

# FLOOD INSURANCE STUDY

VOLUME 1 OF 2



## GREGG COUNTY, TEXAS AND INCORPORATED AREAS

<u>COMMUNITY NAME</u>	<u>COMMUNITY NUMBER</u>
CLARKSVILLE CITY, CITY OF	480535
EASTON, CITY OF	481145
GLADEWATER, CITY OF	480262
GREGG COUNTY, (UNINCORPORATED AREAS)	480261
KILGORE, CITY OF	480263
LAKEPORT, CITY OF	480079
LONGVIEW, CITY OF	480264
WARREN CITY, CITY OF	480840
WHITE OAK, CITY OF	480841



EFFECTIVE:  
SEPTEMBER 3, 2014



Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER  
48183CV001A

**NOTICE TO  
FLOOD INSURANCE STUDY USERS**

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

Selected Flood Insurance Rate Map (FIRM) panels for the community contain information that was previously shown separately on the corresponding Flood Boundary and Floodway Map (FBFM) panels (e.g., floodways, cross sections).

In addition, former flood hazard zone designations have been changed as follows:

<u>Old Zone</u>	<u>New Zone</u>
A1 through A30	AE
V1 through V30	VE
B	X
C	X

This FIS report is a consolidation of existing data from the individual FIS reports completed for the incorporated and unincorporated areas within Gregg County, Texas into a countywide format FIS.

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

Initial Countywide FIS Effective Date:           **September 3, 2014**

TABLE OF CONTENTS – Volume 1 – September 3, 2014

	<u>Page</u>
1.0 <u>INTRODUCTION</u>	1
1.1 Purpose of Study	1
1.2 Authority and Acknowledgments	1
1.3 Coordination	5
2.0 <u>AREA STUDIED</u>	6
2.1 Scope of Study	6
2.2 Community Description	9
2.3 Principal Flood Problems	11
2.4 Flood Protection Measures	12
3.0 <u>ENGINEERING METHODS</u>	12
3.1 Hydrologic Analyses	13
3.2 Hydraulic Analyses	24
3.3 Vertical Datum	27
4.0 <u>FLOODPLAIN MANAGEMENT APPLICATIONS</u>	29
4.1 Floodplain Boundaries	29
4.2 Floodways	30
5.0 <u>INSURANCE APPLICATIONS</u>	73
6.0 <u>FLOOD INSURANCE RATE MAP</u>	74
7.0 <u>OTHER STUDIES</u>	76
8.0 <u>LOCATION OF DATA</u>	76
9.0 <u>BIBLIOGRAPHY AND REFERENCES</u>	76

Table of Contents – Volume 1 – September 3, 2014 (continued)

	<u>Page</u>
<u>FIGURES</u>	
Figure 1: Floodway Schematic	31

<u>TABLES</u>	
Table 1: Summary of Flooding Sources Presented in Current Study	3-4
Table 2: Historical CCO Meeting Dates	5
Table 3: Flooding Sources Studied by Detailed Methods	7-9
Table 4: Letters of Map Change	9
Table 5: Summary of Discharges	16-21
Table 6: Manning's "n" Values	24-25
Table 7: Floodway Data	32-37
Table 8: Community Map History	75

<u>EXHIBITS</u>	
Exhibit 1 – Flood Profiles	
Bighead Creek	Panels 01P-08P
Birdsong Creek	Panels 09P-11P
Coushatta Hills Creek	Panels 12P-13P
Drain No. 1	Panels 14P-15P
Drain No. 2 – Oak Branch Creek	Panels 16P-19P
Drain No. 3	Panels 20P-21P
Drain No. 4	Panel 22P
Eastman Lake Creek	Panels 23P-27P
Elm Branch Creek	Panels 28P-29P
Gilmer Creek	Panels 30P-31P
Glade Creek	Panels 32P-33P*
Grace Creek	Panels 35P-45P
Guthrie Creek	Panels 46P-47P

\*Profile page 34P is voided.

Table of Contents - Volume 2 – September 3, 2014

EXHIBITS (continued)

Exhibit 1 – Flood Profiles (continued)

Harris Creek	Panels 48P-52P
Hawkins Creek	Panels 53P-61P
Hawkins Creek Tributary 1	Panels 62P-64P
Iron Bridge Creek	Panels 65P-67P
Johnston Creek	Panels 68P-69P
Lafamo Creek	Panels 70P-72P
Lilly Creek	Panel 73P
McCann Creek	Panels 74P-75P
Moody Creek	Panels 76P-82P
Murray Creek	Panels 83P-85P
Oakland Creek	Panels 86P-88P
Ray Creek	Panels 89P-93P
Sabine River	Panels 94P-96P
School Branch Creek	Panels 97P-98P
Turkey Creek	Panels 99P-102P
Wade Creek	Panels 103P-105P

Exhibit 2 – Flood Insurance Rate Map Index  
Flood Insurance Rate Map

FLOOD INSURANCE STUDY  
GREGG COUNTY, TEXAS AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This countywide FIS investigates the existence and severity of flood hazards in the geographic area of Gregg County, Texas including the Cities of Clarksville City, Easton, Gladewater, Kilgore, Lakeport, Longview, Warren City, and White Oak; and the unincorporated areas of Gregg County (referred to collectively herein as Gregg County).

Please note that on the effective date of this study, the City of Lakeport has no mapped Special Flood Hazard Areas (SFHAs). This does not preclude future determinations of SFHAs that could be necessitated by changed conditions affecting the community (i.e. annexation of new lands) or the availability of new scientific or technical data about flood hazards.

Please note that the City of Longview is geographically located in Gregg, Harrison, and Upshur Counties; the City of Kilgore and the City of Easton are geographically located in Gregg County and Rusk County; and the Cities of Clarksville City, Gladewater, and Warren City are geographically located in Gregg County and Upshur County. Only the portions of the Warren City, Clarksville City, and the Cities of Longview, Kilgore, Easton, and Gladewater located in Gregg County are included in this FIS. See the separately published FIS reports and Flood Insurance Rate Maps (FIRMs) for countywide map dates and flood hazard information outside of Gregg County.

This FIS aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This FIS has developed flood-risk data for various areas of the county that will be used to establish actuarial flood insurance rates. This information will also be used by Gregg County to update existing floodplain regulations as part of the Regular Phase of the NFIP, and will also be used by local and regional planners to further promote sound land use and floodplain development. Minimum floodplain management requirements for participation in the NFIP are set forth in the Code of Federal Regulations (CFR) at 44 CFR, 60.3.

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

1.2 Authority and Acknowledgments

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

This FIS was prepared to include the unincorporated areas of, and incorporated communities within, Gregg County in a countywide format. Information on authority and acknowledgments for each jurisdiction included in the countywide FIS, as compiled from their previously printed FIS reports, is shown below.

City of Gladewater: The original hydrologic and hydraulic analysis was prepared by Bovay Engineers, Inc. for the Federal Insurance Administration (FIA), under Contract No. H-4603. The study was completed in March, 1979.

Greg County  
(Unincorporated Areas): The hydrologic and hydraulic analyses for this study were prepared by the Fort Worth District of the U.S. Army Corps of Engineers (USACE) for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreement No. EMW-86-E-2226, Project Order No. 17, and all amendments thereto. This work was completed in December, 1987.

City of Longview: The original hydrologic and hydraulic analysis was prepared by Black and Veatch for FEMA, under Contract No. H-3814. The work for that study was completed in May 1976.

For the May 18, 1999 revision, the hydrologic and hydraulic analyses for upstream portions of Ray Creek and Elm Branch were prepared by the Soil Conservation Service (SCS) under Inter-Agency Agreement No. EMQ-87-E-254-7 and completed in July 1988.

The hydrologic and hydraulic analyses for Hawkins Creek, and upstream portions of Oakland Creek, McCann Creek, Drain No. 1, Oak Branch, Murray Creek, and Grace Creek were prepared by USACE, Fort Worth District, under Interagency Agreement No. EMW-86-E-2226, Project Order No. 17. The work for those analyses was completed in December 1987 (Reference 6).

The hydraulic analysis for the downstream portion of Gilmer Creek in this revision was prepared by Hart Engineering Company and completed in July 1988.

City of Kilgore: The original hydrologic and hydraulic analysis was prepared by Bovay Engineers, Inc. for FEMA, under contract number H-4603. The study was completed in October 1978.

The authority and acknowledgements for the Cities of Clarksville, Easton, Lakeport, Warren City, and White Oak are not available because no FIS reports were ever published for these communities.

This update combines all communities, as well as the unincorporated areas of Gregg County, into a countywide FIS, as compiled from previously published FIS narratives.

Table 1, “Summary of Flooding Sources Presented in Current Study,” provides a summary of the most recent analyses of flooding sources studied within Gregg County, the contract number under which they were performed (if known), and the communities affected by each.

**TABLE 1 – SUMMARY OF FLOODING SOURCES PRESENTED IN CURRENT STUDY**

<u>Flooding Source</u>	<u>Completion Date(s)</u>	<u>Study Contractor(s)</u>	<u>Contract(s)</u>	<u>Communities Affected</u>
All Zone A Streams*	May 2011	Watershed VI Alliance	EMT-2002-CO-0048 J030	All of Gregg County
Bighead Creek <sup>1</sup>	October 1978	Bovay Engineers, Inc.	H-4603	City of Kilgore
Birdsong Creek <sup>1</sup>	October 1978	Bovay Engineers, Inc.	H-4603	City of Kilgore
Coushatta Hills Creek*	May 1976; May 2011	Black and Veatch; City of Longview	H-3814; EMT-2005-CA-0109	City of Longview
Drain No. 1*	December 1987; May 2011	USACE - Fort Worth District; City of Longview	EMW-86-E-2226; EMT-2005-CA-0109	City of Longview
Drain No. 2 – Oak Branch*	December 1987; May 2011	USACE – Fort Worth District; City of Longview	EMW-86-E-2226; EMT-2005-CA-0109	Unincorporated areas of Gregg County; City of Longview
Drain No. 3*	May 1976; May 2011	Black and Veatch; City of Longview	H-3814; EMT-2005-CA-0109	City of Longview
Drain No. 4*	May 1976; May 2011	Black and Veatch; City of Longview	H-3814; EMT-2005-CA-0109	City of Longview
Eastman Lake Creek*	December 1987; May 2011	USACE – Fort Worth District; City of Longview	EMW-86-E-2226; EMT-2005-CA-0109	Unincorporated areas of Gregg County; City of Longview
Elm Branch Creek*	December 1987; May 2011	USACE – Fort Worth District; City of Longview	EMW-86-E-2226; EMT-2005-CA-0109	Unincorporated areas of Gregg County; City of Longview
Gilmer Creek*	July 1988; May 2011	Hart Engineering Company; City of Longview	EMT-2005-CA-0109	City of Longview
Glade Creek	March 1979	Bovay Engineers, Inc.	H-4603	City of Gladewater
Grace Creek*	December 1987; May 2011	USACE – Fort Worth District; City of Longview	EMW-86-E-2226; EMT-2005-CA-0109	Unincorporated areas of Gregg County; City of Longview

\*Flooding source with new or revised analyses incorporated as part of the current study update

<sup>1</sup>Flooding source redelineated using topographic data supplied by City of Kilgore

TABLE 1 – SUMMARY OF FLOODING SOURCES PRESENTED IN CURRENT STUDY (continued)

<u>Flooding Source</u>	<u>Completion Date(s)</u>	<u>Study Contractors(s)</u>	<u>Contract(s)</u>	<u>Communities Affected</u>
Guthrie Creek*	May 1976; May 2011	Black and Veatch; City of Longview	H-3814; EMT-2005-CA-0109	City of Longview
Harris Creek*	May 1976; May 2011	Black and Veatch; City of Longview	H-3814; EMT-2005-CA-0109	City of Longview
Hawkins Creek*	December 1987; May 2011	USACE – Fort Worth District; City of Longview	EMW-86-E-2226; EMT-2005-CA-0109	Unincorporated areas of Gregg County; City of Longview
Hawkins Creek Tributary 1*	May 2011	City of Longview	EMT-2005-CA-0109	City of Longview
Iron Bridge Creek*	May 1976; May 2011	Black and Veatch; City of Longview	H-3814; EMT-2005-CA-0109	City of Longview
Johnston Creek*	May 1976; May 2011	Black and Veatch; City of Longview	H-3814; EMT-2005-CA-0109	City of Longview
Lafamo Creek*	May 1976; May 2011	Black and Veatch; City of Longview	H-3814; EMT-2005-CA-0109	City of Longview
Lilly Creek*	May 2011	City of Longview	EMT-2005-CA-0109	City of Longview
McCann Creek*	December 1987; May 2011	USACE – Fort Worth District; City of Longview	EMW-86-E-2226; EMT-2005-CA-0109	Unincorporated areas of Gregg County; City of Longview
Moody Creek	March 1979	Bovay Engineers, Inc.	H-4603	City of Gladewater
Murray Creek*	December 1987; May 2011	USACE – Fort Worth District; City of Longview	EMW-86-E-2226; EMT-2005-CA-0109	Unincorporated areas of Gregg County; City of Longview
Oakland Creek*	December 1987; May 2011	USACE – Fort Worth District; City of Longview	EMW-86-E-2226; EMT-2005-CA-0109	Unincorporated areas of Gregg County; City of Longview
Ray Creek*	December 1987; July 1988; May 2011	USACE – Fort Worth District; Soil Conservation Service; City of Longview	EMW-86-E-2226; EMW-87-E-254-7; EMT-2005-CA-0109	Unincorporated areas of Gregg County; City of Longview
Sabine River	March 1979	Bovay Engineers, Inc.	H-4603	City of Gladewater
School Branch Creek*	May 1976; May 2011	Black and Veatch; City of Longview	H-3814; EMT-2005-CA-0109	City of Longview
Turkey Creek <sup>1</sup>	October 1978	Bovay Engineers, Inc.	H-4603	City of Kilgore
Wade Creek*	May 1976; May 2011	Black and Veatch; City of Longview	H-3814; EMT-2005-CA-0109	City of Longview

\*Flooding source with new or revised analyses incorporated as part of the current study update

<sup>1</sup>Flooding source redelineated using topographic data supplied by City of Kilgore

For this countywide FIS, revised hydrologic and hydraulic analyses were prepared for FEMA by Watershed VI Alliance, under Contract No. EMT-2002-CO-0048, Task Order HSTO041. This study was completed in December 2010.

Base map information shown on this Flood Insurance Rate Map (FIRM) was derived from multiple sources. Base map information for Gregg County and all incorporated communities within Gregg County was provided in digital format by the Gregg County Appraisal District, the City of Kilgore, and the City of Longview.

The coordinate system used for the production of the FIRM is Texas North Central State Plane Coordinate System (FIPS 4202). The horizontal datum was North American Datum of 1983 (NAD83), GRS 1980 spheroid.

Differences in the datum and spheroid used in the production of FIRMs for adjacent counties may result in slight positional differences in map features at the county boundaries. These differences do not affect the accuracy of information shown on the FIRM.

### 1.3 Coordination

Consultation Coordination Officer's (CCO) meetings may be held for each jurisdiction in this countywide FIS. An initial CCO meeting is held typically with representatives of FEMA, the community, and the study contractor to explain the nature and purpose of a FIS, and to identify the streams to be studied by detailed methods. A final CCO meeting is held typically with representatives of FEMA, the community, and the study contractor to review the results of the study.

The historical dates of the initial and final CCO meetings held prior to the countywide study for Gregg County and the incorporated communities within its boundaries are shown in Table 2, "Historical CCO Meeting Dates."

TABLE 2 – HISTORICAL CCO MEETING DATES

<u>Community Name</u>	<u>Initial CCO Date</u>	<u>Final CCO Date</u>
City of Gladewater	August 1977	August 15, 1979
City of Kilgore	August 1977	September 3, 1980
Gregg County (Unincorporated Areas)	September 25, 1985	January 11, 1989
City of Longview	March 4, 1987	Date not available

For this countywide FIS, the initial CCO meeting was held on June 30, 2005, and attended by representatives of FEMA, Watershed VI Alliance, community officials, and the State NFIP Coordinator.

The final CCO meeting was held on August 16, 2011 to review and accept the results of this FIS. Those who attended this meeting included representatives of the study contractor, FEMA, and the communities. All problems raised at that meeting have been addressed in this study.

## 2.0 AREA STUDIED

### 2.1 Scope of Study

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

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

#### **Pre-Countywide Analysis**

In the original City of Longview FIS completed in May 1976, the following flooding sources were studied by detailed methods for their entire lengths within the City of Longview: Eastman Lake Creek, Drain No. 1, Iron Bridge Creek, Grace Creek, Wade Creek, Harris Creek, Drain No. 4, Guthrie Creek, Johnston Creek, Oakland Creek, Coushatta Hills Creek, Gilmer Creek, Drain No. 2, School Branch Creek, Drain No. 3, Lafamo Creek, and Ray Creek.

In the City of Longview FIS revised June 3, 1986, the following flood sources, located in areas annexed from unincorporated areas of Gregg and Harrison Counties, were studied by detailed methods:

Drain No. 1 (Upper reach),	from a point approximately 700 feet downstream of Loop 281 to the upstream corporate limits;
Grace Creek,	from a point approximately 100 feet downstream of Terry Road to the upstream corporate limits;
Oakland Creek (Upper Reach),	from a point approximately 350 feet downstream of U.S. Highway 259 to the upstream corporate limits;
Ray Creek,	from a point approximately 0.4 mile upstream of its confluence with Grace Creek to the upstream corporate limits;
Elm Branch,	from its confluence with Ray Creek to the upstream corporate limits;
Hawkins Creek,	from a point approximately 900 feet upstream of George Richey Road to the upstream corporate limits;
McCann Creek,	from a point approximately 1,300 feet upstream of the Gray Stone Road to the upstream corporate limits;
Oak Branch Creek,	from a point approximately 0.6 mile upstream of its confluence with Murray Creek to the upstream corporate limits; and
Murray Creek,	from a point approximately 0.56 mile upstream of confluence of Oak Branch Creek to the upstream corporate limits.

Also as part of the May 18, 1999, revision, Gilmer Creek was restudied by detailed methods from its confluence with Grace Creek to a point approximately 0.76 mile upstream.

Portions of Hawkins Creek, Mason Creek, Drain No. 1 (Upper Reach), Oakland Creek, Lake Harris, Grace Creek, Drain No. 3, School Branch Creek, McCann Creek, Murray Creek, Oakland Creek (Upper Reach), the Sabine River, Peterson Court Creek, Lafamo Creek, and several small unnamed streams were studied by approximate methods.

The City of Longview FIS dated May 18, 1999, incorporated the results of two LOMRs dated November 13, 1996, and May 7, 1998. This revised flooding along Oakland Creek from just downstream of Loop 281 to approximately 200 feet upstream of Hawkins Parkway; and along Eastman Lake Creek from Interstate 20 to approximately 1.25 miles upstream of Neiman Marcus Parkway.

In the initial City of Kilgore FIS, the following streams were studied by detailed methods: Turkey Creek, from Highway 349 South through the city to the southeastern corporate limit; Birdsong Creek from the eastern corporate limits to its confluence with Bighead Creek; Bighead Creek from its confluence with Turkey Creek at Stone Road south to the southern corporate limits.

**Countywide Analysis**

This FIS report covers the geographic area of Gregg County, Texas, including the incorporated communities listed in Section 1.1. The scope and methods of this study were proposed to, and agreed upon, by FEMA and Gregg County.

All or portions of the flooding sources listed in Table 3, "Flooding Sources Studied by Detailed Methods," were studied by detailed methods. Limits of detailed study are indicated on the Flood Profiles (Exhibit 1) and on the FIRMs (Exhibit 2)

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

TABLE 3 - FLOODING SOURCES STUDIED BY DETAILED METHODS

<u>Stream Name</u>	<u>Upstream Limit</u>	<u>Downstream Limit</u>	<u>Length (miles)</u>
Bighead Creek	1.2 miles upstream of Stone Road	Southern city limit of the City of Kilgore	3.5
Birdsong Creek	Eastern city limit of the City of Kilgore	Confluence with Bighead Creek	1.1
Coushatta Hills Creek*	1,400 feet upstream of Hollybrook Drive	Confluence with Oakland Creek at Dellwood Drive	1.4
Drain No. 1 *	4,250 feet upstream of Holly Brook Road	6,350 feet above the confluence with Eastman Lake Creek	2.3

\*Flooding source with new or revised analyses incorporated as part of the current study update

TABLE 3 - FLOODING SOURCES STUDIED BY DETAILED METHODS (continued)

<u>Stream Name</u>	<u>Upstream Limit</u>	<u>Downstream Limit</u>	<u>Length (miles)</u>
Drain No. 2 (Oak Branch Creek)*	600 feet upstream of Sunnybrook Drive	2,100 feet above the confluence with Grace Creek	3.6
Drain No. 3*	1,175 feet upstream of Hawkins Parkway	Confluence with School Branch Creek	1.6
Drain No. 4*	575 feet upstream of Scenic Drive	Confluence with Harris Creek at Avenue B	1.2
Eastman Lake Creek*	350 feet upstream of Doyle Street	a point just downstream of I-20	5.8
Elm Branch Creek*	2,900 feet upstream of Amy Street	900 feet above the confluence with Ray Creek	1.5
Gilmer Creek*	Just upstream of Evergreen Street	Confluence with Grace Creek	2.3
Glade Creek	Dam at Lake Gladewater	Confluence with the Sabine River	2.5
Grace Creek*	Just upstream of FM 1844	600 feet downstream of FM 1845	12.8
Guthrie Creek*	Just upstream of Wood Place	Confluence with Grace Creek	2.4
Harris Creek*	1,100 feet upstream of Swan Street	Confluence with Grace Creek	5.3
Hawkins Creek*	5,100 feet upstream of Bacle Road	A point just downstream of W. Harrison Road	10.2
Hawkins Creek Tributary 1*	875 feet upstream of George Richey Road	Confluence with Hawkins Creek	3.2
Iron Bridge Creek*	Just upstream of Level Street	4,700 feet downstream of Interstate 20	3.6
Johnston Creek*	Just upstream of Loop 281	Confluence with Guthrie Creek	1.8
Lafamo Creek*	Just upstream of Baxley Drive	Confluence with Hawkins Creek	2.6
Lilly Creek*	350 feet upstream of El Paso Street	Confluence with Eastman Lake Creek	1.1
McCann Creek*	3,450 feet upstream of Unnamed Road	Confluence with Grace Creek	2.0
Moody Creek	550 feet upstream of Vesta Road	Southeast city limits of the City of Gladewater	3.0
Murray Creek*	Just above Sunnybrook Drive	Confluence with Drain No. 2 (Oak Branch Creek)	2.7
Oakland Creek*	3,750 feet upstream of US Highway 259	Confluence with Guthrie Creek	3.4
Ray Creek*	Just upstream of FM 1844	Confluence with Grace Creek	5.3
Sabine River	1.6 miles upstream of Highway 271	4,200 feet downstream of Hwy 271	2.4

\*Flooding source with new or revised analyses incorporated as part of the current study update

TABLE 3 - FLOODING SOURCES STUDIED BY DETAILED METHODS (continued)

<u>Stream Name</u>	<u>Upstream Limit</u>	<u>Downstream Limit</u>	<u>Length (miles)</u>
School Branch Creek*	just upstream of Bill Owens Parkway	confluence with Grace Creek	1.6
Turkey Creek	3,850 feet upstream of Dudley Road	confluence with Bighead Creek	1.9
Wade Creek*	600 feet upstream of Mike Anglin Circle	confluence with Grace Creek	3.6

\*Flooding source with new or revised analyses incorporated as part of the current study update

All or portions of numerous flooding sources in the county were studied by approximate methods. Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon by, FEMA and Gregg County.

Any LOMRs within Gregg County and Incorporated Areas issued since the previous effective FIS are incorporated into the revised FIRMs and listed in Table 4. There is one LOMR incorporated into the new detailed floodplain study; others were reviewed and found to be superseded by the new study and therefore are not listed.

TABLE 4 - LETTERS OF MAP CHANGE

<u>Case Number</u>	<u>Flooding Source(s)</u>	<u>Communities Affected</u>	<u>Effective Date</u>
12-06-0169P	Guthrie Creek	City of Longview	January 10, 2014
09-06-1728P	Guthrie Creek	City of Longview	July 12, 2010
04-06-A011P	Birdsong Creek	City of Kilgore	July 13, 2006

Please note that the hydrologic and hydraulic analysis from LOMR Case No. 04-06-A011P was incorporated into the study by redelineating it into revised topographic data. This LOMR is considered incorporated because the engineering data from the original LOMR is maintained. However, the floodplain boundaries no longer agree with those shown on the original LOMR.

## 2.2 Community Description

Gregg County is located in the northern portion of eastern Texas, in the timber belt, approximately 125 miles east of the City of Dallas and approximately 47 miles west of the Louisiana state line; it encompasses about 274 square miles of land area. It is bordered by Upshur County to the north, Harrison County to the east, Rusk County to the south, and Smith County to the west. Interstate Route 20 bisects the southern portion of the county.

The study area watershed is in the Water Resources Council Texas-Gulf Region, Sub-region 09, and the Sabine-Neches River Basin. The population of the county has increased from 58,027 in 1940 to 121,730 in 2010 (Reference 1).

The climate is generally characterized as being in the humid portion of the central dissected belt of the Coastal Plains of the United States. Temperatures range from an average low January temperature of 38 °F to an average high July temperature of 96 °F. Rainfall measures nearly 46.5 inches per year, and while snow occasionally occurs, its value as measurable precipitation is negligible (Reference 2). November to April are usually the wetter months and August to October are usually the driest (Reference 3).

The rolling surface of the county has numerous streams draining to the Sabine River, which runs through the county from northwest to southeast. The northeastern tip of the county is located across a river basin divide and drains to Cypress Creek in the Red River basin. Sandy clay soil predominates and the county has deposits of lignite, clays, iron ore, and iron rock gravel, and contains a significant portion of the East Texas Oil Field. Most of the upland soils of the central dissected belt of East Texas are highly leached. The majority of the soils have yellow subsoils, the surface soils being grayish in aspect. Red soils occur in exceptional areas, such as on slopes underlain by calcareous materials. Geologically, it is a domal area, and its structural relations are important to the accumulation of oil and gas.

Gladewater, Texas is a city located on the border of Gregg and Upshur Counties in northeast Texas, with a 2010 population of 6,441 (Reference 1). Gladewater is located at the intersection of U.S. Highways 27, 80 and 271. It is approximately 27 miles northeast of Tyler on U.S. Highway 271, 12 miles west of Longview on U.S. Highway 80, and about 60 miles due west of Shreveport, Louisiana. A municipal airport is located nearby, southwest of the city, across the Sabine River.

The Sabine River forms part of the community's boundary to the southwest. Running into the river are several branch creeks, particularly Glade Creek. This stream flows roughly from Lake Gladewater south to the Sabine River, about 2.75 miles on the west side of the city.

A branch of Moody Creek runs along the east side of the city approximately 3 miles. Two smaller streams flow from the city to meet it, halfway between the north and south corporate limits; both of these smaller streams flow less than a mile before intersecting into the Moody Creek Branch (Reference 4).

Kilgore, Texas is located on the border of Gregg and Rusk Counties, with the greater portion of the city in Gregg County and the remainder in Rusk County. The city population was 12,975 in 2010 (Reference 1).

The city is bisected by U.S. Highway 259 and is accessed via State Highways 31, 42 and 135. Interstate 20 passes only a few miles north of the city, facilitating access to other major communities in the region. The City of Tyler is located 25 miles west of Kilgore; Longview, 10 miles northeast; and Shreveport, Louisiana, 55 miles east. In addition, the Missouri-Pacific Railroad line serves the city and it is the home of Kilgore Junior College.

Several creeks flow through the Kilgore area, most notably Bighead, Turkey and Birdsong Creeks. Turkey Creek runs approximately 2.5 miles through the study area, flowing southwest to northeast in the southern part of the city. It joins with Bighead Creek in the city's northeast quadrant. Bighead Creek is the longer of the two, with approximately 3.5 miles of the creek within the study area. It flows south to north, and runs along the eastern side of the city. Intersecting Bighead Creek about 1/4 mile north of the city limits is Birdsong Creek. Birdsong Creek flows east to west into Bighead Creek, approximately 1-1/3 miles from the eastern study area boundary (Reference 5).

Longview, Texas is the county seat of Gregg County and is the largest population center in the county. A portion of the city limits extends into Harrison County on the east side of Gregg County.

Major transportation routes through the city include Interstate Route 20, U. S. Routes 259 and 80, and State Route 140. The city is also served by the Union Pacific Railroad and the Atchison, Topeka & Santa Fe Railway. The city was incorporated in 1871 and became the county seat of Gregg County in 1873. The population of the city was 45,547 persons in 1970 and was 80,455 persons in 2010 (Reference 1). Little commercial or industrial development is located within the floodplains of the city, although residential development is present along several streams. Numerous industries and businesses are located in the City of Longview.

The City of Longview is in the upper portion of the Sabine River Basin and has topography characterized by gently rolling hills with numerous small streams. Grace Creek is oriented in a north-south direction with flow to the south through the center of the city. Lafamo Creek drains a small portion of the western section of the city, Iron Bridge Creek drains the southeastern section, and Eastman Lake Creek drains the far eastern section (Reference 6).

### 2.3 Principal Flood Problems

Generally, major flooding in the county is produced by heavy rainfall from frontal-type storms. Major flooding can also be produced by the intense rainfall usually associated with localized thunderstorms. These storms may occur at any time during the year, but are more prevalent in the spring and summer months (Reference 7).

The Grace Creek Watershed is a principal area of flooding in the City of Longview. During the record flood of April 1966, an estimated \$2,000,000 of damage was done to roads in Gregg County. Several culverts were washed out and some water mains were broken. Both the Texas & Pacific and the Missouri Pacific Railroads suffered damage to bridges over Grace Creek by floodwaters. At least 12 lives were lost in the East Texas area and five in the City of Longview, due to drowning or storm-caused accidents. Personal property damage occurred to several houses; with one house on Walnut Street being totally destroyed (Reference 8).

On March 30, 2008, a flash flood occurred in Gregg County that caused approximately \$2,000,000 of property damage. Flood waters caused the closing of River Road and High Street along with 17 other roads in and around Longview. The downtown area of Longview

had several businesses flooded with as much as two feet water. Widespread flooding was reported along and south of a northward moving warm front across East Texas. Large hail and damaging thunderstorm wind gusts were reported across portions of the region as well (Reference 9).

From February 14 to February 28, 2001, excessive and prolonged heavy rains fell across the upper Sabine River Basin causing flooding and approximately \$266,000 of property damage. The Sabine River from Hawkins to Gladewater and through Longview crested at the highest stages since the May floods of 1990. In Hawkins, the Sabine River crested at 33.9 feet on the 20th. Near Gladewater, the river crested at 37.1 feet on the 21st. Near Longview, the river crested at 33.9 feet on the 25th (Reference 9).

On July 23, 1996, a flash flood occurred in Longview that caused approximately \$500,000 of property damage. Three inches of rain fell in less than one hour causing significant flooding in the city (Reference 9).

#### 2.4 Flood Protection Measures

No major structural flood protection measures exist or are currently planned for the unincorporated areas of Gregg County. The unincorporated areas of Gregg County entered the Emergency Phase of the NFIP in March 1981. Floodplain development within the unincorporated areas of Gregg County is regulated by ordinance. Flood control measures implemented by the incorporated cities and towns in the county are primarily focused on clearing and maintaining stream channels. Structural flood control measures are not presently being planned.

No major structural flood protection measures exist to alleviate flooding within the City of Longview. Efforts have been made to clean and enlarge Ray Creek within the city to reduce flooding. When roadway crossings of streams are substantially improved or replaced, such as the West Hawkins Parkway Bridge over Ray Creek, they are designed to pass the 100-year storm flow with minimal backwater effect (Reference 10). In 1990, as a result of significant flooding in 1989, the City of Longview funded a Master Drainage Plan to include a detailed study of streams included in the FIS. Although not submitted to FEMA for incorporation into the FIRM, the study was adopted by the city by ordinance and is used to establish existing and future fully-developed discharges.

### 3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the county, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this FIS. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long term 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 which equals or exceeds the 100-year flood (1-percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, 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 county at the time of completion of this FIS. Maps and flood elevations will be amended periodically to reflect future changes.

### 3.1 Hydrologic Analyses

Information on the methods used to determine peak discharge-frequency relationships for the streams studied by detailed methods is shown below.

#### **Pre-Countywide Analysis**

Of the incorporated communities within, and the unincorporated areas of, Gregg County, only the Cities of Longview, Gladewater and Kilgore have a previously printed FIS report. The hydrologic analyses described in those reports have been compiled and are summarized below.

In the original study for the City of Longview, peak discharges for the 10-, 2-, and 1-percent-annual-chance floods for the streams studied by detailed methods were computed using NWS rainfall frequency-duration data and the rainfall-runoff relationships developed by the NRCS (References 11 and 12). These computations included consideration of the percentage of watershed developed, percentage of watershed under reservoir control, soil classifications, length of overland flow, and other pertinent basin characteristics as determined from published documents and field reconnaissance (References 13, 15, 17, 18, 28 and 29). For the 0.2- percent-annual-chance flood, discharges were determined by a straight-line extrapolation of log-probability graphs of flood discharges computed for frequencies up to 100 years for only those streams undergoing backwater analyses. Discharges for the interior watershed locations were computed by the ratio-of- areas technique when considered necessary for enhancing the degree of definition for backwater calculations.

In the revision for the FIS dated May 18, 1999, flow frequencies for Drain No. 1 (Upper Reach) were developed using the computer program NUDALLAS (Reference 15). The watershed was divided into subbasins, and synthetic unit and flood hydrographs were developed at selected locations. NWS Technical Paper No. 40, National Oceanic and Atmospheric Administration (NOAA) Technical Memorandum NWS Hydro-35, and USACE Civil Engineer Bulletin EM 1110-2- 1411 were used in developing the 1-percent-annual-chance storm (References 16, 17 and 18). Peak discharge-frequency values were computed for selected locations. Routing of the flood hydrographs through each subbasin length was accomplished using a modified PULS reservoir routing. Parameter values used in this study were obtained from field survey, USGS quadrangle maps, and contour maps provided by the City of Longview.

In the original study for the City of Kilgore, hydrologic analyses were carried out to establish peak discharge-frequency relationships for floods of the selected reference intervals for each flooding source studied in detail in the community.

For all of the study streams, discharge estimates were based on a regional study methodology. No historic discharge records were available for analysis. The study method was taken from the "Technique for Estimating the Magnitude and Frequency of Floods in Texas" (Reference 13). The method related drainage area channel slope and an index of annual excess precipitation to the peak discharge by empirical equations. Discharge rates for 10-, 50-, and 100-year frequency floods were determined by the use of empirical equations. Equation constants can be adjusted for each sub regional area to compensate for changing conditions within the region. The 500-year discharge was determined by use of the standard log Pearson Type III method.

Adjustments were made for the extent of urbanization by the application of equations developed by the U.S. Geological Survey (Reference 14).

This section describes the methodology used in previous studies of flooding sources incorporated into this FIS that were not revised for this countywide study. Hydrologic analyses were carried out to establish peak discharge- frequency relationships for each flooding source studied by detailed methods affecting the community.

The flooding sources of Glade Creek, Moody Creek, and the Sabine River were studied by detailed methods in the July 16, 1980 FIS for the City of Gladewater, Texas (Reference 4). In addition, the flooding sources of Bighead Creek, Birdsong Creek, and Turkey Creek were studied by detailed methods in the August 16, 1996 FIS for the City of Kilgore, Texas (Reference 5).

For these previous studies, discharge estimates were based on a regional study methodology. Historic discharge records were available only for the Sabine River. The study method was taken from the "Technique for Estimating the Magnitude and Frequency of Floods in Texas" (Reference 13). The method related drainage area, channel slope, and an index of average annual excess precipitation to the peak discharge by empirical equations. Discharge rates for the 10-, 2-, and 1-percent-annual-chance floods were determined by use of the empirical equations. Equation constants can be adjusted for each sub-regional area to compensate for changing conditions within the region. The 0.2-percent- annual-chance discharge was determined by use of the standard Log-Pearson Type III method. Adjustments were made for the extent of urbanization by the application of equations developed by the U.S. Geological Survey (Reference 14).

Previous detailed studies of Drain No.2 (aka Oak Branch Creek), Eastman Lake Creek, Elm Branch Creek, Grace Creek, Hawkins Creek, McCann Creek, Murray Creek, Oakland Creek, and Ray Creek, are included from the January 3, 1990 FIS for Gregg County, Texas Unincorporated Areas (Reference 7). These previous stream studies tie into new detailed studies completed within the City of Longview.

The 1-percent-annual-chance flood discharge values for these streams were developed using the NUDALLAS computer program (Reference 15). The watershed was divided into sub-basins, and synthetic unit and flood hydrographs were developed at selected locations. National Weather Service Technical Paper No. 40, NOAA Technical Memorandum NWS Hydro-35, and USACE Bulletin No. EM 1110-2-1411 were used in developing the 1-

percent-annual-chance storm (References 16, 17, and 18). Peak discharge-frequency values were computed for selected locations. Routing of the flood hydrographs through each sub-basin was accomplished using a modified PULS reservoir routing. The HEC-2 backwater model provided the elevation-discharge storage relationships (Reference 19).

### **Countywide Analysis**

For this countywide study, hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source studied by detailed or approximate methods. A summary of peak discharge-drainage area relationships for streams studied by detailed methods is shown in Table 5, "Summary of Discharges."

For new studies using detailed methods, which are all located in the City of Longview, each watershed was analyzed using the USACE HEC-1 software (Reference 11). Each of the four primary basins in Longview were subdivided into sub-basins no smaller than approximately 100 acres (0.156 square miles) in size, and Soil Conservation Service (SCS) runoff curve numbers were prescribed for each subarea. The curve numbers were obtained from the adopted City of Longview Master Drainage Plan.

In February 2002, aerial topographic maps of the City of Longview and some of its extra-territorial jurisdiction were completed (Reference 12). The maps were performed to FEMA standards of vertical and horizontal accuracy. Map panels were combined to create a digital terrain model. The digital terrain model has contours at intervals of two (2) feet and is considered the best available data by the City.

For streams studied using approximate methods, discharges for the 1-percent- annual-chance recurrence interval were calculated for stream reaches using rural regional regression equations from Texas regression region 10, found in the USGS Water-Resources Investigation Report 96-4307.

Drainage areas along streams were determined using a flow accumulation grid developed from the USGS 10-meter Digital Elevation Models (DEM) and corrected National Hydrologic Data (NHD) stream coverage. Flow points along stream centerlines were calculated using the regression equations in conjunction with accumulated drainage area increments of 1-square-mile along a particular stream.

TABLE 5: SUMMARY OF DISCHARGES

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA (Square Miles)</u>	<u>PEAK DISCHARGE (Cubic Feet per Second)</u>			
		<u>10-PERCENT</u>	<u>2-PERCENT</u>	<u>1-PERCENT</u>	<u>0.2-PERCENT</u>
<b>BIGHEAD CREEK</b>					
downstream of south corporate limit of the City of Kilgore	14.5	4,250	7,460	9,020	13,600
upstream of the confluence with Turkey Creek	16.0	4,460	7,830	9,470	14,300
at Pentecost Road	21.7	5,870	10,100	12,100	18,000
at the confluence with tributary from Duncan Lake	23.1	6,220	10,500	12,600	18,300
at SH 349	26.9	6,470	11,100	13,400	19,400
<b>BIRDSONG CREEK</b>					
downstream of east corporate limit of the City of Kilgore	0.9	810	1,320	1,550	2,240
at Higginbotham Road	1.2	980	1,620	1,910	2,700
upstream of the confluence with Bighead Creek	1.4	1,090	1,800	2,130	3,050
<b>COUSHATTA HILLS CREEK</b>					
at Hollybrook Dr.	0.2	262	368	413	518
at U.S. Highway 259	0.3	66	323	442	709
at 4th St.	0.6	490	670	826	1,344
at mouth	0.7	566	781	880	1,417
<b>DRAIN NO. 1</b>					
approx. 1,000 feet downstream of Loop 281	0.6	822	1,202	1,369	1,759
approx. 700 feet downstream of Page Road	1.4	1,742	2,579	2,946	3,821
approx. 500 feet upstream of U.S. Hwy 80	2.5	2,299	3,391	3,922	5,517
<b>DRAIN NO. 2 (aka Oak Branch Creek)</b>					
downstream of U.S. Hwy 259	0.2	*	*	570	*
approx. 2,000 feet upstream of Airline Road	0.4	*	*	910	*
at Airline Rd.	0.7	998	1,453	1,679	2,172

\*Data Not Available

TABLE 5: SUMMARY OF DISCHARGES (continued)

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA</u> <u>(Square Miles)</u>	<u>PEAK DISCHARGE (Cubic Feet per Second)</u>			
		<u>10-PERCENT</u>	<u>2-PERCENT</u>	<u>1-PERCENT</u>	<u>0.2-PERCENT</u>
<b>DRAIN NO. 2 (aka Oak Branch Creek) - continued</b>					
approx. 1,000 feet upstream of Judson Road	2.6	2,989	4,318	4,952	6,382
at mouth	3.3	3,608	5,234	5,986	7,846
<b>DRAIN NO. 3</b>					
approx. 1,200 feet downstream of Hawkins Parkway	0.5	834	1,162	1,324	1,662
at mouth	1.2	1,371	1,921	2,217	2,904
<b>DRAIN NO. 4</b>					
at Gilmer Road	0.6	885	1,252	1,414	1,791
at mouth	0.9	1,290	1,788	2,008	2,522
<b>EASTMAN LAKE CREEK</b>					
approx. 950 feet below Williams Road	0.1	*	*	300	*
at Leona St.	0.2	279	396	447	563
approx. 300 feet downstream of U.S. Highway 80	0.5	680	972	1,101	1,407
just upstream of Union Pacific Railroad	3.3	2,722	4,030	4,658	6,898
approx. 175 feet downstream of Union Pacific Railroad	3.6	3,172	4,661	5,368	7,788
approx. 2,150 feet upstream of East Cotton Street	3.8	2,207	5,091	5,852	8,397
approx. 500 feet upstream of East Cotton Street	4.3	3,089	4,534	5,270	7,729
approx. 575 feet downstream of East Cotton Street	4.4	3,300	4,838	5,611	8,163
approx. 1,650 feet upstream of Gum Springs Road	4.7	3,385	4,933	5,638	8,006
approx. 575 feet upstream of Gum Springs Road	5.1	3,891	5,677	6,487	9,100
approx. 275 feet downstream of Gum Springs Road	5.2	4,156	5,979	6,914	9,650
approx. 1,500 feet downstream of Gum Springs Road	6.3	4,441	6,439	8,087	10,845
approx. 5,475 feet upstream of Neiman Marcus Parkway	6.7	4,454	6,483	7,970	10,988
approx. 3,050 feet upstream of Neiman Marcus Parkway	7.1	4,576	6,701	8,169	11,608

\*Data Not Available

TABLE 5: SUMMARY OF DISCHARGES (continued)

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA</u> <u>(Square Miles)</u>	<u>PEAK DISCHARGE (Cubic Feet per Second)</u>			
		<u>10-PERCENT</u>	<u>2-PERCENT</u>	<u>1-PERCENT</u>	<u>0.2-PERCENT</u>
EASTMAN LAKE CREEK - continued					
approx. 500 feet upstream of Neiman Marcus Parkway	7.8	4,702	6,921	8,375	12,314
approx. 2,900 feet upstream of I.H. 20 North Service Road	8.3	4,709	6,975	8,347	12,445
at I.H. 20	8.7	4,624	6,980	8,298	12,464
ELM BRANCH CREEK					
approx. 1,400 feet above Amy St.	0.3	*	*	750	*
above confluence with Tributary EB-1, approx. 50 feet	0.4	*	*	900	*
at Amy Street	0.6	1,024	1,424	1,596	1,987
at mouth	1.0	1,376	1,941	2,197	2,764
GILMER CREEK					
at Loop 281	0.6	562	774	860	1,044
at H.G. Mosley Parkway	0.9	758	1,202	1,378	1,749
GLADE CREEK					
upstream of confluence with Victory Branch	44.6	7,190	12,710	15,410	23,300
at Upshur Branch	48.5	7,590	13,450	16,330	24,450
upstream of confluence with Sabine River	50.0	7,950	14,190	17,250	26,000
GRACE CREEK					
upstream of FM 1844	0.2	*	*	460	*
approx. 500 feet downstream of FM 1844	0.3	442	629	710	898
approx. 1,600 feet upstream of Graystone Road	1.6	1,548	2,302	2,630	3,492
approx. 1,700 feet downstream of Graystone Road	2.2	1,951	2,956	3,413	4,507
approx. 300 feet downstream of Spring Hill Road	5.0	3,432	5,403	6,441	8,984
at Loop 281	15.7	8,990	14,848	18,150	26,540

\*Data Not Available

TABLE 5: SUMMARY OF DISCHARGES (continued)

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA</u>	<u>PEAK DISCHARGE (Cubic Feet per Second)</u>			
	<u>(Square Miles)</u>	<u>10-PERCENT</u>	<u>2-PERCENT</u>	<u>1-PERCENT</u>	<u>0.2-PERCENT</u>
<b>GRACE CREEK - continued</b>					
approx. 300 feet downstream of H.G. Mosley Parkway	17.0	9,356	15,424	18,880	27,851
approx. 300 feet upstream of Fairmont Street	19.3	10,096	16,437	20,149	29,867
at U.S. Highway 80	26.8	12,572	20,190	24,872	36,599
approx. 500 feet upstream of Cotton Street	31.9	15,096	23,657	28,870	43,070
at MPRR	33.5	15,048	23,789	29,105	43,070
at FM 1845	38.0	15,486	24,654	30,540	44,996
<b>GUTHRIE CREEK</b>					
approx. 200 feet downstream of Jonquil Drive	0.6	1,519	2,123	2,383	2,980
approx. 1,100 feet upstream of Judson Road	4.0	5,106	7,323	8,241	10,543
at Pegues Place	5.3	5,242	7,573	8,527	10,931
at McCann Road	6.5	6,076	9,045	10,330	13,486
at mouth	6.8	6,392	9,461	10,814	14,105
<b>HARRIS CREEK</b>					
approx. 200 feet upstream of Lynnwood Land	0.5	672	975	1,109	1,425
approx. 2,500 feet upstream of Loop 281	1.6	1,758	2,465	2,783	3,600
at Loop 281	2.1	1,934	2,699	3,068	4,426
approx. 1,000 feet downstream of Lincoln Street	3.2	2,780	4,039	4,580	6,517
approx. 200 feet downstream of U.S. Highway 80	4.0	3,287	5,009	5,739	7,400
at mouth	5.1	3,357	6,222	8,033	11,106
<b>HAWKINS CREEK</b>					
at unnamed road	3.3	*	*	4,560	*
approx. 500 feet downstream of Mobile Road	6.0	4,660	6,585	7,535	10,041
approx. 800 feet upstream of FM 1845	8.5	5,435	7,925	9,136	12,586

\*Data Not Available

TABLE 5: SUMMARY OF DISCHARGES (continued)

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA</u>	<u>PEAK DISCHARGE (Cubic Feet per Second)</u>			
	<u>(Square Miles)</u>	<u>10-PERCENT</u>	<u>2-PERCENT</u>	<u>1-PERCENT</u>	<u>0.2-PERCENT</u>
<b>HAWKINS CREEK - continued</b>					
approx. 800 feet upstream of FM 1845	8.5	5,435	7,925	9,136	12,586
at FM 2275	10.3	5,858	8,590	10,013	14,617
approx. 300 feet upstream of Tenneryville Road	15.6	7,444	11,787	13,803	19,643
approx. 200 feet downstream of Whatley Road	19.1	8,262	13,186	15,648	22,570
approx. 300 feet upstream of U.S. Highway 80	19.8	8,328	13,210	15,735	22,700
at Harrison Road	23.9	8,766	13,765	16,399	23,524
<b>HAWKINS CREEK TRIBUTARY 1</b>					
at George Richey Road	0.2	248	362	412	529
approx. 400 feet upstream of Harley Ridge Road	1.0	1,296	1,878	2,132	2,804
approx. 500 feet downstream of FM 2605	2.6	2,221	3,678	4,327	6,006
at confluence with Hawkins Creek	3.0	2,468	3,814	4,541	6,471
<b>IRON BRIDGE CREEK</b>					
at Level Street	0.1	209	299	338	427
at Birdsong Street	0.6	1,304	1,706	1,882	2,311
at Millie Street	1.1	1,821	2,392	2,567	3,062
approx. 1,000 feet upstream of Estes Parkway	1.5	2,213	2,952	3,251	3,948
at I.H. 20	1.8	2,262	3,045	3,381	4,452
at SFRR	2.9	3,078	4,124	4,615	6,036
<b>JOHNSTON CREEK</b>					
at Delwood Dive	0.5	477	672	764	1,043
at mouth	0.9	1,181	1,675	1,877	2,386

TABLE 5: SUMMARY OF DISCHARGES (continued)

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA</u> <u>(Square Miles)</u>	<u>PEAK DISCHARGE (Cubic Feet per Second)</u>			
		<u>10-PERCENT</u>	<u>2-PERCENT</u>	<u>1-PERCENT</u>	<u>0.2-PERCENT</u>
<b>LAFAMO CREEK</b>					
approx. 3,300 feet upstream of Lafamo Road	0.4	675	941	1,060	1,327
approx. 300 feet upstream of Lafamo Road	1.8	2,350	3,370	3,822	4,924
approx. 1,500 feet downstream of Lafamo Road	2.1	2,591	3,767	4,270	5,526
<b>LILLY CREEK</b>					
at Lilly Street	0.4	971	1,359	1,528	1,915
<b>MCCANN CREEK</b>					
approx. 1,600 feet downstream of County Route 1844	0.2	*	*	500	*
approx. 4,600 feet downstream of County Route 1844	0.5	*	*	1,050	*
approx. 1,300 feet upstream of Gray Stone Road	0.9	*	*	1,600	*
<b>MOODY CREEK</b>					
downstream of north corporate limits of the City of	13.4	4,360	7,390	8,840	12,900
at Shell Camp Road	14.4	4,520	7,670	9,180	13,400
upstream of confluence	17.1	5,060	8,460	10,100	14,650
<b>MURRAY CREEK</b>					
at Henderson Road	0.1	*	*	190	*
approx. 2,050 feet upstream of U.S. 259	0.2	*	*	420	*
at U.S Hwy 259	0.3	*	*	680	*
approx. 2,000 feet downstream of U.S. 259	0.6	633	977	1,161	1,519
approx. 1,100 feet upstream of Judson Road	1.3	1,554	2,258	2,726	3,599
at mouth	1.4	1,683	2,422	2,813	3,720

\*Data Not Available

TABLE 5: SUMMARY OF DISCHARGES (continued)

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA</u> <u>(Square Miles)</u>	<u>PEAK DISCHARGE (Cubic Feet per Second)</u>			
		<u>10-PERCENT</u>	<u>2-PERCENT</u>	<u>1-PERCENT</u>	<u>0.2-PERCENT</u>
<b>OAKLAND CREEK</b>					
approx. 1,000 feet downstream of Tryon Road	0.1	*	*	300	*
approx. 2,350 feet upstream of U.S. Hwy 259	0.2	*	*	600	*
approx. 1,500 feet upstream of U.S. Hwy 259	0.4	797	1,139	1,286	1,626
at Loop 281	1.3	1,136	1,583	1,777	2,231
approx. 200 feet downstream of Delwood Drive	2.5	1,750	2,426	2,927	4,117
at mouth	2.9	2,229	3,266	4,041	5,889
<b>RAY CREEK</b>					
at County Route 1844	0.1	*	*	320	*
above Grape Road	0.3	*	*	550	*
below McCann Road	0.5	*	*	1,000	*
approx. 3,400 feet downstream of McCann Road	0.8	858	1,261	1,443	1,890
approx. 100 feet upstream of Pliler Precise Road	1.9	2,096	3,126	3,701	4,922
approx. 2,900 feet downstream of Pliler Precise Road	3.4	3,970	5,870	6,791	8,820
at mouth	4.3	4,230	6,294	7,303	9,815
<b>SABINE RIVER</b>					
at U.S. Highway 271 (Gauging Sta. 8-200)	*	53,460	111,000	146,900	255,000
<b>SCHOOL BRANCH CREEK</b>					
approx. 1200 feet upstream of Bill Owens Parkway	0.6	712	997	1,126	1,433
approx. 1700 feet downstream of Hawkins Parkway	2.2	2,532	3,602	4,084	5,305
at mouth	2.7	3,157	4,505	5,112	6,583

\*Data Not Available

TABLE 5: SUMMARY OF DISCHARGES (continued)

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA</u>	<u>PEAK DISCHARGE (Cubic Feet per Second)</u>			
	<u>(Square Miles)</u>	<u>10-PERCENT</u>	<u>2-PERCENT</u>	<u>1-PERCENT</u>	<u>0.2-PERCENT</u>
<b>TURKEY CREEK</b>					
downstream of south corporate limits of the City of Kilgore	1.6	1,240	2,080	2,480	3,700
at Florence Street	2.1	1,710	2,770	3,270	4,600
at Henderson Boulevard	2.8	2,350	3,680	4,300	5,950
at FM 1249	3.8	3,630	5,390	6,200	8,700
upstream of the confluence with Bighead Creek	4.5	4,510	6,530	7,470	9,750
<b>WADE CREEK</b>					
at MPRR	0.6	971	1,333	1,481	1,830
at Green Street	1.2	1,570	2,220	2,495	3,144
at High Street	2.0	2,427	3,352	3,782	4,853
at Richardson Street	2.7	3,263	4,293	4,631	5,830

### 3.2 Hydraulic Analyses

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

Flood profiles were drawn for streams studied by detailed methods showing the computed water-surface elevations for floods of the selected recurrence intervals. Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the FIRM (Exhibit 2).

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

Roughness coefficients (Manning's "n") were chosen by engineering judgment and based on field observation of the channel and floodplain areas. Table 6, "Manning's "n" Values," contains the channel and overbank "n" values for the streams studied by detailed methods.

TABLE 6 - MANNING'S "N" VALUES

<u>Stream Name</u>	<u>Channel "n" Value</u>	<u>Overbank "n" Value</u>
Bighead Creek	0.040 – 0.080	0.060 – 0.110
Birdsong Creek	0.040 – 0.080	0.060 – 0.110
Coushatta Hills Creek	0.040 – 0.080	0.040 – 0.100
Drain No. 1 (Upper Reach)	0.055 – 0.060	0.065 – 0.100
Drain No. 2 (aka Oak Branch Creek)	0.040 – 0.080	0.040 – 0.100
Drain No. 3	0.060 – 0.080	0.040 – 0.100
Drain No. 4	0.015 – 0.050	0.050 – 0.100
Eastman Lake Creek	0.050	0.040 – 0.120
Elm Branch Creek	0.060 – 0.085	0.050 – 0.100
Gilmer Creek	0.015 – 0.070	0.050 – 0.100
Glade Creek	0.040 – 0.055	0.085 – 0.110
Grace Creek	0.045 – 0.070	0.040 – 0.010
Guthrie Creek	0.035 – 0.065	0.030 – 0.090
Harris Creek	0.040 – 0.100	0.045 – 0.100

TABLE 6 - MANNING'S "N" VALUES (continued)

<u>Stream Name</u>	<u>Channel "n" Value</u>	<u>Overbank "n" Value</u>
Hawkins Creek	0.060	0.040 – 0.100
Hawkins Creek Tributary 1	0.050 – 0.070	0.040 – 0.120
Iron Bridge Creek	0.015 – 0.030	0.015 – 0.100
Johnston Creek	0.015 – 0.060	0.040 – 0.100
Lafamo Creek	0.050 – 0.070	0.040 – 0.120
Lilly Creek	0.040	0.100 – 0.120
McCann Creek	0.075	0.060 – 0.095
Moody Creek	0.040 – 0.055	0.085 – 0.110
Murray Creek	0.040 – 0.060	0.045 – 0.080
Oakland Creek	0.035 – 0.075	0.040 – 0.010
Ray Creek	0.040 – 0.070	0.050 – 0.080
Sabine River	0.040 – 0.055	0.085 – 0.110
School Branch Creek	0.040 – 0.080	0.040 – 0.095
Turkey Creek	0.040 – 0.080	0.060 – 0.110
Wade Creek	0.030 – 0.070	0.030 – 0.090

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

**Pre-Countywide Analysis**

Of the incorporated communities within, and the unincorporated areas of, Gregg County, only the Cities of Longview, Gladewater and Kilgore have a previously printed FIS report. The hydraulic analyses described in those reports have been compiled and are summarized below.

In the original study for the City of Longview, cross sections for the backwater analyses were field surveyed. Additional cross section information was obtained from drainage improvement plans supplied by Hart Engineering Co., Inc. and 5- foot contour maps supplied by the city. Cross sections were located at close intervals in the vicinity of bridges and culverts in order to compute the significant backwater effects of those structures in urbanized areas.

In the revision for the FIS dated May 18, 1999, cross sections for the backwater analyses of Drain No. 1 (Upper Reach) were field surveyed and were located at close intervals above and below bridges and culverts in order to compute the significant backwater effects of these structures. Bridge data were obtained by field measurements and by bridge plans from the Texas Department of Highways and Public Transportation.

Water-surface elevations for the streams studied by detailed methods in the original study and for Drain No. 1 (Upper Reach) in this revision were computed using the USACE HEC-2 step-

backwater computer program (Reference 17). Starting water surface elevations for Eastman Lake Creek were developed by the slope area method. Backwater elevations from these streams were used as starting elevations for their respective tributaries. Flood profiles were drawn showing computed water-surface elevations for floods of the selected recurrence intervals.

Channel roughness factors (Manning's "n" values) used in the hydraulic computations for the original study were assigned on the basis of field inspection of the floodplain and channel areas. Channel "n" values ranged from 0.035 to 0.100, and overbank "n" values ranged from 0.013 to 0.070. For this revision, channel roughness factors were chosen by engineering judgment and were based on field observations of the stream and floodplain areas. The channel "n" and overbank "n" values for the streams studied by detailed methods are outlined in Table 6, "Manning's "n" Values."

In the July 16, 1980 FIS for the City of Gladewater, cross-sections for the backwater analysis of Glade Creek, Moody Creek, and the Sabine River were obtained through field survey. All bridges, dams, and culverts were field checked to obtain elevation data and structural geometry.

In the August 16, 1996 FIS for the City of Kilgore, cross-sections for the backwater analysis of Bighead Creek, Birdsong Creek and Turkey Creek were obtained from aerial photographs. The below-water sections were obtained by field measurement. All bridges, dams and culverts were field checked to obtain elevation data and structural geometry.

Topographic data used for the redelineation effort was supplied by the City of Kilgore (Reference 31).

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

Channel roughness factors, represented by Manning's n-values, used in the hydraulic computations were chosen by engineering judgment and based on field observations of the streams and floodplain areas. These roughness values are presented in Table 6, "Manning's "n" Values."

The acceptability of all assumed hydraulic factors, cross sections, and hydraulic structure data was checked by computations that duplicated historic flood water profiles. Water-surface elevations of floods of the selected recurrence intervals were computed through use of the U.S. Army Corps of Engineers HEC-2 step-backwater computer program (Reference 22). Flood profiles were drawn showing computed water-surface elevations for floods of selected recurrence intervals. Starting water-surface elevations for all streams were calculated using the slope-area method. Elevations were originally referenced to the National Geodetic Vertical Datum of 1929 (NGVD) in the previous study reports, but have been converted to the North American Vertical Datum of 1988 (NAVD) for this countywide FIS (Reference 23).

### **Countywide Analysis**

For the new detailed analyses, all of which are within the City of Longview, a digital terrain model was created using the City of Longview's 2-foot interval contour maps. The 2-foot

interval contour maps were created by aerial photogrammetry in February of 2002 (Reference 12). Initial hydraulic models were set up using the River Modeling System (RMS) software program (BOSS International) to establish a stream centerline and the left and right top bank. A professional engineer graphically selected stations along the stream centerline. The stations were set using guidelines established by the U.S. Army Corps of Engineers for their HEC-RAS version 3.1.3 computer program (Reference 20). The RMS program uploaded the digital terrain information at each station and input this information into cross-section data files in HEC-RAS. The RMS program computed downstream reach lengths by following contours along the digital terrain model between sections.

Floodplain and channel roughness characteristics, represented by Manning's n- values, were assigned manually using engineering judgment on the basis of field inspections and recent aerial photography. Channel n-values, presented in Table 6, "Manning's "n" Values," ranged from 0.010 to 0.100, and overbank n-values ranged from 0.030 to 0.120. The starting water surface elevation for each stream was estimated by evaluating the normal depth at the most downstream section. In cases where the studied stream converged with another stream or water body, the starting water surface for the stream under consideration was input from the HEC-RAS calculated water surface elevation of the receiving stream or water body.

All structures were inspected in the field. Detailed structural information for most of the crossings were obtained from topographic information from 1990-91, contained in the City's Master Drainage Plan. The structure information was manually extracted from Special Bridge HEC-2 input files. Structures built since 1990, and all structures in the Hawkins Creek watershed (Hawkins Creek, Lafamo Creek, and Hawkins Creek Tributary-1), were field surveyed by a licensed professional land surveyor.

For the approximate analyses, discharges produced from regional regression equations and cross sections created from USGS topographic data were input into HEC-RAS to determine an approximate 1-percent-annual-chance floodplain. The approximate study methodology used Watershed Information System (WISE) software as a preprocessor to HEC-RAS. Tools within WISE allowed the engineer to verify that the cross-section data was acceptable (Reference 21). The WISE program was used to generate the input data file for HEC-RAS, and then HEC-RAS was used to determine the flood elevation at each cross section of the modeled stream. The 1-percent-annual-chance flood boundary created using approximate methods is indicated on the FIRM; no floodway was calculated for streams studied by approximate methods.

### 3.3 Vertical Datum

All FIS reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum used for newly created or revised FIS reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD). With the completion of the North American Vertical Datum of 1988 (NAVD), many FIS reports and FIRMs are now prepared using NAVD 88 as the referenced vertical datum.

Flood elevations shown in this FIS report and on the FIRM are referenced to NAVD 88. These flood elevations must be compared to structure and ground elevations referenced to the same

vertical datum. It is important to note that adjacent counties may be referenced to NGVD 29, which may result in differences in base flood elevations across county lines.

Some of the data used in this revision were taken from the prior effective FIS reports and FIRMs and adjusted to NAVD 88. The datum conversion factor from NGVD 29 to NAVD 88 in Gregg County is -0.094 feet. The BFEs shown on the FIRM represent whole-foot rounded values. For example, a BFE of 902.4 feet will appear as 902 feet on the FIRM and 902.6 feet will appear as 903 feet. Therefore, users that wish to convert the elevations in this FIS to NGVD 29 should apply the stated conversion factor to elevations shown on the Flood Profiles and supporting data tables in the FIS report, which are shown at a minimum to the nearest 0.1 foot.

For more information regarding conversion between NGVD 29 and NAVD 88, see the FEMA publication titled “Converting the National Flood Insurance Program to the North American Vertical Datum of 1988” (Reference 23), visit the National Geodetic Survey (NGS) website at [www.ngs.noaa.gov](http://www.ngs.noaa.gov), or contact the NGS at the following address:

NGS Information Services, NOAA, N/NGS12  
National Geodetic Survey, SSMC-3, #9202  
Silver Springs Metro Center 3  
1315 East-West Highway  
Silver Spring, Maryland 20910-3282  
(301) 713-3242

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

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

For more information on NAVD 88, see [Converting the National Flood Insurance Program to the North American Vertical Datum of 1988](#), FEMA Publication FIA-20/June 1992, or contact the Vertical Network Branch, National Geodetic Survey, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland 20910 (Internet address <http://www.ngs.noaa.gov>).

For FIRM panels dated July 16, 2004, or later, qualifying bench marks within a given jurisdiction that are cataloged by the National Geodetic Survey (NGS) and entered into the National Spatial Reference System (NSRS) as First or Second Order Vertical and have a vertical stability classification of A, B, or C are shown and labeled on the FIRM with their 6-character NSRS Permanent Identifier.

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

- Stability A: Monuments of the most reliable nature, expected to hold position/elevation well (e.g., mounted in bedrock)
- Stability B: Monuments which generally hold their position/elevation well (e.g., concrete bridge abutment)
- Stability C: Monuments which may be affected by surface ground movements (e.g., concrete monument below frost line)
- Stability D: Mark of questionable or unknown vertical stability (e.g., concrete monument above frost line, or steel witness post)

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

To obtain current elevation, description, and/or location information for bench marks shown on the FIRM for this jurisdiction, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their Web site at [www.ngs.noaa.gov](http://www.ngs.noaa.gov).

It is important to note that temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the Technical Support Data Notebook associated with this FIS and FIRM. Interested individuals may contact FEMA to access this data.

#### 4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

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

##### 4.1 Floodplain Boundaries

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

scale of 1:24,000 with a contour interval of 5 feet (References 24 and 24), and USGS maps at a scale of 1:24,000 with a contour interval of 10 feet (Reference 26), as well as a 2002 Digital Elevation Model covering the City of Longview with a contour interval of 2 feet (Reference 12). For each stream studied by approximate methods, the 1-percent-annual-chance floodplain boundaries were interpolated using USGS 7.5 minute topographic map data, with an original scale of 1:24,000 and contour interval of 10 feet that was obtained in 10- and 30-meter DEM format.

The 1- and 0.2-percent-annual-chance floodplain boundaries for streams studied by detailed methods are shown on the FIRM. On this map, the 1-percent-annual-chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A and AE), and the 0.2-percent-annual-chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards (Zone X). In cases where the 1- and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent- annual-chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations, but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For streams studied by approximate methods, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM (Exhibit 2). Floodplain boundaries for all flooding sources within the study area have been mapped based upon the most up-to-date topographic data available.

#### 4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent- annual-chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the base flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed for certain stream segments on the basis of equal-conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations are tabulated for selected cross sections and provided in Table 7, "Floodway Data". The computed floodway is shown on the FIRM (Exhibit 2). In cases where the floodway and 1-percent-annual- chance floodplain boundaries are either close together or collinear, only the floodway boundary is shown on the FIRM.

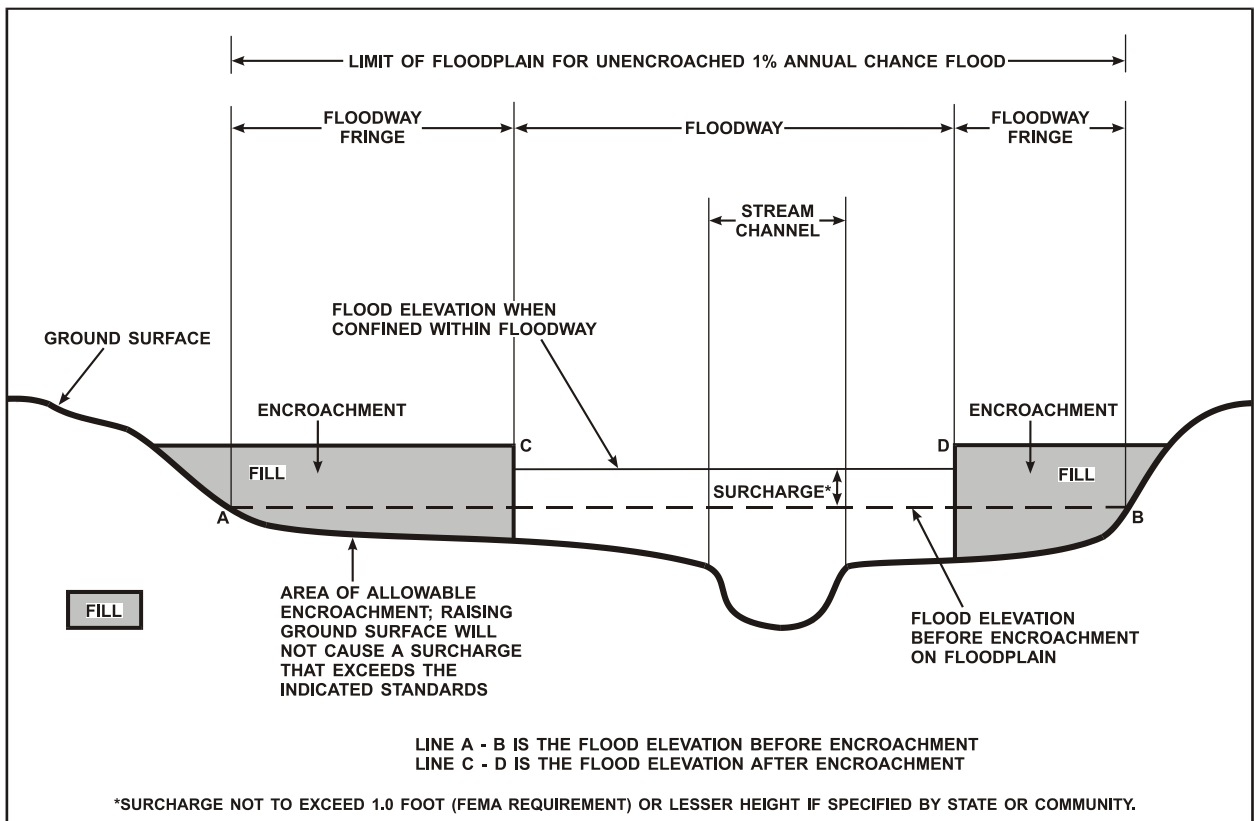
Near the confluence of streams studied in detail, floodway computations were made without regard to flood elevations on the receiving water body. Therefore, "Without Floodway"

elevations presented in Table 7 for certain downstream cross sections of Glade Creek, Moody

Creek and Turkey Creek are lower than the regulatory flood elevations in that area, which must take into account the 1-percent-annual-chance flooding due to backwater from other sources.

Encroachment into areas subject to inundation by floodwaters having hazardous velocities aggravates the risk of flood damage and heightens potential flood hazards by further increasing velocities. To reduce the risk of property damage in areas where the stream velocities are high, the community may wish to restrict development in areas outside the floodway.

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



In the case of redelineation, effort was made to maintain the prior effective regulatory floodway width and shape. However, due to updated topographic data, some modifications were made to contain the floodway within the limits of the 1-percent-annual-chance floodplain. Most modifications to the prior effective regulatory floodway boundaries are due to topographic changes that have occurred along the streams.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Bighead Creek								
A	-130	207	1,033	13.0	278.9	278.9	278.9	0.0
B	20	211	1,330	10.1	279.7	279.7	280.3	0.6
C	420	906	4,037	3.3	283.4	283.4	283.6	0.2
D	435	906	4,036	3.3	283.5	283.5	283.7	0.2
E	3,235	814	5,892	2.3	286.6	286.6	287.2	0.6
F	5,485	1,150	7,717	1.6	288.0	288.0	288.6	0.6
G	7,985	732	3,817	3.3	290.3	290.3	290.9	0.6
H	9,615	354	2,999	4.2	294.2	294.2	294.8	0.6
I	10,465	281	2,624	4.6	296.1	296.1	296.7	0.6
J	10,685	299	3,725	3.2	299.9	299.9	300.2	0.3
K	11,585	439	5,522	2.2	300.5	300.5	300.8	0.3
L	11,685	447	5,952	2.0	300.6	300.6	300.9	0.3
M	11,835	74	930	13.0	301.2	301.2	302.0	0.8
N	11,985	637	9,830	1.2	304.9	304.9	305.2	0.3
O	13,435	749	10,380	0.9	305.4	305.4	305.8	0.4
P	15,725	976	10,833	0.9	305.5	305.5	305.9	0.4
Q	16,275	1,331	10,307	0.9	305.6	305.6	306.0	0.4
R	16,445	1,320	10,270	0.9	305.6	305.6	306.0	0.4
S	16,545	1,336	10,508	0.9	305.7	305.7	306.1	0.4
T	16,745	1,336	10,572	0.9	305.7	305.7	306.1	0.4
U	17,590	1,228	10,084	0.9	305.9	305.9	306.4	0.5
V	18,200	1,137	8,241	1.1	306.0	306.0	306.5	0.5

<sup>1</sup> Stream distance in feet from a point approximately 430 feet downstream of Railroad.

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**BIGHEAD CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Birdsong Creek								
A	1,180	282	1,217	2.9	308.0	308.0	308.7	0.7
B	1,420	146	366	8.5	308.0	308.0	309.0	1.0
C	1,450	155	532	6.5	309.1	309.1	310.1	1.0
D	1,660	150	598	3.6	310.4	310.4	311.0	0.6
E	1,870	33	169	11.3	310.3	310.3	310.7	0.4
F	1,905	34	328	5.8	315.4	315.4	315.4	0.0
G	2,115	150	928	2.9	316.1	316.1	316.1	0.0
H	2,840	86	439	5.9	316.1	316.1	316.6	0.5
I	4,700	44	372	5.4	321.3	321.3	321.9	0.6
J	6,040	137	1,598	1.0	321.8	321.8	322.6	0.8

<sup>1</sup> Stream distance in feet from a point approximately 430 feet downstream of Railroad.

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**BIRDSONG CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Coushatta Hills Creek								
A	330	32	215	4.1	314.3	314.3	315.3	1.0
B	523	105	389	2.3	320.1	320.1	320.7	0.6
C	1,329	36	126	6.6	321.7	321.7	321.9	0.2
D	1,392	69	200	4.1	324.6	324.6	325.0	0.4
E	1,747	28	146	5.7	326.3	326.3	326.3	0.0
F	1,840	83	419	2.0	330.7	330.7	330.8	0.1
G	1,925	111	417	1.1	330.8	330.8	330.8	0.0
H	2,088	142	141	3.1	330.6	330.6	331.1	0.5
I	3,040	16	91	4.9	336.0	336.0	336.2	0.2
J	3,093	25	99	5.9	337.7	337.7	337.9	0.2
K	3,839	70	140	5.4	341.5	341.5	341.5	0.0
L	3,890	34	100	4.5	343.5	343.5	343.5	0.0
M	4,150	71	140	3.2	347.8	347.8	347.9	0.1
N	4,350	46	185	2.4	351.3	351.3	351.3	0.0
O	4,453	71	218	6.8	351.2	351.2	351.2	0.0
P	4,736	313	2,945	1.5	364.1	364.1	364.1	0.0
Q	4,757	298	2,447	0.3	364.1	364.1	364.1	0.0
R	4,892	242	3,023	0.3	369.9	369.9	369.9	0.0
S	5,530	82	912	0.8	369.9	369.9	369.9	0.0
T	6,055	92	197	5.3	369.9	369.9	370.0	0.1
U	6,180	139	452	3.0	374.3	374.3	374.3	0.0
V	6,930	31	85	4.9	380.1	380.1	380.1	0.0
W	7,483	67	108	3.8	390.4	390.4	390.4	0.0

<sup>1</sup> Stream distance in feet above confluence with Oakland Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**COUSHATTA HILLS CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQURE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Drain No. 1								
A <sup>2</sup>	6,341	264/134 <sup>3</sup>	1,200	2.6	345.0	345.0	345.7	0.7
B <sup>2</sup>	6,962	307/32 <sup>3</sup>	899	3.3	347.0	347.0	347.1	0.1
C	8,027	343	685	4.3	350.2	350.2	350.3	0.1
D	8,379	87	536	5.5	352.8	352.8	352.9	0.1
E	8,437	105	612	5.2	353.1	353.1	353.2	0.1
F	8,831	144	682	3.6	355.0	355.0	355.3	0.3
G	9,588	172	643	3.8	357.6	357.6	358.3	0.7
H	9,707	69	327	8.1	357.9	357.9	358.5	0.6
I	10,729	166	709	3.5	362.2	362.2	363.1	0.9
J	11,834	170	598	3.0	367.1	367.1	368.0	0.9
K	12,432	51	173	9.6	370.1	370.1	371.1	1.0
L	13,375	66	330	3.6	377.4	377.4	377.7	0.3
M	14,180	199	2,220	0.4	387.9	387.9	388.0	0.1
N	14,730	187	1,024	0.8	387.9	387.9	388.0	0.1
O	15,037	199	1,309	0.6	387.9	387.9	388.1	0.2
P	16,854	112	137	5.9	395.8	395.8	395.8	0.0
Q	17,870	66	210	3.9	405.0	405.0	405.0	0.0
R	18,414	62	114	7.1	411.3	411.3	411.4	0.1

<sup>1</sup> Feet above confluence with Eastman Lake Creek

<sup>2</sup> Cross Sections A and B are coincident and identical to Cross Sections I and J, respectively, in the Harrison County, TX and Incorporated Areas FIS

<sup>3</sup> Total width/width within county

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**DRAIN NO. 1**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Drain No. 2 (Oak Branch Creek)								
A	2,092	380	2,556	2.3	306.2	306.2	306.2	0.0
B	2,700	400	2,397	2.5	306.3	306.3	306.4	0.1
C	3,700	300	1,222	4.9	307.2	307.2	307.7	0.5
D	4,444	107	884	5.6	309.6	309.6	310.4	0.8
E	4,581	89	750	6.6	310.7	310.7	311.6	0.9
F	5,172	242	1,105	4.5	314.0	314.0	314.3	0.3
G	5,246	370	1,474	3.4	314.1	314.1	315.0	0.9
H	5,680	250	634	7.8	316.4	316.4	316.5	0.1
I	6,306	238	1,555	3.2	319.4	319.4	320.4	1.0
J	6,447	278	2,014	3.6	320.9	320.9	321.8	0.9
K	7,303	360	2,066	2.4	321.9	321.9	322.8	0.9
L	8,140	70	269	7.6	323.1	323.1	324.0	0.9
M	8,901	100	517	3.9	328.4	328.4	329.0	0.6
N	8,949	110	686	3.0	330.1	330.1	331.0	0.9
O	9,750	150	578	3.5	332.1	332.1	332.9	0.8
P	10,818	100	295	5.7	335.7	335.7	336.0	0.3
Q	11,384	118	492	3.4	339.5	339.5	340.2	0.7
R	11,422	143	504	3.3	339.7	339.7	340.3	0.6
S	12,750	100	371	4.5	345.8	345.8	346.0	0.2
T	13,565	146	279	4.5	349.0	349.0	349.0	0.0
U	14,723	106	302	4.1	353.7	353.7	354.6	0.9
V	14,793	133	761	1.6	357.7	357.7	358.0	0.3
W	15,725	241	1,005	1.2	362.0	362.0	362.0	0.0
X	16,791	97	222	2.9	366.4	366.4	366.7	0.3
Y	17,897	46	217	2.9	369.8	369.8	370.2	0.4

<sup>1</sup> Stream distance in feet above confluence with Grace Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**DRAIN NO.2 (OAK BRANCH CREEK)**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Drain No. 2 (Oak Branch Creek)								
Z	18,902 <sup>1</sup>	51	157	4.1	376.2	376.2	376.2	0.0
AA	19,426 <sup>1</sup>	92	413	1.6	379.8	379.8	379.8	0.0
AB	19,698 <sup>1</sup>	70	552	1.2	388.2	388.2	389.0	0.8
AC	20,363 <sup>1</sup>	75	119	5.4	392.5	392.5	392.5	0.0
AD	20,453 <sup>1</sup>	100	411	1.6	394.7	394.7	395.0	0.3
AE	21,044 <sup>1</sup>	48	138	4.6	405.4	405.4	405.5	0.1
Drain No. 3								
A	265 <sup>2</sup>	263	1,140	1.9	320.2	320.2	320.5	0.3
B	891 <sup>2</sup>	38	193	12.5	326.4	326.4	326.4	0.0
C	969 <sup>2</sup>	138	718	3.1	330.6	330.6	331.4	0.8
D	1,600 <sup>2</sup>	130	720	2.2	331.5	331.5	332.4	0.9
E	2,255 <sup>2</sup>	97	404	3.3	333.0	333.0	333.9	0.9
F	3,100 <sup>2</sup>	70	355	3.7	338.0	338.0	338.0	0.0
G	4,099 <sup>2</sup>	75	424	3.1	341.5	341.5	341.6	0.1
H	4,800 <sup>2</sup>	71	171	7.7	345.9	345.9	345.9	0.0
I	5,444 <sup>2</sup>	66	367	3.6	352.9	352.9	353.0	0.1
J	6,200 <sup>2</sup>	66	353	1.7	354.8	354.8	355.0	0.2
K	7,000 <sup>2</sup>	20	171	3.5	359.0	359.0	359.1	0.1
L	7,300 <sup>2</sup>	21	176	3.4	360.0	360.0	360.1	0.1
M	8,480 <sup>2</sup>	38	130	4.6	374.7	374.7	374.7	0.0

<sup>1</sup> Stream distance in feet above confluence with Grace Creek

<sup>2</sup> Stream distance in feet above confluence with School Branch Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**DRAIN NO.2 (OAK BRANCH CREEK) AND DRAIN NO. 3**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Drain No. 4								
A	32	160	717	2.8	322.0	322.0	322.0	0.0
B	156	116	602	3.3	325.3	325.3	326.1	0.8
C	200	189	981	2.1	325.5	325.5	326.4	0.9
D	1,002	87	529	3.2	329.5	329.5	329.9	0.4
E	1,830	246	593	2.4	337.8	337.8	338.5	0.7
F	1,950	181	450	3.1	338.0	338.0	338.6	0.6
G	2,899	100	364	3.6	343.2	343.2	343.4	0.2
H	3,198	31	182	7.1	344.0	344.0	344.4	0.4
I	3,902	25	139	9.3	349.5	349.5	349.6	0.1
J	4,393	32	167	4.0	354.0	354.0	354.0	0.0
K	4,510	75	278	3.9	355.8	355.8	356.2	0.4
L	4,556	62	239	2.8	356.2	356.2	356.5	0.3
M	5,500	24	69	9.7	361.8	361.8	361.8	0.0
N	5,725	116	252	1.6	366.8	366.8	367.2	0.4
O	5,850	81	214	1.9	367.0	367.0	367.3	0.3
P	6,301	37	92	4.4	367.9	367.9	368.4	0.5

<sup>1</sup> Stream distance in feet above confluence with Harris Creek

**TABLE 7**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**DRAIN NO. 4**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Eastman Lake Creek								
A	12,522	621 <sup>2</sup>	5,118	1.6	283.1	283.1	283.9	0.8
B	12,990	752 <sup>2</sup>	8,647	1.0	283.2	283.2	284.0	0.8
C	14,049	507 <sup>2</sup>	5,128	1.6	283.3	283.3	284.1	0.8
D	15,448	675/285 <sup>3</sup>	6,075	1.4	283.6	283.6	284.4	0.8
E	16,443	425/65 <sup>3</sup>	2,838	3.0	283.8	283.8	284.6	0.8
F	16,948	425/45 <sup>3</sup>	2,977	4.1	285.0	285.0	285.6	0.6
G	17,174	580/380 <sup>3</sup>	5,094	4.0	286.5	286.5	286.6	0.1
H	17,715	853/638 <sup>3</sup>	5,237	1.6	286.9	286.9	287.6	0.7
I	18,670	792/550 <sup>3</sup>	5,980	1.4	287.2	287.2	288.1	0.9
J	20,101	644/244 <sup>3</sup>	4,251	1.9	288.3	288.3	289.2	0.9
K	23,939	287 <sup>2</sup>	1,848	4.4	295.4	295.4	295.8	0.4
L	25,825	307/397 <sup>3</sup>	2,305	3.5	297.6	297.6	298.5	0.9
M	25,709	832/433 <sup>3</sup>	2,630	3.1	300.1	300.1	300.8	0.7
N	26,535	419 <sup>2</sup>	2,495	2.8	302.3	302.3	302.7	0.4
O	27,714	547 <sup>2</sup>	3,388	2.0	304.1	304.1	305.1	1.0
P	29,629	295 <sup>2</sup>	1,398	4.0	308.4	308.4	309.2	0.8
Q	30,700	350 <sup>2</sup>	1,166	4.8	310.5	310.5	311.3	0.8
R	31,813	310/104 <sup>3</sup>	1,114	5.0	313.6	313.6	314.6	1.0
S	32,322	165	727	7.3	316.2	316.2	316.5	0.3
T	33,525	400/85 <sup>3</sup>	1,757	3.3	319.2	319.2	319.7	0.5
U	39,434	150	630	1.1	334.6	334.6	335.1	0.5
V	39,952	157	155	4.3	335.8	335.8	335.8	0.0
W	40,509	105	389	1.7	337.4	337.4	337.6	0.2
X	41,034	122	134	3.4	341.4	341.4	341.4	0.0

<sup>1</sup> Stream distance in feet above confluence with Ferguson Creek Reservoir

<sup>2</sup> Entire width of floodway is outside of Gregg County

<sup>3</sup> Total width/width within county

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**EASTMAN LAKE CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Eastman Lake Creek								
Y	41,354	86	178	2.5	344.3	344.3	344.4	0.1
Z	41,667	103	162	2.8	346.0	346.0	346.2	0.2
AA	41,713	149	420	1.1	348.5	348.5	348.5	0.0
AB	41,869	123	311	1.4	348.6	348.6	348.7	0.1
AC	42,092	90	233	1.9	348.9	348.9	348.9	0.0
AD	42,161	75	270	1.7	351.0	351.0	351.5	0.5
AE	42,467	73	141	1.9	351.5	351.5	351.9	0.4
AF	42,686	44	105	2.6	352.3	352.3	352.5	0.2
AG	42,774	14	65	4.1	353.8	353.8	354.3	0.5
AH	43,072	26	77	3.5	355.0	355.0	355.7	0.7

<sup>1</sup> Stream distance in feet above confluence with Ferguson Creek Reservoir

**TABLE 7**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**EASTMAN LAKE CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Elm Branch Creek								
A	900	295	502	4.4	328.2	328.2	328.8	0.6
B	1,143	295	940	2.3	329.4	329.4	330.2	0.8
C	1,195	305	885	2.5	329.4	329.4	330.4	1.0
D	1,486	170	549	2.9	331.2	331.2	331.6	0.4
E	1,532	170	517	3.1	331.3	331.3	332.0	0.7
F	2,400	220	1,028	1.6	337.2	337.2	338.0	0.8
G	2,447	220	767	2.1	337.2	337.2	338.1	0.9
H	3,239	70	340	7.3	344.1	344.1	344.2	0.1
I	3,419	133	941	3.4	347.2	347.2	347.3	0.1
J	4,420	125	389	4.1	348.6	348.6	348.8	0.2
K	4,948	64	311	5.1	353.3	353.3	353.4	0.1
L	5,013	132	916	1.7	360.9	360.9	361.2	0.3
M	5,566	204	1,625	1.0	361.1	361.1	361.4	0.3
N	5,610	225	1,258	1.3	361.1	361.1	361.5	0.4
O	6,000	172	739	2.2	361.7	361.7	362.1	0.4
P	6,076	183	654	2.4	363.3	363.3	363.7	0.4
Q	7,084	99	260	2.5	366.1	366.1	366.2	0.1
R	8,050	104	179	3.6	375.1	375.1	375.2	0.1
S	8,934	91	189	3.4	385.5	385.5	385.6	0.1

<sup>1</sup> Stream distance in feet above confluence with Ray Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**ELM BRANCH CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Gilmer Creek								
A	453	617	4,624	0.5	288.4	288.4	289.1	0.7
B	588	480	2,692	0.9	288.4	288.4	289.1	0.7
C	1,550	73	550	4.4	288.5	288.5	289.3	0.8
D	2,363	57	329	7.4	291.4	291.4	291.5	0.1
E	2,415	71	483	5.0	293.8	293.8	294.1	0.3
F	3,202	50	138	10.0	295.4	295.4	295.4	0.0
G	4,147	22	109	12.6	315.4	315.4	315.4	0.0
H	4,406	22	180	7.7	319.2	319.2	319.2	0.0
I	5,249	408	954	0.9	325.8	325.8	325.8	0.0
J	6,150	175	532	1.6	325.8	325.8	325.8	0.0
K	6,741	21	190	4.5	326.0	326.0	326.0	0.0
L	6,800	23	210	4.4	326.2	326.2	326.3	0.1
M	7,861	85	176	4.9	332.6	332.6	332.7	0.1
N	8,252	149	261	3.4	335.3	335.3	335.3	0.0
O	8,501	249	2,532	0.3	353.0	353.6	353.6	0.0
P	9,528	73	722	1.0	353.0	353.6	353.6	0.0
Q	10,601	70	292	2.5	353.8	353.8	354.2	0.4
R	11,760	5	31	14.1	364.2	364.2	364.2	0.0
S	11,878	25	203	2.1	372.6	372.6	373.5	0.9
T	11,960	19	183	2.4	372.6	372.6	373.5	0.9

<sup>1</sup> Stream distance in feet above confluence with Grace Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**GILMER CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT <sup>2</sup> FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Glade Creek								
A	2,800	975	4,410	3.9	288.1	266.2	267.2	1.0
B	4,400	272	1,978	8.7	288.3	271.4	271.9	0.5
C	6,560	629	5,380	3.2	288.3	279.2	280.0	0.8
D	7,760	529/483 <sup>3</sup>	5,166	3.3	288.5	281.2	281.9	0.7
E	7,860	114	1,338	12.9	288.9	280.2	281.1	0.9
F	7,870	115	1,383	12.9	289.0	281.9	282.5	0.6
G	7,970	164	2,918	5.9	289.4	284.9	285.2	0.3
H	8,016	166	3,015	5.4	289.4	284.9	285.7	0.8
I	8,216	933/190 <sup>3</sup>	9,875	1.7	289.6	285.5	286.2	0.7

<sup>1</sup> Stream distance in feet above confluence with Sabine River

<sup>2</sup> Elevations computed without consideration of backwater effects

<sup>3</sup> Total width/width within county

**TABLE 7**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**GLADE CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Grace Creek								
A	11,996	1,160	12,033	2.5	261.5	261.5	262.5	1.0
B	12,341	950	9,237	3.3	261.9	261.9	262.9	1.0
C	12,450	980	9,971	3.1	262.4	262.4	263.3	0.9
D	12,750	1,355	12,708	2.4	265.8	265.8	266.3	0.5
E	13,493	1,150	10,726	2.8	266.1	266.1	266.9	0.8
F	14,600	1,621	15,139	2.0	266.9	266.9	267.9	1.0
G	15,643	1,642	19,913	1.5	267.3	267.3	268.3	1.0
H	16,500	1,995	21,952	1.4	267.5	267.5	268.5	1.0
I	17,151	1,476	18,308	1.7	267.7	267.7	268.7	1.0
J	17,900	880	9,649	3.0	268.3	268.3	269.1	0.8
K	18,636	903	11,728	2.5	269.1	269.1	270.0	0.9
L	19,450	932	10,942	2.7	269.6	269.6	270.5	0.9
M	20,406	1,073	11,965	2.4	271.4	271.4	272.3	0.9
N	20,850	1,476	17,414	1.7	271.7	271.7	272.6	0.9
O	21,700	2,114	25,329	1.1	271.8	271.8	272.7	0.9
P	22,648	1,183	12,180	2.4	272.1	272.1	273.0	0.9
Q	23,827	719	6,590	4.4	272.9	272.9	273.8	0.9
R	24,250	687	6,275	4.6	273.8	273.8	274.7	0.9
S	24,350	688	6,757	4.3	274.3	274.3	275.0	0.7
T	25,400	786	5,423	5.3	278.1	278.1	278.8	0.7
U	26,000	731	6,289	4.6	280.2	280.2	281.1	0.9
V	26,281	885	7,527	3.8	281.1	281.1	282.0	0.9
W	26,399	916	8,216	3.5	281.3	281.3	282.3	1.0
X	27,400	433	5,251	4.7	284.0	284.0	284.5	0.5
Y	27,901	801	12,250	2.0	284.9	284.9	285.7	0.8
Z	29,742	840	12,518	1.6	285.9	285.9	286.5	0.6

<sup>1</sup> Stream distance in feet above confluence with Sabine River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**GRACE CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Grace Creek								
AA	30,708	852	11,186	1.8	286.2	286.2	286.9	0.7
AB	31,500	985	12,146	1.7	286.5	286.5	287.2	0.7
AC	32,300	1,146	12,513	1.6	286.8	286.8	287.5	0.7
AD	33,249	1,007	9,055	2.2	287.2	287.2	288.0	0.8
AE	34,113	565	5,332	3.8	288.4	288.4	289.1	0.7
AF	34,850	422	3,996	4.8	289.5	289.5	290.0	0.5
AG	35,862	688	6,678	2.9	290.2	290.2	290.9	0.7
AH	36,852	904	8,187	2.3	290.9	290.9	291.7	0.8
AI	37,475	848	7,450	2.6	291.4	291.4	292.2	0.8
AJ	38,101	729	6,447	2.9	291.9	291.9	292.7	0.8
AK	39,074	678	4,625	4.1	292.9	292.9	293.8	0.9
AL	39,300	550	5,228	3.6	295.2	295.2	295.7	0.5
AM	39,365	554	5,266	3.6	295.3	295.3	295.9	0.6
AN	40,300	498	4,703	4.0	296.1	296.1	296.9	0.8
AO	41,115	640	5,463	3.4	296.8	296.8	297.7	0.9
AP	42,030	497	3,788	5.0	297.7	297.7	298.6	0.9
AQ	42,890	872	6,642	2.8	298.9	298.9	299.8	0.9
AR	43,600	574	3,486	5.3	299.2	299.2	300.2	1.0
AS	44,494	914	5,153	3.6	301.3	301.3	302.1	0.8
AT	44,825	1,713	7,757	2.3	303.3	303.3	303.5	0.2
AU	44,898	1,907	11,355	1.6	303.6	303.6	303.8	0.2
AV	45,948	1,035	8,926	2.2	306.3	306.3	306.3	0.0
AW	46,579	607	5,740	3.5	306.4	306.4	306.4	0.0
AX	47,537	377	3,114	2.2	307.1	307.1	307.4	0.3
AY	48,650	228	1,851	3.7	308.4	308.4	309.1	0.7
AZ	49,124	259	2,573	2.6	312.7	312.7	312.7	0.0

<sup>1</sup> Stream distance in feet above confluence with Sabine River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**GRACE CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Grace Creek								
BA	49,965	325	2,609	2.6	313.0	313.0	313.7	0.7
BB	50,851	328	2,072	3.1	313.8	313.8	314.7	0.9
BC	51,559	291	1,932	3.3	317.1	317.1	318.0	0.9
BD	52,649	308	1,694	3.7	318.7	318.7	319.7	1.0
BE	53,400	209	966	6.5	320.7	320.7	321.7	1.0
BF	54,202	291	1,972	3.2	323.9	323.9	324.8	0.9
BG	55,000	417	2,371	2.6	325.3	325.3	326.3	1.0
BH	55,750	263	1,616	3.8	327.1	327.1	327.9	0.8
BI	56,302	240	1,729	3.5	328.6	328.6	329.5	0.9
BJ	57,037	225	1,687	3.6	330.1	330.1	331.1	1.0
BK	57,917	223	1,550	3.9	331.4	331.4	332.4	1.0
BL	58,350	298	2,012	3.0	332.1	332.1	333.1	1.0
BM	59,615	309	1,855	3.0	333.4	333.4	334.4	1.0
BN	60,549	333	1,943	2.9	334.6	334.6	335.6	1.0
BO	61,550	196	1,327	4.2	337.5	337.5	338.4	0.9
BP	62,200	243	1,858	3.0	339.1	339.1	340.0	0.9
BQ	62,800	330	2,093	2.7	340.0	340.0	340.9	0.9
BR	63,405	426	3,013	1.9	340.6	340.6	341.5	0.9
BS	64,400	320	1,293	2.6	341.7	341.7	342.6	0.9
BT	65,014	333	1,297	2.6	343.4	343.4	344.4	1.0
BU	65,920	322	1,185	2.9	346.3	346.3	347.1	0.8
BV	66,416	191	977	2.7	348.4	348.4	349.3	0.9
BW	66,984	86	526	5.0	349.8	349.8	350.6	0.8
BX	67,948	130	1,100	2.4	359.5	359.5	360.3	0.8
BY	68,769	217	1,329	2.0	359.8	359.8	360.8	1.0
BZ	69,100	170	944	2.8	360.2	360.2	361.1	0.9

<sup>1</sup> Stream distance in feet above confluence with Sabine River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**GRACE CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Grace Creek								
CA	69,621	236	1,056	2.5	360.9	360.9	361.8	0.9
CB	70,500	171	754	2.4	365.4	365.4	366.4	1.0
CC	70,950	200	955	1.9	366.2	366.2	367.2	1.0
CD	71,463	137	694	2.6	366.9	366.9	367.8	0.9
CE	72,350	153	428	2.8	370.0	370.0	370.4	0.4
CF	73,000	154	393	3.0	372.4	372.4	373.3	0.9
CG	73,545	151	434	2.7	375.8	375.8	376.1	0.3
CH	74,450	176	327	3.6	378.6	378.6	378.9	0.3
CI	75,480	154	181	3.9	383.3	383.3	383.3	0.0
CJ	76,428	73	166	4.3	388.5	388.5	388.5	0.0
CK	77,474	65	197	3.6	394.5	394.5	394.5	0.0
CL	78,107	95	118	6.0	400.8	400.8	400.8	0.0
CM	79,000	125	399	1.1	410.5	410.5	410.8	0.3
CN	79,352	74	81	5.2	411.1	411.1	411.1	0.0

<sup>1</sup> Stream distance in feet above confluence with Sabine River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**GRACE CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Guthrie Creek								
A	145	670	9,436	1.2	284.9	284.9	285.7	0.8
B	663	690	8,501	1.2	284.9	284.9	285.8	0.9
C	1,322	650	9,032	1.1	285.0	285.0	285.8	0.8
D	2,365	280	2,774	3.7	285.1	285.1	285.9	0.8
E	3,280	280	2,292	4.5	285.0	285.5	286.4	0.9
F	3,338	267	2,239	4.6	285.6	285.6	286.5	0.9
G	4,292	183	2,546	4.0	288.0	288.5	289.3	0.8
H	4,827	221	2,120	4.3	288.0	288.7	289.5	0.8
I	4,897	233	1,724	5.2	289.4	289.4	290.1	0.7
J	5,138	190	1,394	6.5	289.7	289.7	290.4	0.7
K	5,340	180	1,512	6.0	290.0	290.0	291.0	1.0
L	6,210	230	2,487	3.5	292.2	292.2	293.0	0.8
M	6,550	284	1,971	4.4	292.8	292.8	293.3	0.5
N	7,350	165	938	9.1	295.4	295.4	295.4	0.0
O	8,366	268	1,746	4.7	298.4	298.4	299.2	0.8
P	8,510	1,110	6,132	5.5	301.8	301.8	302.7	0.9
Q	9,500	139	896	6.8	303.1	303.1	303.4	0.3
R	10,578	43	303	7.9	305.3	305.3	305.8	0.5
S	11,550	60	401	6.0	312.2	312.2	312.2	0.0
T	11,613	51	351	6.8	312.3	312.3	312.3	0.0
U	11,855	141	842	2.8	319.3	319.3	320.1	0.8
V	12,300	69	612	3.9	319.5	319.5	320.3	0.8
W	12,826	141	539	4.4	322.0	322.0	322.9	0.9
X	12,863	143	521	4.6	322.1	322.1	323.0	0.9

<sup>1</sup> Stream distance in feet above confluence with Grace Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**GUTHRIE CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Harris Creek								
A	600	762	4,325	1.9	283.6	283.6	284.3	0.7
B	1,294	626	5,483	1.5	283.9	283.9	284.6	0.7
C	2,500	404	3,485	2.3	284.1	284.1	284.8	0.7
D	2,999	251	1,512	5.3	284.5	284.5	285.3	0.8
E	3,596	743	5,973	1.3	300.2	300.2	300.3	0.1
F	3,611	708	6,534	1.2	300.2	300.2	300.3	0.1
G	4,564	575	5,338	1.1	300.3	300.3	300.3	0.0
H	5,502	752	7,008	0.8	300.3	300.3	300.4	0.1
I	5,898	360	3,267	1.8	300.3	300.3	300.4	0.1
J	6,698	391	2,580	2.2	300.4	300.4	300.6	0.2
K	7,208	104	679	8.5	300.2	300.2	300.6	0.4
L	7,295	128	1,087	5.3	301.8	301.8	302.0	0.2
M	8,000	286	1,866	3.1	302.7	302.7	303.1	0.4
N	8,698	261	1,282	4.5	303.1	303.1	303.9	0.8
O	9,747	289	1,456	3.6	305.7	305.7	306.2	0.5
P	10,557	267	1,440	3.2	308.8	308.8	309.3	0.5
Q	11,498	170	993	4.6	310.7	310.7	311.5	0.8
R	12,494	247	1,014	4.5	314.4	314.4	315.1	0.7
S	13,044	317	1,514	3.0	315.4	315.4	316.3	0.9
T	13,498	316	1,260	3.2	316.4	316.4	317.4	1.0
U	13,961	306	1,136	3.5	318.1	318.1	318.6	0.5
V	14,021	310	831	4.8	318.4	318.4	318.9	0.5
W	14,100	306	1,271	3.1	319.3	319.3	319.7	0.4
X	14,498	198	758	5.3	320.2	320.2	320.3	0.1
Y	14,826	265	742	5.4	322.0	322.0	322.0	0.0
Z	14,882	342	1,051	3.8	324.3	324.3	324.3	0.0

<sup>1</sup> Stream distance in feet above confluence with Grace Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**HARRIS CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Harris Creek								
AA	15,229	158	655	4.7	325.9	325.9	325.9	0.0
AB	15,325	340	1,770	1.7	328.8	328.8	328.8	0.0
AC	16,400	181	1,993	1.4	337.1	337.1	337.6	0.5
AD	17,596	220	1,346	2.1	337.2	337.2	337.8	0.6
AE	18,707	214	751	3.7	337.8	337.8	338.8	1.0
AF	19,150	174	515	5.4	340.7	340.7	340.7	0.0
AG	19,905	114	479	4.4	343.2	343.2	344.1	0.9
AH	20,555	102	516	4.1	345.1	345.1	345.7	0.6
AI	21,403	105	307	5.5	350.1	350.1	350.2	0.1
AJ	22,405	112	333	5.0	355.0	355.0	355.0	0.0
AK	22,916	53	160	10.5	359.2	359.2	359.3	0.1
AL	22,987	305	873	1.9	364.4	364.4	364.5	0.1
AM	23,504	143	522	2.7	364.5	364.5	364.6	0.1
AN	24,507	36	168	8.5	366.4	366.4	366.9	0.5
AO	25,505	108	369	3.0	370.4	370.4	370.7	0.3
AP	26,304	75	195	3.4	375.0	375.0	375.5	0.5
AQ	26,708	75	295	2.3	376.2	376.2	376.4	0.2
AR	27,504	32	221	3.0	382.3	382.3	382.8	0.5
AS	28,004	32	76	8.8	386.1	386.1	386.1	0.0

<sup>1</sup> Stream distance in feet above confluence with Grace Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**HARRIS CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Hawkins Creek								
A	25,939	492	5,285	3.1	278.7	278.7	279.5	0.8
B	26,166	154	1,582	10.4	278.0	278.0	279.0	1.0
C	26,204	360	2,403	6.8	280.0	280.0	280.9	0.9
D	26,988	511	6,605	2.5	281.7	281.7	282.3	0.6
E	28,087	824	10,157	1.6	281.8	281.8	282.6	0.8
F	28,689	723	7,700	2.1	281.8	281.8	282.7	0.9
G	29,489	733	7,957	2.0	281.9	281.9	282.8	0.9
H	30,486	1,078	10,352	1.6	282.1	282.1	283.0	0.9
I	31,597	455	3,615	4.4	282.6	282.6	283.5	0.9
J	32,689	365	3,499	4.6	284.7	284.7	285.5	0.8
K	33,790	389	3,628	4.4	286.6	286.6	287.5	0.9
L	34,082	84	875	18.2	290.3	290.3	290.3	0.0
M	34,102	100	1,207	13.2	293.8	293.8	293.8	0.0
N	35,189	288	4,892	3.3	297.7	297.7	298.1	0.4
O	36,290	393	7,610	2.1	297.8	297.8	298.4	0.6
P	37,288	458	8,200	1.9	297.9	297.9	298.6	0.7
Q	38,291	478	8,293	1.9	298.0	298.0	298.7	0.7
R	38,890	496	7,608	2.1	298.1	298.1	298.9	0.8
S	40,438	626	9,471	1.7	298.2	298.2	299.0	0.8
T	41,689	512	7,114	2.2	298.4	298.4	299.2	0.8
U	42,310	347	2,146	7.3	297.9	297.9	298.9	1.0
V	42,362	665	2,759	5.7	299.0	299.0	300.0	1.0
W	42,847	387	4,064	3.9	300.5	300.5	300.9	0.4
X	42,883	408	4,383	3.6	300.6	300.6	301.3	0.7
Y	43,439	471	7,003	2.2	300.7	300.7	301.6	0.9
Z	44,188	597	9,167	1.7	300.8	300.8	301.7	0.9

<sup>1</sup> Stream distance in feet above confluence with Sabine River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**HAWKINS CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Hawkins Creek								
AA	44,787	563	8,062	2.0	300.9	300.9	301.8	0.9
AB	45,486	552	6,048	2.6	301.1	301.1	302.0	0.9
AC	46,589	897	12,386	1.3	301.3	301.3	302.2	0.9
AD	47,589	1,136	10,772	1.5	301.3	301.3	302.3	1.0
AE	48,438	1,006	7,347	2.1	301.5	301.5	302.5	1.0
AF	48,820	1,870	15,571	1.0	301.7	301.7	302.7	1.0
AG	48,875	1,840	14,912	1.1	301.7	301.7	302.7	1.0
AH	49,489	1,212	10,443	1.4	301.8	301.8	302.7	0.9
AI	50,489	1,096	9,806	1.4	301.9	301.9	302.9	1.0
AJ	51,583	1,092	9,855	1.4	302.1	302.1	303.0	0.9
AK	52,635	977	9,013	1.5	302.1	302.1	303.1	1.0
AL	53,837	848	6,314	2.2	302.3	302.3	303.2	0.9
AM	54,791	590	3,539	3.9	302.8	302.8	303.7	0.9
AN	55,106	445	1,631	8.5	304.2	304.2	304.2	0.0
AO	55,160	445	3,234	4.3	306.7	306.7	307.1	0.4
AP	55,742	517	5,070	2.7	307.1	307.1	307.7	0.6
AQ	56,340	660	5,076	2.7	307.2	307.2	307.9	0.7
AR	56,939	582	5,138	2.7	307.4	307.4	308.1	0.7
AS	58,089	792	5,643	1.9	308.2	308.2	309.0	0.8
AT	58,690	760	4,553	2.4	308.4	308.4	309.2	0.8
AU	59,286	628	2,666	4.0	308.8	308.8	309.7	0.9
AV	60,390	471	3,016	3.5	311.1	311.1	312.0	0.9
AW	61,389	370	2,747	3.8	314.0	314.0	314.8	0.8
AX	62,389	370	2,709	3.8	315.5	315.5	316.2	0.7
AY	63,090	358	2,793	3.6	316.1	316.1	317.0	0.9
AZ	64,089	649	4,965	2.0	317.0	317.0	317.8	0.8

<sup>1</sup> Stream distance in feet above confluence with Sabine River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**HAWKINS CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Hawkins Creek								
BA	64,990	561	3,658	2.7	317.5	317.5	318.3	0.8
BB	65,989	283	1,672	6.0	318.6	318.6	319.4	0.8
BC	66,407	145	1,277	7.8	320.7	320.7	321.4	0.7
BD	66,441	181	1,668	6.0	322.2	322.2	323.0	0.8
BE	67,588	433	3,600	2.6	323.3	323.3	324.2	0.9
BF	68,587	361	2,469	3.7	324.0	324.0	324.9	0.9
BG	69,033	81	823	11.1	324.2	324.2	325.1	0.9
BH	69,061	312	1,358	6.7	326.5	326.5	327.1	0.6
BI	70,090	554	5,014	1.8	328.4	328.4	328.8	0.4
BJ	71,089	628	3,797	2.3	328.8	328.8	329.3	0.5
BK	72,089	730	4,655	1.9	329.3	329.3	330.0	0.7
BL	73,187	476	2,532	3.4	329.5	329.5	330.2	0.7
BM	74,191	306	1,647	4.8	332.1	332.1	332.5	0.4
BN	74,275	299	1,416	9.2	332.6	332.6	332.7	0.1
BO	74,343	420	2,702	3.7	334.5	334.5	335.4	0.9
BP	74,988	356	2,420	3.1	335.1	335.1	336.0	0.9
BQ	75,588	434	2,536	3.0	335.6	335.6	336.5	0.9
BR	76,589	400	2,426	3.1	337.6	337.6	338.4	0.8
BS	77,588	278	1,768	3.0	339.3	339.3	340.0	0.7
BT	77,989	257	1,278	4.2	340.1	340.1	340.6	0.5

<sup>1</sup> Stream distance in feet above confluence with Sabine River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**HAWKINS CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Hawkins Creek Tributary 1								
A	100	684	5,526	0.8	307.3	307.3	308.0	0.7
B	1,100	240	1,229	3.7	307.5	307.5	308.1	0.6
C	2,115	327	1,000	4.5	310.3	310.3	311.2	0.9
D	2,165	327	1,406	3.2	311.1	311.1	312.1	1.0
E	3,199	332	1,355	3.2	314.0	314.5	315.5	1.0
F	4,199	274	1,473	2.9	318.0	318.0	319.0	1.0
G	5,200	136	915	4.7	321.5	321.5	322.3	0.8
H	5,853	190	1,022	4.1	323.5	323.5	324.2	0.7
I	5,898	222	1,065	4.0	323.6	323.6	324.4	0.8
J	6,360	293	1,586	2.4	326.1	326.1	326.9	0.8
K	6,400	293	1,351	2.8	326.1	326.1	326.9	0.8
L	7,433	116	530	7.1	329.0	329.0	329.7	0.7
M	7,455	118	631	6.1	329.9	329.9	330.2	0.3
N	8,501	211	849	2.7	332.7	332.7	333.6	0.9
O	8,642	166	381	6.0	332.9	332.9	333.8	0.9
P	8,698	210	1,451	1.6	338.0	338.3	339.2	0.9
Q	9,350	250	1,505	1.5	338.4	338.4	339.4	1.0
R	10,263	160	621	3.9	339.7	339.7	340.7	1.0
S	10,312	160	808	3.0	340.5	340.5	341.5	1.0
T	11,399	205	539	3.7	345.5	345.5	346.5	1.0
U	12,400	189	631	3.2	350.1	350.1	351.1	1.0
V	13,401	250	706	2.8	353.8	353.8	354.8	1.0
W	14,399	50	155	4.7	360.3	360.3	360.9	0.6
X	15,398	30	121	3.4	368.6	368.6	369.2	0.6
Y	16,032	28	95	4.4	373.2	373.2	373.3	0.1

<sup>1</sup> Stream distance in feet above confluence with Hawkins Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**HAWKINS CREEK TRIBUTARY 1**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Hawkins Creek Tributary 1								
Z	16,078 <sup>1</sup>	32	160	2.6	376.4	376.4	377.2	0.8
AA	16,951 <sup>1</sup>	12	40	6.1	384.4	384.4	385.4	1.0
Iron Bridge Creek								
A	9,223 <sup>2</sup>	80	595	7.8	260.0	260.0	260.6	0.6
B	10,125 <sup>2</sup>	385	2,105	2.2	263.2	263.2	264.1	0.9
C	10,239 <sup>2</sup>	412	1,822	2.5	263.1	263.1	264.0	0.9
D	10,256 <sup>2</sup>	444	1,901	2.4	263.1	263.1	264.0	0.9
E	10,293 <sup>2</sup>	427	1,612	2.9	263.3	263.3	264.2	0.9
F	11,260 <sup>2</sup>	360	1,578	2.1	263.7	263.7	264.6	0.9
G	12,007 <sup>2</sup>	252	838	4.0	265.8	265.8	266.1	0.3
H	12,858 <sup>2</sup>	102	402	8.4	268.7	268.7	269.4	0.7
I	13,909 <sup>2</sup>	62	307	11.0	275.5	275.5	276.5	1.0
J	14,221 <sup>2</sup>	118	1,072	3.2	282.8	282.8	283.0	0.2
K	15,208 <sup>2</sup>	176	1,097	3.1	282.8	282.8	283.2	0.4
L	16,127 <sup>2</sup>	116	799	4.2	283.7	283.7	283.9	0.2
M	16,242 <sup>2</sup>	160	1,099	3.1	284.4	284.4	285.2	0.8
N	16,374 <sup>2</sup>	160	1,029	3.2	284.5	284.5	285.3	0.8
O	16,430 <sup>2</sup>	190	1,140	2.9	284.5	284.5	285.4	0.9
P	17,409 <sup>2</sup>	150	926	3.5	284.8	284.8	285.8	1.0
Q	18,408 <sup>2</sup>	87	470	6.3	286.1	286.1	287.0	0.9
R	18,886 <sup>2</sup>	36	324	9.2	287.9	287.9	288.0	0.1
S	18,935 <sup>2</sup>	36	352	8.4	288.8	288.8	288.9	0.1
T	19,907 <sup>2</sup>	37	251	10.2	290.7	290.7	290.8	0.1

<sup>1</sup> Stream distance in feet above confluence with Hawkins Creek

<sup>2</sup> Stream distance in feet above confluence with Sabine River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**HAWKINS CREEK TRIBUTARY 1 AND IRON BRIDGE CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQURE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Iron Bridge Creek								
U	20,442	33	296	8.7	294.3	294.3	294.3	0.0
V	20,494	118	327	8.3	295.4	295.4	295.4	0.0
W	21,010	190	421	6.0	297.5	297.5	297.5	0.0
X	21,611	190	333	6.9	300.6	300.6	300.6	0.0
Y	22,240	118	539	4.3	306.0	306.0	306.0	0.0
Z	22,289	93	457	5.1	306.0	306.0	306.2	0.2
AA	23,258	142	371	5.9	309.3	309.3	309.4	0.1
AB	23,355	165	599	3.7	310.9	310.9	310.9	0.0
AC	23,400	127	676	3.2	311.2	311.2	311.9	0.7
AD	23,682	150	625	3.2	311.8	311.8	312.6	0.8
AE	23,733	157	795	2.5	311.8	311.8	312.8	1.0
AF	24,605	150	277	6.8	315.1	315.1	315.1	0.0
AG	24,679	102	319	5.9	315.9	315.9	315.9	0.0
AH	25,527	33	151	10.0	318.0	317.7	318.2	0.5
AI	26,392	80	263	5.7	324.9	324.9	325.0	0.1
AJ	26,430	105	477	3.2	325.9	325.9	326.5	0.6
AK	26,848	120	447	2.0	326.6	326.6	327.4	0.8
AL	26,886	125	375	2.4	326.6	326.3	327.3	1.0
AM	27,864	100	114	3.0	331.4	331.4	331.4	0.0
AN	27,939	95	133	2.5	331.9	331.9	331.9	0.0
AO	27,970	91	298	1.1	334.0	334.0	334.1	0.1
AP	28,008	82	157	2.2	333.9	333.9	334.1	0.2

<sup>1</sup> Stream distance in feet above confluence with Sabine River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**IRON BRIDGE CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Johnston Creek								
A	211	330	1,101	1.7	303.1	303.1	303.1	0.0
B	500	140	899	1.9	303.2	303.2	303.8	0.6
C	624	130	741	2.3	303.2	303.2	303.8	0.6
D	1,155	90	581	2.9	303.5	303.5	304.4	0.9
E	1,405	45	314	5.4	303.6	303.6	304.4	0.8
F	1,700	125	506	3.3	308.3	308.3	308.8	0.5
G	1,843	105	371	4.5	308.3	308.3	308.9	0.6
H	2,046	71	312	9.5	309.1	309.1	309.6	0.5
I	2,113	140	510	3.3	311.8	311.8	312.7	0.9
J	2,513	101	423	4.0	315.4	315.4	315.4	0.0
K	3,050	46	291	5.8	317.8	317.8	318.2	0.4
L	3,671	28	88	8.6	329.0	329.0	329.1	0.1
M	3,738	23	83	9.2	331.1	331.1	331.1	0.0
N	4,700	116	622	0.8	337.0	337.0	338.0	1.0
O	5,117	72	210	2.5	337.1	337.1	338.1	1.0
P	5,368	82	130	4.0	339.1	339.1	339.1	0.0
Q	5,627	31	119	4.4	341.7	341.7	341.7	0.0
R	5,700	49	107	4.9	342.1	342.1	342.1	0.0
S	6,181	100	147	9.9	344.3	344.3	344.3	0.0
T	6,223	104	497	1.1	346.1	346.1	347.0	0.9
U	6,651	74	270	1.9	348.1	348.1	348.6	0.5
V	6,700	85	260	2.0	348.2	348.2	348.6	0.4
W	7,473	79	202	2.6	351.5	351.5	351.7	0.2
X	8,250	34	136	3.8	355.8	355.8	355.9	0.1
Y	8,315	82	187	6.8	355.9	355.9	356.0	0.1
Z	8,812	53	219	5.1	359.3	359.3	359.3	0.0

<sup>1</sup> Stream distance in feet above confluence with Guthrie Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**JOHNSTON CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQURE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Johnston Creek								
AA	8,929	56	261	2.0	361.5	361.5	361.9	0.4
AB	9,158	89	240	2.2	361.8	361.8	362.3	0.5
AC	9,250	75	200	3.5	362.1	362.1	362.5	0.4
AD	9,388	91	247	2.1	363.9	363.9	364.9	1.0
AE	9,423	95	158	11.2	365.4	365.4	365.4	0.0
AF	9,628	221	1,660	0.3	371.9	371.9	371.9	0.0

<sup>1</sup> Stream distance in feet above confluence with Guthrie Creek

**TABLE 7**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**JOHNSTON CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Lafamo Creek								
A	28	1,100	10,868	0.4	301.8	301.8	302.7	0.9
B	51	1,100	9,797	0.4	301.8	301.8	302.7	0.9
C	76	1,100	10,256	0.4	301.8	301.8	302.7	0.9
D	363	920	7,443	0.6	301.8	301.8	302.7	0.9
E	403	880	7,201	0.6	301.9	301.9	302.7	0.8
F	1,449	287	1,739	2.5	301.9	301.9	302.8	0.9
G	2,499	185	862	5.0	303.1	303.1	303.9	0.8
H	2,806	191	736	5.8	304.3	304.3	305.2	0.9
I	2,835	205	824	5.2	304.5	304.5	305.5	1.0
J	3,401	225	945	4.1	306.2	306.2	307.1	0.9
K	5,501	230	1,110	3.4	313.6	313.6	314.5	0.9
L	5,760	269	1,453	2.6	314.6	314.6	315.6	1.0
M	5,810	269	1,385	2.8	314.7	314.7	315.6	0.9
N	6,454	355	1,999	1.9	316.6	316.6	317.3	0.7
O	7,152	305	1,005	2.1	317.1	317.1	318.1	1.0
P	8,149	226	681	2.9	321.0	321.0	321.0	0.0
Q	9,200	139	373	3.3	327.8	327.8	327.9	0.1
R	10,200	152	231	5.4	332.8	332.8	332.8	0.0
S	11,200	72	182	3.5	341.9	341.9	341.9	0.0
T	12,198	38	98	6.5	353.5	353.5	353.5	0.0
U	13,200	57	112	2.9	362.5	362.5	362.5	0.0
V	13,452	11	87	3.7	366.1	366.1	366.1	0.0
W	13,507	70	298	1.1	372.9	372.9	372.9	0.0
X	13,805	5	26	4.2	373.0	373.0	373.0	0.0
Y	13,860	5	31	3.5	377.8	377.8	377.8	0.0
Z	13,911	27	43	2.5	378.0	378.0	378.1	0.1

<sup>1</sup> Stream distance in feet above confluence with Hawkins Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**LAFAMO CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Lilly Creek								
A	502	220	1,535	1.3	298.7	298.7	299.5	0.8
B	1,405	230	651	2.7	300.0	300.0	300.4	0.4
C	2,050	250	344	5.0	302.9	302.9	302.9	0.0
D	2,958	274	694	2.2	307.0	307.0	307.9	0.9
E	3,344	190	507	3.0	309.5	309.5	309.8	0.3
F	3,472	190	659	2.3	310.4	310.4	311.0	0.6
G	4,095	140	664	1.7	311.8	311.8	312.4	0.6
H	4,149	140	554	2.0	311.8	311.8	312.4	0.6
I	4,749	64	253	4.5	313.5	313.5	313.8	0.3
J	5,270	61	287	3.9	315.7	315.7	316.3	0.6
K	5,320	53	206	5.5	315.7	315.7	316.6	0.9
L	5,650	26	132	8.5	318.0	318.0	318.5	0.5

<sup>1</sup> Stream distance in feet above confluence with Eastman Lake Creek

**TABLE 7**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**LILLY CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
McCann Creek								
A	542	175	1,070	2.7	340.6	340.6	341.6	1.0
B	1,472	148	745	3.9	343.4	343.4	344.2	0.8
C	2,496	190	809	3.4	349.7	349.7	350.1	0.4
D	3,350	200	1,452	1.9	355.8	355.8	356.7	0.9
E	3,952	195	1,230	1.5	356.1	356.1	357.1	1.0
F	5,027	92	422	4.4	358.5	358.5	358.9	0.4
G	5,800	125	370	3.1	363.7	363.7	363.7	0.0
H	6,500	159	444	2.6	367.0	367.0	367.0	0.0
I	7,387	128	889	1.3	375.0	375.0	375.6	0.6
J	8,000	127	448	2.6	375.3	375.3	376.0	0.7
K	8,700	194	451	1.6	378.0	378.0	378.2	0.2
L	9,630	169	248	3.0	384.1	384.1	384.1	0.0
M	10,769	109	121	6.1	395.4	395.4	395.4	0.0

<sup>1</sup> Stream distance in feet above confluence with Grace Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**MCCANN CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Moody Creek								
A	1,000	1,975	5,676	1.8	281.1	274.1 <sup>2</sup>	275.1	1.0
B	1,190	1,840	5,727	1.8	281.9	275.6 <sup>2</sup>	275.6	0.0
C	1,210	2,560	15,233	0.7	281.9	278.8 <sup>2</sup>	278.8	0.0
D	1,400	2,800	15,810	0.6	281.9	278.8 <sup>2</sup>	278.8	0.0
E	2,800	1,925	6,620	1.5	281.9	278.9 <sup>2</sup>	279.2	0.3
F	2,990	1,680	6,414	1.6	281.9	279.2 <sup>2</sup>	279.8	0.6
G	3,010	1,695	6,564	1.5	281.9	279.3 <sup>2</sup>	279.8	0.5
H	3,680	457	1,891	5.3	282.0	279.9 <sup>2</sup>	280.7	0.8
I	3,720	457	2,257	4.5	282.1	280.6 <sup>2</sup>	281.6	1.0
J	4,700	1,615	8,377	1.2	282.9	282.1 <sup>2</sup>	282.8	0.7
K	5,820	923	4,038	2.5	283.7	283.1 <sup>2</sup>	284.0	0.9
L	7,230	335	2,146	4.7	287.8	287.8	288.8	1.0
M	7,510	126	927	10.9	289.2	289.2	290.1	0.9
N	7,590	126	977	10.3	289.9	289.9	290.7	0.8
O	7,710	402	4,708	2.1	292.6	292.6	292.9	0.3
P	8,210	96	1,207	8.4	292.6	292.6	293.0	0.4
Q	8,250	96	1,328	7.6	293.9	293.9	294.3	0.4
R	8,330	307	3,038	3.3	294.9	294.9	295.2	0.3
S	9,750	934	8,148	1.2	295.7	295.7	296.2	0.5
T	10,390	654	4,979	2.0	295.9	295.9	296.4	0.5
U	11,290	412	2,995	3.4	297.0	297.0	297.7	0.7
V	11,470	95	949	10.6	296.9	296.9	297.8	0.9
W	11,510	99	1,062	8.6	298.0	298.0	298.9	0.9
X	11,790	422	3,738	2.5	300.0	300.0	300.6	0.6
Y	12,890	358	3,087	3.0	301.4	301.4	302.2	0.8

<sup>1</sup> Stream distance in feet above downstream Limit of Detailed Study (approximately 0.7 mile downstream of railroad)

<sup>2</sup> Elevations computed without consideration of backwater effects from Sabine River

<b>TABLE 7</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>GREGG COUNTY, TX</b> AND INCORPORATED AREAS	<b>FLOODWAY DATA</b>
		<b>MOODY CREEK</b>

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Moody Creek								
Z	14,490	588	4,803	1.9	303.9	303.9	304.8	0.9
AA	15,070 <sup>1</sup>	85	600	15.3	306.0	306.0	306.0	0.0
AB	15,110 <sup>1</sup>	151	1,046	8.8	307.8	307.8	307.8	0.0
AC	15,340 <sup>1</sup>	533	5,911	1.5	308.9	308.9	309.5	0.6
AD	15,640 <sup>1</sup>	394	4,554	1.9	309.0	309.0	309.6	0.6
Murray Creek								
A	272 <sup>2</sup>	224	913	3.1	322.6	322.6	323.5	0.9
B	927 <sup>2</sup>	172	620	4.5	324.7	324.7	325.7	1.0
C	1,658 <sup>2</sup>	170	648	4.2	328.5	328.5	329.0	0.5
D	1,711 <sup>2</sup>	160	729	3.7	332.2	332.2	332.9	0.7
E	2,667 <sup>2</sup>	160	893	3.1	333.4	333.4	334.4	1.0
F	3,345 <sup>2</sup>	178	512	5.3	336.1	336.1	336.2	0.1
G	4,100 <sup>2</sup>	155	609	1.9	338.6	338.6	339.4	0.8
H	5,024 <sup>2</sup>	141	393	3.0	344.4	344.4	344.5	0.1
I	6,300 <sup>2</sup>	94	250	4.6	350.9	350.9	350.9	0.0
J	7,397 <sup>2</sup>	100	191	6.1	356.3	356.3	356.4	0.1
K	7,938 <sup>2</sup>	136	263	2.6	362.0	362.0	362.0	0.0
L	7,983 <sup>2</sup>	189	979	0.7	364.6	364.6	364.8	0.2
M	8,600 <sup>2</sup>	78	124	5.6	366.9	366.9	367.2	0.3
N	9,580 <sup>2</sup>	24	71	9.8	371.2	371.2	371.2	0.0
O	9,620 <sup>2</sup>	178	1,004	0.7	376.1	376.1	376.2	0.1
P	9,692 <sup>2</sup>	262	1,434	0.5	376.1	376.1	376.2	0.1
Q	9,892 <sup>2</sup>	130	1,000	0.7	378.3	378.3	378.7	0.4
R	9,958 <sup>2</sup>	115	740	0.9	378.3	378.3	378.7	0.4

<sup>1</sup> Stream distance in feet above downstream Limit of Detailed Study (approximately 0.7 mile downstream of railroad)

<sup>2</sup> Stream distance in feet above confluence with Drain No. 2 (Oak Branch Creek)

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
 AND INCORPORATED AREAS

**FLOODWAY DATA**

**MOODY CREEK AND MURRAY CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Murray Creek								
S	10,238	105	326	2.1	379.9	379.9	379.9	0.0
T	10,569	91	238	2.9	380.1	380.1	380.1	0.0
U	10,739	107	310	2.2	381.2	381.2	381.6	0.4
V	11,626	100	138	5.0	386.4	386.4	386.4	0.0
W	12,611	110	145	4.8	394.2	394.2	394.3	0.1
X	13,695	42	93	7.4	408.9	408.9	409.3	0.4
Y	13,750	94	369	1.9	411.4	411.4	412.2	0.8
Z	14,181	56	126	5.5	418.6	418.6	418.6	0.0
AA	14,229	78	437	1.6	421.9	421.9	422.5	0.6
AB	14,278	58	242	2.9	421.9	421.9	422.5	0.6

<sup>1</sup> Stream distance in feet above confluence with Drain No. 2 (Oak Branch Creek)

**TABLE 7**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**MURRAY CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Oakland Creek								
A	176	150	768	5.3	303.1	303.1	303.6	0.5
B	1,245	125	682	5.6	305.7	305.7	306.4	0.7
C	2,111	295	1,483	2.6	310.9	310.9	311.7	0.8
D	2,800	72	480	7.9	312.5	312.5	312.9	0.4
E	3,740	199	992	2.9	319.2	319.2	320.2	1.0
F	3,800	189	1,377	2.1	319.5	319.5	320.4	0.9
G	4,799	345	929	3.1	321.9	321.9	322.3	0.4
H	5,550	254	945	3.1	326.1	326.1	326.2	0.1
I	5,982	55	373	7.8	328.3	328.3	329.1	0.8
J	6,058	64	516	6.4	329.3	329.3	329.9	0.6
K	6,707	321	1,078	2.7	331.8	331.8	332.2	0.4
L	7,000	310	1,039	2.8	332.5	332.5	333.3	0.8
M	7,609	264	663	2.7	335.0	335.0	335.5	0.5
N	8,106	151	339	5.2	337.4	337.4	337.4	0.0
O	8,767	403	993	1.8	340.2	340.2	340.3	0.1
P	9,308	146	320	5.6	341.1	341.1	341.2	0.1
Q	9,550	77	323	5.5	342.4	342.4	342.4	0.0
R	9,873	62	699	4.9	353.5	353.5	353.5	0.0
S	9,925	130	1,681	1.1	354.0	354.0	354.0	0.0
T	10,012	38	665	2.7	354.0	354.0	354.0	0.0
U	11,683	112	904	2.0	361.8	361.8	362.3	0.5
V	12,200	96	509	2.5	361.9	361.9	362.4	0.5
W	12,358	95	368	3.5	362.0	362.0	362.5	0.5
X	13,085	21	206	6.2	369.3	369.3	370.3	1.0
Y	13,335	134	660	2.0	372.6	372.6	373.6	1.0
Z	14,260	286	1,888	0.7	379.6	379.6	380.0	0.4

<sup>1</sup> Stream distance in feet above confluence with Guthrie Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**OAKLAND CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Oakland Creek								
AA	14,303	172	933	1.4	379.6	379.6	380.0	0.4
AB	15,326	166	456	2.8	382.8	382.8	382.9	0.1
AC	15,988	147	458	2.8	387.3	387.3	387.4	0.1
AD	16,304	125	379	3.4	389.0	389.0	389.2	0.2
AE	17,050	88	284	4.5	396.6	396.6	397.3	0.7
AF	17,103	93	241	5.3	397.0	397.0	397.7	0.7
AG	18,035	81	297	4.3	405.2	405.2	405.6	0.4

<sup>1</sup> Stream distance in feet above confluence with Guthrie Creek

**TABLE 7**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**OAKLAND CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Ray Creek								
A	1,759	389	2,903	2.5	306.3	306.3	306.3	0.0
B	2,521	356	1,770	7.5	306.3	306.3	306.5	0.2
C	2,571	363	1,290	10.3	306.4	306.4	306.5	0.1
D	2,742	376	2,632	4.8	309.0	309.0	309.3	0.3
E	3,400	420	2,988	2.4	310.0	310.0	310.3	0.3
F	4,464	250	1,577	8.1	310.8	310.8	311.8	1.0
G	5,150	325	2,321	3.1	315.5	315.5	315.8	0.3
H	5,650	350	2,290	3.2	316.0	316.0	316.5	0.5
I	6,246	400	1,716	4.2	317.0	317.0	317.7	0.7
J	7,200	480	2,094	3.2	319.8	319.8	320.6	0.8
K	8,153	390	1,627	4.2	322.0	322.0	323.0	1.0
L	8,950	350	1,676	4.1	325.6	325.6	326.6	1.0
M	9,507	490	1,861	2.0	327.0	327.0	327.9	0.9
N	10,444	188	615	6.0	330.6	330.6	331.2	0.6
O	10,951	220	1,193	3.1	333.7	333.7	334.5	0.8
P	11,600	235	1,171	3.2	335.0	335.0	335.9	0.9
Q	12,613	230	1,091	3.4	338.0	338.0	338.9	0.9
R	13,137	200	1,384	2.7	342.6	342.6	343.0	0.4
S	13,179	200	1,280	2.9	342.6	342.6	343.1	0.5
T	13,894	200	1,172	2.0	342.9	342.9	343.6	0.7
U	14,592	185	833	2.8	343.6	343.6	344.6	1.0
V	15,418	170	736	3.2	346.0	346.0	346.6	0.6
W	16,199	160	501	4.6	348.8	348.8	349.0	0.2
X	16,850	160	595	3.9	351.9	351.9	352.6	0.7
Y	17,611	161	752	3.1	354.1	354.1	355.1	1.0
Z	18,301	105	411	5.7	357.0	357.0	357.5	0.5

<sup>1</sup> Stream distance in feet above confluence with Grace Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**RAY CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Ray Creek								
AA	19,496	127	485	3.0	362.3	362.3	362.9	0.6
AB	20,050	146	424	3.4	364.5	364.5	365.0	0.5
AC	21,053	151	253	1.7	370.4	370.4	370.4	0.0
AD	22,014	69	172	2.4	376.3	376.3	376.7	0.4
AE	23,150	153	134	3.1	384.9	384.9	384.9	0.0
AF	24,100	157	197	2.1	390.8	390.8	390.8	0.0
AG	24,671	159	480	0.9	395.0	395.0	395.9	0.9
AH	24,750	129	429	1.0	395.0	395.0	395.9	0.9
AI	25,747	85	132	3.2	400.3	400.3	400.6	0.3
AJ	26,735	52	154	2.7	408.9	408.9	409.5	0.6
AK	26,837	62	169	2.5	409.2	409.2	409.8	0.6
AL	27,650	100	82	5.1	416.3	416.3	416.5	0.2
AM	27,726	84	143	2.9	417.4	417.4	417.8	0.4

<sup>1</sup> Stream distance in feet above confluence with Grace Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**RAY CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Sabine River								
A	1,800 <sup>1</sup>	2,927	30,493	4.8	283.2	233.2	284.0	0.8
B	4,065 <sup>1</sup>	2,000	33,155	4.4	286.8	236.8	287.3	0.5
C	4,165 <sup>1</sup>	1,185	25,853	5.7	286.8	286.8	287.3	0.5
D	4,235 <sup>1</sup>	1,185	25,902	5.7	286.9	286.9	287.4	0.5
E	4,780 <sup>1</sup>	4,174	44,700	3.3	287.2	287.2	287.6	0.4
F	8,280 <sup>1</sup>	2,000	36,156	4.0	289.0	289.0	290.0	1.0
School Branch Creek								
A	860 <sup>2</sup>	435	2,482	2.1	306.2	306.2	306.2	0.0
B	1,054 <sup>2</sup>	401	1,670	3.1	306.1	306.1	306.2	0.1
C	1,117 <sup>2</sup>	364	1,738	2.9	307.3	307.3	307.4	0.1
D	1,870 <sup>2</sup>	188	864	4.7	307.8	307.8	307.9	0.1
E	2,422 <sup>2</sup>	147	654	6.2	308.5	308.5	309.5	1.0
F	3,420 <sup>2</sup>	215	881	4.6	313.0	313.0	313.4	0.4
G	4,423 <sup>2</sup>	348	982	4.2	320.2	320.2	320.5	0.3
H	5,450 <sup>2</sup>	101	306	5.5	323.9	323.9	323.9	0.0
I	6,392 <sup>2</sup>	58	207	9.5	330.7	330.7	330.8	0.1
J	6,488 <sup>2</sup>	65	330	6.4	333.4	333.4	333.4	0.0
K	7,501 <sup>2</sup>	90	524	3.2	336.1	336.1	337.0	0.9
L	8,202 <sup>2</sup>	25	118	9.5	339.3	339.3	339.8	0.5
M	8,304 <sup>2</sup>	25	202	5.6	340.9	340.9	341.5	0.6
N	8,450 <sup>2</sup>	43	323	3.5	341.7	341.7	342.6	0.9

<sup>1</sup> Stream distance in feet above downstream Limit of Detailed Study (approximately 0.8 mile downstream of US Highway 271)

<sup>2</sup> Stream distance in feet above confluence with Grace Creek

<b>TABLE 7</b>	FEDERAL EMERGENCY MANAGEMENT AGENCY <b>GREGG COUNTY, TX</b> AND INCORPORATED AREAS	<b>FLOODWAY DATA</b>
		<b>SABINE RIVER AND SCHOOL BRANCH CREEK</b>

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Turkey Creek								
A	3,600	484	2,474	3.0	305.5	303.6 <sup>2</sup>	304.6 <sup>2</sup>	1.0
B	4,460	337	1,388	5.4	306.0	306.0	307.0	1.0
C	4,500	337	1,390	5.4	306.0	306.0	307.0	1.0
D	4,850	218	1,281	5.8	308.2	308.2	308.2	0.0
E	5,200	219	1,346	5.5	308.9	308.9	309.1	0.2
F	5,980	269	1,687	4.4	310.6	310.6	311.1	0.5
G	6,200	566	861	7.2	312.4	312.4	312.4	0.0
H	6,270	789	2,151	2.9	314.2	314.2	314.2	0.0
I	6,470	748	1,884	3.3	314.6	314.6	314.6	0.0
J	7,990	571/485 <sup>3</sup>	1,921	3.2	319.0	319.0	319.0	0.0

<sup>1</sup> Stream distance in feet above confluence with Bighead Creek

<sup>2</sup> Elevations computed without consideration of backwater effects

<sup>3</sup> Total width/width within county

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**TURKEY CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Wade Creek								
A	500	1,876	21,972	0.2	267.2	267.2	268.2	1.0
B	1,500	1,857	19,369	0.2	267.2	267.2	268.2	1.0
C	2,000	1,408	16,666	0.3	267.2	267.2	268.2	1.0
D	2,701	105	893	5.2	266.8	266.8	267.8	1.0
E	3,000	78	675	6.9	267.1	267.1	268.1	1.0
F	3,299	72	675	6.9	267.7	267.7	268.7	1.0
G	3,443	68	660	7.0	268.0	268.0	268.8	0.8
H	3,690	55	594	7.8	268.6	268.6	269.6	1.0
I	3,902	53	623	7.4	269.2	269.2	270.1	0.9
J	4,600	275	1,789	2.1	270.7	270.7	271.6	0.9
K	4,895	485	2,993	1.3	270.8	270.8	271.8	1.0
L	5,800	182	642	5.9	272.0	272.0	272.7	0.7
M	6,479	110	385	9.8	274.6	273.6	274.4	0.8
N	6,971	100	468	8.1	278.6	278.6	278.6	0.0
O	7,321	88	576	8.2	282.2	282.2	282.7	0.5
P	7,401	91	840	4.5	283.4	283.4	283.7	0.3
Q	7,619	163	841	3.0	283.7	283.7	284.2	0.5
R	8,150	160	573	4.4	284.4	284.4	284.9	0.5
S	8,332	136	643	3.9	285.4	285.4	285.5	0.1
T	8,388	136	661	3.8	285.4	285.4	286.0	0.6
U	9,058	258	720	3.5	288.0	288.0	288.2	0.2
V	9,715	200	658	3.8	292.1	292.1	292.5	0.4
W	9,782	185	678	3.7	292.7	292.7	293.4	0.7
X	9,912	160	538	4.1	292.8	292.8	293.8	1.0
Y	9,999	160	527	4.2	293.4	293.4	293.9	0.5
Z	10,685	172	444	4.9	295.3	295.3	295.9	0.6

<sup>1</sup> Stream distance in feet above confluence with Grace Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**WADE CREEK**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET/SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					FEET (NAVD 88)			
Wade Creek								
AA	10,740	167	581	3.8	296.8	296.8	297.3	0.5
AB	11,770	210	947	2.3	305.2	305.2	305.2	0.0
AC	11,806	210	737	3.0	305.7	305.7	305.8	0.1
AD	12,332	212	756	2.7	309.9	309.9	310.8	0.9
AE	12,449	184	599	3.4	310.1	310.1	311.1	1.0
AF	13,445	200	596	3.4	314.2	314.2	315.0	0.8
AG	13,482	208	512	3.9	315.1	315.1	315.4	0.3
AH	13,778	167	605	2.8	316.7	316.7	317.1	0.4
AI	14,050	200	584	2.9	317.5	317.5	317.7	0.2
AJ	14,149	130	473	3.6	318.1	318.1	318.7	0.6
AK	14,297	86	273	6.3	318.4	318.4	318.9	0.5
AL	14,585	87	391	4.4	321.8	321.8	321.9	0.1
AM	14,961	124	214	6.9	323.5	323.5	324.0	0.5
AN	15,986	42	262	5.7	332.2	332.2	332.5	0.3
AO	16,788	75	469	2.5	346.8	346.8	347.6	0.8
AP	16,985	67	317	3.7	347.0	347.0	347.7	0.7
AQ	17,904	144	611	1.2	348.9	348.9	349.5	0.6
AR	18,826	25	73	9.7	350.8	350.8	351.0	0.2

<sup>1</sup> Stream distance in feet above confluence with Grace Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

**FLOODWAY DATA**

**WADE CREEK**

## 5.0 INSURANCE APPLICATIONS

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

### Zone A

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

### Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 1-percent annual chance floodplains that are determined in the FIS by detailed methods. In most instances, whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

### Zone AH

Zone AH is the flood insurance rate zone that corresponds to the areas of 1-percent annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

### Zone AO

Zone AO is the flood insurance rate zone that corresponds to the areas of 1-percent 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 detailed hydraulic analyses are shown within this zone.

### Zone AR

Area of special flood hazard formerly protected from the 1-percent annual chance flood event 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-percent annual chance or greater flood event.

### Zone A99

Zone A99 is the flood insurance rate zone that corresponds to areas of the 1-percent 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 depths are shown within this zone.

#### Zone V

Zone V is the flood insurance rate zone that corresponds to the 1-percent annual chance coastal floodplains that have additional hazards associated with storm waves. Because approximate hydraulic analyses are performed for such areas, no base flood elevations are shown within this zone.

#### Zone VE

Zone VE is the flood insurance rate zone that corresponds to the 1-percent annual chance coastal floodplains that have additional hazards associated with storm waves. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

#### Zone X

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

#### Zone D

Zone D is the flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

## 6.0 FLOOD INSURANCE RATE MAP

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

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

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

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

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FLOOD INSURANCE RATE MAP EFFECTIVE DATE	FLOOD INSURANCE RATE MAP REVISIONS DATE
Clarksville City, City of	July 11, 1975	None	August 1, 2009	October 19, 2010 *
Easton, City of	July 18, 1975	None	December 1, 1989	September 29, 2010**
Gladewater, City of	March 1, 1974	May 21, 1976	January 16, 1981	October 19, 2010 *
Gregg County Unincorporated Areas	January 3, 1978	None	January 3, 1990	
Kilgore, City of	May 24, 1974	June 11, 1976 May 30, 1978	July 2, 1981	August 16, 1996 September 29, 2010**
Lakeport, City of ***	None	None	None	
Longview, City of	August 9, 1974	October 10, 1975	December 15, 1977	June 3, 1986 January 17, 1990 May 18, 1999 October 19, 2010 *
Warren City, City of	August 13, 1976	None	July 3, 1985	October 19, 2010 *
White Oak, City of	August 22, 1975	None	December 1, 1989	

\*Date taken from Upshur County, Texas and Incorporated Areas

\*\*Date taken from Rusk County, Texas and Incorporated Areas

\*\*\*This community did not have a FIRM prior to the first countywide FIRM for Gregg County, TX and Incorporated Areas

**TABLE 8**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TEXAS  
AND INCORPORATED AREAS**

**COMMUNITY MAP HISTORY**

## 7.0 OTHER STUDIES

A search and review of previously published reports and studies was conducted to determine if flood information generated for this report conflicts with previously published information. An FIS report was previously prepared for the unincorporated areas of Gregg County (Reference 7). Also, community centered FIS reports were previously issued for the City of Gladewater, City of Kilgore, and City of Longview (References 4, 5 , and 6).

Flood Insurance Studies have been published for the Incorporated and Unincorporated Areas of Rusk, Smith and Upshur Counties, Texas. A preliminary study for Harrison County, Texas has been published. This Gregg County study is in agreement with these adjacent county studies.

Because this FIS is based on more up-to-date analysis, this FIS supersedes all previous studies published on streams studied within this report and should be considered authoritative for the purposes of the NFIP. This FIS also supersedes the Flood Boundary and Floodway Map for all previous studies published on streams studied within this report, which were published as part of the previously printed FISs. The information on the Flood Boundary and Floodway Map has been added to the FIRM accompanying this FIS.

## 8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting FEMA Region VI, Federal Insurance and Mitigation Division, 800 North Loop 288, Denton, Texas 76209.

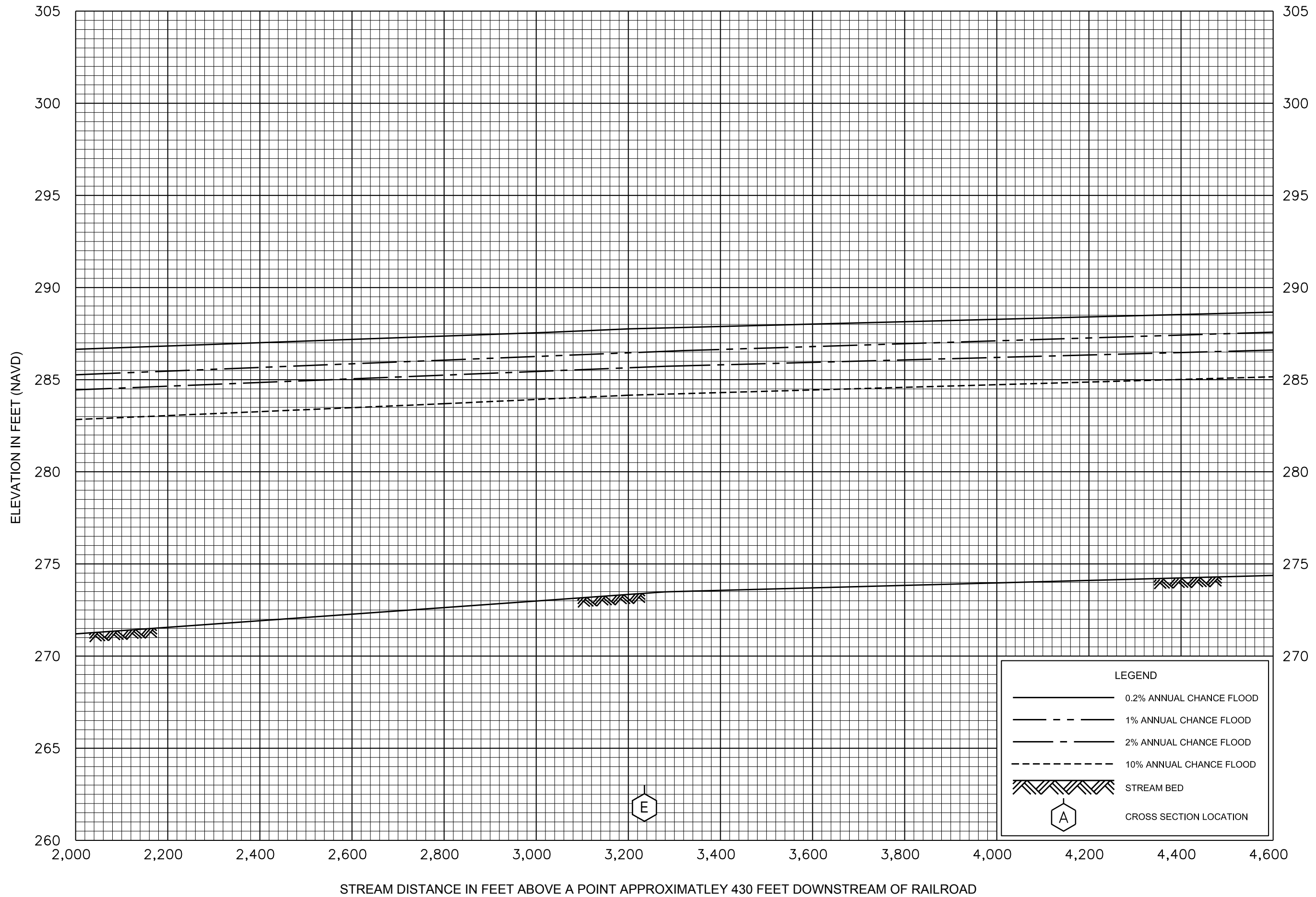
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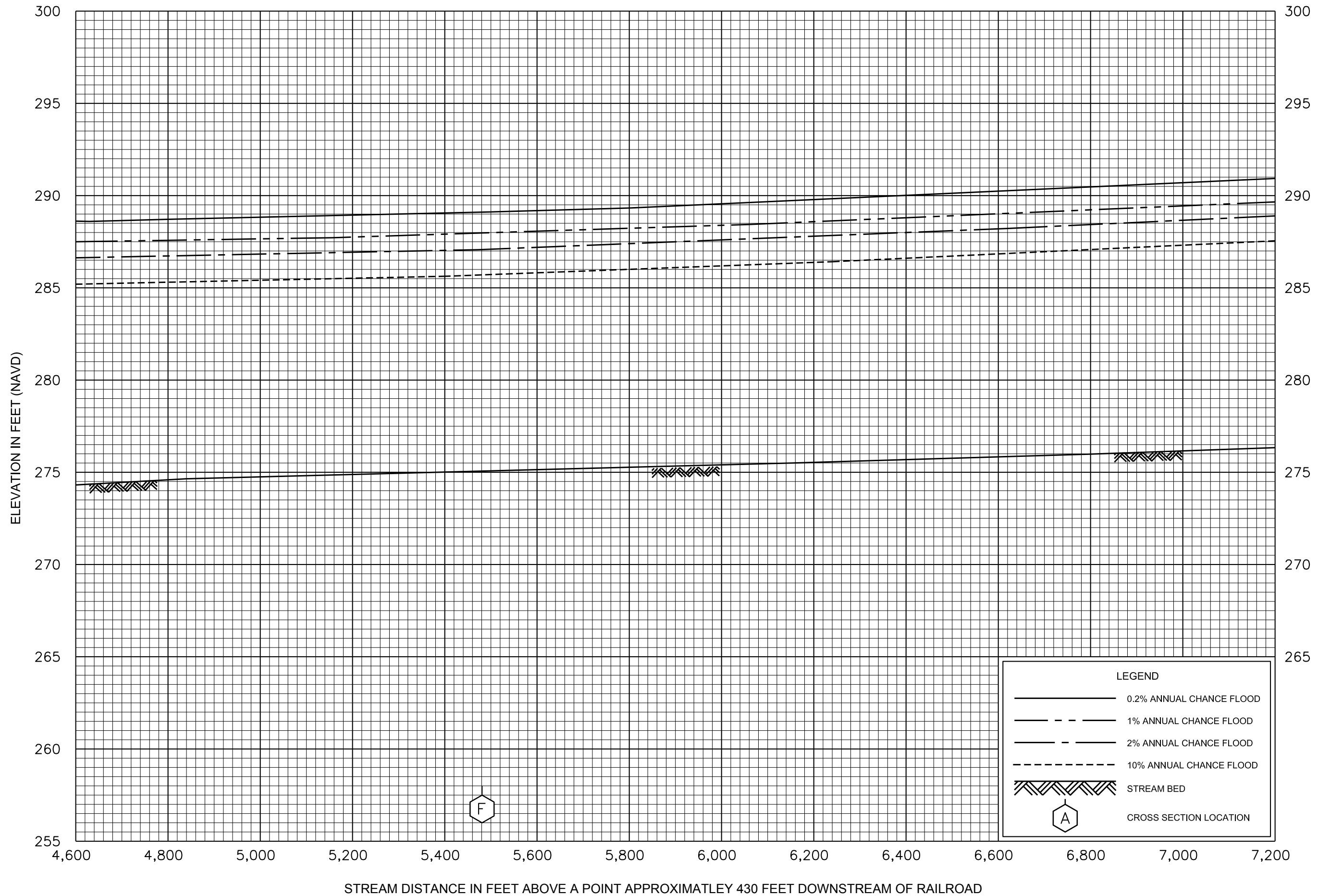
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FLOOD PROFILES  
BIGHEAD CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
GREGG COUNTY, TX  
AND INCORPORATED AREAS



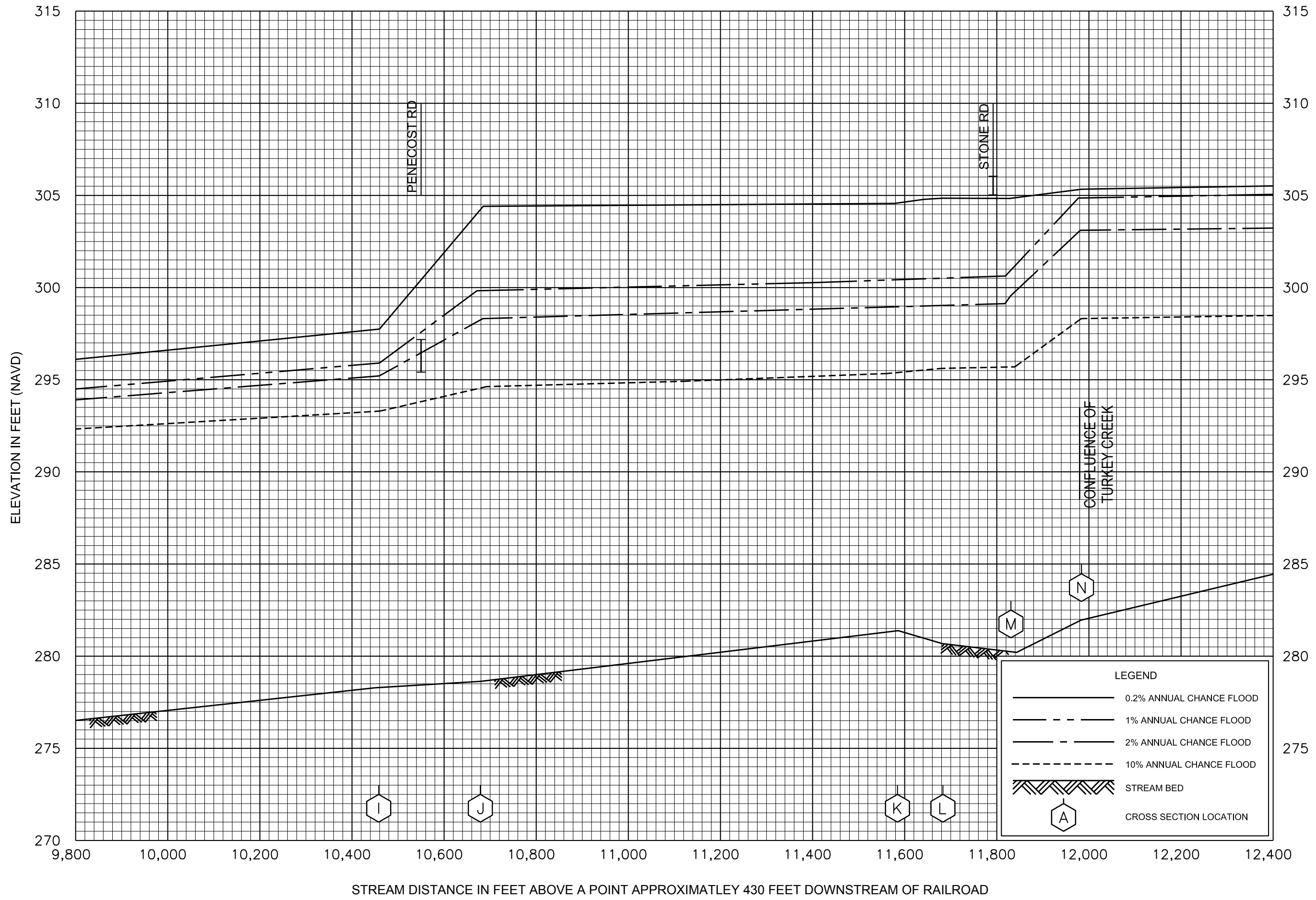
**LEGEND**

- 0.2% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- - - 2% ANNUAL CHANCE FLOOD
- - - 10% ANNUAL CHANCE FLOOD
- ▨ STREAM BED
- ⬡ A CROSS SECTION LOCATION

FLOOD PROFILES  
BIGHEAD CREEK

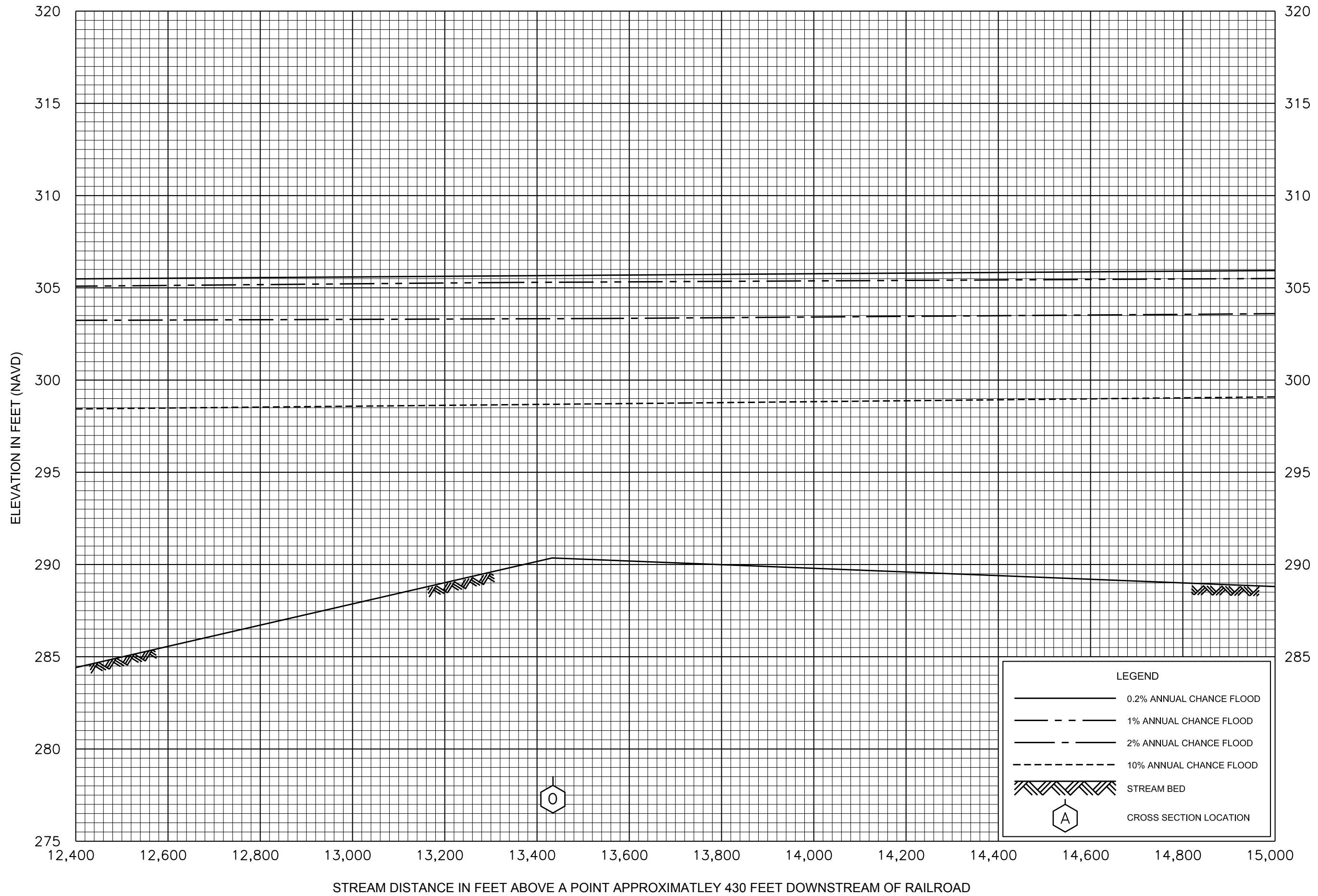
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GREGG COUNTY, TX  
AND INCORPORATED AREAS





FLOOD PROFILES  
BIGHEAD CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
GREGG COUNTY, TX  
AND INCORPORATED AREAS



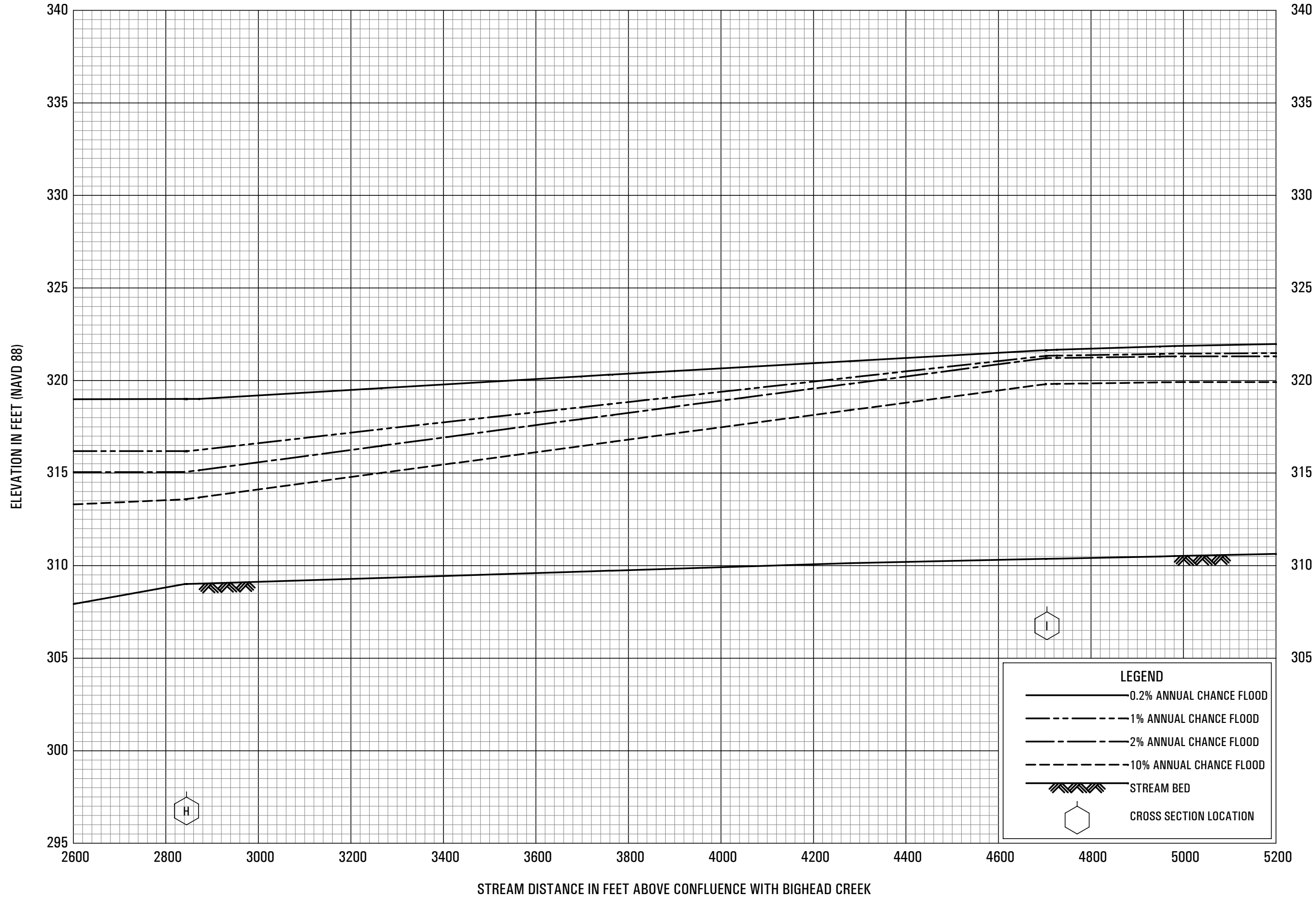
FLOOD PROFILES  
BIGHEAD CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
GREGG COUNTY, TX  
AND INCORPORATED AREAS





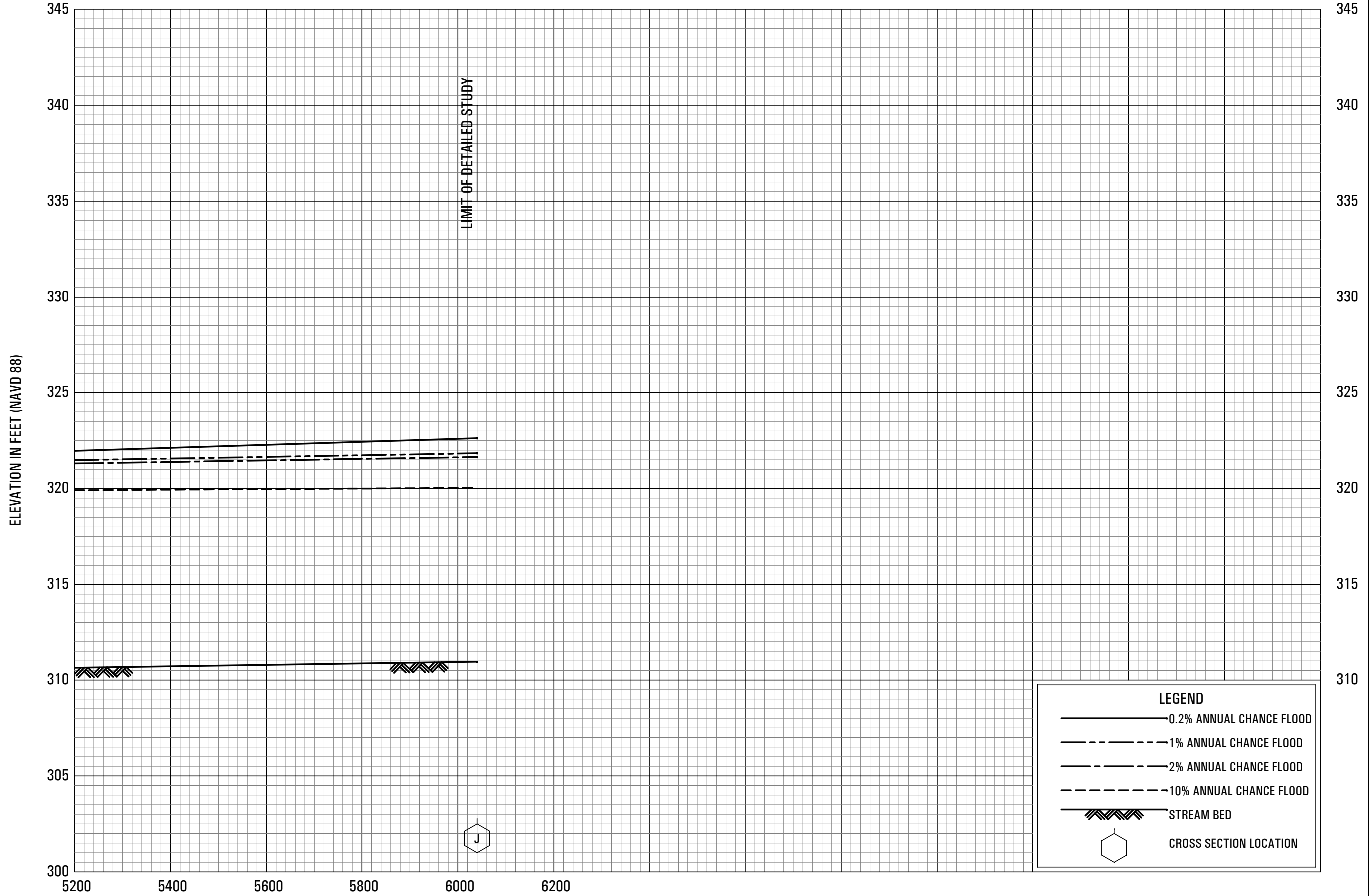




**FLOOD PROFILES**

**BIRDSONG CREEK**

**FEDERAL EMERGENCY MANAGEMENT AGENCY  
GREGG COUNTY, TX  
AND INCORPORATED AREAS**

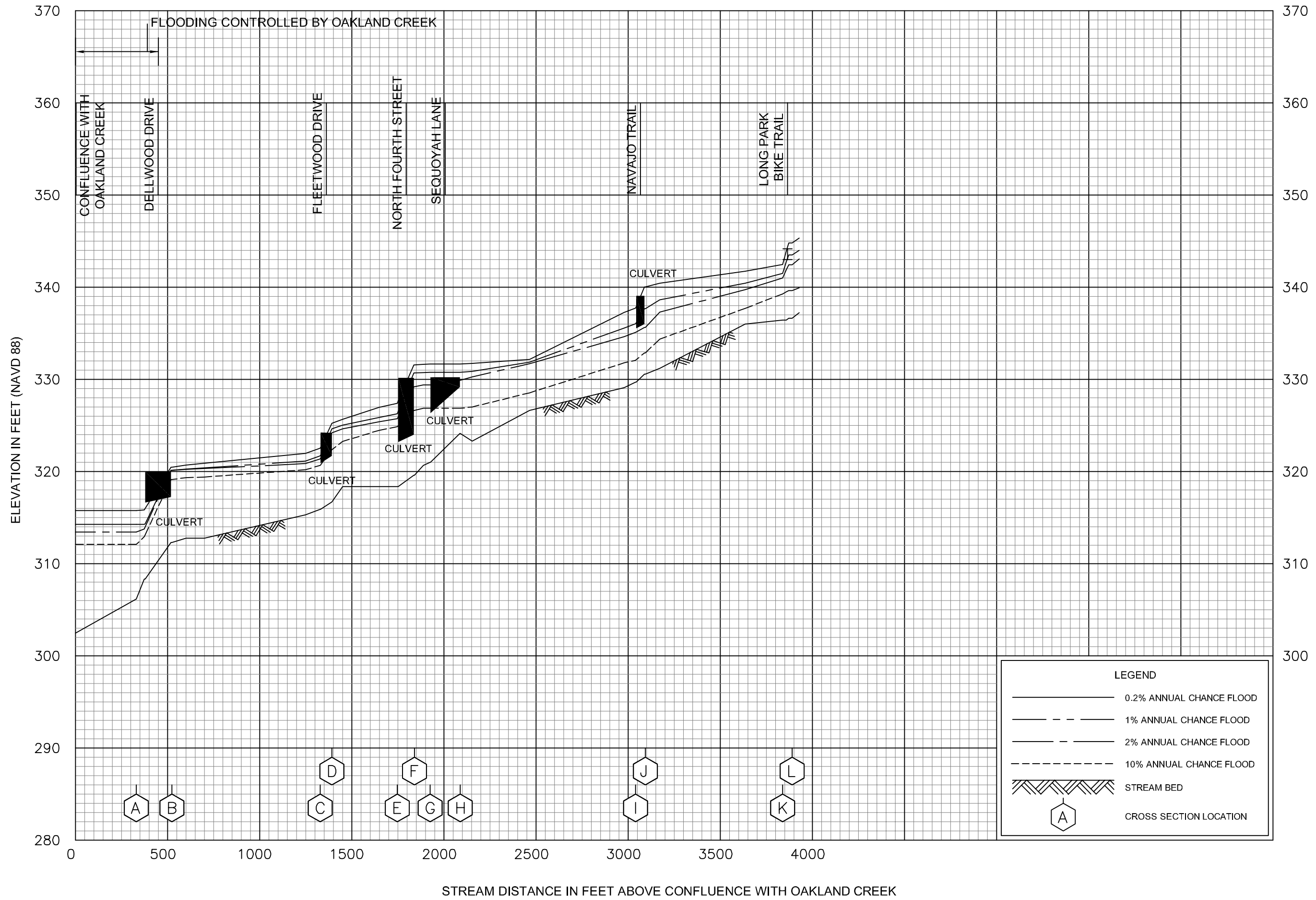


**FLOOD PROFILES**

**BIRDSONG CREEK**

FEDERAL EMERGENCY MANAGEMENT AGENCY

**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

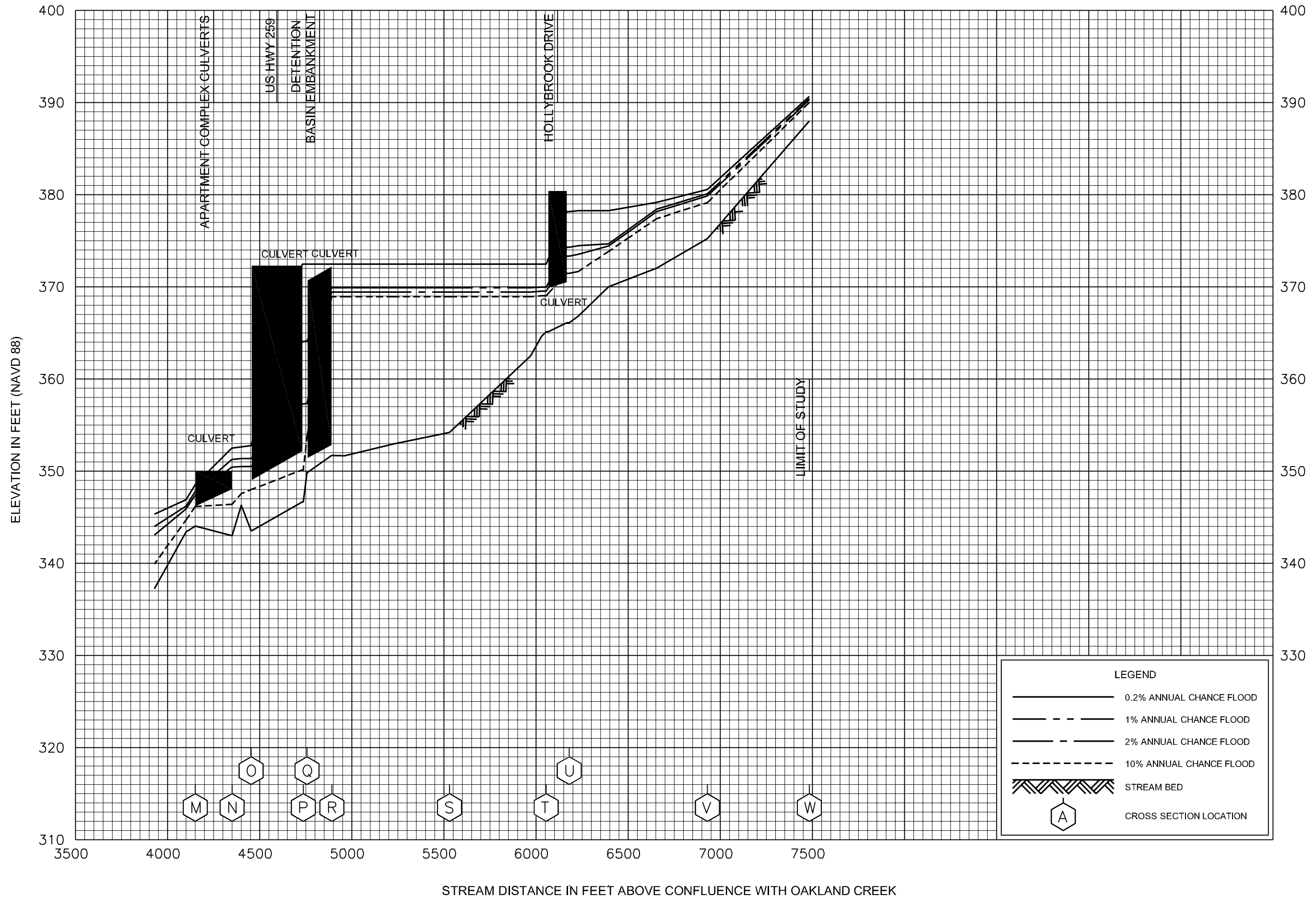


FLOOD PROFILES

COUSHATTA HILLS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

GREGG COUNTY, TX  
AND INCORPORATED AREAS



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

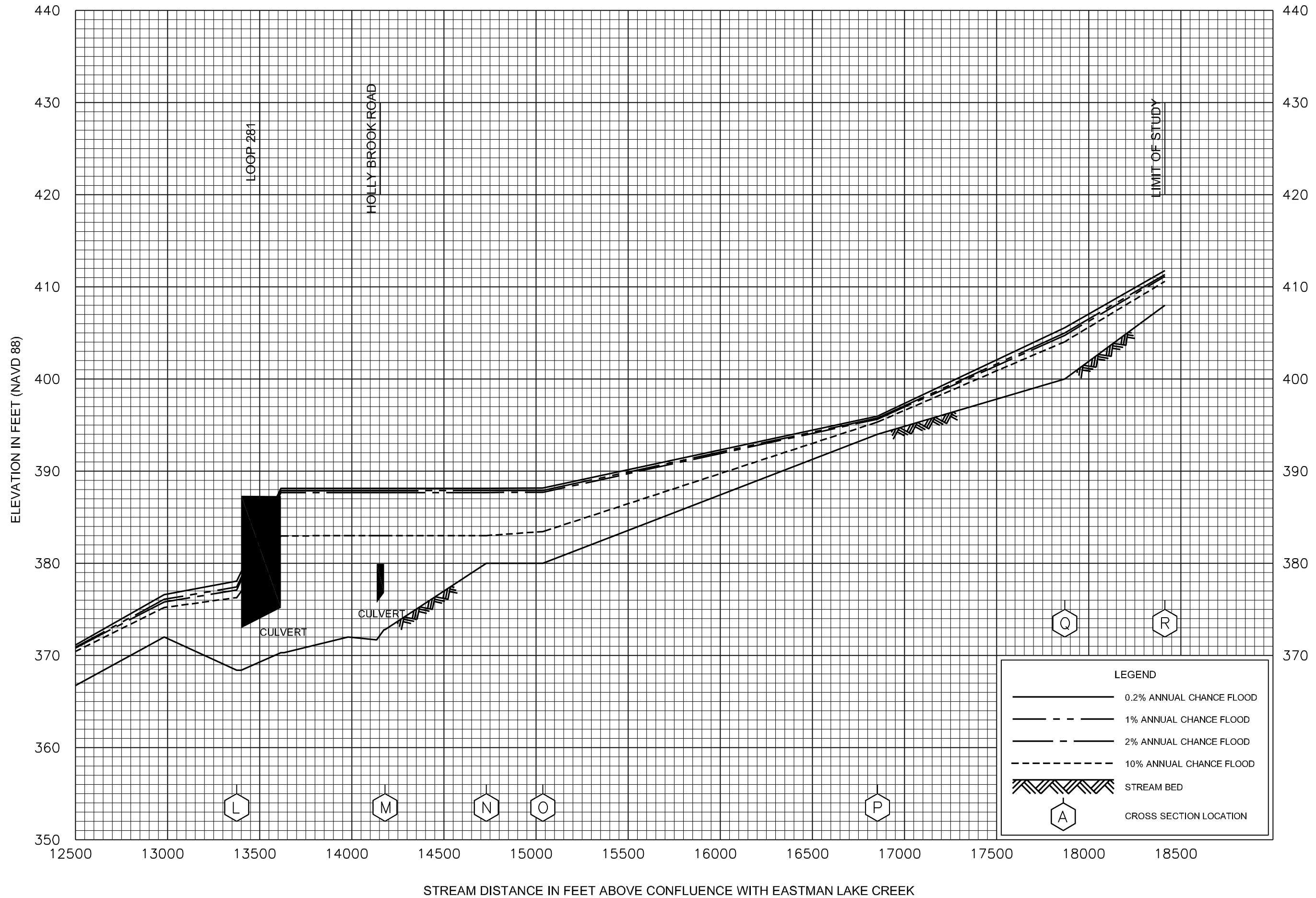
FLOOD PROFILES

COUSHATTA HILLS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

GREGG COUNTY, TX  
AND INCORPORATED AREAS



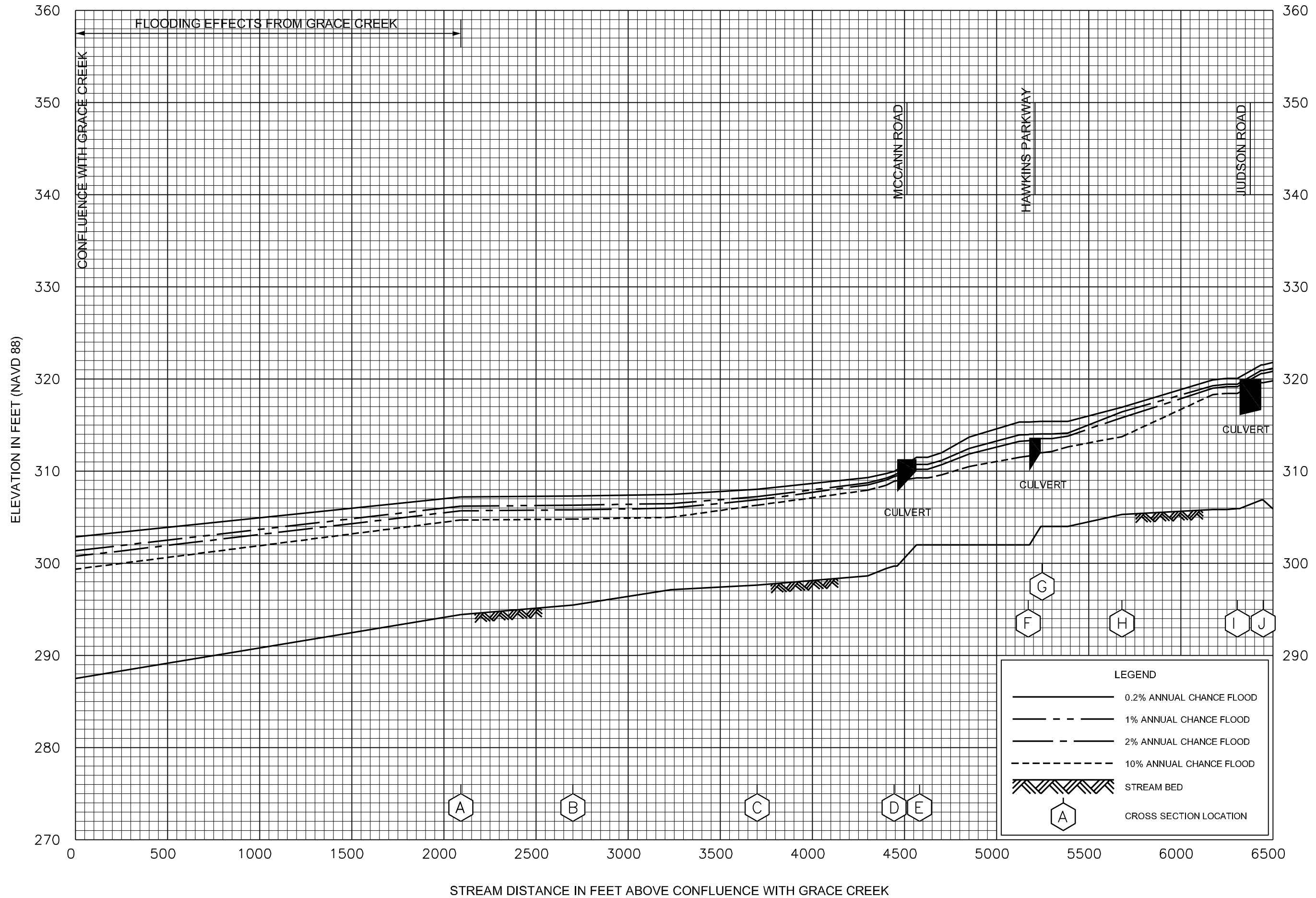


FLOOD PROFILES

DRAIN NO. 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

GREGG COUNTY, TX  
AND INCORPORATED AREAS

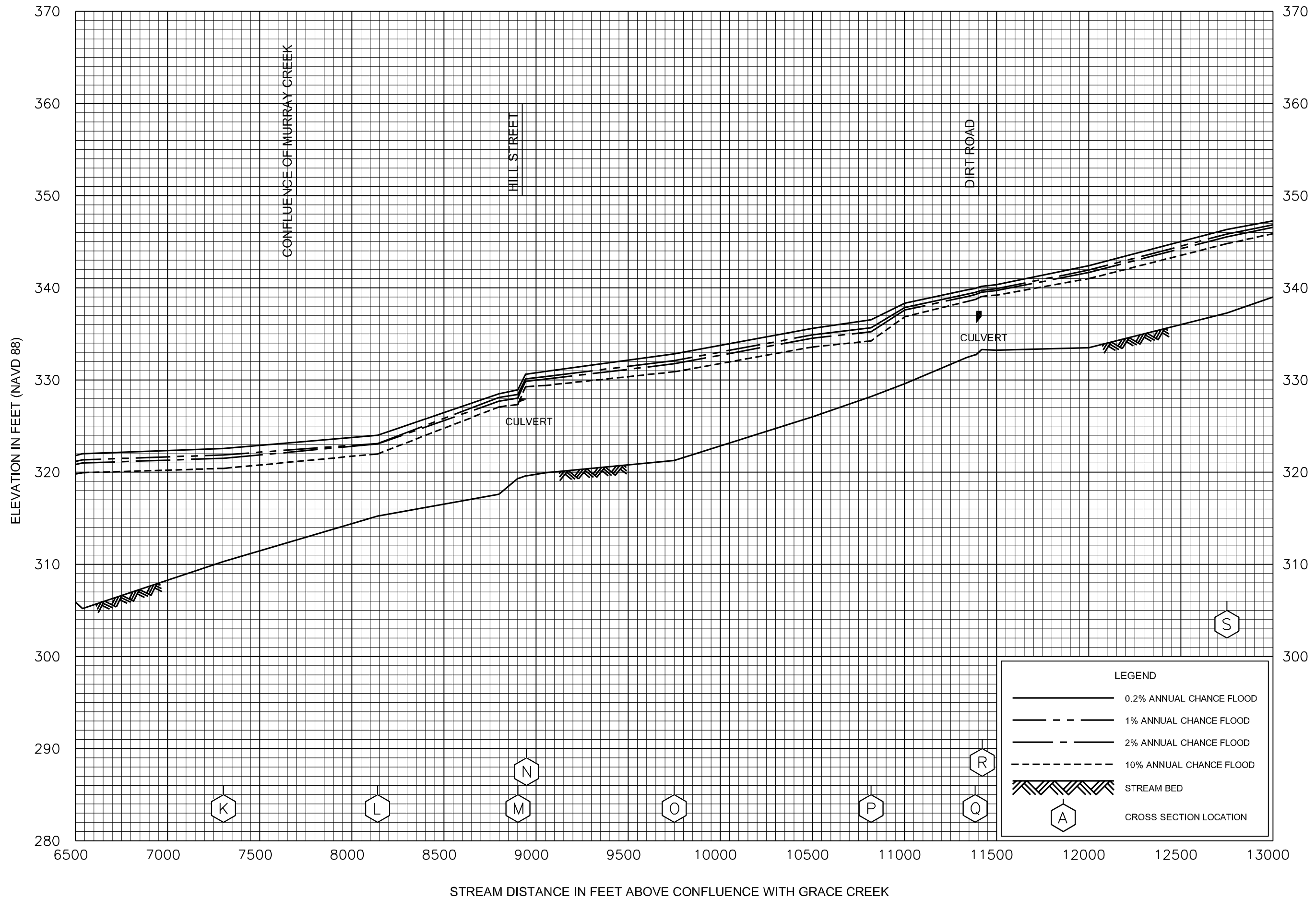


FLOOD PROFILES

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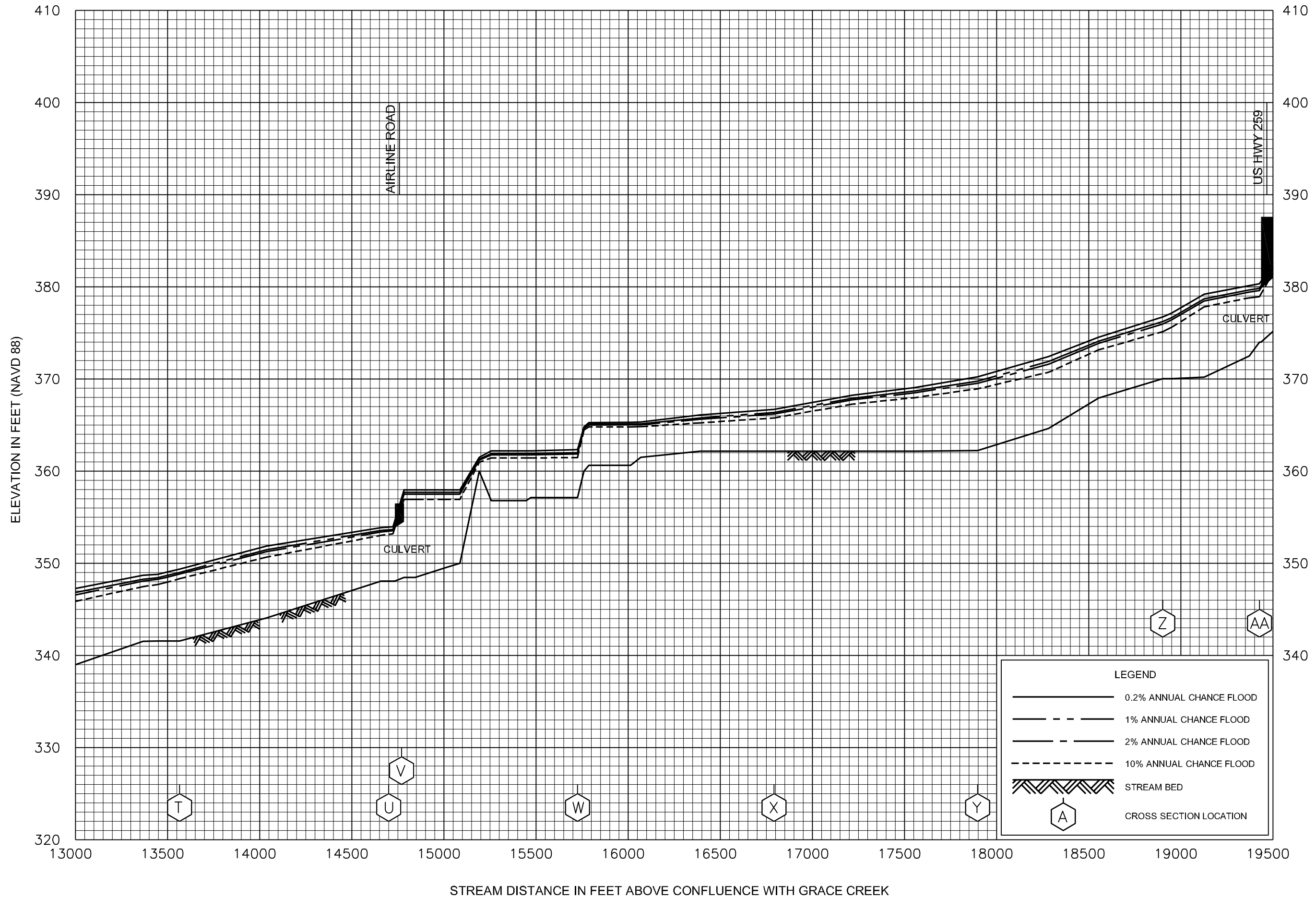
FEDERAL EMERGENCY MANAGEMENT AGENCY

GREGG COUNTY, TX  
AND INCORPORATED AREAS



FLOOD PROFILES  
DRAIN NO. 2 (OAK BRANCH CREEK)

FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS

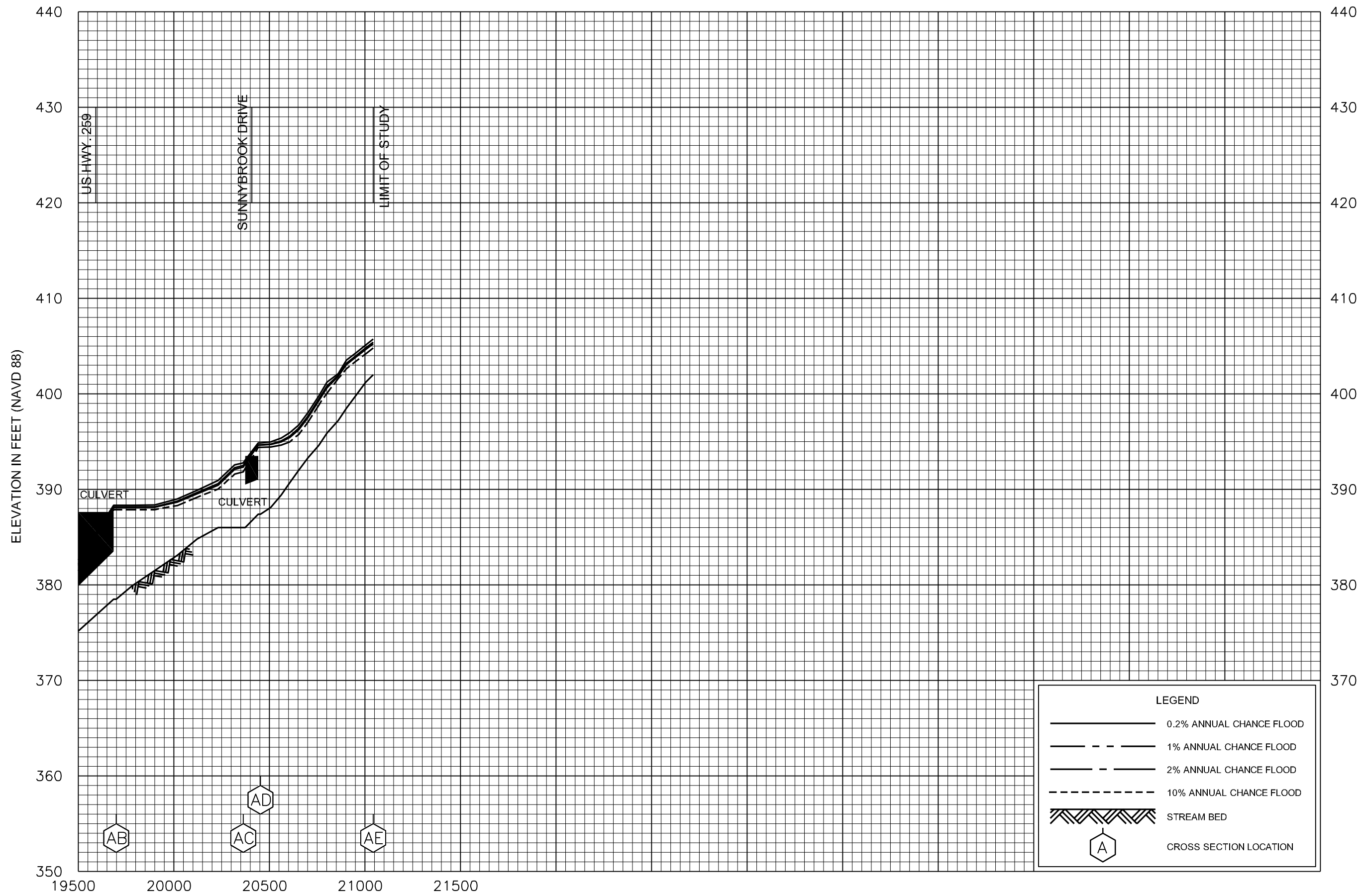


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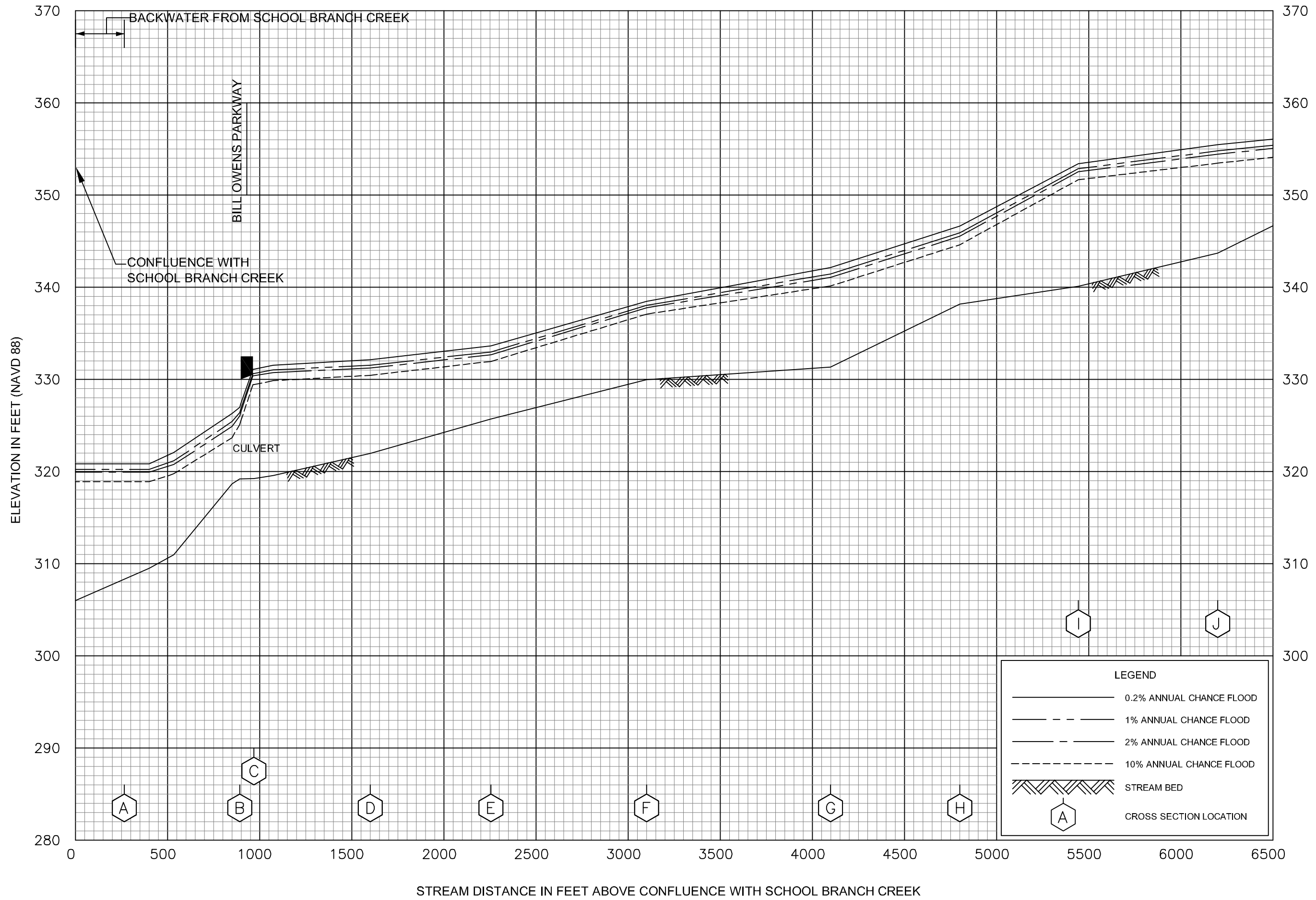
GREGG COUNTY, TX  
AND INCORPORATED AREAS



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH GRACE CREEK

FLOOD PROFILES  
DRAIN NO. 2 (OAK BRANCH CREEK)

FEDERAL EMERGENCY MANAGEMENT AGENCY  
GREGG COUNTY, TX  
AND INCORPORATED AREAS

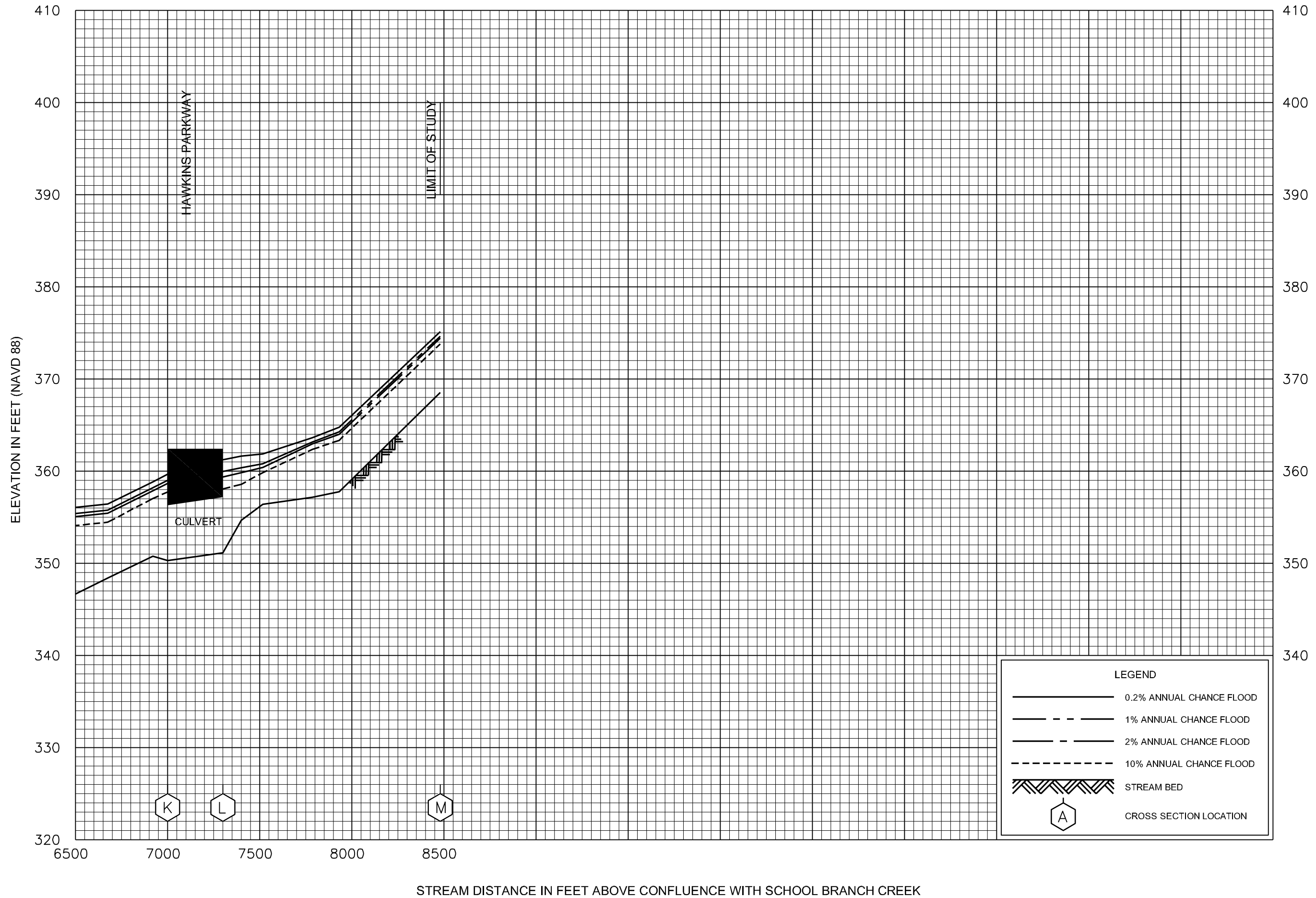


FLOOD PROFILES

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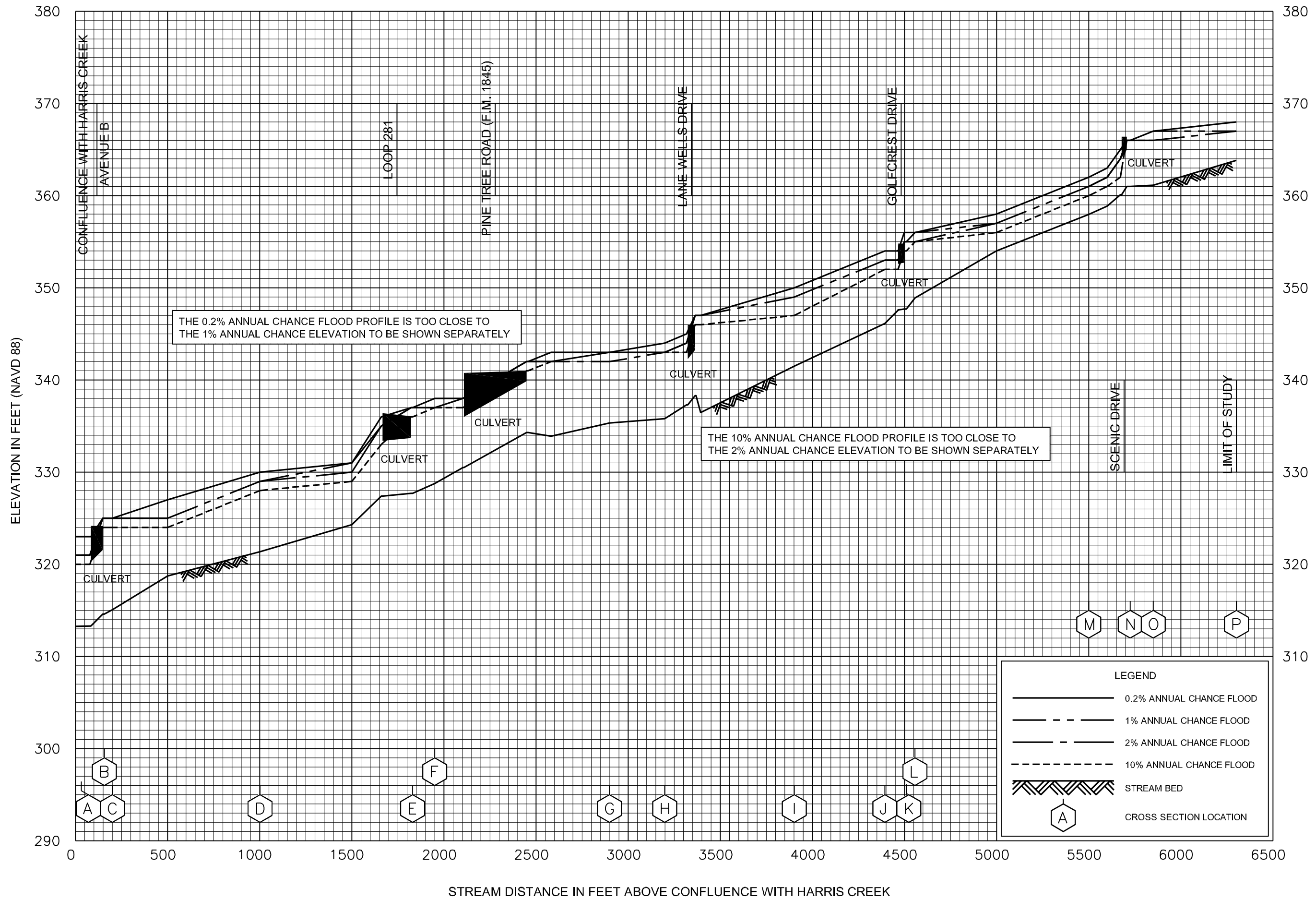
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FLOOD PROFILES

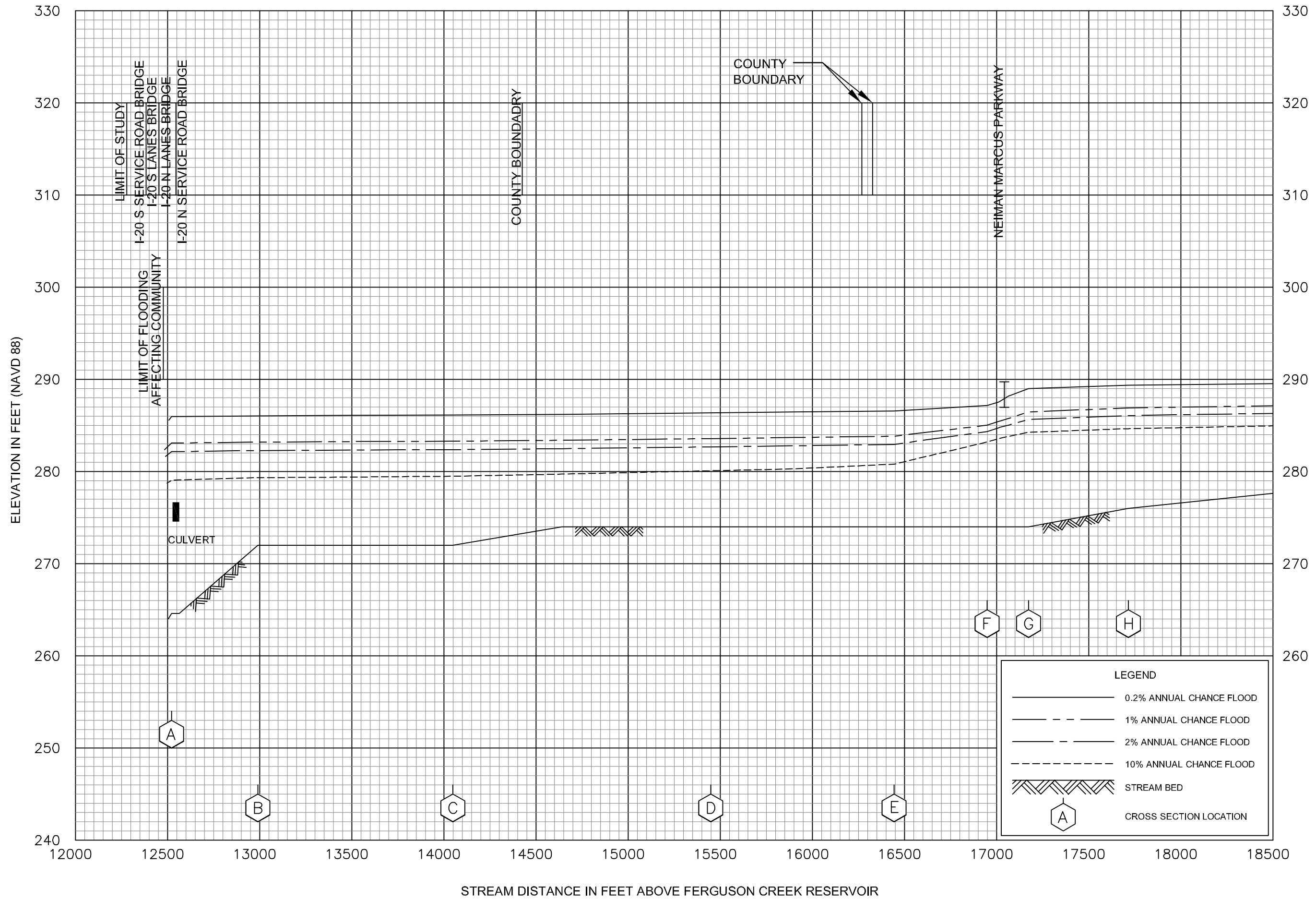
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FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
 AND INCORPORATED AREAS



FLOOD PROFILES  
DRAIN NO. 4

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AND INCORPORATED AREAS

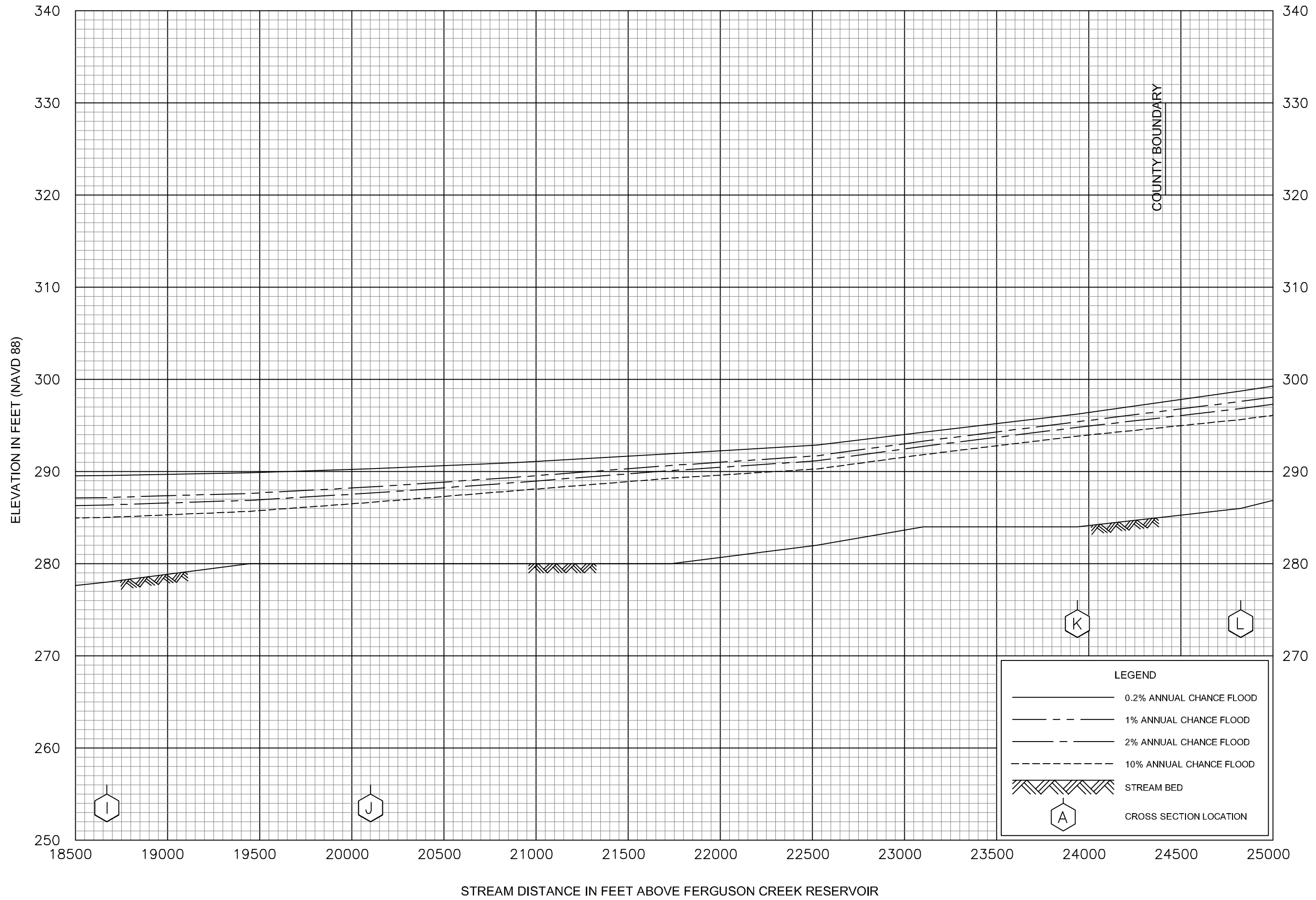


FLOOD PROFILES

EASTMAN LAKE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

GREGG COUNTY, TX  
AND INCORPORATED AREAS

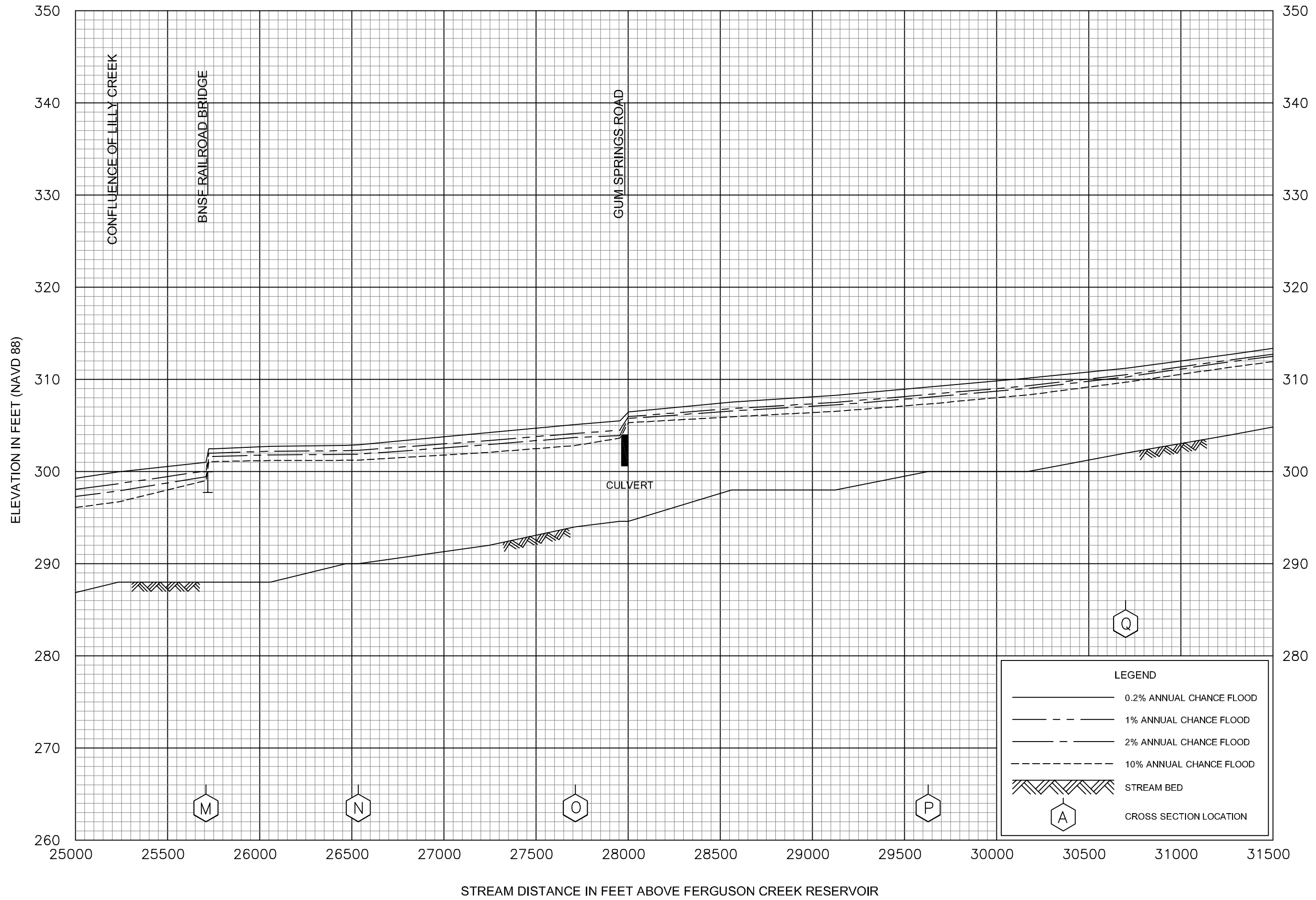


FLOOD PROFILES

EASTMAN LAKE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

GREGG COUNTY, TX  
AND INCORPORATED AREAS

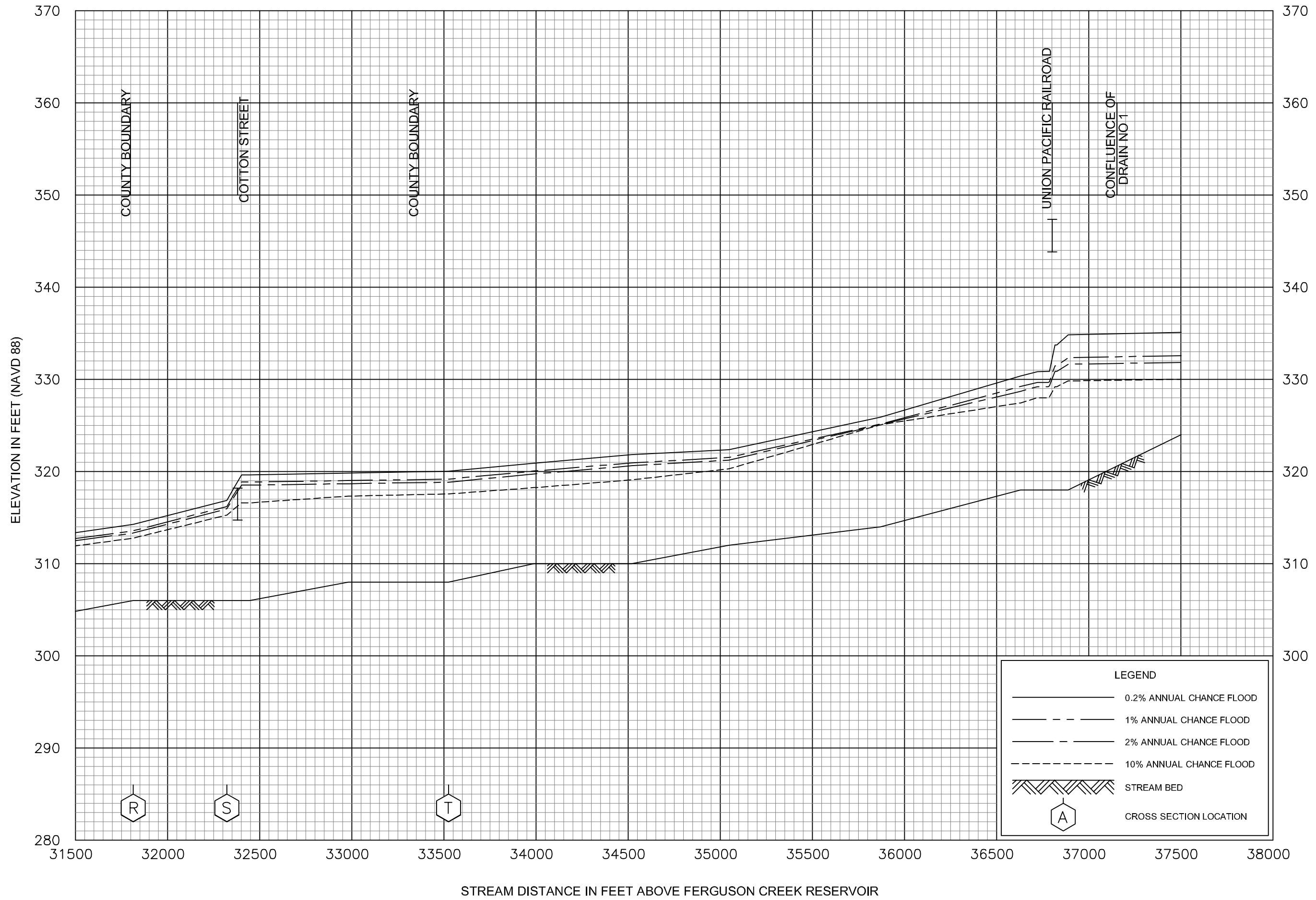


FLOOD PROFILES

EASTMAN LAKE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

GREGG COUNTY, TX  
AND INCORPORATED AREAS

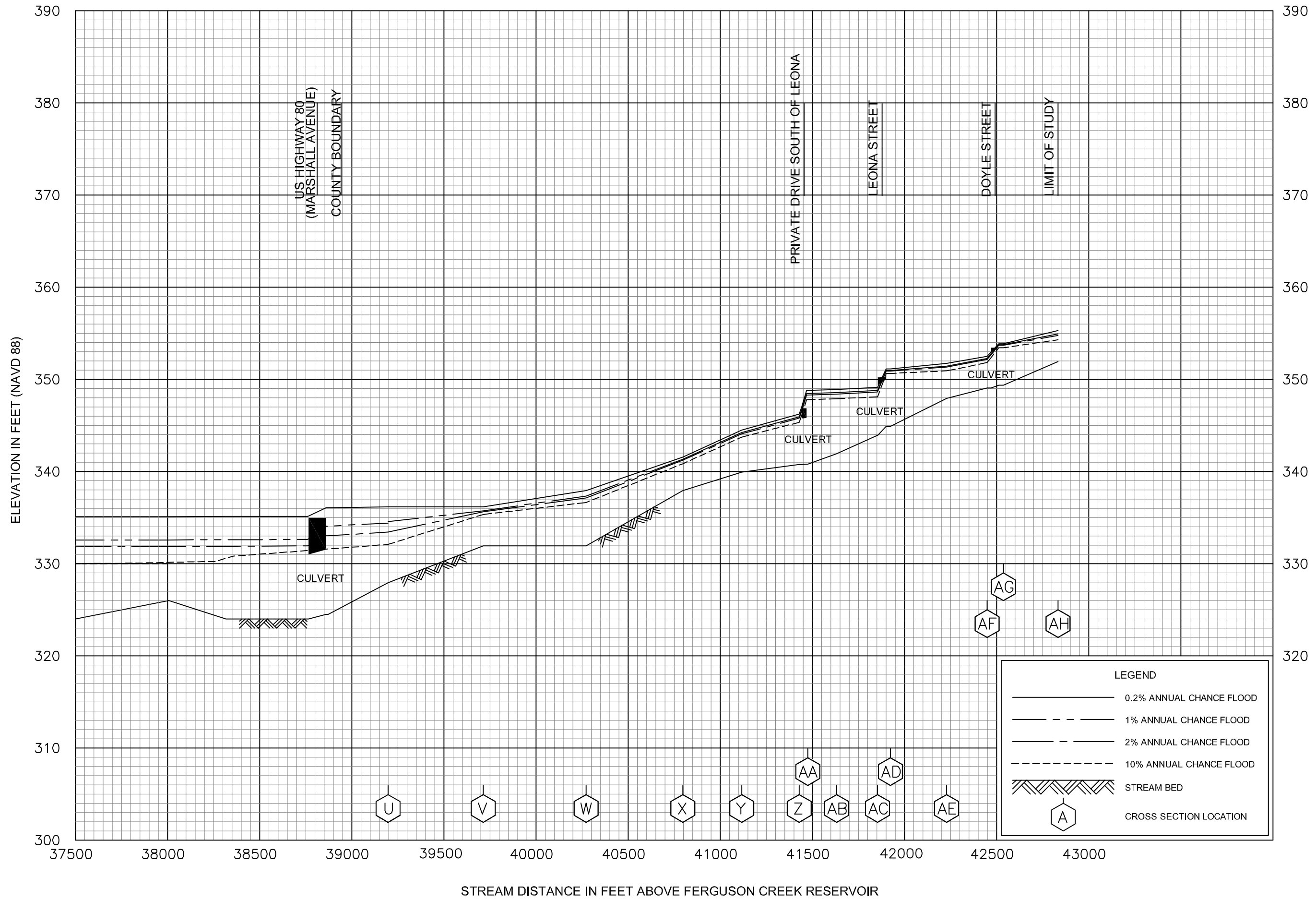


FLOOD PROFILES

EASTMAN LAKE CREEK

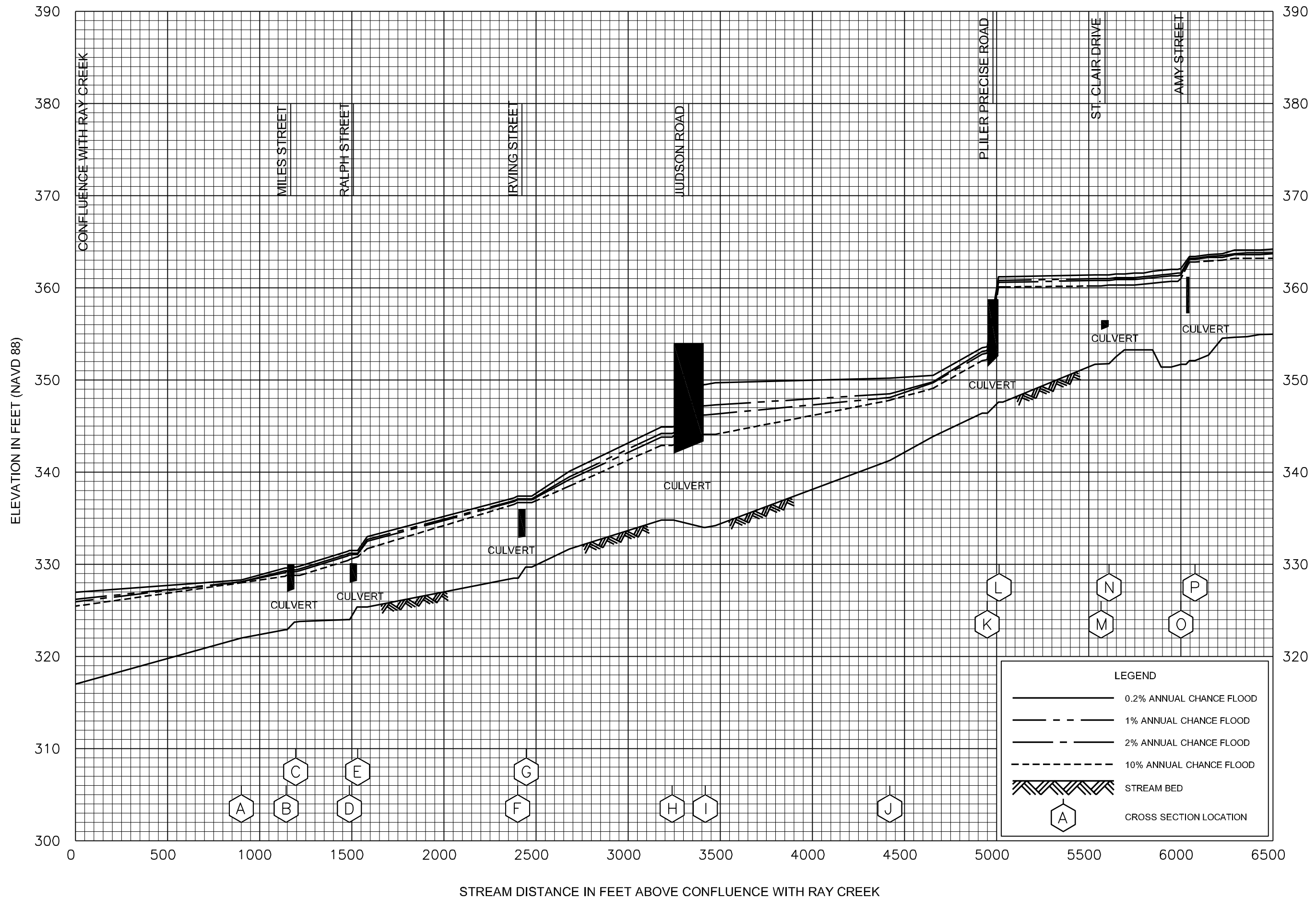
FEDERAL EMERGENCY MANAGEMENT AGENCY

GREGG COUNTY, TX  
AND INCORPORATED AREAS



FLOOD PROFILES  
EASTMAN LAKE CREEK

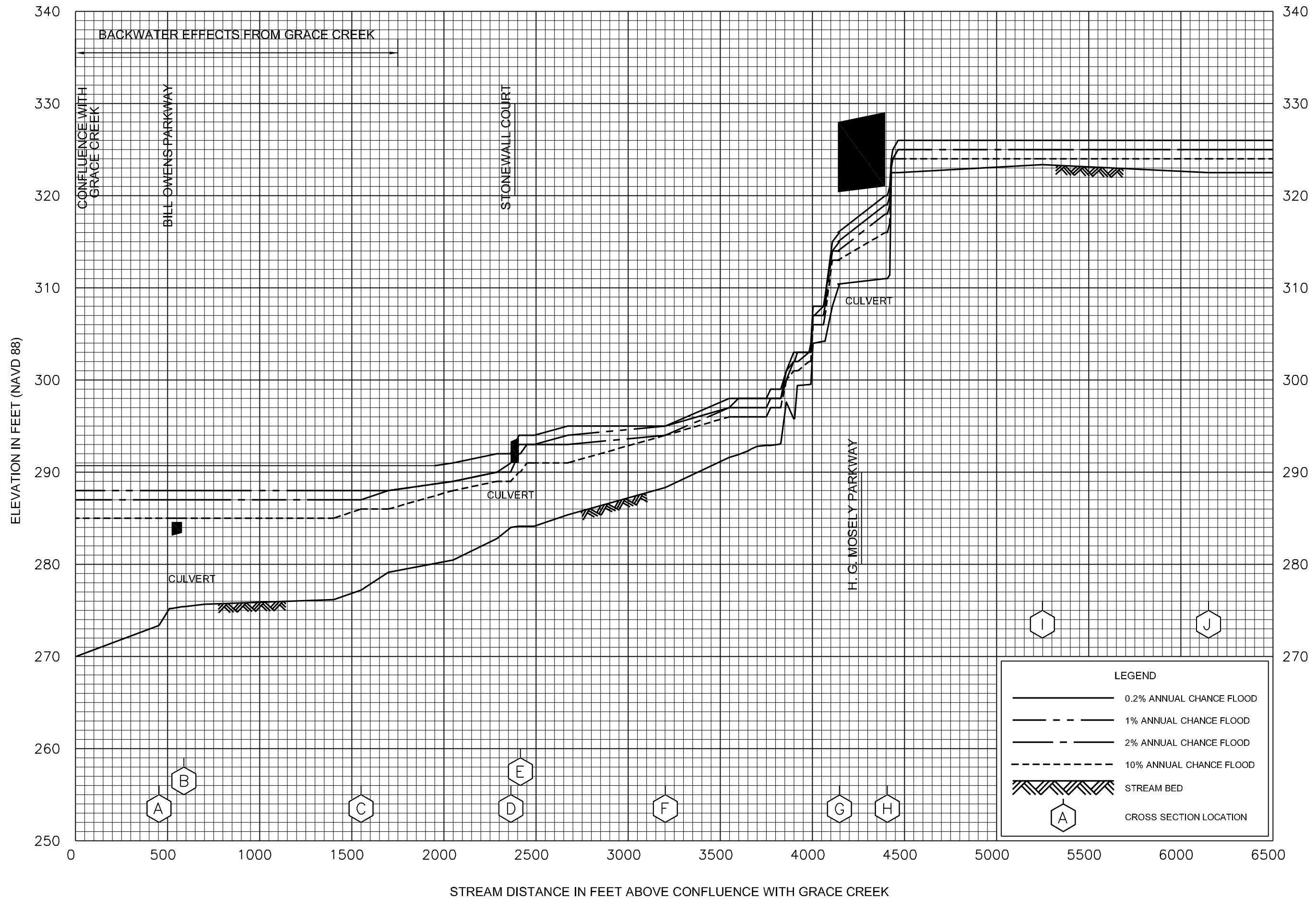
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GREGG COUNTY, TX  
AND INCORPORATED AREAS



FEDERAL EMERGENCY MANAGEMENT AGENCY

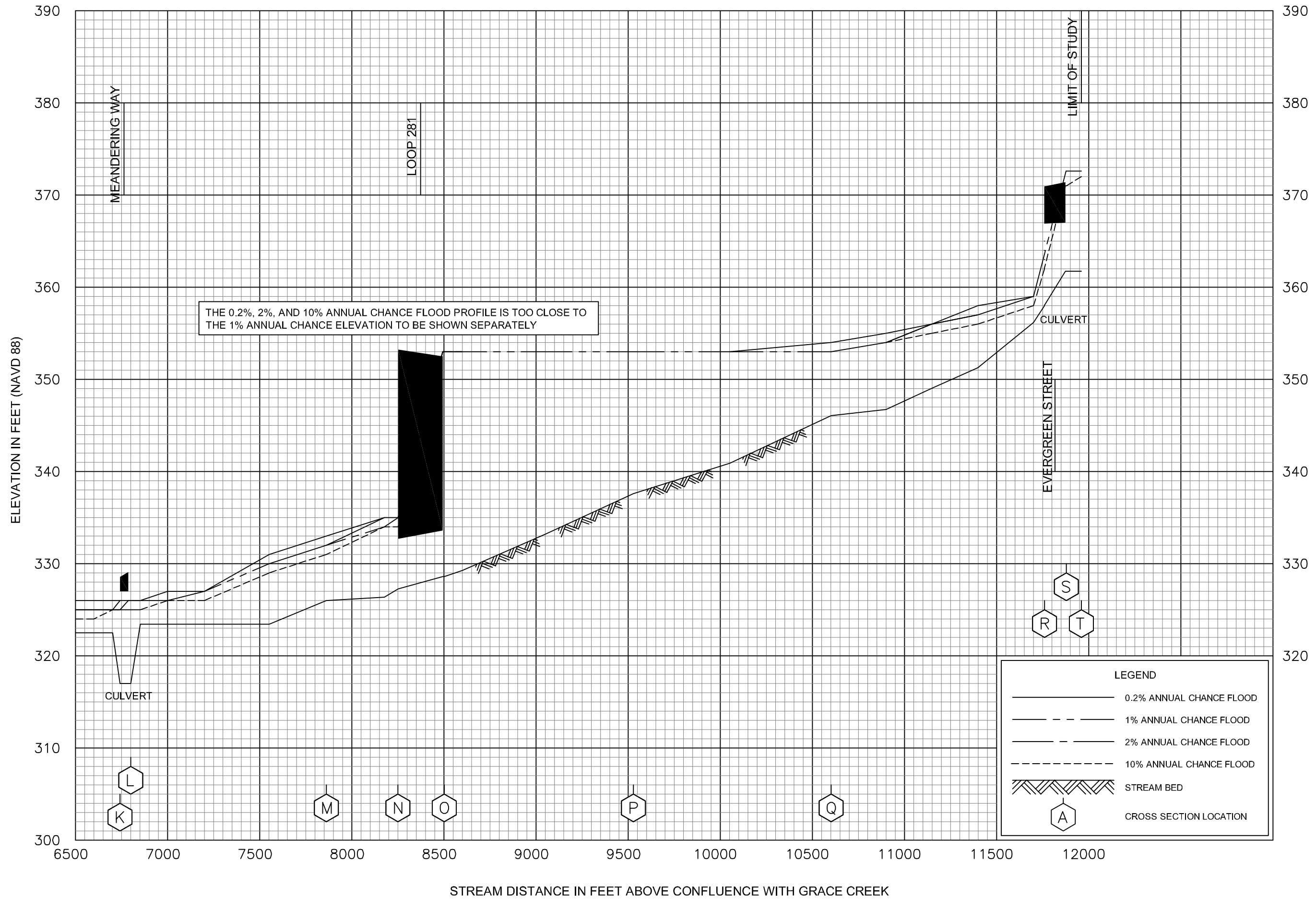
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS





FLOOD PROFILES  
GILMER CREEK

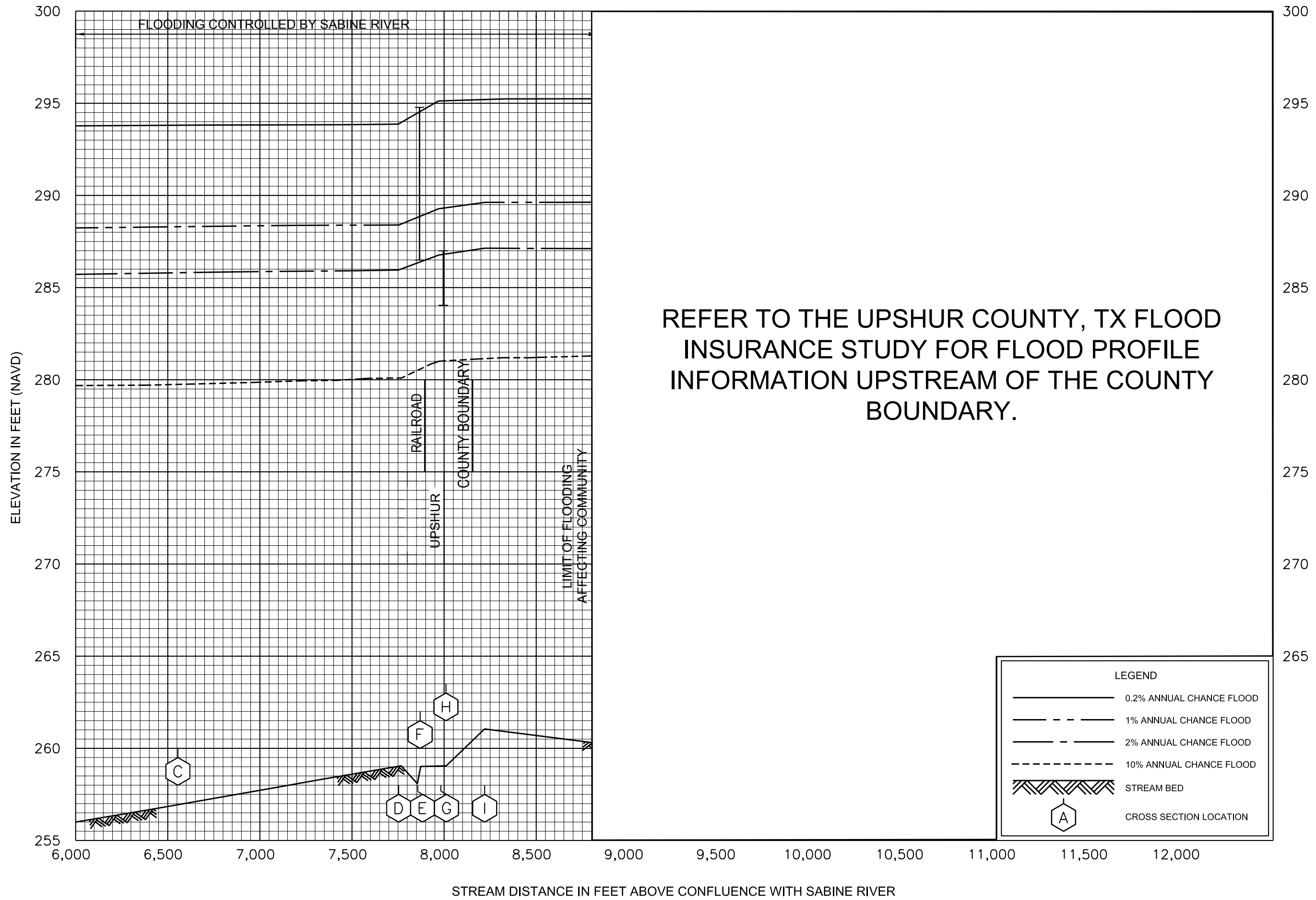
FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS



FLOOD PROFILES  
GILMER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
GREGG COUNTY, TX  
AND INCORPORATED AREAS

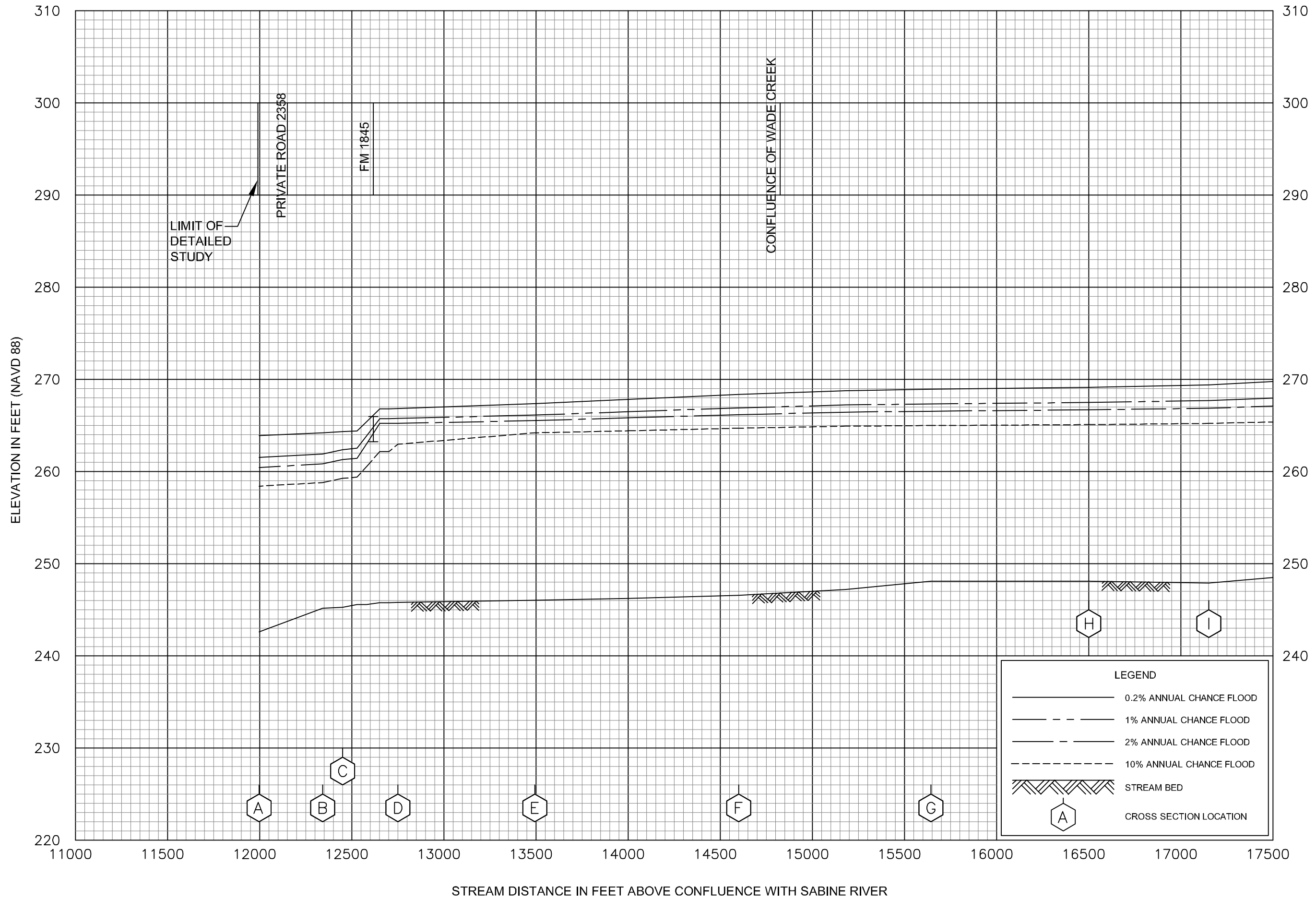




REFER TO THE UPSHUR COUNTY, TX FLOOD INSURANCE STUDY FOR FLOOD PROFILE INFORMATION UPSTREAM OF THE COUNTY BOUNDARY.

FLOOD PROFILES  
GLADE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
GREGG COUNTY, TX  
AND INCORPORATED AREAS

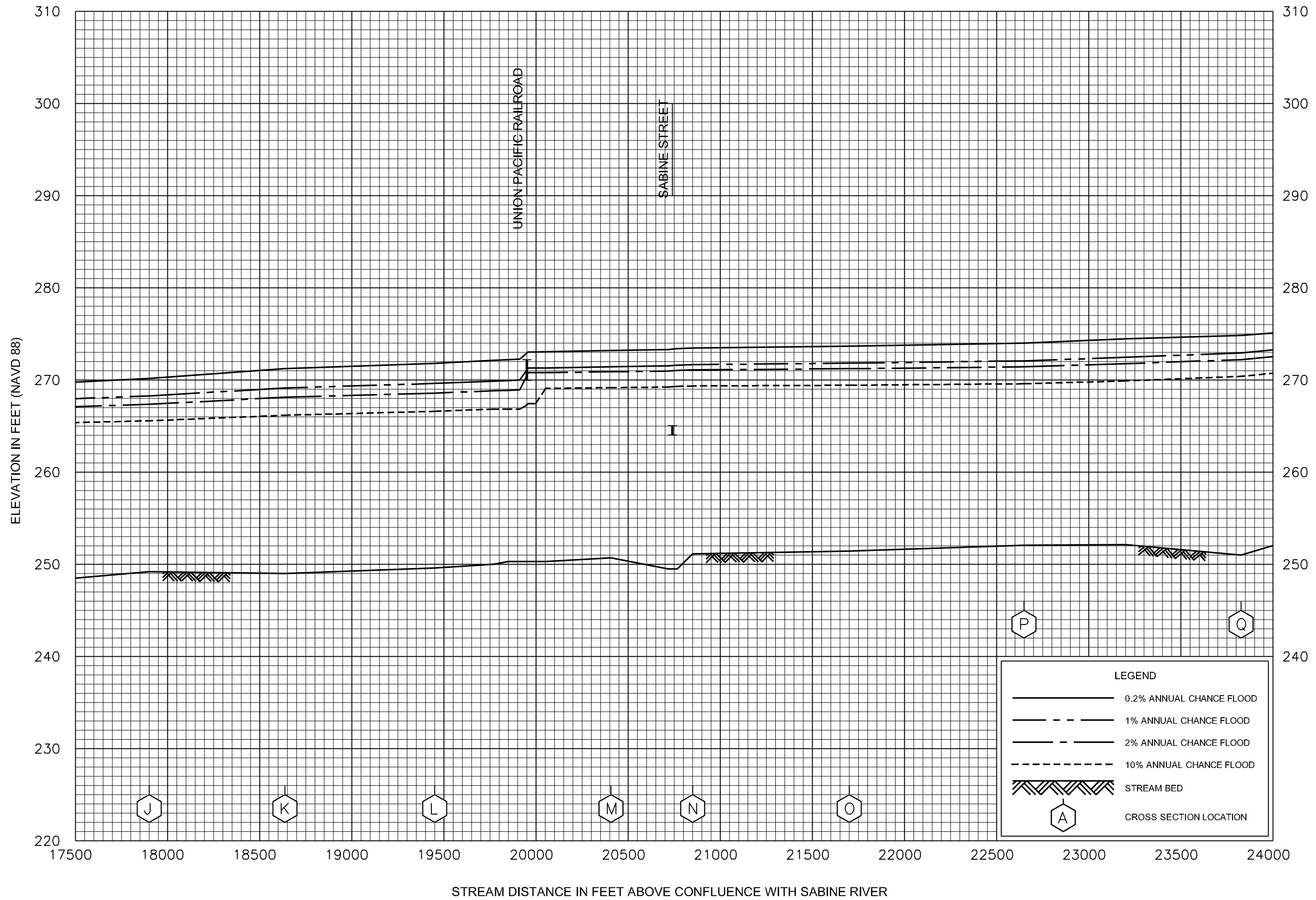


FLOOD PROFILES

GRACE CREEK

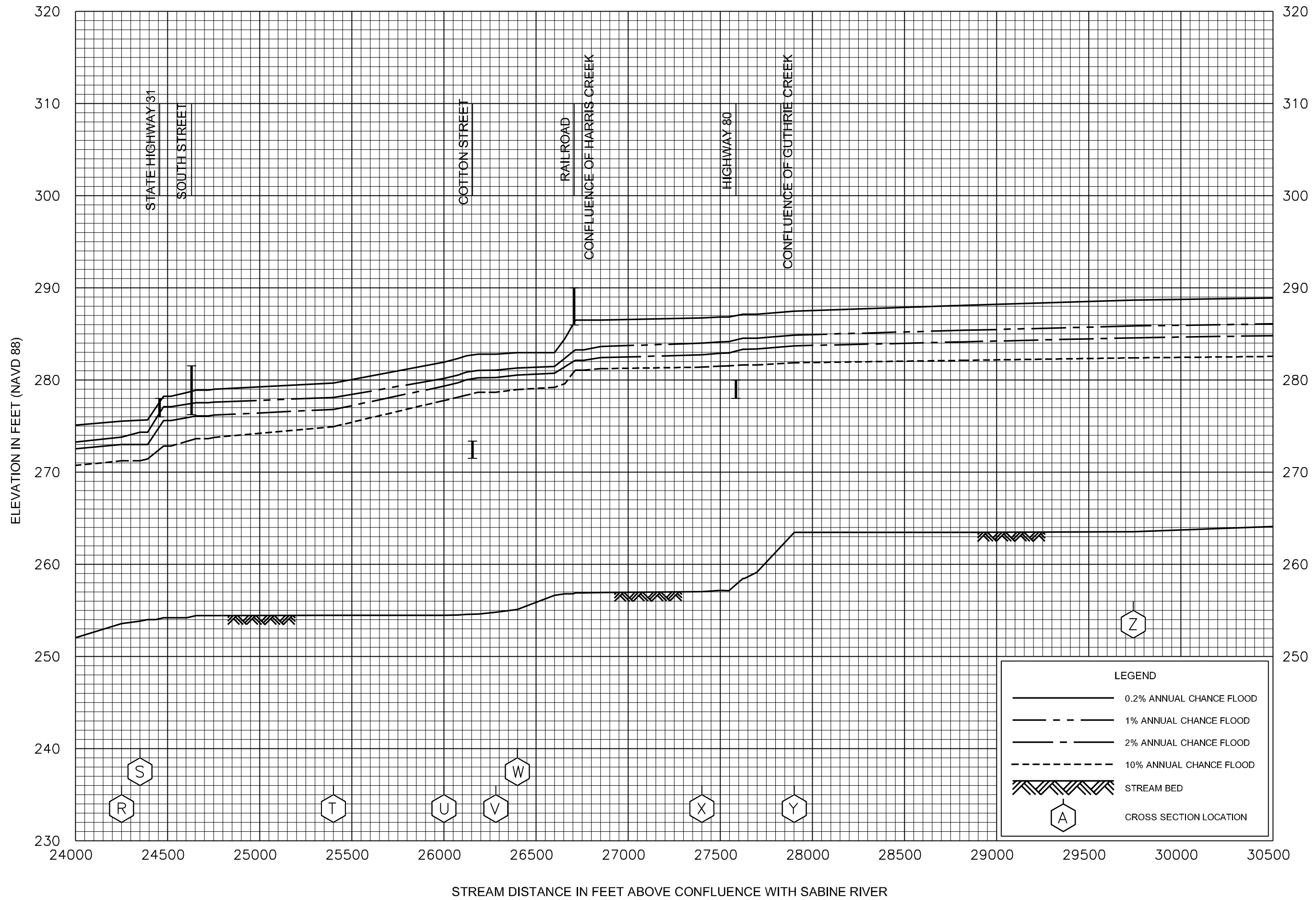
FEDERAL EMERGENCY MANAGEMENT AGENCY

GREGG COUNTY, TX  
AND INCORPORATED AREAS



FLOOD PROFILES  
GRACE CREEK

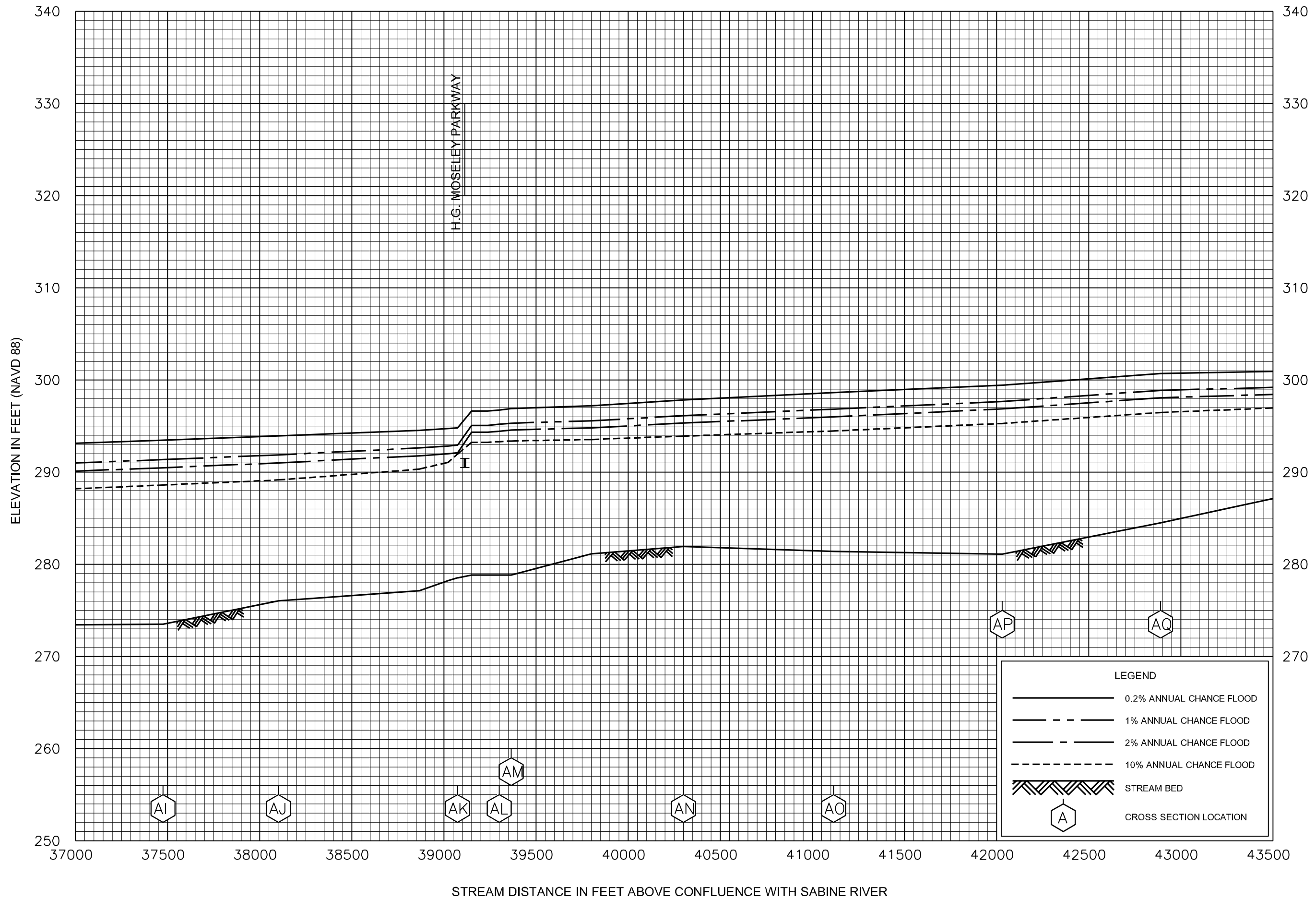
FEDERAL EMERGENCY MANAGEMENT AGENCY  
**GREGG COUNTY, TX**  
AND INCORPORATED AREAS



FLOOD PROFILES  
GRACE CREEK

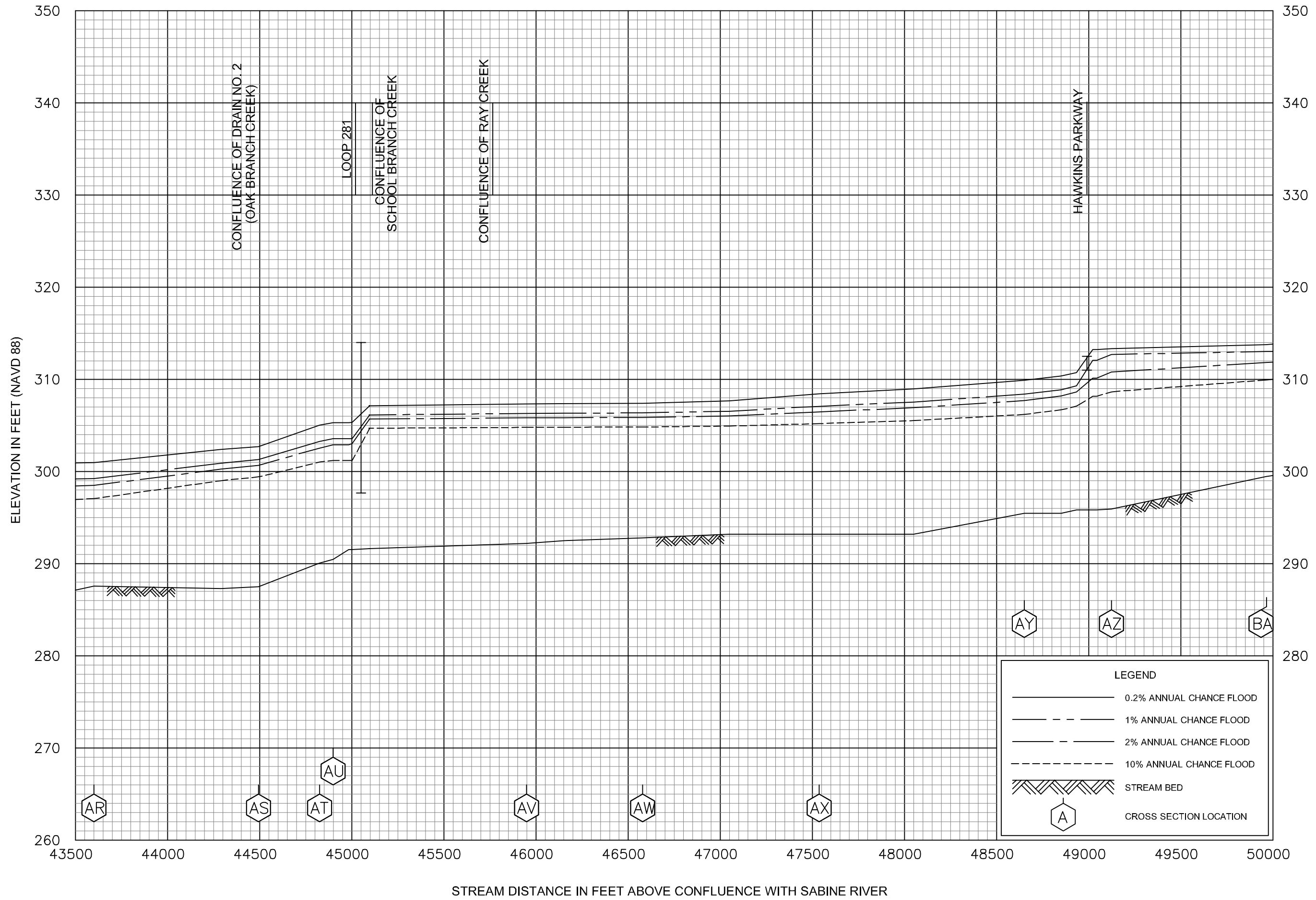
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**GREGG COUNTY, TX**  
AND INCORPORATED AREAS





FLOOD PROFILES  
GRACE CREEK

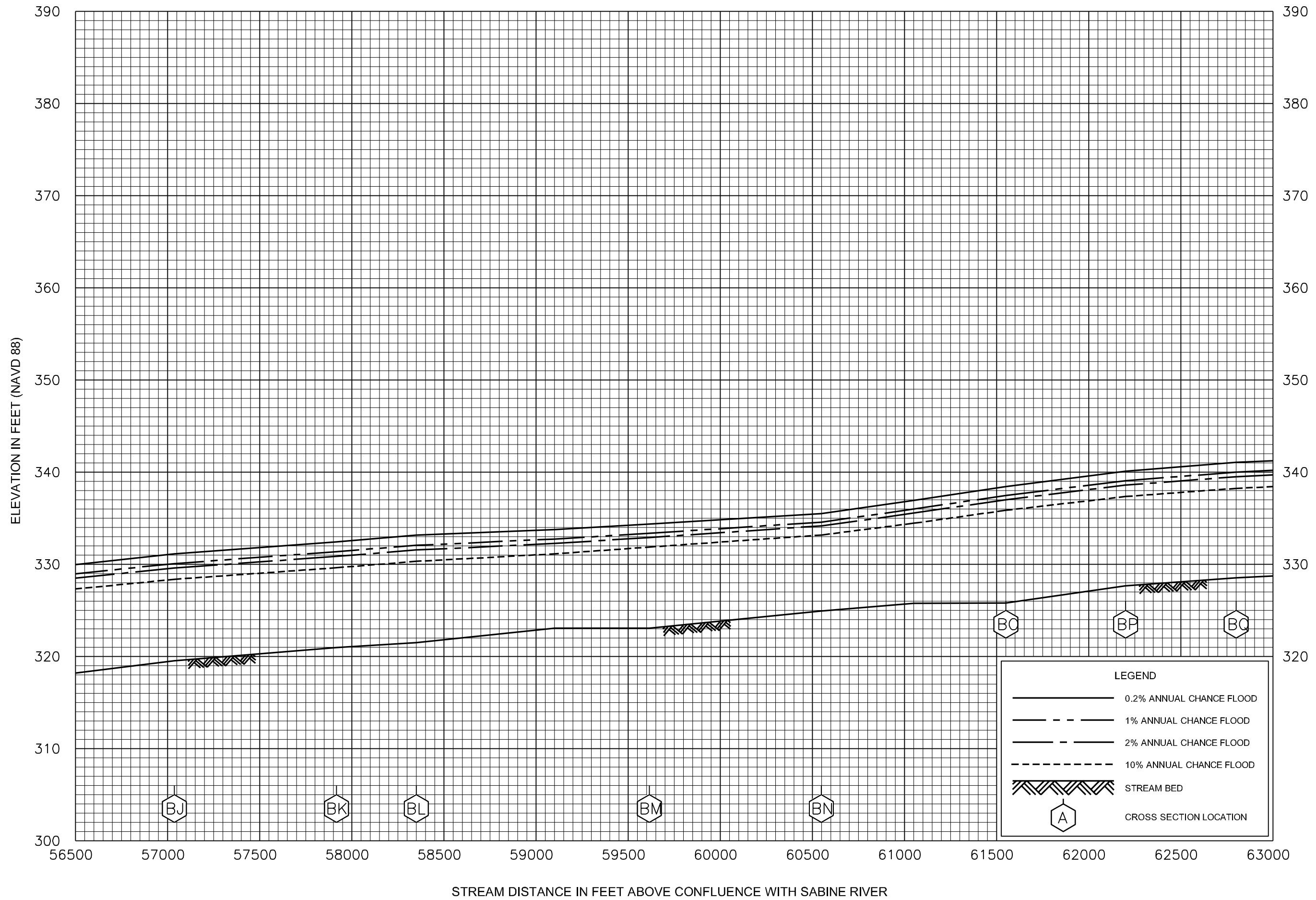
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GREGG COUNTY, TX  
AND INCORPORATED AREAS



FLOOD PROFILES  
GRACE CREEK

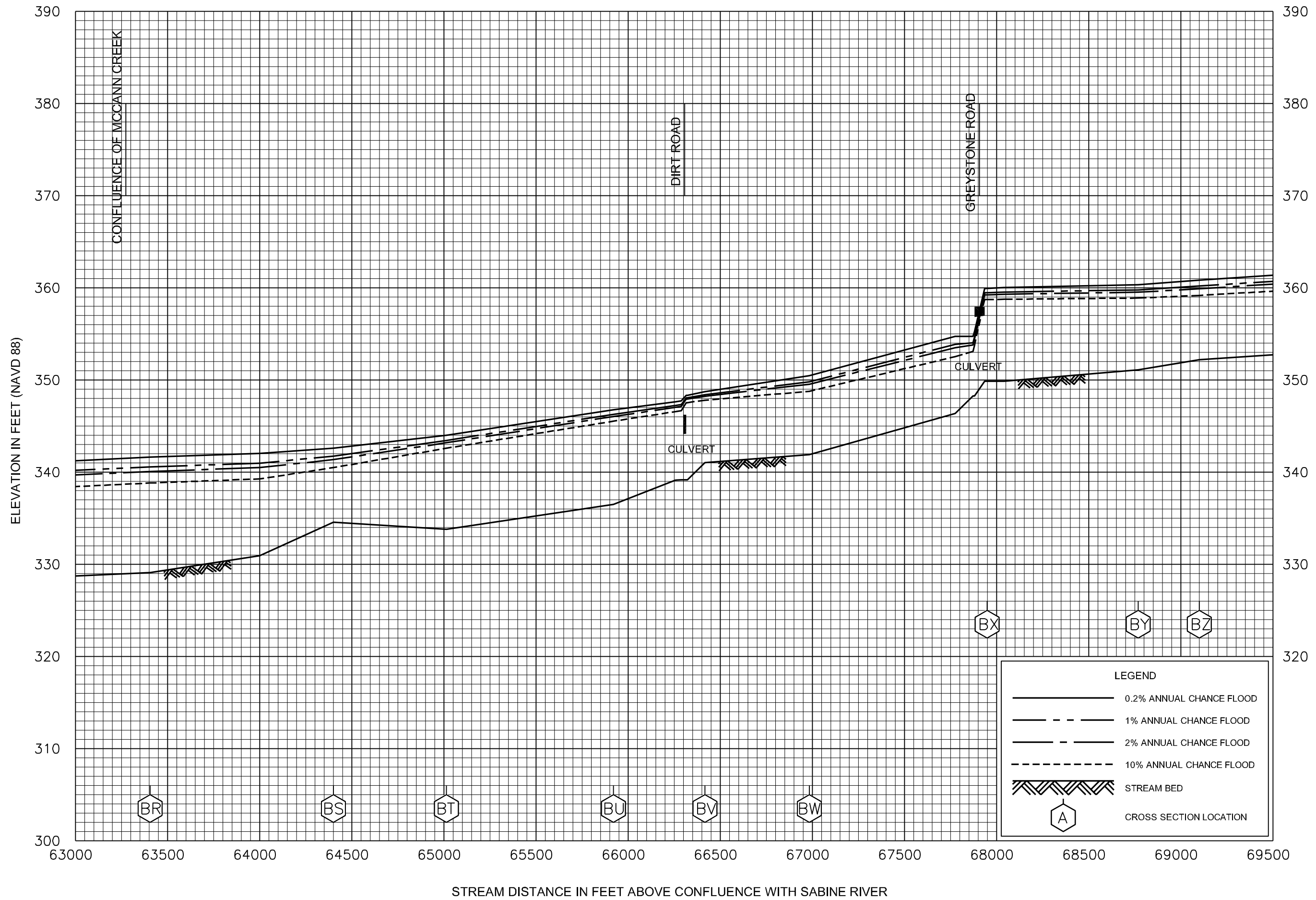
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GREGG COUNTY, TX  
AND INCORPORATED AREAS





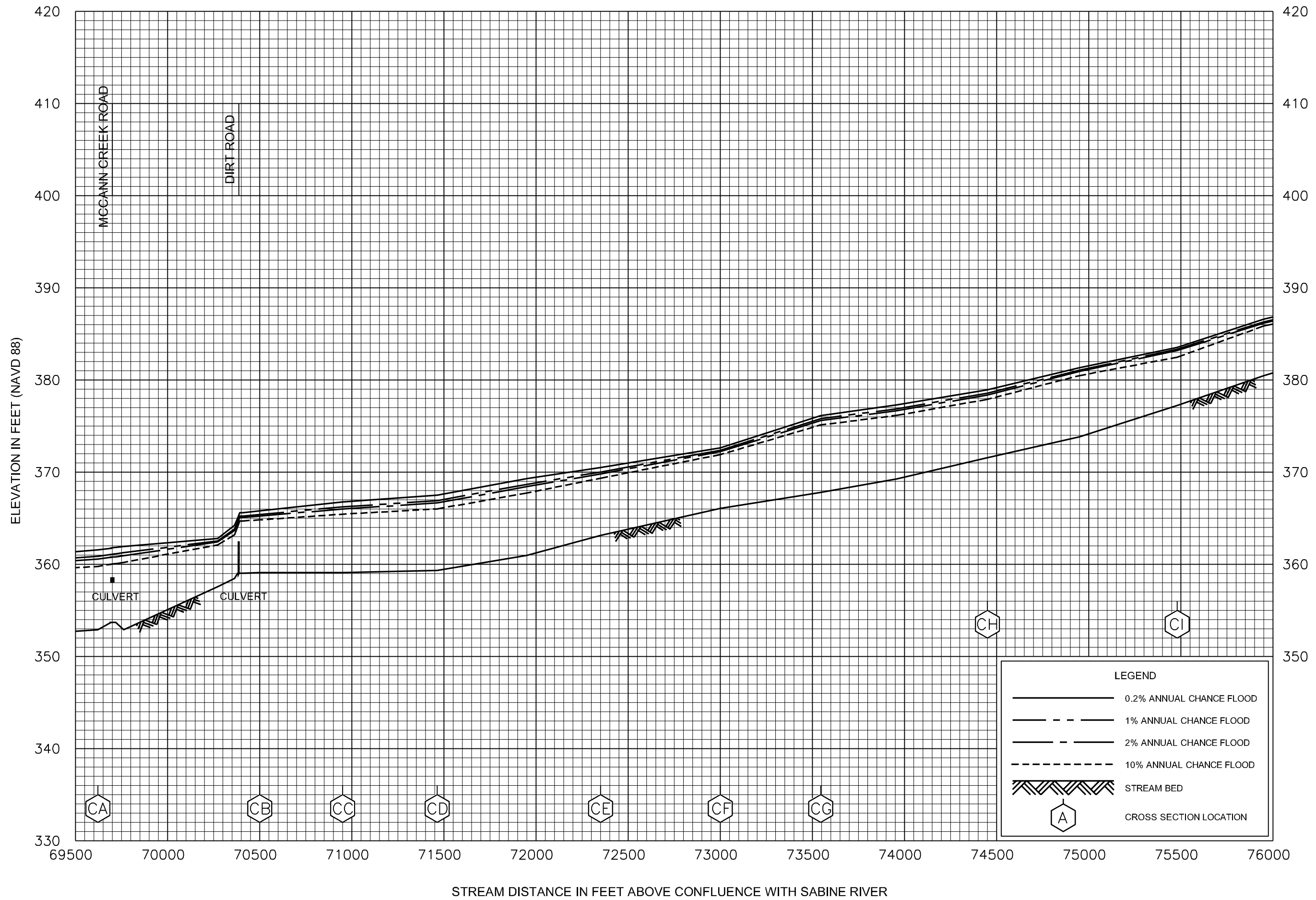
FLOOD PROFILES  
GRACE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
GREGG COUNTY, TX  
AND INCORPORATED AREAS



FLOOD PROFILES  
GRACE CREEK

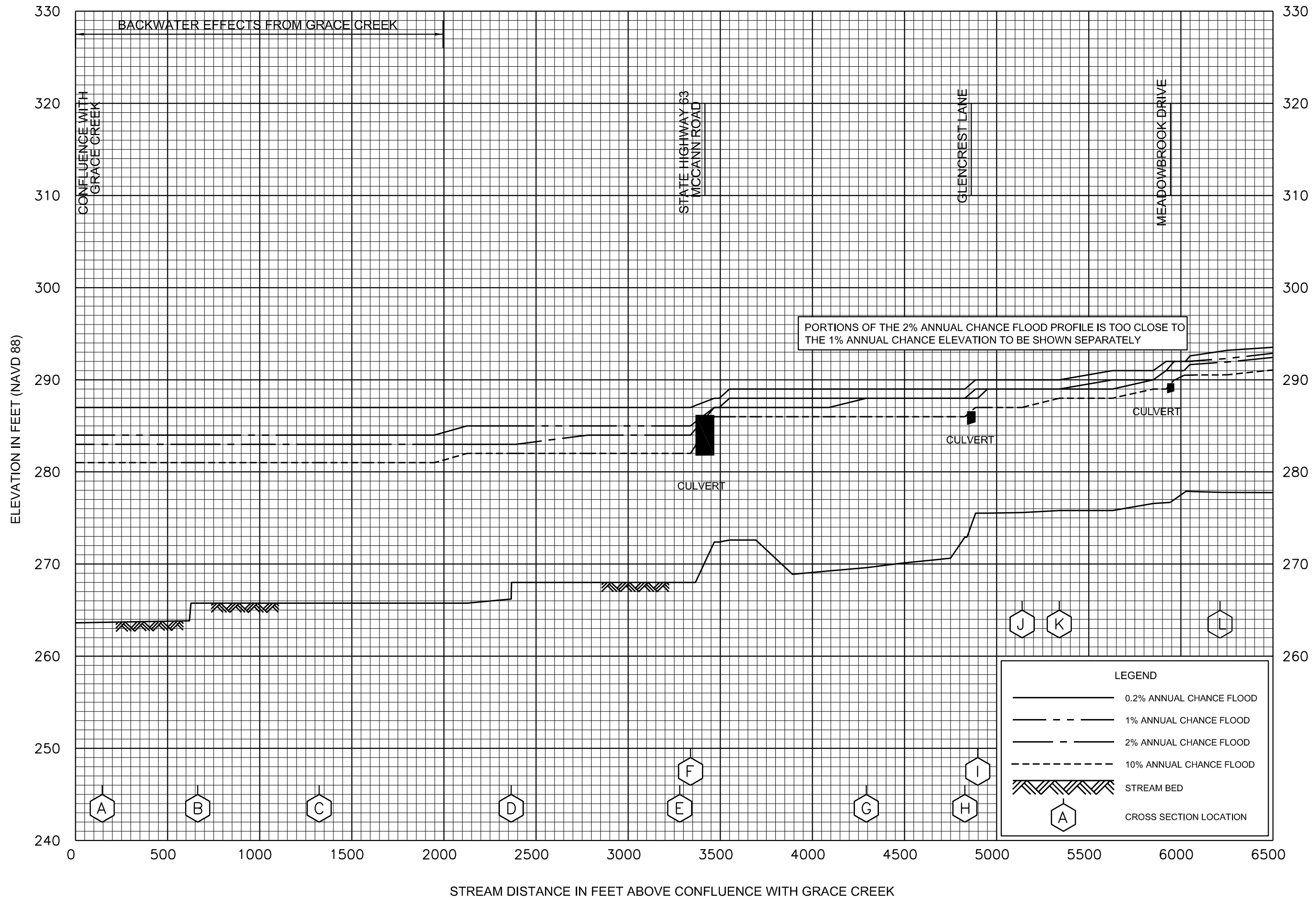
FEDERAL EMERGENCY MANAGEMENT AGENCY  
GREGG COUNTY, TX  
AND INCORPORATED AREAS



FLOOD PROFILES  
GRACE CREEK

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FLOOD PROFILES

GUTHRIE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

GREGG COUNTY, TX

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