FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 1

BASTROP COUNTY, TEXAS

AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
BASTROP, CITY OF	480022
BASTROP COUNTY, UNINCORPORATED AREAS	481193
ELGIN, CITY OF	480023
SMITHVILLE, CITY OF	480024

FEMA

PRELIMINARY

2/11/2021

REVISED:

TBD

FLOOD INSURANCE STUDY NUMBER

48021CV000C

Version Number 2.6.4.6

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Published Separately

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FLOOD INSURANCE STUDY REPORT
BASTROP COUNTY, TEXAS

SECTION 1.0 – INTRODUCTION

1.1 The National Flood Insurance Program

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

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

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

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

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

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

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

1.2 Purpose of this Flood Insurance Study Report

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

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

1.3 Jurisdictions Included in the Flood Insurance Study Project

This FIS Report covers the entire geographic area of Bastrop County, Texas.

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

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Bastrop, City of	480022	12090301	48021C0215F 48021C0220F 48021C0335F 48021C0355F 48021C0360F	
Bastrop County, Unincorporated Areas	481193	12070102, 12070205, 12090301, 12100202	48021C0025E 48021C0050E 48021C0075E 48021C0100E 48021C0125E 48021C0150E 48021C0175G 48021C0190G 48021C0195F 48021C0200F	

Table 1: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Bastrop County, Unincorporated Areas (continued)	481193	12070102, 12070205, 12090301, 12100202	48021C0215F 48021C0220F 48021C0225E 48021C0250E 48021C0275E 48021C0300F 48021C0310F 48021C0325F 48021C0330F 48021C0335F 48021C0350F 48021C0355F 48021C0360F 48021C0375F 48021C0395F 48021C0400E 48021C0425F 48021C0450F 48021C0475F 48021C0500E 48021C0510F 48021C0525E 48021C0550F 48021C0575E 48021C0600E 48021C0625E	
Elgin, City of	480023	12090301	48021C0075E 48021C0100E	
Smithville, City of	480024	12090301	48021C0395F 48021C0425F 48021C0510F 48021C0550F	

1.4 Considerations for using this Flood Insurance Study Report

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

may be provided for a specific FIS).

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

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

  It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 30, "Map Repositories," within this FIS Report.

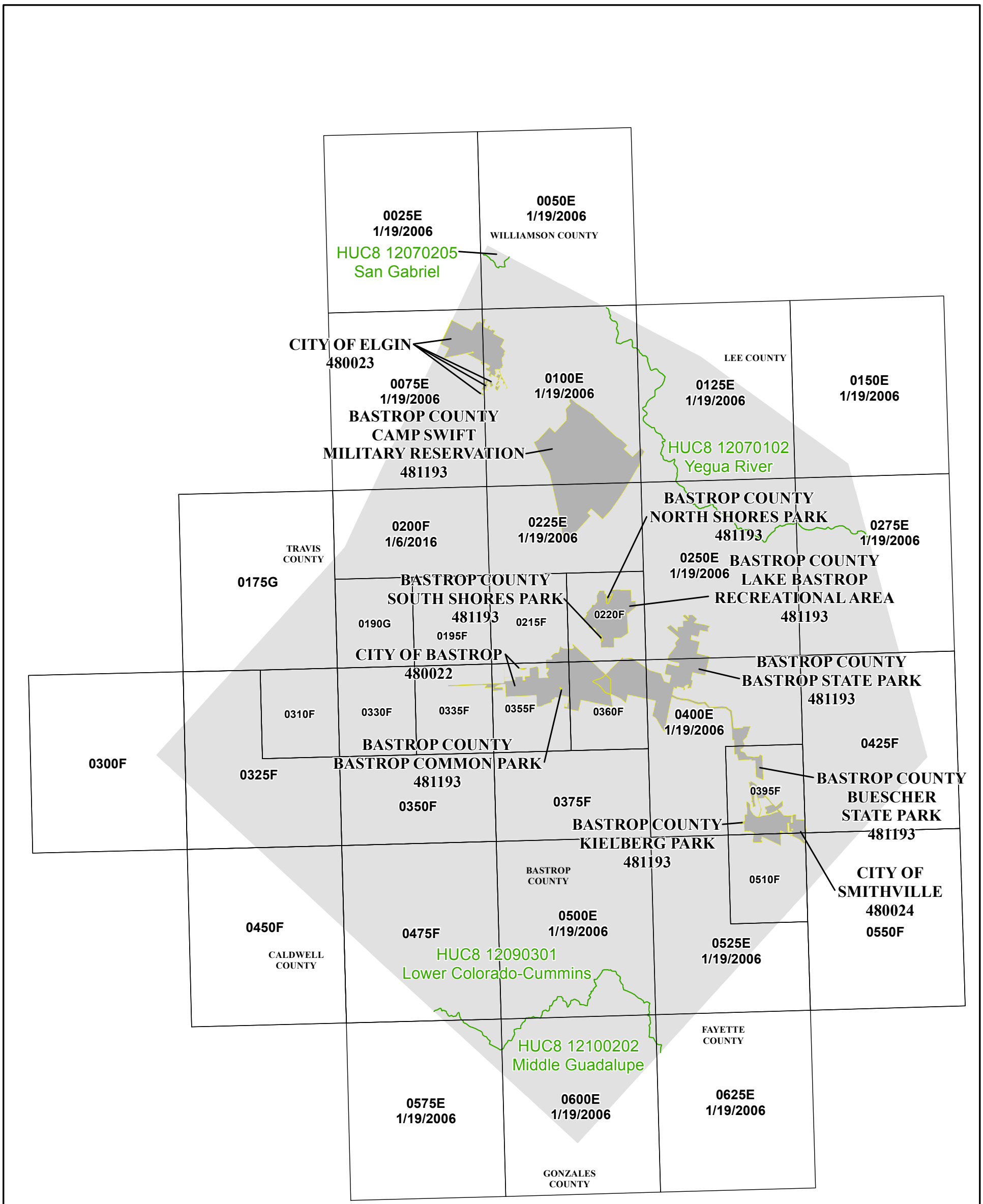
- New FIS Reports are frequently developed for multiple communities, such as entire counties. A countywide FIS Report incorporates previous FIS Reports for individual communities and the unincorporated area of the county (if not jurisdictional) into a single document and supersedes those documents for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

  The initial Countywide FIS Report for Bastrop County became effective on August 19, 1991. Refer to Table 27 for information about subsequent revisions to the FIRMs.

- FEMA has developed a *Guide to Flood Maps* (FEMA 258) and online tutorials to assist users in accessing the information contained on the FIRM. These include how to read panels and step-by-step instructions to obtain specific information. To obtain this guide and other assistance in using the FIRM, visit the FEMA Web site at www.fema.gov/flood-maps/tutorials.

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

Figure 1: FIRM Index



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

N

1 inch = 25,000 feet 1:300,000

0 7,000 14,000 28,000 42,000 56,000 feet

Map Projection:
State Plane Lambert Conformal Conic, Texas Central Zone FIPS 4203; North American Datum 1983; Western Hemisphere; Vertical Datum: NAVD 88

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

HTTPS://MSC.FEMA.GOV

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

COUNTY LOCATOR

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP INDEX

BASTROP COUNTY, TEXAS and Incorporated Areas

PANELS PRINTED:

0025, 0050, 0075, 0100, 0125, 0150, 0175, 0190, 0195, 0200, 0215, 0220, 0225, 0250, 0275, 0300, 0310, 0325, 0330, 0335, 0350, 0355, 0360, 0375, 0395, 0400, 0425, 0450, 0475, 0500. 0510, 0525, 0550, 0575, 0600, 0625

PRELIMINARY
2/11/2021

FEMA

MAP NUMBER
48021CIND0C

MAP REVISED

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

Figure 2: FIRM Notes to Users

NOTES TO USERS

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

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

For community and countywide map dates, refer to Table 27 in this FIS Report.

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

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

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

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

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

Figure 2. FIRM Notes to Users

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

PROJECTION INFORMATION: The projection used in the preparation of the map was State Plane Lambert Conformal Conic, Texas Central Zone FIPS 4203. The horizontal datum was the North American Datum of 1983 NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

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

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 30 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on the FIRM panels with effective date TBD was provided by the Texas Department of Transportation, dated 2016 and 2020; the Texas Parks and Wildlife Department, dated 2016; and the U.S. Geological Survey, dated 2020. Base map information shown on the FIRM panels with effective dates January 19, 2006 and January 6, 2016 was provided in digital format by Texas Department of Transportation. This information was digitized from USGS 7.5 minute quadrangle maps at a scale of 1:15840. For information about base maps, refer to Section 6.2 “Base Map” in this FIS Report.

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

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Bastrop County, Texas, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 27 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

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

Figure 2. FIRM Notes to Users

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

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

Figure 3: Map Legend for FIRM

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

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

Figure 3: Map Legend for FIRM

OTHER AREAS OF FLOOD HAZARD

Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.

Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.

Area with Reduced Flood Risk due to Levee: Areas where an accredited levee, dike, or other flood control structure has reduced the flood risk from the 1% annual chance flood.

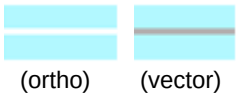
Area with Flood Risk due to Levee: Areas where a non-accredited levee, dike, or other flood control structure is shown as providing protection to less than the 1% annual chance flood.

OTHER AREAS

Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

Unshaded Zone X: Areas of minimal flood hazard.

FLOOD HAZARD AND OTHER BOUNDARY LINES



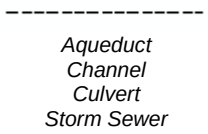
Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)

Limit of Study

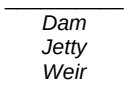
Jurisdiction Boundary

Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet

GENERAL STRUCTURES

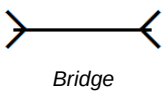


Channel, Culvert, Aqueduct, or Storm Sewer



Dam, Jetty, Weir

Levee, Dike, or Floodwall



Bridge

Figure 3: Map Legend for FIRM

REFERENCE MARKERS	
22.0	River mile Markers
CROSS SECTION & TRANSECT INFORMATION	
B 20.2	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
5280 21.1	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
17.5	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
8	Coastal Transect
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.
513	Base Flood Elevation Line
ZONE AE (EL 16)	Static Base Flood Elevation value (shown under zone label)
ZONE AO (DEPTH 2)	Zone designation with Depth
ZONE AO (DEPTH 2) (VEL 15 FPS)	Zone designation with Depth and Velocity
BASE MAP FEATURES	
Missouri Creek	River, Stream or Other Hydrographic Feature
234	Interstate Highway
234	U.S. Highway
234	State Highway
234	County Highway
MAPLE LANE	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
RAILROAD	Railroad

Figure 3: Map Legend for FIRM

_____	Horizontal Reference Grid Line
⎯⎯	Horizontal Reference Grid Ticks
+	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
$^{42}76^{000m}E$	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16’ 52.5”	Corner Coordinates (Latitude, Longitude)

SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS

2.1 Floodplain Boundaries

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

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

Depending on the accuracy of available topographic data (Table 22), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1-percent and 0.2-percent-annual-chance floodplain boundaries, regulatory water surface elevations (BFEs), and/or a regulatory floodway. Similarly, other flooding sources may be mapped to show only the 1-percent-annual-chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1-percent and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM. Figure 3, “Map Legend for FIRM”, describes the flood zones that are used on the FIRMs to account for the varying levels of flood risk that exist along flooding sources within the project area. Table 2 and Table 3 indicate the flood zone designations for each flooding source and each community within Bastrop County, respectively.

Table 2, “Flooding Sources Included in this FIS Report,” lists each flooding source, including its study limits, affected communities, mapped zone on the FIRM, and the completion date of its engineering analysis from which the flood elevations on the FIRM and in the FIS Report were derived. Descriptions and dates for the latest hydrologic and hydraulic analyses of the flooding sources are shown in Table 12. Floodplain boundaries for these flooding sources are shown on the FIRM (published separately) using the symbology described in Figure 3. On the map, the 1-percent-annual-chance floodplain corresponds to the SFHAs. The 0.2-percent-annual-chance floodplain shows areas that, although out of the regulatory floodplain, are still subject to flood hazards.

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

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Cedar Creek	Bastrop County, Unincorporated Areas	Confluence with Colorado River	Bastrop / Caldwell County Line	12090301	36.9	Y	AE	2020
Cedar Creek Tributary 2	Bastrop County, Unincorporated Areas	Approximately 690 feet upstream of State Highway 71	Approximately 550 feet upstream of Steven F. Austin Boulevard	12090301	0.3	N	AE	*
Cedar Creek Zone A Tributaries	Bastrop County, Unincorporated Areas	Varies	Varies	12090301	21.8	N	A	2020
Colorado River	Bastrop, City of; Bastrop County, Unincorporated Areas; Smithville, City of	Bastrop / Fayette County Line	Bastrop / Travis County Line	12090301	61.0	Y	AE	2003
Diversion	Bastrop County, Unincorporated Areas; Smithville, City of	Confluence with Gazley Creek	Divergence from Willow Creek	12090301	1.3	N	A, AO	2020
Dry Creek East	Bastrop County, Unincorporated Areas	Confluence with Colorado River	Bastrop / Travis County Line	12090301	4.8	Y	AE	2013
Gazley Creek	Bastrop County, Unincorporated Areas; Smithville, City of	Confluence with Colorado River	Approximately 490 feet upstream of Railroad	12090301	1.6	N	AE	2020
Gills Branch	Bastrop, City of; Bastrop County, Unincorporated Area	Confluence with Colorado River	Approximately 200 feet upstream of State Highway 95	12090301	2.0	Y	AE, AO	2020
Greens Creek	Bastrop County, Unincorporated Areas	Confluence with Cedar Creek	Approximately 1,745 feet upstream of Lois Lane	12090301	6.7	N	AE	2020

Table 2: Flooding Sources Included in the FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Long Branch	Bastrop County, Unincorporated Areas	Confluence with Cedar Creek	Approximately 1.4 miles upstream of South Earl Callahan Road	12090301	6.8	N	AE	2020
Lytton Springs Creek	Bastrop County, Unincorporated Areas	Confluence with Cedar Creek	Approximately 1.2 miles upstream of the confluence with Cedar Creek	12090301	1.2	N	AE	2020
Maha Creek	Bastrop County, Unincorporated Areas	Confluence with Cedar Creek	Bastrop / Caldwell County Line	12090301	10.9	N	AE	2020
Piney Creek	Bastrop County, Unincorporated Areas	Approximately 4,000 feet upstream of the confluence of Sandy Creek	Approximately 4.0 miles upstream of the confluence of Sandy Creek	12090301	3.3	N	AE	2004
Piney Creek North	Bastrop, City of; Bastrop County, Unincorporated Areas	Confluence with Colorado River	Approximately 1.0 miles upstream of State Highway 95	12090301	3.3	N	AE, AO	2020
Railroad	Bastrop, City of	Confluence with Gills Branch	Approximately 1,390 feet upstream of Farm Street	12090301	0.7	N	A	2020
Sandy Creek	Bastrop County, Unincorporated Areas	Approximately 1.6 miles upstream of the confluence with Piney Creek	Approximately 4.3 miles upstream of the confluence with Piney Creek	12090301	2.3	N	AE	2004
Unnamed Tributary to Colorado River	Bastrop County, Unincorporated Areas	Confluence with Colorado River	Approximately 1.9 miles upstream of the confluence with Colorado River	12090301	1.9	N	AE	*

Table 2: Flooding Sources Included in the FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Walnut Creek and Zone A Tributaries	Bastrop County, Unincorporated Areas	Varies	Varies	12090301	83.8	N	A	2020
Willow Creek	Bastrop County, Unincorporated Areas; Smithville, City of	Confluence with Colorado River	Approximately 0.7 miles upstream of Bunte Road	12090301	6.9	N	AE	2020
ZONE A	Bastrop, City of; Bastrop County, Unincorporated Areas; Elgin, City of	All within Bastrop County	All within Bastrop County	12070102, 12070205, 12090301, 12100202	*	N	A	2004

*Data not available

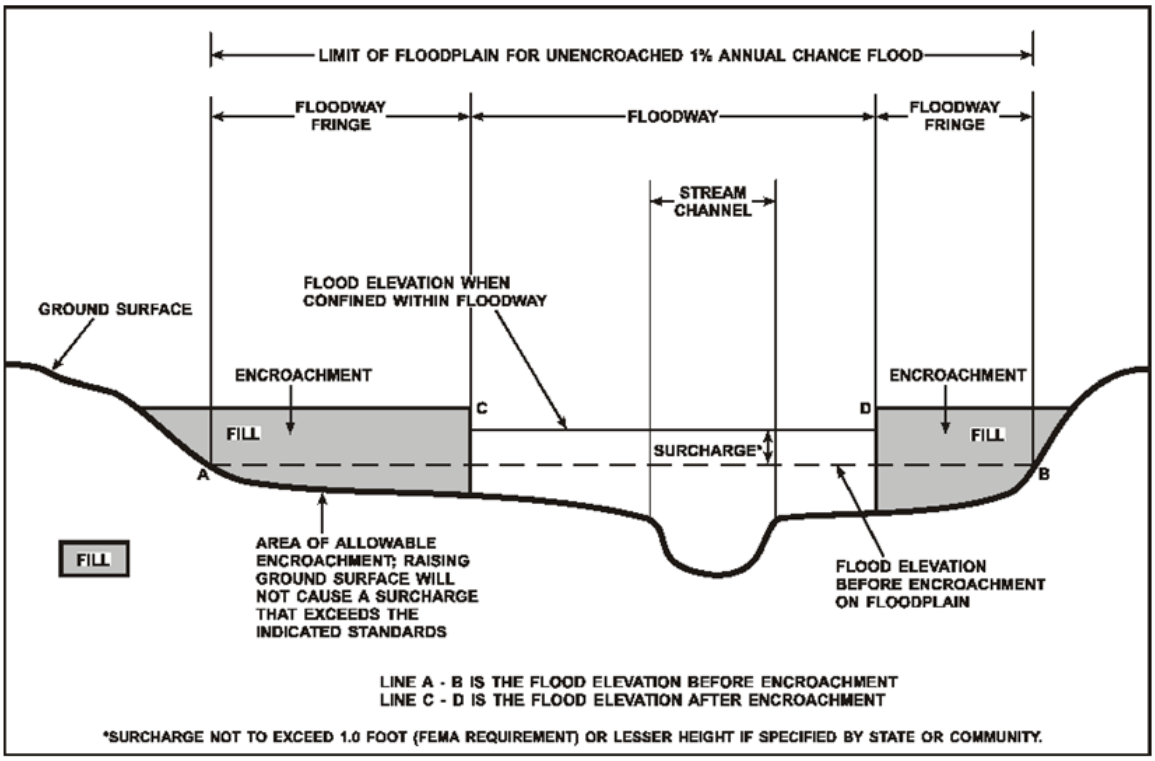
2.2 Floodways

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

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

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

Figure 4: Floodway Schematic



Floodway widths presented in this FIS Report and on the FIRM were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. For certain stream segments, floodways were adjusted so that the amount of floodwaters conveyed on each side of the floodplain would be reduced equally. The results of the floodway computations have been tabulated for selected cross sections and are shown in Table 23, “Floodway Data.”

All floodways that were developed for this Flood Risk Project are shown on the FIRM using the symbology described in Figure 3. In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown on the FIRM. For information about the delineation of floodways on the FIRM, refer to Section 6.3.

2.3 Base Flood Elevations

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

BFEs are primarily intended for flood insurance rating purposes. Cross sections with

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

2.4 Non-Encroachment Zones

This section is not applicable to this Flood Risk Project.

2.5 Coastal Flood Hazard Areas

This section is not applicable to this Flood Risk Project.

2.5.1 Water Elevations and the Effects of Waves

This section is not applicable to this Flood Risk Project.

Figure 5: Wave Runup Transect Schematic

[Not Applicable to this Flood Risk Project]

2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

This section is not applicable to this Flood Risk Project.

2.5.3 Coastal High Hazard Areas

This section is not applicable to this Flood Risk Project.

Figure 6: Coastal Transect Schematic

[Not Applicable to this Flood Risk Project]

2.5.4 Limit of Moderate Wave Action

This section is not applicable to this Flood Risk Project.

SECTION 3.0 – INSURANCE APPLICATIONS

3.1 National Flood Insurance Program Insurance Zones

For flood insurance applications, the FIRM designates flood insurance rate zones as

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

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

Table 3 lists the flood insurance zones in Bastrop County.

Table 3: Flood Zone Designations by Community

Community	Flood Zone(s)
Bastrop, City of	A, AE, AO, X
Bastrop County, Unincorporated Areas	A, AE, AO, X
Elgin, City of	A, AE, X
Smithville, City of	A, AE, X

SECTION 4.0 – AREA STUDIED

4.1 Basin Description

Table 4 contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its drainage area.

Table 4: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Lower Colorado-Cummins	12090301	Colorado River	Largest watershed within Bastrop County, encompassing the central portion of the county	2,196
Middle Guadalupe	12100202	Guadalupe River	Encompasses the southern corner of the county	2,138
San Gabriel	12070205	San Gabriel River	Located in the southeastern portion of the county	1,367
Yegua	12070102	Yegua Creek	A small portion is located in the northernmost portion of the county	1,321

4.2 Principal Flood Problems

Table 5 contains a description of the principal flood problems that have been noted for Bastrop County by flooding source.

Table 5: Principal Flood Problems

Flooding Source	Description of Flood Problems
Colorado River	The Colorado River can experience significant increases in stage. Some of the more significant storms on record include those of May 1975, June 1981, and October 1961. These were approximately 10-year, 10-year, and 20-year storms, respectively. These storms have all occurred since the construction of Lake Travis, approximately 80 river miles upstream, in the early 1940's. Lake Travis, Buchanan, and other reservoirs in the Highland Lake System provide a significant amount of flood protection for the Colorado River near the City of Bastrop. Prior to the construction of Lake Travis, extremely large floods were experienced in July 1869, June 1935, and December 1913. These events exceeded the stage of the October 1961 flood of 34.4 feet by 25.9 feet, 22.6 feet, and 18.9 feet, respectively. If events such as these were to occur today, without the upstream control provided by the Highland Lakes as discussed above, widespread flooding and property damage would result.
Gills Branch, Piney Creek North	The City of Bastrop can experience some local flooding due to these streams. However, due to the lack of gage records, no frequency information is available.

Table 6 contains information about historic flood elevations in the communities within Bastrop County.

Table 6: Historic Flooding Elevations

[Not Applicable to this Flood Risk Project]

4.3 Non-Levee Flood Protection Measures

Table 7 contains information about non-levee flood protection measures within Bastrop County such as dams, jetties, and or dikes. Levees are addressed in Section 4.4 of this FIS Report.

Table 7: Non-Levee Flood Protection Measures

[Not Applicable to this Flood Risk Project]

4.4 Levees

This section is not applicable to this Flood Risk Project.

Table 8: Levees

[Not Applicable to this Flood Risk Project]

SECTION 5.0 – ENGINEERING METHODS

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood

events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2-percent-annual-chance, respectively, of being equaled or exceeded during any year.

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

In addition to these flood events, the “1-percent-plus”, or “1%+”, annual chance flood elevation has been modeled and included on the flood profile for certain flooding sources in this FIS Report. While not used for regulatory or insurance purposes, this flood event has been calculated to help illustrate the variability range that exists between the regulatory 1-percent-annual-chance flood elevation and a 1-percent-annual-chance elevation that has taken into account an additional amount of uncertainty in the flood discharges (thus, the 1% “plus”). For flooding sources whose discharges were estimated using regression equations, the 1%+ flood elevations are derived by taking the 1-percent-annual-chance flood discharges and increasing the modeled discharges by a percentage equal to the average predictive error for the regression equation. For flooding sources with gage- or rainfall-runoff-based discharge estimates, the upper 84-percent confidence limit of the discharges is used to compute the 1%+ flood elevations.

The engineering analyses described here incorporate the results of previously issued Letters of Map Change (LOMCs) listed in Table 26, “Incorporated Letters of Map Change”, which include Letters of Map Revision (LOMRs). For more information about LOMRs, refer to Section 6.5, “FIRM Revisions.”

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. A summary of the hydrologic methods applied to develop the discharges used in the hydraulic analyses for each stream is provided in Table 12. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table 9. Frequency Discharge-Drainage Area Curves used to develop the hydrologic models may also be shown in Figure 7 for selected flooding sources. Stream gage information is provided in Table 11.

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Cedar Creek	Confluence with Colorado River	352.3	60,100	94,240	125,480	164,790	268,880
	Confluence with Walnut Creek	280.6	49,510	77,820	103,110	134,21	219,910
	Confluence with Long Branch	136.8	19,420	28,450	36,070	49,720	89,900
	FM 20	130.4	19,330	27,600	35,100	49,420	88,630
	Confluence with Greens Creek	112.6	17,390	24,920	33,720	48,030	83,800
	Confluence with Maha Creek	92.5	14,950	22,290	32,620	45,750	77,310
	FM 812	37.4	11,480	17,490	23,020	29,880	47,660
	Confluence with Lytton Springs Creek	25.9	11,390	15,960	20,090	25,520	38,570
	Caldwell Road	20.1	9,750	13,120	16,170	20,400	30,160
Cedar Creek Tributary 2	State Highway 71	2.12	1,467	*	2,382	2,776	2,797
Colorado River	Bastrop Gage (USGS Gage No. 08159200)	39,980	71,975	*	120,920	142,020	319,352
Dry Creek East	At confluence with Colorado River	55.7	11,200	14,100	15,900	19,200	28,900
	Just downstream of confluence of Moss Branch	54.9	11,200	14,100	15,800	19,000	28,600
	Approximately 700 feet upstream of confluence of Moss Branch	52.7	11,100	13,900	15,700	17,900	27,300
	Just downstream of confluence of Red Gully Creek	52.1	11,100	13,900	15,700	17,500	26,800
	Approximately 0.35 miles upstream of confluence of Red Gully Creek	45.3	10,800	13,500	15,100	16,800	20,700
	Approximately 0.59 miles downstream of Empedrado Lane	44.4	10,800	13,500	15,100	16,800	20,600
	Approximately 0.28 miles downstream of Empedrado Lane	44.1	10,800	13,500	15,100	16,800	20,600
	Approximately 385 feet downstream of Travis/Bastrop County Line	43.8	10,800	13,500	15,100	16,700	20,600

Table 9: Summary of Discharges (continued)

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Dry Creek East (continued)	Approximately 0.57 miles upstream of Tucker Hill Lane	43.0	12,900	17,400	20,500	23,500	20,600
Gazley Creek	Confluence with Colorado River	5.9	6,200	7,800	9,000	10,000	12,500
	Railroad	5.5	6,200	7,800	8,900	9,900	12,500
Gills Branch	Confluence with Colorado River	2.9	3,860	4,850	5,550	6,230	8,040
	State Highway 71 / State Highway 21	1.9	2,930	3,530	3,970	4,420	5,840
	State Loop 150 / Chestnut Street	1.5	1,486	1,698	1,862	2,021	2,463
	State Highway 95	1.0	1,960	2,400	2,720	3,040	3,950
Greens Creek	Confluence with Cedar Creek	4.9	4,150	6,730	8,790	10,700	14,920
	State Highway 21	4.4	4,150	6,600	8,260	9,920	13,700
	Clear Springs Lake	2.9	3,510	5,260	6,370	7,440	9,950
Long Branch	Confluence with Cedar Creek	5.6	4,960	6,670	7,730	9,220	13,470
	Texas Independent Trail / FM 20	4.6	4,470	5,890	6,930	8,400	11,990
	Earl Callahan Road	1.2	1,890	2,370	2,770	3,170	4,280
Lytton Springs Creek	Confluence with Cedar Creek	4.7	3,730	4,700	5,500	6,650	10,060
Maha Creek	Confluence with Cedar Creek	39.8	6,450	9,280	11,820	14,960	24,420
	State Highway 21	39.7	6,450	9,280	11,820	14,960	24,420
	Thousand Oaks Drive	38.1	6,370	9,140	11,730	14,860	24,360
	At Bastrop / Travis County Line	24.8	5,400	8,610	11,470	14,790	23,410
Piney Creek	Confluence of Sandy Creek	17.7	8,499	*	12,821	16,360	19,599
	Approximately 4.0 miles upstream of the confluence of Sandy Creek	3.0	8,078	*	12,078	15,388	18,297
Piney Creek North	Confluence with Colorado River	38.1	18,430	25,640	31,970	38,250	51,330
	State Highway 95	33.9	17,670	24,560	31,070	37,170	52,220
Sandy Creek	At the confluence with Piney Creek	39.9	20,650	*	30,916	39,539	46,887
	Approximately 4.0 miles upstream of the confluence with Piney Creek	31.7	15,091	*	22,906	29,365	35,207

Table 9: Summary of Discharges (continued)

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Unnamed Tributary to Colorado River	At confluence with Colorado River	0.94	315	*	795	1,180	1,675
	Approximately 500 feet upstream of FM 969	0.84	355	*	750	1,085	1,675
	Approximately 1.4 miles upstream of FM 969	0.42	250	*	450	610	840
Willow Creek	Loop Road	6.2	1,950	2,500	3,400	4,600	7,900
	State Highway 71	4.9	1,350	2,300	3,100	4,000	6,600

*Not calculated for this Flood Risk Project

Figure 7: Frequency Discharge-Drainage Area Curves

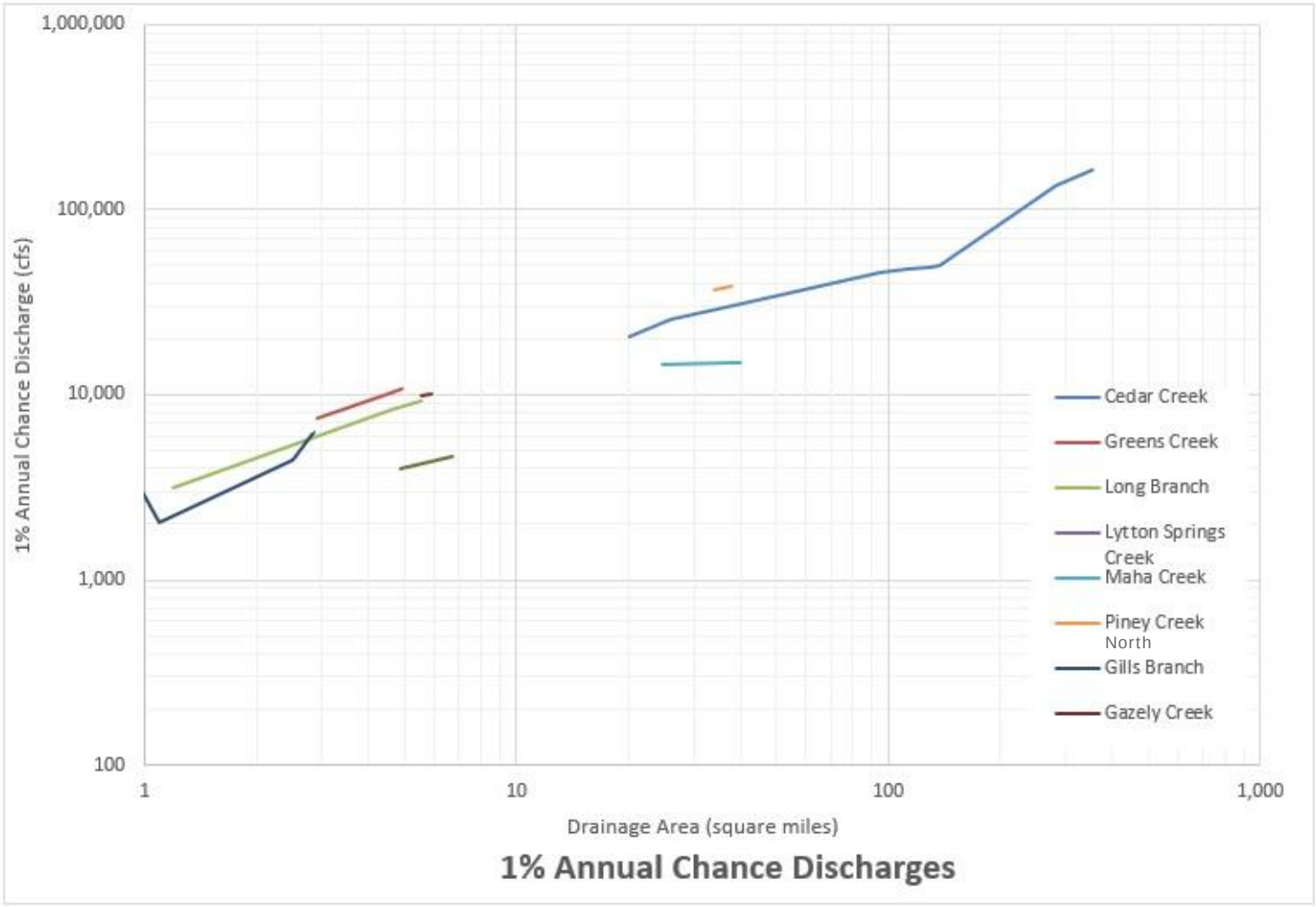


Table 10: Summary of Non-Coastal Stillwater Elevations

[Not Applicable to this Flood Risk Project]

Table 11: Stream Gage Information used to Determine Discharges

Flooding Source	Gage Identifier	Agency that Maintains Gage	Site Name	Drainage Area (Square Miles)	Period of Record	
					From	To
Cedar Creek	5521	LCRA	Cedar Creek Below Bastrop	130	06/30/2000	04/10/2018

5.2 Hydraulic Analyses

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

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed in Table 23, “Floodway Data.”

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 12. Roughness coefficients are provided in Table 13. Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

Table 12: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Cedar Creek	Confluence with Colorado River	Bastrop / Caldwell County Line	HEC-HMS 4.2	HEC-RAS 5.0.3	03/31/2020	AE w/ Floodway	Lateral structure used to represent overflow from Cedar Creek which will continue to Colorado River
Cedar Creek Tributary 2	Approximately 690 feet upstream of State Highway 71	Approximately 550 feet upstream of Steven F. Austin Boulevard	HEC-HMS 4.0	HEC-RAS 4.1.0	*	AE	Studied as part of LOMR 16-06-1114P
Cedar Creek Zone A Tributaries	Varies	Varies	HEC-HMS 4.2	HEC-RAS 5.0.3	03/31/2020	A	
Colorado River	Bastrop / Fayette County Line	Bastrop / Travis County Line	HEC-HMS 2.0	HEC-RAS 3.1	08/2013	AE w/ Floodway	The peak discharges were developed by a flood frequency analysis of the annual peak floods for the stream flow data recorded over a 70-year period of record. Cross section data was taken from 2-foot contour interval topographic maps of Bastrop County and 1-foot-contour interval topographic maps for the City of Bastrop. The mapping was supplemented with field surveys conducted in the summer of 2001 as a part of the Lower Colorado River Basin-wide study as well as the Texas Department of Transportation roadway and bridge construction plans.
Diversion	Confluence with Gazley Creek	Divergence from Willow Creek	HEC-HMS 3.5	HEC-RAS 4.1.0	03/31/2020	A, AO	Represents the overflow from Willow Creek which is conveyed to Gazley Creek
Dry Creek East	Confluence with Colorado River	Bastrop / Travis County Line	HEC-RAS 3.1.3	Aerially Reduced Peak Discharges	03/31/2020	AE w/ Floodway	Flow data was based on aerially reduced peak discharges. Peak Discharges at key locations along the study streams were place approximately one-half to one-third upstream of the reach between the key flow break locations.
Gazley Creek	Confluence with Colorado River	Approximately 490 feet upstream of Railroad	HEC-HMS 3.5	HEC-RAS 4.1.0	03/31/2020	AE	

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Gills Branch	Confluence with Colorado River	Approximately 200 feet upstream of State Highway 95	HEC-HMS 4.2	HEC-RAS 5.0.3	03/31/2020	AE w/ Floodway, AO	Lateral structure used to represent shallow overflow from Gills Branch to the Railroad tributary.
Greens Creek	Confluence with Cedar Creek	Approximately 1,745 feet upstream of Lois Lane	HEC-HMS 4.2	HEC-RAS 5.0.3	03/31/2020	AE	
Long Branch	Confluence with Cedar Creek	Approximately 1.4 miles upstream of South Earl Callahan Road	HEC-HMS 4.2	HEC-RAS 5.0.3	03/31/2020	AE	
Lytton Springs Creek	Confluence with Cedar Creek	Approximately 1.2 miles upstream of the confluence with Cedar Creek	HEC-HMS 4.2	HEC-RAS 5.0.3	03/31/2020	AE	
Maha Creek	Confluence with Cedar Creek	Bastrop / Caldwell County Line	HEC-HMS 4.2	HEC-RAS 5.0.3	03/31/2020	AE	
Piney Creek	Approximately 4,000 feet upstream of the confluence of Sandy Creek	Approximately 4.0 miles upstream of the confluence of Sandy Creek	Regional Regression Equations	HEC-RAS 3.0	08/03/2004	AE	
Piney Creek North	Confluence with Colorado River	Approximately 1.0 miles upstream of State Highway 95	HEC-HMS 4.2	HEC-RAS 5.0.3	03/31/2020	AE, AO	Lateral structure used to represent shallow overflow near Pecan Street, re-entering Piney Creek near Juniper Street.
Railroad	Confluence with Gills Branch	Approximately 1,390 feet upstream of Farm Street	HEC-HMS 4.2	HEC-RAS 5.0.3	03/31/2020	A	
Sandy Creek	Approximately 1.6 miles upstream of the confluence with Piney Creek	Approximately 4.3 miles upstream of the confluence with Piney Creek	Regional Regression Equations	HEC-RAS 3.0	08/03/2004	AE	

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Unnamed Tributary to Colorado River	Confluence with Colorado River	Approximately 1.9 miles upstream of the confluence with Colorado River	HEC-HMS 3.5	HEC-RAS 4.1.0	*	AE	Studied as part of LOMR 14-06-0986P
Walnut Creek and Zone A Tributaries	Varies	Varies	HEC-HMS 4.2	HEC-RAS 5.0.3	03/31/2020	A	
Willow Creek	Confluence with Colorado River	Approximately 0.7 miles upstream of Bunte Road	HEC-HMS 3.5	HEC-RAS 4.1.0	03/31/2020	AE	
Zone A	All within Bastrop County	All within Bastrop County	Regional Regression Equations	HEC-RAS 3.0	08/03/2004	A	

*Data not available

Table 13: Roughness Coefficients

Flooding Source	Channel “n”	Overbank “n”
Cedar Creek	0.030-0.075	0.040-0.100
Cedar Creek Tributary 2	*	*
Cedar Creek Zone A Tributaries	0.030-0.075	0.040-0.100
Colorado River	0.030-0.046	0.040-0.100
Diversion	0.040-0.045	0.030-0.120
Dry Creek East	0.050-0.070	0.040-0.150
Gazley Creek	0.050-0.065	0.030-0.120
Gills Branch	0.015-0.070	0.030-0.120
Greens Creek	0.030-0.075	0.040-0.100
Long Branch	0.030-0.075	0.040-0.100
Lytton Springs Creek	0.030-0.075	0.040-0.100
Maha Creek	0.030-0.075	0.040-0.100
Piney Creek	0.030-0.060	0.070-1.000
Piney Creek North	0.050-0.060	0.060-0.120
Railroad	0.060	0.030-0.120
Sandy Creek	0.030-0.060	0.070-1.000
Unnamed Tributary to Colorado River	*	*
Walnut Creek and Zone A Tributaries	0.050-0.055	0.040-0.100
Willow Creek	0.015-0.065	0.015-0.120
Zone A (2004)	0.030-0.060	0.070-1.000

*Data not available

5.3 Coastal Analyses

This section is not applicable to this Flood Risk Project.

Table 14: Summary of Coastal Analyses

[Not Applicable to this Flood Risk Project]

5.3.1 Total Stillwater Elevations

This section is not applicable to this Flood Risk Project.

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

[Not Applicable to this Flood Risk Project]

Table 15: Tide Gage Analysis Specifics

[Not Applicable to this Flood Risk Project]

5.3.2 Waves

This section is not applicable to this Flood Risk Project.

5.3.3 Coastal Erosion

This section is not applicable to this Flood Risk Project.

5.3.4 Wave Hazard Analyses

This section is not applicable to this Flood Risk Project.

Table 16: Coastal Transect Parameters

[Not Applicable to this Flood Risk Project]

Figure 9: Transect Location Map

[Not Applicable to this Flood Risk Project]

5.4 Alluvial Fan Analyses

This section is not applicable to this Flood Risk Project.

Table 17: Summary of Alluvial Fan Analyses

[Not Applicable to this Flood Risk Project]

Table 18: Results of Alluvial Fan Analyses

[Not Applicable to this Flood Risk Project]

SECTION 6.0 – MAPPING METHODS

6.1 Vertical and Horizontal Control

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

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

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

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

A countywide conversion factor from NGVD29 to NAVD88 in Bastrop County is +0.2 feet (FEMA 2006).

Table 19: Countywide Vertical Datum Conversion

[Not Applicable to this Flood Risk Project]

Table 20: Stream-Based Vertical Datum Conversion

[Not Applicable to this Flood Risk Project]

6.2 Base Map

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

Base map information shown on the FIRM was derived from the sources described in Table 21.

Table 21: Base Map Sources

Data Type	Data Provider	Data Date	Data Scale	Data Description
Base data from the 2006 and 2016 FIS Report and County boundary	Texas Department of Transportation	*	*	County boundary; municipal boundaries; state parks; roads; railroads; and streams, rivers, and lakes derived from NHD. The County boundary is also used for the TBD FIS Report.
Political boundaries	Texas Department of Transportation	2020	1:12,000	Municipal boundaries
State Park boundaries	Texas Parks and Wildlife Department	2016	1:12,000	State Park boundaries
Transportation Features	Texas Department of Transportation	2020	1:12,000	Roads
Transportation Features	Texas Department of Transportation	2016	1:12,000	Railroads

Table 21: Base Map Sources (continued)

Data Type	Data Provider	Data Date	Data Scale	Data Description
Surface Water Features	U.S. Geological Survey	2020	1:12,000	Streams, rivers, and lakes derived from NHD

*Data not available

6.3 Floodplain and Floodway Delineation

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

For riverine flooding sources, the mapped floodplain boundaries shown on the FIRM have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in Table 22.

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

The floodway widths presented in this FIS Report and on the FIRM were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. Table 2 indicates the flooding sources for which floodways have been determined. The results of the floodway computations for those flooding sources have been tabulated for selected cross sections and are shown in Table 23, “Floodway Data.”

Table 22: Summary of Topographic Elevation Data used in Mapping

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Vertical Accuracy	Horizontal Accuracy	Citation
Bastrop, City of; Bastrop County, Unincorporated Areas; Smithville, City of	All sources studied for the TBD FIS Report	Light Detection and Ranging Data (LiDAR)	10 cm RMSEz	1 meter at 95% confidence level	TNRIS 2017
Bastrop, City of; Bastrop County, Unincorporated Areas; Elgin, City of	Piney Creek, Sandy Creek, Zone A	Topographic Maps with 10-foot contour interval	*	*	FEMA 2006

Table 22: Summary of Topographic Elevation Data used in Mapping (continued)

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Vertical Accuracy	Horizontal Accuracy	Citation
Bastrop County, Unincorporated Areas	Dry Creek East	Light Detection and Ranging Data (LiDAR)	*	*	Sanborn 2003
Bastrop, City of; Bastrop County, Unincorporated Areas; Smithville, City of	Colorado River	Topographic Maps with 2-foot and 1-foot contour intervals and 30-meter Digital Elevation Model (DEM)	*	*	Halff 2002

*Data not available

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

Table 23: Floodway Data

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AD	109,806	2,129	19,011	2.4	414.0	414.0	414.0	0.0
AE	113,415	1,120	14,444	3.2	417.1	417.1	417.3	0.2
AF	117,011	1,400	13,378	3.4	419.9	419.9	420.8	1.0
AG	119,195	1,900	16,605	2.1	421.9	421.9	422.8	0.8
AH	121,663	1,745	11,325	3.0	424.1	424.1	424.6	0.5
AI	125,159	2,053	19,860	1.7	425.6	425.6	426.4	0.8
AJ	127,637	1,568	11,606	2.9	426.4	426.4	427.3	1.0
AK	130,684	1,397	12,073	2.8	429.2	429.2	430.2	1.0
AL	132,848	720	6,649	5.0	431.8	431.8	432.4	0.6
AM	136,654	809	7,869	4.2	437.2	437.2	438.1	0.9
AN	139,763	1,485	16,181	2.0	441.7	441.7	442.5	0.9
AO	143,248	1,551	13,549	2.3	443.4	443.4	444.1	0.8
AP	146,554	1,525	11,389	2.8	445.3	445.3	446.0	0.8
AQ	149,581	1,910	14,537	2.2	447.3	447.3	448.0	0.7
AR	152,008	1,900	11,610	2.7	449.1	449.1	449.8	0.7
AS	154,582	2,364	12,208	2.5	453.3	453.3	453.5	0.1

[1] Feet above confluence with Colorado River

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,085,903	1,679	33,099	4.38	297.7	297.7	398.2	0.5
B	1,087,867	2,098	40,747	3.55	298.5	298.5	299.0	0.5
C	1,091,987	1,304	36,949	3.92	299.4	299.4	300.0	0.6
D	1,097,080	2,600	54,564	2.65	300.4	300.4	301.2	0.8
E	1,101,892	2,500	52,867	2.74	301.1	301.1	301.9	0.8
F	1,106,195	5,900	96,112	1.51	301.6	301.6	302.4	0.9
G	1,110,142	6,300	73,119	1.98	301.9	301.9	302.8	0.9
H	1,115,026	1,600	35,142	4.15	302.9	302.9	303.8	0.8
I	1,117,254	2,500	37,910	3.86	303.8	303.8	304.6	1.0
J	1,118,198	1,175	26,744	5.47	304.1	304.1	305.1	1.0
K	1,118,345	1,175	26,992	5.43	304.2	304.2	305.2	0.8
L	1,119,744	925	21,899	6.69	304.6	304.6	305.4	0.9
M	1,120,708	840	21,494	6.83	305.2	305.2	306.1	0.9
N	1,121,886	750	20,423	7.20	305.9	305.9	306.8	0.9
O	1,123,511	1,060	29,466	5.00	307.4	307.4	308.3	0.8
P	1,127,754	2,380	45,287	3.25	309.0	309.0	309.8	0.8
Q	1,130,204	2,800	51,755	2.85	309.5	309.5	310.3	0.8
R	1,133,016	2,010	39,221	3.76	310.0	310.0	310.9	0.9
S	1,135,961	1,772	40,768	3.62	310.7	310.7	311.7	1.0
T	1,138,769	1,505	23,578	6.26	311.4	311.4	312.3	0.9
U	1,143,510	3,833	51,525	2.87	313.9	313.9	314.7	0.8
V	1,146,181	5,310	65,537	2.26	314.6	314.6	315.3	0.7
W	1,148,519	3,712	44,578	3.32	314.9	314.9	315.6	0.7
X	1,151,455	5,442	61,682	2.40	315.5	315.5	316.4	0.9
Y	1,154,267	6,275	57,531	2.58	316.3	316.3	317.2	0.9
Z	1,158,495	5,800	79,859	1.87	317.3	317.3	318.3	1.0

[1] Feet above mouth

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TEXAS

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: COLORADO RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AA	1,162,642	3,160	43,754	3.42	318.1	318.1	319.1	1.0
AB	1,167,120	3,739	53,262	2.83	319.4	319.4	320.4	1.0
AC	1,171,513	3,755	39,383	3.83	320.6	320.6	321.4	0.8
AD	1,176,755	4,550	72,538	2.09	322.1	322.1	322.9	0.8
AE	1,178,498	5,450	80,945	1.87	322.3	322.3	323.1	0.8
AF	1,181,045	5,400	75,519	2.01	322.5	322.5	323.4	0.9
AG	1,184,092	4,600	53,638	2.83	322.9	322.9	323.9	1.0
AH	1,186,865	4,310	49,004	3.11	323.6	323.6	324.7	1.1
AI	1,190,104	3,313	31,859	4.80	325.0	325.0	325.9	0.9
AJ	1,196,209	1,560	23,189	6.08	329.1	329.1	329.7	0.6
AK	1,203,862	646	22,116	6.38	333.4	333.4	334.1	0.7
AL	1,206,494	1,197	24,824	5.68	334.2	334.2	335.0	0.8
AM	1,211,260	1,124	31,796	4.44	336.4	336.4	337.1	0.7
AN	1,215,066	1,080	25,045	5.64	337.6	337.6	338.2	0.6
AO	1,219,159	818	25,750	5.49	339.4	339.4	339.9	0.5
AP	1,223,050	753	23,256	6.08	340.7	340.7	341.2	0.5
AQ	1,226,009	648	20,706	6.83	342.0	342.0	342.5	0.5
AR	1,227,473	898	23,341	6.06	342.6	342.6	343.2	0.6
AS	1,231,270	1,277	31,365	4.51	344.6	344.6	345.5	0.9
AT	1,234,977	618	19,910	7.11	345.6	345.6	346.4	0.8
AU	1,237,587	485	18,456	7.68	346.9	346.9	347.5	0.6
AV	1,240,160	612	20,708	6.84	347.8	347.8	348.5	0.7
AW	1,243,184	1,375	32,779	4.32	349.0	349.0	349.7	0.7
AX	1,246,200	1,336	34,501	4.11	349.6	349.6	350.2	0.6
AY	1,250,254	927	23,080	6.15	350.5	350.5	351.1	0.6
AZ	1,253,746	1,064	26,572	3.08	352.3	352.3	352.7	0.4

[1] Feet above mouth

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TEXAS

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: COLORADO RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BA	1,254,380	923	25,824	3.17	352.3	352.3	352.8	0.5
BB	1,254,927	984	26,218	3.12	352.4	352.4	352.9	0.5
BC	1,256,293	1,172	29,545	2.77	352.6	352.6	353.1	0.5
BD	1,256,462	1,083	29,658	2.76	352.6	352.6	353.1	0.5
BE	1,256,595	1,070	28,885	2.84	352.7	352.7	353.2	0.5
BF	1,259,200	1,720	51,553	1.70	353.0	353.0	353.4	0.4
BG	1,263,864	1,180	24,318	3.60	353.2	353.2	353.6	0.4
BH	1,267,038	860	23,264	3.76	353.6	353.6	353.9	0.3
BI	1,270,548	910	25,321	3.45	354.0	354.0	354.2	0.2
BJ	1,272,597	1,250	36,869	2.59	354.3	354.3	354.5	0.2
BK	1,275,058	715	18,649	5.11	354.4	354.4	354.6	0.2
BL	1,277,251	700	20,152	4.92	354.7	354.7	354.9	0.2
BM	1,282,305	1,615	23,965	5.71	355.5	355.5	356.1	0.6
BN	1,290,762	1,025	25,148	5.43	357.3	357.3	358.3	1.0
BO	1,295,024	645	18,482	7.38	358.4	358.4	359.3	0.9
BP	1,297,534	910	17,285	7.89	358.8	358.8	359.7	0.9
BQ	1,301,763	2,255	24,402	5.35	361.1	361.1	362.1	1.0
BR	1,304,422	965	20,183	6.47	361.6	361.6	362.6	1.0
BS	1,309,137	500	15,203	8.58	362.7	362.7	363.7	1.0
BT	1,311,372	675	18,675	6.99	363.8	363.8	364.8	1.0
BU	1,317,217	520	15,267	8.55	365.4	365.4	366.4	1.0
BV	1,321,274	6,050	47,265	2.36	367.6	367.6	368.6	1.0
BW	1,325,899	6,000	60,485	1.84	368.2	368.2	369.1	0.9
BX	1,328,438	5,950	49,640	2.24	368.3	368.3	369.2	0.9
BY	1,333,143	3,300	41,060	2.71	368.9	368.9	369.8	0.9
BZ	1,335,504	1,746	16,839	6.62	368.9	368.9	369.8	0.9

[1] Feet above mouth

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TEXAS

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: COLORADO RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
CA	1,336,204	1,870	21,075	5.29	369.2	369.2	370.1	0.9
CB	1,337,188	2,075	22,355	5.00	369.6	369.6	370.5	0.9
CC	1,343,300	1,359	15,674	7.19	371.5	371.5	372.3	0.8
CD	1,346,839	705	18,876	6.01	373.7	373.7	374.6	0.9
CE	1,350,669	460	13,782	8.25	375.0	375.0	375.8	0.8
CF	1,352,843	695	19,165	5.94	375.9	375.9	376.8	0.9
CG	1,355,282	530	15,457	7.37	376.5	376.5	377.4	0.9
CH	1,357,639	740	19,315	5.90	377.3	377.3	378.2	0.9
CI	1,358,984	715	16,923	6.73	377.7	377.7	378.5	0.8
CJ	1,360,952	605	15,617	7.30	378.2	378.2	379.1	0.9
CK	1,362,079	640	16,244	7.02	378.9	378.9	379.8	0.9
CL	1,365,260	610	16,847	6.77	379.8	379.8	380.6	0.8
CM	1,367,983	785	16,894	6.75	381.1	381.1	382.0	0.9
CN	1,371,605	555	16,555	6.89	382.3	382.3	383.2	0.9
CO	1,374,089	550	13,548	8.42	382.7	382.7	383.7	1.0
CP	1,375,883	620	16,050	7.11	383.5	383.5	384.4	0.9
CQ	1,379,366	995	20,052	5.69	385.0	385.0	385.9	0.9
CR	1,381,622	1,368	15,150	7.53	385.3	385.3	386.2	0.9
CS	1,383,693	1,110	17,992	6.34	385.9	385.9	386.8	0.9
CT	1,386,708	1,243	19,181	5.95	386.9	386.9	387.9	1.0
CU	1,389,663	4,805	67,999	1.68	388.0	388.0	388.9	0.9
CV	1,393,376	4,980	69,757	1.57	388.2	388.2	389.1	0.9
CW	1,396,157	3,270	26,521	4.15	388.4	388.4	389.3	0.9
CX	1,399,205	2,786	25,943	4.26	389.3	389.3	390.1	0.8
CY	1,400,662	1,761	22,350	4.97	389.7	389.7	390.6	0.9
CZ	1,407,078	2,935	54,369	2.06	391.1	391.1	392.0	0.9

[1] Feet above mouth

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TEXAS

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: COLORADO RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	11,556	340	5,266	3.3	396.8	396.8	397.6	0.8
B	15,679	275	4,042	4.2	400.2	400.2	401.1	0.9
C	20,325	290	2,702	6.2	402.1	402.1	403.1	1.0

[1] Feet above confluence with Colorado River

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TEXAS

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: DRY CREEK EAST

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	750	112	746	5.2	352.0	327.4[2]	327.5	0.1
B	1,550	53	427	9.1	352.0	331.9[2]	331.9	0.0
C	2,888	293	1,099	3.5	352.0	342.3[2]	342.3	0.0
D	3,274	284	34	5.3	352.0	344.4[2]	344.4	0.0
E	3,573	474	1,100	3.5	352.0	346.9[2]	346.9	0.0
F	3,888	50	285	13.6	352.0	349.4[2]	349.4	0.0
G	4,550	53	290	13.4	353.7	353.7	353.7	0.0
H	5,311	113	998	4.4	361.2	361.2	361.2	0.0
I	6,313	244	803	3.9	363.2	363.2	364.2	1.0
J	7,213	165	604	4.0	369.6	369.6	370.1	0.5
K	7,629	65	561	3.6	372.4	372.4	373.4	1.0
L	8,105	148	461	4.7	373.9	373.9	374.8	0.9
M	8,632	105	610	3.9	377.8	377.8	378.8	1.0
N	9,424	133	590	4.4	382.5	382.5	383.3	0.8
O	10,128	96	523	5.8	387.5	387.5	388.2	0.7
P	10,572	108	737	4.1	391.7	391.7	392.4	0.7

[1] Feet above confluence with Colorado River
[2] Elevation computed without consideration of backwater effects from Colorado River

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TEXAS

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: GILLS BRANCH

Table 24: Flood Hazard and Non-Encroachment Data for Selected Streams

[Not Applicable to this Flood Risk Project]

6.4 Coastal Flood Hazard Mapping

This section is not applicable to this Flood Risk Project.

Table 25: Summary of Coastal Transect Mapping Considerations

[Not Applicable to this Flood Risk Project]

6.5 FIRM Revisions

This FIS Report and the FIRM are based on the most up-to-date information available to FEMA at the time of its publication; however, flood hazard conditions change over time. Communities or private parties may request flood map revisions at any time. Certain types of requests require submission of supporting data. FEMA may also initiate a revision. Revisions may take several forms, including Letters of Map Amendment (LOMAs), Letters of Map Revision Based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs) (referred to collectively as Letters of Map Change (LOMCs)), Physical Map Revisions (PMRs), and FEMA-contracted restudies. These types of revisions are further described below. Some of these types of revisions do not result in the republishing of the FIS Report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood-hazard data (shown in Table 30, "Map Repositories").

6.5.1 Letters of Map Amendment

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

To obtain an application for a LOMA, visit www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms and download the form "MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill". Visit the "Flood Map-Related Fees" section to determine the cost, if any, of applying for a LOMA.

FEMA offers a tutorial on how to apply for a LOMA. The LOMA Tutorial Series can be accessed at www.fema.gov/flood-maps/tutorials.

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

6.5.2 Letters of Map Revision Based on Fill

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

Information about obtaining an application for a LOMR-F can be obtained in the same manner as that for a LOMA, by visiting www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms for the "MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill" or by calling the FEMA Mapping and Insurance eXchange, toll free, at 1-877-FEMA MAP (1-877-336-2627). Fees for applying for a LOMR-F, if any, are listed in the "Flood Map-Related Fees" section.

A tutorial for LOMR-F is available at www.fema.gov/flood-maps/tutorials.

6.5.3 Letters of Map Revision

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

To obtain an application for a LOMR, visit www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms and download the form "MT-2 Application Forms and Instructions for Conditional Letters of Map Revision and Letters of Map Revision". Visit the "Flood Map-Related Fees" section to determine the cost of applying for a LOMR. For more information about how to apply for a LOMR, call the FEMA Mapping and Insurance eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627) to speak to a Map Specialist.

Previously issued mappable LOMCs (including LOMRs) that have been incorporated into the Bastrop County FIRM are listed in Table 26. Please note that this table only includes LOMCs that have been issued on the FIRM panels updated by this map revision. For all other areas within this county, users should be aware that revisions to the FIS Report made by prior LOMRs may not be reflected herein and users will need to continue to use the previously issued LOMRs to obtain the most current data.

Table 26: Incorporated Letters of Map Change

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
07-06-1049P	07/30/2007	Cedar Creek Tributary 11, Unnamed Tributary to Cedar Creek Tributary 11, Unnamed Tributary to Unnamed Tributary to Cedar Creek Tributary 11	48021C0325F
10-06-2245P	04/21/2011	Unnamed Tributary to Colorado River Tributary 6	48021C0355F
14-06-0986P	01/09/2015	Unnamed Tributary to Colorado River	48021C0215F 48021C0335F 48021C0355F
16-06-1114P	11/14/2016	Cedar Creek Tributary 2	48021C0335F
19-06-0976P	11/18/2019	Colorado River, Colorado River Tributary 6	48021C0355F 48021C0360F

Table 26: Incorporated Letters of Map Change (continued)

Case Number	Effective Date	Flooding Source	FIRM Panel(s)
20-06-1063P	09/21/2020	Colorado River	48021C0355F

6.5.4 Physical Map Revisions

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

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

For more information about the PMR process, please visit www.fema.gov and visit the "Flood Map Revision Processes" section.

6.5.5 Contracted Restudies

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

6.5.6 Community Map History

The current FIRM presents flooding information for the entire geographic area of Bastrop County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBMs) and/or Flood Boundary and Floodway Maps (FBFMs) may have been prepared for the incorporated communities and the unincorporated areas in the county that had identified SFHAs. Current and historical data relating to the maps prepared for the project area are presented in Table 27, "Community Map History." A description of each of the column headings and the source of the date is also listed below.

- *Community Name* includes communities falling within the geographic area shown on the FIRM, including those that fall on the boundary line, nonparticipating communities, and communities with maps that have been rescinded. Communities with No Special Flood Hazards are indicated by a footnote. If all

maps (FHBM, FBFM, and FIRM) were rescinded for a community, it is not listed in this table unless SFHAs have been identified in this community.

- *Initial Identification Date (First NFIP Map Published)* is the date of the first NFIP map that identified flood hazards in the community. If the FHBM has been converted to a FIRM, the initial FHBM date is shown. If the community has never been mapped, the upcoming effective date or "pending" (for Preliminary FIS Reports) is shown. If the community is listed in Table 27 but not identified on the map, the community is treated as if it were unmapped.

- *Initial FHBM Effective Date* is the effective date of the first FHBM. This date may be the same date as the Initial NFIP Map Date.

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

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

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

The initial effective date for the Bastrop County FIRMs in countywide format was 08/19/1991.

Table 27: Community Map History

Community Name	Initial Identification Date	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Bastrop, City of	03/19/1976	03/19/1976	N/A	08/19/1991	TBD 01/19/2006
Bastrop County, Unincorporated Areas	08/09/1977	08/09/1977	06/03/1980	08/19/1991	TBD 01/06/2016 01/19/2006 12/08/1998
Elgin, City of	06/21/1974	06/21/1974	02/27/1976	07/01/1988	01/19/2006 08/19/1991
Smithville, City of	04/05/1974	04/05/1974	05/21/1976	01/16/1979	TBD 01/19/2006 08/19/1991

SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

7.1 Contracted Studies

Table 28 provides a summary of the contracted studies, by flooding source, that are included in this FIS Report.

Table 28: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Cedar Creek	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop County, Unincorporated Areas
Cedar Creek Zone A Tributaries	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop County, Unincorporated Areas
Colorado River	01/19/2006	Halff Associates, Inc.	EMT-2001-CO-0029	March 2003	Bastrop, City of; Bastrop County, Unincorporated Areas; Smithville, City of
Diversion	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop County, Unincorporated Areas; Smithville, City of
Dry Creek East	01/06/2016	Halff Associates, Inc.	EMT-2010-CA-011	August 2013	Bastrop County, Unincorporated Areas
Gazley Creek	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop County, Unincorporated Areas; Smithville, City of
Gills Branch	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop, City of; Bastrop County, Unincorporated Areas
Greens Creek	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop County, Unincorporated Areas
Long Branch	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop County, Unincorporated Areas
Lytton Springs Creek	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop County, Unincorporated Areas

Table 28: Summary of Contracted Studies Included in this FIS Report (continued)

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Maha Creek	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop County, Unincorporated Areas
Piney Creek	01/19/2006	Watershed Concepts	TA-04, Task Order 1	August 2004	Bastrop County, Unincorporated Areas
Piney Creek North	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop, City of; Bastrop County, Unincorporated Areas
Railroad	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop, City of
Sandy Creek	01/19/2006	Watershed Concepts	TA-04, Task Order 1	August 2004	Bastrop County, Unincorporated Areas
Walnut Creek and Zone A Tributaries	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop County, Unincorporated Areas
Willow Creek	TBD	Halff Associates, Inc.	EMT-2017-CA-00021 MAS No. 14	March 2020	Bastrop County, Unincorporated Areas; Smithville, City of
Zone A	01/19/2006	Watershed Concepts	TA-04, Task Order 1	August 2004	Bastrop, City of; Bastrop County, Unincorporated Areas; Elgin, City of

7.2 Community Meetings

The dates of the community meetings held for this Flood Risk Project and previous Flood Risk Projects are shown in Table 29. These meetings may have previously been referred to by a variety of names (Community Coordination Officer (CCO), Scoping, Discovery, etc.), but all meetings represent opportunities for FEMA, community officials, study contractors, and other invited guests to discuss the planning for and results of the project.

Table 29: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Bastrop, City of	TBD	10/11/2019	Flood Risk Review	Texas Water Development Board, the community, and the study contractor
Bastrop County, Unincorporated Areas	TBD	10/11/2019	Flood Risk Review	Texas Water Development Board, the community, and the study contractor
Elgin, City of	01/19/2006	06/20/2002	Initial CCO Meeting	Lower Colorado River Authority, the communities, the county, and the study contractors
		10/26/2004	Final CCO Meeting	FEMA, Lower Colorado River Authority, the communities, and the study contractors
Smithville, City of	TBD	10/15/2019	Flood Risk Review	Texas Water Development Board, the community, and the study contractor

SECTION 8.0 – ADDITIONAL INFORMATION

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

Table 30 is a list of the locations where FIRMs for Bastrop County can be viewed. Please note that the maps at these locations are for reference only and are not for distribution. Also, please note that only the maps for the community listed in the table are available at that particular repository. A user may need to visit another repository to view maps from an adjacent community.

Table 30: Map Repositories

Community	Address	City	State	Zip Code
Bastrop, City of	City Hall 1311 Chestnut Street	Bastrop	TX	78602
Bastrop County, Unincorporated Areas	Development Services 211 Jackson Street	Bastrop	TX	78602
Elgin, City of	Development Services Department 310 North Main Street	Elgin	TX	78621
Smithville, City of	City Hall 317 Main Street	Smithville	TX	78957

The National Flood Hazard Layer (NFHL) dataset is a compilation of effective FIRM Databases and LOMCs. Together they create a GIS data layer for a State or Territory. The NFHL is updated as studies become effective and extracts are made available to the public monthly. NFHL data can be viewed or ordered from the website shown in Table 31.

Table 31 contains useful contact information regarding the FIS Report, the FIRM, and other relevant flood hazard and GIS data. In addition, information about the State NFIP Coordinator and GIS Coordinator is shown in this table. At the request of FEMA, each Governor has designated an agency of State or territorial government to coordinate that State's or territory's NFIP activities. These agencies often assist communities in developing and adopting necessary floodplain management measures. State GIS Coordinators are knowledgeable about the availability and location of State and local GIS data in their state.

Table 31: Additional Information

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	www.fema.gov/flood-maps/products-tools/know-your-risk/engineers-surveyors-architects
NFIP website	www.fema.gov/flood-insurance
NFHL Dataset	msc.fema.gov

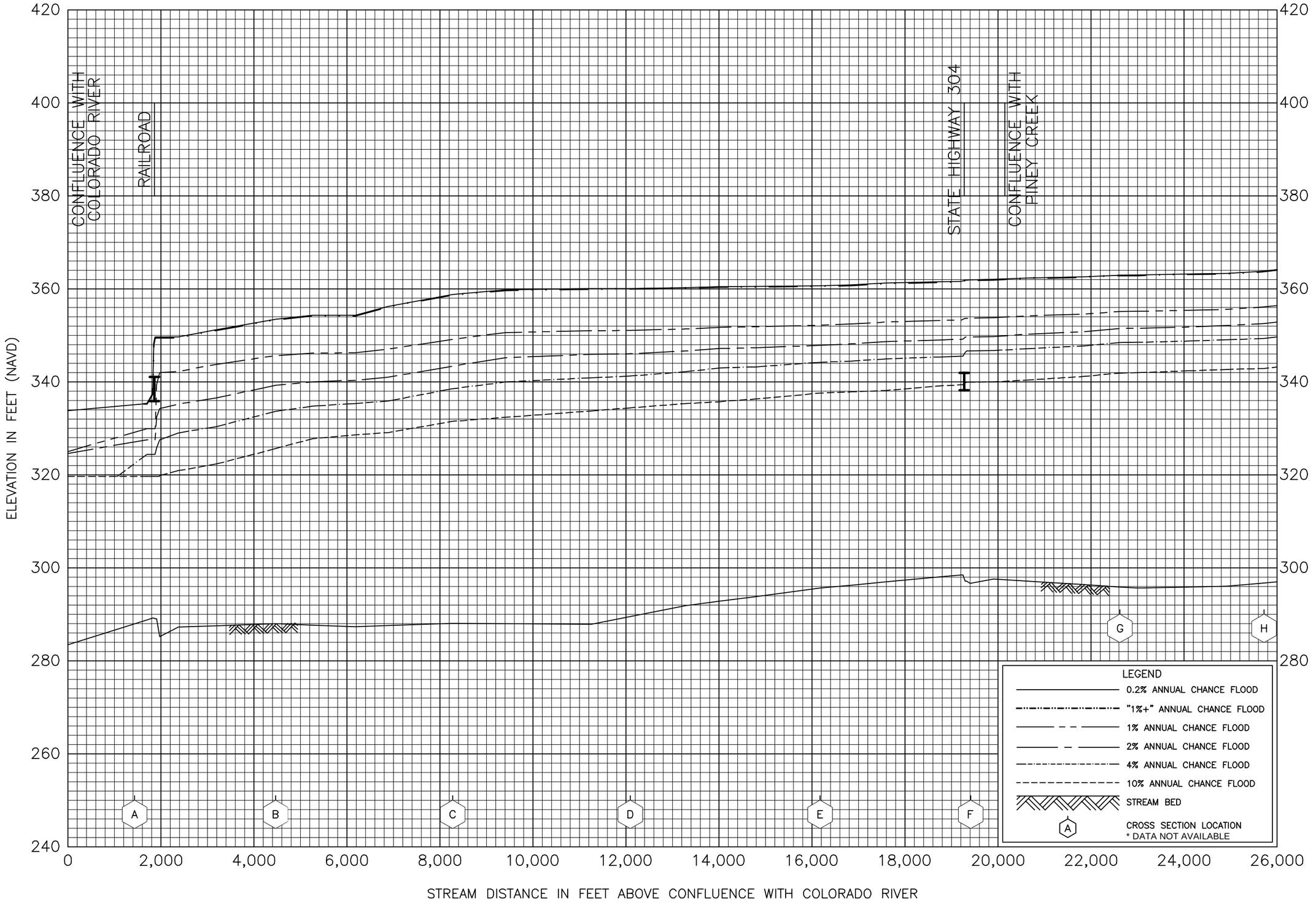
FEMA Region VI	Larry Voice 800 North Loop 288 Denton, TX 76209 (940) 898-5419 larry.voice@fema.dhs.gov
Other Federal Agencies	
USGS website	www.usgs.gov
Hydraulic Engineering Center website	www.hec.usace.army.mil
State Agencies and Organizations	
State NFIP Coordinator	Michael Segner Texas Water Development Board 1700 North Congress Avenue P.O. Box 13231 Austin, TX 78711-3231 (512) 463-3509 michael.segner@twdb.state.tx.us
State GIS Coordinator	Mike Ouimet State GIS Coordinator 300 West 15th Street P.O. Box 13564 Austin, TX 78711-3564 (512) 305-9076 mike.ouimet@dir.state.tx.us

SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES

Table 32 includes sources used in the preparation of and cited in this FIS Report as well as additional studies that have been conducted in the study area.

Table 32: Bibliography and References

Citation in this FIS	Publisher/ Issuer	*Publication Title,* "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
FEMA 2006	Federal Emergency Management Agency	*Flood Insurance Study, Bastrop County, Texas, and Incorporated Areas*		Washington, D.C.	January 19, 2006	FEMA Flood Map Service Center msc.fema.gov
FEMA 2016	Federal Emergency Management Agency	*Flood Insurance Study, Bastrop County, Texas, and Incorporated Areas*		Washington, D.C.	January 6, 2016	FEMA Flood Map Service Center msc.fema.gov
Halff 2002	Halff Associates, Inc.	*Mapping the Colorado River, Technical Support Data Notebook*	Halff Associates, Inc.	Forth Worth, Texas	September 2002	
Sanborn 2003	The Sanborn Map Company, Inc.	*Topographic Maps Compiled from LiDAR, Contour Interval 2-Feet*	The Sanborn Map Company, Inc.	City of Austin and Travis County, Texas	January 2003	
TNRIS 2017	Texas Natural Resources Information System	*Central Texas LiDAR 2017*	Texas Natural Resources Information System	Austin, Texas	2017	Texas Natural Resources Information System DataHub https://data.tnris.org/
TWDB 2020	Texas Water Development Board	*Texas Water Development Board CTP FY17 RiskMAP Project*	Texas Water Development Board	Austin, Texas	March 3, 2020	



FLOOD PROFILES

CEDAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

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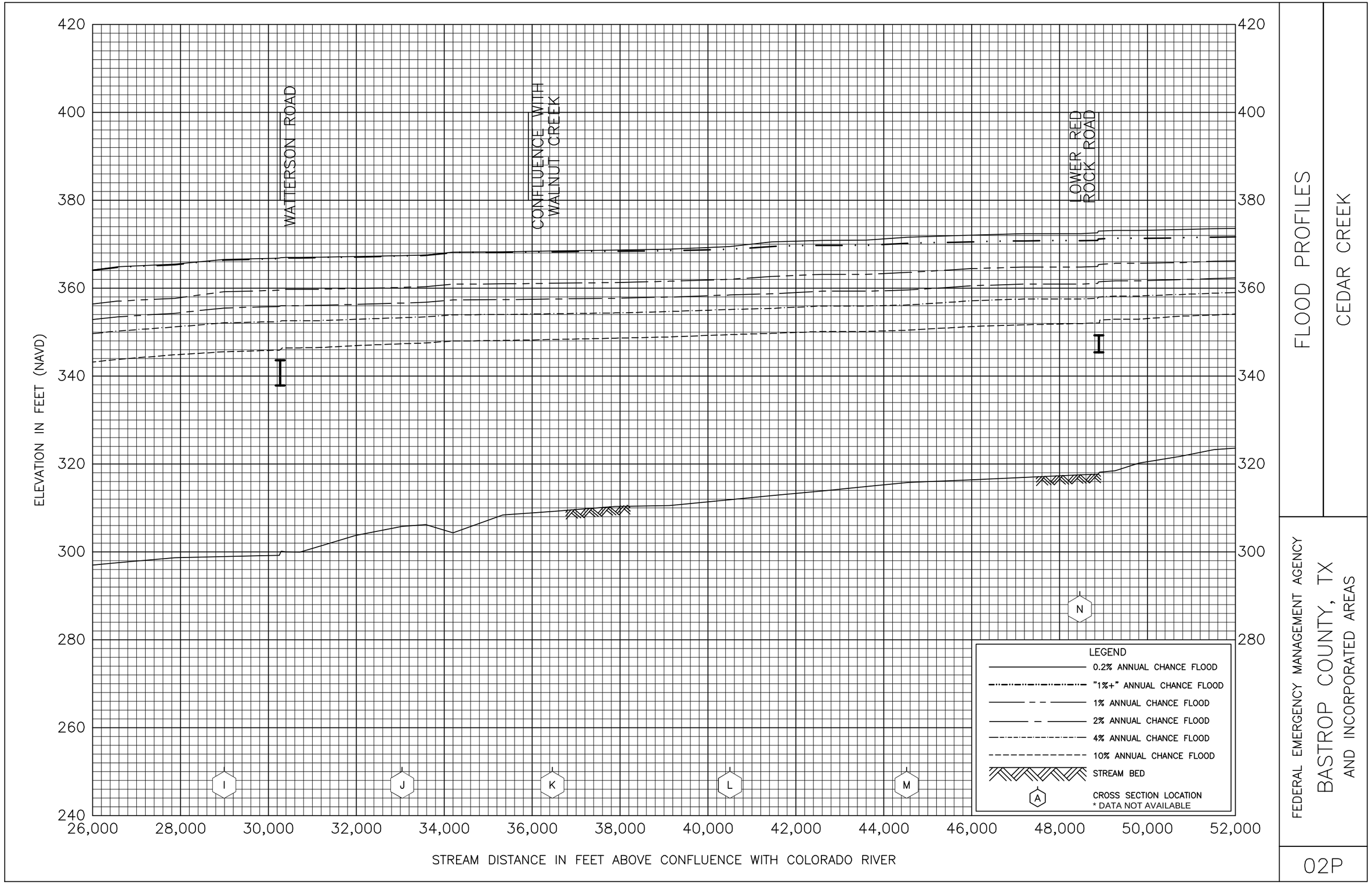

FLOOD PROFILES

CEDAR CREEK

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BASTROP COUNTY, TX

AND INCORPORATED AREAS

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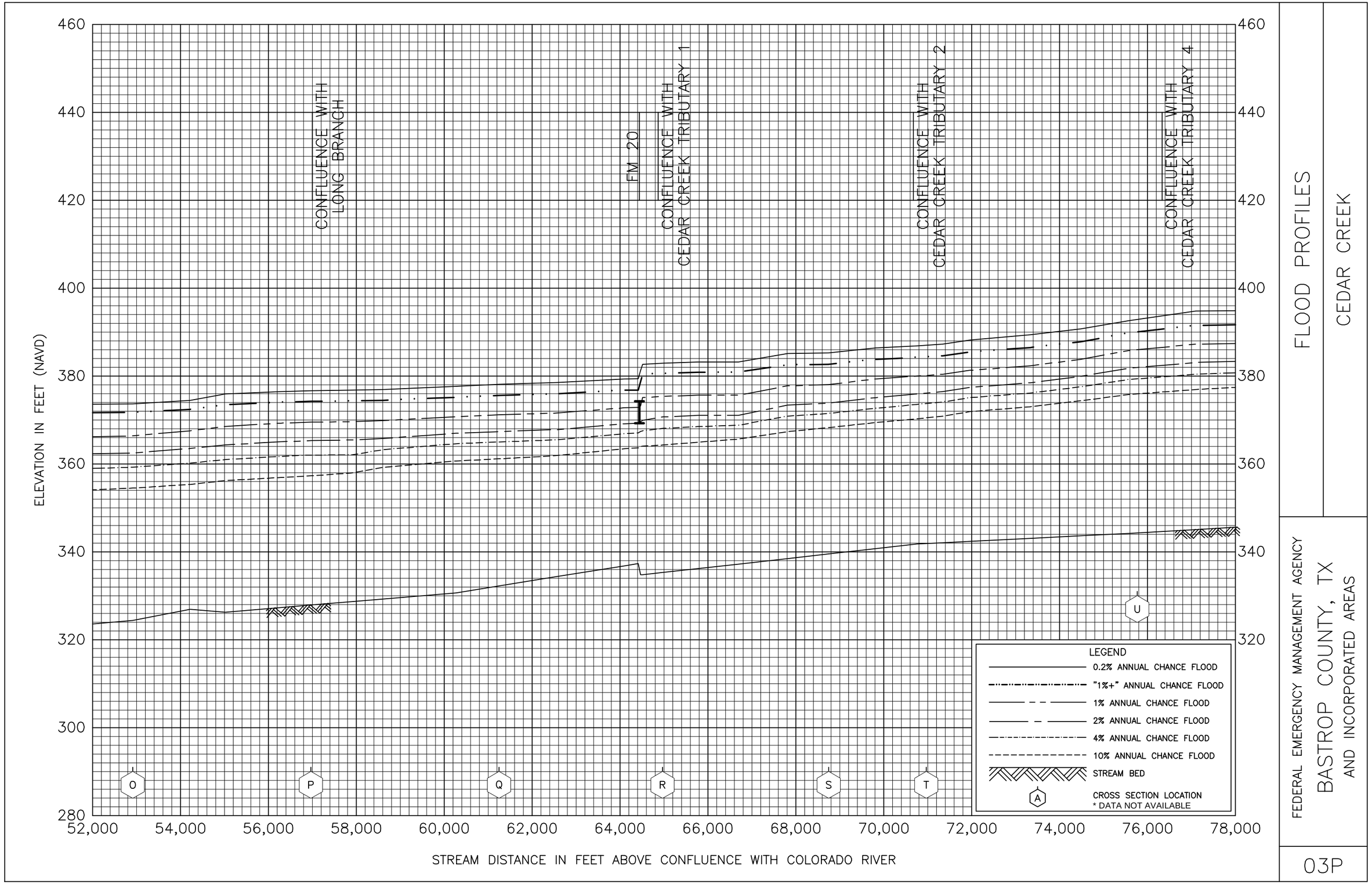

FLOOD PROFILES

CEDAR CREEK

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BASTROP COUNTY, TX

AND INCORPORATED AREAS

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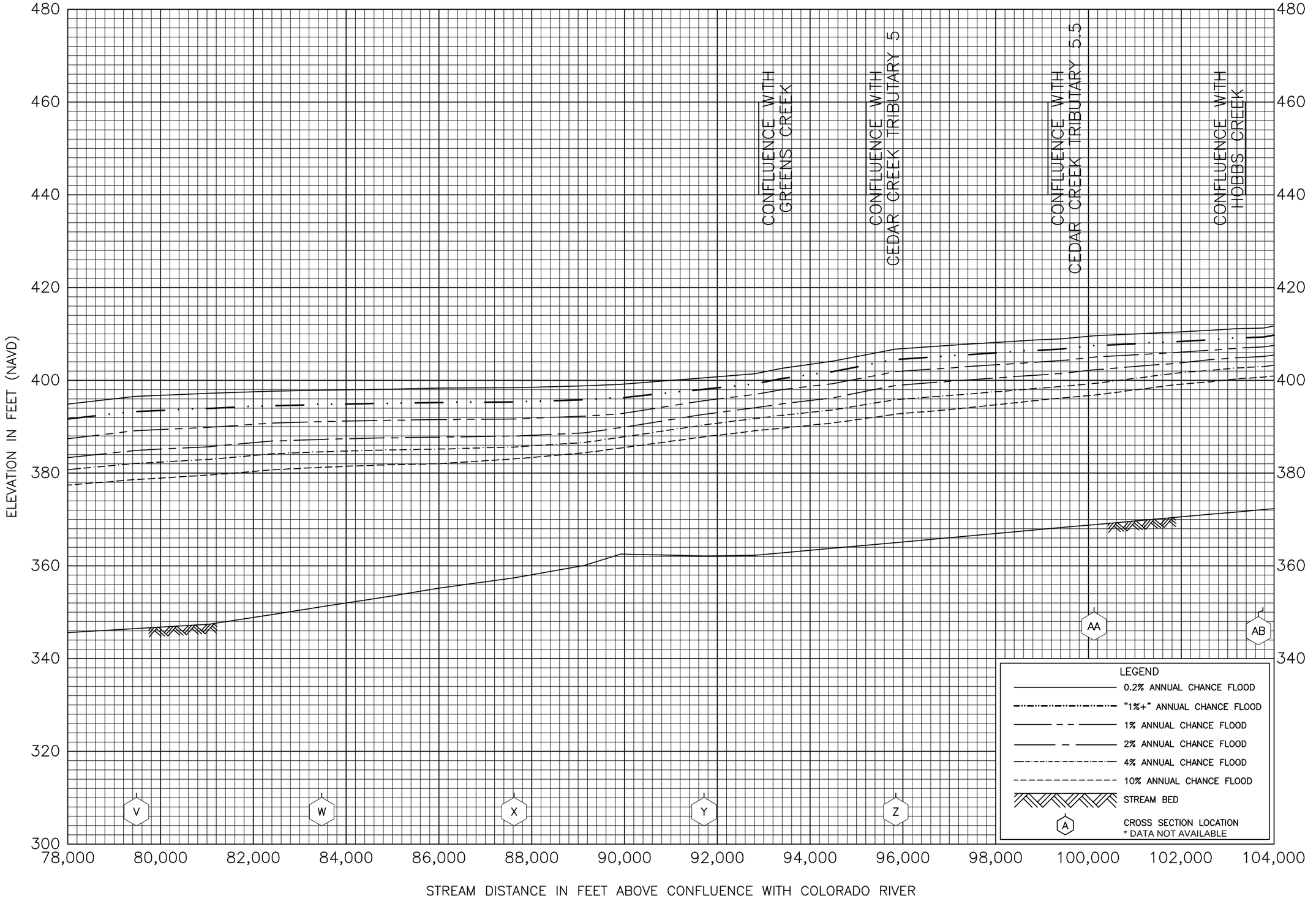

FLOOD PROFILES

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AND INCORPORATED AREAS

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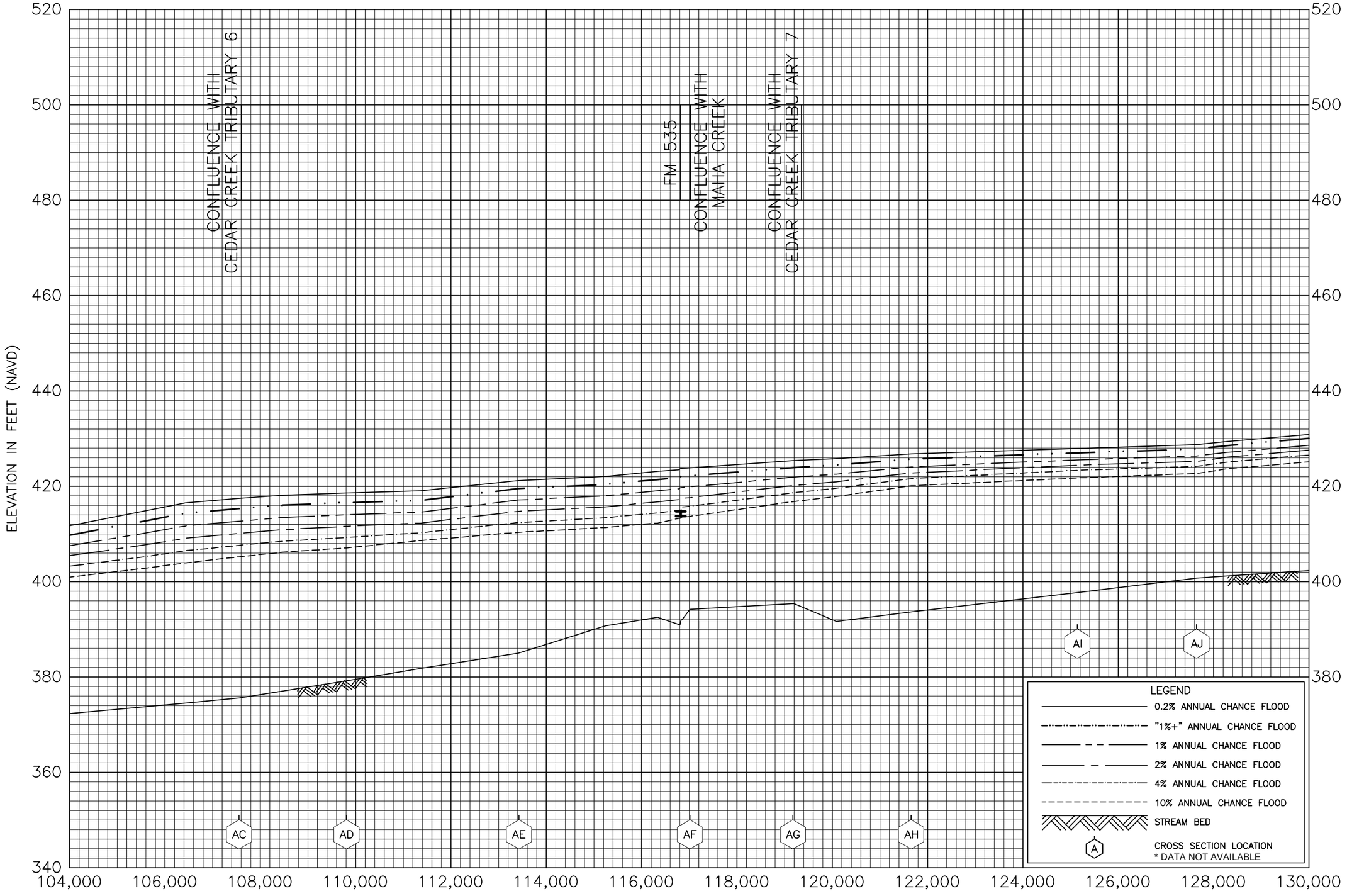

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BASTROP COUNTY, TX

AND INCORPORATED AREAS

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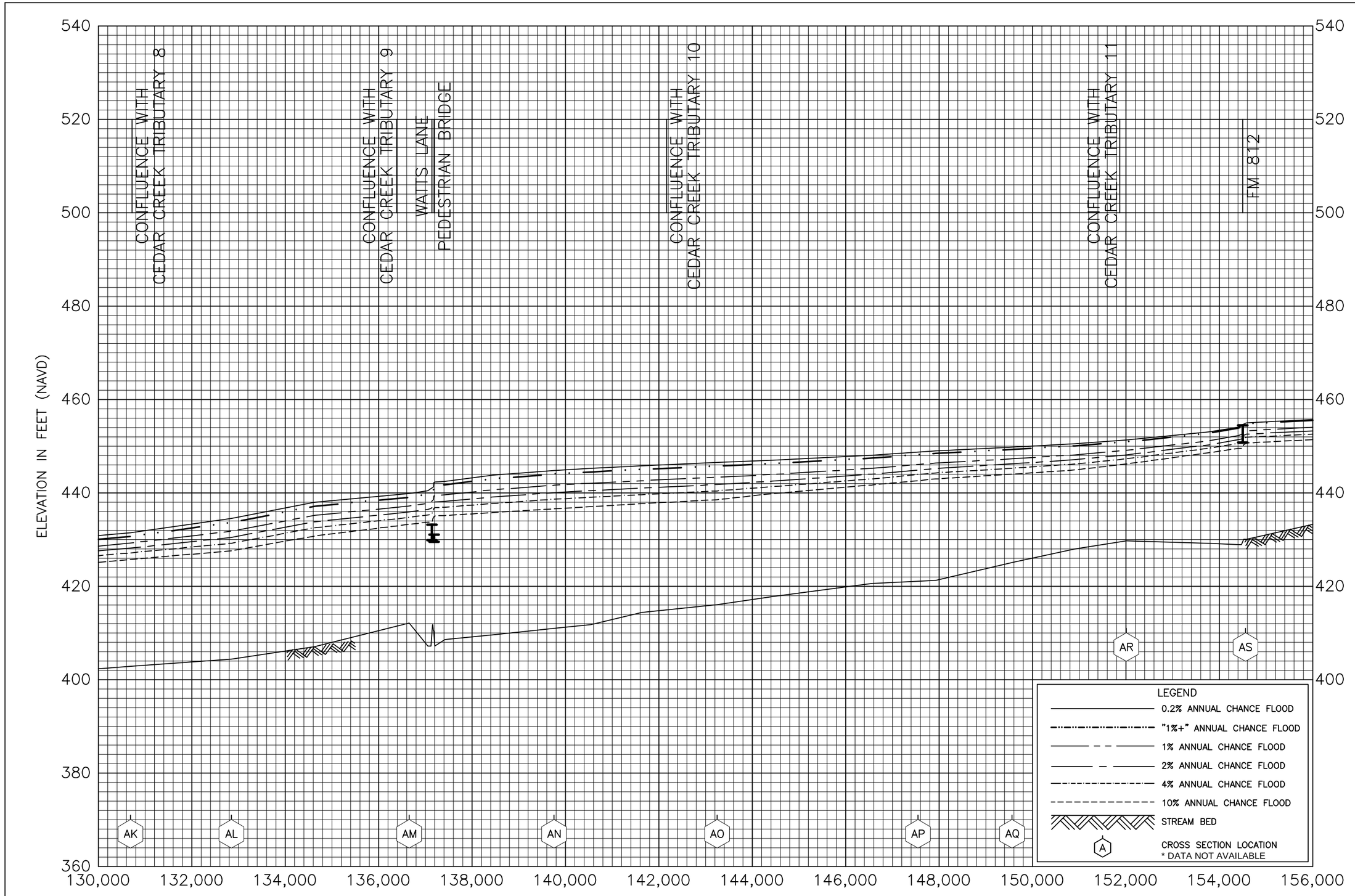

FLOOD PROFILES

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BASTROP COUNTY, TX
AND INCORPORATED AREAS

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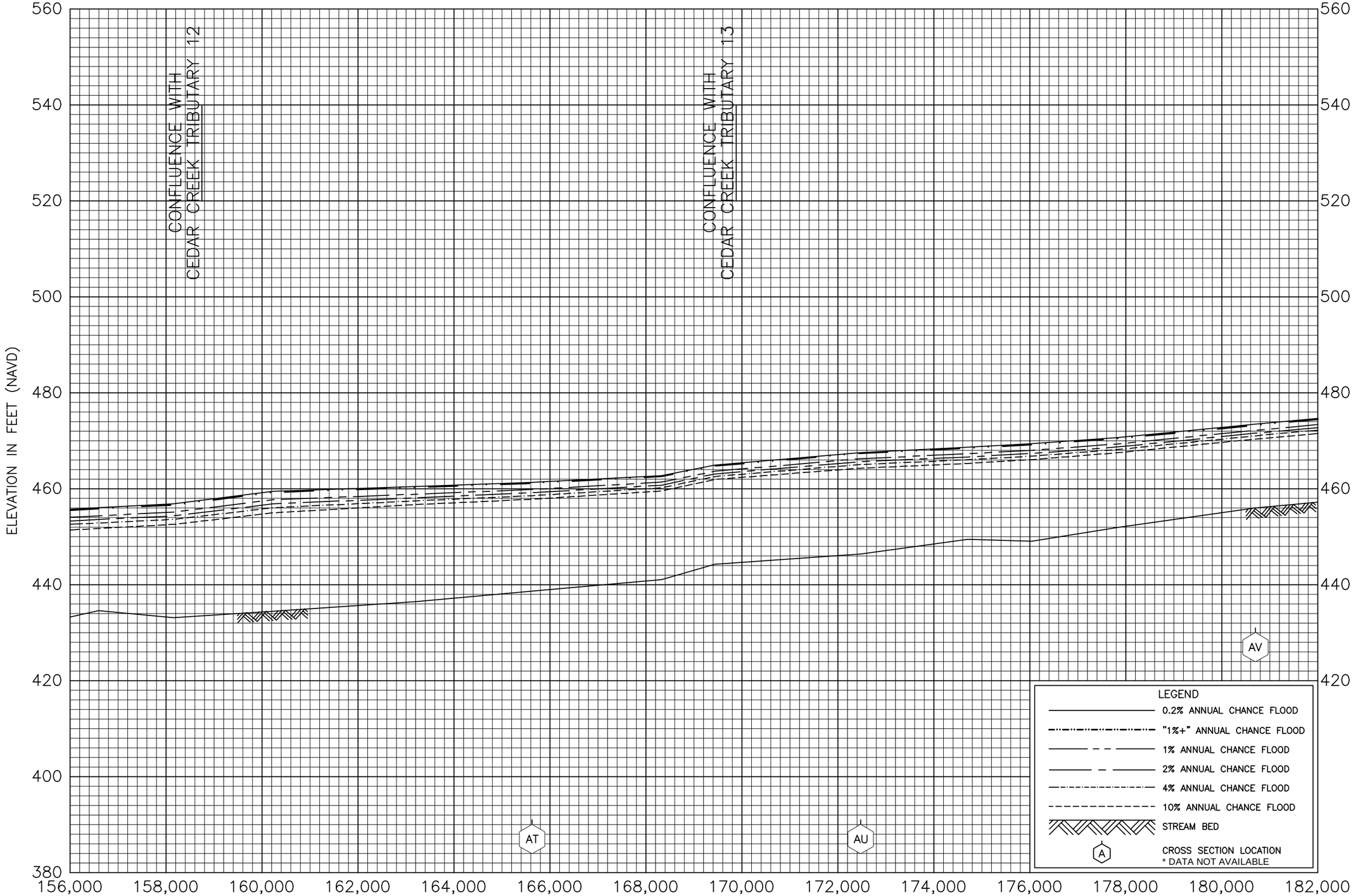

FLOOD PROFILES

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FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

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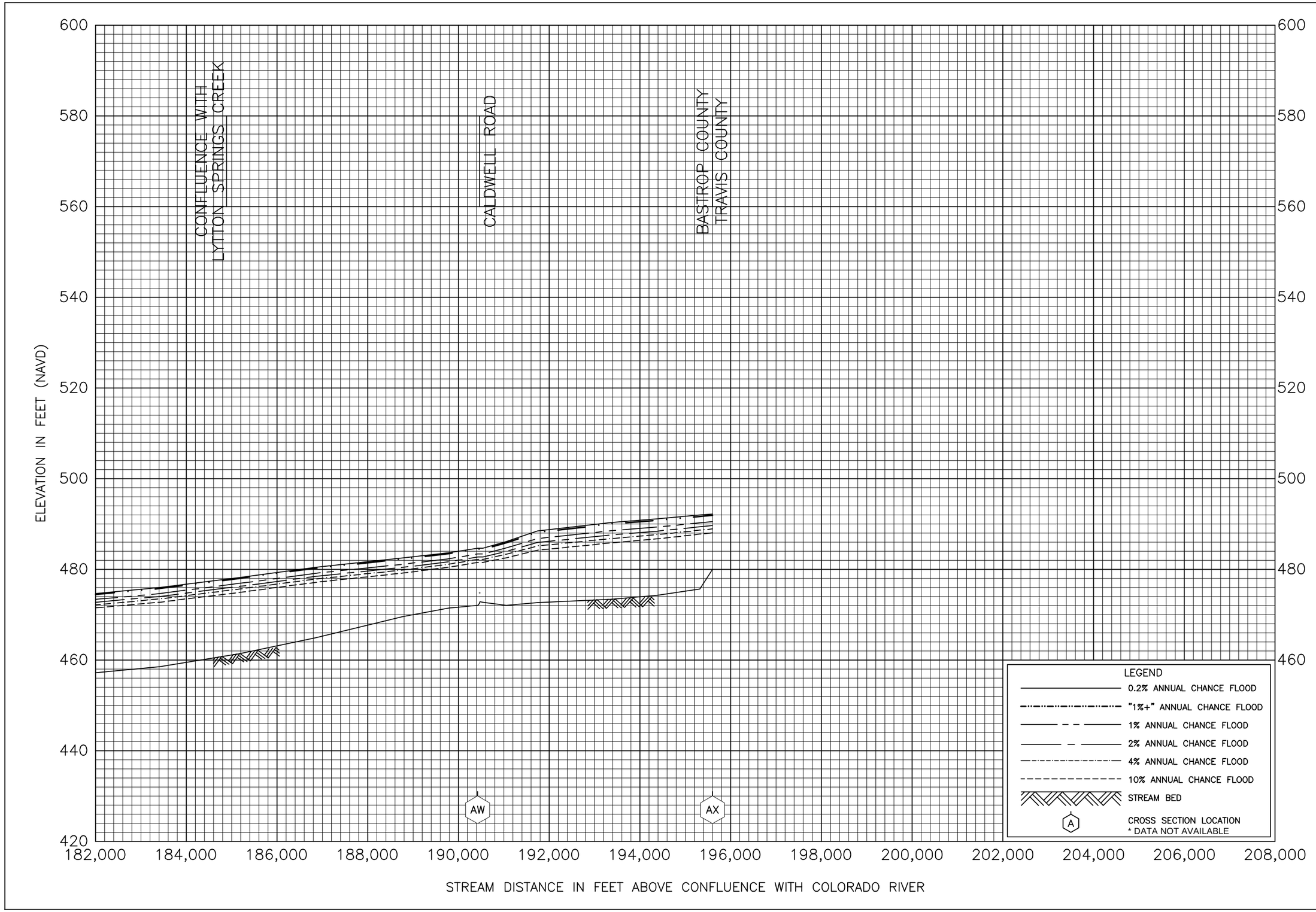

FLOOD PROFILES

CEDAR CREEK

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BASTROP COUNTY, TX

AND INCORPORATED AREAS

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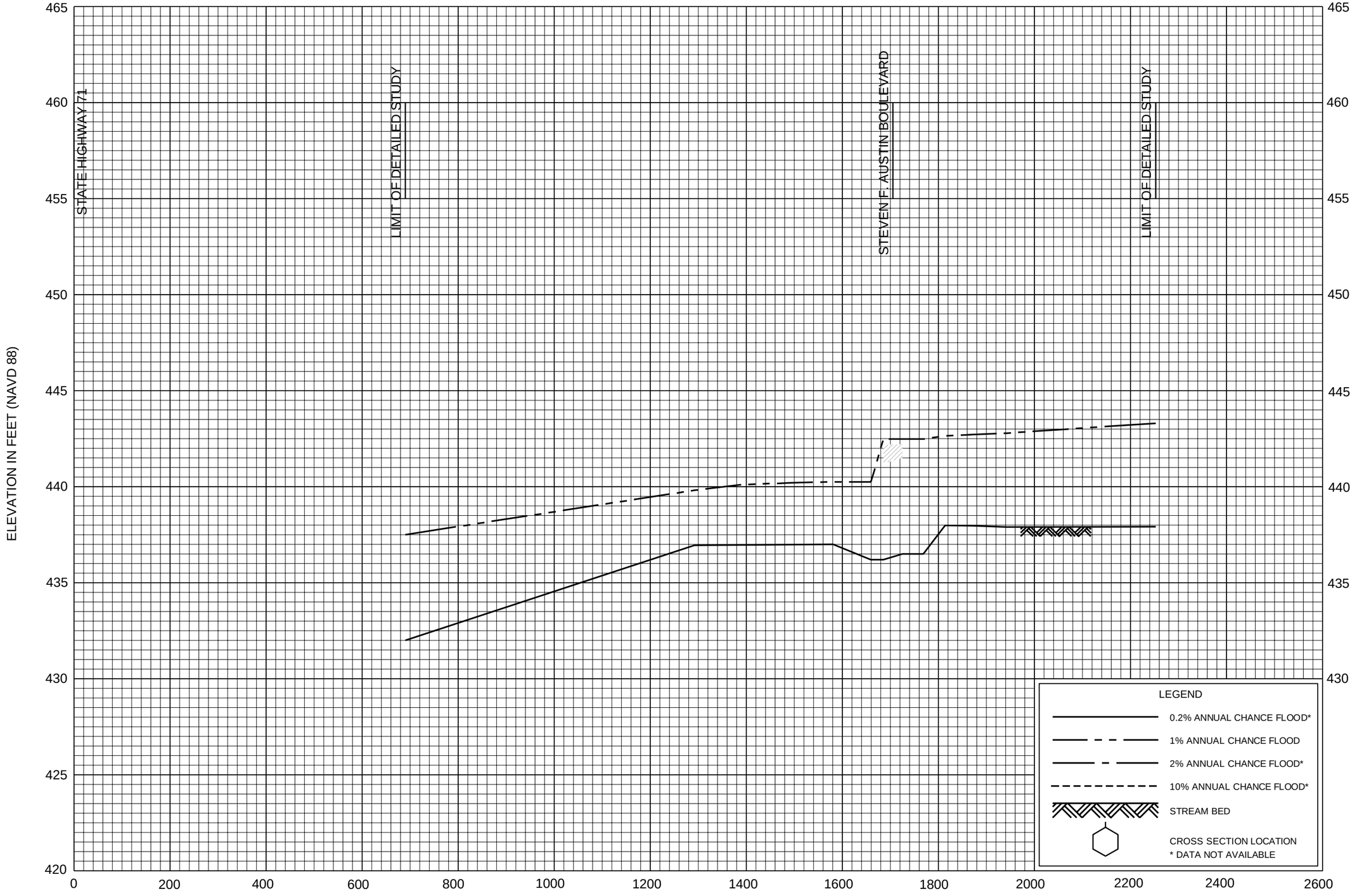

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BASTROP COUNTY, TX

AND INCORPORATED AREAS

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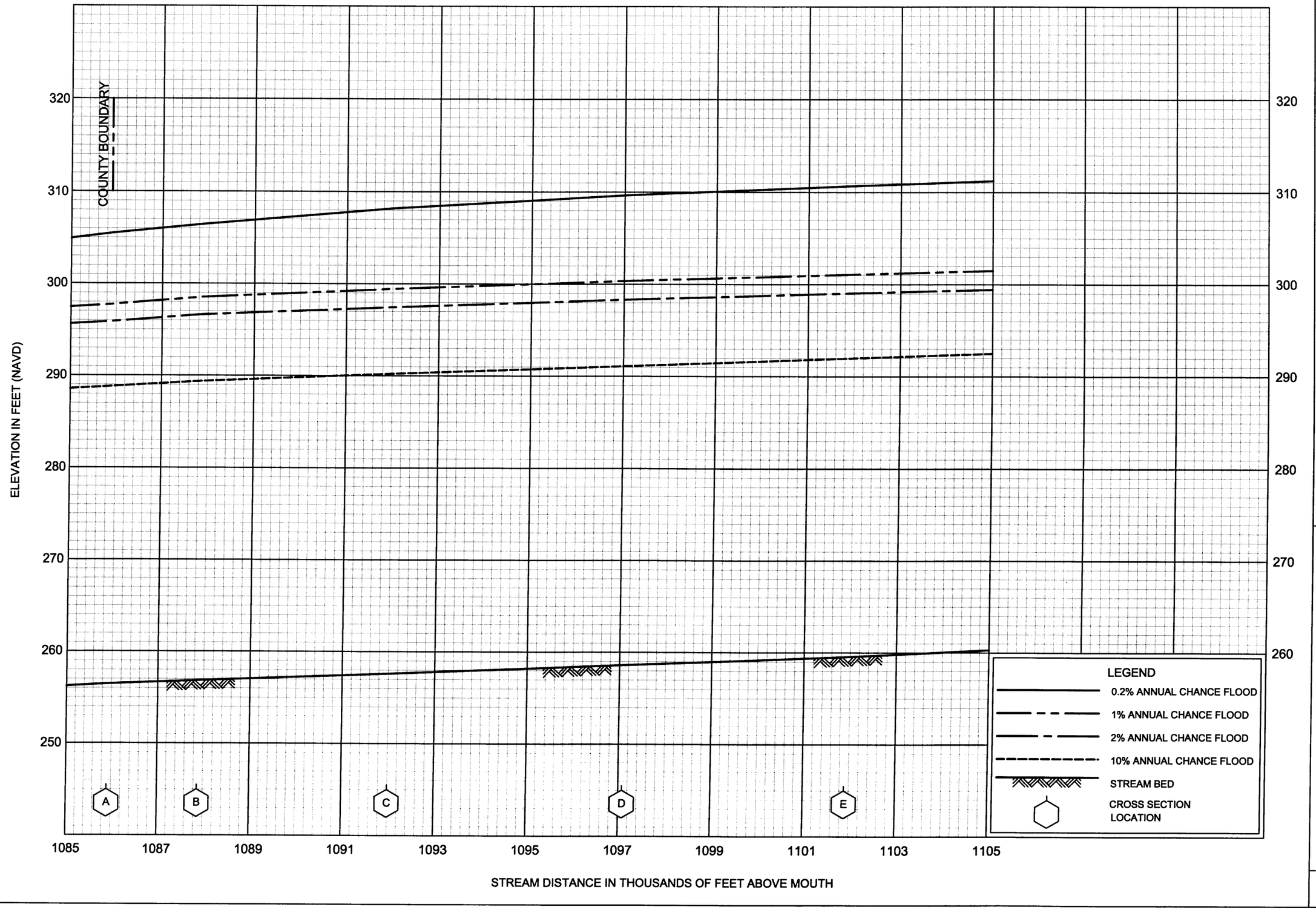

FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

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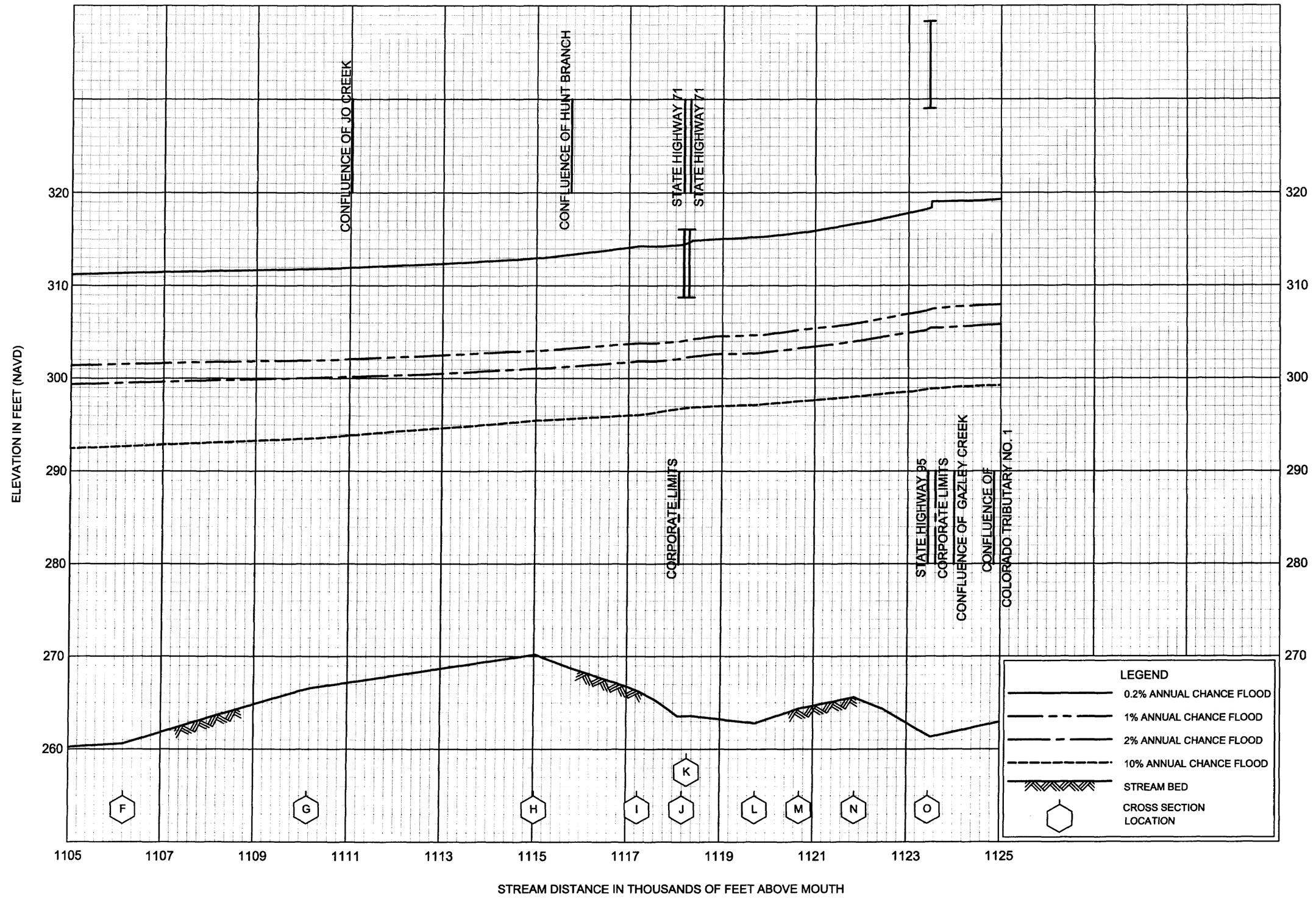

FLOOD PROFILES

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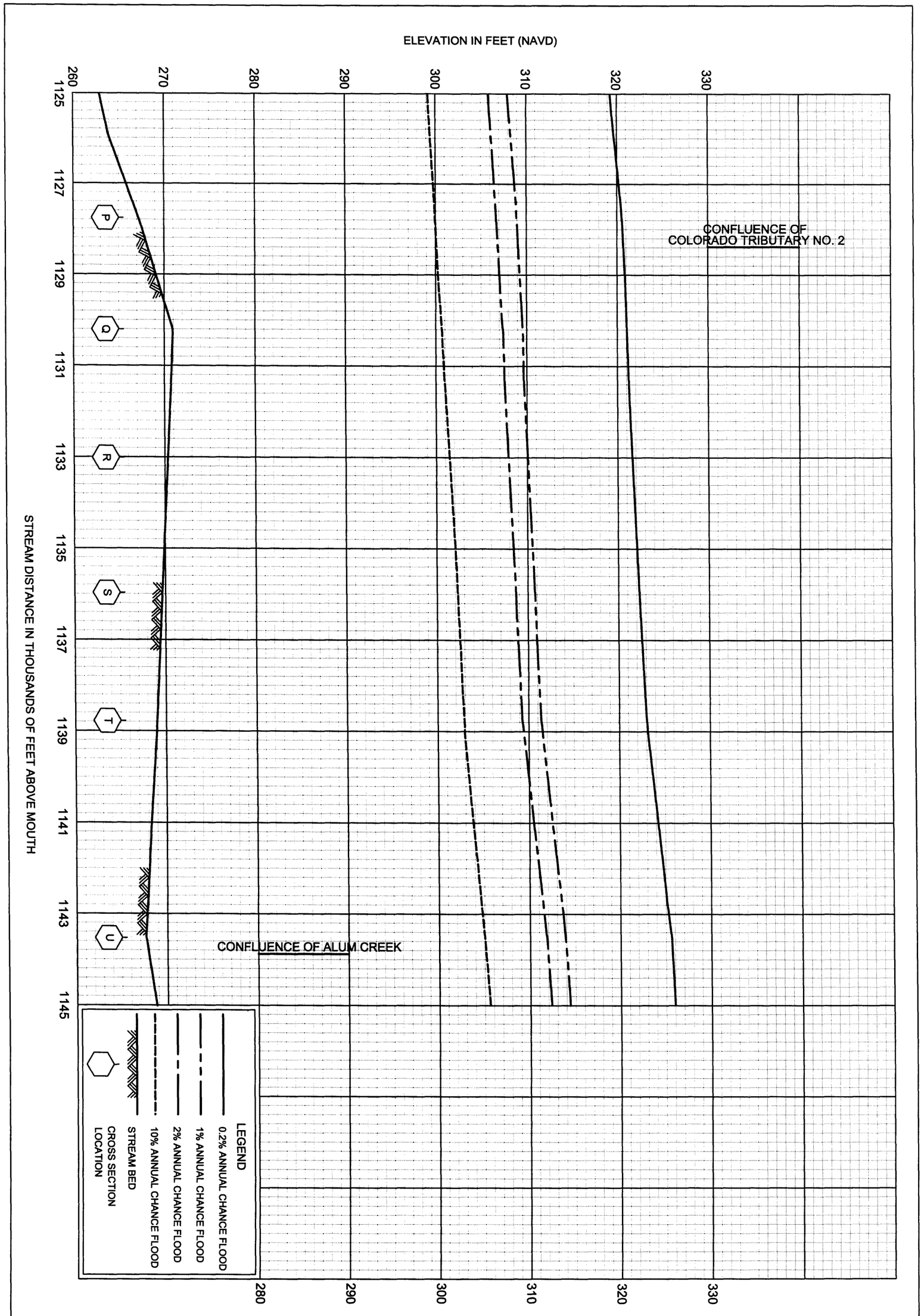
AND INCORPORATED AREAS



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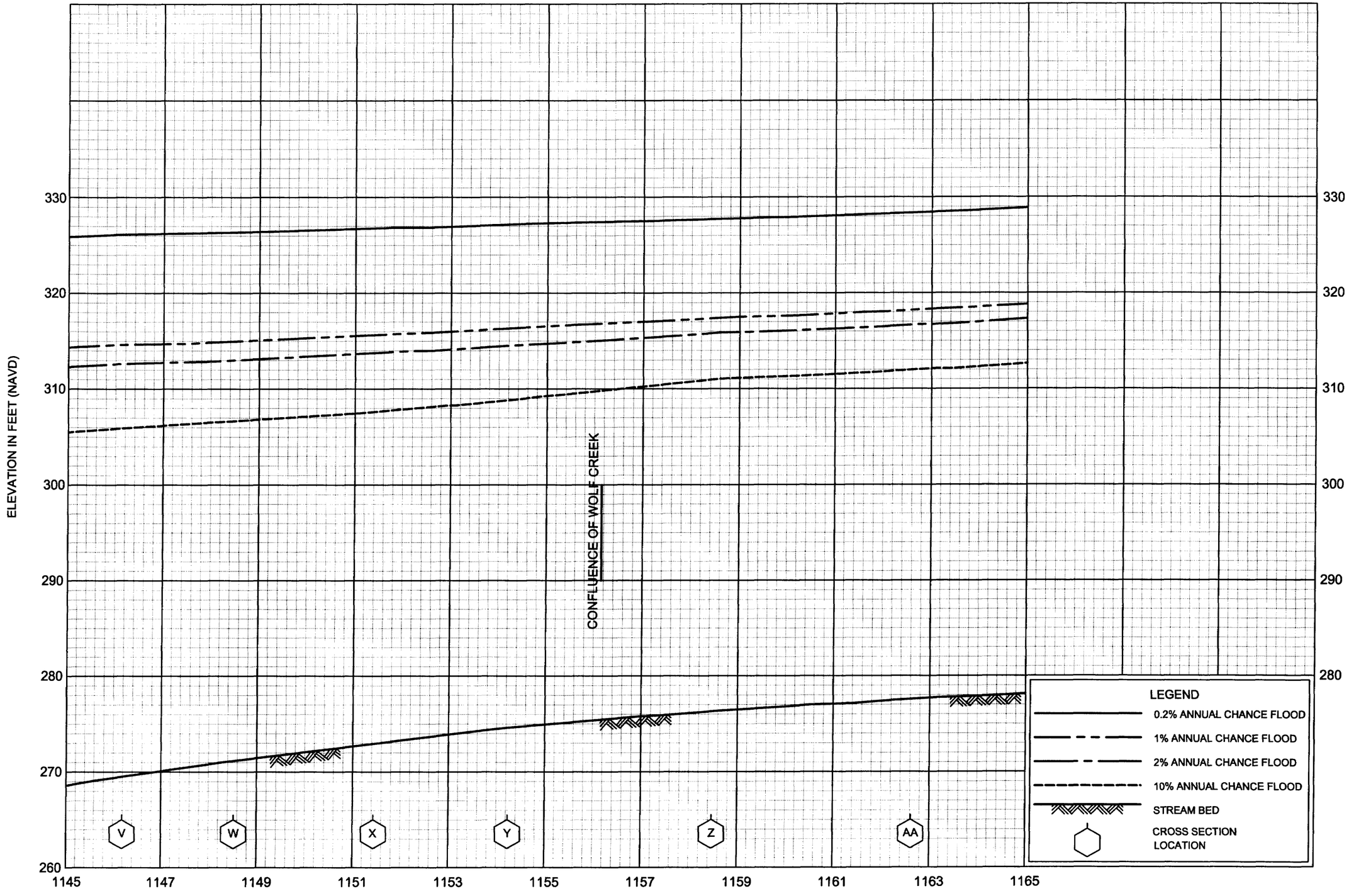

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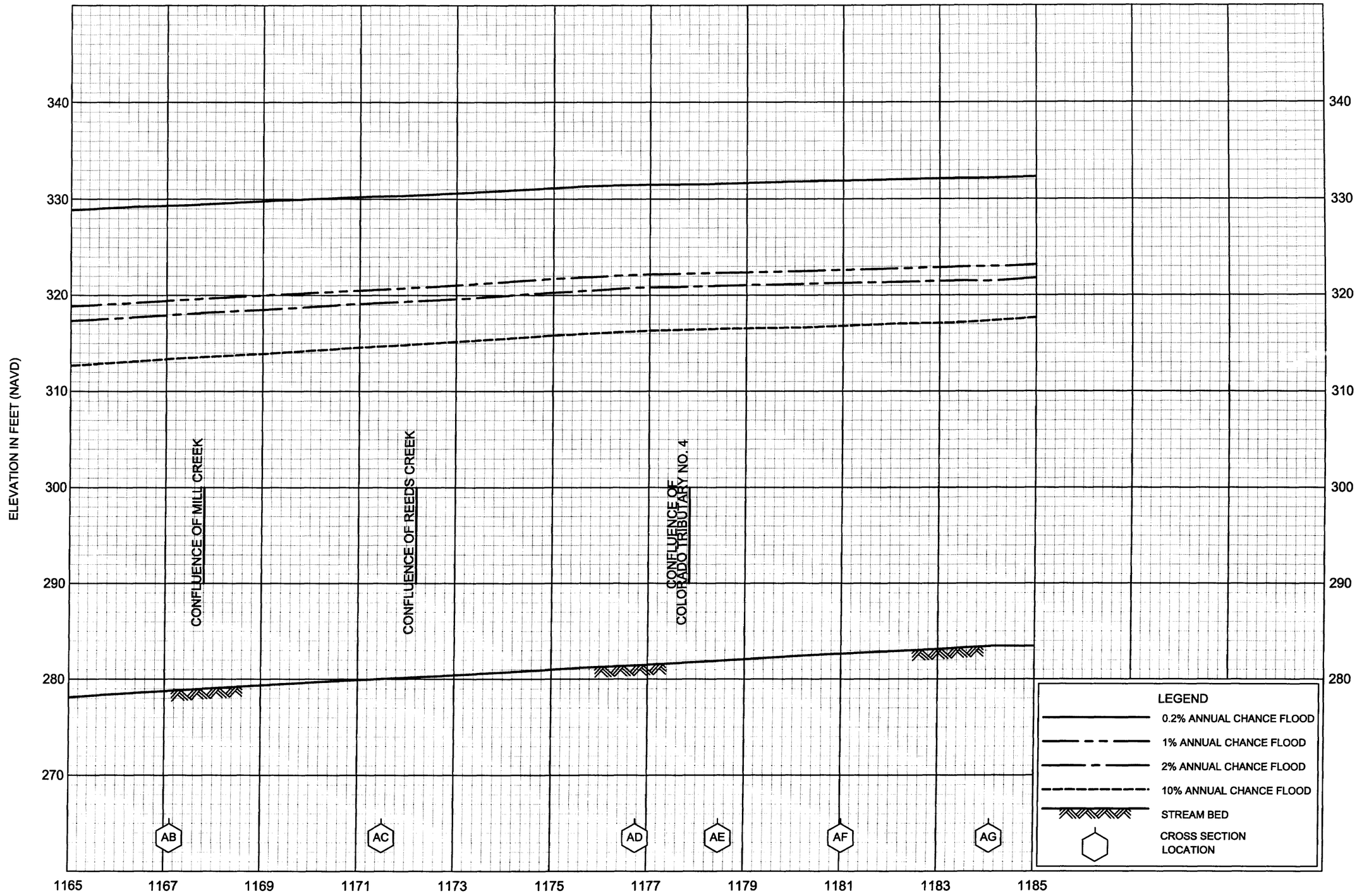

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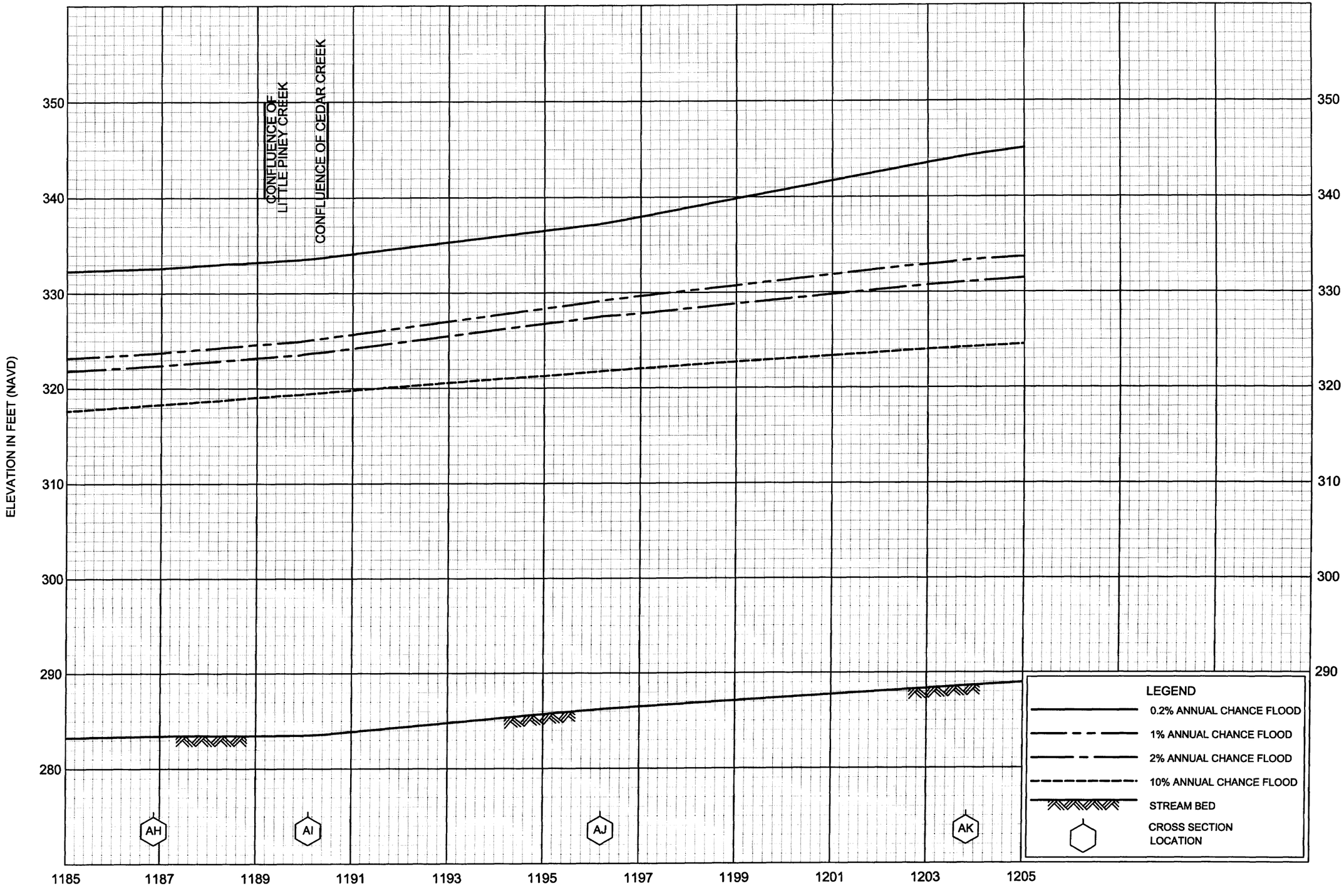

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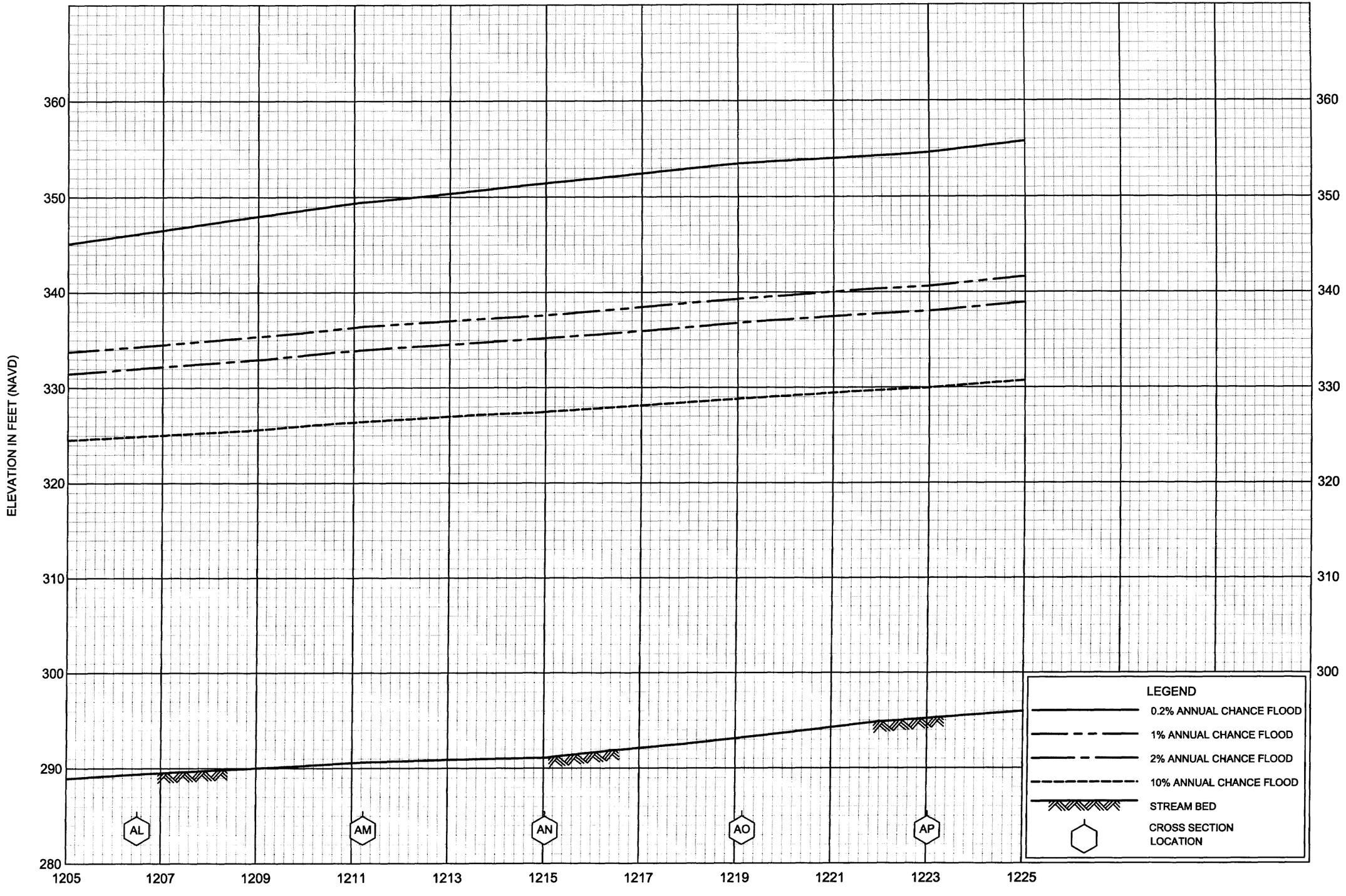

FLOOD PROFILES

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AND INCORPORATED AREAS

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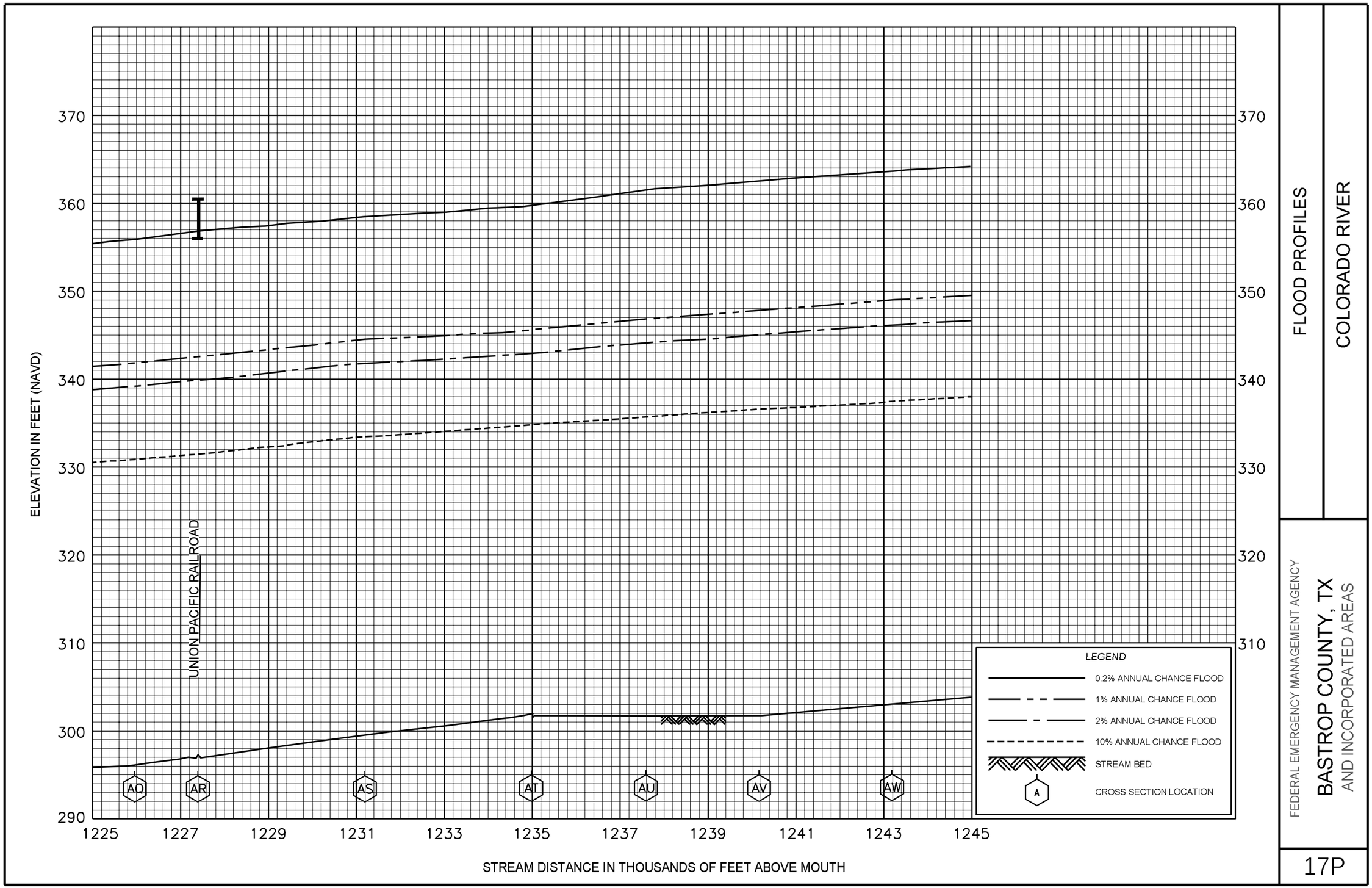

FLOOD PROFILES

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AND INCORPORATED AREAS

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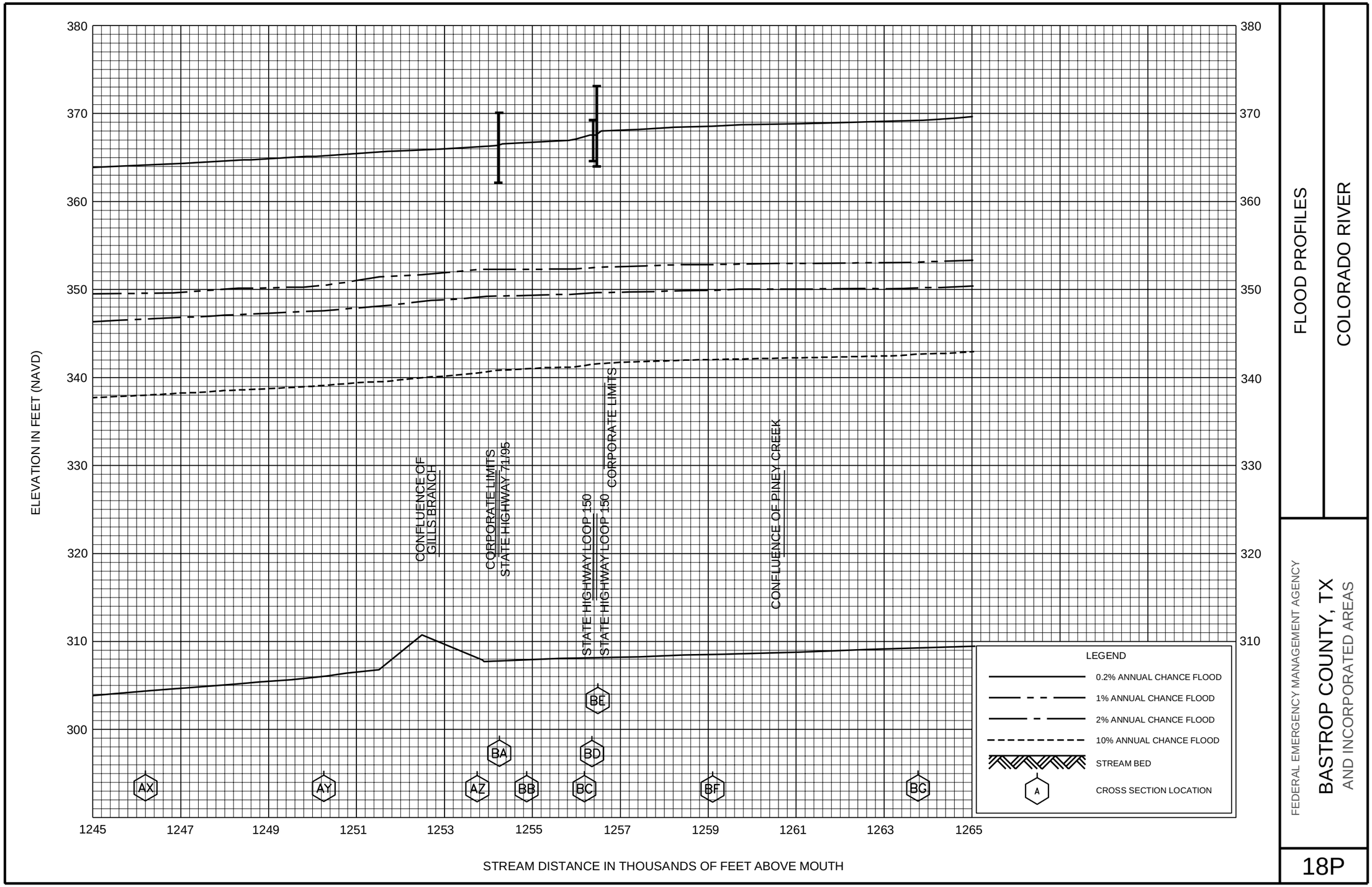

FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

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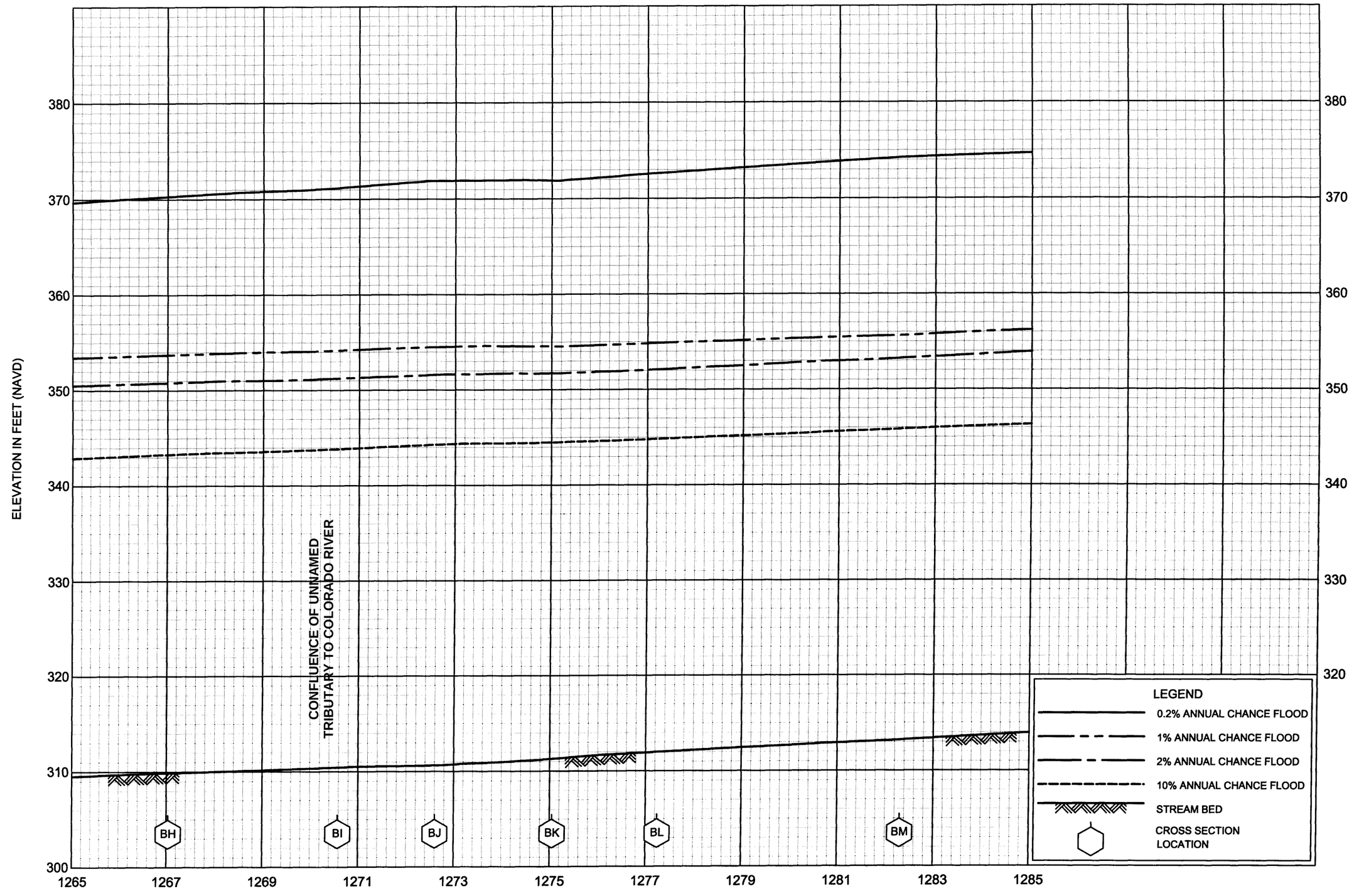
AND INCORPORATED AREAS

18P



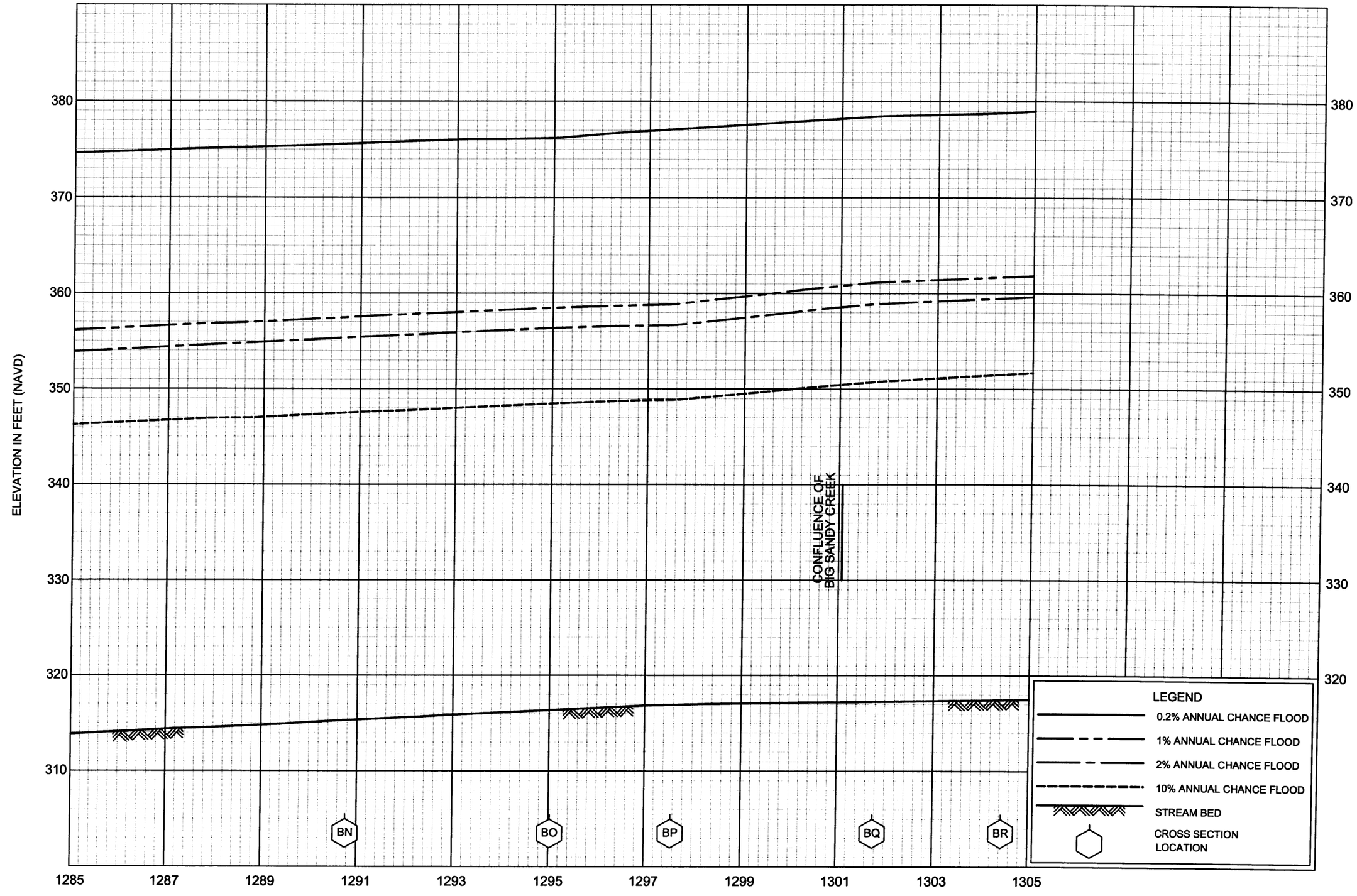
FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



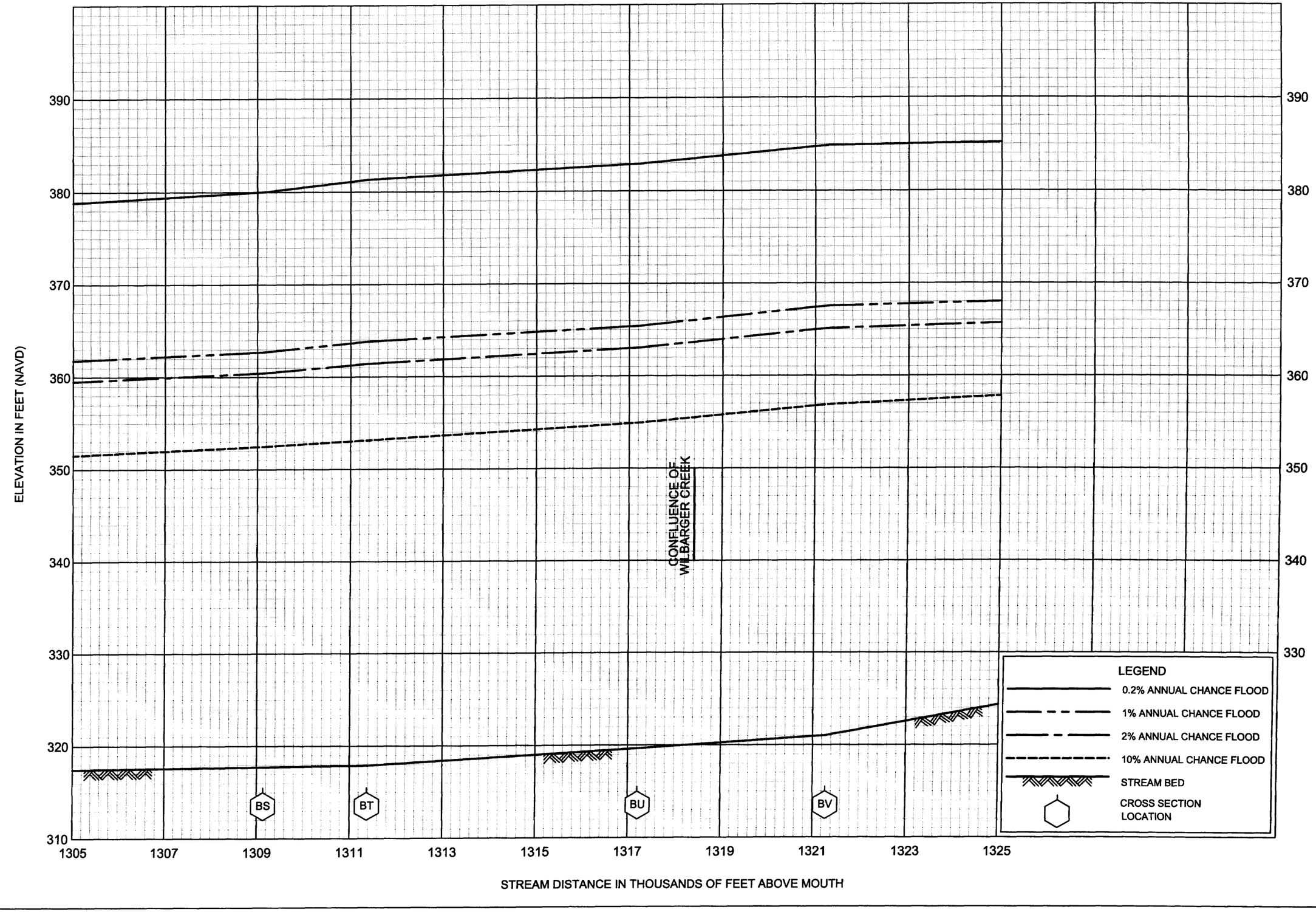
FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



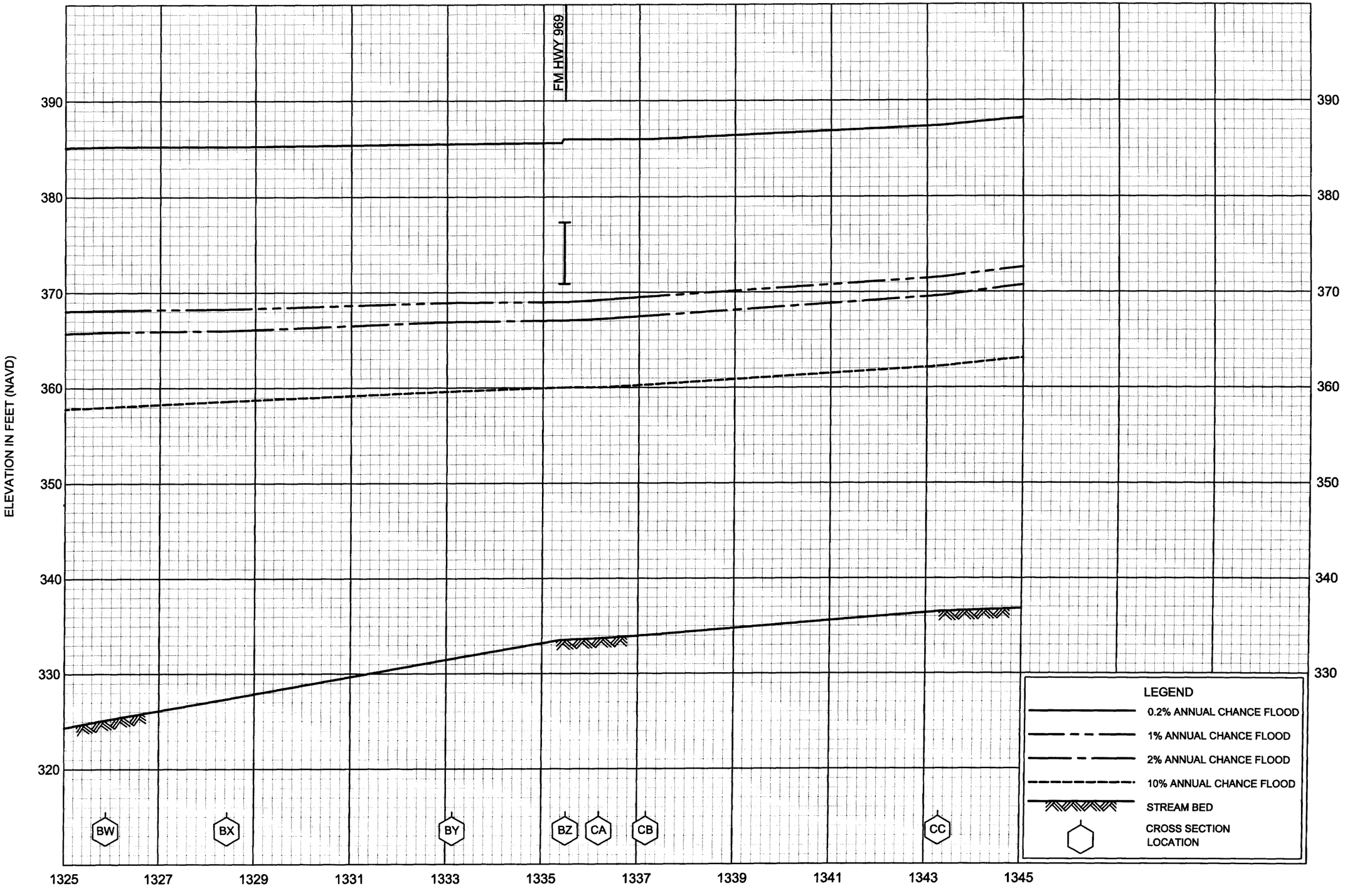
FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



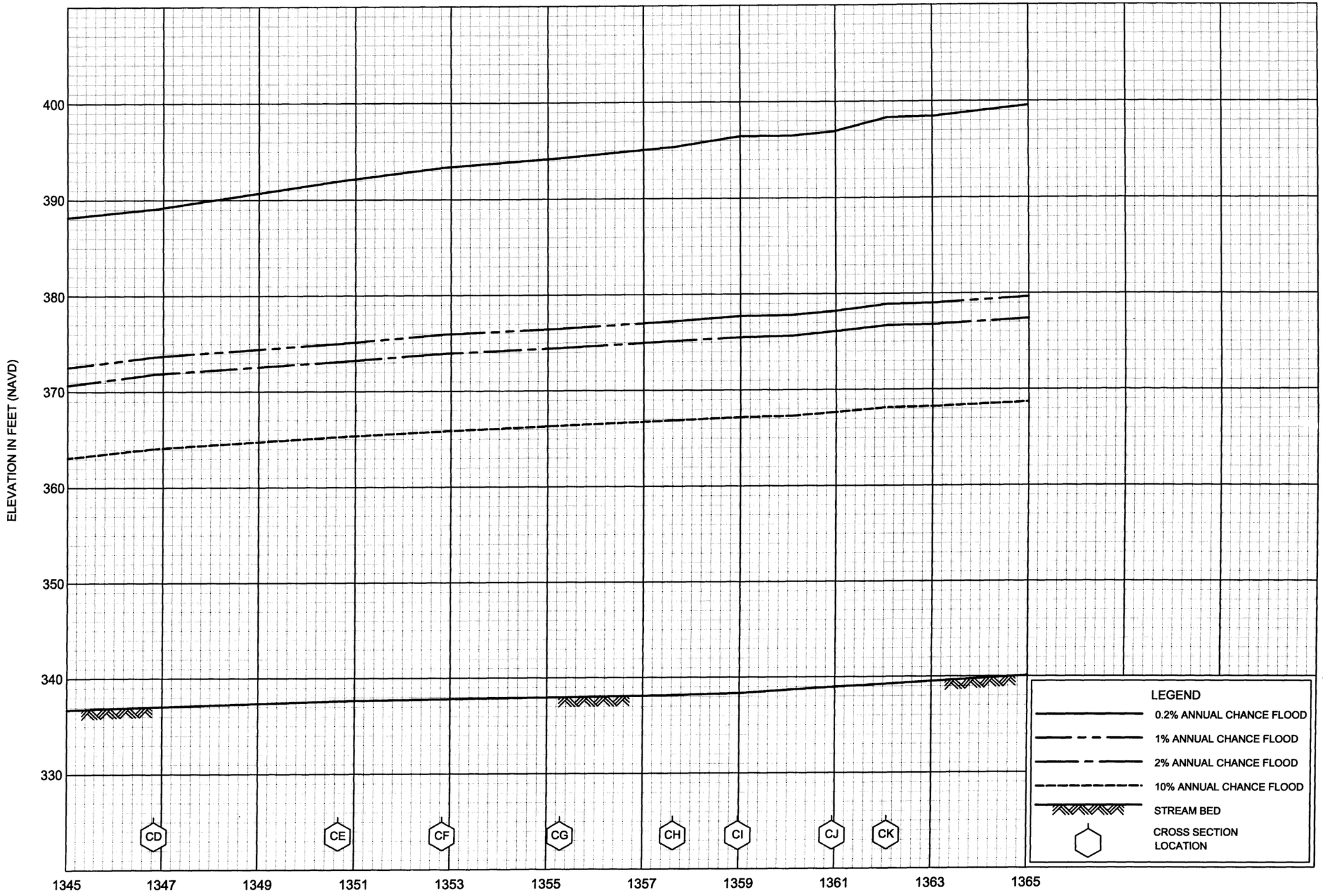
FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



FLOOD PROFILES

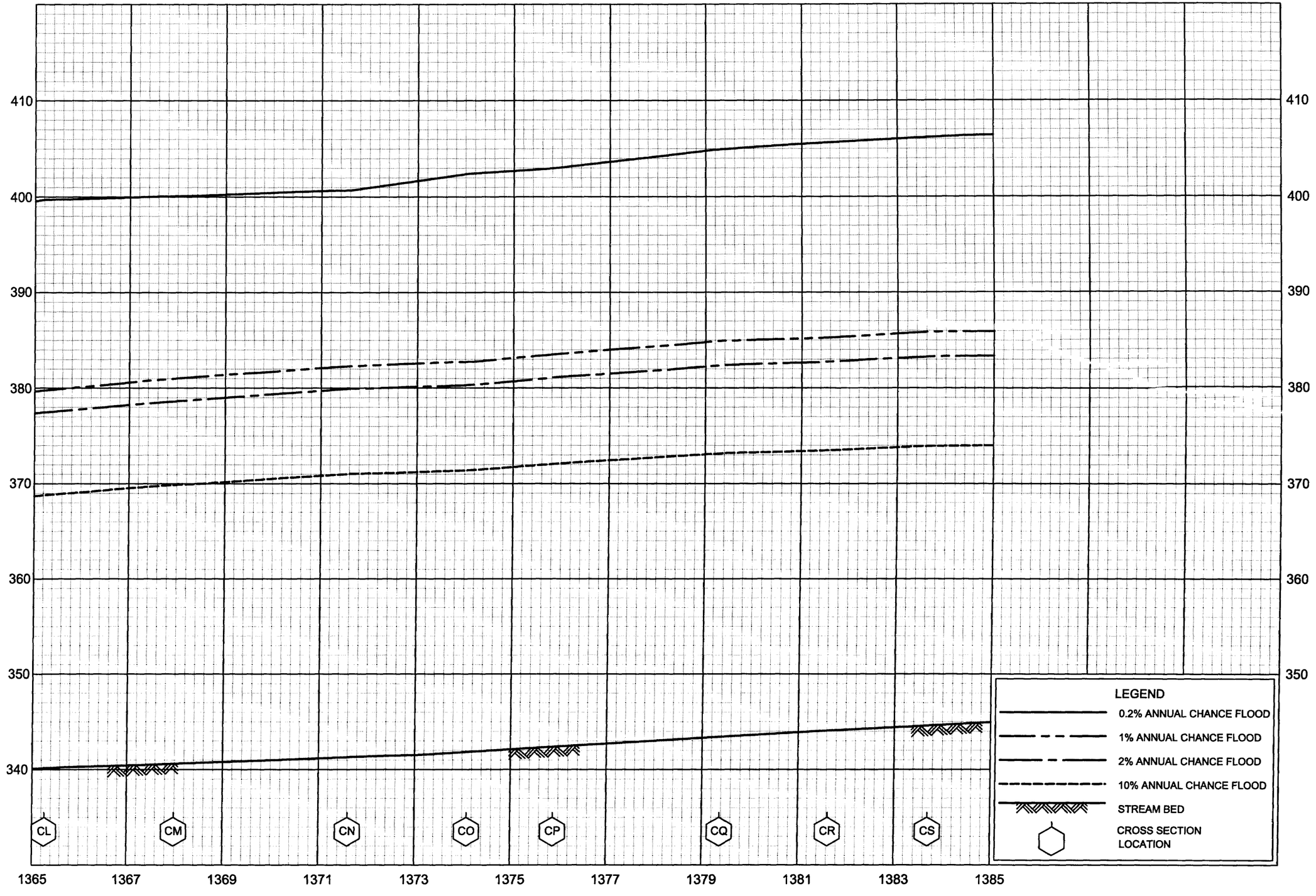
COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

23P



FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)

410
400
390
380
370
360
350
340

CONFLUENCE OF DRY CREEK EAST

COUNTY BOUNDARY

LIMIT OF FLOODING AFFECTING COMMUNITY

CT CU CV CW CX CY CZ

1385 1387 1389 1391 1393 1395 1397 1399 1401 1403 1405 1407 1409 1411

STREAM DISTANCE IN THOUSANDS OF FEET ABOVE MOUTH

LEGEND
- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

FLOOD PROFILES

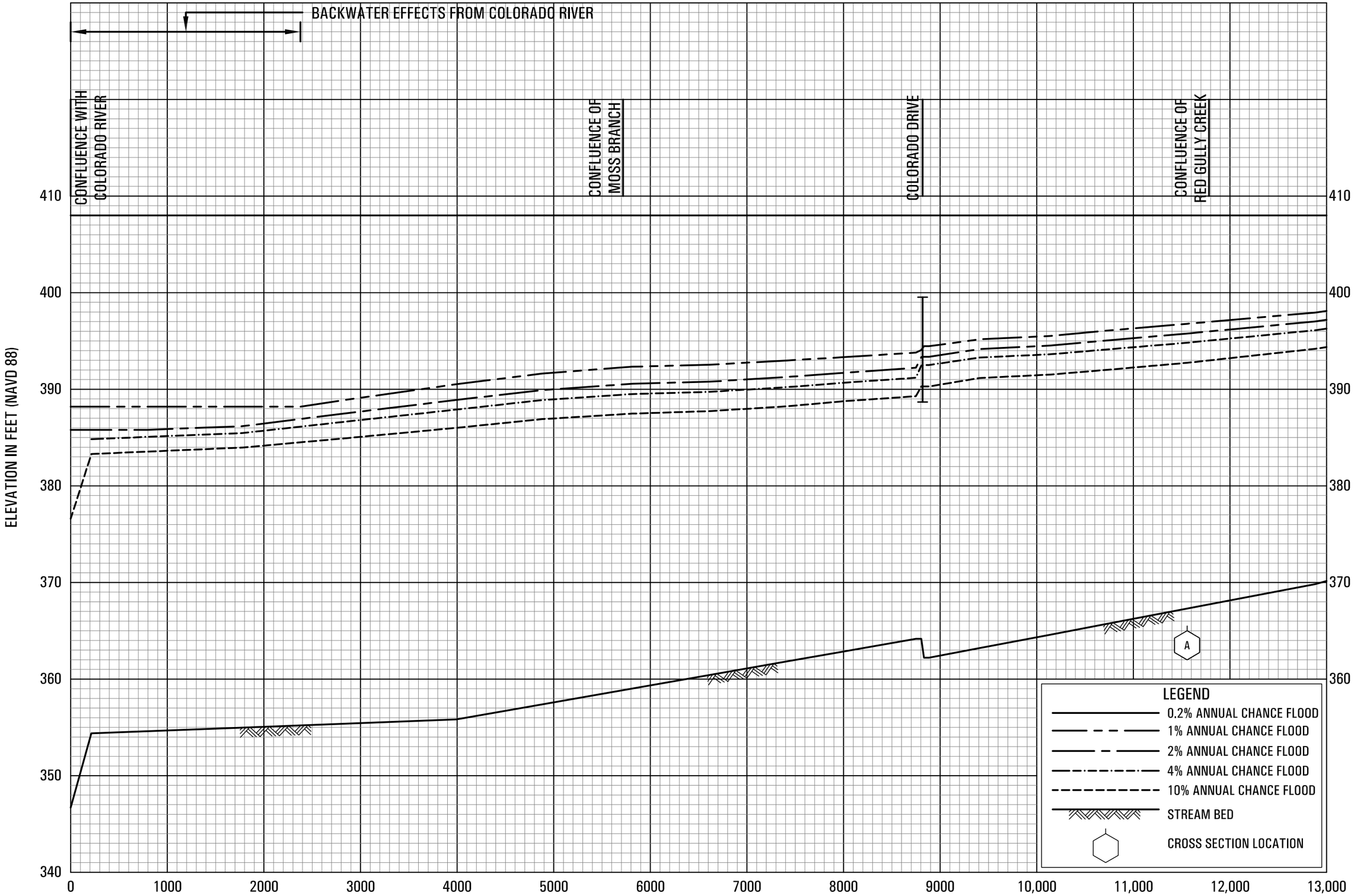
COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

25P



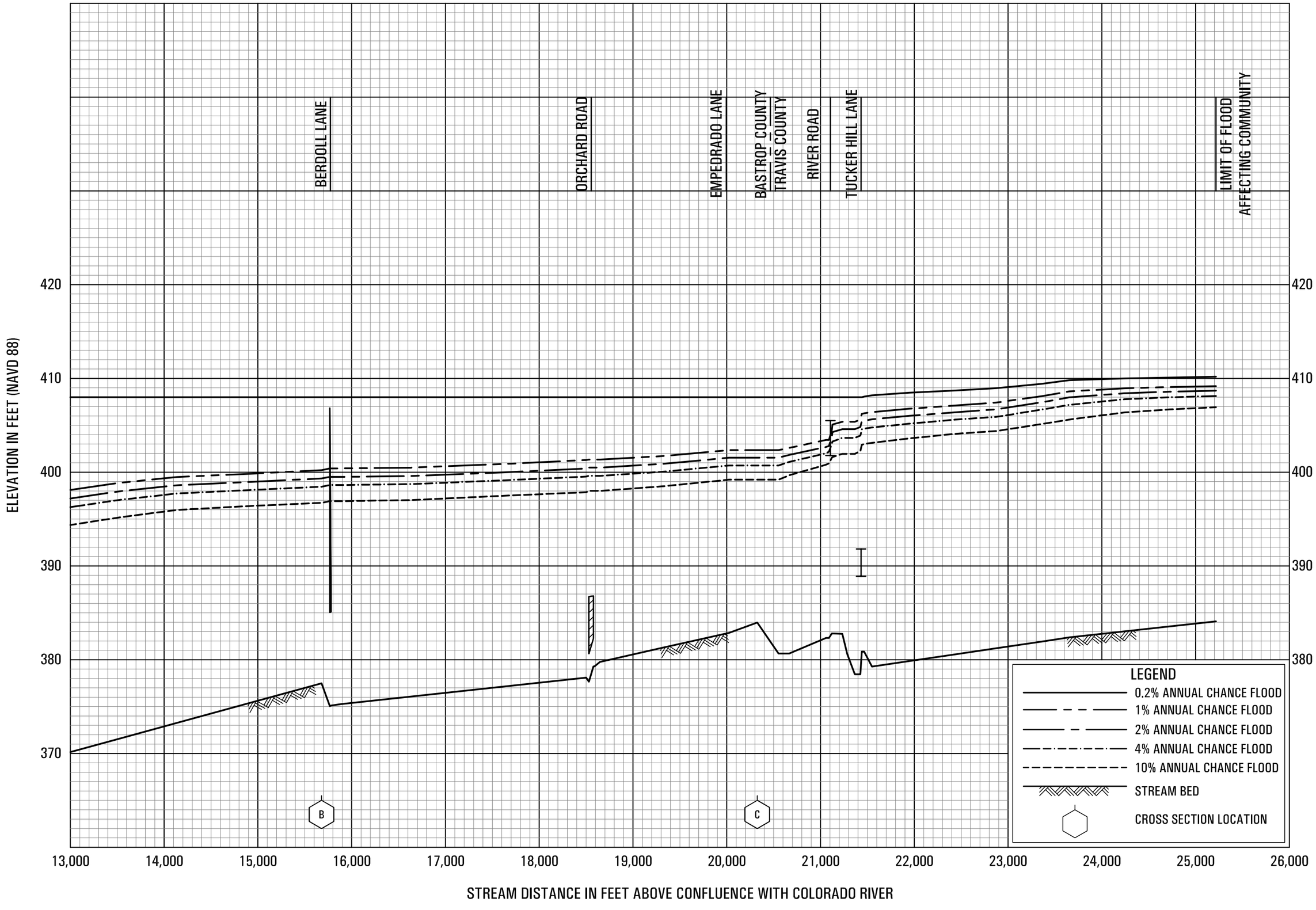
FLOOD PROFILES

DRY CREEK EAST

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



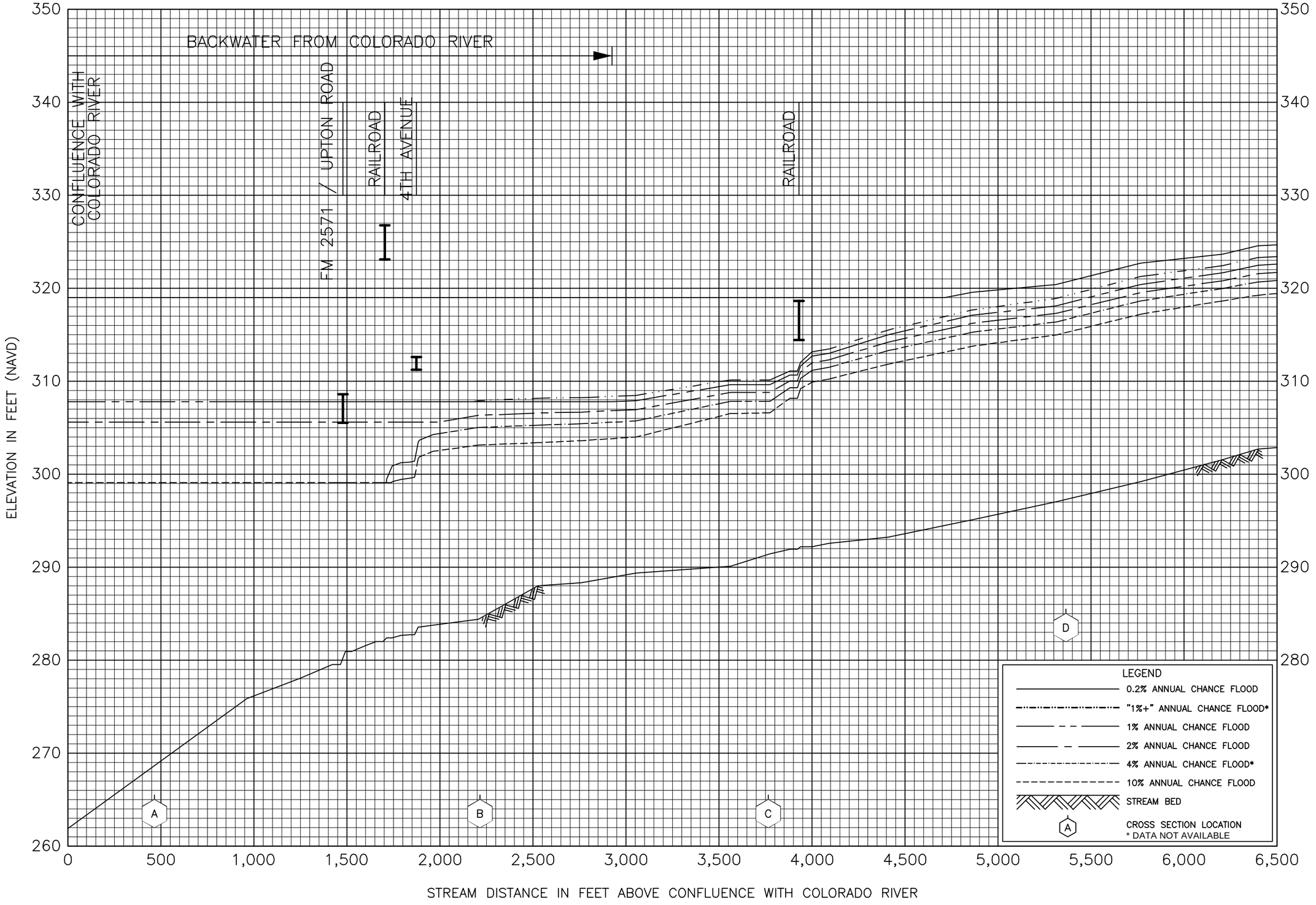
FLOOD PROFILES

DRY CREEK EAST

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



FLOOD PROFILES

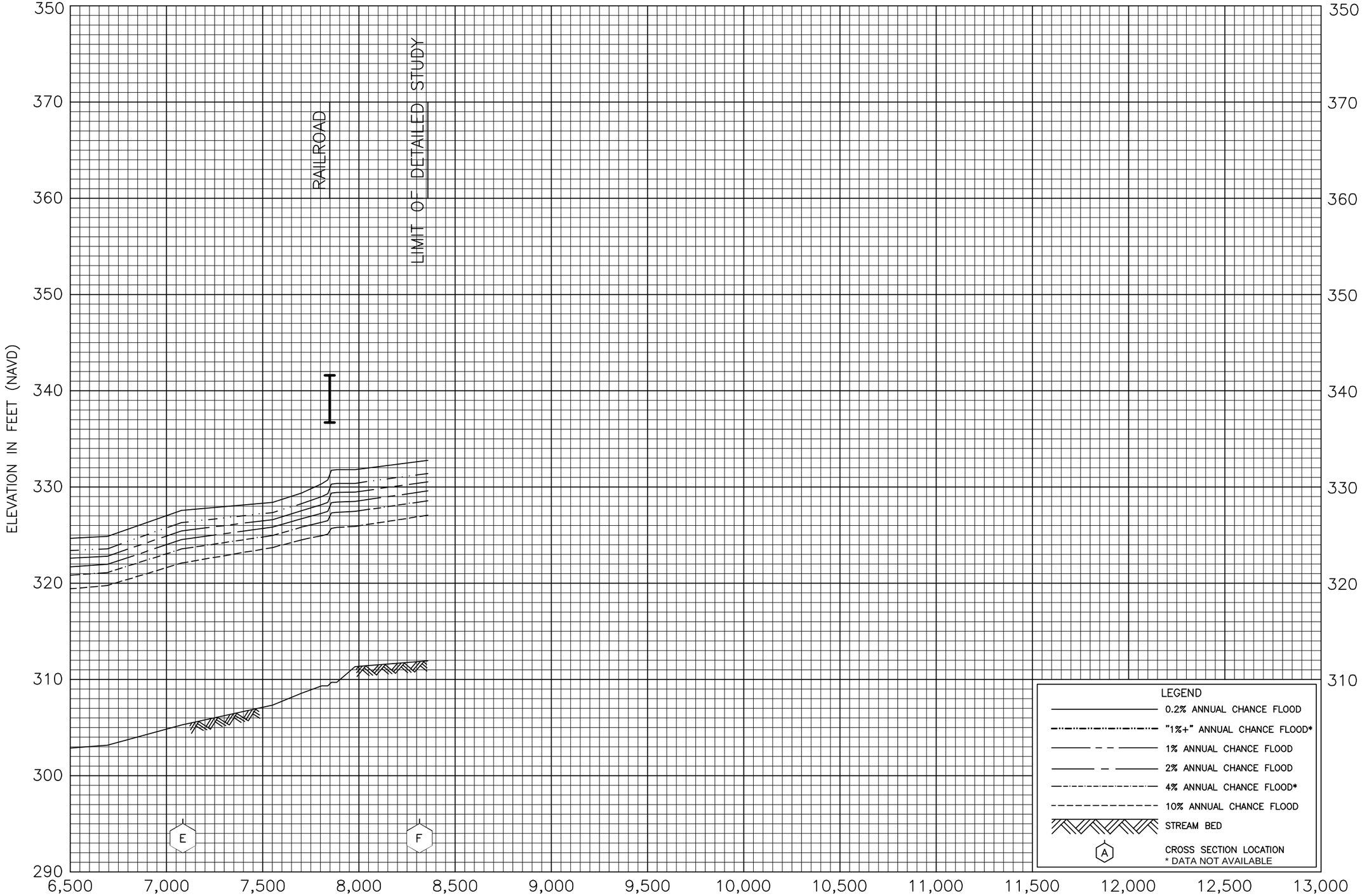
GAZLEY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

28P



FLOOD PROFILES

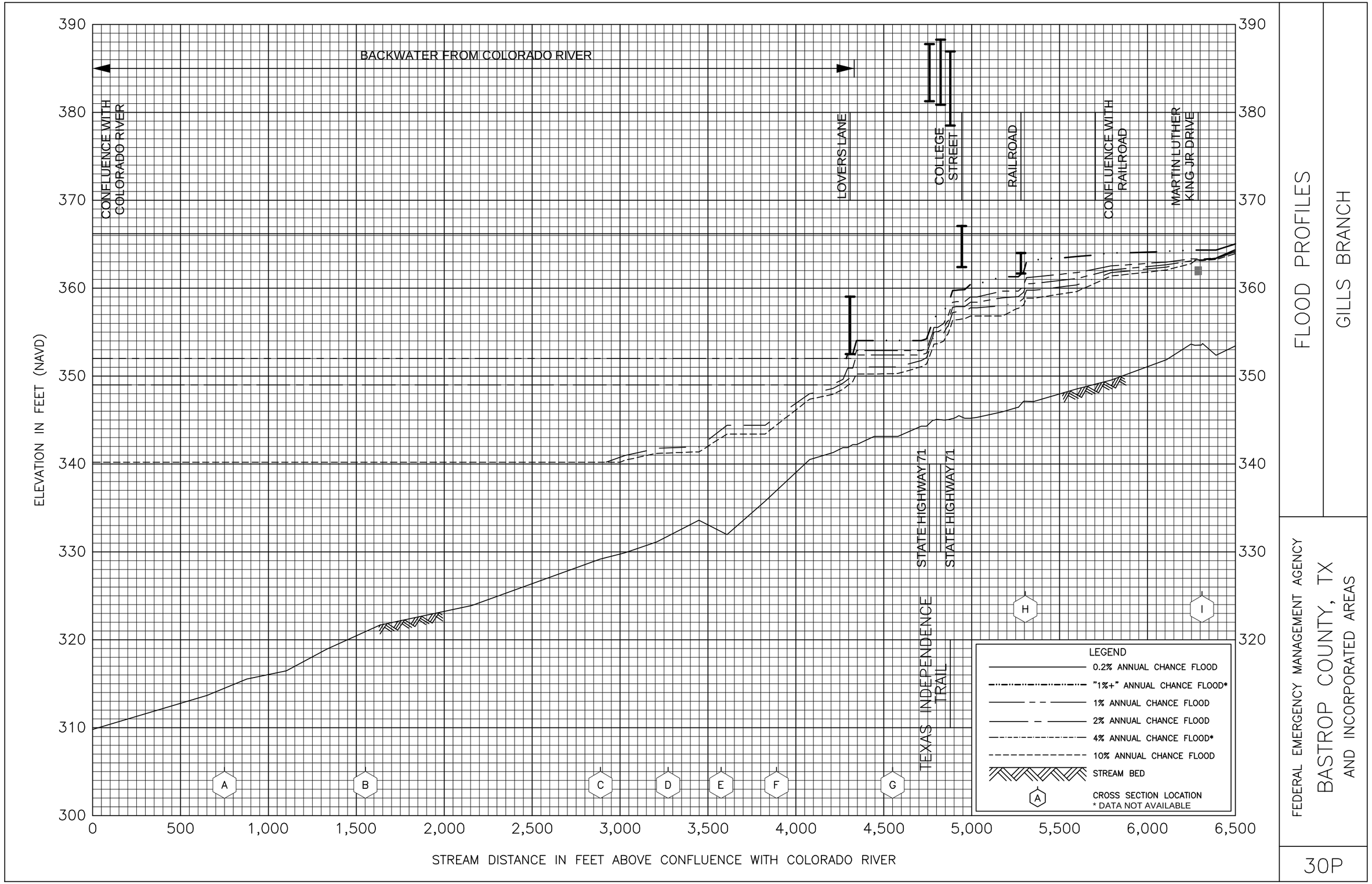
GAZLEY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

29P



FLOOD PROFILES

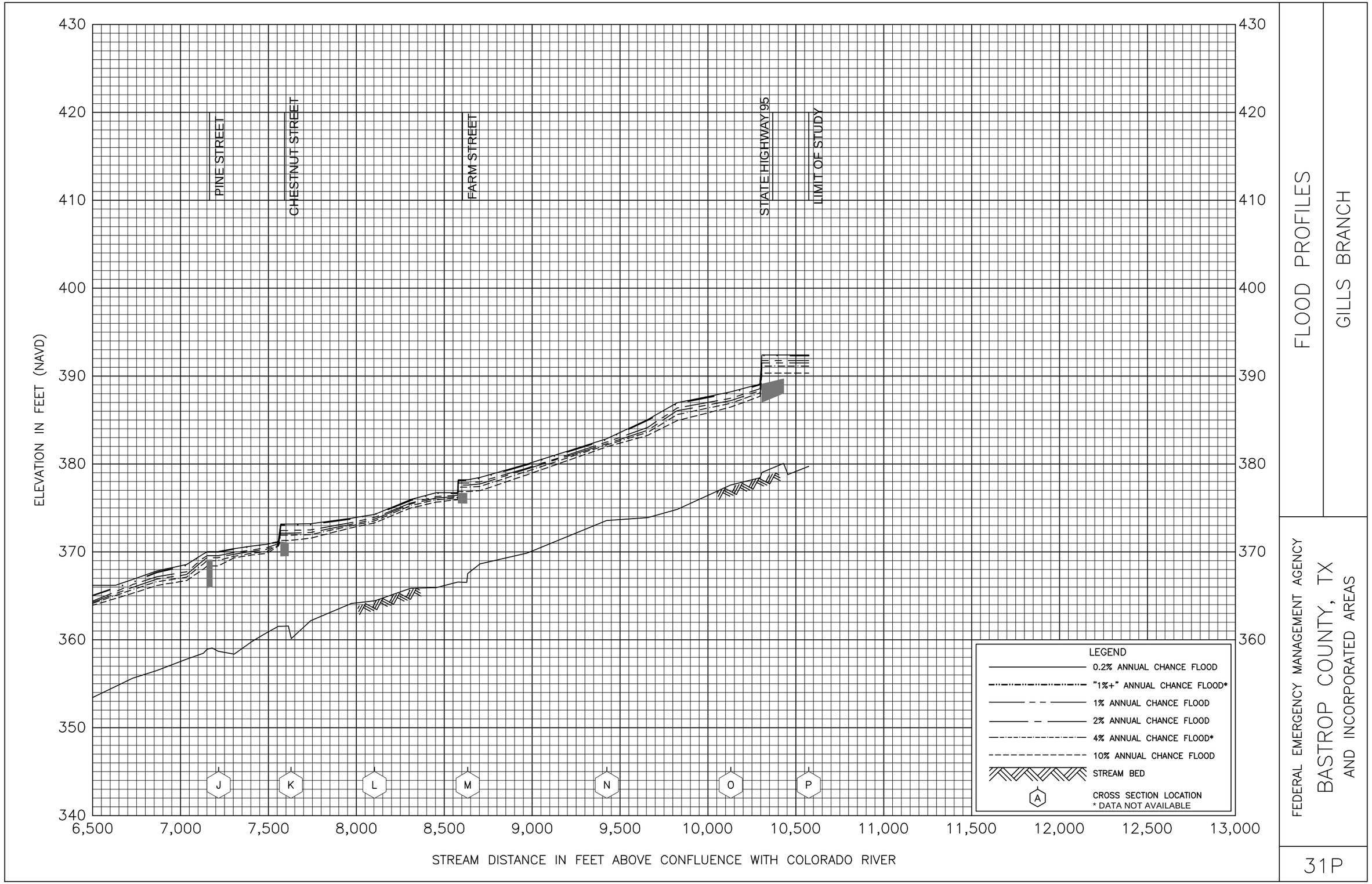
GILLS BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

30P



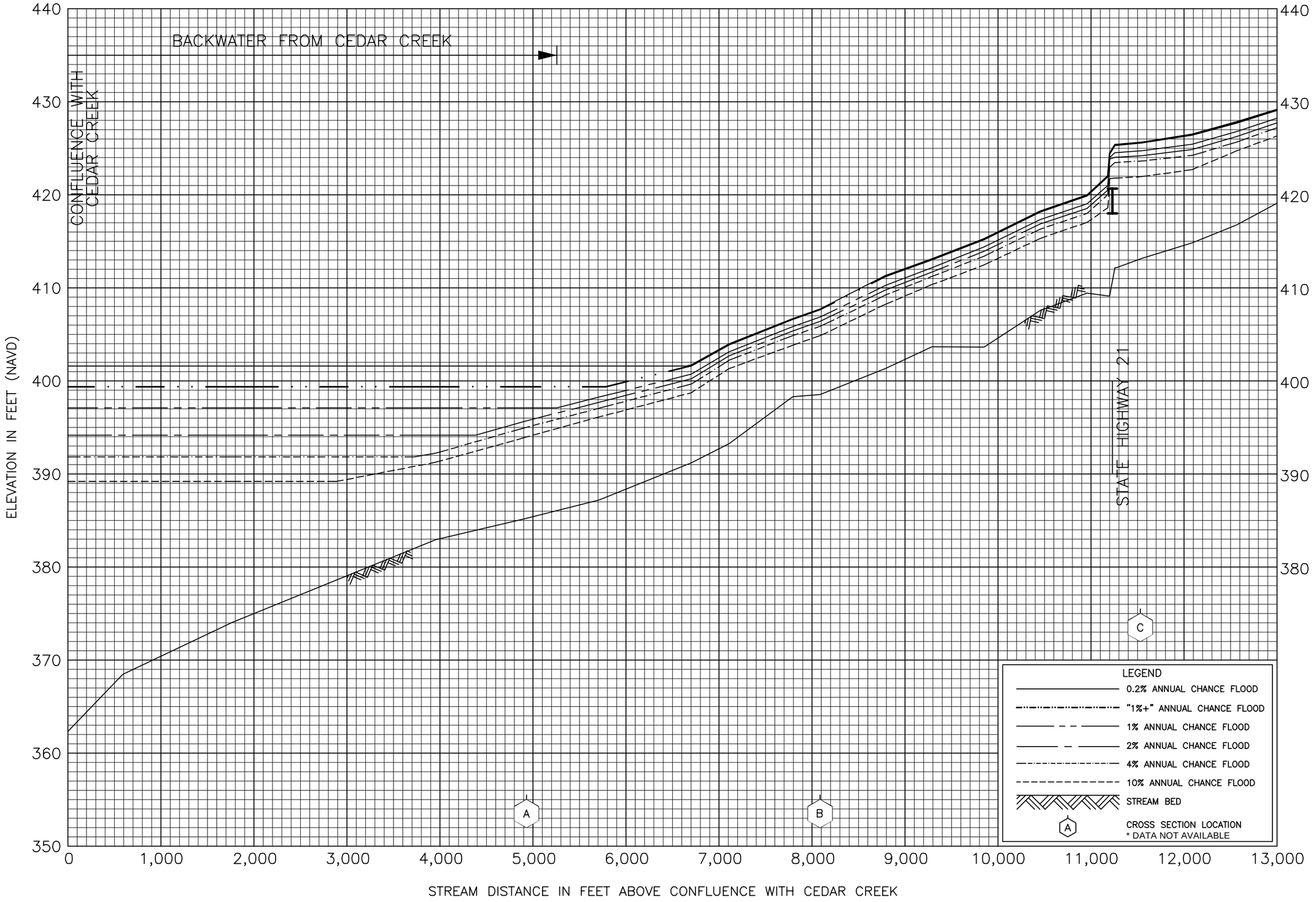
FLOOD PROFILES

GILLS BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



FLOOD PROFILES

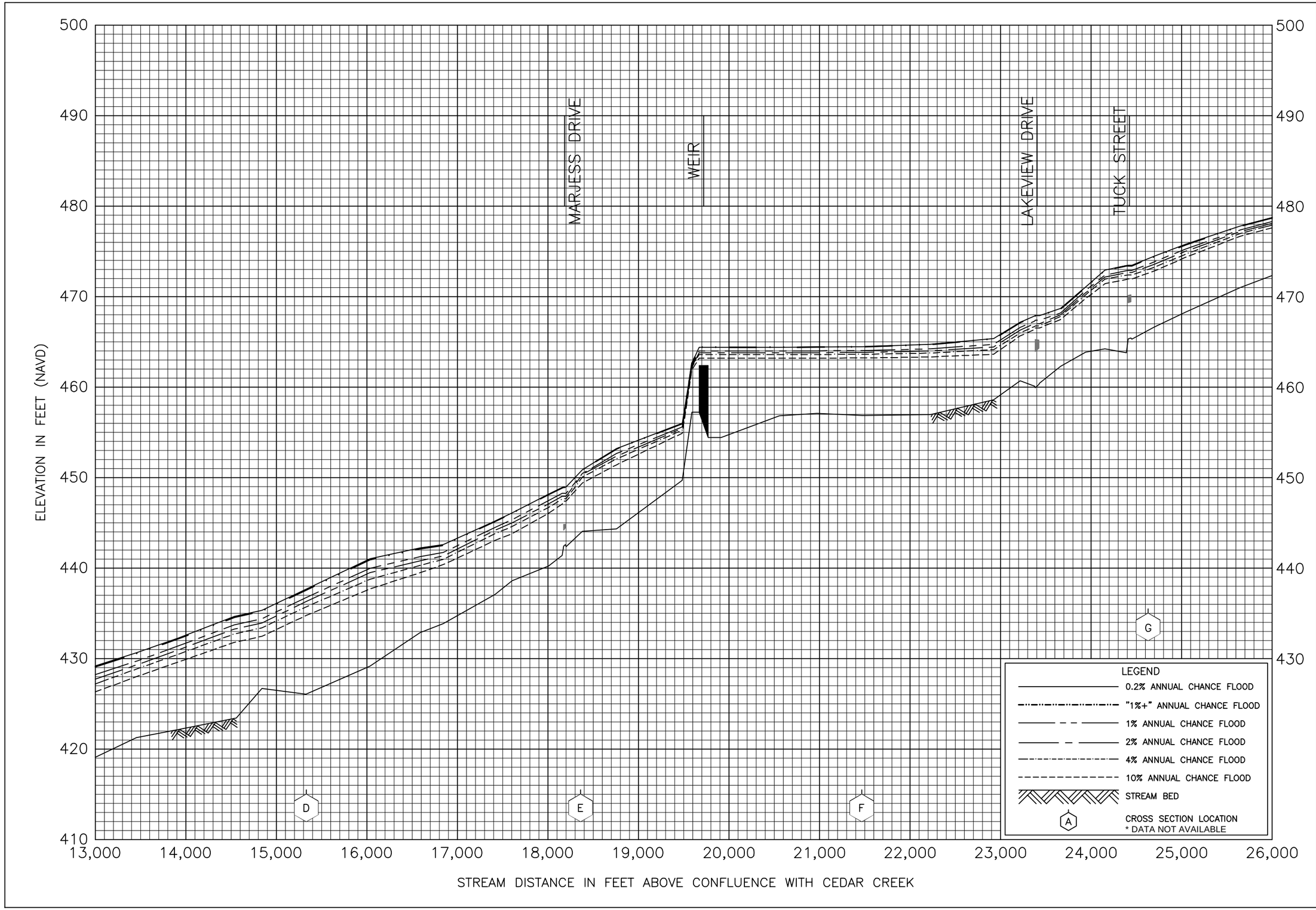
GREENS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

32P



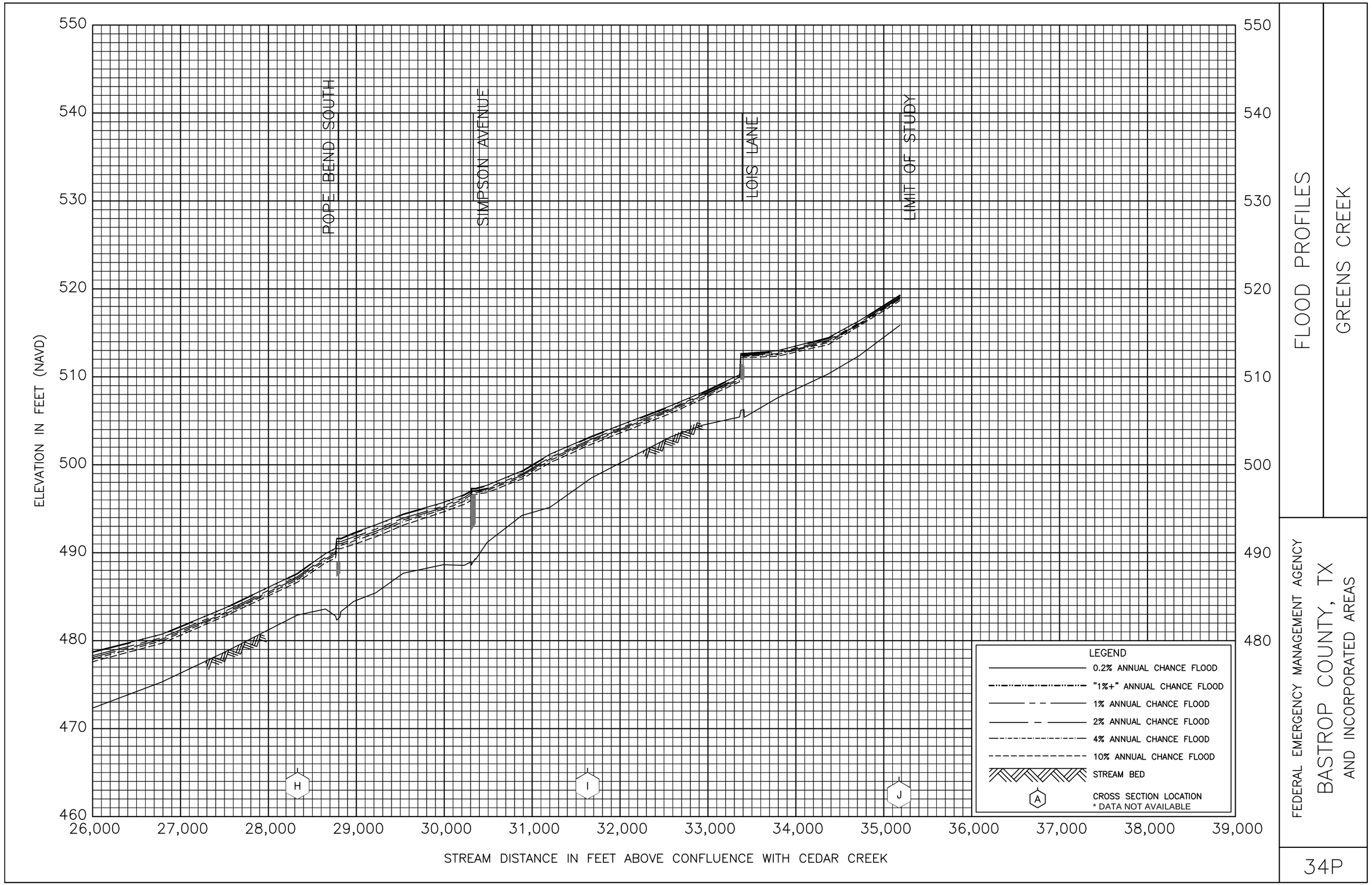
FLOOD PROFILES

GREENS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



FLOOD PROFILES

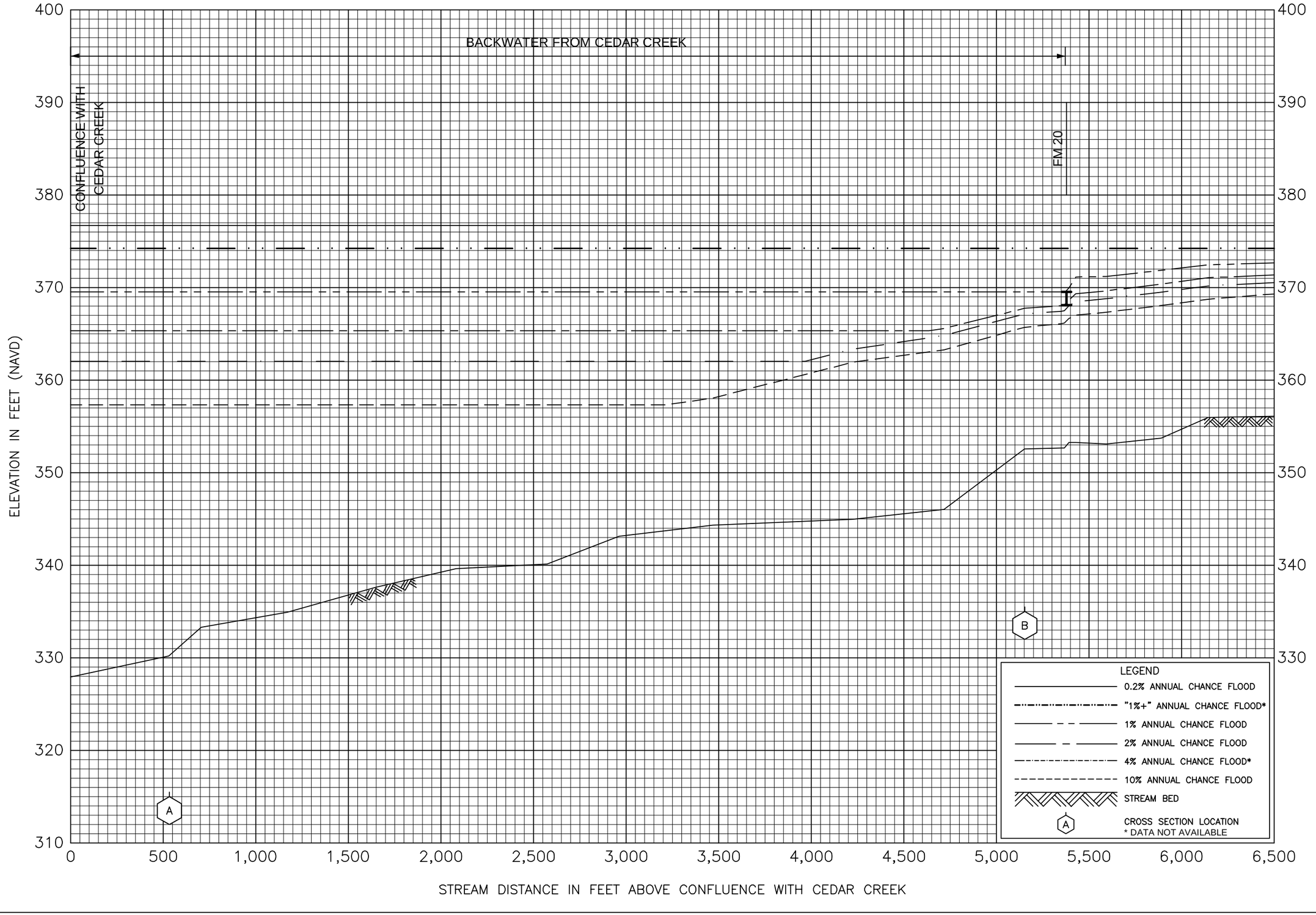
GREENS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

34P



FLOOD PROFILES

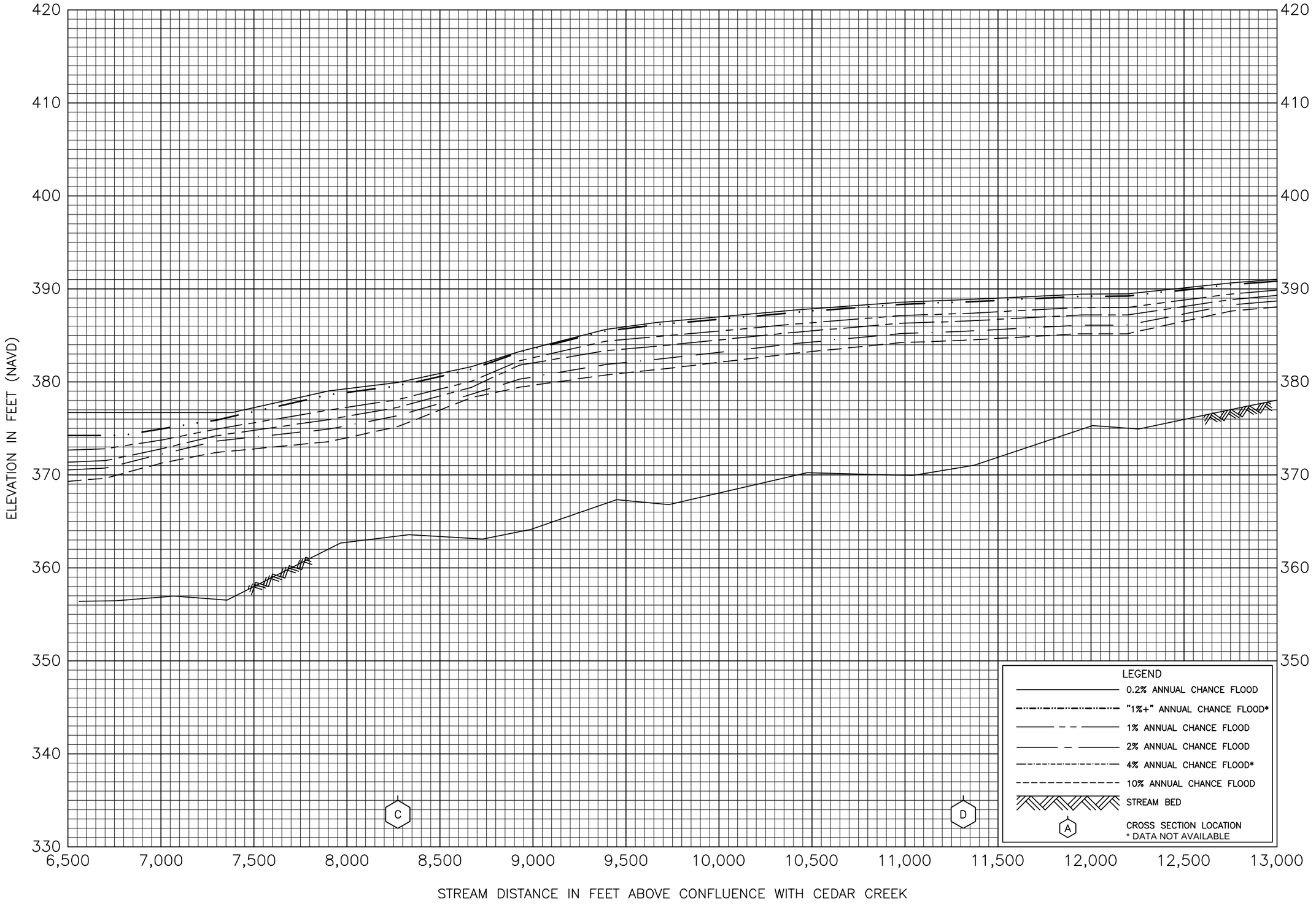
LONG BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

35P



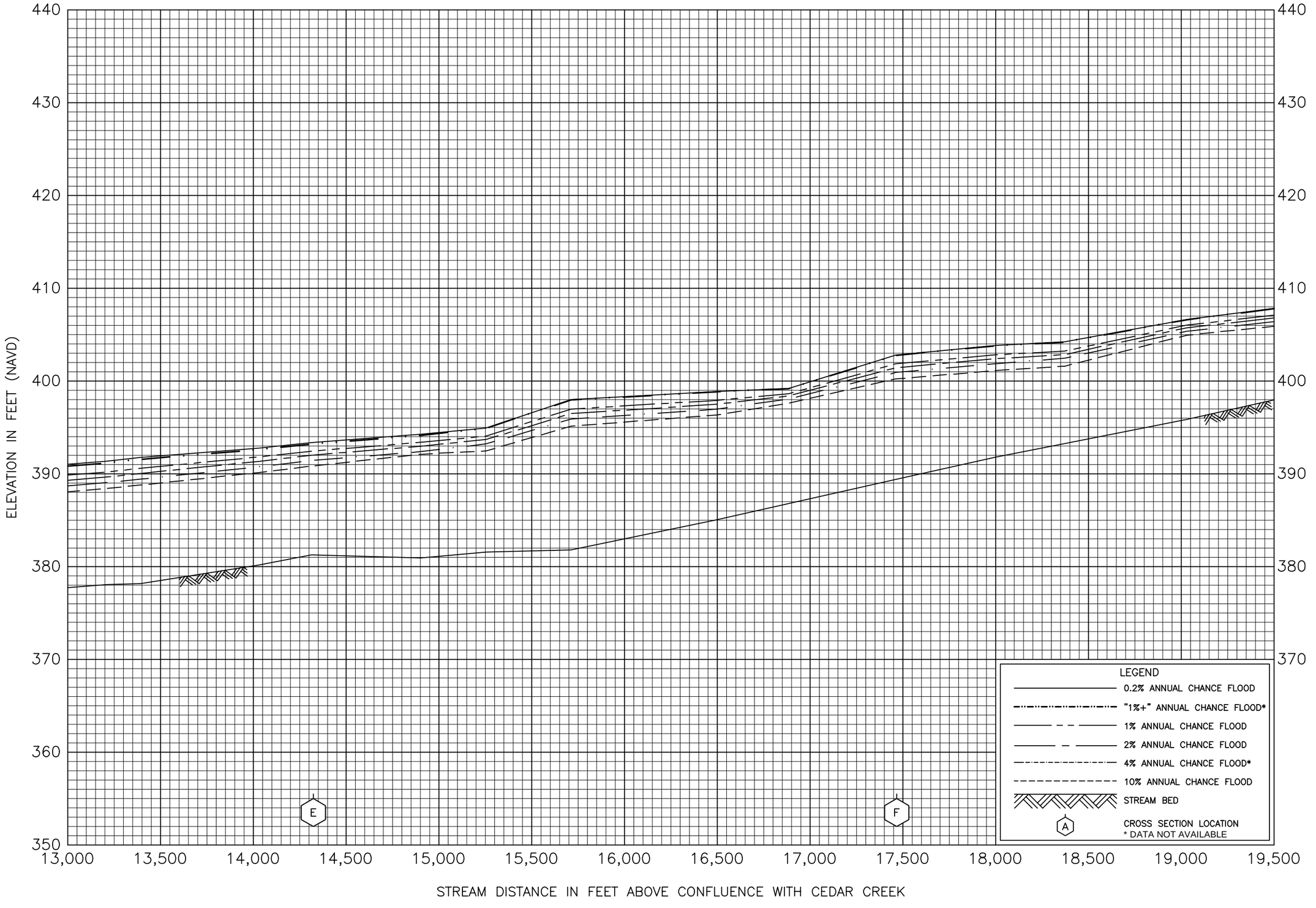
FLOOD PROFILES

LONG BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



FLOOD PROFILES

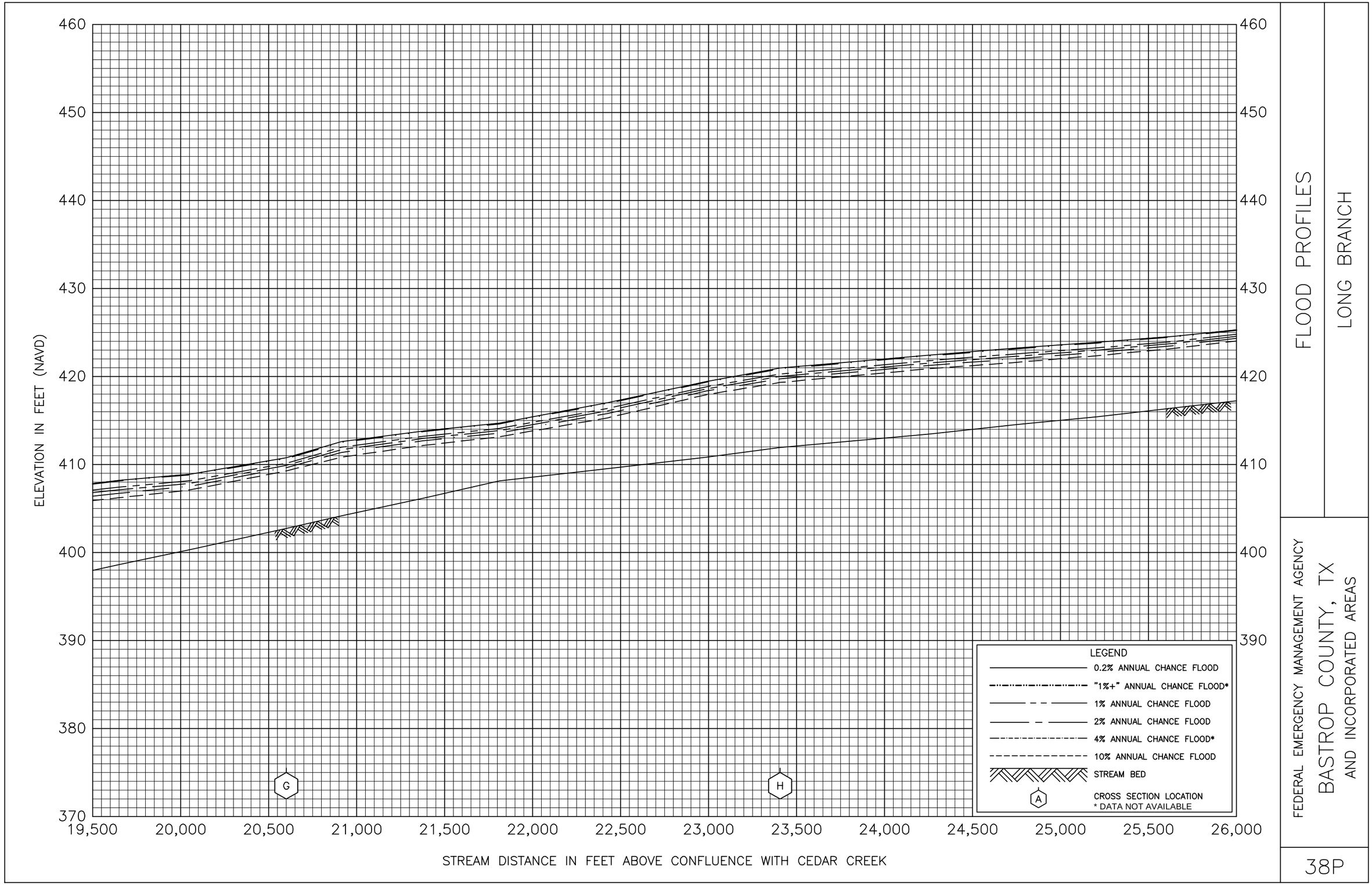
LONG BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

37P



FLOOD PROFILES

LONG BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX
AND INCORPORATED AREAS

38P

EARL CALLAHAN ROAD

ELEVATION IN FEET (NAVD)

480
470
460
450
440
430
420
410
400
390

26,000 26,500 27,000 27,500 28,000 28,500 29,000 29,500 30,000 30,500 31,000 31,500 32,000 32,500

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH CEDAR CREEK

I

J

LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- "1%+" ANNUAL CHANCE FLOOD*
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 4% ANNUAL CHANCE FLOOD*
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- (A) CROSS SECTION LOCATION

* DATA NOT AVAILABLE

FLOOD PROFILES

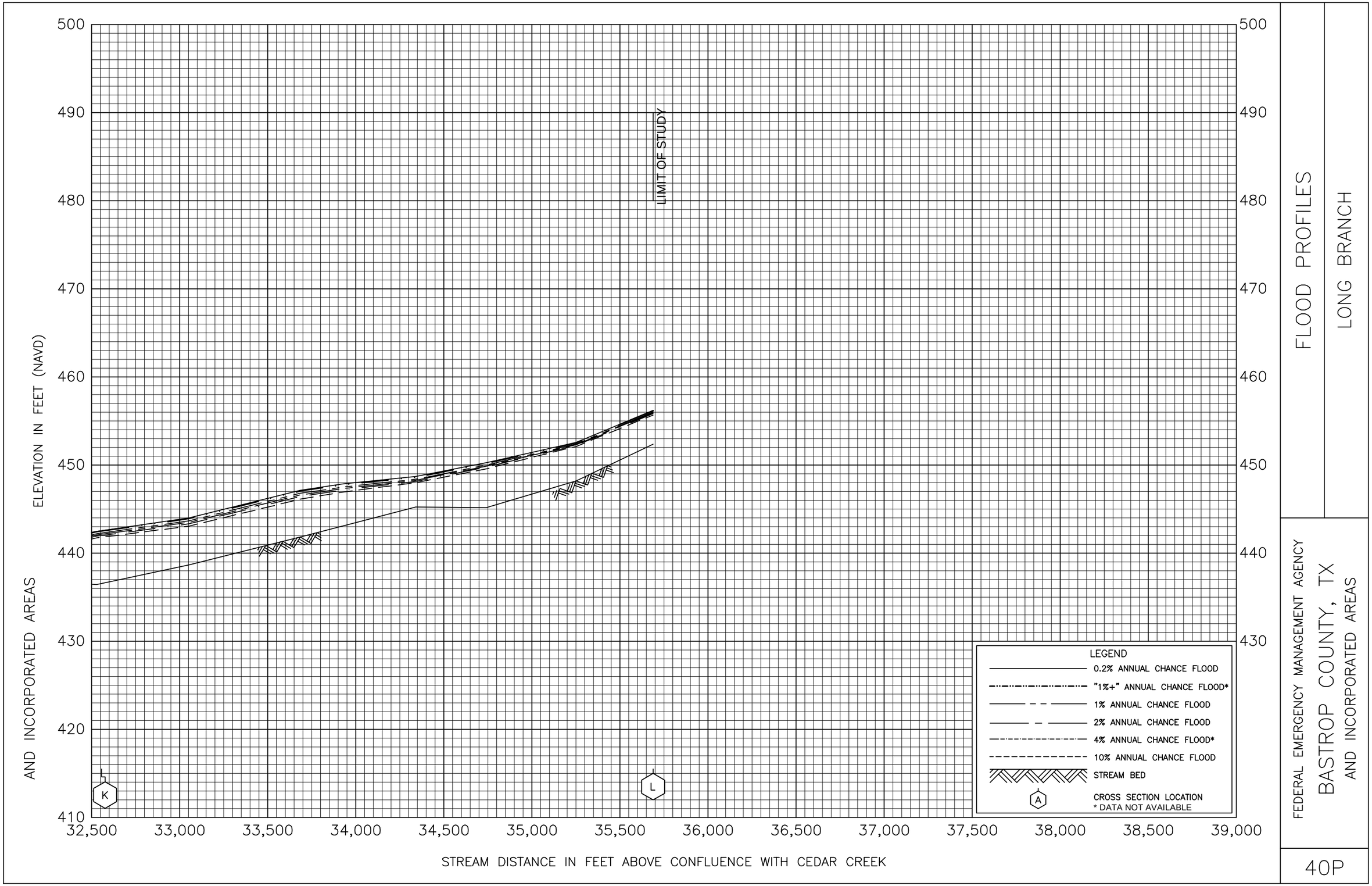
LONG BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

39P



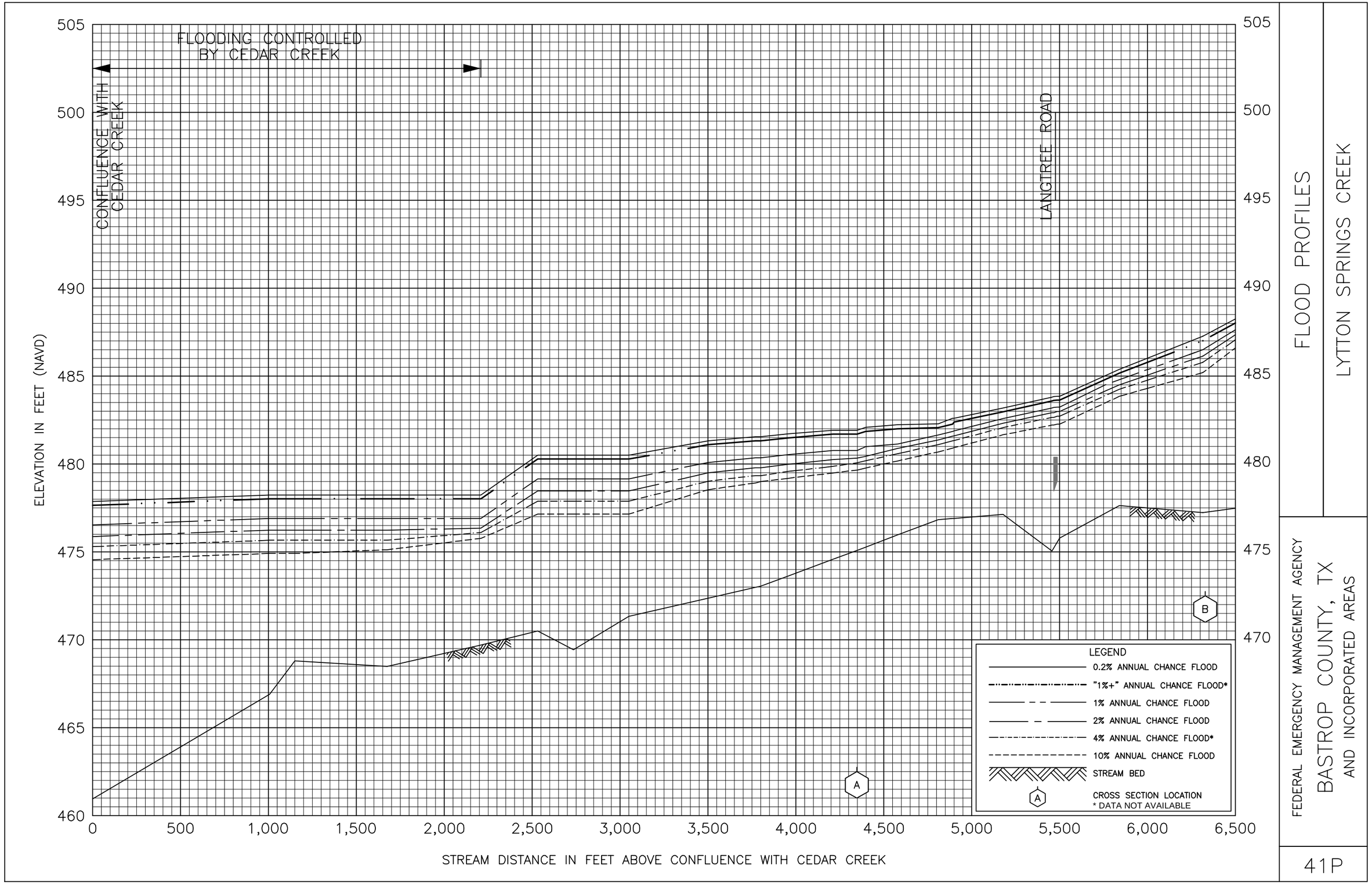
FLOOD PROFILES

LONG BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX
AND INCORPORATED AREAS

40P



FLOOD PROFILES

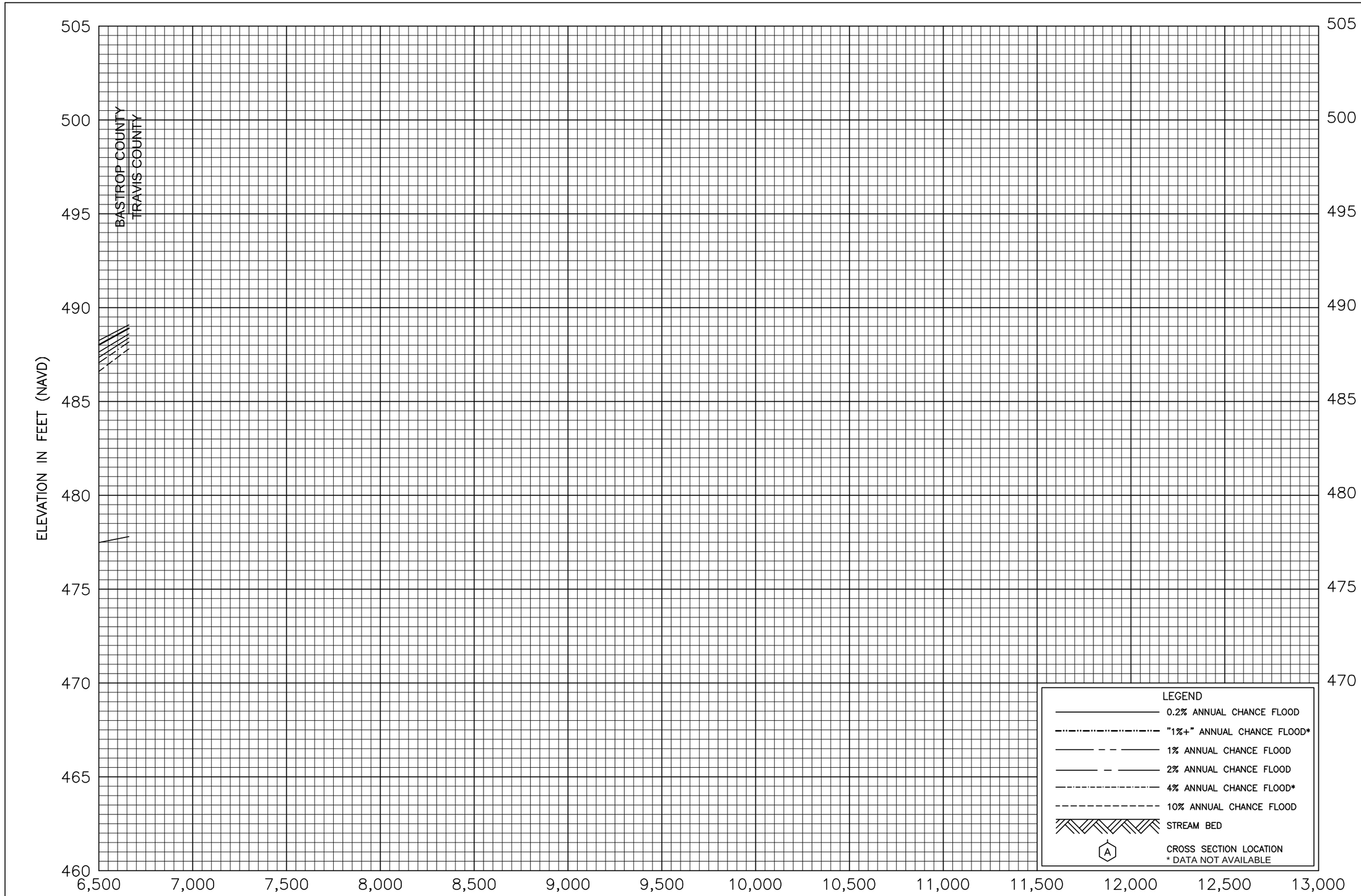
LYTTON SPRINGS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

41P



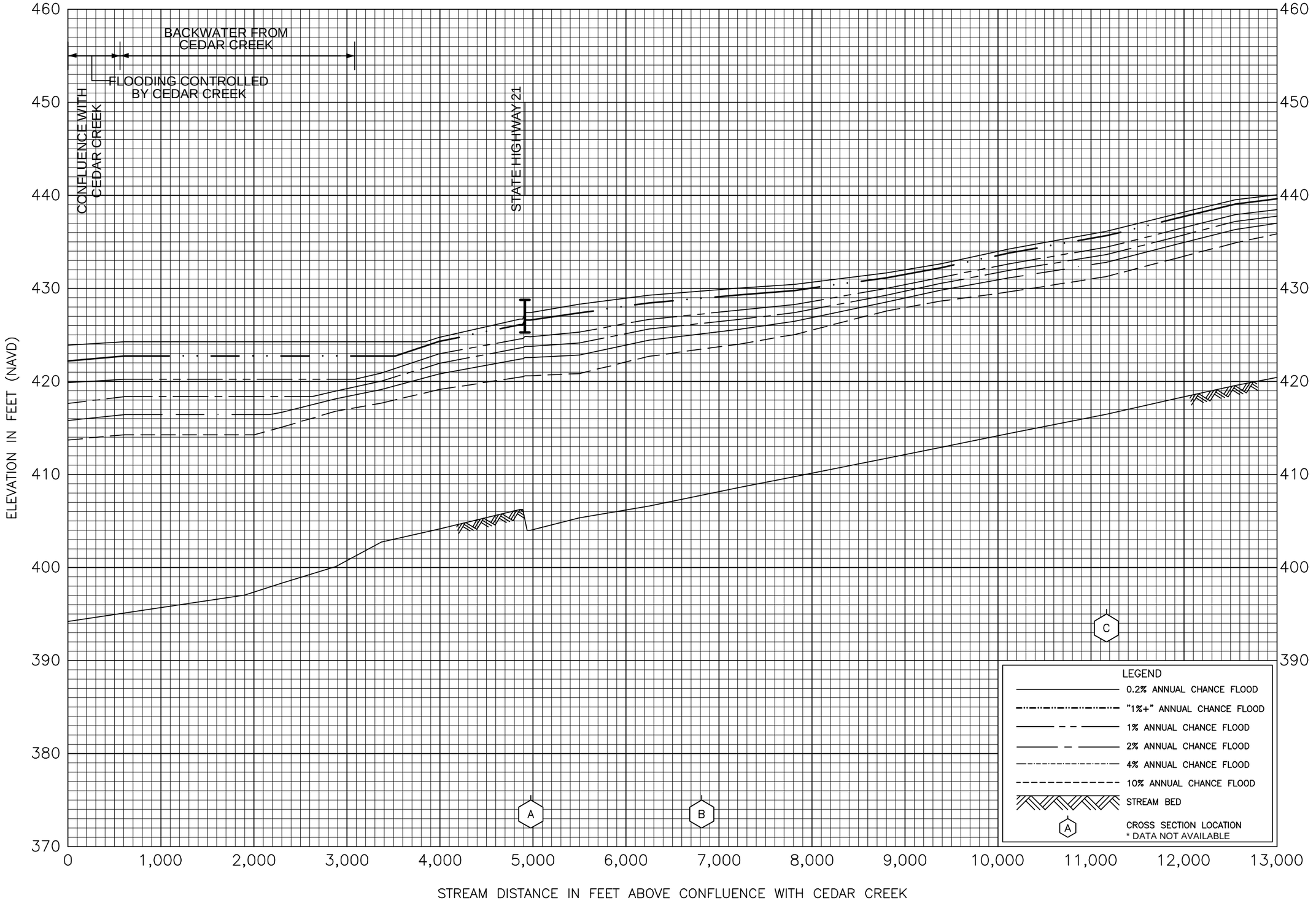
FLOOD PROFILES

LYTTON SPRINGS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX
AND INCORPORATED AREAS

42P



FLOOD PROFILES

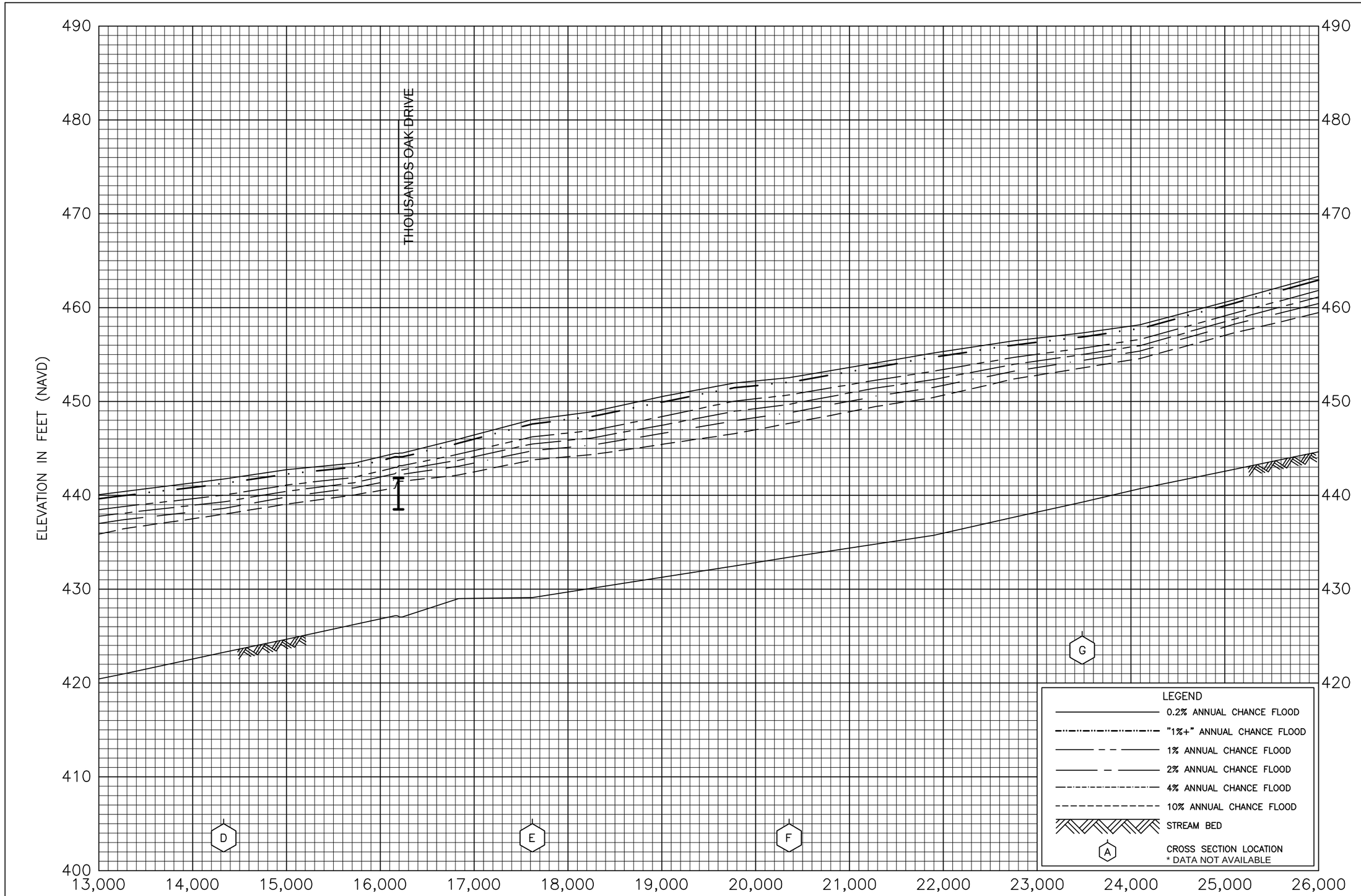
MAHA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

43P



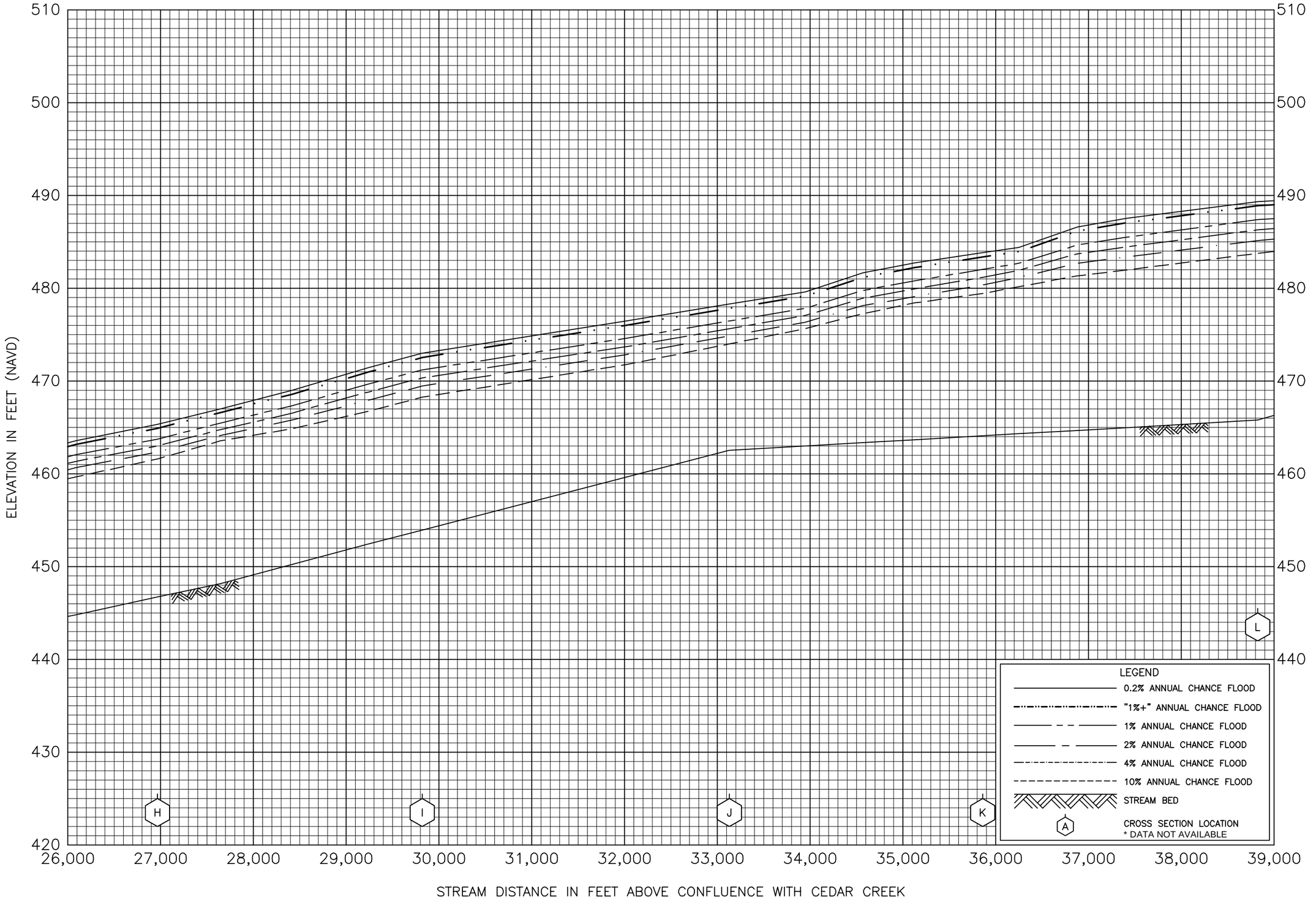
FLOOD PROFILES

MAHA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



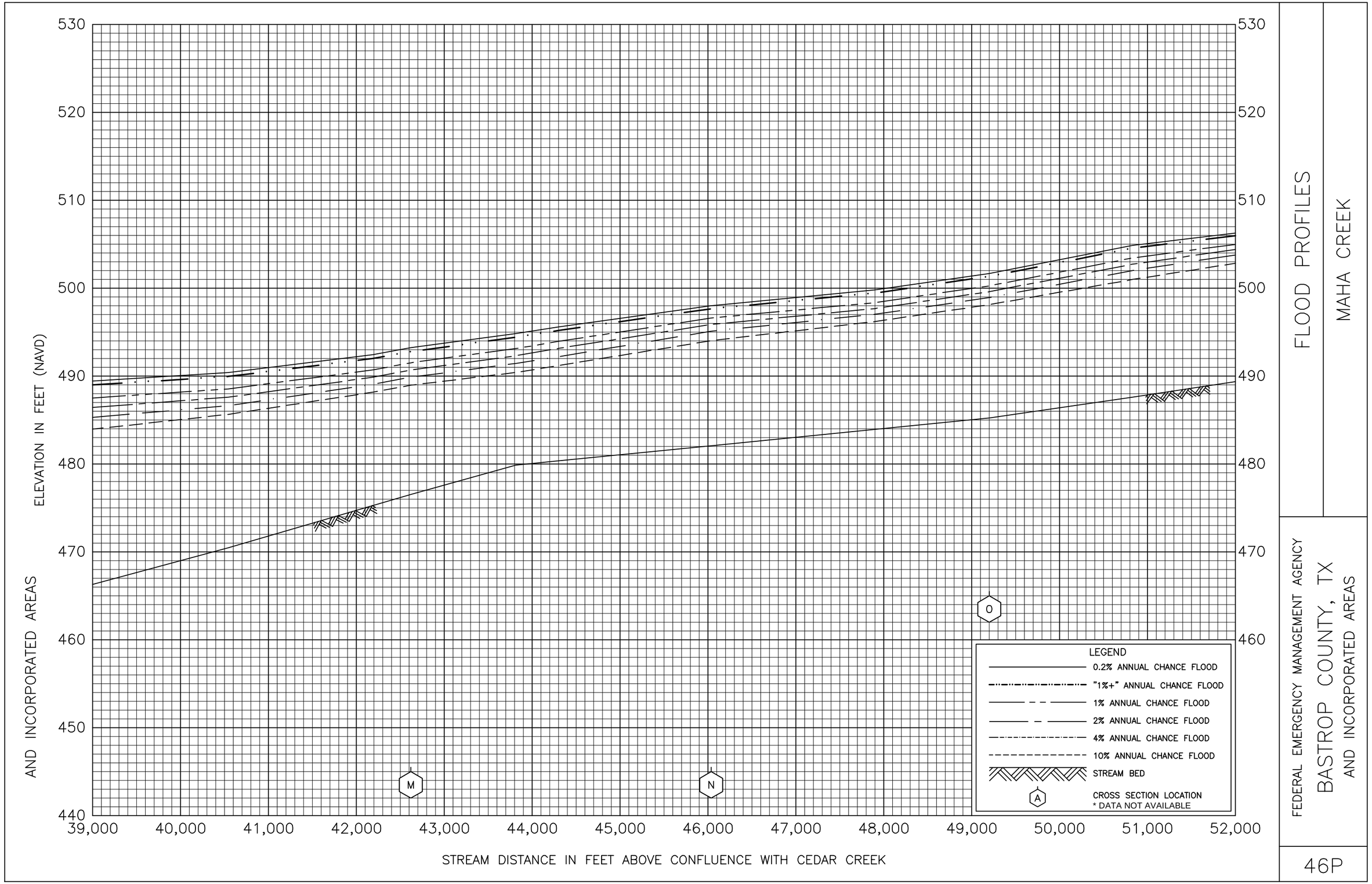
FLOOD PROFILES

MAHA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



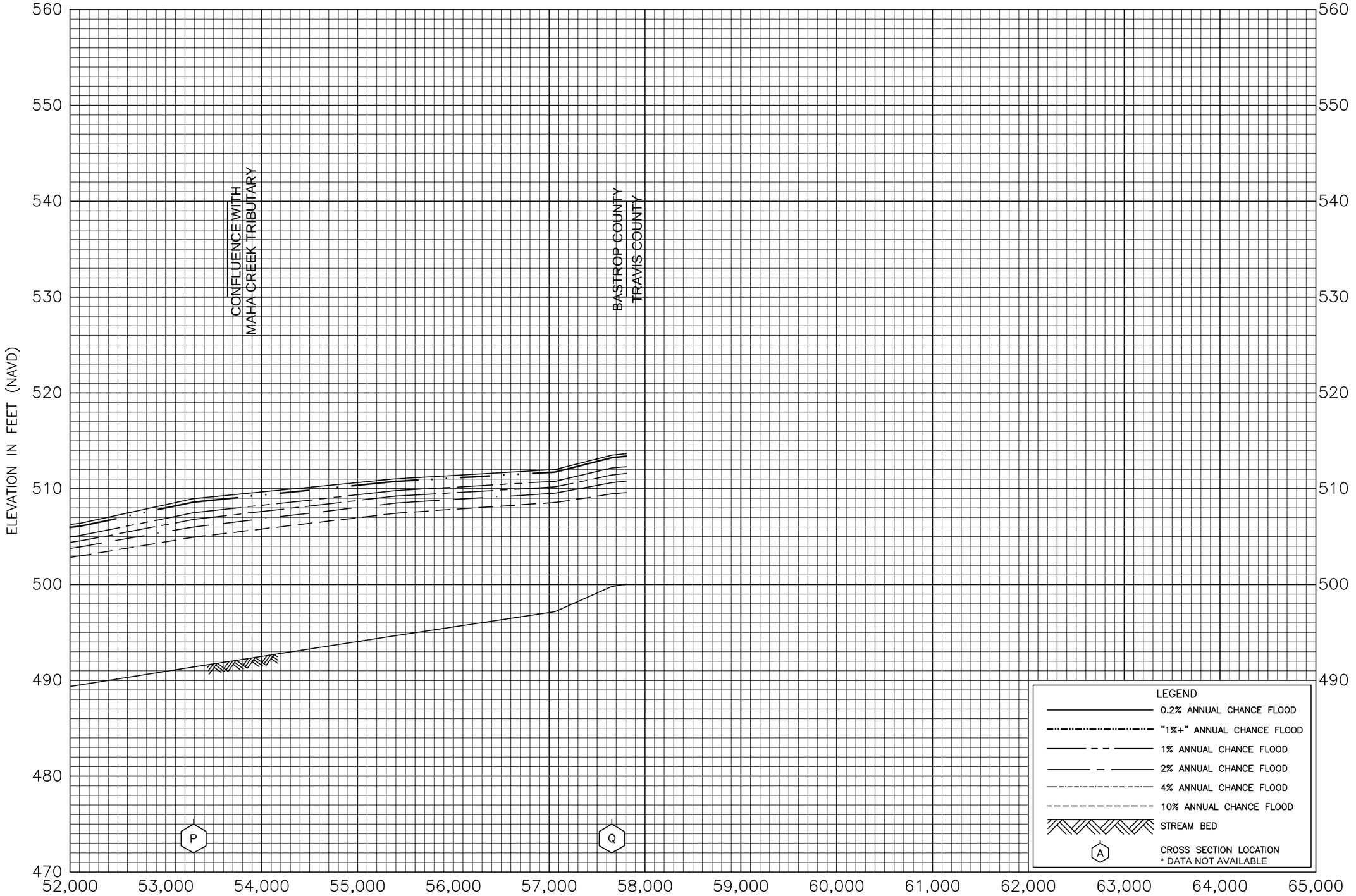
FLOOD PROFILES

MAHA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



FLOOD PROFILES

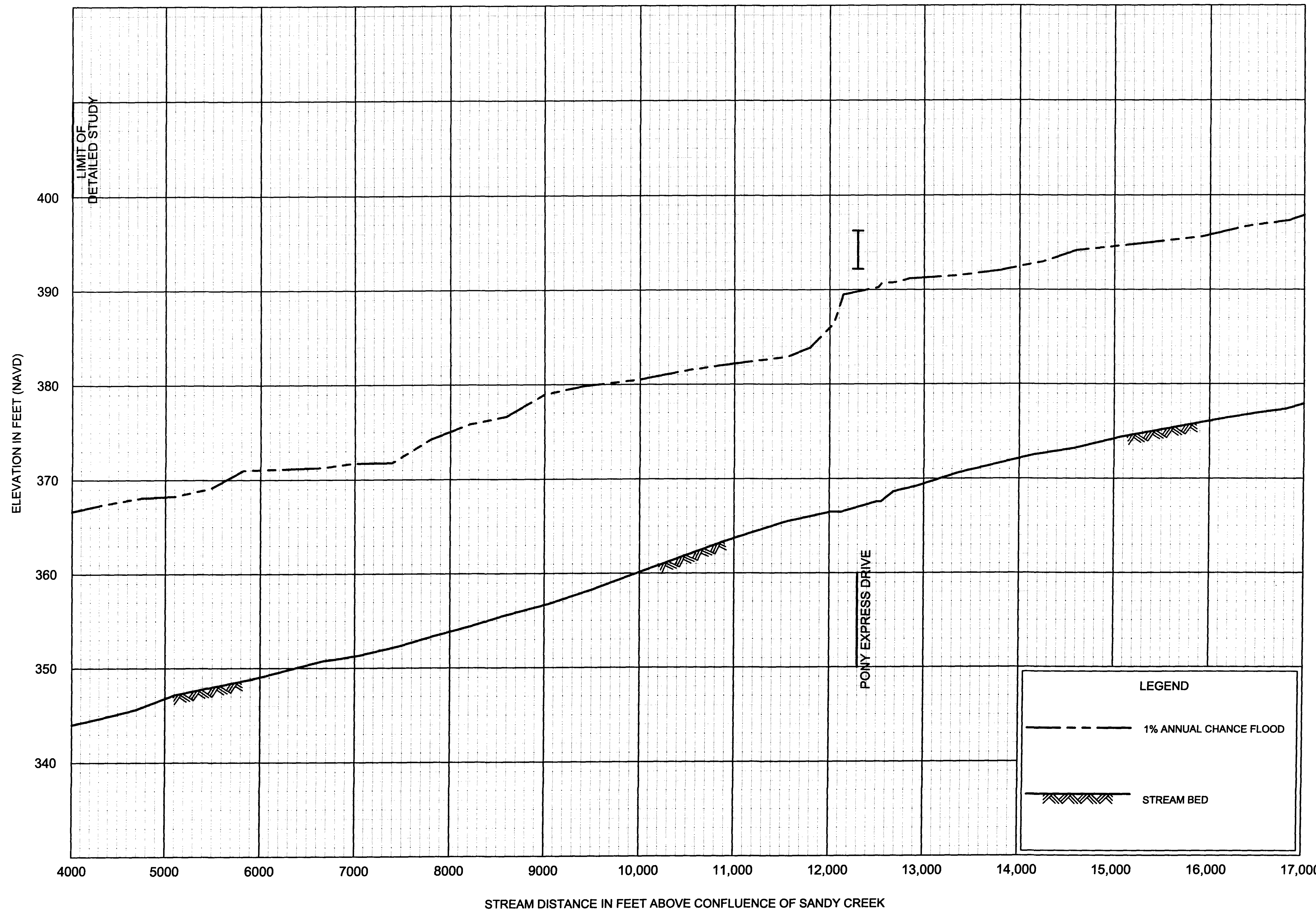
MAHA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

47P



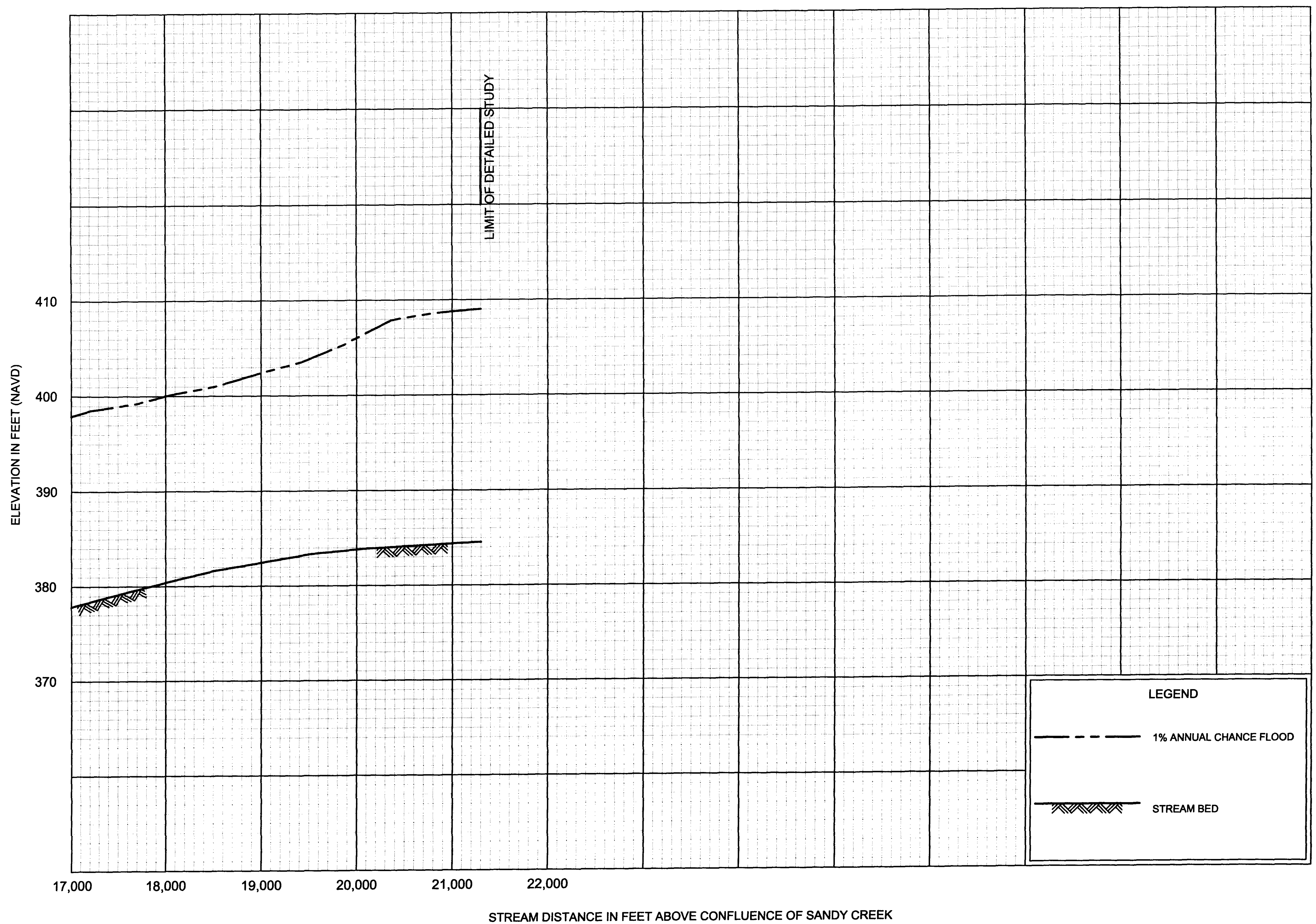
FLOOD PROFILES

PINEY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



FLOOD PROFILES

PINEY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

BACKWATER FROM COLORADO RIVER

RAILROAD

REIDS BEND

MAIN STREET

CONFLUENCE WITH COLORADO RIVER

RIVERWOOD DRIVE

PEDESTRIAN BRIDGE

STATE HIGHWAY 95

A

B

C

D

LEGEND

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

* DATA NOT AVAILABLE

ELEVATION IN FEET (NAVD)

390
380
370
360
350
340
330
320
310
300

0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 9,000 10,000 11,000 12,000 13,000

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH COLORADO RIVER

FLOOD PROFILES

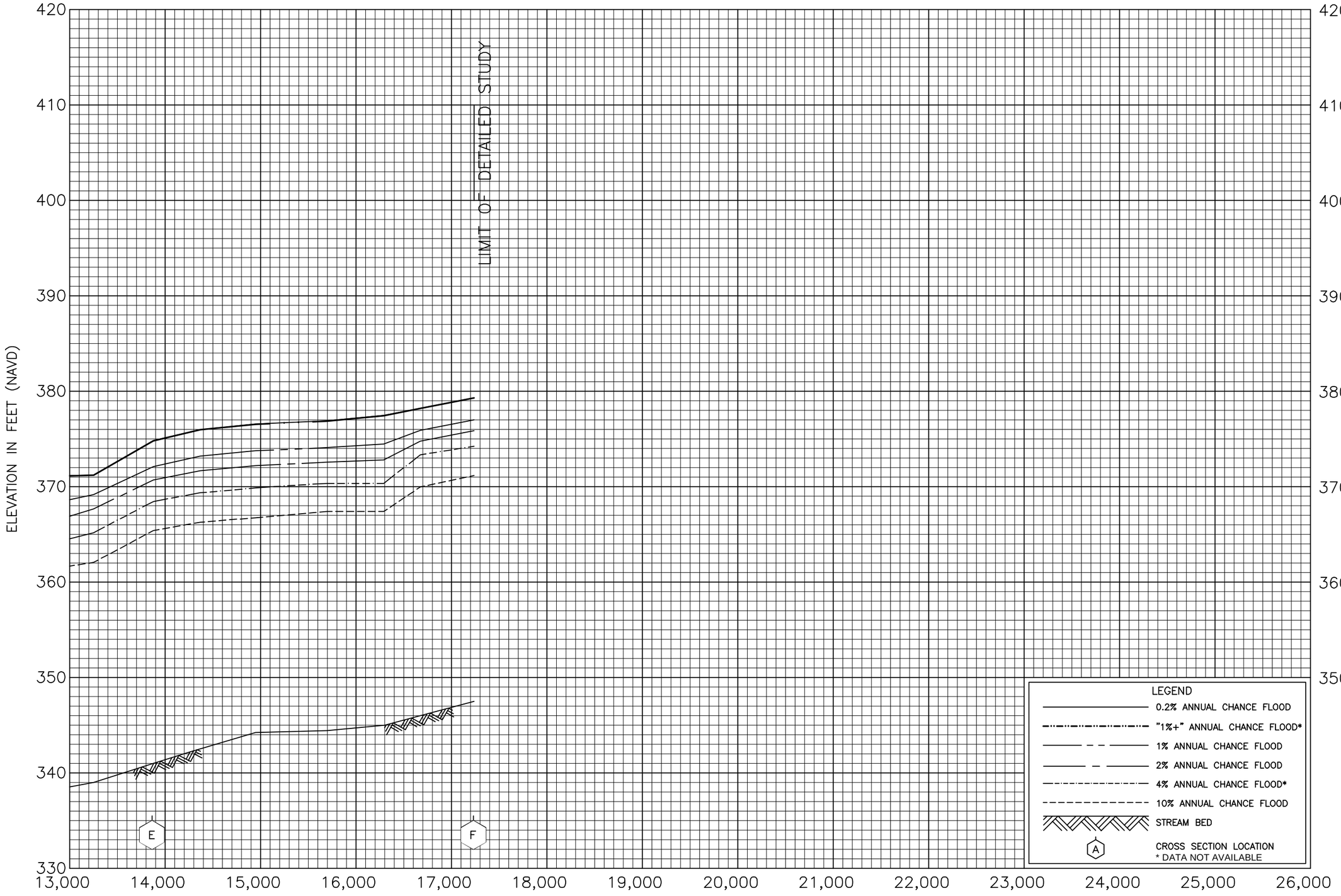
PINEY CREEK NORTH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

50P



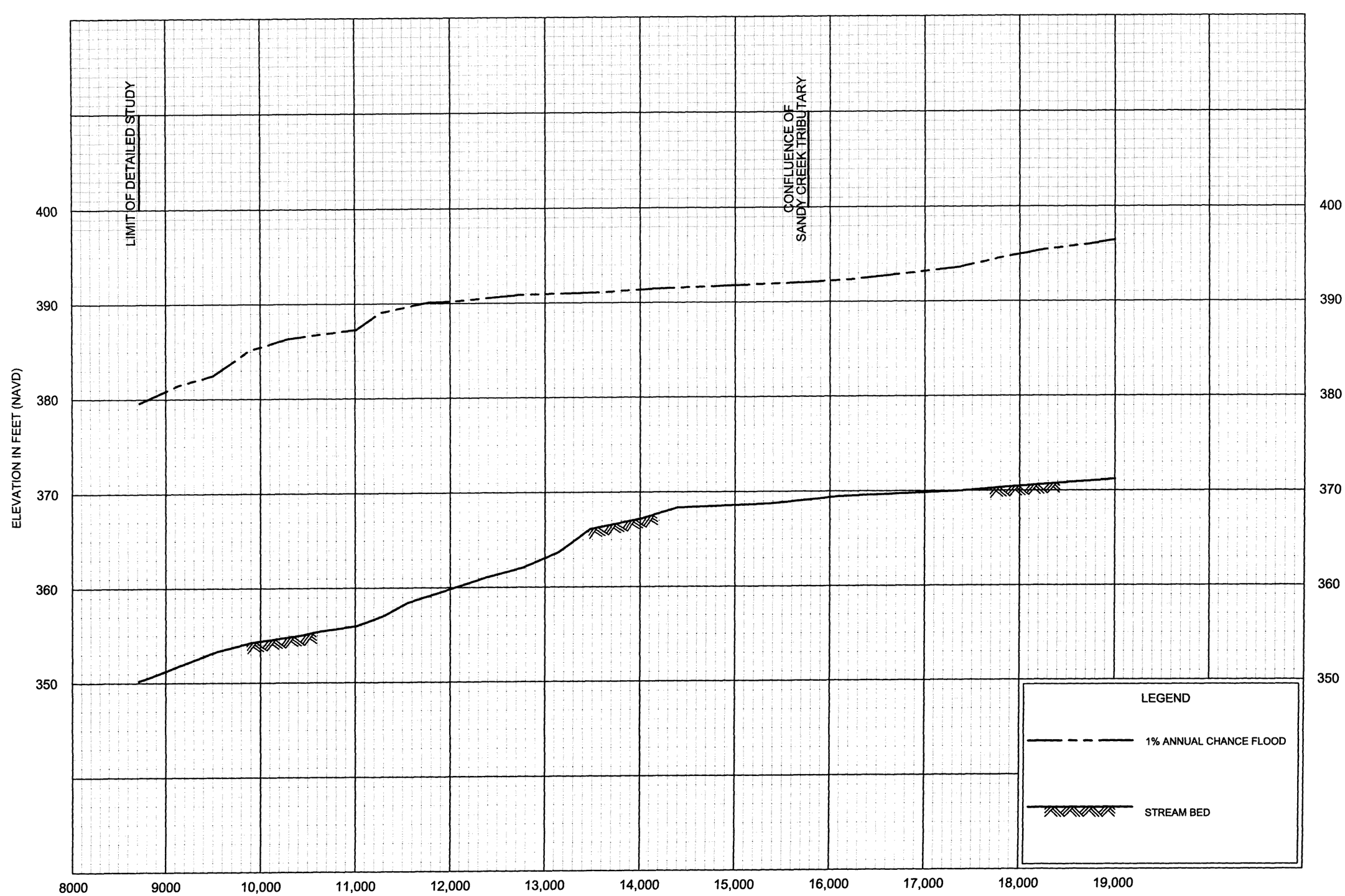
FLOOD PROFILES

PINEY CREEK NORTH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS



FLOOD PROFILES

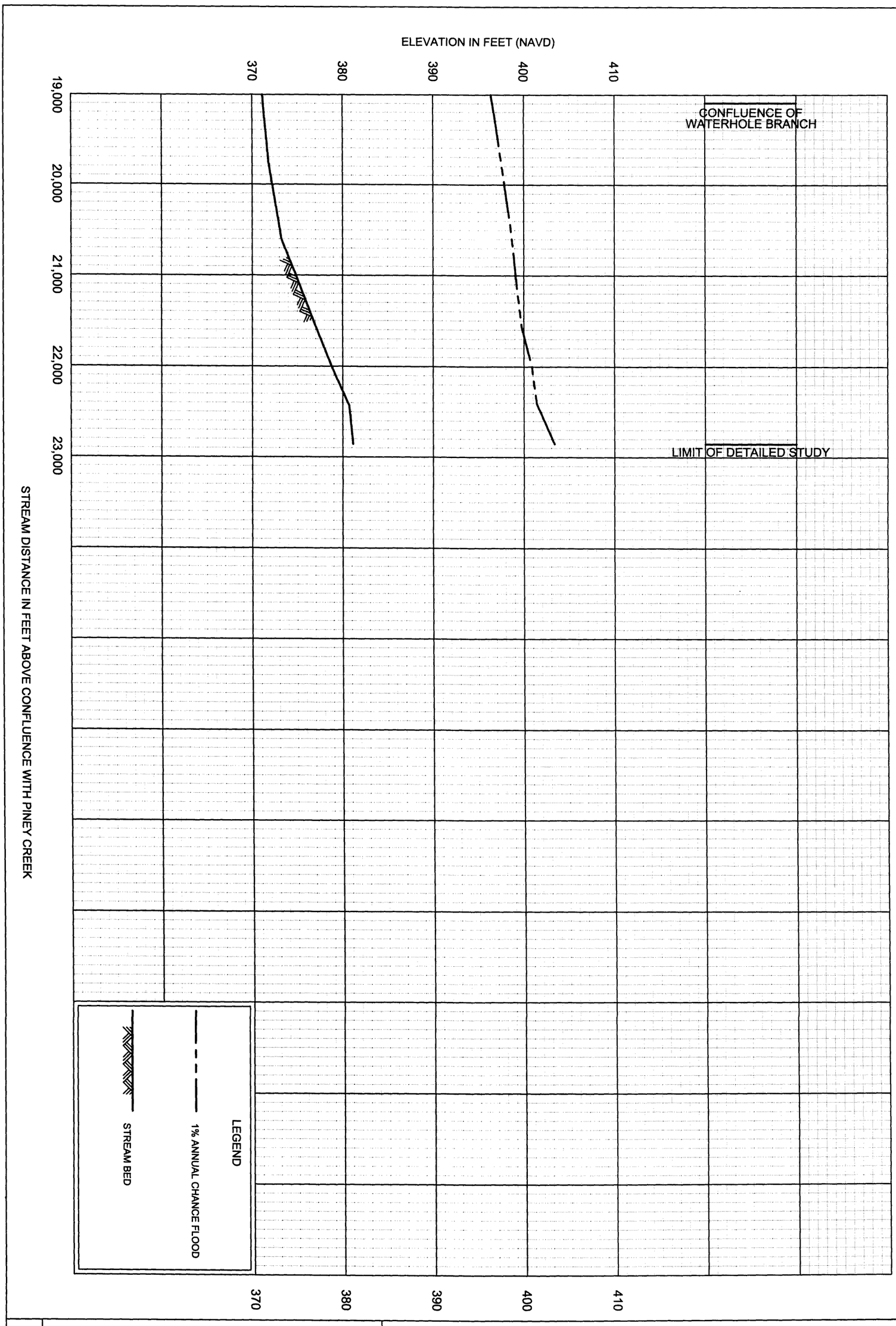
SANDY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

52P



53P

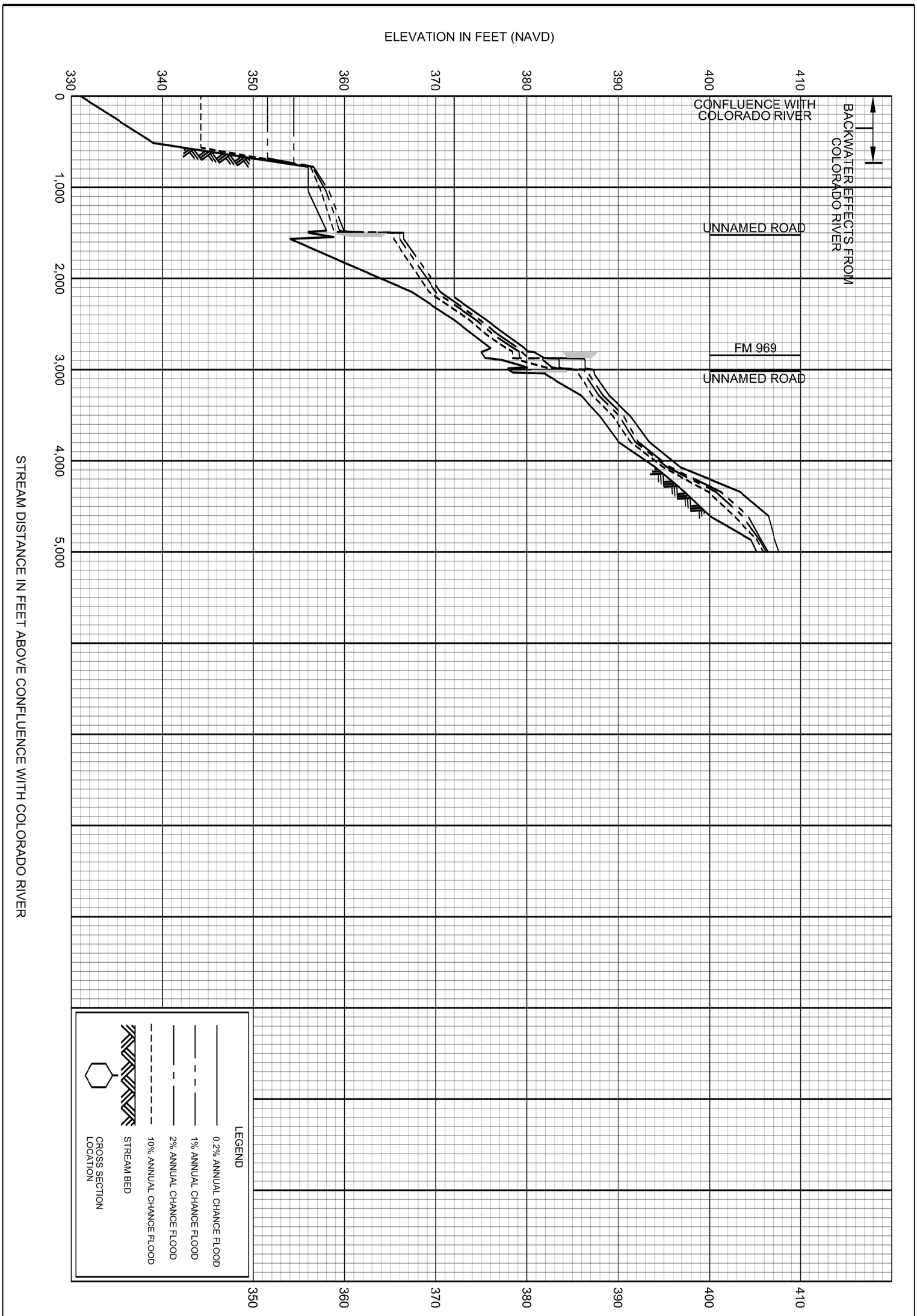
FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

FLOOD PROFILES

SANDY CREEK

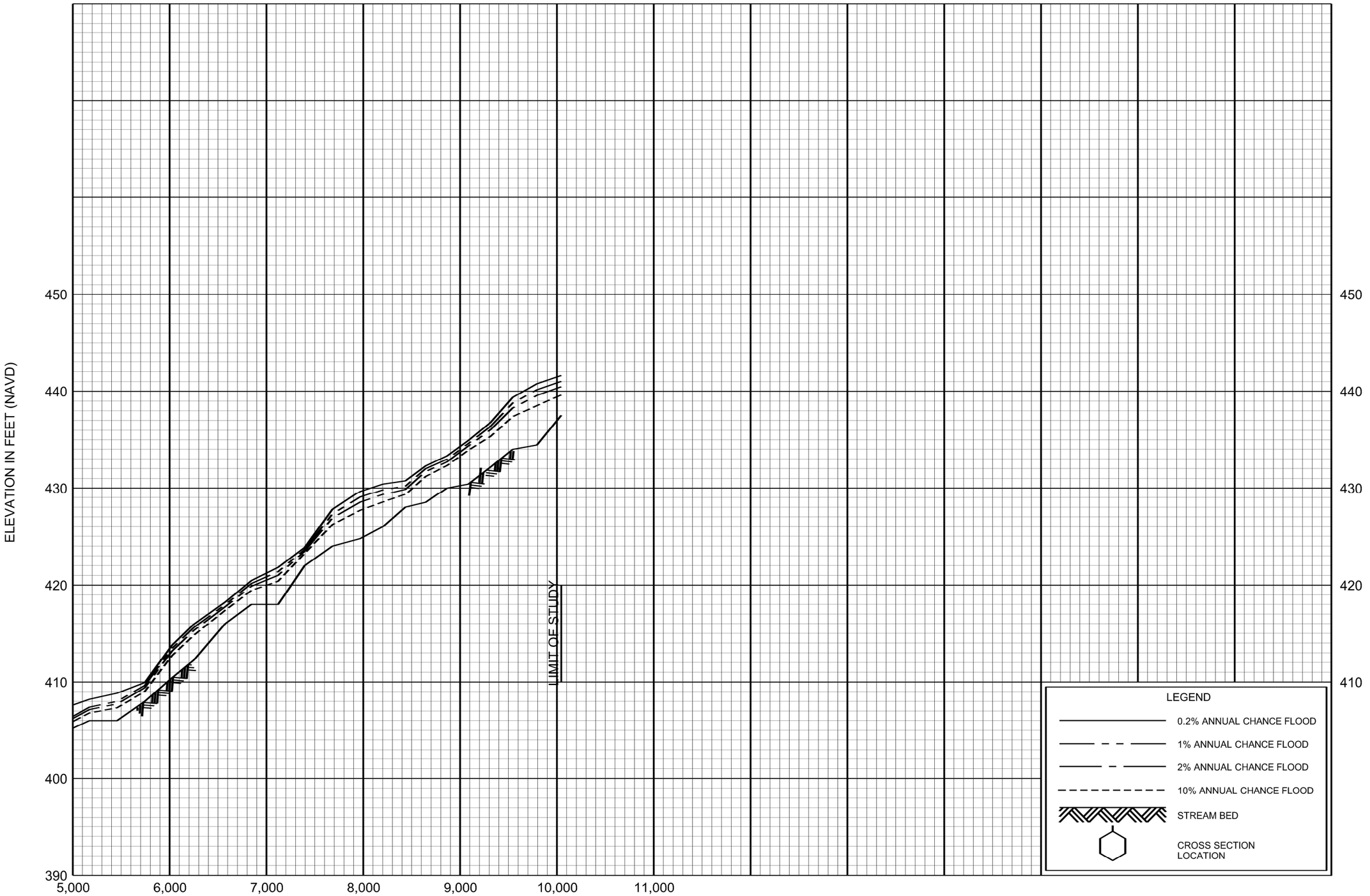


FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

UNNAMED TRIBUTARY TO COLORADO RIVER



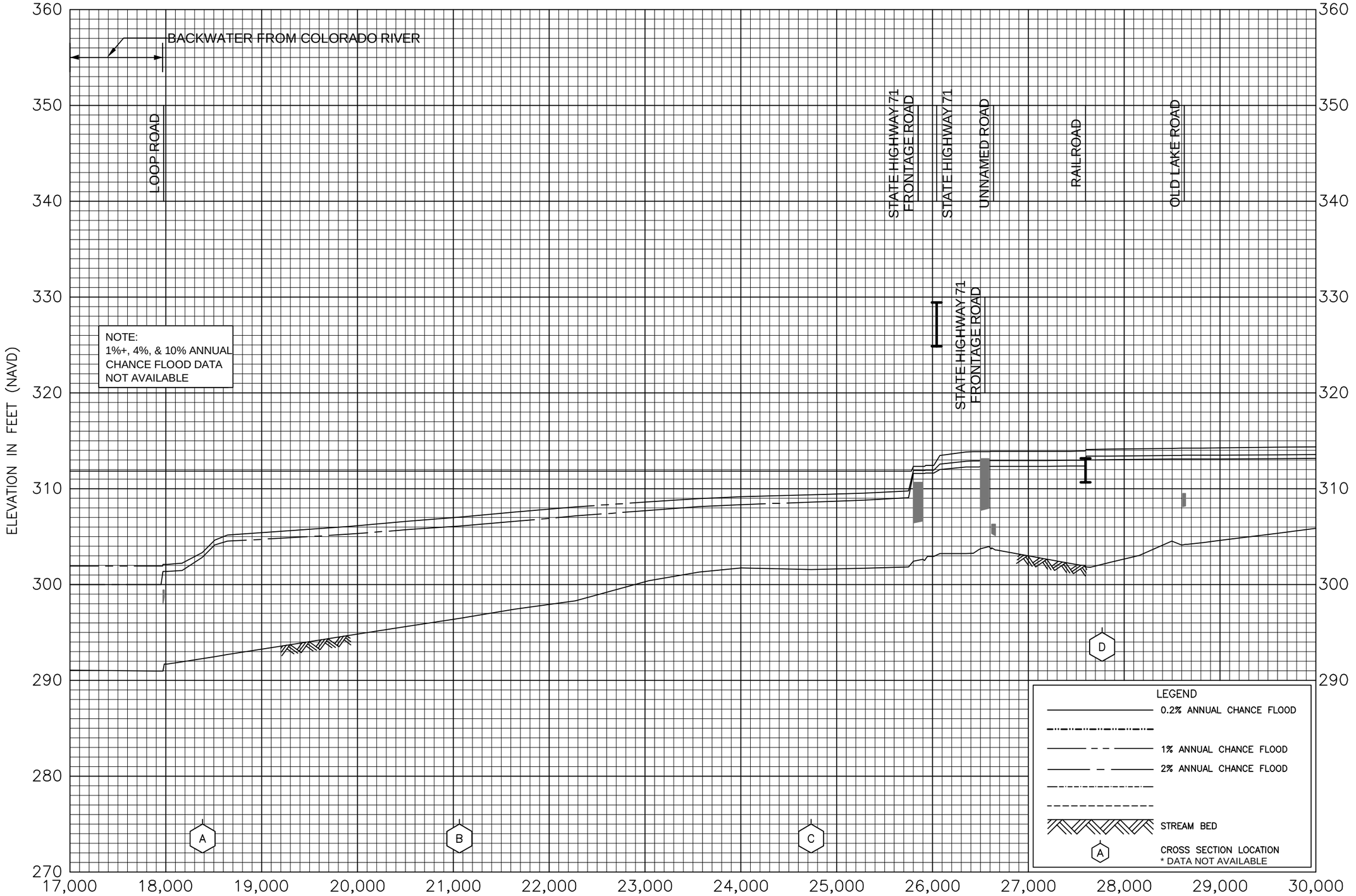
FLOOD PROFILES

UNNAMED TRIBUTARY TO COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX
AND INCORPORATED AREAS

55P



*DOWNSTREAM FLOODING CONTROLLED BY COLORADO RIVER

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH COLORADO RIVER

FLOOD PROFILES

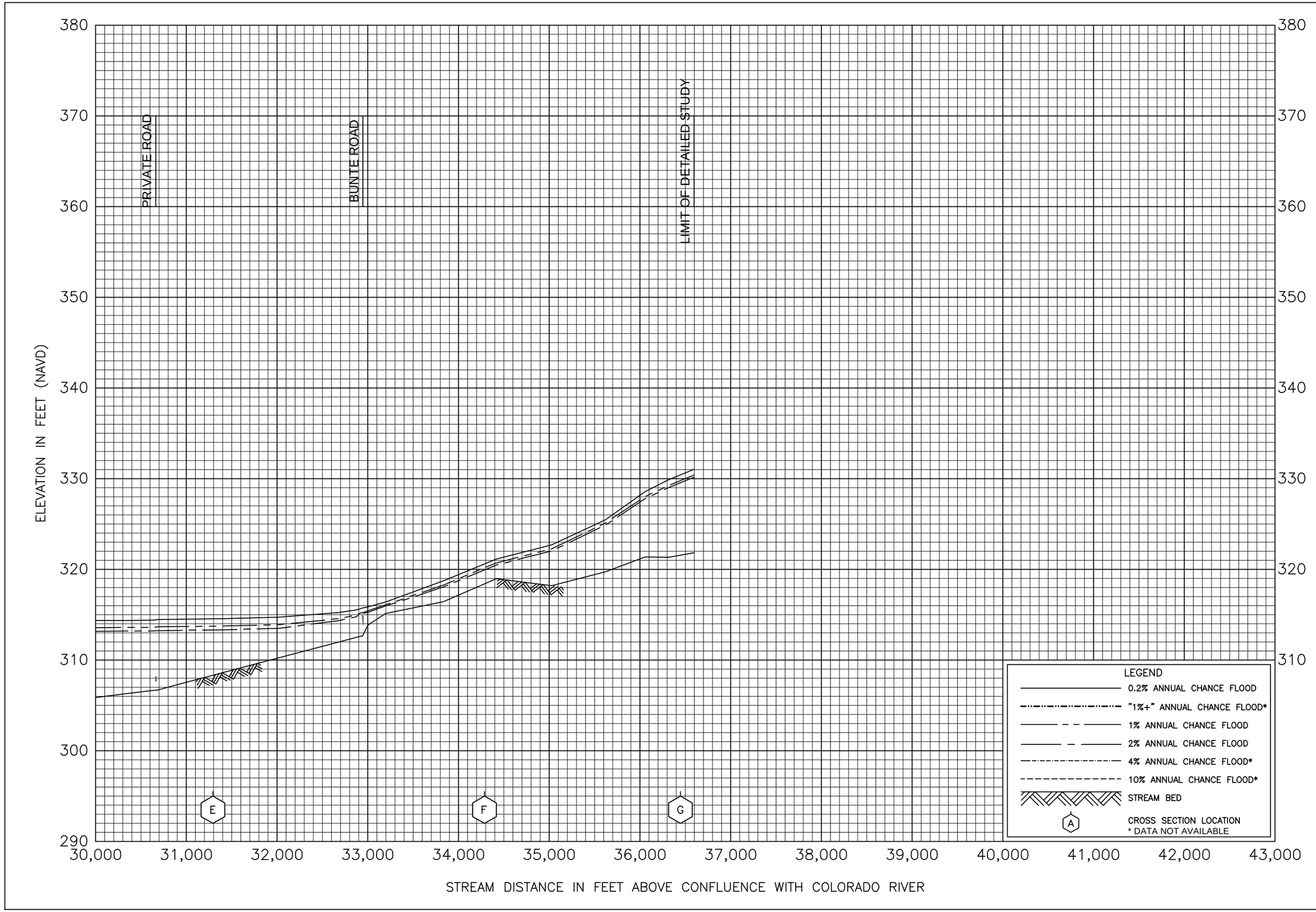
WILLOW CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

56P



FLOOD PROFILES

WILLOW CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BASTROP COUNTY, TX

AND INCORPORATED AREAS

57P