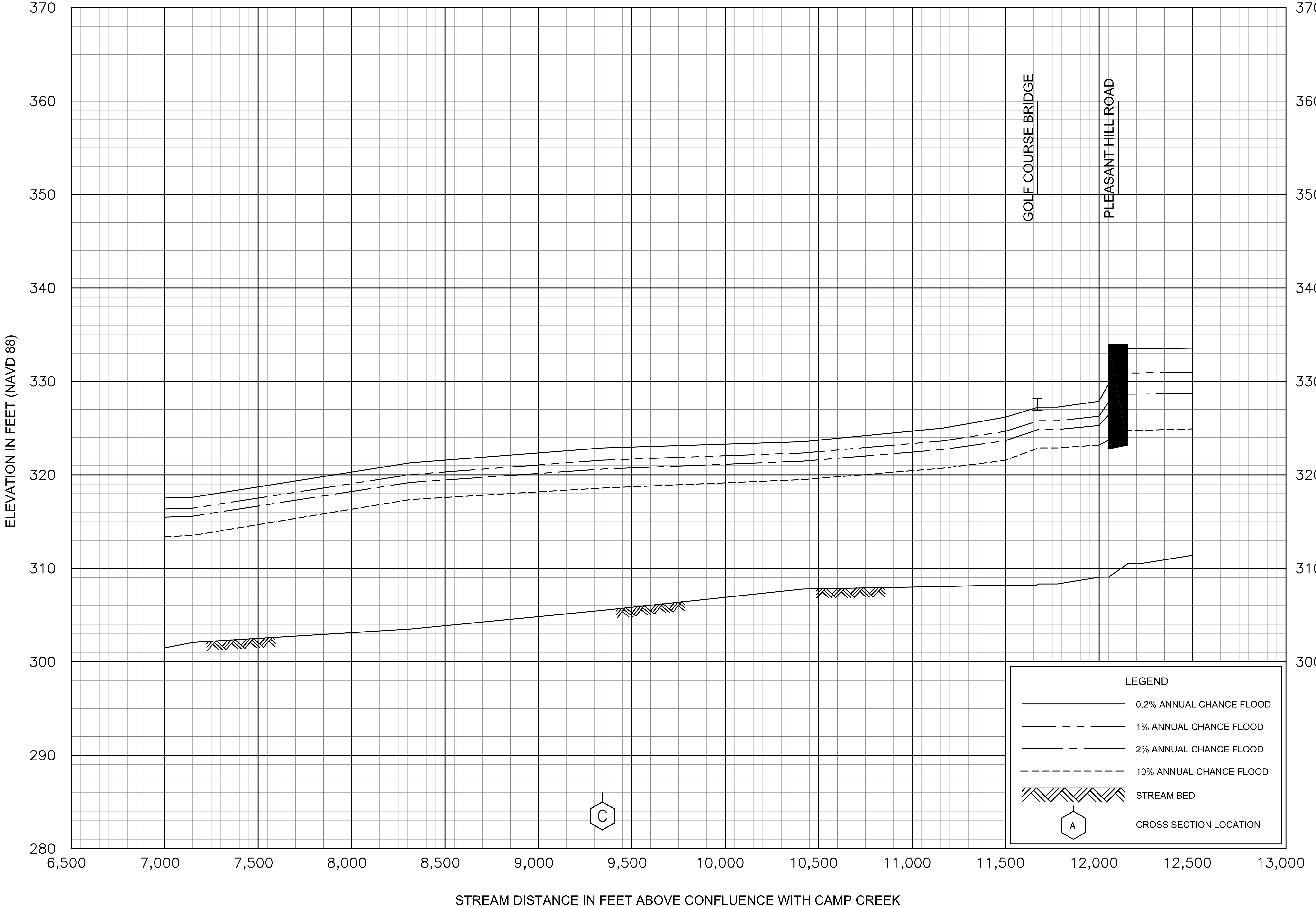


FLOOD PROFILES

NOLEHOE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



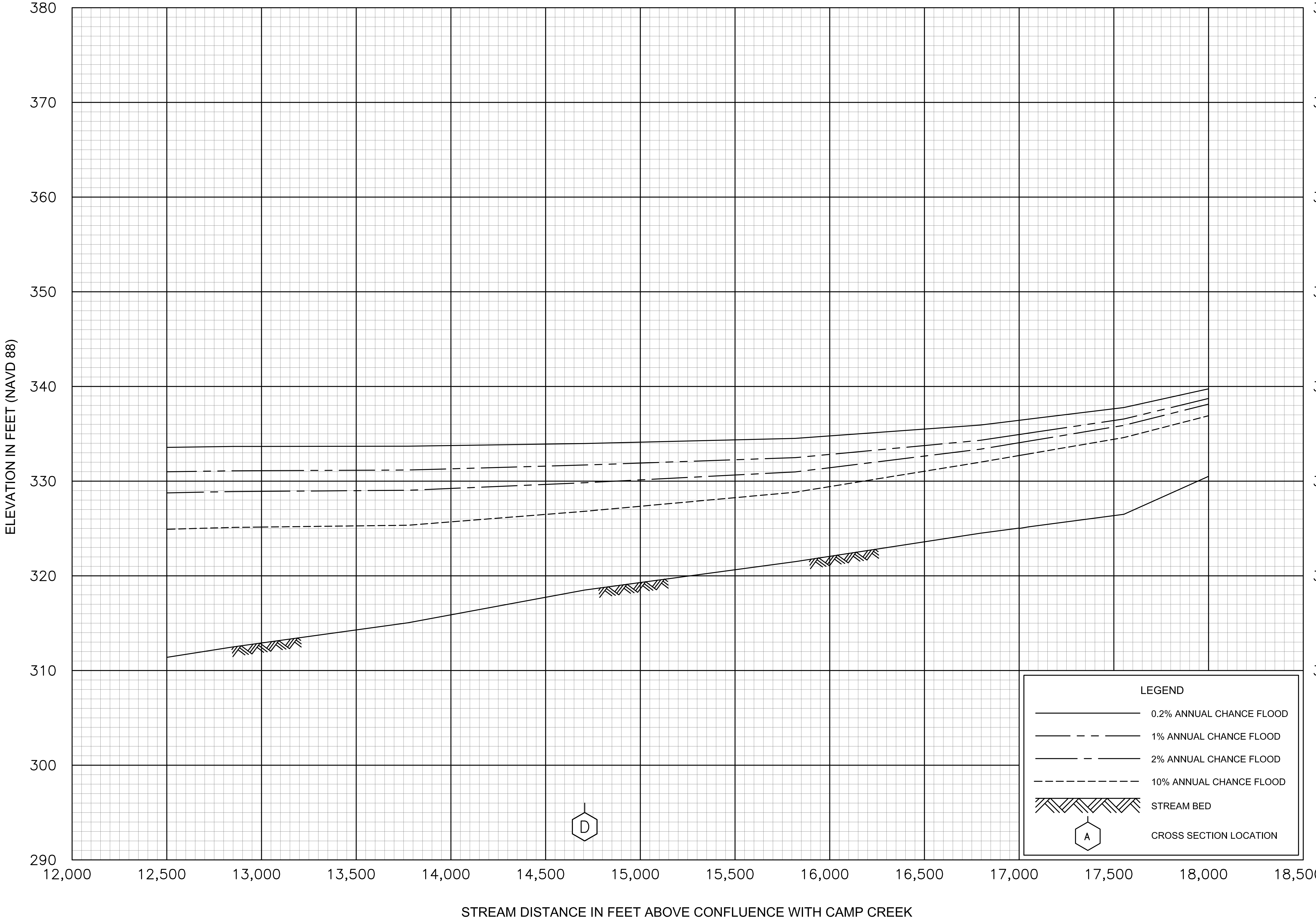
FLOOD PROFILES

NOLEHOE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

112P



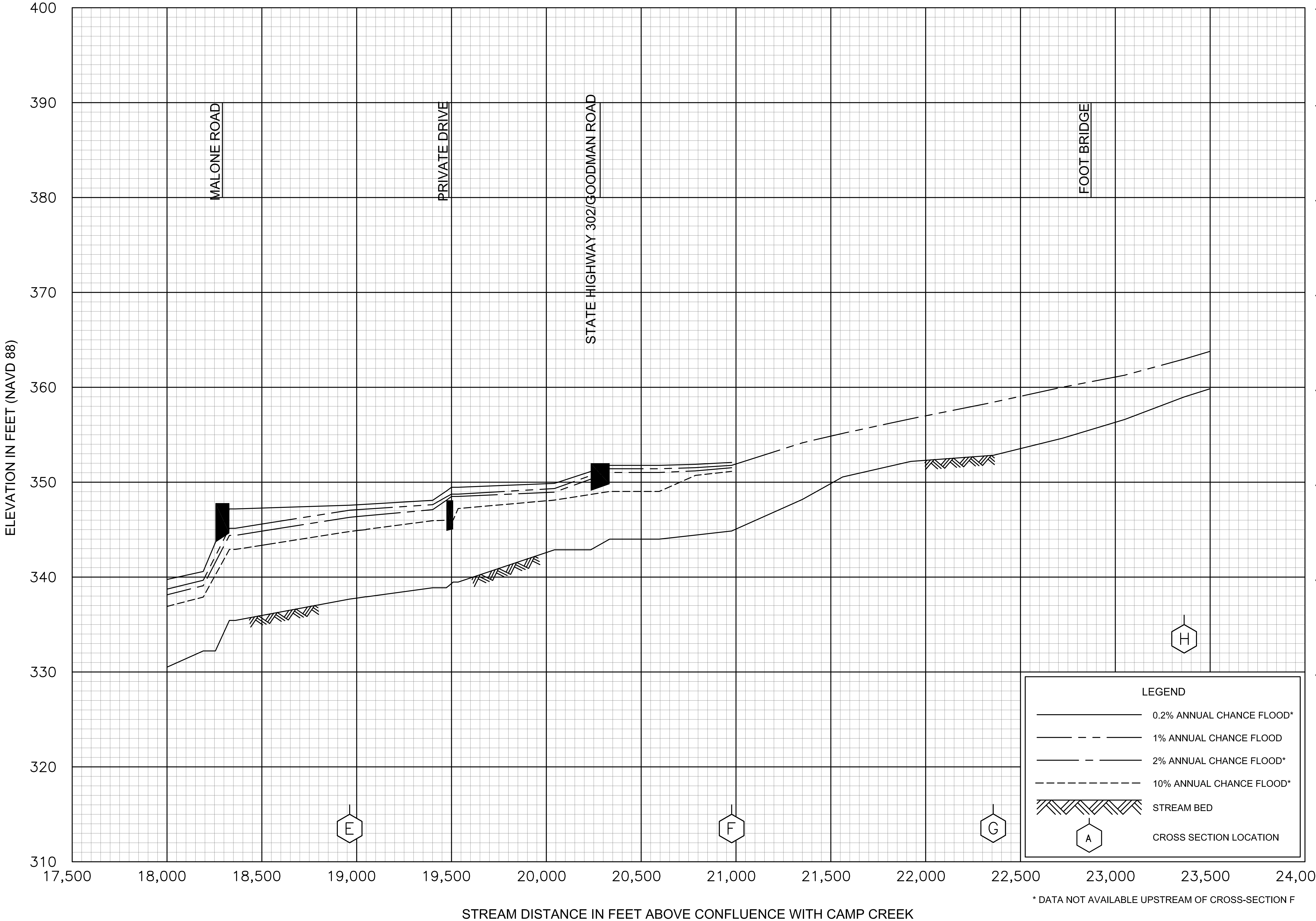
FLOOD PROFILES

NOLEHOE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



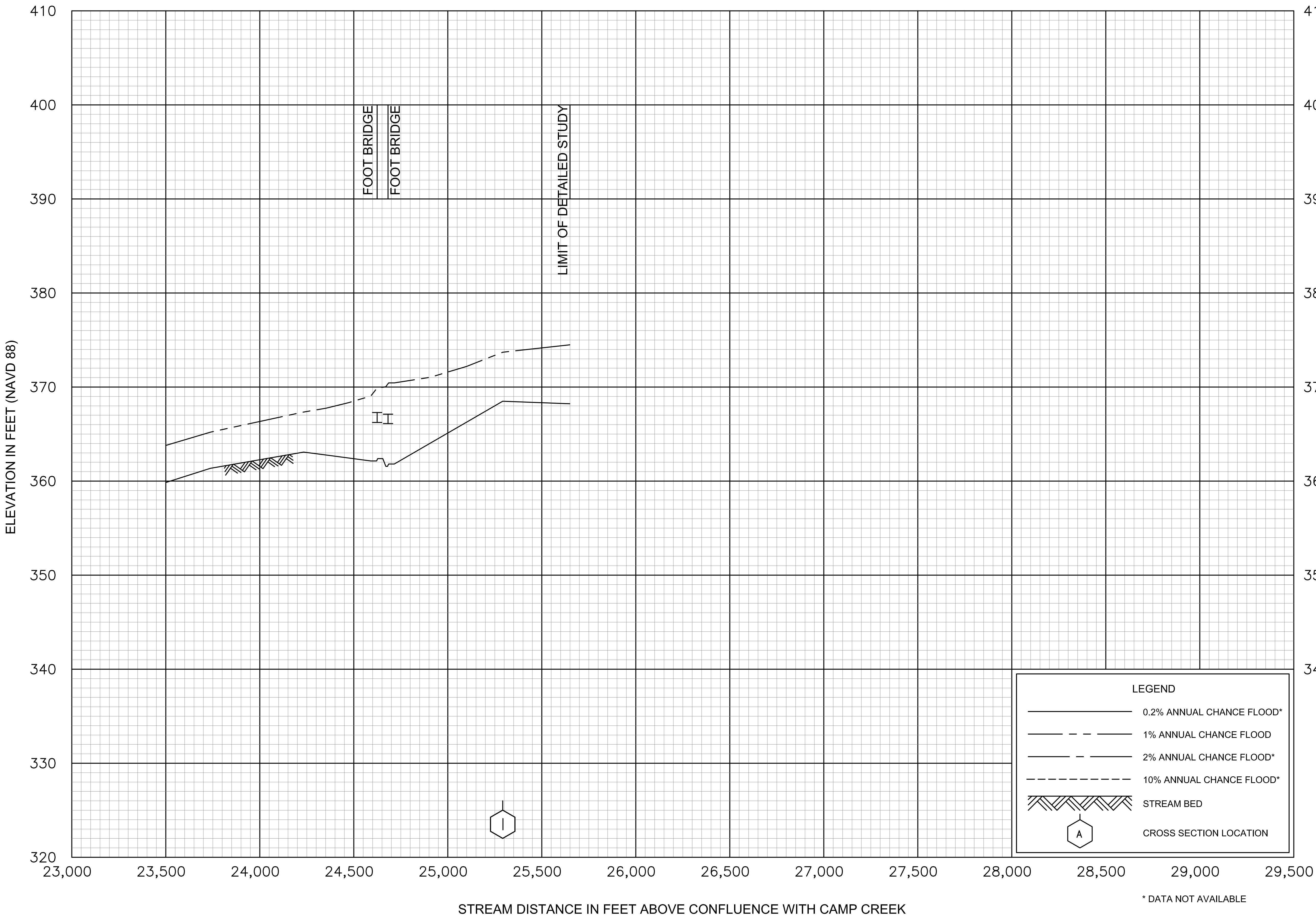
FLOOD PROFILES

NOLEHOE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

114P



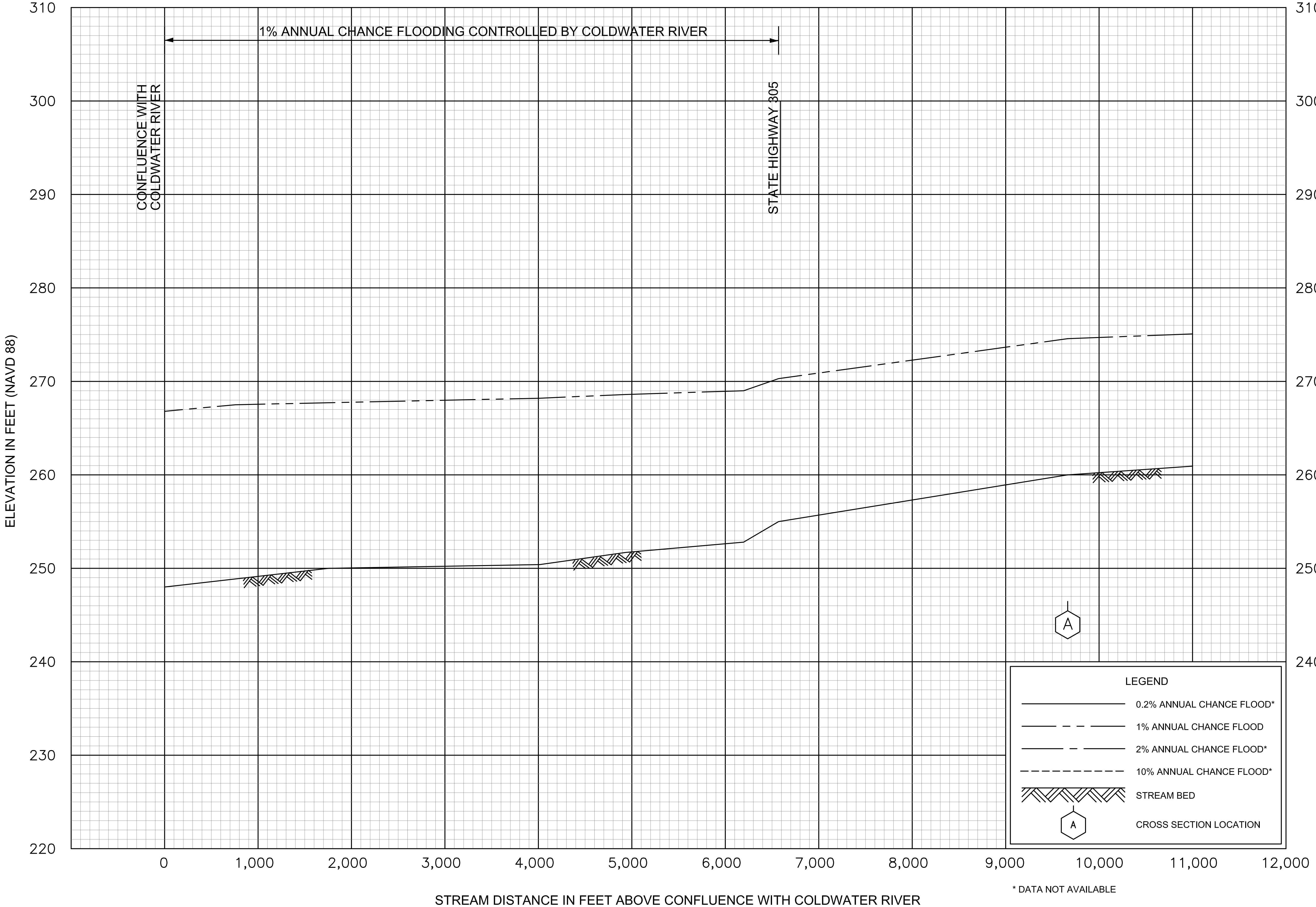
FLOOD PROFILES

NOLEHOE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

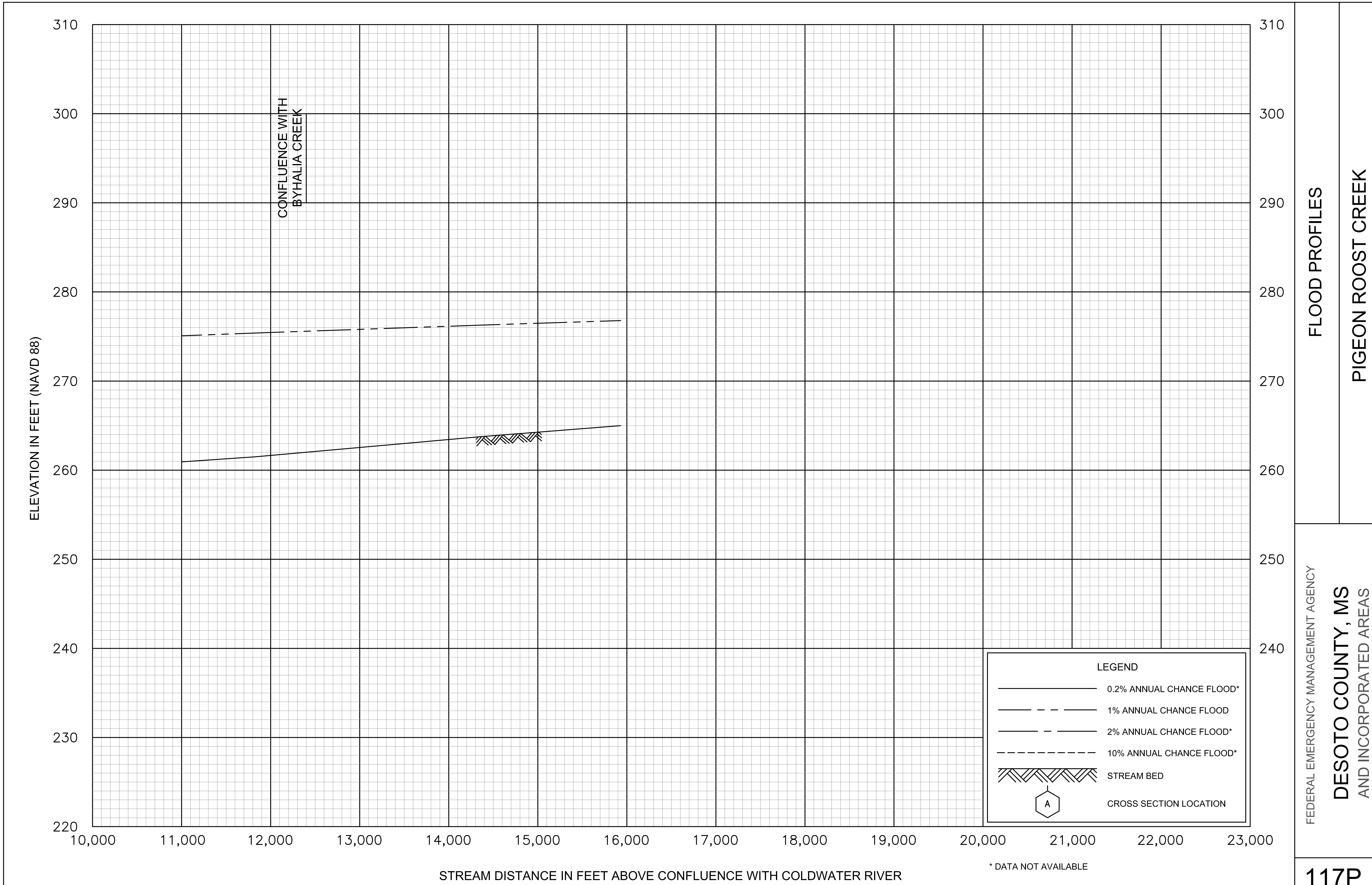


FLOOD PROFILES

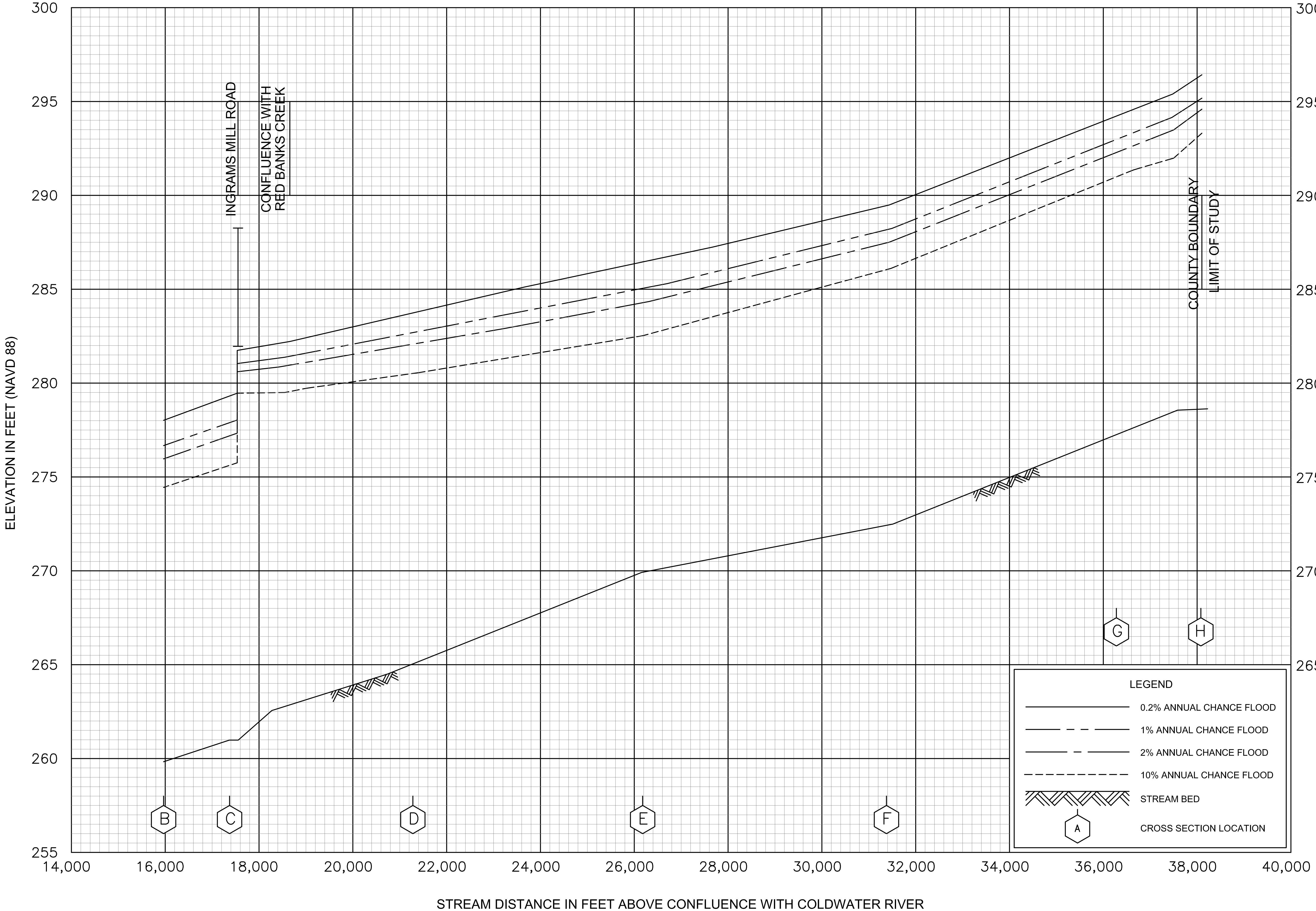
PIGEON ROOST CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS AND INCORPORATED AREAS



ELEVATION IN FEET (NAVD 88)
310
300
290
280
270
260
250
240
230
220
10,000
11,000
12,000
13,000
14,000
15,000
16,000
17,000
18,000
19,000
20,000
21,000
22,000
23,000
STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH COLDWATER RIVER
CONFLUENCE WITH BYHALIA CREEK
LEGEND
0.2% ANNUAL CHANCE FLOOD*
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD*
10% ANNUAL CHANCE FLOOD*
STREAM BED
A
CROSS SECTION LOCATION
* DATA NOT AVAILABLE
FLOOD PROFILES
PIGEON ROOST CREEK
FEDERAL EMERGENCY MANAGEMENT AGENCY
DESOTO COUNTY, MS
AND INCORPORATED AREAS

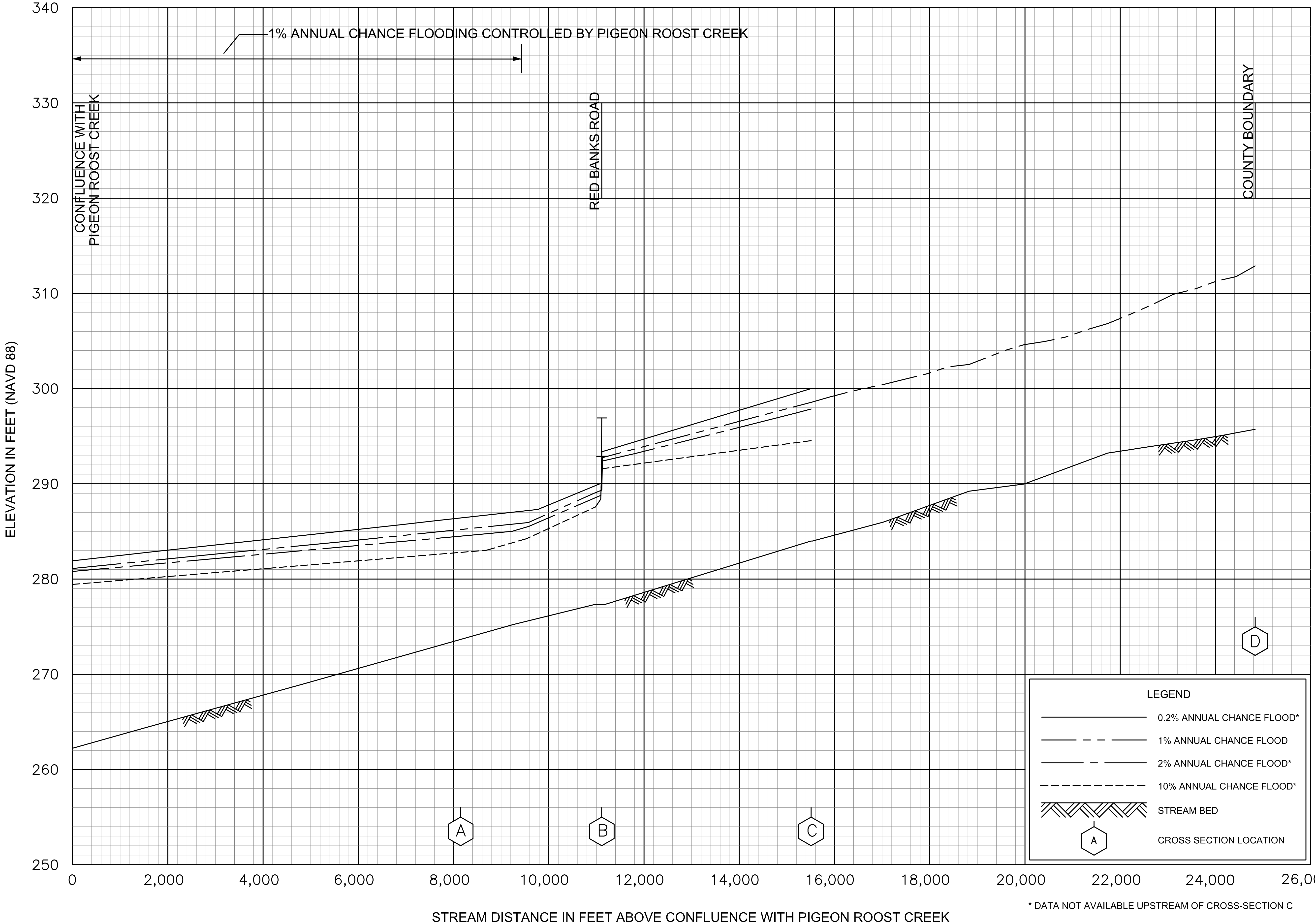


FLOOD PROFILES

PIGEON ROOST CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



* DATA NOT AVAILABLE UPSTREAM OF CROSS-SECTION C

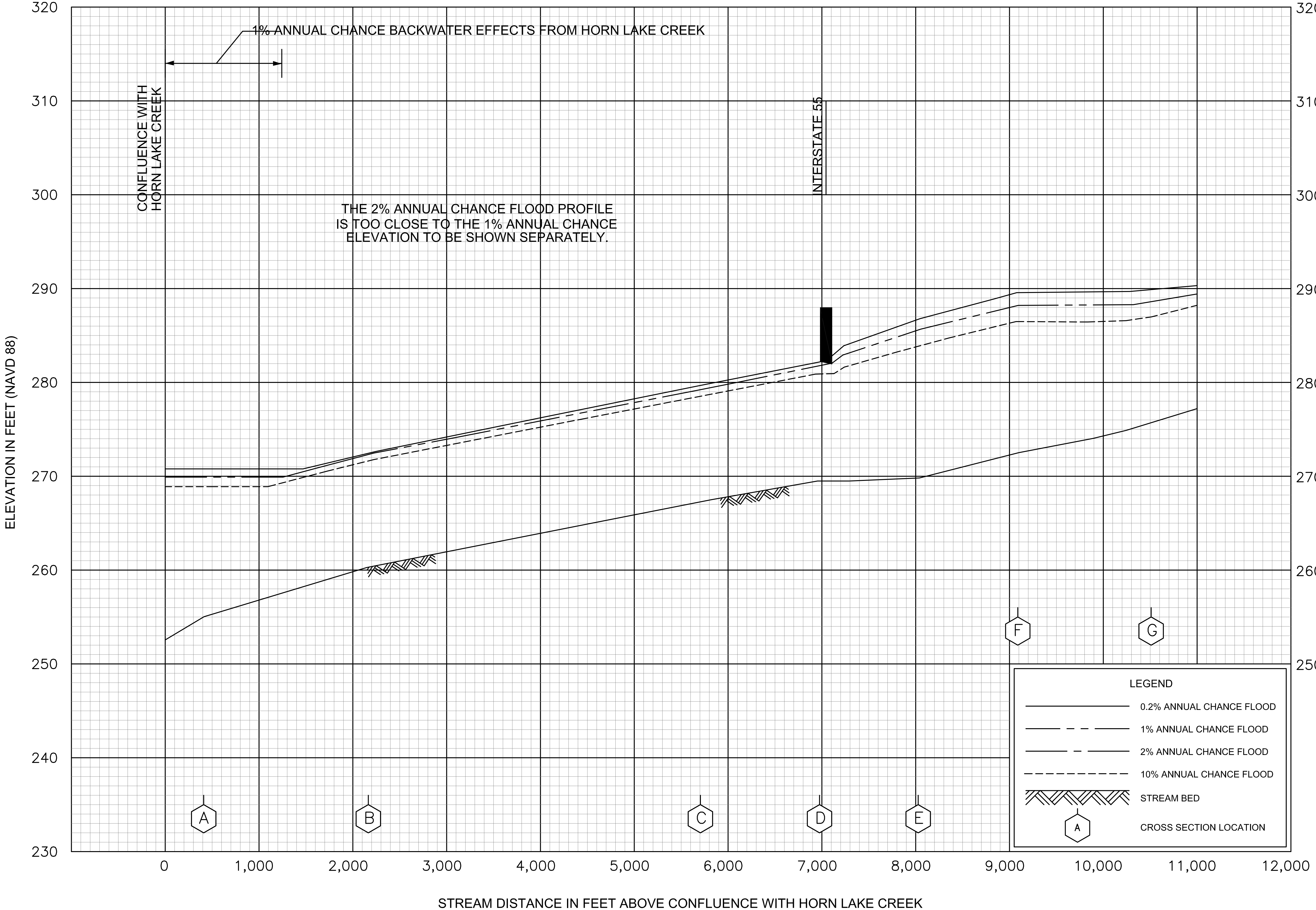
FLOOD PROFILES

RED BANKS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

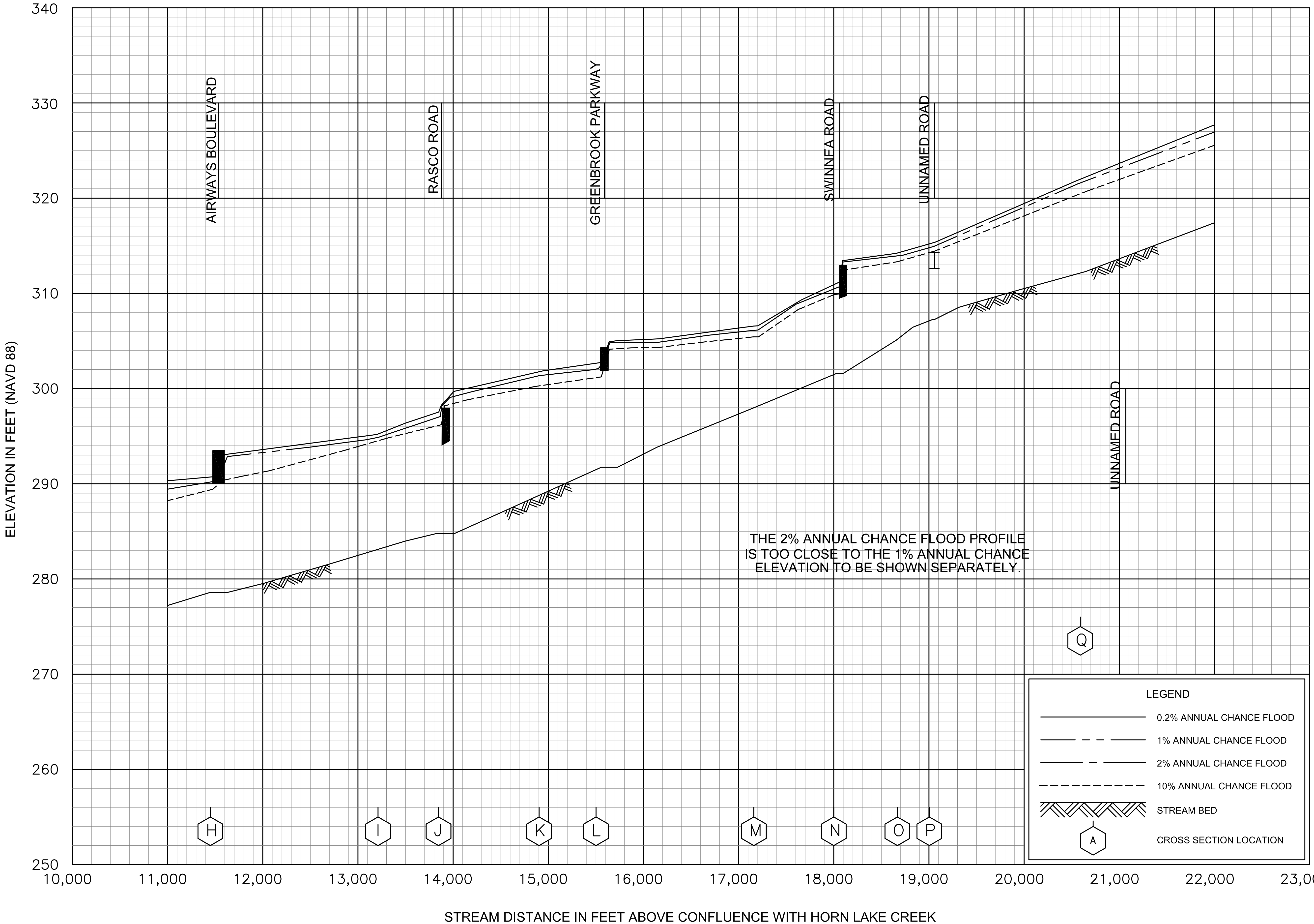


FLOOD PROFILES

ROCKY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



FLOOD PROFILES

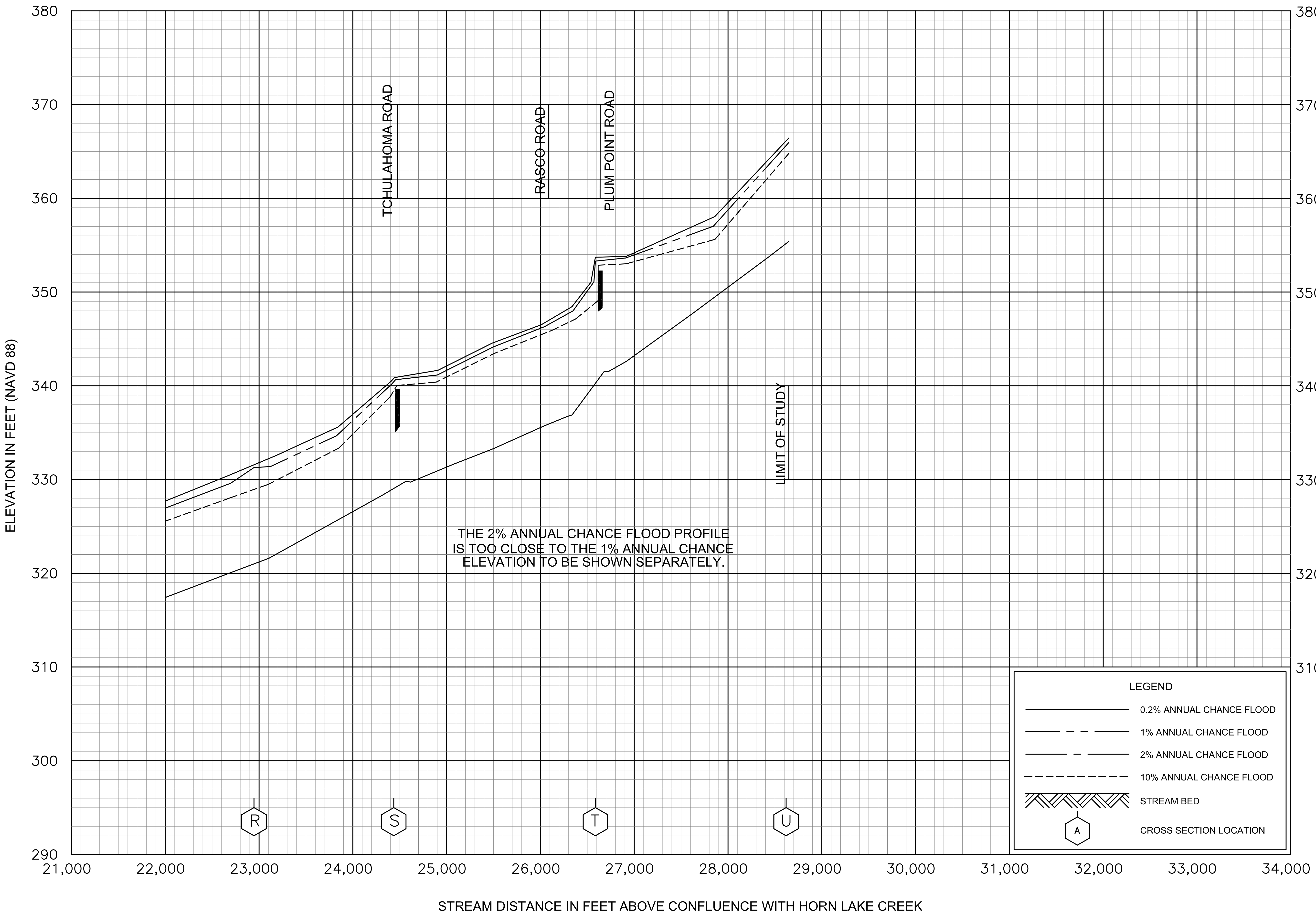
ROCKY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

121P

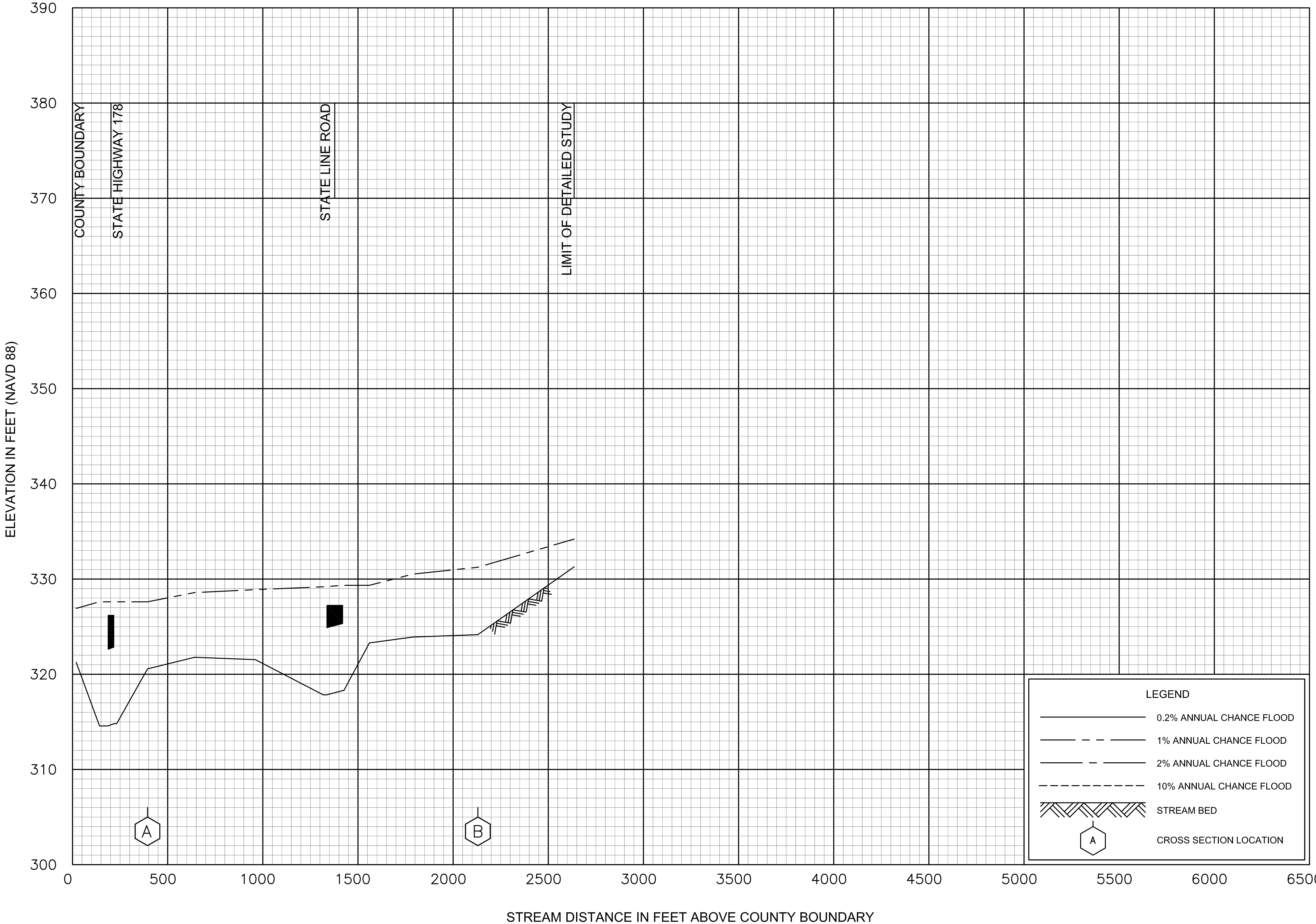


FLOOD PROFILES

ROCKY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



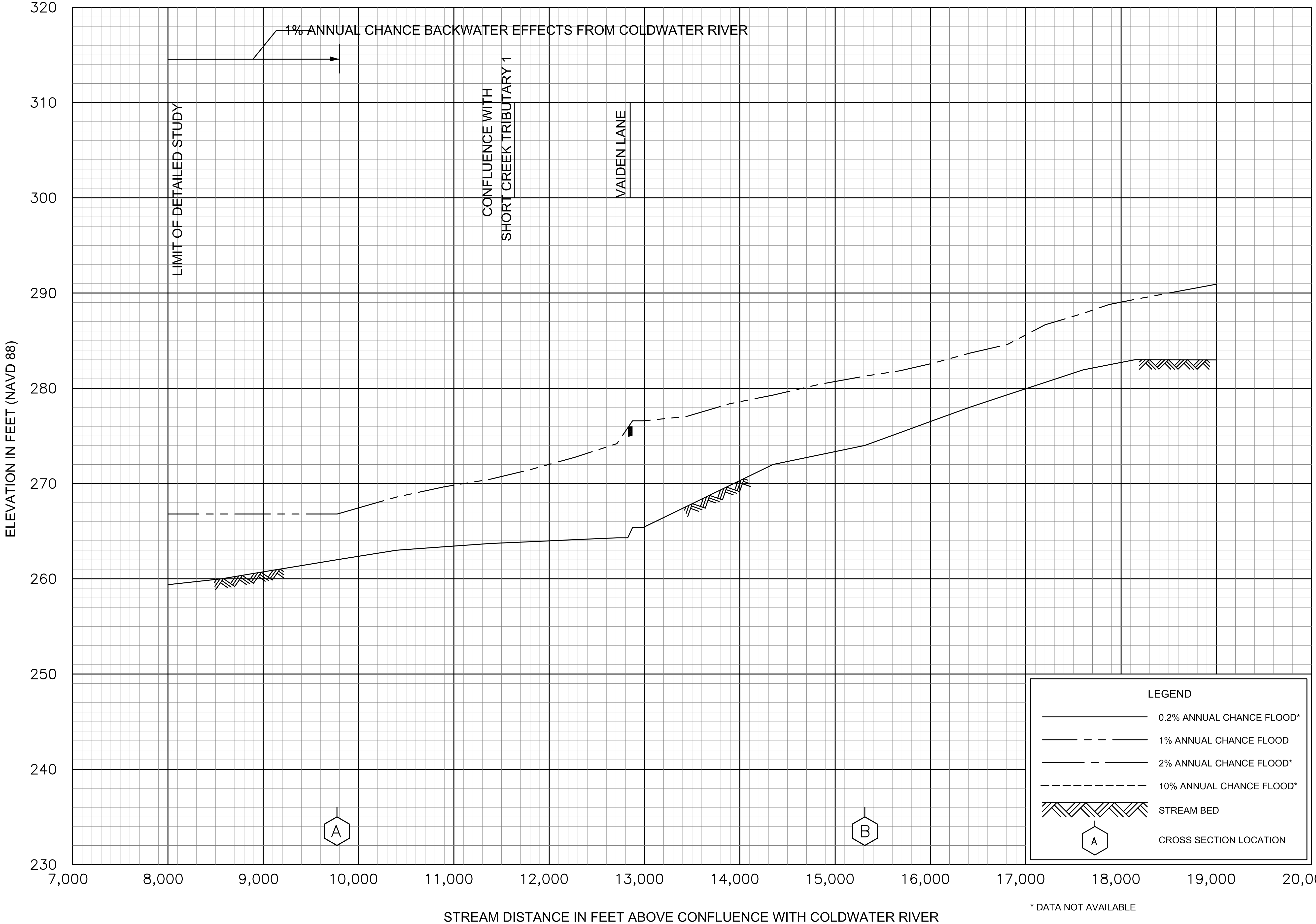
FLOOD PROFILES

SHELBY BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



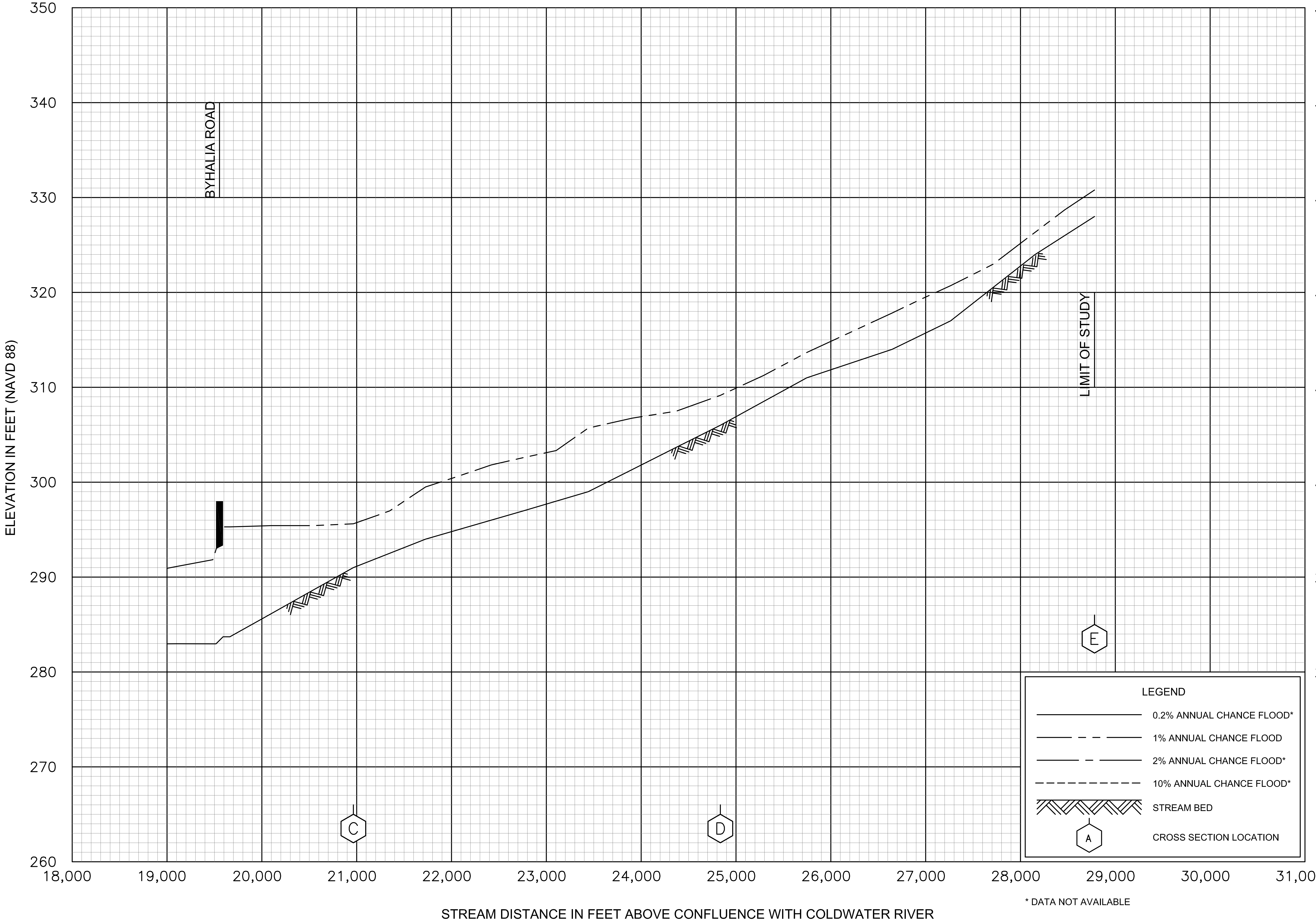
* DATA NOT AVAILABLE

FLOOD PROFILES

SHORT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



* DATA NOT AVAILABLE

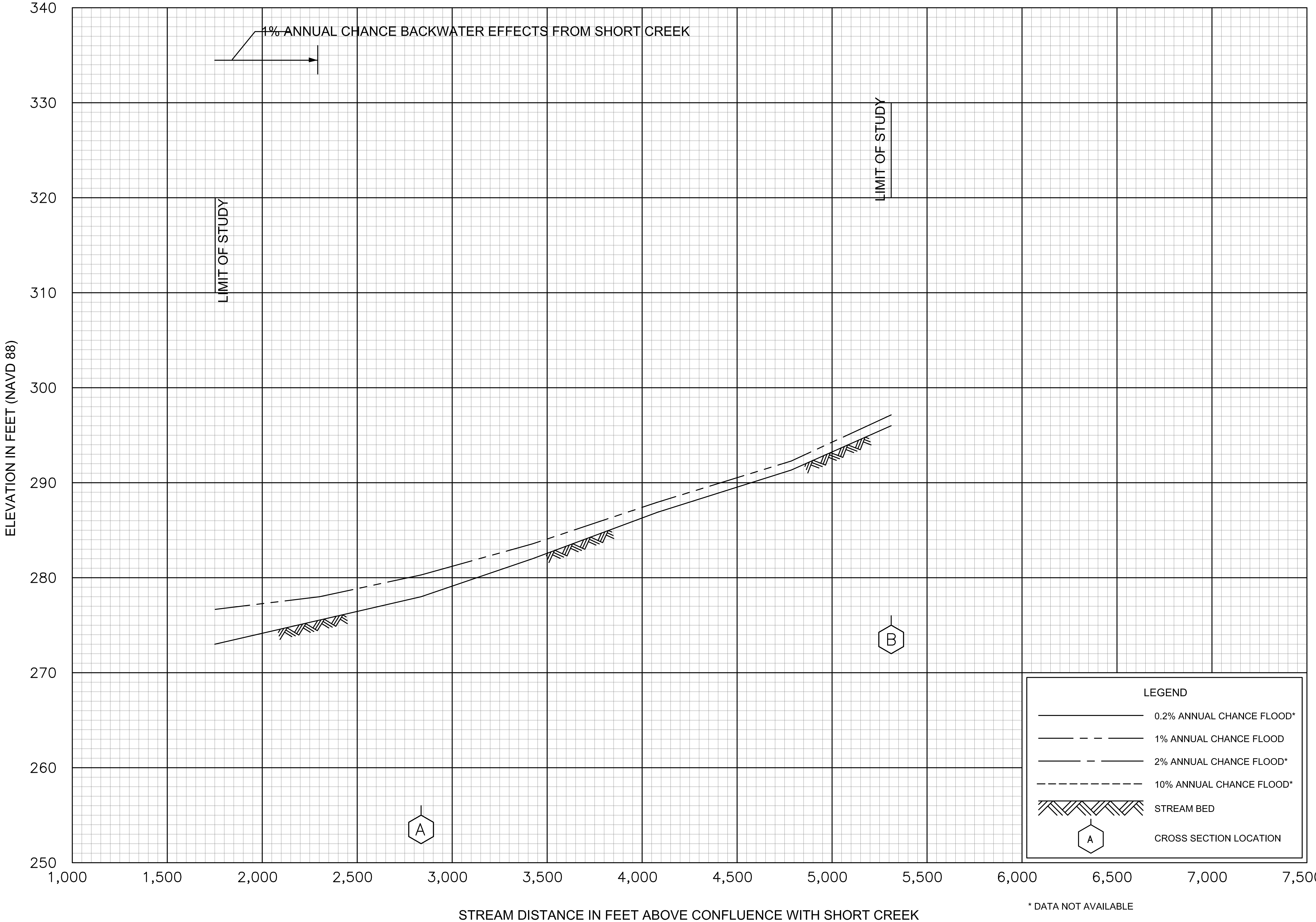
FLOOD PROFILES

SHORT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



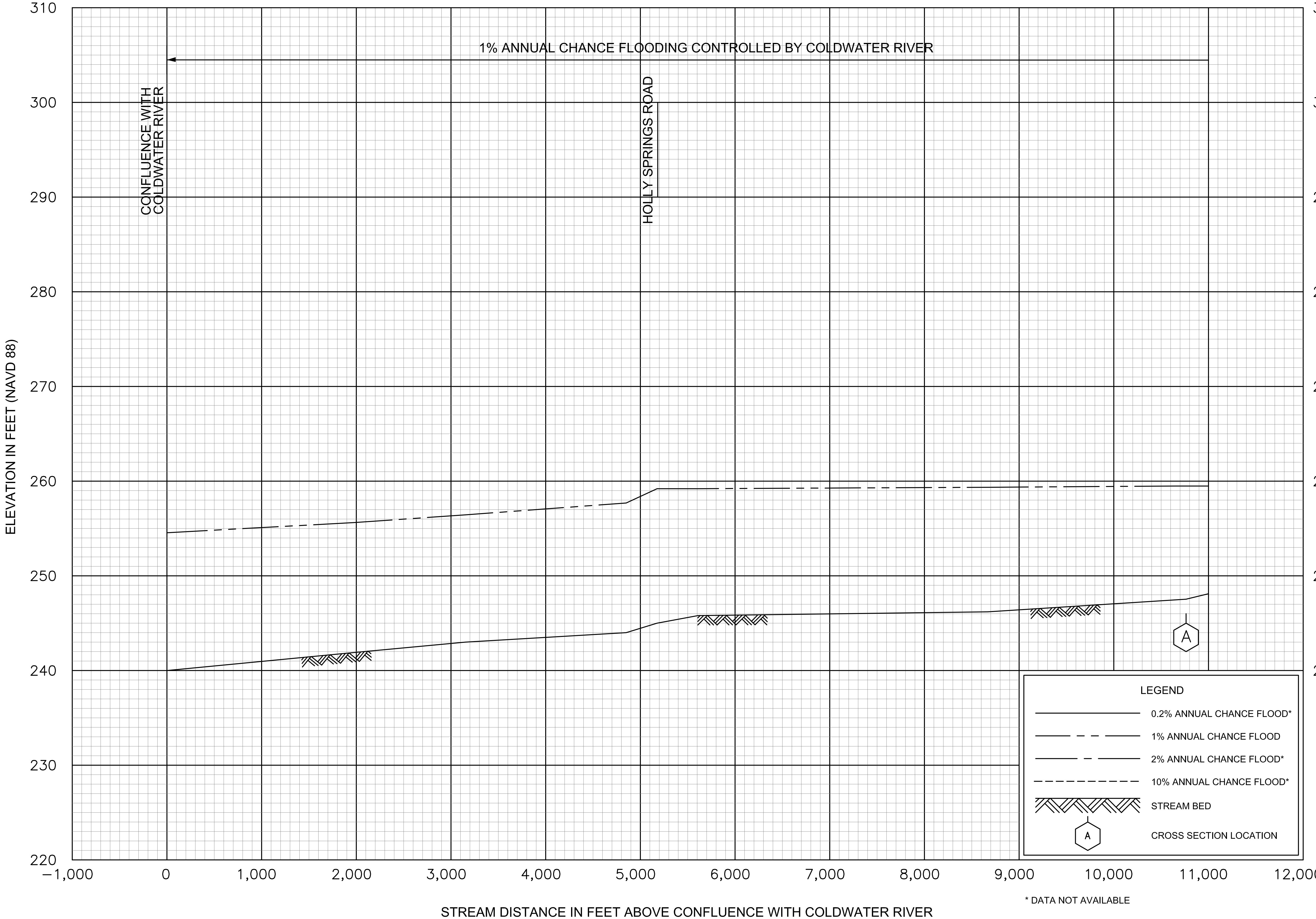
FLOOD PROFILES

SHORT CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

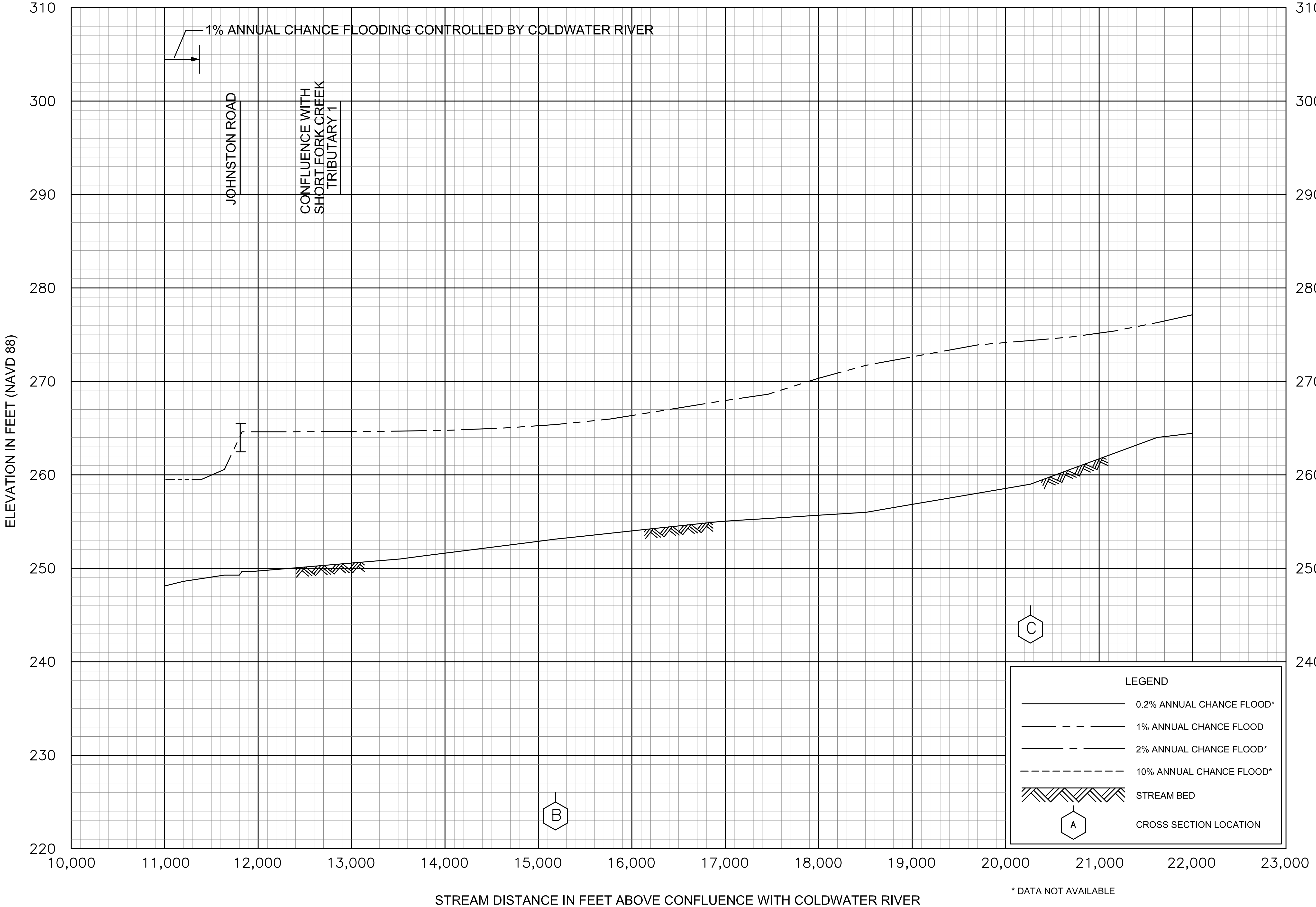


FLOOD PROFILES

SHORT FORK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



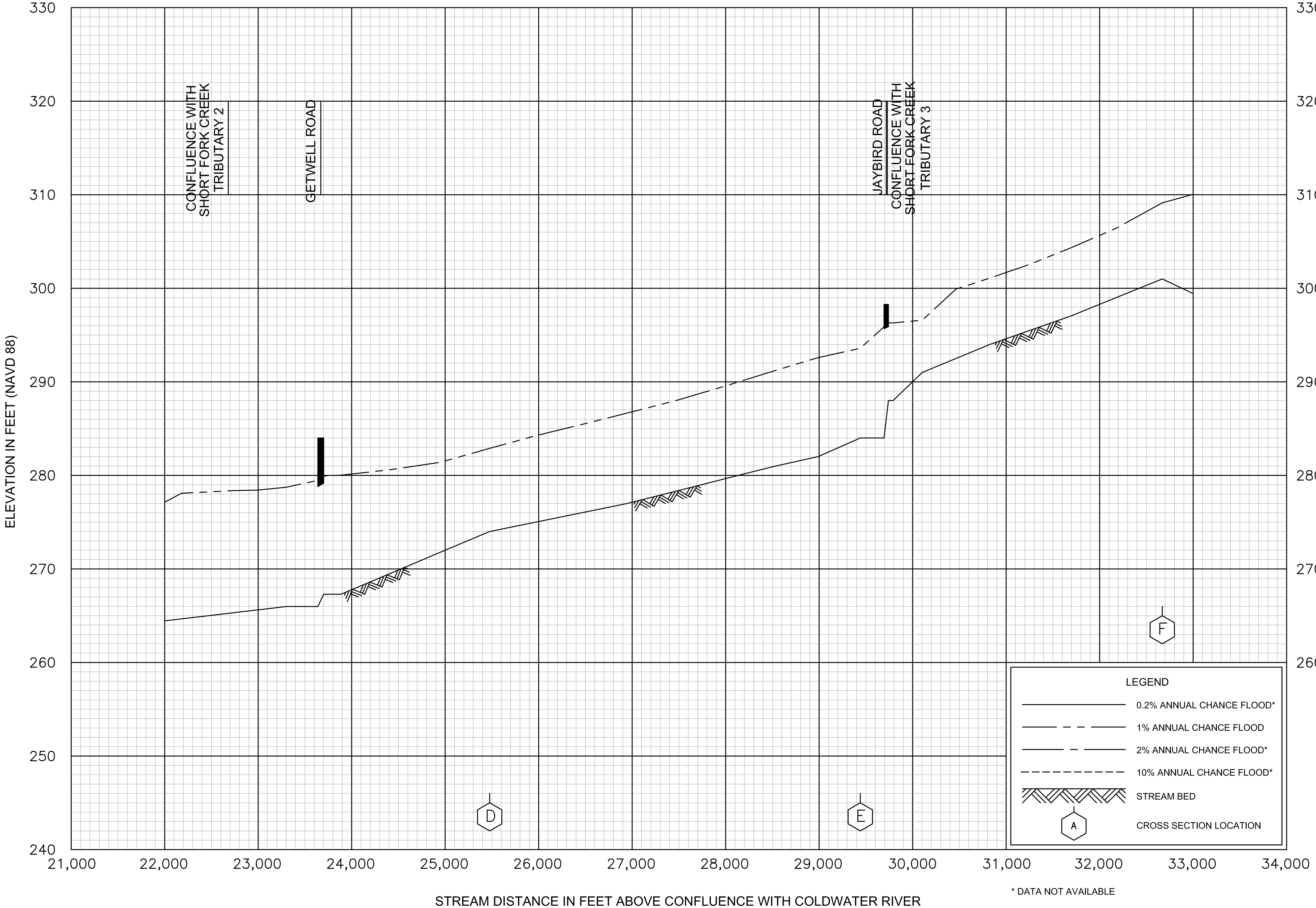
FLOOD PROFILES

SHORT FORK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



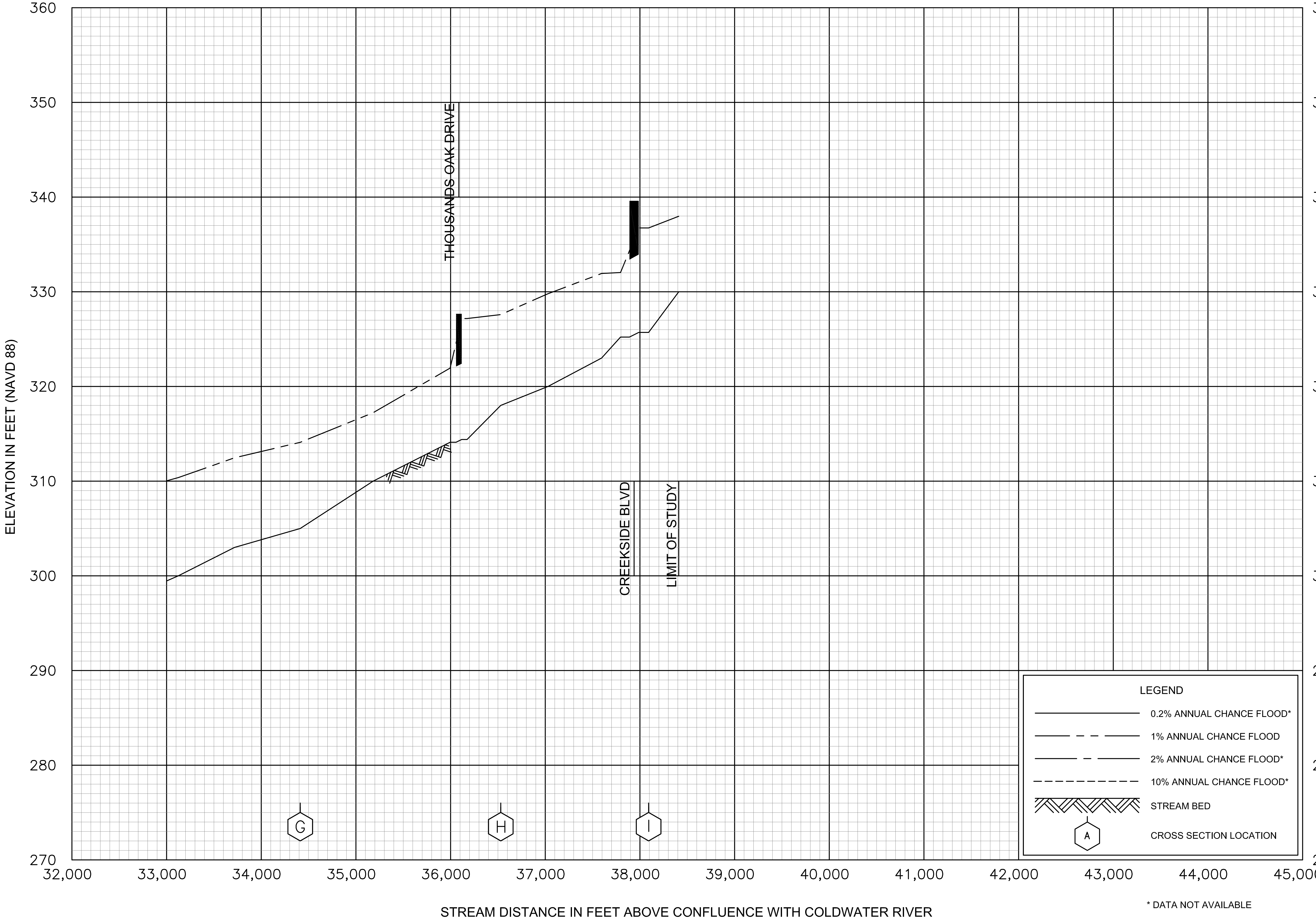
FLOOD PROFILES

SHORT FORK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

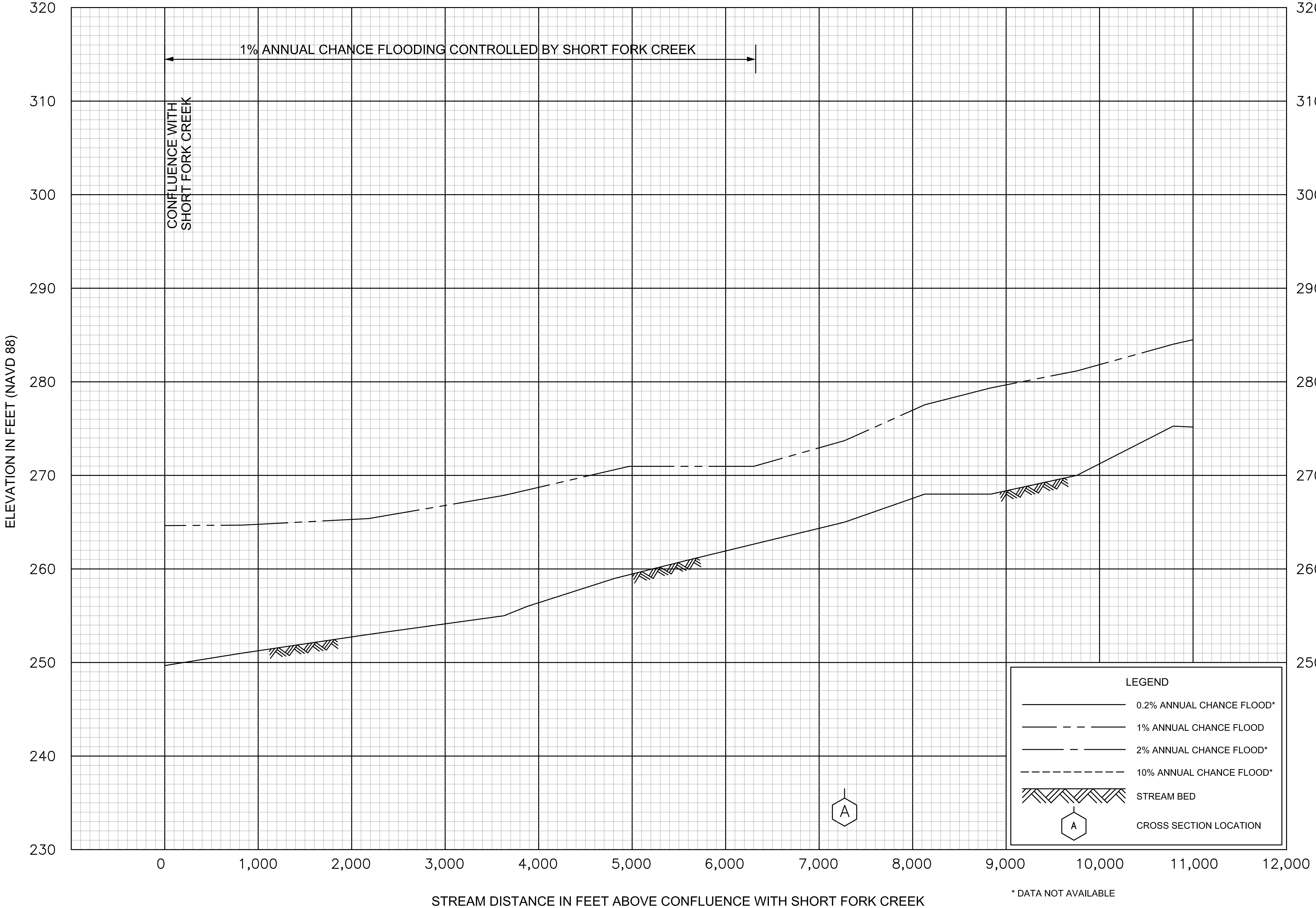


FLOOD PROFILES

SHORT FORK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

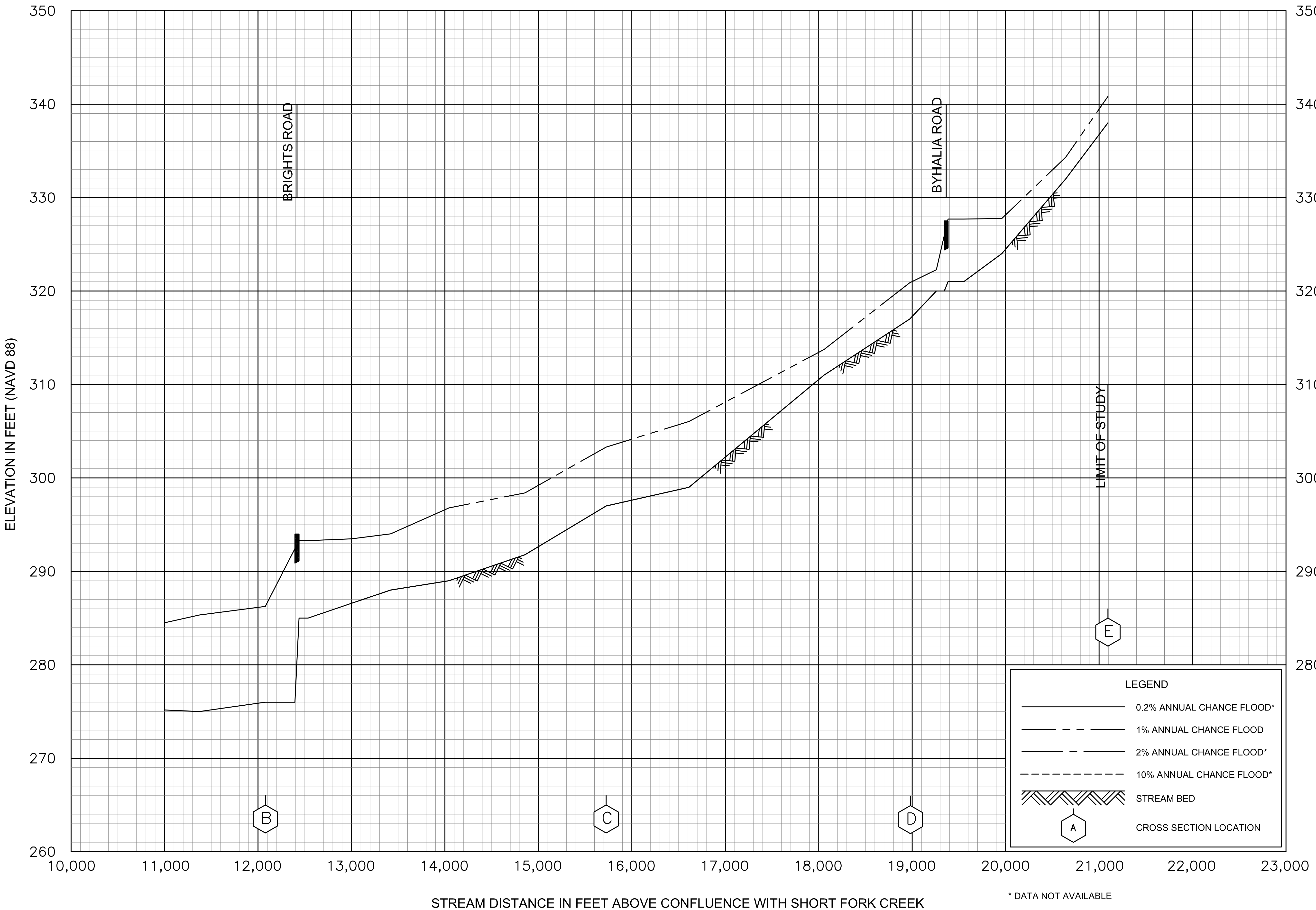


FLOOD PROFILES

SHORT FORK CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



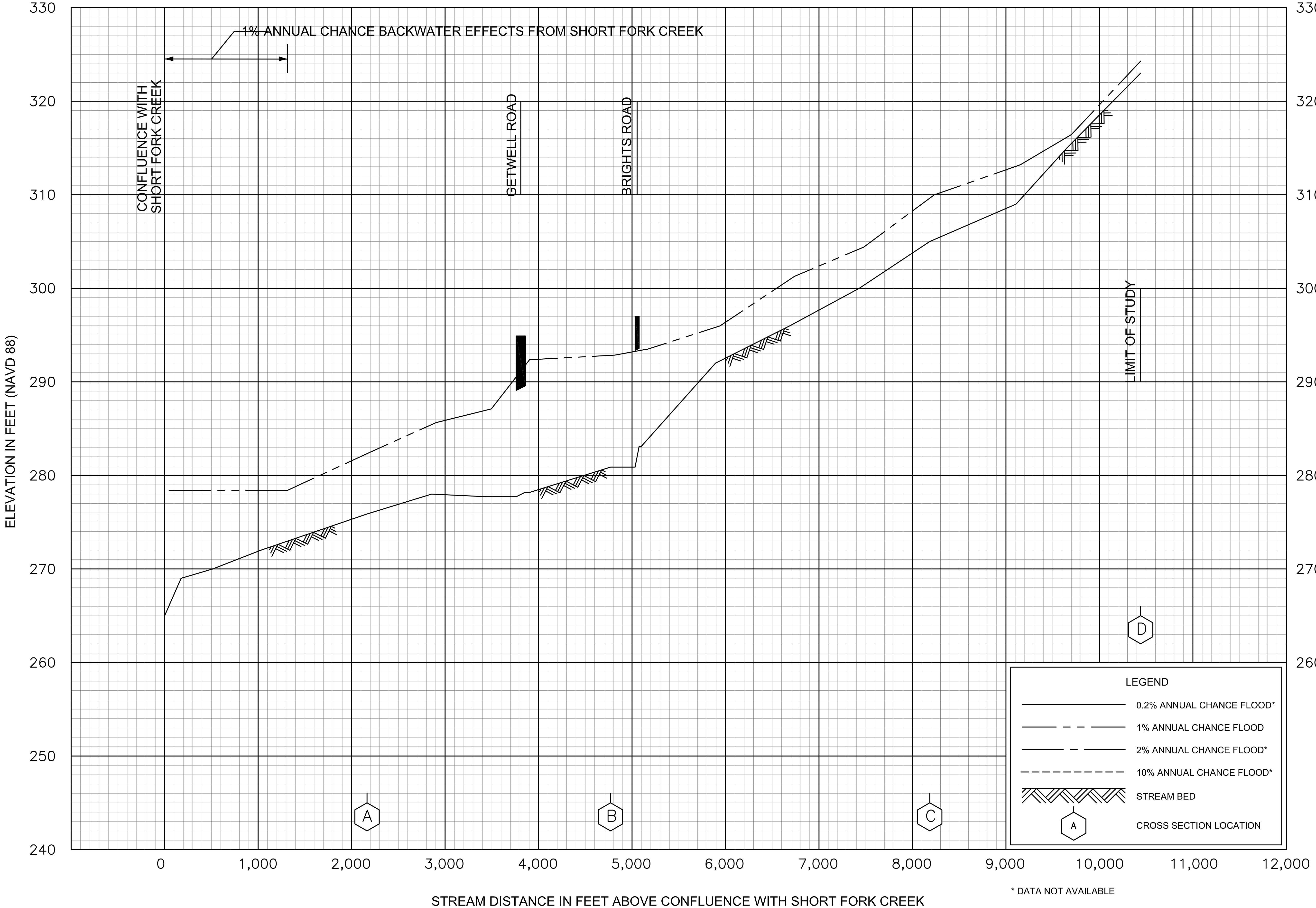
FLOOD PROFILES

SHORT FORK CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



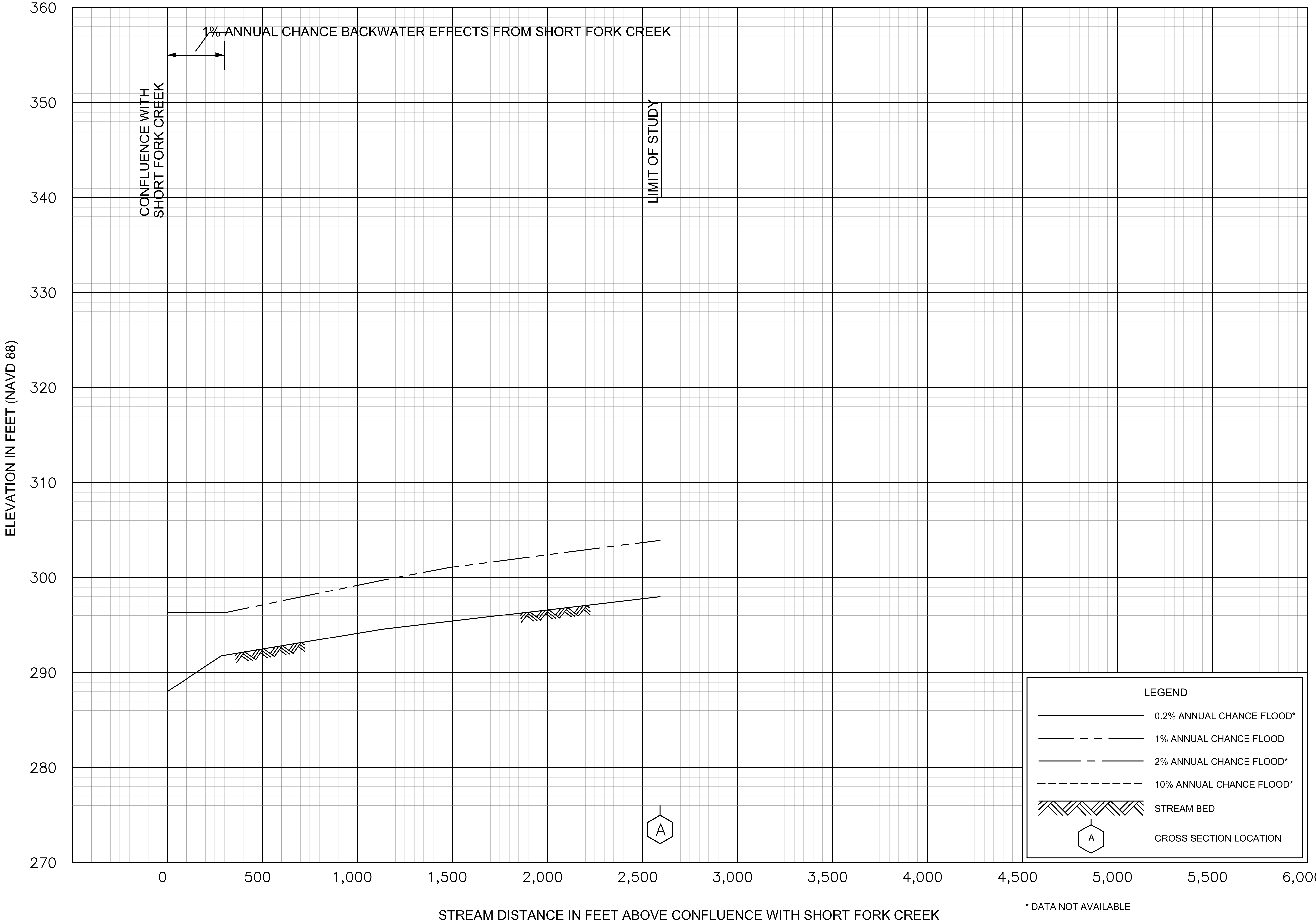
FLOOD PROFILES

SHORT FORK CREEK TRIBUTARY 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

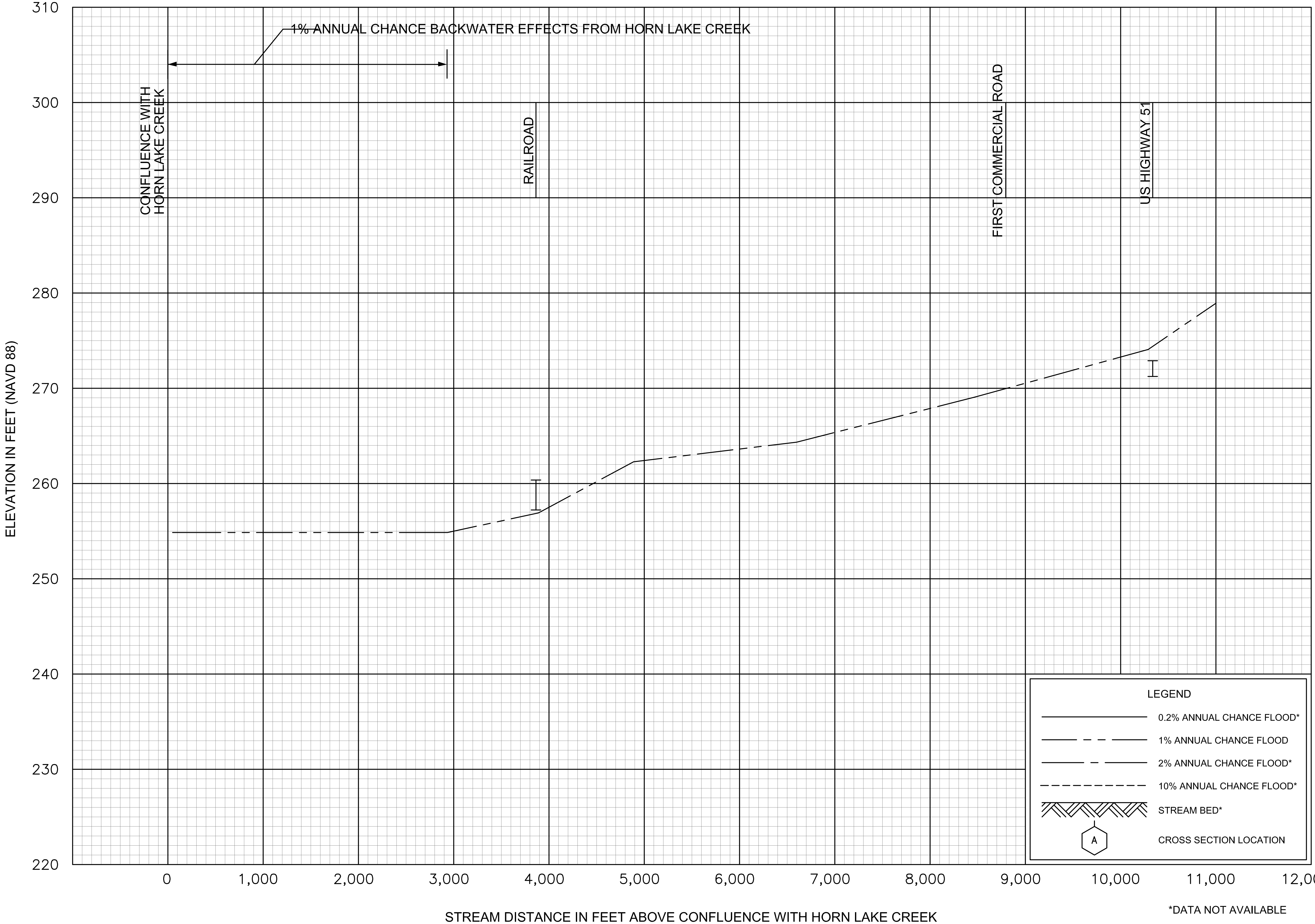


FLOOD PROFILES

SHORT FORK CREEK TRIBUTARY 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS AND INCORPORATED AREAS



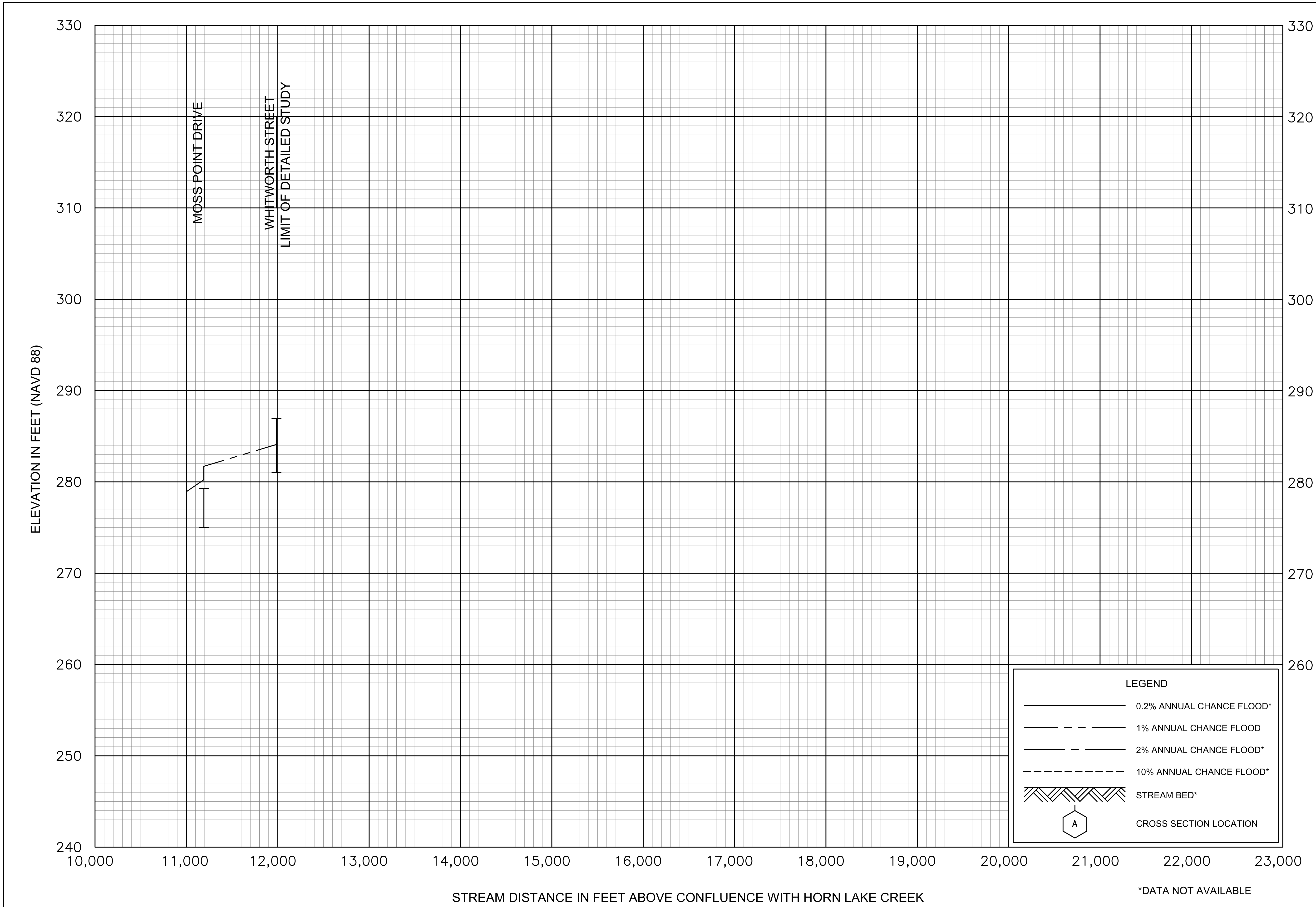
FLOOD PROFILES

SOUTHAVEN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS

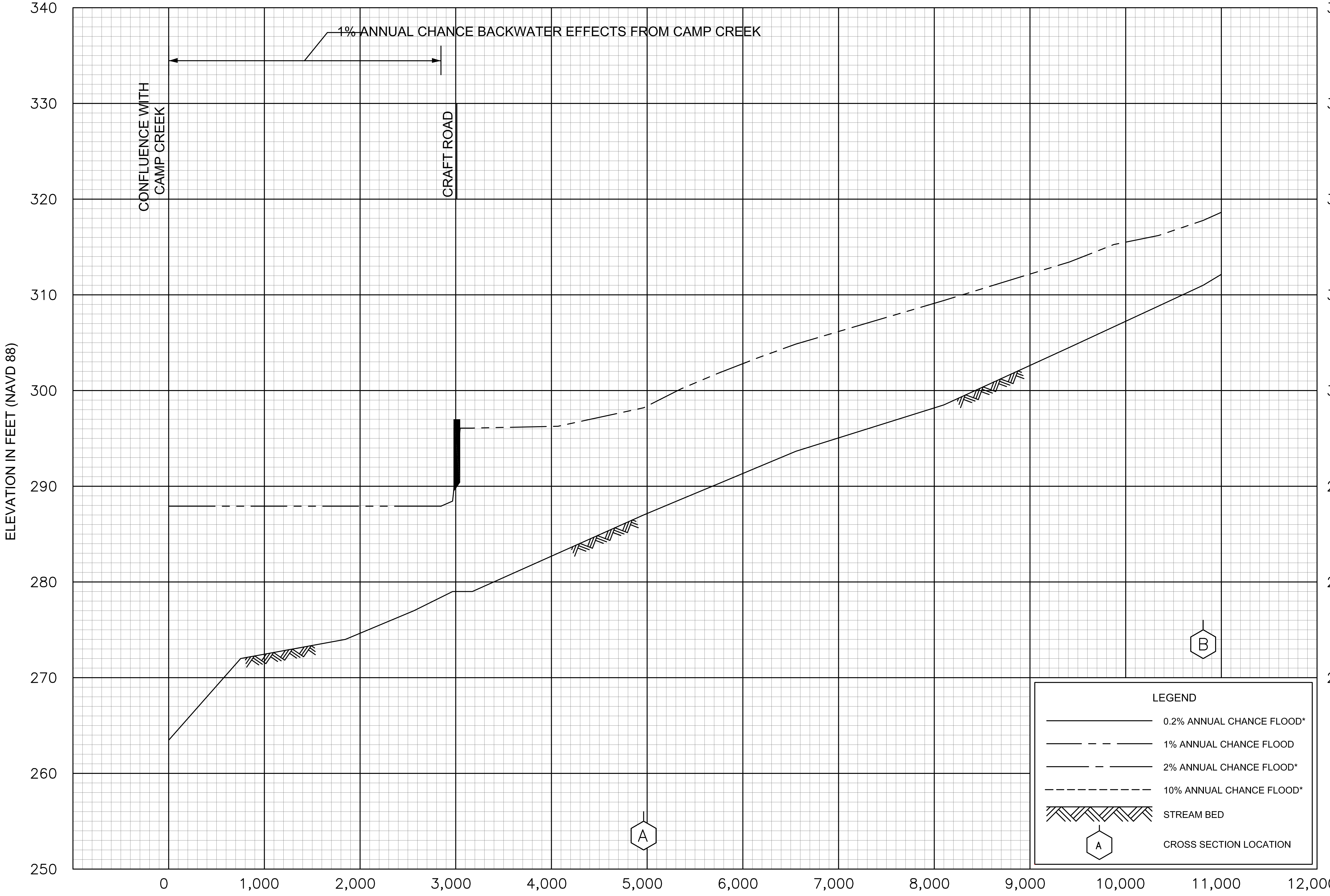


FLOOD PROFILES

SOUTHAVEN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH CAMP CREEK

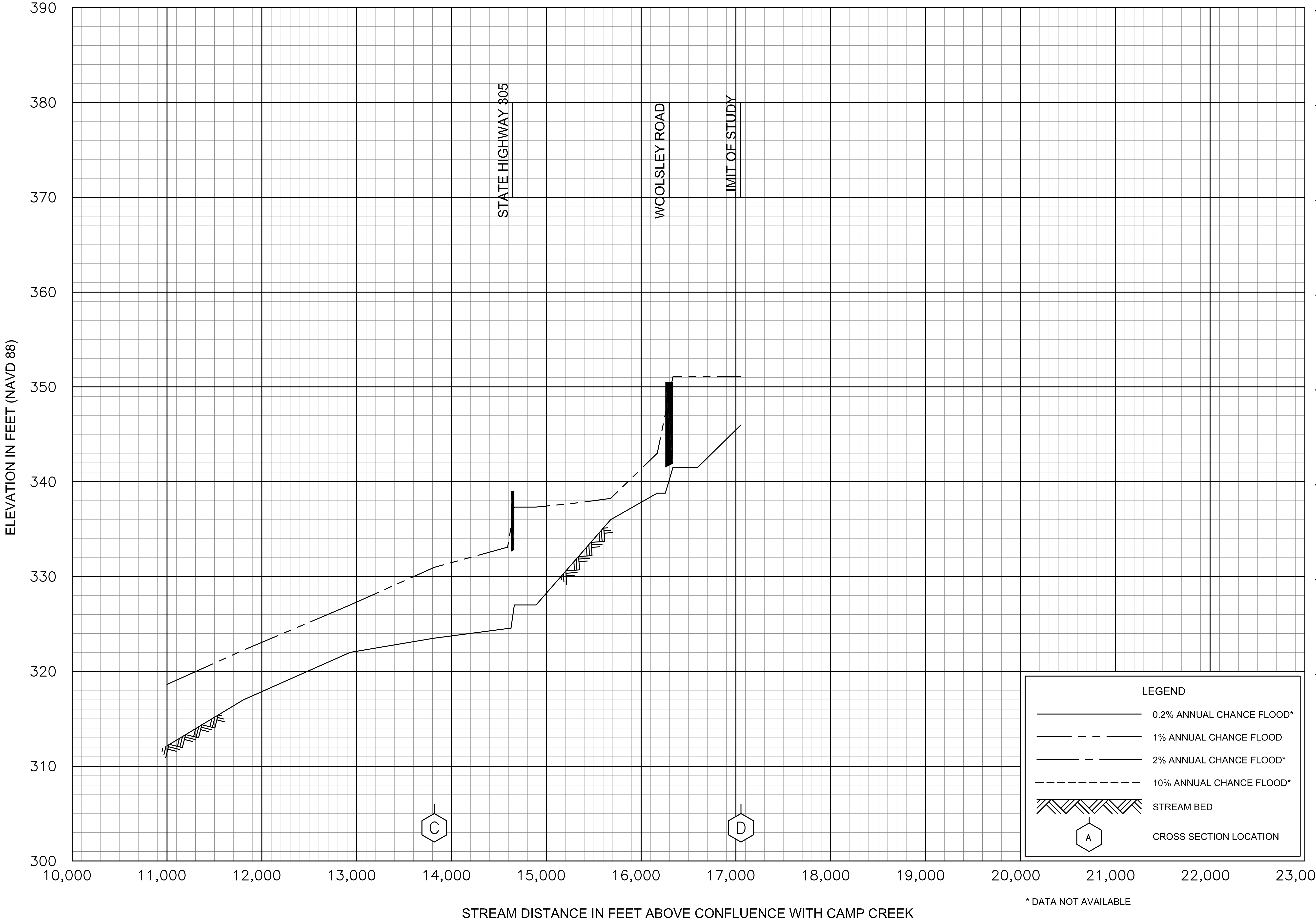
* DATA NOT AVAILABLE

FLOOD PROFILES

TURKEY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS

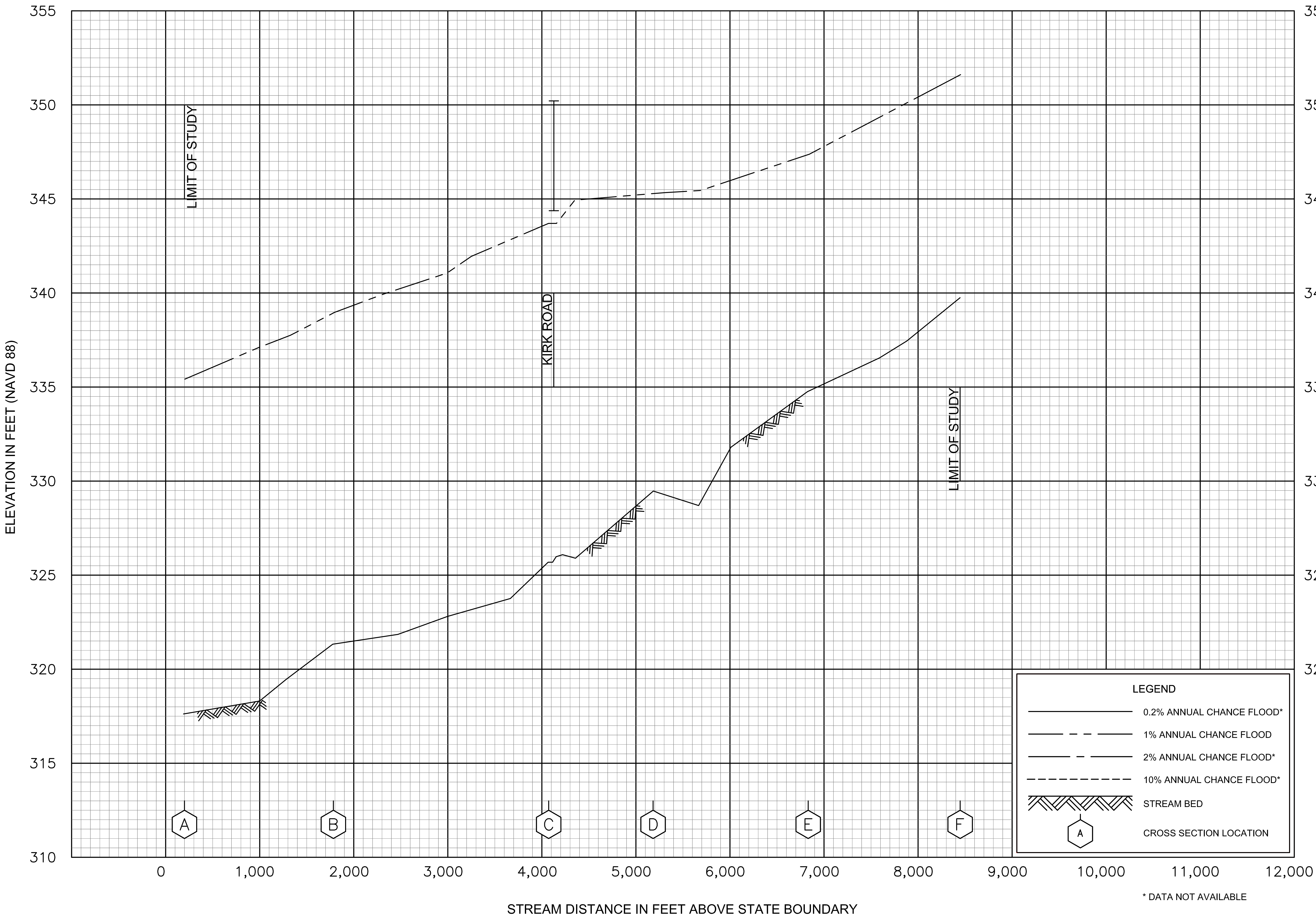


FLOOD PROFILES

TURKEY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS
AND INCORPORATED AREAS



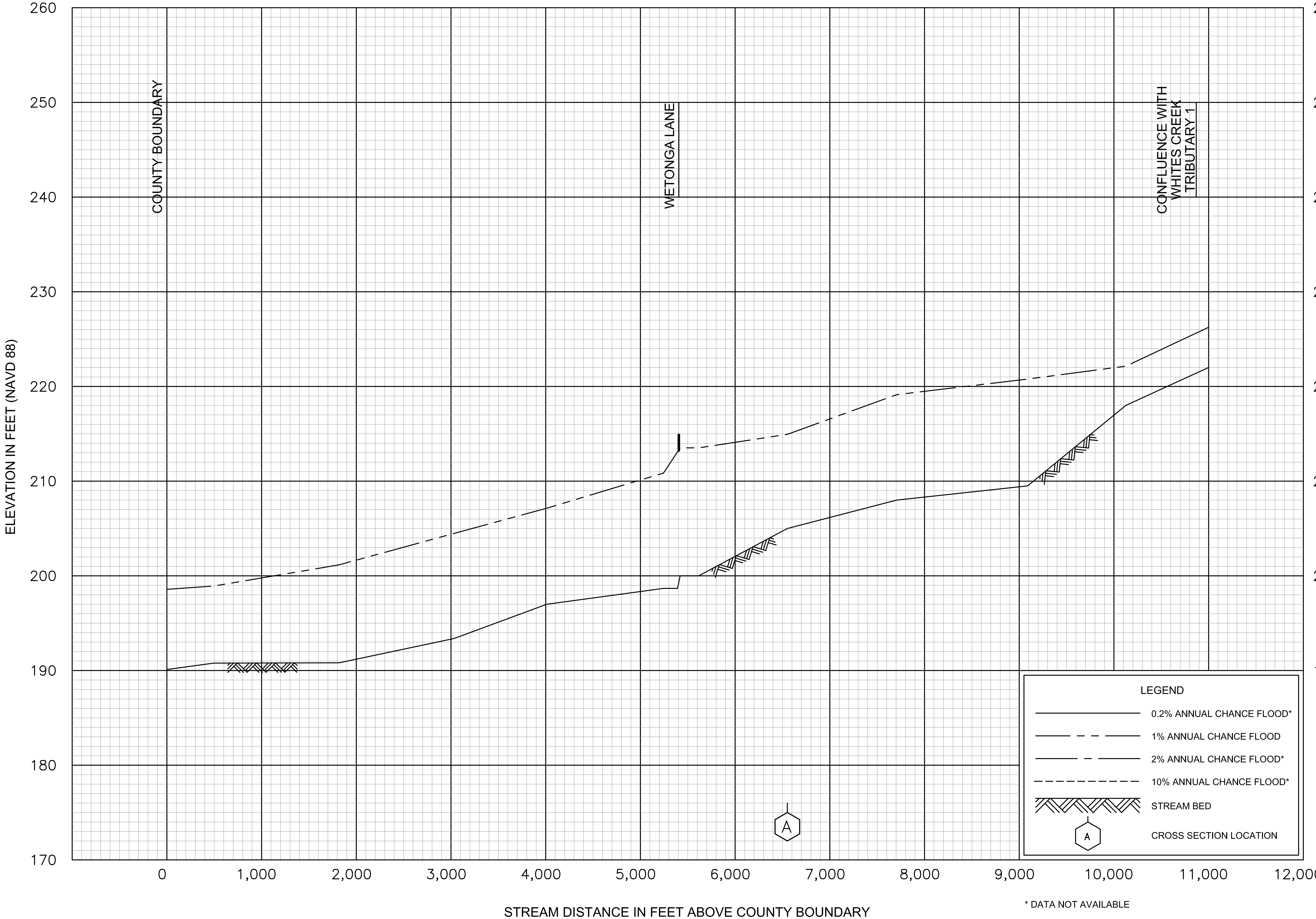
FLOOD PROFILES

UNNAMED TRIBUTARY OF NONCONNAH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



* DATA NOT AVAILABLE

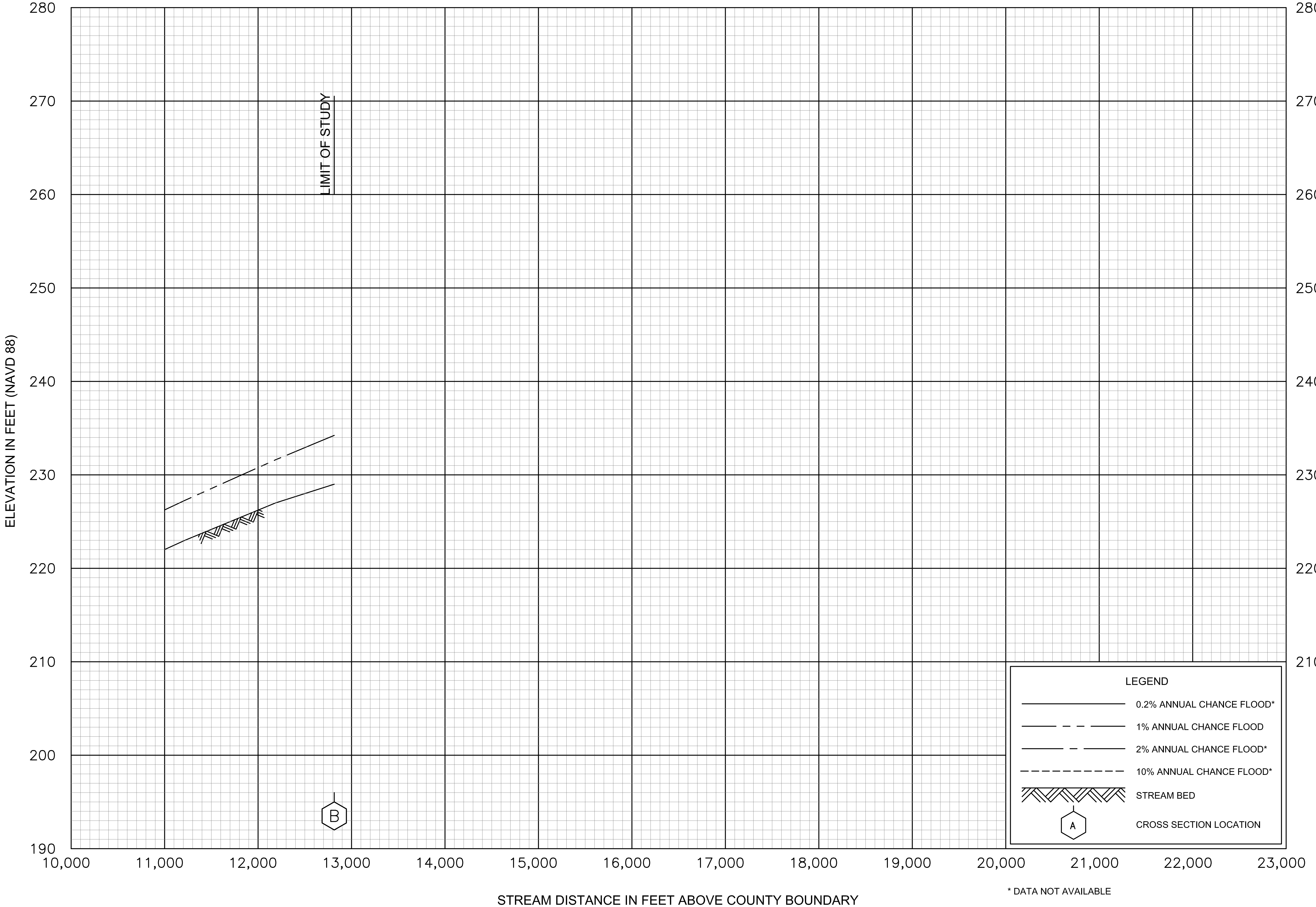
FLOOD PROFILES

WHITES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



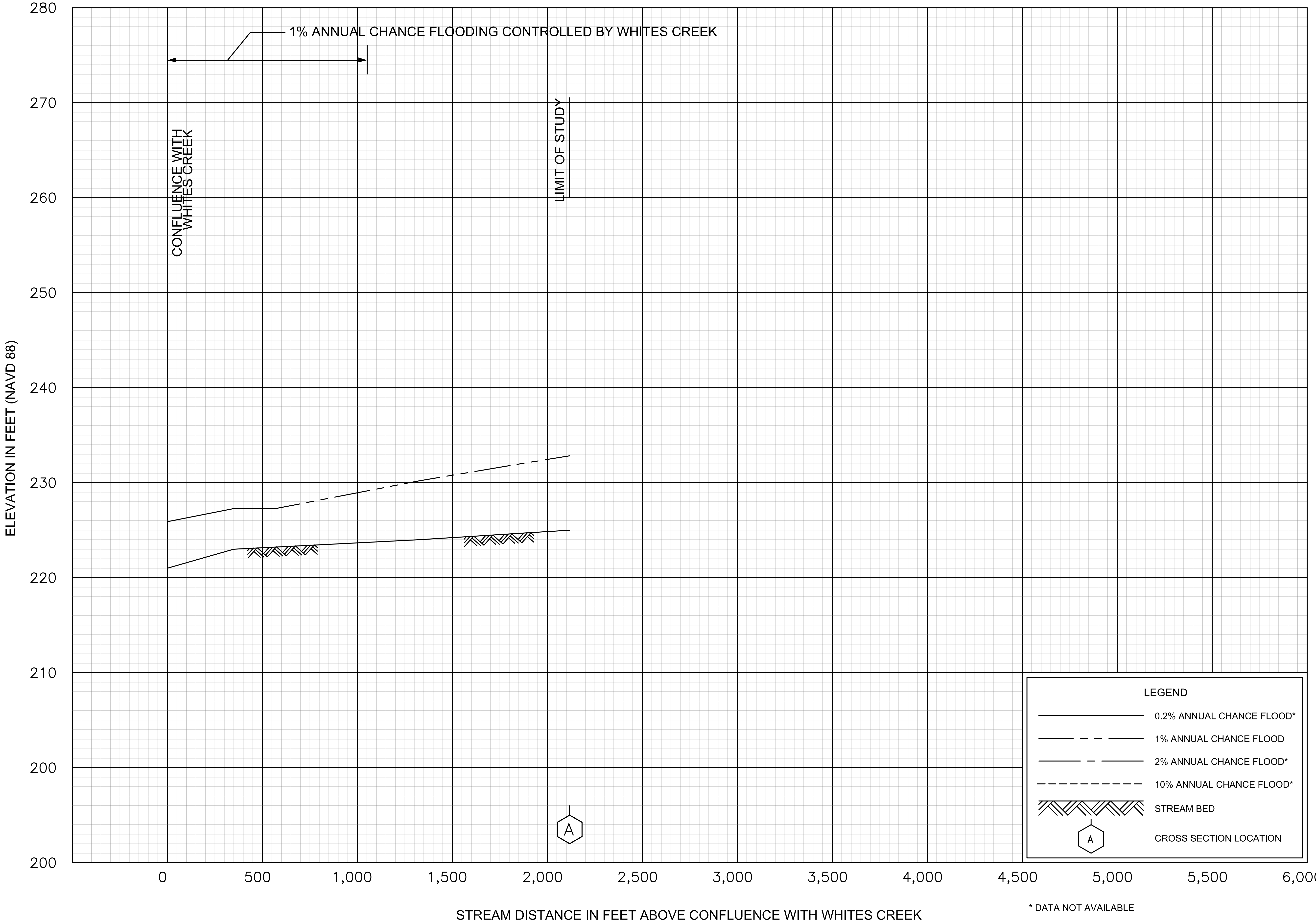
FLOOD PROFILES

WHITES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS



FLOOD PROFILES

WHITES CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

DESOTO COUNTY, MS

AND INCORPORATED AREAS