

FLOOD INSURANCE STUDY



WALTHALL COUNTY, MISSISSIPPI AND INCORPORATED AREAS

COMMUNITY NAME

TYLERTOWN, CITY OF

COMMUNITY NUMBER

280175

WALTHALL COUNTY
(UNINCORPORATED AREAS)

280307



**WALTHALL
COUNTY**

EFFECTIVE:



Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER

28147CV000A

NOTICE TO
FLOOD INSURANCE STUDY USERS

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

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

Initial Countywide FIS Effective Date:

Revised Countywide FIS Dates:

TABLE OF CONTENTS

	<u>Page</u>
1.0 <u>INTRODUCTION</u>	1
1.1 Purpose of Study	1
1.2 Authority and Acknowledgments	1
1.3 Coordination	2
2.0 <u>AREA STUDIED</u>	2
2.1 Scope of Study	2
2.2 Community Description	3
2.3 Principal Flood Problems	3
2.4 Flood Protection Measures	3
3.0 <u>ENGINEERING METHODS</u>	4
3.1 Hydrologic Analyses	4
3.2 Hydraulic Analyses	5
3.3 Vertical Datum	7
4.0 <u>FLOODPLAIN MANAGEMENT APPLICATIONS</u>	7
4.1 Floodplain Boundaries	8
4.2 Floodways	8
5.0 <u>INSURANCE APPLICATIONS</u>	8
6.0 <u>FLOOD INSURANCE RATE MAP</u>	10
7.0 <u>OTHER STUDIES</u>	12
8.0 <u>LOCATION OF DATA</u>	12
9.0 <u>BIBLIOGRAPHY AND REFERENCES</u>	12

TABLE OF CONTENTS - continued

Page

TABLES

Table 1 - Summary of Discharges	5
Table 2 - Community Map History	11

EXHIBITS

Exhibit 1 - Flood Profiles

Dry Creek	Panel 01P
Magees Creek	Panel 02P

Exhibit 2 - Flood Insurance Rate Map Index

Flood Insurance Rate Map

**FLOOD INSURANCE STUDY
WALTHALL COUNTY, MISSISSIPPI AND INCORPORATED AREAS**

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and supersedes the FIS reports and/or Flood Insurance Rate Maps (FIRMs) in the geographic area of Walthall County, Mississippi, including the Town of Tylertown, and unincorporated areas of Walthall County (hereinafter referred to collectively as Walthall County).

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

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

1.2 Authority and Acknowledgments

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

January 16, 1992, Town of Tylertown FIS

The hydrologic and hydraulic analyses in this study were performed by the Vicksburg District of the U.S. Army Corps of Engineers (USACE) for the Federal Emergency Management Agency under Inter-Agency Agreement No. EMW-89-E-2994, Project Order No. 3B. That work completed in April 1990.

This Countywide FIS

The hydrologic and hydraulic analyses for this countywide FIS were performed by the State of Mississippi for the Federal Emergency Management Agency (FEMA), under Contract No. EMA-2006-CA-5617. This study was completed in September 2008.

The digital base map information files were provided by the U.S. Army Corps of Engineers—Vicksburg District, 4155 East Clay Street, Vicksburg, MS 39183, phone number (601) 631-5053. The digital orthophotography was acquired in March 2006, with the imagery processed to a 2-foot pixel resolution.

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

1.3 Coordination

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

January 16, 1992, Town of Tylertown FIS

On April 25, 1989, an initial Consultation Coordination Officer's (CCO) meeting was held with representatives of FEMA, the USACE (the study contractor), and the Town of Tylertown to determine the streams to be studied by detailed methods.

On February 26, 1991, a final CCO meeting was held with representatives of FEMA, the study contractor, and the town to review the results of this study.

This Countywide FIS

For this countywide FIS, the Project Scoping Meeting was held on December 4, 2006 in Enon, MS. Attendees for these meetings included representatives from the Mississippi Department of Environmental Quality, Mississippi Emergency Management Agency, FEMA National Service Provider, Walthall County, and the Study Contractor. Coordination with county officials and Federal, State, and regional agencies produced a variety of information pertaining to floodplain regulations, available community maps, flood history, and other hydrologic data. All problems raised in the meetings have been addressed.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS covers the geographic area of Walthall County, Mississippi, and its incorporated communities listed in Section 1.1. Several flooding sources within the county were studied by approximate methods. Approximate analyses are used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon, by FEMA and the State of Mississippi.

January 16, 1992, Town of Tylertown FIS

Flooding caused by the overflow of Dry Creek and Magees Creek was studied in detail.

Areas having low development potential or minimal flood hazards were previously studied using approximate analyses. The results that were shown on the previously printed Flood Insurance Study for the Town of Tylertown (FEMA, 1988) are incorporated into this Flood Insurance Study.

The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development and proposed construction through April 1995. The scope and methods of study were proposed to and agreed upon by FEMA and the Town of Tylertown.

This Countywide FIS

For this countywide FIS, several flooding sources within the county were studied by approximate methods. Approximate analyses are used to study those areas having a low developmental potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon, by FEMA and the State of Mississippi.

Floodplain boundaries of stream that have been previously studied by detailed methods were redelineated based on best available topographic information.

2.2 Community Description

Walthall County is in southwestern Mississippi on the border of Louisiana. The county is bordered by Washington Parish, Louisiana, on the south, Pike County, Mississippi, on the west, Lawrence County to the north, and Marion County, Mississippi, on the east. Walthall County is served by U.S. Highway 98, State Highways 27, 44, 48, 583, and 585, and the Canadian National Railroad. The 2007 population for Walthall County was 39,798 (U.S. Census Bureau, 2008). The primary industries in Walthall County include manufacturing, retail trade, and wholesale trade.

Soils in the area are moderately well-drained silt on gently rolling terrain. Along streams, however, there are thick deposits of poorly-drained silt. Vegetation in the area varies from abundant strands of pine found in many undeveloped areas to bushy cutover land found along many stream banks.

The climate of Walthall County is characterized by warm summers and mild winters. The annual precipitation is 63.7 inches. Temperatures range from a January average of 49 °F to a July average of 81 °F (MSU Climatologist, 2008).

2.3 Principal Flood Problems

Low-lying areas of Tylertown are subject to periodic headwater flooding caused by the inability of streams to accommodate heavy rainfalls.

Strong storms, capable of causing flooding, can occur at any time of the year, but are more prevalent in the summer and fall. The most recent storm occurred on January 24, 1990. A severe storm occurred on April 5 and 6, 1983, producing 11 inches of rain in a 12-hour period, and 15.3 inches of rain in a 36-hour period, causing extensive flooding in the Mill Creek basin.

2.4 Flood Protection Measures

No flood protection measures on the studied streams within Walthall County.

3.0 ENGINEERING METHODS

For the flooding sources studied by detailed methods in the communities, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 1-percent-annual-chance flood in any 50-year period is approximately 40 percent (4 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

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

January 16, 1992, Town of Tylertown FIS Analyses

Flows for the streams studied by detailed methods were derived using synthetic rainfall methods from the U.S. Weather Bureau Technical Paper No. 40 (U.S. Department of Commerce, 1963). The 24-hour rainfall amounts were distributed into 0.05-hour increments and arranged in a sequence considered to be critical for runoff. Runoff hydrographs were developed by applying the distributed synthetic rainfall to unit hydrographs using the USACE HEC-1 computer program (USACE, 1970). The infiltration rate value for initial loss was 0.25 inch, and the infiltration loss rate was 0.025 inch per hour. Snyder's unit graph coefficients were used to develop unit hydrographs. Runoff was routed through the basin using the Modified Puls method.

This Countywide FIS Analysis

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

A summary of the drainage area-peak discharge relationships for all the streams is shown in Table 1, "Summary of Discharges."

TABLE 1. SUMMARY OF DISCHARGES

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA (sq. mi.)</u>	<u>PEAK DISCHARGES (cfs)</u>			
		<u>10-percent</u>	<u>2-percent</u>	<u>1-percent</u>	<u>0.2-percent</u>
DRY CREEK					
At confluence with Magees Creek	9.71	*	*	6,730	*
MAGEES CREEK					
Downstream of confluence of Collins Creek	175.18	*	*	36,390	*
Downstream of confluence of Dry Creek	153.51	*	*	32,690	*

*Data not available

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data table in the FIS report. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS report in conjunction with the data shown on the FIRM.

January 16, 1992, Town of Tylertown FIS Analyses

Cross section data for the channels, bridges, and overbank areas were taken from field surveys and U.S. Geological Survey (USGS) topographic maps (U.S. Department of Interior, 1970).

Water-surface elevations of floods of the selected recurrence intervals were computed using the USACE HEC-2 step-backwater computer program (USACE, 1984). Stage-storage relationships were developed by running an arbitrary range of discharges through the defined project area. These were run through the HEC-1 model to route the hydrographs through the study area using the Modified Puls method. High-water marks from the April 5-6, 1983 storm were used to verify the HEC-2 model. Flood profiles were drawn showing computed water-surface elevations for floods of the selected recurrence intervals.

Starting water-surface elevations for Magees Creek were developed using the slope/area method. For Dry Creek, starting water-surface elevations were determined by coincident stages at its confluence with Magees Creek.

Channel roughness factors (Manning's "n") used in the hydraulic computations were based on field observation and engineering judgment. Channel "n" values ranged from 0.050 to 0.075, and overbank "n" values ranged from 0.100 to 0.150.

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

This Countywide FIS Analysis

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

Downstream boundary conditions for the hydraulic models were set to normal depth using a starting slope calculated from values taken from topographic data, or where applicable, derived from the water-surface elevations. Water-surface profiles were computed through the use of the USACE HEC-RAS version 3.1.3 computer program (USACE, 2003). The model was run for the 1-percent annual chance storm for the limited detail and approximate studies.

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 hydraulic structures remain unobstructed, operate properly, and do not fail.

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

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

Stability A: Monuments of the most reliable nature, expected to hold position/elevation well (e.g., mounted in bedrock)

Stability B: Monuments which generally hold their position/elevation well (e.g., concrete bridge abutment)

Stability C: Monuments which may be affected by surface ground movements (e.g., concrete monuments below frost line)

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

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

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

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

3.3 Vertical Datum

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

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

Ground, structure, and flood elevations may be compared and/or referenced to NGVD29 by applying a conversion factor. To convert elevations from NAVD88 to NGVD29, add 0.13 feet to the NAVD88 elevation. The 0.13 feet value is an average for the entire county. The adjustment value was determined using the USACE Corpscon 6.0.1 computer program (USACE, 2004) and topographic maps (U.S. Department of the Interior, 1970). The BFE's shown on the FIRM represent whole-foot rounded values. For example, a BFE of 12.4 feet will appear as 12 feet on the FIRM, and 12.6 feet as 13 feet. Users who wish to convert the elevations in this FIS report to NGVD29 should apply the stated conversion factor to elevations shown on the Flood Profiles and supporting data tables in the FIS report, which are shown at a minimum to the nearest 0.1-foot.

For more information regarding conversion between the NGVD and the NAVD, see the FEMA publication entitled *Converting the National Flood Insurance Program to the North American Vertical Datum of 1988* or contact the Vertical Network Branch, National Geodetic Survey, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland 20910 (Internet address <http://www.ngs.noaa.gov>).

4.0 **FLOODPLAIN MANAGEMENT APPLICATIONS**

The NFIP encourages State and local governments to adopt sound floodplain management programs. Therefore, each FIS provides 1-percent-annual-chance flood elevations and delineations of the 1- and 0.2-percent-annual-chance floodplain boundaries and 1-percent-annual-chance floodway to assist communities in developing floodplain management measures. This information is presented on the FIRM and in many components of the FIS report, including Flood Profiles, Floodway Data Table and Summary of Stillwater Elevations Table. Users should

reference the data presented in the FIS report as well as additional information that may be available at the local map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Floodplain Boundaries

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

The 1- and 0.2-percent-annual-chance floodplain boundaries are shown on the FIRM (Exhibit 2). On this map, the 1-percent-annual-chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A and AE), and the 0.2-percent-annual-chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 1- and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by limited detailed and approximate methods, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM (Exhibit 2). Floodplain boundaries for these streams, as well as those streams that have been previously studied by detailed methods, were generated using USGS 10-meter Digital Elevation Models (USGS), then refined using detailed hydrographic data.

4.2 Floodways

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1-percent annual-chance flood can be carried without substantial increases in flood heights.

Floodways have not been shown or computed for this community. Along streams where floodways have not been computed, the community must ensure that the cumulative effect of development in the floodplain will not cause more than a 1.0-foot increase in the base flood elevations at any point within the community.

5.0 **INSURANCE APPLICATIONS**

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

Zone A

Zone A is the flood insurance risk zone that corresponds to the 1-percent annual chance floodplains that are determined in the FIS by approximate methods. Because detailed hydraulic

analyses are not performed for such areas, no base (1-percent annual chance) flood elevations (BFEs), or base flood depths are shown within this zone.

Zone AE

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

Zone 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 the 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 the average depths are between 1 and 3 feet. Average whole-foot depths derived from the detailed hydraulic analyses are shown within the zone.

Zone A99

Zone A99 is the flood insurance rate zone that corresponds to areas of the 1-percent 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 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 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 risk zone that corresponds to areas outside the 0.2-percent annual chance floodplain, areas within the 0.2-percent annual chance floodplain, areas of 1-percent annual chance flooding where average depths are less than 1 foot, areas of 1-percent annual chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the base flood by levees. No BFEs or depths are shown within this zone.

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

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

The countywide FIRM presents flooding information for the entire geographic area of Waltham 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, up to and including this countywide FIS are presented in Table 2, "Community Map History."

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Town of Tylertown	June 28, 1974	November 19, 1976 September 5, 1980	September 30, 1988	January 16, 1992
Walthall County (Unincorporated Areas)	February 24, 1978	--	August 1, 1986	--

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY
WALTHALL COUNTY, MS
 AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

7.0 OTHER STUDIES

Information pertaining to revised and unrevised flood hazards for each jurisdiction within Walthall County has been compiled into this FIS. Therefore, this FIS supersedes all previously printed FIS reports, FIRMs, and/or FBFMs for all of the incorporated and unincorporated jurisdictions within Walthall County.

8.0 LOCATION OF DATA

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

9.0 BIBLIOGRAPHY AND REFERENCES

Federal Emergency Management Agency, Flood Insurance Study, Town of Tylertown, Walthall County, Mississippi, Washington, D.C., September 30, 1988

Mississippi State Climatologist (October 16, 2008), Website, Starkville, Mississippi, http://www.msstate.edu/dept/geosciences/sc_normals.htm

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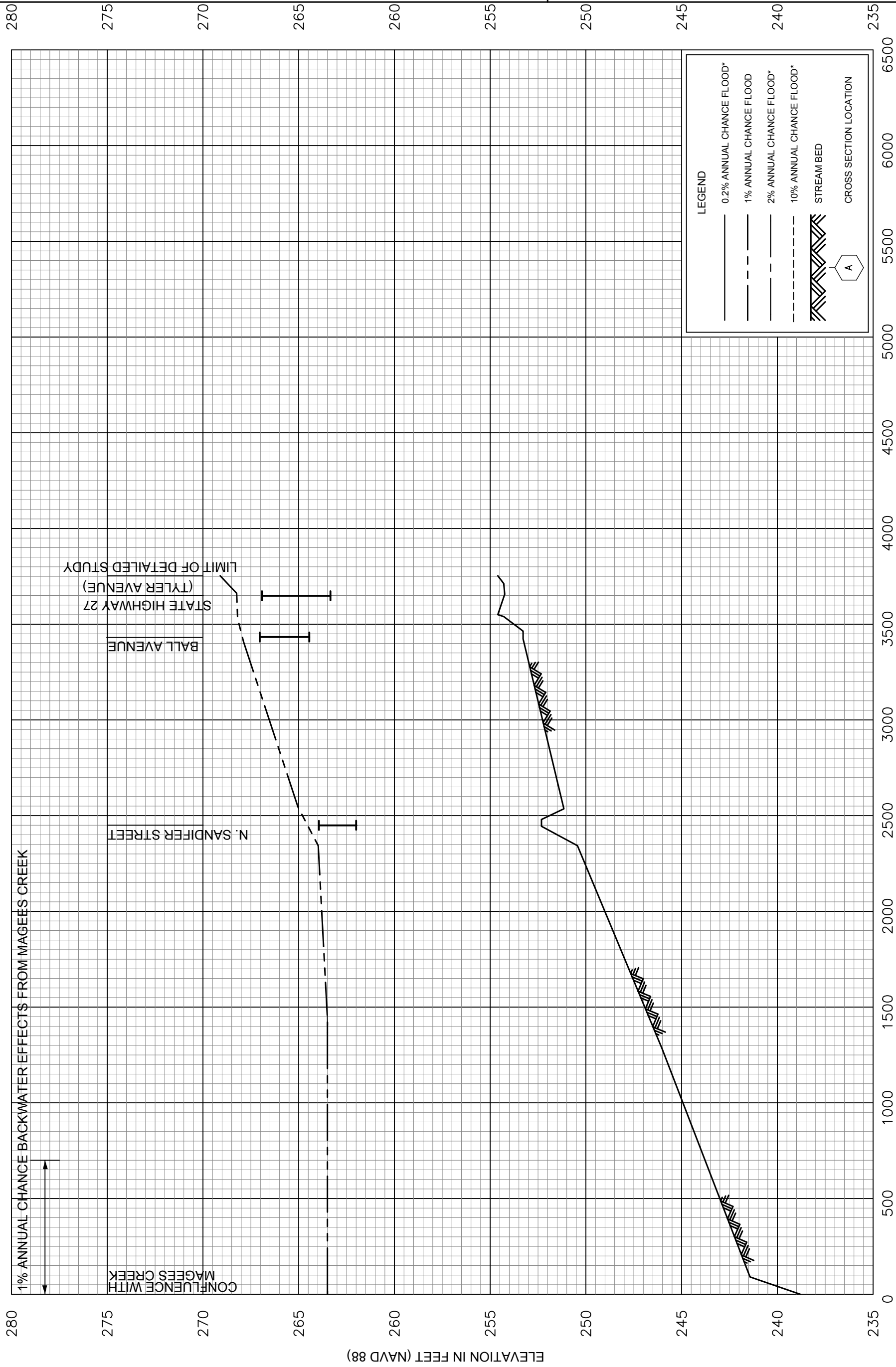
U.S. Census Bureau, Website—2007 Population Estimate, October 14, 2008

U.S. Census Bureau, Website—2008 Economic Fact Sheet, October 14, 2008

U.S. Department of the Interior, Geological Survey, 7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 10 Feet: Tylertown, Mississippi-Louisiana, 1970; Tylertown SE, Mississippi-Louisiana, 1970

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

U.S. Department of the Interior, Geological Survey, 7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour interval 10 Feet: Darbun, Mississippi, 1970; Dexter, Mississippi, 1970; Jayess, Mississippi, 1970; Mesa, Mississippi, 1970; Kokomo, Mississippi, 1970; Sandy Hook, Mississippi-Louisiana, 1970; Tylertown, Mississippi-Louisiana, 1970; Tylertown SE, Mississippi-Louisiana, 1970.



* DATA NOT AVAILABLE

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH MAGEES CREEK

1% ANNUAL CHANCE BACKWATER EFFECTS FROM MAGEES CREEK

CONFLUENCE WITH MAGEES CREEK

N. SANDIFER STREET

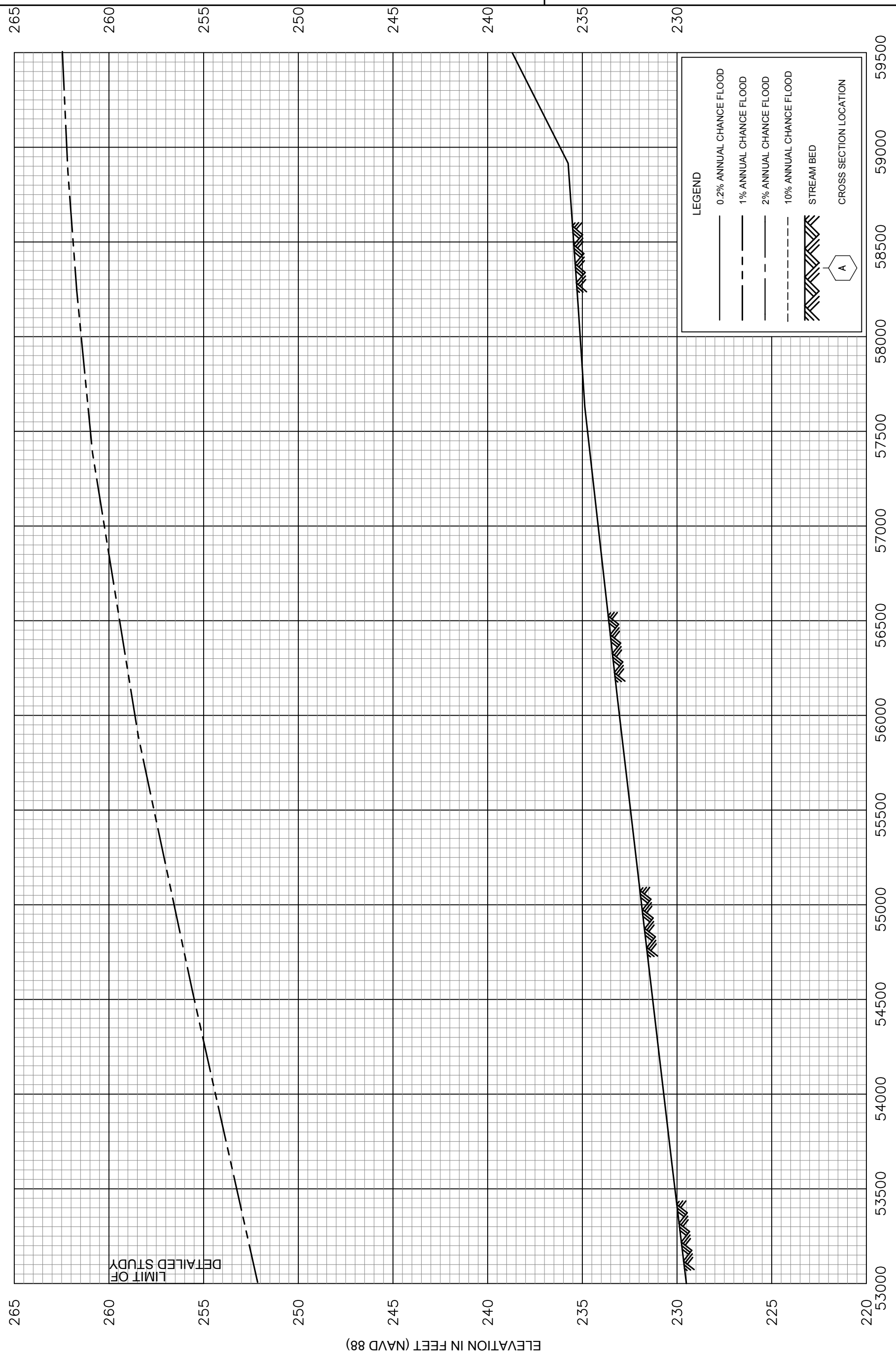
BALL AVENUE

STATE HIGHWAY 27
(TYLER AVENUE)

LIMIT OF DETAILED STUDY

LEGEND

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

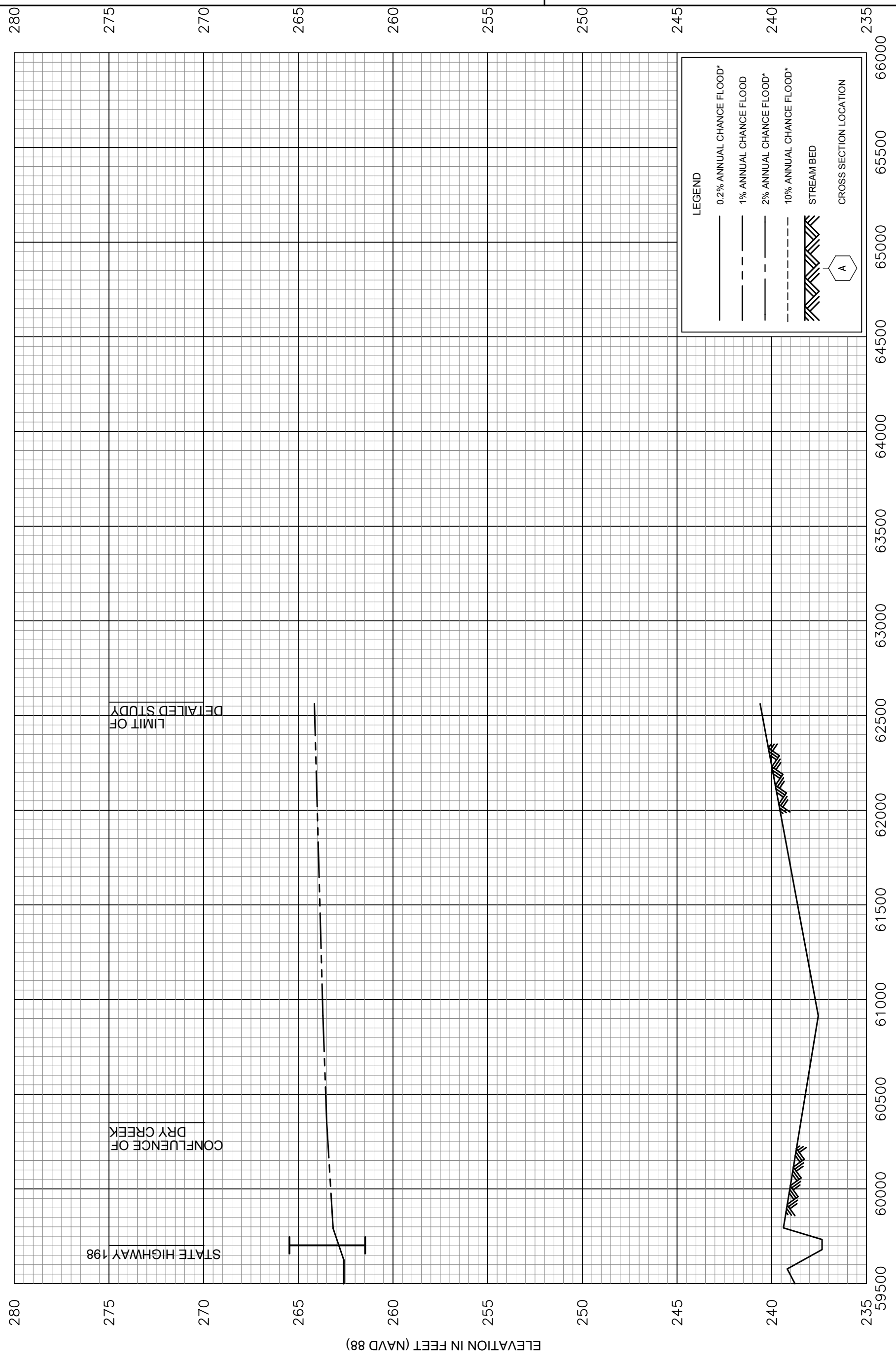


* DATA NOT AVAILABLE

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH BOGUE CHITTO

LIMIT OF
DETAILED STUDY

ELEVATION IN FEET (NAVD 88)



* DATA NOT AVAILABLE

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH BOGUE CHITTO

ELEVATION IN FEET (NAVD 88)