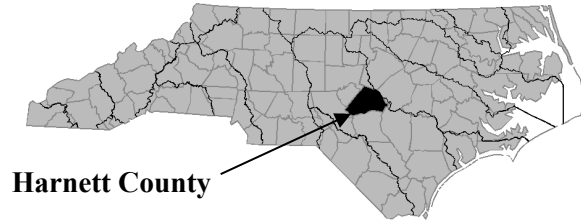


FLOOD INSURANCE STUDY

A Report of Flood Hazards in

HARNETT COUNTY, NORTH CAROLINA

AND INCORPORATED AREAS



Community Name	Community Number	River Basin
Angier, Town of	370522	Cape Fear
Dunn, City of	370264	Cape Fear
Erwin, Town of	370456	Cape Fear
Harnett County (Unincorporated Areas)	370328	Cape Fear
Lillington, Town of	370381	Cape Fear



July 19, 2022

**Federal Emergency Management Agency
State of North Carolina**

**Flood Insurance Study Number
37085CV000B**

www.fema.gov and www.ncfloodmaps.com



FOREWORD

This countywide Flood Insurance Study (FIS) Report was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long-term approach to floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map floodplain areas at the state level. As a part of this effort, the State of North Carolina has joined with FEMA in a Cooperating Technical State (CTS) agreement to produce and maintain this FIS Report and the accompanying digital Flood Insurance Rate Map (FIRM) for North Carolina.

NOTICE TO FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program 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 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.

The following is a list of the publication dates of this Countywide FIS Report starting with the initial Report accompanying the North Carolina Statewide FIRM:

October 3, 2006: Initial Statewide FIS Report Effective Date
February 2, 2007: FIRM update as a Border with Chatham County
July 19, 2022: FIRM update as a Border with Wake County

This FIS has been produced as part of the North Carolina Floodplain Mapping Program. Harnett County, North Carolina, falls under the administrative jurisdiction of Region IV of the Federal Emergency Management Agency (FEMA). Questions concerning this FIS may be directed to the North Carolina Floodplain Mapping Program at www.ncfloodmaps.com, the FEMA Map Assistance Center by calling the toll-free information line at 1-877-FEMA MAP (1-877-336-2627), or by contacting the FEMA Regional Office at the following address:

FEMA, Federal Insurance and Mitigation Administration
Koger Center - Rutgers Building
3005 Chamblee Tucker Road
Atlanta, Georgia 30341
(770) 220-5400

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Flood Profiles

Black River	Profiles 01P-05P
Buies Creek	Profiles 06P-09P
Cape Fear River	Profiles 10P-15P
East Buies Creek	Profiles 16P-18P
Juniper Creek (into Cape Fear River)	Profiles 19P-20P
South Prong Anderson Creek	Profile 21P
Stewarts Creek	Profiles 22P-23P
Stony Run	Profiles 24P-27P
Tributary 1	Profile 28P
Tributary 2	Profiles 29P-30P
West Buies Creek	Profiles 31P-32P

1.1 The National Flood Insurance Program

In 1968, Congress created the National Flood Insurance Program (NFIP) in response to the rising cost of taxpayer-funded disaster relief for flood victims and the increasing amount of damage caused by floods. The NFIP makes federally backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. Federally backed flood insurance is available in more than 19,000 communities across the United States and its territories.

The NFIP is managed by the Federal Insurance and Mitigation Administration of the Federal Emergency Management Agency (FEMA). The Federal Insurance and Mitigation Administration manages the insurance component of the NFIP and oversees the flood hazard mapping and the floodplain management aspects of the program.

The NFIP, through involvement with communities, the insurance industry, and the lending industry, helps reduce flood damage by nearly \$800 million a year. Further, buildings constructed in compliance with NFIP building standards suffer approximately 80% less damage annually than those not built in compliance. In addition, every \$3 paid in flood insurance claims saves \$1 in disaster assistance payments. The NFIP is self-supporting for the average historical loss year, which means that operating expenses and flood insurance claims are not paid by the taxpayer, but through premiums collected for flood insurance policies.

Additional information of interest to homeowners, community officials, insurance companies, lenders, and study contractors is available in Section 9.0 of this FIS Report and on the NFIP Internet homepage at <http://www.fema.gov/nfip/index.htm>.

1.2 Purpose of this Flood Insurance Study

Flood Insurance Studies (FISs) are one of the primary means by which the NFIP administers the National Flood Insurance Act of 1968, the Flood Disaster Protection Act of 1973, and the National Flood Insurance Reform Act of 1994. FISs develop flood risk data that are used to establish actuarial flood insurance rates. The information in this FIS Report will also be used by Harnett County and the jurisdictions therein (hereinafter referred to collectively as Harnett County) to facilitate the adoption and maintenance of floodplain management ordinances, which form the basis of communities' continued participation in the NFIP. Minimum requirements for participation in the NFIP are set forth in Title 44, Part 60, Section 3 of the Code of Federal Regulations (44 CFR 60.3). In some States and/or communities, floodplain management criteria or regulations may exist that are more restrictive than the minimum Federal requirements. In such cases, the more restrictive criteria will take precedence, and the State and/or community (or other jurisdictional agency) will be able to explain them.

This FIS investigates the existence and severity of flood hazards in, or revises and updates previous FISs for, the geographic area of Harnett County, North Carolina, including the jurisdictions listed in Table 1.

Table 1—Jurisdictions in Harnett County

Community	Included in this FIS	Not Included in this FIS	If Not Included, Location of Flood Hazard/Flood Insurance Rate Data
Angier, Town of	X		
Broadway, Town of		X	Lee County
Coats, Town of ¹	X		
Dunn, City of	X		
Erwin, Town of	X		
Harnett County (Unincorporated Areas)	X		
Lillington, Town of	X		

¹Non-floodprone community

1.3 FIS Components

A Flood Insurance Study (FIS) is an analysis of flood hazards, typically presented as a set of Flood Insurance Rate Map (FIRM) panels and the FIS Report, which includes a set of Flood Profiles.

Flood Insurance Rate Map

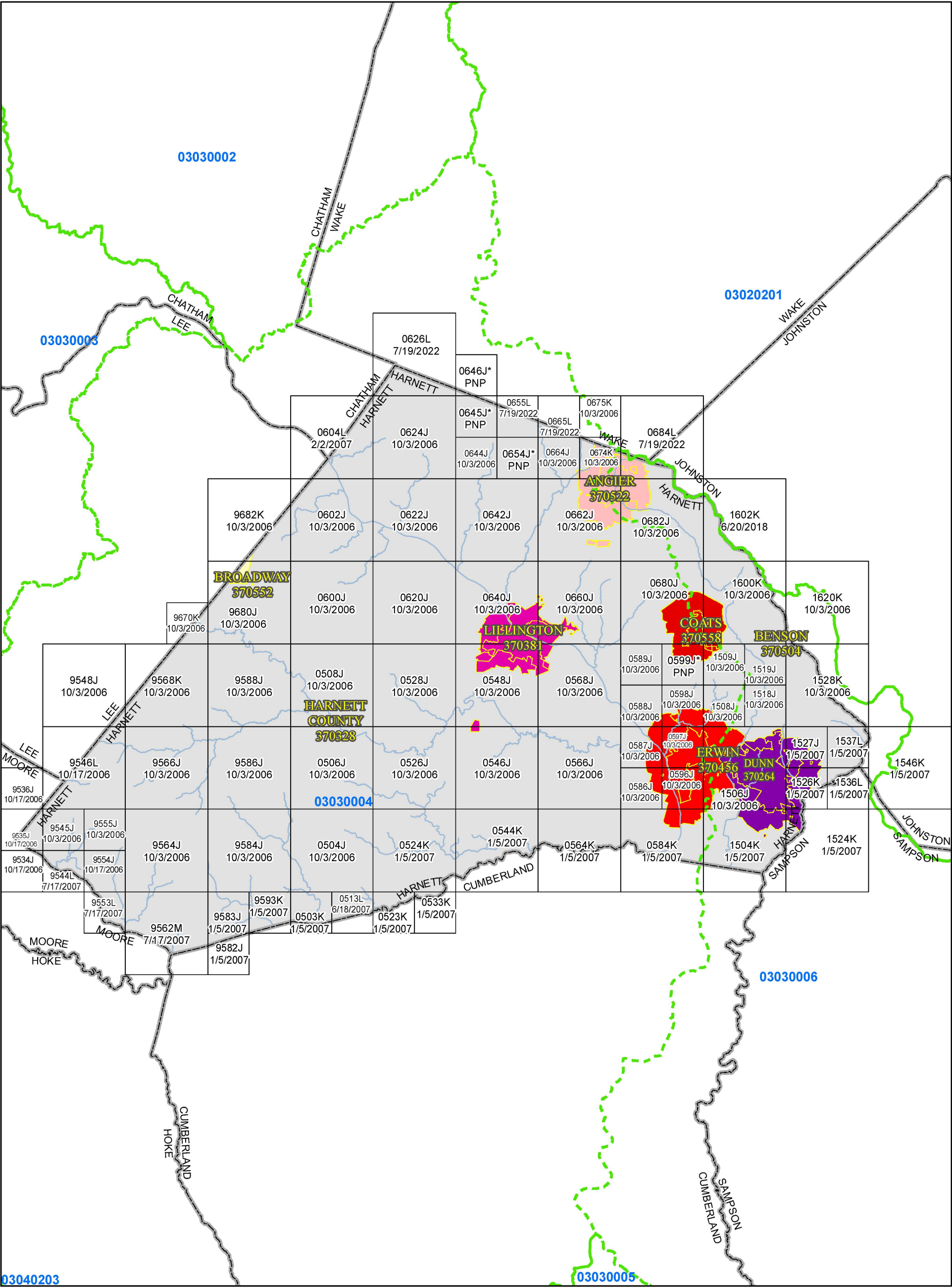
The FIRM shows 1% annual chance (100-year) and 0.2% annual chance (500-year) floodplains, using tints, screens, and symbols. Floodways, the locations of selected cross sections used in the hydraulic analyses and floodway computations, and Velocity Zones are shown where applicable. The FIRM for North Carolina has been produced digitally, and there are separate data layers that are available in the public domain via the Internet.

Flood Insurance Study Report

The FIS Report provides a context for the information shown on the FIRM, as well as a summary of the data upon which the analyses are based. It also includes an index of sources of additional information on the NFIP.

Flood Profiles

A Flood Profile is provided for every stream studied in detail, showing the continuum of calculated flood elevations of various recurrence periods along the studied reaches. Flood Profiles are the documents that serve as a basis for determining flood insurance rate zones.



1 in = 4.4 miles

Miles

0 0.5 1 2 3

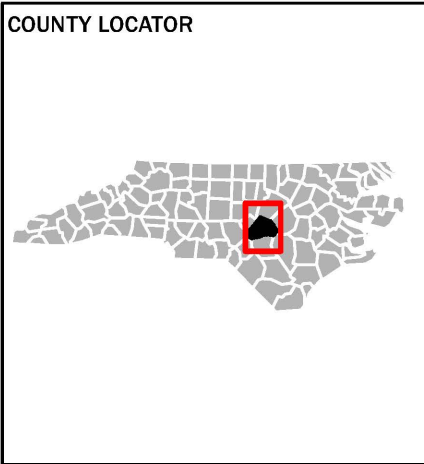
Map Projection:
North Carolina State Plane Projection Feet (Zone 3200)
Datum: NAD 1983 (Horizontal), NAVD 1988 (Vertical)

The corporate limits shown on this FIRM Index are based on the best information available at the time of publication. As such, they may be more current than those shown on FIRM panels previously issued under the North Carolina Seamless paneling scheme

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

[HTTPS://FRIS.NC.GOV/FRIS](https://FRIS.NC.GOV/FRIS)
[HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION
*PANEL NOT PRINTED
Flood Insurance Study Report: Harnett County, North Carolina and Incorporated Areas
July 19, 2022



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP INDEX

HARNETT COUNTY, NORTH CAROLINA And Incorporated Areas

PANELS PRINTED:

0503, 0504, 0506, 0508, 0513, 0523, 0524, 0526, 0528, 0533, 0544, 0546, 0548, 0564, 0566, 0568, 0584, 0586, 0587, 0588, 0589, 0596, 0597, 0598, 0600, 0602, 0604, 0606, 0620, 0622, 0624, 0626, 0640, 0642, 0644, 0655, 0660, 0662, 0664, 0665, 0674, 0675, 0680, 0682, 0684, 1504, 1506, 1508, 1509, 1518, 1519, 1524, 1526, 1527, 1528, 1536, 1537, 1546, 1600, 1602, 1620, 9534, 9535, 9536, 9544, 9545, 9546, 9548, 9553, 9554, 9555, 9562, 9564, 9566, 9568, 9582, 9583, 9584, 9586, 9588, 9593, 9670, 9680, 9682

MAP NUMBER

37085CIND0H

MAP REVISED

July 19, 2022

Flood events of a magnitude expected to occur with a 10%, 2%, 1%, or 0.2% annual chance have been selected as having special significance for developing sound floodplain management programs. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10%, 2%, 1%, and 0.2% chance, respectively, of being equaled in any given year. Therefore, FIS Reports typically determine water-surface elevations for floods with these probabilities. The FIRM delineates 1% and 0.2% annual chance floodplains and 1% annual chance floodway boundaries, and depicts 1% annual chance flood elevations, rounded to the nearest foot, to assist in developing floodplain management measures.

2.1 Floodplains

To provide a national standard without regional discrimination, the 1% annual chance flood has been adopted by FEMA as the base flood for floodplain management purposes. A 1% annual chance flood, or base flood, is defined as that having a 1% chance of being equaled or exceeded in any given year. The 1% annual chance floodplains shown on the FIRM identify areas that are expected to be inundated by the 1% annual chance flood. This 1% annual chance floodplain is also called a Special Flood Hazard Area (SFHA), where the NFIP's floodplain management regulations must be enforced by the community as a condition of participation in the NFIP. The 0.2% annual chance floodplain is employed to indicate additional areas of flood risk associated with exceptionally severe floods.

2.2 Floodways

Encroachment on floodplains such as that caused by placement of 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, floodways are provided as a tool to assist local communities in this aspect of floodplain management. Under this concept, the 1% annual chance riverine floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. Figure 1, "Floodway Schematic," illustrates this principle. Minimum Federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this FIS are presented to local agencies as a minimum standard that can be adopted directly or that can be used as a basis for additional encroachment studies.

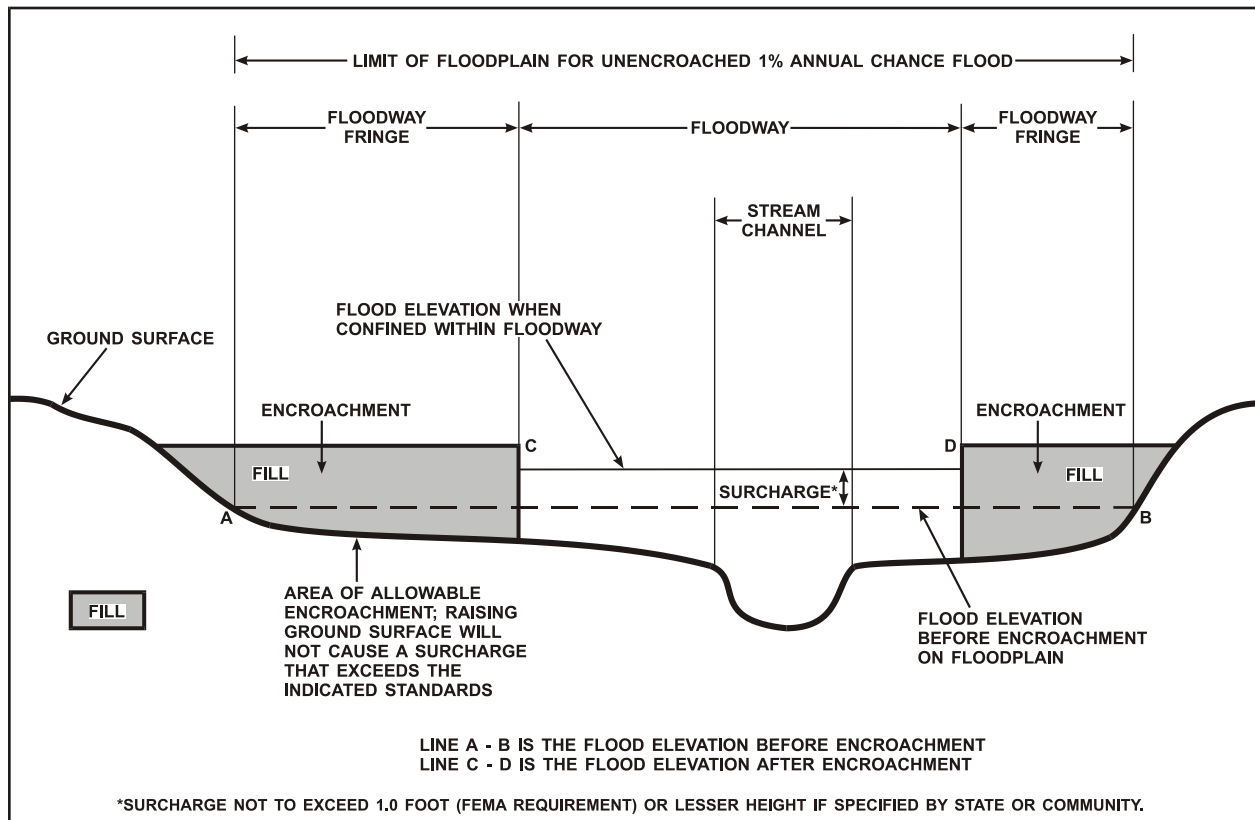


Figure 2—Floodway Schematic

2.3 Base Flood Elevations

Base Flood Elevations (BFEs) are shown on the FIRM and represent rounded, whole-foot elevations at selected locations along flooding sources that have been studied in detail. Flood Profiles in this FIS Report provide a comprehensive and definitive tool to determine specific flood elevations along a stream studied by detailed methods. In order to reduce the risk of damage from floods up to the base (1% annual chance) flood, communities are advised to consider these elevations when issuing building permits for structures.

Coastal flood elevations are provided in the Summary of Coastal Stillwater Elevations table in this report. If the elevation on the FIRM is higher than the elevation shown in this table, a wave height, wave runup and/or wave setup component likely exists, in which case, the higher elevation should be used for construction and/or floodplain management purposes.

2.4 Watershed Characteristics

Because a FIS is a probability analysis that may not account for some of the factors listed below, communities are strongly encouraged to consider adopting more restrictive or higher floodplain management criteria or ordinances than the minimum Federal requirements. Communities may also increase the validity of their flood hazard data by investing in continuous maintenance of river gages (see the **Data Validity and Reliability** paragraph below). If the U.S. Geological Survey (USGS) or other agencies do not maintain gages on the flooding sources of interest, partnerships

with the USGS may be pursued, or local gages may be installed. For more information, see Section 9.0 of this report.

This flood hazard study represents an analysis of certain watershed characteristics, some of which are summarized as follows:

Drainage Area

In general, streams that drain larger areas have greater flood hazards. FISs, in North Carolina, do not typically analyze flood hazards in places with rural drainage areas of less than one square mile and within urban drainage areas of less than ½ square mile.

Soil Permeability and Infiltration

Differences in the types of soil and the amount of vegetation in a watershed have a significant effect on the amount of water that the soil can absorb; soils with a high sand content absorb much more water than soils with a high clay content. The presence of vegetation increases infiltration; the presence of pavement decreases infiltration and also speeds runoff to receiving waters. As soil permeability and infiltration decrease, the volume and rate of overland flow increases.

Soil Moisture Conditions

In addition to soil permeability and infiltration, the level of the water table helps determine the saturation point, beyond which no water is absorbed. As rainfall duration increases, the height of the water table increases.

Channel and Floodplain Geometry

The geometric contour of a streambed, termed channel geometry, and the geometric contour of a floodplain determine the volume of water that a channel can hold and partially determine the rate at which water flows through it.

Channel and Floodplain Roughness

The roughness of a surface affects the characteristics of runoff whether the water is on the surface of the watershed or in the channel.

FIS Reports include analyses of how these factors will combine to produce overland flow patterns during floods that have a certain probability of occurring in any given year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at shorter intervals or even within the same year. The risk of experiencing a rare flood increases when longer periods are considered. For example, the risk of having a flood which equals or exceeds the 1% annual chance flood (1% chance of annual exceedence) in any 50-year period is approximately 40% (4 in 10), but for any 90-year period, the risk increases to approximately 60% (6 in 10).

It is important to note that the 1% annual chance flood is used as the national standard to allow a consistent approach to floodplain management, flood hazard assessment, and flood hazard mapping. In any given community, a number of factors may result in flooding characteristics that do not conform to predicted conditions. Therefore, the determination that an area is not shown on the FIRM as being within a Special Flood Hazard Area is no guarantee that it will not flood during a 1% annual chance flood. Examples of these factors include Data Validity and Reliability; Developmental and Topographic Changes Over Time; Erosion, Deposition, and Debris Flow; and Meandering and Lateral Migration.

Data Validity and Reliability

Certain types of analysis methods yield more justifiable characterizations of flood hazards. For example, a gage analysis, to determine peak discharges, is based on actual measurements of watershed conditions over time and, therefore, is typically considered the most accurate method of hydrologic analysis. However, it is not feasible to install enough gages to gather data on every stream. In addition, for many of the gage sites that do exist, there are interruptions in the period of record. The usefulness of gage data for the purpose of predicting flooding behavior decreases with interruptions in the period of record; predicted flooding conditions over a 100-year period based on 20 years of measurements spread over a 35-year period are less valid than those based on 30 years of continuous measurements. A regression analysis is typically considered the best method in the absence of gage data, as it uses gage data from watersheds with similar characteristics to estimate flood frequency and magnitude in an ungaged watershed. Regression equations reflect average conditions for a region; therefore, the results will not exactly match the results of a gage analysis at a particular location. The standard errors of the North Carolina rural regression equations range from 44 to 51 percent for estimates of the 1% annual chance flood. That means the difference between the results of the regression equation and the gage analysis for approximately two-thirds of the locations that gage data exists are within 44 to 51 percent of the gage analysis results. A rainfall-runoff hydrologic analysis may be used for gaged or ungaged watersheds, and can estimate the effects of storage areas and flood control structures and measures. This method is most valid when calibrated against historical data.

Developmental and Topographic Changes Over Time

A FIRM is based on the best topographic and planimetric information available to FEMA and the State of North Carolina at the time the study is produced. In time, however, development and/or natural phenomena can alter the physical characteristics of a watershed and its drainage channels, resulting in changes in the flood hazards in those areas. For example, constructing a housing subdivision reduces the amount of soil that is available to absorb water; this in turn causes an increase in the volume of surface water that flows into the channel.

Erosion, Deposition, and Debris Flow

The flood hazards shown on a FIRM are based on the assumption of unobstructed flow. The FIRM does not reflect an analysis of areas that are subject to erosion caused by the increased water-surface elevations and velocities that occur during flooding. In addition to the risks of landslides or a weakening of the ground underneath roads or structures, any sediment that is removed from one location will be deposited in another; accumulated deposits may have a pronounced effect on flood hazards in those areas. Similarly, debris such as fallen trees or branches, litter, or other items may obstruct stream channels or hydraulic structures, increasing water-surface elevations, velocities, and floodplain width.

Meandering and Lateral Migration

FISs are based on the assumption that channel geometry will remain stable during normal drainage and during flood events. This assumption is valid for most streams, which flow over bedrock or between bedrock outcroppings that form non-alluvial channels. However, alluvial streams change the channel geometry with time, significantly so during flood events. Alluvial streams are subject to erosion and deposition, which may result in braided or meandering channels. Streams of this type may be characterized by lateral migration, or channel shifting, in which the stream may change course entirely during a flood. Whenever clear evidence is available, a FIRM will identify the alluvial nature of a studied flooding source and designate wider floodways to allow for potential migration. However, these floodways are based on qualitative assessments and not on quantitative geomorphic and engineering analyses.

For flood insurance applications, the FIRM designates flood insurance rate zones and, in 1% 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. Table 2, “Flood Zone Designations,” includes a description of each type of flood hazard zone.

Table 2—Flood Zone Designations

Zone	Description
A	Zone A is the flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined in the FIS Report by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no Base Flood Elevations or depths are shown within this zone.
AE	Zone AE is the flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined in the FIS Report 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.
AH	Zone AH is the flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.
AO	Zone AO is the flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the detailed hydraulic analyses are shown within this zone.
AR	Zone AR is the flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
A99	Zone A99 is the flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No Base Flood Elevations or depths are shown within this zone.
V	Zone V is the flood insurance rate zone that corresponds to the 1% 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.
VE	Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Whole-foot Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Table 2—Flood Zone Designations

Zone	Description
X	Zone X is the flood insurance rate zone that corresponds to areas outside the 0.2% annual chance floodplain, areas within the 0.2% annual chance floodplain, and to areas of 1% annual chance flooding where average depths are less than 1 foot, areas of 1% annual chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone.
D	Zone D is the flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

4.1 Basin Characteristics

Cape Fear River Basin

The Cape Fear River Basin extends from its headwaters near Greensboro and High Point in the north central Piedmont region of North Carolina to the Atlantic Ocean near Wilmington and Cape Fear. It is bordered by the Roanoke River Basin to the north, the Neuse River Basin to the north and northeast, the White Oak River Basin to the east, the Yadkin River Basin to the west, the Lumber River Basin to the southwest and south, and the Atlantic Ocean to the east. Encompassing an area of approximately 9,300 square miles, the Cape Fear River Basin is the largest river basin in North Carolina. It is also one of only four river basins located entirely within the state.

The Cape Fear River, the major waterway in the basin, begins at the confluence of the Haw and Deep Rivers, near the border of Chatham and Lee Counties. The Cape Fear River continues southeastward through a series of three locks and dams and finally enters the Atlantic Ocean. Everett Jordan Lake, a reservoir along the Haw River near its confluence with the Deep River, regulates flood flows for the entire Cape Fear River.

The Cape Fear River Basin is located in both the Coastal Plain and Piedmont regions of North Carolina. Flat terrain, slow moving streams, swampland, and estuarine areas characterize the topography of the Coastal Plain. The Piedmont region is characterized by rolling terrain and forested floodplains. More than half of the land cover in the basin is forested. Since 1982, land use identification shows an increase in developed land area and a decrease in agricultural cropland.

The basin includes approximately 6,300 miles of freshwater flooding sources, approximately 39,200 acres of estuarine waters, and numerous lakes and reservoirs. In addition to supporting many environmental habitats, which are home to many endangered and threatened species, the waters in the Cape Fear River Basin serve as valuable commercial and recreational waters.

The Cape Fear River Basin encompasses all or parts of 29 counties and 110 municipalities. Data from the 2000 census show that the population of the basin is approximately 1,498,075. The most populated areas of the basin are the Durham-Chapel Hill area, the Fayetteville area, the Wilmington area, and the Triad region, which is made up of the area containing Greensboro, Burlington, and High Point.

The economy of the Cape Fear River Basin is largely based on agriculture, forestry, and manufacturing. Hog, poultry, soybean, and tobacco production are of high agricultural significance.

Given the historical impact of hurricanes, tropical storms, and northeasters on the Coastal Plain of North Carolina, both riverine and coastal flooding are significant problems. Flooding in the Cape Fear River Basin occurs as both flooding due to rain and, in areas near the coastline, flooding due to the wave surges generated by tropical storms and hurricanes in the Atlantic Ocean.

4.2 Principal Flood Problems

The Upper Cape Fear River basin stretches over thirteen counties. The upper part of the basin is in the most developed region of the state. The average annual rainfall for the upper basin is 46.5 inches (U.S Department of Agriculture, 1975). Because of sedimentation, many of the basin's streams are filled, resulting in swamp conditions on most floodplain land.

The history of flooding on the streams studied with Harnett County indicates that flooding may occur during any season of the year; however, most flooding occurs during the spring as a result of heavy rainfall. Floods are often associated with tropical storms moving north along the Atlantic coastline.

4.3 Historic Flood Elevations

September 13, 1984 (Hurricane Diana)

The landfall location of Diana was 38 miles south of Wilmington with 90 mph winds at its closest approach to Wilmington. Diana had 115 mph sustained winds before landfall. Storm surge was approximately 5-6 feet.

September 26, 1985 (Hurricane Gloria)

The landfall location of Gloria was Cape Hatteras, with 90 knot winds and a storm surge of approximately 6-8 feet.

July 12, 1996 (Hurricane Bertha)

1996 was a damaging year in the hurricane history of North Carolina. Tropical Storm Arthur, Hurricane Bertha, and Hurricane Fran all made direct landfall on the North Carolina coastline. It was the most active tropical cyclone season in the state since 1955, when Hurricanes Connie, Diane, and Ione all hit the coast. Bertha entered North Carolina in North Topsail Beach with 105 mph gust and a storm surge of approximately 5 feet.

September 5, 1996 (Hurricane Fran)

The landfall location of Fran near the city of Wilmington and its progression into the Raleigh-Durham area caused an estimated \$1.275 billion in damage in North Carolina alone. Fran hit with gusts up to 105 mph and a storm surge of approximately 16 feet. Over \$1 billion in damage was reported in North Topsail Beach and Surf City and 23 people were killed.

August 26, 1998 (Hurricane Bonnie)

The landfall location of Bonnie was in southern North Carolina near Cape Fear very close to landfall of both Hurricanes Bertha and Fran in 1996. Even though a powerful storm, damage from Bonnie was much less than Fran, which was also Category 3. Winds gusted up to 100 knots and storm tides of 5 to 8 feet above normal were reported mainly in eastern beaches of Brunswick County, while a storm surge of 6 feet was reported at Pasquotank and Camden Counties in the Albemarle Sound.

September 16, 1999 (Hurricane Floyd)

Hurricane Floyd made landfall near Wilmington with category two winds of 105 to 110 mph. Rainfall totals from Floyd were as high as 15 to 20 inches over portions of eastern North Carolina; with a record of 23.45 inches of rain falling in the month of September at Wilmington, NC. This breaks the previous record of 21.12 inches set in July 1886. These rains combined with saturated ground from previous rain events, including Hurricane Dennis, to produce an inland flood disaster. There were 74 deaths in the United States, including 52 in North Carolina, due to drowning from flood waters.

Data from the USGS indicate that eleven of their stream gage monitoring sites in North Carolina (Ahoskie, Rocky Mount, Hilliardston, White Oak, Enfield, Tarboro, Lucama, Hookerton, Trenton, Chinquapin, and Freeland) exceeded 0.2% annual chance flood levels due to Floyd. Total losses

in North Carolina approach \$5 billion with an estimated \$3.5 billion in damages to North Carolina homes, businesses, roads, and infrastructure.

Floyd passed relatively close to the entire U.S. east coast, justifying hurricane warnings from Florida to Massachusetts and requiring an estimated two million people to evacuate. The last hurricane to require warnings for as large a stretch of coastline was Hurricane Donna in 1960.

4.4 Flood Protection Measures

Flood protection measures may be structural (such as levees, dams, and reservoirs) or non-structural (such as land-use management ordinances, policies, or practices).

Flood protection measures are not known to exist within the study area. Although there are small dams located on the streams studied, none provides measurable protection from major events such as the 1% annual chance flood.

4.5 Scope of Study

In order to determine the areas studied by detailed and limited detailed methods in this FIS, initial research and community coordination was necessary. Initial scoping meetings were held in Harnett County to present the results of initial research to the county and communities within the county and to discuss their flood mapping needs. The county and communities were asked to provide input on proposed study priorities and analysis methods. Those meetings resulted in the identification of flooding sources having a flood mapping need. Draft basin plans were developed based on the results of the initial scoping meetings. Final scoping meetings were held by the State and FEMA to provide counties and communities an overview of the draft basin plans, including the proposed scope and schedule for the project, and to provide an opportunity for additional county and community input. After the final scoping meeting was held, the Final Basin Plans were produced.

This FIS covers the geographic area of Harnett County, North Carolina, and all jurisdictions therein. 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. Limits of detailed study are indicated on the Flood Profiles and/or the FIRM. Please see Table 3, “Flooding Sources Studied by Detailed Methods: Revised or Newly Studied,” for a list of flooding sources that were revised or newly studied by detailed methods for this FIS.

Table 3—Flooding Sources Studied by Detailed Methods: Revised or Newly Studied

Source	Riverine Sources		Affected Communities
	From	To	
Black River	Approximately 170 feet upstream of Guy Road	Approximately 2.1 miles upstream of Guy Road	Town of Angier Harnett County (Unincorporated Areas)

Table 4, “Flooding Sources Studied by Detailed Methods: Redelineated,” contains a list of flooding sources that were studied by detailed methods for previous FISs, but were only partially revised in the current study. Their effective analyses remain valid; however, their floodplain delineations have been revised on the current FIRM.

**Table 4—Flooding Sources Studied by
Detailed Methods: Redelineated**

Source	Riverine Sources		Affected Communities
	From	To	
Black River	Approximately 1.9 miles upstream of Harnett/Cumberland County Boundary	Ashe Avenue	City of Dunn Town of Erwin Harnett County (Unincorporated Areas)
Buies Creek	The confluence with Cape Fear River	Sheriff Johnson Road	Harnett County (Unincorporated Areas)
Cape Fear River	Harnett/Cumberland County Boundary	Lee/Harnett County Boundary	Town of Lillington Town of Erwin Harnett County (Unincorporated Areas)
East Buies Creek	The confluence with Buies Creek	Sheriff Johnson Road	Harnett County (Unincorporated Areas)
Juniper Creek (into Cape Fear River)	The confluence with Cape Fear River	Prospect Church Road	Town of Erwin Harnett County (Unincorporated Areas)
South Prong Anderson Creek	Approximately 0.3 mile downstream of Overhills Road	Approximately 0.2 mile upstream of Bernard Street	Harnett County (Unincorporated Areas)
Stewarts Creek	The confluence with Juniper Creek (into Cape Fear River)	Approximately 100 feet upstream of Ashe Avenue	Harnett County (Unincorporated Areas)
Stony Run	Harnett/Sampson County Boundary	Hobson Road	City of Dunn Harnett County (Unincorporated Areas)
Tributary 1	Approximately 800 feet upstream of the confluence with Lower Little River	Approximately 600 feet upstream of Rambeaut Road	Harnett County (Unincorporated Areas)
Tributary 2	The confluence with Tributary 1	Approximately 800 feet downstream of Rambeaut Road	Harnett County (Unincorporated Areas)
West Buies Creek	The confluence with Buies Creek	Approximately 950 feet upstream of US Route 421	Harnett County (Unincorporated Areas)

Table 5, “Flooding Sources Studied by Detailed Methods: Limited Detailed” contains a list of flooding sources that were studied by approximate methods in previous FISs but were revised using limited detailed methods for this FIS.

Table 5—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Anderson Creek	The confluence with Lower Little River	Confluence with South Prong Anderson Creek and North Prong Anderson Creek	Harnett County (Unincorporated Areas)
Anderson Creek Tributary 1	The confluence with Anderson Creek	Approximately 0.7 mile upstream of Elliot Bridge Road	Harnett County (Unincorporated Areas)
Avents Creek	The confluence with Cape Fear River	Approximately 0.8 mile upstream of Oakridge River Road	Harnett County (Unincorporated Areas)
Barbecue Creek	The confluence with Upper Little River	Approximately 520 feet upstream of NC-27	Harnett County (Unincorporated Areas)
Beaver Creek	Approximately 400 feet downstream of Harnett/Lee County boundary	Approximately 1.3 miles upstream of the Lee/Harnett County boundary	Harnett County (Unincorporated Areas)
Big Branch (into Barbecue Creek)	The confluence with Barbecue Creek	Approximately 0.5 mile upstream of McCormick Rd.	Harnett County (Unincorporated Areas)
Big Branch (into Black River)	The confluence with Black River	Approximately 0.8 mile upstream of Johnson Road	Harnett County (Unincorporated Areas)
Black River (downstream)	Harnett/Cumberland County boundary	Approximately 1.9 miles upstream of Harnett/Cumberland County boundary	Harnett County (Unincorporated Areas)
Black River (upstream)	Ashe Avenue	Approximately 170 feet upstream of Guy Road	Harnett County (Unincorporated Areas)
Buffalo Creek	Harnett/Moore County boundary	Approximately 1.3 miles upstream of the confluence of Buffalo Creek Tributary 3	Harnett County (Unincorporated Areas)
Buffalo Creek Tributary 2	The confluence with Buffalo Creek	Approximately 2.6 miles upstream of Hillmon Grove Road	Harnett County (Unincorporated Areas)

**Table 5—Flooding Sources Studied by
Detailed Methods: Limited Detailed**

Source	Riverine Sources		Affected Communities
	From	To	
Buffalo Creek Tributary 3	The confluence with Buffalo Creek	Approximately 1.4 miles upstream of the confluence with Buffalo Creek	Harnett County (Unincorporated Areas)
Buffalo Meadows Creek	The confluence with Anderson Creek	Approximately 1.3 miles upstream of confluence with Anderson Creek	Harnett County (Unincorporated Areas)
Buies Creek	Sheriff Johnson Road	Approximately 0.8 mile upstream of Sheriff Johnson Road	Harnett County (Unincorporated Areas)
Camels Creek	The confluence with Cape Fear River	Approximately 0.9 mile upstream of Cool Springs Road	Harnett County (Unincorporated Areas)
Cedar Creek	The confluence with Cape Fear River	Approximately 2.9 miles upstream of Confluence with Cape Fear River	Harnett County (Unincorporated Areas)
Cypress Creek (into Crane Creek)	Harnett/Moore County boundary	Approximately 1.8 miles upstream of Cypress Road	Harnett County (Unincorporated Areas)
Cypress Creek (into Gum Swamp)	The confluence with Gum Swamp	Approximately 1.5 miles upstream of the confluence of Lower Run	Harnett County (Unincorporated Areas)
Daniels Creek	The confluence with Cape Fear River	Approximately 5.8 miles upstream of Confluence with Cape Fear River	Harnett County (Unincorporated Areas)
Dry Creek	The confluence with Gum Swamp	Approximately 1.1 miles upstream of confluence with Gum Swamp	Harnett County (Unincorporated Areas)
Duncans Creek	The confluence with Buffalo Creek	Confluence of Duncans Creek Tributary 1	Harnett County (Unincorporated Areas)
Duncans Creek Tributary 1	The confluence with Duncans Creek	Approximately 0.4 mile upstream of the confluence with Duncans Creek	Harnett County (Unincorporated Areas)
East Buies Creek	Sheriff Johnson Road	Approximately 1.2 miles upstream of Sheriff Johnson Road	Harnett County (Unincorporated Areas)
Gum Swamp	The confluence with Barbecue Creek	Approximately 0.8 mile upstream of Ponderosa Road	Harnett County (Unincorporated Areas)

**Table 5—Flooding Sources Studied by
Detailed Methods: Limited Detailed**

Source	Riverine Sources		Affected Communities
	From	To	
Hector Creek (into Cape Fear River)	The confluence with Cape Fear River	Approximately 1,250 feet downstream of Rawls Church Road	Harnett County (Unincorporated Areas)
Hector Creek (into Little River)	Harnett/Cumberland/Moore County boundary	Approximately 1.6 miles upstream of the Harnett/Cumberland/Moore County boundary	Harnett County (Unincorporated Areas)
Jumping Run Creek	Approximately 0.6 mile upstream of State Highway 210/Lillington Highway	The confluence of McLeod Creek and Reedy Swamp	Harnett County (Unincorporated Areas)
Jumping Run Creek Tributary 1	The confluence with Jumping Run Creek	Approximately 1,100 feet upstream of confluence of Jumping Run Creek Tributary 2	Harnett County (Unincorporated Areas)
Jumping Run Creek Tributary 2	The confluence with Jumping Run Creek Tributary 1	Approximately 400 feet upstream of confluence with Jumping Run Creek Tributary 1	Harnett County (Unincorporated Areas)
Juniper Creek (into Black River)	The confluence with Black River	Approximately 340 feet upstream of Friendly Road	City of Dunn, Harnett County (Unincorporated Areas)
Juniper Creek (into Black River) Tributary 1	The confluence with Juniper Creek	Approximately 0.5 mile upstream of confluence with Juniper Creek	City of Dunn
Kates Creek	The confluence with North Prong Anderson Creek	Approximately 0.4 mile upstream of Elliot Bridge Road	Harnett County (Unincorporated Areas)
Kenneth Creek	The confluence with Neills Creek	Wake/Harnett County boundary	Harnett County (Unincorporated Areas)
Lower Little River	The confluence with Cape Fear River	Approximately 750 feet downstream of McCormick Bridge Road	Harnett County (Unincorporated Areas)
Lower Run	The confluence with Cypress Creek (into Gum Swamp)	Approximately 0.9 mile upstream of confluence with Cypress Creek (into Gum Swamp)	Harnett County (Unincorporated Areas)
McDougald Branch	The confluence with Cypress Creek (into Crane Creek)	The confluence of McDougald Branch Tributary	Harnett County (Unincorporated Areas)

**Table 5—Flooding Sources Studied by
Detailed Methods: Limited Detailed**

Source	Riverine Sources		Affected Communities
	From	To	
McDougald Branch Tributary	The confluence with McDougald Branch	Approximately 0.5 mile upstream of the confluence with McDougald Branch	Harnett County (Unincorporated Areas)
McLeans Creek	The confluence with Upper Little River	Approximately 2.5 miles upstream of McNeill Hobbs Road	Harnett County (Unincorporated Areas)
McLeod Creek	The confluence with Jumping Run Creek and Reedy Swamp	Approximately 2.8 miles upstream of the confluence with Jumping Run Creek and Reedy Swamp	Harnett County (Unincorporated Areas)
Mill Creek	The confluence with Avents Creek	Approximately 0.8 mile upstream of Confluence with Avents Creek	Harnett County (Unincorporated Areas)
Mingo Swamp	Sampson/Cumberland/Harnett County boundaries	Approximately 0.7 mile upstream of Red Hill Church Road	Harnett County (Unincorporated Areas)
Mingo Swamp Tributary 1	The confluence with Mingo Swamp	Approximately 500 feet upstream of I-95	Harnett County (Unincorporated Areas)
Mire Branch	The confluence with Barbecue Creek	Approximately 0.7 mile upstream of NC-87	Harnett County (Unincorporated Areas)
Muddy Creek	Cumberland/Harnett County boundary	Approximately 2.3 miles upstream of confluence with Muddy Creek Tributary 3	Harnett County (Unincorporated Areas)
Muddy Creek Tributary 1	The confluence with Muddy Creek	Approximately 1.2 miles upstream of confluence with Muddy Creek	Harnett County (Unincorporated Areas)
Muddy Creek Tributary 2	The confluence with Muddy Creek	Approximately 1.4 miles upstream of the confluence with Muddy Creek	Harnett County (Unincorporated Areas)
Muddy Creek Tributary 3	The confluence with Muddy Creek	Approximately 1.0 mile upstream of Unnamed Road	Harnett County (Unincorporated Areas)
Neills Creek	The confluence with Cape Fear River	Harnett/Wake County boundary	Town of Lillington, Harnett County (Unincorporated Areas)

**Table 5—Flooding Sources Studied by
Detailed Methods: Limited Detailed**

Source	Riverine Sources		Affected Communities
	From	To	
Neills Creek Tributary 1	The confluence with Neills Creek	Approximately 0.4 mile upstream of Chalybeate Springs Road	Harnett County (Unincorporated Areas)
North Prong Anderson Creek	The confluence with Anderson Creek and South Prong Anderson Creek	Approximately 0.9 mile upstream of Powell Farm Road	Harnett County (Unincorporated Areas)
North Prong Anderson Creek Tributary 1	The confluence with North Prong Anderson Creek	Approximately 0.6 mile upstream of confluence with North Prong Anderson Creek	Harnett County (Unincorporated Areas)
Parker Creek	The confluence with Cape Fear River	Approximately 3.9 miles upstream of Confluence with Cape Fear River	Harnett County (Unincorporated Areas)
Reedy Branch	The confluence with Cypress Creek (into Crane Creek)	Approximately 1.8 miles upstream of Cypress Road	Harnett County (Unincorporated Areas)
Reedy Swamp	The confluence with Jumping Run Creek and McLeod Creek	Approximately 0.8 mile upstream of Carolina Way	Harnett County (Unincorporated Areas)
South Prong Anderson Creek	The confluence with Anderson Creek	Approximately 0.3 mile downstream of Overhills Road	Harnett County (Unincorporated Areas)
	Approximately 0.2 mile upstream of Bernard Street	Approximately 0.7 mile upstream of Bernard Street	Harnett County (Unincorporated Areas)
South Prong Anderson Creek Tributary 1	The confluence with South Prong Anderson Creek	Approximately 1.0 mile upstream of the confluence with South Prong Anderson Creek	Harnett County (Unincorporated Areas)
Stewarts Creek	Approximately 100 feet upstream of Ashe Avenue	Approximately 1.4 miles upstream of Ashe Avenue	Harnett County (Unincorporated Areas)
Stewarts Creek Tributary 1	The confluence with Stewarts Creek	Approximately 0.4 mile upstream of Daniels Road	Harnett County (Unincorporated Areas)
Stony Run Tributary 1	The confluence with Stony Run	Approximately 0.9 mile upstream of confluence with Stony Run	Harnett County (Unincorporated Areas)
Tributary 1 (downstream)	The confluence with Lower Little River	Approximately 800 feet upstream of the confluence with Lower Little River	Harnett County (Unincorporated Areas)

**Table 5—Flooding Sources Studied by
Detailed Methods: Limited Detailed**

Source	Riverine Sources		Affected Communities
	From	To	
Tributary 1 (upstream)	Approximately 600 feet upstream of Rambeaut Road	Approximately 0.3 mile upstream of Rambeaut Road	Harnett County (Unincorporated Areas)
Tributary 2	Approximately 800 feet downstream of Rambeaut Road	Approximately 100 feet downstream of Rambeaut Road	Harnett County (Unincorporated Areas)
Upper Little River	The confluence with Cape Fear River	Harnett/Lee County boundary	Harnett County (Unincorporated Areas)
Walkers Creek	The confluence with Upper Little River	Approximately 340 feet upstream of Tim Currin Road	Harnett County (Unincorporated Areas)
West Buies Creek	Approximately 950 feet upstream of U.S. Route 421	Approximately 1.6 miles upstream of Sheriff Johnson Road	Harnett County (Unincorporated Areas)

For the flooding sources studied in detail in the county, standard hydrologic and hydraulic methods were used to determine the flood hazard data required for this FIS.

5.1 Hydrologic Analyses

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

Previous Countywide Analyses

Harnett County had a previously printed countywide FIS describing each community's hydrologic analyses. These analyses remain valid for those flooding sources listed in Table 4, "Flooding Sources Studied by Detailed Methods: Redelineated."

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each riverine flooding source studied in detail affecting the community.

The hydrologic analyses for Buies Creek, East Buies Creek, Juniper Creek, South Prong Anderson Creek, Stewarts Creek, Stony Run, Tributary 1, Tributary 2, and West Buies Creek were conducted using methodology found in Water Resources Investigations (WRI) 76-17, "Magnitude and Frequency of Floods in North Carolina" (U.S. Geological Survey, 1976). That report estimated floods having recurrence intervals from 2 to 100 years for 257 gaged drainage basins. Multiple regression techniques were then used to define the relationship[between the peak discharge and seven basin and climatic variables. The regression analyses resulted in dividing the state into two separate regions, coastal plain and mountain/piedmont, and determining that the drainage area was the most significant basin parameter.

The drainage areas were determined from topographic maps (USGS, 1981 et al). The 0.2% annual chance discharges were determined through a log-log extrapolation of the WRI 76-17 results.

WRI 76-17 was checked for reasonableness by comparing the results with an analyses of the nearby gages. Bulletin 17B (U.S. Department of Interior, 1982) was used for the discharge-frequency analyses of the nearby gages. The results of the Bulletin 17B analyses were transferred to locations on the studied streams using the drainage area transfer equation. The transposed discharge-frequency curves verified the results of WRI 76-17.

The return frequency of historical storms used for calibration were determined by comparing the actual storm discharge recorded at the nearby gages with the results of the Bulletin 17B analysis.

The hydrologic analysis for the Black River was carried out using standard unit hydrograph procedures at selected reference stations and at U.S. Route 301. Flood hydrographs were computed by applying the runoff of storms of selected frequencies to the unit hydrographs. Peak discharges at other points along the river were calculated by the ratio between drainage areas and discharges. Peak discharges for floods of selected frequencies were taken from the frequency curves. Peak discharge frequency curves for the Black River basin were constructed using the generalized data developed in the Coastal Plain Regional Frequency Study of North Carolina, based on annual maximum flows recorded at stream-gaging stations (U.S. Army Corps of Engineers, 1965).

The hydrologic analysis for the Cape Fear River was carried out using the methods outlined in “Statistical Methods in Hydrology” (Beard, 1965). The hydrologic model for Cape Fear River was provided by the U.S. Army Corps of Engineers (1982).

Revised Analyses for This Countywide FIS

The hydrologic analyses for the Cape Fear River basin, except for flooding sources with stream gages, were performed using the urban and rural regression equations developed by the USGS. The urban equations were published in “Estimation of Flood-Frequency Characteristics of Small Urban Streams in North Carolina,” Water Resources Investigations Report 96-4084 (U.S. Department of the Interior, 1996). The rural equations were published in “Estimating the Magnitude and Frequency of Floods in Rural Basins in North Carolina, - Revised,” Water Resources Investigations Report 01-4207 (U.S. Department of the Interior, 2001). The basin delineations and drainage areas were determined using a 50’ x 50’ grid size digital elevation model (DEM) generated from the Light Detection and Ranging (LIDAR) data collected and processed as part of the study.

Drainage areas developed using the 50’ x 50’ DEM often differ from published values at USGS gage locations. Differences between computed and published drainage areas are less than 10% for the USGS gages considered in this report. In order to maintain consistency, drainage areas computed from the 50’ x 50’ foot DEM were used in all analyses in this study.

There are two discontinued USGS stream gages on limited detailed studied stream in Harnett County. Regression equation discharges for the Little River were adjusted to agree with the weighted discharges for the Little River at Linden gage (02103500) using the methods described in USGS WRIR 01-4207. The gage on South Prong Anderson Creek (02103390) has less than 20 years of record and the gage estimate is slightly less than the regression equation estimate. As such, no adjustment was applied to the regression equation estimates for South Prong Anderson Creek.

Regression equations are mathematical formulas that relate the flow in the stream to physical factors such as the area of the basin and the percentage of the surface that is impervious (paved). Regression equations are developed by fitting a line through the center of the points on a graph that compares flood flows to basin area. The results reflect the “statistical average” of the data. If a gage station is located on the stream being studied, data from that station can be used to adjust the regression results to more accurately estimate the flood flow. There are three separate regional regression equations that cover North Carolina.

Discharges for limited detailed studied stream in the Lower Little River sub-basin (southwest portion of the County) were calculated using the Sand Hills regression equations. Discharges for all other limited detailed studied streams in Harnett County were calculated using the North Carolina Coastal Plain equations, the exception of the Upper Little River. The Upper Little River drains in the Piedmont hydrologic area and the Coastal Plan hydrologic area. As a result, the computed recurrence interval discharges for the Upper Little River were adjusted according to the proportion of the total drainage area that lies in each hydrologic region, using the methodology described in USGS WRIR 01-4207.

The previous countywide FIS contains a detailed study on Black Creek from 38,000 feet upstream of the confluence with Mingo Swamp to the State Route 1725 crossing (FEMA, 1990). A comparison of the effective discharges with the regression estimates on the Black River at State Route 301 showed the 1% annual chance discharge to be about 1.25 times greater than the regression equation estimate. Based on that comparison to the effective study, it was reasonable to

increase the regression equations by a factor of 1.25 on the limited detailed reach of the Black River. This increase is less than the average predictive error, +/- 42%, for the Coastal Plan regression equations.

Sub-basins on Tributary 1, Tributary 2, Juniper Creek, Juniper Creek Tributary, and the detailed studied reach of the Black River in Harnett County were determined to contain sufficient urbanization to require application of the USGS North Carolina regression equations for urban basins. Satellite land-cover data, digital orthophotographic data, and street centerline data were used to identify urban zones. The satellite land-cover classification data, along with inspection of the Orthophotography and street centerline data, was then used to assign a percent imperviousness to each identified urban zone based on apparent degree of urbanization. The amount of impervious area in each zone was computed by multiplying the assigned percent impervious by the area of each urban zone. Percent imperviousness for each basin was determined by dividing the cumulative impervious area, computed by summing the impervious areas from all urban zones in the basin, the cumulative drainage area of the basin and multiplying by 100. After this initial computation, a review of basin boundaries overlain on orthophotographic and street centerline data was used to verify and, where necessary, adjust the percents imperviousness.

Because there is no regression equation for the 0.2% annual chance urban discharge presented in WRIR 96-4084, the 0.2% annual chance urban discharge was estimated by linear extrapolation from the 2% and 1% annual chance urban discharges, use the log of discharge and the log of exceedance probability.

A summary of the drainage area-peak discharge relationships for the flooding sources studied by detailed methods is shown in Table 6, "Summary of Discharges."

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Anderson Creek	Confluence with Little River	36.67	*	*	1,700	*
	Approximately 0.5 mile upstream of the confluence with Little River	33.90	*	*	1,610	*
	Approximately 1.1 miles upstream of the confluence with Little River	33.70	*	*	1,610	*
	Approximately 0.7 mile downstream of the confluence of Buffalo Meadows Creek	33.49	*	*	1,600	*
	Confluence of Buffalo Meadows Creek	29.48	*	*	1,470	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Anderson Creek (continued)	Approximately 0.5 mile upstream of the confluence of Buffalo Meadows Creek	29.27	*	*	1,460	*
	Approximately 1.1 miles upstream of the confluence of Buffalo Meadows Creek	28.31	*	*	1,430	*
	Approximately 1.3 miles upstream of the confluence of Buffalo Meadows Creek	27.66	*	*	1,400	*
	Approximately 0.5 mile downstream of the confluence of North Prong Anderson Creek	27.55	*	*	1,400	*
Anderson Creek Tributary 1	Confluence with Anderson Creek	0.64	*	*	105	*
	Approximately 0.45 miles upstream of the confluence with Anderson Creek	0.58	*	*	99	*
	Approximately 1.1 miles upstream of the confluence with Anderson Creek	0.36	*	*	71	*
Avents Creek	Confluence with Cape Fear River	14.68	*	*	3,990	*
	Approximately 0.47 mile downstream of the confluence of Mill Creek	14.26	*	*	3,920	*
	Confluence of Mill Creek	11.44	*	*	3,420	*
	Approximately 0.47 mile upstream of the confluence of Mill Creek	10.64	*	*	3,270	*
	Approximately 0.73 mile downstream of Cokesbury Road	10.24	*	*	3,190	*
	Approximately 0.05 mile downstream of Cokesbury Road	9.63	*	*	3,070	*
	Approximately 0.54 mile downstream of Oakridge River Road	8.00	*	*	2,730	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Avents Creek (continued)	Approximately 0.13 mile downstream of Oakridge River Road	6.02	*	*	2,290	*
	Approximately 0.41 mile upstream of Oakridge River Road	5.67	*	*	2,200	*
Barbecue Creek	Confluence with Upper Little River	49.15	*	*	4,240	*
	Approximately 1.24 miles upstream of the confluence with Upper Little River	47.14	*	*	4,140	*
	Approximately 0.13 mile upstream of Buie Road	44.39	*	*	4,000	*
	Approximately 0.38 mile downstream of Bella Bridge Road	39.22	*	*	3,730	*
	Confluence of Big Branch	32.81	*	*	3,370	*
	Approximately 0.04 mile upstream of Barbecue Church Road	30.97	*	*	3,270	*
	Confluence of Gum Swamp	8.60	*	*	1,580	*
	Approximately 1.03 miles downstream of the confluence of Mire Branch	6.31	*	*	1,330	*
	Confluence of Mire Branch	2.91	*	*	857	*
	Approximately 0.77 mile upstream of the confluence of Mire Branch	2.24	*	*	738	*
	Approximately 0.03 mile upstream from State Route 87	1.42	*	*	571	*
Beaver Creek	Approximately 0.45 mile downstream from the downstream county boundary	1.73	*	*	637	*
	Approximately 0.67 mile upstream of the downstream county boundary	0.07	*	*	379	*
Big Branch (into Barbecue Creek)	Confluence with Barbecue Creek	5.73	*	*	1,260	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Big Branch (into Barbecue Creek) (continued)	Approximately 0.38 mile upstream of Rosser-Pitman Road	4.44	*	*	1,090	*
Big Branch (into Black River)	Confluence with Black River	2.59	*	*	802	*
	Confluence of Big Branch Tributary	0.54	*	*	331	*
Black River	At the Harnett/Cumberland County boundary	52.8	*	*	5,520	*
	Approximately 0.4 mile upstream of the Harnett/Cumberland County boundary	51.9	*	*	5,470	*
	Approximately 1.3 miles upstream of the Harnett/Cumberland County boundary	50.8	*	*	5,400	*
	Approximately 0.6 mile upstream of Ashe Avenue	39.5	*	*	4,686	*
	Approximately 1.1 miles upstream of Ashe Avenue	38.3	*	*	4,604	*
	Approximately 700 feet upstream of Three Bridge Road	37.5	*	*	4,549	*
	Approximately 1.0 mile upstream of Three Bridge Road	36.6	*	*	4,485	*
	Approximately 1.6 mile upstream of Three Bridge Road	35.6	*	*	4,421	*
	Approximately 0.6 mile downstream of Red Hill Church Road	34.6	*	*	4,345	*
	Approximately 1,000 feet downstream of Red Hill Church Road	34.1	*	*	4,309	*
	Approximately 1,175 feet upstream of Red Hill Church Road	32.9	*	*	4,226	*
	Approximately 0.4 mile upstream of Red Hill Church Road	31.8	*	*	4,142	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Black River (continued)	Approximately 1.0 mile upstream of Red Hill Church Road	30.9	*	*	4,077	*
	Approximately 1.4 miles downstream of NC Highway 27	29.0	*	*	3,937	*
	Approximately 1.3 miles downstream of NC Highway 27	28.3	*	*	3,880	*
	Approximately 0.4 mile downstream of NC Highway 27	27.3	*	*	3,806	*
	Approximately 750 feet downstream of NC Highway 27	26.0	*	*	3,698	*
	Approximately 0.5 mile downstream of Ebenezer Church Road	25.6	*	*	3,667	*
	Approximately 1,100 feet downstream of Ebenezer Church Road	24.0	*	*	3,532	*
	Approximately 0.4 mile upstream of Ebenezer Church Road	22.5	*	*	3,411	*
	Approximately 800 feet upstream of the confluence of Big Branch (into Black River)	19.6	*	*	3,154	*
	Approximately 850 feet downstream of Abattoir Road	18.9	*	*	3,090	*
	Approximately 1,250 feet downstream of Silas Hayes Road	17.7	*	*	2,980	*
	Approximately 600 feet downstream of Silas Hayes Road	15.8	*	*	2,791	*
	Approximately 100 feet downstream of Silas Hayes Road	15.7	*	*	2,778	*
	Approximately 0.8 mile downstream of Langdon Road	14.9	*	*	2,701	*
	Approximately 1,700 feet downstream of Langdon Road	13.8	*	*	2,583	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Black River (continued)	Approximately 650 feet upstream of Langdon Road	11.6	*	*	2,347	*
	Approximately 0.6 mile upstream of Langdon Road	11.1	*	*	2,286	*
	Approximately 0.9 mile downstream of Old Stage Road North	9.8	*	*	2,131	*
	Approximately 0.4 mile downstream of Old Stage Road North	8.7	*	*	1,992	*
	Approximately 550 feet upstream of Old Stage Road North	8.1	*	*	1,907	*
	Approximately 850 feet downstream of Guy Road	4.8	*	*	1,490	*
	Approximately 0.17 miles upstream of Guy Road	4.82	640	1,240	1,490	2,260
	Approximately 0.63 miles upstream of Guy Road	3.26	613	1,160	1,380	2,050
	Approximately 1.20 miles upstream of Guy Road	2.61	598	1,120	1,320	1,940
	Approximately 1.69 miles upstream of Guy Road	2.06	583	1,080	1,270	1,830
Buffalo Creek	Approximately 2.36 miles upstream of the confluence with Little River	17.25	*	*	1070	*
	At the confluence of Buffalo Creek Tributary 2	9.88	*	*	1010	*
	Approximately 1.51 miles upstream of the confluence of Buffalo Creek Tributary 2	8.46	*	*	691	*
	At the confluence of Buffalo Creek Tributary 3	6.45	*	*	621	*
Buffalo Creek Tributary 2	At the confluence with Buffalo Creek	6.52	*	*	519	*
	Approximately 0.69 mile upstream of the confluence with Buffalo Creek	5.77	*	*	478	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Buffalo Creek Tributary 2 (continued)	Approximately 0.62 mile upstream of Hillmon Grove Road	3.96	*	*	369	*
	Approximately 1.30 miles upstream of Hillmon Grove Road	2.27	*	*	251	*
	Approximately 2.04 miles upstream of Hillmon Grove Road	1.37	*	*	178	*
Buffalo Creek Tributary 3	At the confluence with Buffalo Creek	1.00	*	*	143	*
Buffalo Meadows Creek	Confluence with Anderson Creek	3.28	*	*	324	*
	Approximately 0.64 mile upstream of the confluence with Anderson Creek	2.80	*	*	290	*
	Approximately 1.1 miles upstream of the confluence with Anderson Creek	2.43	*	*	263	*
Buies Creek	At Mouth	28.06	1,379	2,739	3,454	5,921
	Just downstream of the confluence of West Buies Creek	27.45	1,361	2,706	3,415	5,862
	At Sheriff Johnson Road	5.95	547	1,172	1,542	2,913
	Approximately 0.22 mile upstream of Sheriff Johnson Road	4.68	*	*	1,120	*
	Approximately 0.59 mile upstream of Sheriff Johnson Road	4.36	*	*	1,080	*
Camels Creek	Confluence with Cape Fear River	10.79	*	*	3,300	*
	Approximately 1.29 miles upstream of the confluence with Cape Fear River	10.12	*	*	3,170	*
	Approximately 2.08 miles downstream of Henschel Lane	9.39	*	*	3,020	*
	Approximately 1.55 miles downstream of Henschel Lane	8.44	*	*	2,830	*
	Approximately 1.11 miles downstream of Henschel Lane	8.25	*	*	2,790	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Camels Creek (continued)	Approximately 0.65 mile downstream of Henschel Lane	7.46	*	*	2,620	*
	Approximately 0.26 mile downstream of Henschel Lane	6.62	*	*	2,430	*
	Approximately 0.06 mile upstream of Cool Springs Road	4.09	*	*	1,800	*
	Approximately 0.79 mile upstream of Cool Springs Road	3.75	*	*	1,700	*
Cape Fear River	At downstream county boundary	3,542	57,500	93,000	109,000	165,000
	At US Route 421	3,464	41,000	65,000	80,000	127,000
Cedar Creek	Confluence with Cape Fear River	5.68	*	*	2,210	*
	Approximately 0.94 mile upstream of the confluence with Cape Fear River	4.81	*	*	1,990	*
	Approximately 1.32 miles upstream of the confluence with Cape Fear River	4.46	*	*	1,900	*
	Approximately 1.71 miles upstream of the confluence with Cape Fear River	3.27	*	*	1,560	*
	Approximately 2.52 miles upstream of the confluence with Cape Fear River	3.04	*	*	1,490	*
	Approximately 2.75 miles upstream of the confluence with Cape Fear River	2.60	*	*	1,350	*
Cypress Creek (into Crane Creek)	At the confluence with Crane Creek	10.67	*	*	1790	*
	Approximately 1.76 miles upstream of the confluence with Crane Creek	6.92	*	*	1400	*
	At the confluence of Reedy Branch	4.61	*	*	1110	*
	Approximately 2.93 miles upstream of the confluence of Reedy Branch	3.32	*	*	923	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (<i>square miles</i>)	Discharges (<i>cfs</i>)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Cypress Creek (into Gum Swamp)	Confluence with Gum Swamp	7.40	*	*	1,450	*
	Approximately 0.43 mile downstream of Ponderosa Road	6.00	*	*	1,290	*
	Approximately 0.27 mile upstream of Ponderosa Road	5.10	*	*	1,180	*
	Confluence of Lower Run	2.51	*	*	788	*
	Approximately 0.88 mile upstream of the confluence of Lower Run	1.34	*	*	553	*
Daniels Creek	Confluence with Cape Fear River	15.39	*	*	4,110	*
	Approximately 1.05 miles upstream of the confluence with Cape Fear River	14.85	*	*	4,020	*
	Approximately 1.48 miles upstream of the confluence with Cape Fear River	13.90	*	*	3,860	*
	Approximately 1.88 miles upstream of the confluence with Cape Fear River	13.47	*	*	3,780	*
	Approximately 2.72 miles upstream of the confluence with Cape Fear River	12.64	*	*	3,640	*
	Approximately 3.43 miles upstream of the confluence with Cape Fear River	11.39	*	*	3,410	*
	Approximately 3.78 miles upstream of the confluence with Cape Fear River	9.04	*	*	2,950	*
	Approximately 4.22 miles upstream of the confluence with Cape Fear River	8.83	*	*	2,910	*
	Approximately 4.62 miles upstream of the confluence with Cape Fear River	8.55	*	*	2,850	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Daniels Creek (continued)	Approximately 4.96 miles upstream of the confluence with Cape Fear River	6.25	*	*	2,340	*
	Approximately 5.41 miles upstream of the confluence with Cape Fear River	5.93	*	*	2,270	*
Dry Creek	Confluence with Gum Swamp	4.25	*	*	1,060	*
	Approximately 0.80 mile upstream of the confluence with Gum Swamp.	3.19	*	*	902	*
Duncans Creek	At confluence with Buffalo Creek	4.73	*	*	515	*
	Approximately 0.47 mile upstream of the confluence with Buffalo Creek	3.86	*	*	417	*
Duncans Creek Tributary 1	At the confluence with Duncans Creek	2.19	*	*	246	*
East Buies Creek	At mouth	8.66	684	1,440	1,874	3,458
	Approximately 1,850 feet downstream of State Route 27	6.86	597	1,270	1,664	3,115
	At SR 1519	5.30	511	1,101	1,452	2,763
	Approximately 0.39 mile upstream of Sheriff Johnson Road	4.65	*	*	1,120	*
	Approximately 0.88 mile upstream of Sheriff Johnson Road	3.85	*	*	1,000	*
Gum Swamp	Confluence with Barbecue Creek	21.42	*	*	2,650	*
	Confluence of Dry Creek	16.14	*	*	2,260	*
	Confluence of Cypress Creek	7.28	*	*	1,440	*
	Approximately 1.18 miles downstream of Ponderosa Road	6.35	*	*	1,330	*
	Approximately 0.20 mile downstream of Ponderosa Road	2.90	*	*	854	*
	Approximately 0.27 mile upstream of Ponderosa Road	2.20	*	*	730	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Hector Creek (into Little River)	Approximately 1.11 miles upstream of the confluence with Little River	4.40	*	*	397	*
	Approximately 1.50 miles upstream of the confluence with Little River	3.47	*	*	337	*
	Approximately 2.10 miles upstream of the confluence with Little River	2.80	*	*	291	*
	Approximately 2.48 miles upstream of the confluence with Little River	1.99	*	*	229	*
Hector Creek (into Cape Fear River)	Confluence with Cape Fear River	19.76	*	*	4,810	*
	Approximately 0.03 mile downstream of Christian Light Road	17.08	*	*	4,390	*
	Approximately 0.29 mile upstream of Christian Light Road	16.68	*	*	4,330	*
	Approximately 1.48 miles downstream of Kipling Road	14.38	*	*	3,940	*
	Approximately 0.84 mile downstream of Kipling Road	14.02	*	*	3,880	*
	Approximately 0.33 mile downstream of Kipling Road	11.29	*	*	3,390	*
	Approximately 0.09 mile upstream of Kipling Road	11.08	*	*	3,350	*
	Approximately 0.47 mile upstream of Kipling Road	10.80	*	*	3,300	*
	Approximately 0.63 mile upstream of Kipling Road	10.73	*	*	3,280	*
	Approximately 0.56 mile downstream of Baptist Grove Road	10.44	*	*	3,230	*
	Approximately 0.09 mile downstream of Baptist Grove Road	10.00	*	*	3,140	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (<i>square miles</i>)	Discharges (<i>cfs</i>)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Hector Creek (into Cape Fear River) (continued)	Approximately 0.16 miles upstream of Baptist Grove Road	7.81	*	*	2,690	*
	Approximately 1.65 miles downstream of Rawls Church Road	7.70	*	*	2,670	*
	Approximately 1.19 miles downstream of Rawls Church Road	7.48	*	*	2,620	*
	Approximately 0.80 mile downstream of Rawls Church Road	5.18	*	*	2,080	*
	Approximately 0.52 mile downstream of Rawls Church Road	5.09	*	*	2,060	*
	Approximately 0.04 mile upstream of Rawls Church Road	4.73	*	*	1,970	*
Jumping Run Creek	Confluence with Little River	28.84	*	*	1,440	*
	Approximately 0.52 mile upstream of the confluence with Little River	28.37	*	*	1,430	*
	Approximately 0.75 mile upstream of the confluence with Little River	28.09	*	*	1,420	*
	Approximately 1.16 miles upstream of the confluence with Little River	27.14	*	*	1,390	*
	Approximately 1.87 miles upstream of the confluence with Little River	25.50	*	*	1,330	*
	Approximately 2.59 miles upstream of the confluence with Little River	25.00	*	*	1,310	*
	Approximately 2.86 miles upstream of the confluence with Little River	24.66	*	*	1,300	*
	Approximately 3.38 miles upstream of the confluence with Little River	23.66	*	*	1,260	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Jumping Run Creek (continued)	Approximately 0.80 mile downstream of the confluence of Jumping Run Creek Tributary 1	22.89	*	*	1,230	*
	Confluence of Jumping Run Creek Tributary 1	20.09	*	*	1,130	*
	Approximately 0.57 mile upstream of the confluence of Jumping Run Creek Tributary 1	19.84	*	*	1,120	*
	Approximately 0.55 mile downstream of Nursery Road	17.74	*	*	1,030	*
	Approximately 0.7 mile downstream of Nursery Road	15.76	*	*	953	*
	Approximately 0.22 mile upstream of SR 1120	15.09	*	*	925	*
Jumping Run Creek Tributary 1	Confluence with Jumping Run Creek	1.82	*	*	216	*
	Confluence of Jumping Run Creek Tributary 2	1.01	*	*	144	*
Jumping Run Creek Tributary 2	Confluence with Jumping Run Creek Tributary 1	0.43	*	*	81	*
Juniper Creek (into Cape Fear River)	At mouth	15.68	975	1,991	2,551	4,536
	Approximately 1,550 feet downstream of Old Stage Road	13.64	897	1,845	2,373	4,252
	At US 421	4.12	439	959	1,274	2,464
	Approximately 2,750 feet downstream of Prospect Church Road	1.30	221	510	1,777	1,453
Juniper Creek (into Black River)	Confluence with Black River	2.74	*	*	1,360	*
	Approximately 0.18 mile downstream of Susan Tart Road	2.17	*	*	1,290	*
	Approximately 0.11 mile upstream of Susan Tart Road	1.49	*	*	1,040	*
	Confluence of Juniper Creek (into Black River) Tributary 1	0.90	*	*	840	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Juniper Creek (into Black River) Tributary 1	Confluence with Juniper Creek (into Black River)	0.33	*	*	470	*
Kates Creek	Confluence with North Prong Anderson Creek	3.46	*	*	336	*
	Approximately 0.78 mile upstream of the confluence with North Prong Anderson Creek	2.60	*	*	276	*
	Approximately 0.05 mile downstream of Elliot Bridge Road	1.64	*	*	201	*
	Approximately 0.29 mile upstream of Elliot Bridge Road	0.93	*	*	136	*
Kenneth Creek	Confluence with Neills Creek	16.61	*	*	4,314	*
	Approximately 0.57 mile upstream of the confluence with Neills Creek	16.27	*	*	4,259	*
	Approximately 0.28 mile downstream of Chalybeate Springs Road	16.09	*	*	4,228	*
	Approximately 0.03 mile downstream of Chalybeate Springs Road	15.41	*	*	4,116	*
	Approximately 0.26 mile upstream of Chalybeate Springs Road	15.31	*	*	4,100	*
	Approximately 0.65 mile upstream of Chalybeate Springs Road	15.00	*	*	4,048	*
	Approximately 0.73 mile downstream of Rawls Church Road	14.65	*	*	3,988	*
	Approximately 0.04 mile downstream from Rawls Church Road	13.60	*	*	3,807	*
	Approximately 0.31 mile upstream of Rawls Church Road	12.46	*	*	3,605	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Kenneth Creek (continued)	Approximately 0.56 mile upstream of Rawls Church Road	12.06	*	*	3,532	*
	Approximately 0.45 mile downstream from the confluence of Angier Creek	11.29	*	*	3,389	*
Lower Little River	Confluence with Cape Fear River	481.69	*	*	12,000	*
	Confluence of Beaverdam Swamp Canal	475.91	*	*	11,900	*
	Approximately 1.63 miles downstream of State Route 217	475.24	*	*	11,900	*
	Approximately 1.0 mile downstream of State Route 217	469.74	*	*	11,900	*
	Approximately 0.04 mile downstream of State Route 217	469.45	*	*	11,900	*
	Confluence of Stewarts Creek	457.38	*	*	11,800	*
	Approximately 0.41 mile downstream of the confluence of Stewarts Creek	456.88	*	*	11,800	*
	Approximately 1.61 miles downstream of U.S. Route 401	456.28	*	*	11,800	*
	Approximately 0.59 mile downstream of U.S. Route 401	455.57	*	*	11,800	*
	Approximately 0.04 mile downstream of U.S. Route 401	455.38	*	*	11,800	*
	Approximately 1.02 miles upstream of U.S. Route 401	454.85	*	*	11,700	*
	Approximately 0.20 mile downstream of the confluence of Anderson Creek	452.45	*	*	11,700	*
	Confluence of Anderson Creek	415.76	*	*	10,700	*
	Approximately 0.62 mile downstream of Wire Road	414.15	*	*	10,700	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Lower Little River (continued)	Approximately 0.06 mile downstream of Wire Road	413.99	*	*	10,600	*
	Confluence of Little River Tributary 1	409.76	*	*	10,500	*
	Approximately 2.04 miles downstream of SR 2045	409.22	*	*	10,500	*
	Approximately 0.71 mile downstream of SR 2045	408.25	*	*	10,500	*
	Approximately 0.07 mile downstream of SR 2045	407.59	*	*	10,500	*
	Approximately 0.43 mile upstream of SR 2045	405.04	*	*	10,400	*
	Approximately 2.02 miles downstream of the confluence of Tributary 1	400.26	*	*	10,300	*
	Approximately 1.01 miles downstream of the confluence of Tributary 1	397.63	*	*	10,200	*
	Confluence of Tributary 1	393.79	*	*	10,100	*
Lower Run	Confluence with Cypress Creek (into Crane Creek)	0.64	*	*	364	*
McDougald Branch	At the confluence with Cypress Creek (into Crane Creek)	0.99	*	*	465	*
McDougald Branch Tributary	At the confluence with McDougald Branch	0.50	*	*	315	*
McLeans Creek	Confluence with Upper Little River	6.72	*	*	2,450	*
	Approximately 0.03 mile upstream of the confluence with Upper Little River	6.32	*	*	2,360	*
	Approximately 0.45 mile upstream of Whittington Road	5.51	*	*	2,170	*
	Approximately 0.11 mile upstream of Nick McLean Road	4.53	*	*	1,910	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
McLeans Creek (continued)	Approximately 0.35 mile upstream of Nick McLean Road	3.53	*	*	1,640	*
	Approximately 1.01 miles upstream of Nick McLean Road	1.73	*	*	1,050	*
McLeod Creek	Confluence with Jumping Run Creek	6.31	*	*	508	*
	Approximately 0.68 mile upstream of the confluence with Jumping Run Creek	5.73	*	*	475	*
	Approximately 1.29 miles upstream of the confluence with Jumping Run Creek	3.84	*	*	361	*
	Approximately 1.62 miles upstream of the confluence with Jumping Run Creek	3.80	*	*	358	*
	Approximately 1.98 miles upstream of the confluence with Jumping Run Creek	3.60	*	*	345	*
	Approximately 2.38 miles upstream of the confluence of Jumping Run Creek	2.96	*	*	302	*
	Approximately 2.64 miles upstream of the confluence of Jumping Run Creek	1.98	*	*	229	*
Mill Creek	Confluence with Avents Creek	2.69	*	*	1,380	*
	Approximately 0.35 mile upstream of the confluence with Avents Creek	2.54	*	*	1,330	*
	Approximately 0.60 mile upstream of the confluence with Avents Creek	2.45	*	*	1,300	*
Mingo Swamp	Approximately 2.35 miles downstream of Pope Road	57.01	*	*	4,610	*
	Approximately 1.28 miles downstream of Pope Road	55.87	*	*	4,560	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (<i>square miles</i>)	Discharges (<i>cfs</i>)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Mingo Swamp (continued)	Approximately 0.60 mile downstream of Pope Road	54.81	*	*	4,510	*
	Approximately 0.37 mile downstream of Pope Road	54.37	*	*	4,490	*
	Approximately 0.03 mile downstream of Pope Road	53.33	*	*	4,440	*
	Approximately 0.06 mile upstream of Pope Road	52.81	*	*	4,420	*
	Approximately 0.06 mile downstream of U.S. Route 421	51.44	*	*	4,350	*
	Confluence of Big Juniper Run	42.55	*	*	3,910	*
	Approximately 0.85 mile downstream of the confluence of Stony Run	42.09	*	*	3,890	*
	Approximately 0.67 mile downstream of the confluence of Stony Run	41.04	*	*	3,830	*
	Approximately 0.47 mile downstream of the confluence of Stony Run	39.82	*	*	3,770	*
	Confluence of Stony Run	30.04	*	*	3,210	*
	Approximately 0.19 mile upstream of State Route 55	29.57	*	*	3,180	*
	Approximately 1.09 miles upstream of State Route 55	28.73	*	*	3,130	*
	Approximately 0.49 mile downstream of Wise Road	27.46	*	*	3,050	*
	Approximately 0.09 mile upstream of Wise Road	25.67	*	*	2,940	*
	Approximately 1.05 miles downstream of the confluence of Mingo Swamp Tributary	24.94	*	*	2,890	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Mingo Swamp (continued)	Approximately 0.47 mile downstream of the confluence of Mingo Swamp Tributary 1	24.03	*	*	2,830	*
	Approximately 0.09 mile downstream of the confluence of Mingo Swamp Tributary 1	23.20	*	*	2,770	*
	Confluence of Mingo Swamp Tributary 1	19.26	*	*	2,500	*
	Approximately 0.56 mile upstream of Jonesboro Road	18.90	*	*	2,470	*
	Approximately 0.82 mile upstream of Jonesboro Road	15.21	*	*	2,180	*
	Approximately 0.29 mile downstream of Farmview Road	14.27	*	*	2,110	*
	Approximately 0.05 mile upstream of Interstate 95	13.48	*	*	2,040	*
	Approximately 0.16 mile downstream of U.S. Route 301	12.84	*	*	1,980	*
	Approximately 0.15 mile upstream of U.S. Route 301	8.35	*	*	1,560	*
	Confluence of East Mingo Creek	3.35	*	*	928	*
	Approximately 0.26 mile downstream of Red Hill Church Road	2.24	*	*	738	*
	Approximately 0.41 mile upstream of Red Hill Church Road	1.81	*	*	655	*
Mingo Swamp Tributary 1	Confluence with Mingo Swamp	2.40	*	*	768	*
	Approximately 0.27 mile downstream of Interstate 95	1.23	*	*	527	*
Mire Branch	Confluence with Barbecue Creek	2.16	*	*	724	*
	Approximately 0.26 mile downstream of State Route 87	1.83	*	*	659	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Mire Branch (continued)	Approximately 0.57 mile upstream of State Route 87	1.06	*	*	483	*
Muddy Creek	Approximately 1.58 miles downstream of the confluence of Muddy Creek Tributary 1	14.96	*	*	920	*
	Approximately 0.74 miles downstream of the confluence of Muddy Creek Tributary 1	14.25	*	*	889	*
	Approximately 0.05 mile downstream of Nursery Road	13.28	*	*	848	*
	Confluence of Muddy Creek Tributary 1	11.93	*	*	787	*
	Approximately 0.29 mile downstream of the confluence of Muddy Creek Tributary 2	11.11	*	*	750	*
	Confluence of Muddy Creek Tributary 2	8.08	*	*	602	*
	Approximately 0.19 mile downstream of the confluence of Muddy Creek Tributary 3	7.56	*	*	575	*
	Confluence of Muddy Creek Tributary 3	6.57	*	*	522	*
	Approximately 0.34 mile upstream of the confluence of Muddy Creek Tributary 3	6.20	*	*	502	*
	Approximately 0.62 mile upstream of the confluence of Muddy Creek Tributary 3	5.50	*	*	462	*
	Approximately 0.85 mile upstream of the confluence of Muddy Creek Tributary 3	4.25	*	*	387	*
	Approximately 1.50 miles upstream of the confluence of Muddy Creek Tributary 3	3.70	*	*	351	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (<i>square miles</i>)	Discharges (<i>cfs</i>)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Muddy Creek (continued)	Approximately 1.97 miles upstream of the confluence of Muddy Creek Tributary 3	3.24	*	*	321	*
	Approximately 2.21 miles upstream of the confluence of Muddy Creek Tributary 3	2.16	*	*	243	*
Muddy Creek Tributary 1	Confluence with Muddy Creek	1.35	*	*	176	*
	Approximately 0.48 mile upstream of the confluence with Muddy Creek	1.01	*	*	144	*
	Approximately 1.10 miles upstream of the confluence with Muddy Creek	0.30	*	*	62	*
Muddy Creek Tributary 2	Confluence with Muddy Creek	2.98	*	*	303	*
	Approximately 0.58 mile upstream of the confluence with Muddy Creek	2.40	*	*	261	*
	Approximately 1.29 miles upstream of the confluence with Muddy Creek	1.39	*	*	179	*
Muddy Creek Tributary 3	Confluence with Muddy Creek	0.94	*	*	137	*
	Approximately 0.19 mile upstream of the confluence with Muddy Creek	0.90	*	*	133	*
	Approximately 0.52 mile upstream of the confluence with Muddy Creek	0.78	*	*	121	*
	Approximately 0.91 mile upstream of the confluence with Muddy Creek	0.34	*	*	69	*
Neills Creek	Confluence with Cape Fear River	38.02	*	*	7,239	*
	Approximately 0.02 mile downstream of U.S. Route 401	37.74	*	*	7,205	*
	Approximately 0.08 mile upstream of U.S. Route 401	37.71	*	*	7,202	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Neills Creek (continued)	Approximately 1.36 miles upstream of U.S. Route 401	36.20	*	*	7,021	*
	Approximately 1.56 miles upstream of U.S. Route 401	36.00	*	*	6,996	*
	Approximately 2.61 miles downstream of Harnett Central Road	35.52	*	*	6,937	*
	Approximately 2.17 miles downstream of Harnett Central Road	33.01	*	*	6,626	*
	Approximately 1.88 miles downstream of Harnett Central Road	32.74	*	*	6,593	*
	Approximately 1.70 miles downstream of Harnett Central Road	32.37	*	*	6,546	*
	Approximately 1.04 miles downstream of Harnett Central Road	32.08	*	*	6,509	*
	Approximately 0.77 mile downstream of Harnett Central Road	31.91	*	*	6,488	*
	Approximately 0.60 mile downstream of Harnett Central Road	31.18	*	*	6,395	*
	Approximately 0.04 mile upstream of Harnett Central Road	31.13	*	*	6,388	*
	Approximately 0.20 mile upstream of Harnett Central Road	30.19	*	*	6,267	*
	Approximately 0.57 mile upstream of Harnett Central Road	29.79	*	*	6,215	*
	Approximately 0.77 mile upstream of Harnett Central Road	28.59	*	*	6,057	*
	Approximately 1.19 miles upstream of Harnett Central Road	28.51	*	*	6,046	*
	Approximately 2.15 miles downstream of the confluence of Kenneth Creek	26.62	*	*	5,793	*
	Approximately 1.88 miles downstream of the confluence of Kenneth Creek	26.28	*	*	5,747	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Neills Creek (continued)	Approximately 1.53 miles downstream of the confluence of Kenneth Creek	26.16	*	*	5,730	*
	Approximately 1.33 miles downstream of the confluence of Kenneth Creek	26.12	*	*	5,725	*
	Approximately 0.62 mile downstream of the confluence of Kenneth Creek	24.95	*	*	5,564	*
	Approximately 0.41 mile downstream of the confluence of Kenneth Creek	8.05	*	*	2,743	*
	Confluence of Kenneth Creek	6.88	*	*	2,488	*
	Confluence of Neills Creek Tributary 1	4.15	*	*	1,812	*
	Approximately 0.83 mile downstream of Rawls Church Road	3.76	*	*	1,705	*
	Approximately 0.52 mile downstream of Rawls Church Road	2.96	*	*	1,469	*
	Approximately 0.03 mile downstream of Rawls Church Road	2.73	*	*	1,598	*
	Approximately 0.20 mile upstream of Rawls Church Road	2.11	*	*	1,325	*
Neills Creek Tributary 1	Confluence with Neills Creek	2.24	*	*	1,230	*
	Approximately 0.02 mile upstream of Chalybeate Springs Road	2.16	*	*	1,210	*
	Approximately 0.19 mile upstream of Chalybeate Springs Road	2.01	*	*	1,150	*
North Prong Anderson Creek	Confluence with Anderson Creek	14.68	*	*	908	*
	Approximately 0.02 mile downstream of Overhills Road	14.65	*	*	906	*
	Approximately 0.82 mile upstream of Overhills Road	13.57	*	*	860	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (<i>square miles</i>)	Discharges (<i>cfs</i>)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Neills Creek (continued)	Approximately 0.29 mile downstream of the confluence of Kates Creek	11.49	*	*	767	*
	Approximately 0.03 mile upstream of the confluence of Kates Creek	7.88	*	*	592	*
	Approximately 0.34 mile downstream Popular Mills Drive	7.38	*	*	565	*
	Approximately 0.05 mile downstream of Popular Mills Drive	7.27	*	*	560	*
	Approximately 0.42 mile upstream of Popular Mills Drive	6.64	*	*	526	*
	Approximately 0.42 mile downstream of L J Ellis Lane	5.65	*	*	471	*
	Approximately 1.04 miles downstream of Powell Farm Road	4.72	*	*	416	*
	Approximately 0.05 mile downstream of Powell Farm Road	3.70	*	*	352	*
	Approximately 0.63 mile upstream of Powell Farm Road	2.85	*	*	294	*
North Prong Anderson Creek Tributary 1	Confluence with North Prong Anderson Creek	1.20	*	*	162	*
	Approximately 0.36 mile upstream of the confluence with North Prong Anderson Creek	1.08	*	*	151	*
Parker Creek	Confluence with Cape Fear River	9.28	*	*	3,000	*
	Approximately 0.49 mile upstream of the confluence with Cape Fear River	9.22	*	*	2,990	*
	Approximately 0.80 mile upstream of the confluence with Cape Fear River	8.80	*	*	2,900	*
	Approximately 1.48 miles upstream of the confluence with Cape Fear River	8.47	*	*	2,830	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Parker Creek (continued)	Approximately 1.78 miles upstream of the confluence with Cape Fear River	6.85	*	*	2,480	*
	Approximately 2.50 miles upstream of the confluence with Cape Fear River	6.31	*	*	2,360	*
	Approximately 2.94 miles upstream of the confluence with Cape Fear River	5.89	*	*	2,260	*
	Approximately 3.44 miles upstream of the confluence with Cape Fear River	5.32	*	*	2,120	*
Reedy Branch	At the confluence with Cypress Creek (into Crane Creek)	2.26	*	*	742	*
	Approximately 1.18 miles upstream of the confluence with Cypress Creek (into Crane Creek)	0.86	*	*	567	*
Reedy Swamp	Confluence with Jumping Run Creek	7.84	*	*	590	*
	Approximately 0.11 mile downstream of Sawyer Road	7.11	*	*	551	*
	At Sawyer Road	6.75	*	*	532	*
	Approximately 0.34 mile upstream of Sawyer Road	5.52	*	*	463	*
	Approximately 0.91 mile downstream of Carolina Way	3.94	*	*	367	*
	Approximately 0.58 mile downstream of Carolina Way	2.04	*	*	234	*
	Approximately 0.37 mile downstream of Carolina Way	1.27	*	*	169	*
South Prong Anderson Creek	Confluence with Anderson Creek	12.64	*	*	819	*
	Approximately 0.82 mile upstream of the confluence with Anderson Creek	12.22	*	*	800	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
South Prong Anderson Creek (continued)	Approximately 0.74 mile downstream of the confluence of South Prong Anderson Creek Tributary 1	11.23	*	*	755	*
	Approximately 0.65 mile downstream of the confluence of South Prong Anderson Creek Tributary 1	10.29	*	*	711	*
	At the confluence of South Prong Anderson Creek Tributary 1	7.97	*	*	596	*
	Approximately 0.03 mile downstream of Dustin Drive	7.42	*	*	568	*
	Approximately 3,350 feet upstream of State Route 210	6.43	573	1,223	1,605	3,017
	Approximately 950 feet downstream of Overhills Road	4.63	471	1,022	1,353	2,595
	Approximately 1.20 miles upstream of Overhills Road	3.97	*	*	369	*
	Approximately 1.44 miles upstream of Overhills Road	3.04	*	*	307	*
South Prong Anderson Creek Tributary 1	Confluence with South Prong Anderson Creek	1.51	*	*	190	*
	Approximately 0.06 mile downstream of State Route 210	2.08	*	*	236	*
Stewarts Creek	At mouth	7.86	646	1,365	1,782	3,309
	Maynard Lake Road	6.85	595	1,266	1,659	3,107
	At the confluence of Stewarts Creek Tributary 1	2.99	*	*	870	*
	Approximately 0.32 mile upstream of the confluence of Stewarts Creek Tributary 1	2.90	*	*	855	*
	Approximately 0.56 mile upstream of the confluence of Stewarts Creek Tributary 1	2.59	*	*	802	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Stewarts Creek Tributary 1	Confluence with Stewarts Creek	1.82	*	*	656	*
	Approximately 0.49 mile upstream of the confluence with Stewarts Creek	1.66	*	*	623	*
Stony Run	At mouth	8.21	663	1,398	1,823	3,375
	Approximately 4,600 feet upstream of Interstate 95	3.63	408	895	1,193	1,590
	Approximately 7,350 feet upstream of U.S. Route 301	1.61	251	574	781	1,065
Stony Run Tributary 1	Confluence with Stony Run	2.81	*	*	840	*
	Approximately 0.75 mile upstream of the confluence with Stony Run	2.42	*	*	773	*
Tributary 1	At mouth	3.39	*	*	1,320	*
	At State Road 210	2.45	322	722	972	1,942
	Approximately 0.3 mile upstream of Rambeaut Road	0.71	*	*	551	*
Tributary 2	At mouth	0.48	122	206	417	2,124
	Approximately 0.05 mile downstream of Rambeaut Road	0.37	*	*	329	*
	Approximately 0.11 mile upstream of Rambeaut Road	0.34	*	*	310	*
Upper Little River	Approximately 0.33 mile downstream of Ross Road	214.56	*	*	13,000	*
	Approximately 1.43 miles upstream of Ross Road	210.10	*	*	12,900	*
	Approximately 1.90 miles upstream of Ross Road	209.65	*	*	12,900	*
	Approximately 1.69 miles downstream of U.S. Route 401	207.21	*	*	12,900	*
	Approximately 1.04 miles downstream of U.S. Route 401	205.90	*	*	12,800	*
	Approximately 0.76 mile downstream of U.S. Route 401	205.75	*	*	12,800	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Upper Little River (continued)	Approximately 0.18 mile upstream of U.S. Route 401	202.87	*	*	12,800	*
	Approximately 0.59 mile upstream of U.S. Route 401	201.03	*	*	12,700	*
	Approximately 0.92 mile downstream of the confluence of McLeans Creek	198.18	*	*	12,700	*
	Confluence of McLeans Creek	191.16	*	*	12,500	*
	Approximately 0.29 mile upstream of the confluence of McLeans Creek	191.07	*	*	12,500	*
	Approximately 1.22 miles downstream of State Route 210	188.55	*	*	12,500	*
	Approximately 1.02 miles downstream of State Route 210	188.52	*	*	12,500	*
	Approximately 0.44 mile downstream of State Route 210	187.53	*	*	12,400	*
	Approximately 1.0 mile upstream of State Route 210	184.79	*	*	12,400	*
	Approximately 3.17 miles downstream of the confluence of Walkers Creek	176.66	*	*	12,200	*
	Approximately 1.63 miles downstream of the confluence of Walkers Creek	175.71	*	*	12,200	*
	Approximately 1.14 miles downstream of the confluence of Walkers Creek	175.01	*	*	12,200	*
	Approximately 0.78 mile downstream of the confluence of Walkers Creek	174.01	*	*	12,200	*
	Confluence of Walkers Creek	160.32	*	*	11,900	*
	Approximately 0.98 mile downstream of Norrington Road	158.23	*	*	11,800	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (<i>square miles</i>)	Discharges (<i>cfs</i>)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Upper Little River (continued)	Approximately 0.59 mile downstream of Norrington Road	156.76	*	*	11,800	*
	Approximately 1.80 miles upstream of Norrington Road	154.83	*	*	11,700	*
	Approximately 1.82 miles upstream of Norrington Road	153.42	*	*	11,700	*
	Approximately 2.53 miles upstream of Norrington Road	153.21	*	*	11,700	*
	Approximately 2.91 miles upstream of Norrington Road	152.25	*	*	11,700	*
	Approximately 1.94 miles downstream of State Route 27	150.63	*	*	11,600	*
	Approximately 1.71 miles downstream of State Route 27	149.26	*	*	11,600	*
	Approximately 1.45 miles downstream of State Route 27	149.16	*	*	11,600	*
	Approximately 1.19 miles downstream of State Route 27	148.20	*	*	11,600	*
	Approximately 0.37 mile downstream of State Route 27	144.89	*	*	11,500	*
	Approximately 0.47 mile upstream of State Route 27	144.59	*	*	11,500	*
	Approximately 0.51 mile downstream of the confluence of Barbecue Creek	143.62	*	*	11,500	*
	Confluence of Barbecue Creek	93.81	*	*	10,400	*
	Approximately 0.13 mile upstream of the confluence of Barbecue Creek	89.16	*	*	10,300	*
	Approximately 0.79 mile downstream of McDougald Road	88.43	*	*	10,200	*
	At Fox Hunters Lane	85.04	*	*	10,200	*
	Approximately 0.59 mile upstream of Fox Hunters Lane	84.71	*	*	10,200	*

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Upper Little River (continued)	Approximately 1.31 miles upstream of Fox Hunters Lane	83.84	*	*	10,100	*
	Approximately 1.40 miles upstream of Fox Hunters Lane	83.20	*	*	10,100	*
	Approximately 1.23 miles downstream of Mt. Pisgah Church Road	79.39	*	*	10,000	*
	Approximately 0.03 mile upstream of Mt. Pisgah Church Road	76.54	*	*	9,980	*
	Approximately 0.71 mile upstream of Mt. Pisgah Church Road	73.59	*	*	9,910	*
	Approximately 0.87 mile upstream of Mt. Pisgah Church Road	73.40	*	*	9,910	*
	Approximately 1.17 miles downstream of Rosser-Pittman Road	70.96	*	*	9,860	*
	Approximately 0.19 mile downstream of Rosser-Pittman Road	68.27	*	*	9,800	*
	Approximately 0.42 mile downstream of Broadway Road	63.79	*	*	9,710	*
	Approximately 0.61 mile upstream of Broadway Road	60.16	*	*	9,640	*
Walkers Creek	Confluence with Upper Little River	13.42	*	*	3,770	*
	Approximately 0.22 mile upstream of the confluence with Upper Little River	10.15	*	*	3,170	*
	Approximately 0.08 mile upstream of Autry Road	9.99	*	*	3,140	*
	Approximately 0.44 mile upstream of NC-27	9.01	*	*	2,940	*
	Approximately 0.11 mile downstream of Tim Currin Road	6.49	*	*	2,400	*
West Buies Creek	At mouth	11.00	789	1,641	2,123	3,859

Table 6—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
West Buies Creek (continued)	Approximately 1.25 miles upstream of mouth	10.43	764	1,594	2,065	3,766
	Approximately 0.08 mile upstream of East Cornelius Harnett Boulevard	10.06	*	*	1,730	*
	Approximately 1.25 miles downstream of Sheriff Johnson Road	9.32	*	*	1,660	*
	Approximately 0.79 mile downstream of Sheriff Johnson Road	8.84	*	*	1,610	*
	Approximately 0.08 mile upstream of Sheriff Johnson Road	8.38	*	*	1,560	*
	Approximately 0.61 mile upstream of Sheriff Johnson Road	7.83	*	*	1,500	*
	Approximately 1.06 miles upstream of Sheriff Johnson Road	6.77	*	*	1,380	*

*Data Not Available

There are no active U.S. Geological Survey stream gages in Harnett County.

5.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the flood elevations for the selected recurrence intervals. Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles. For stream segments for which BFEs were computed, selected cross-section locations are also shown on the FIRM. Flood profiles were developed showing computed water-surface elevations for floods of the selected recurrence intervals.

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

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

Previous Countywide Analyses

Harnett County had a previously printed countywide FIS describing each community's hydrologic analyses. These analyses remain valid for those flooding sources listed in Table 4, "Flooding Sources Studied by Detailed Methods: Redelineated."

Cross section geometry was obtained from field surveys. All bridges, dams, and culverts were field surveyed to obtain elevations data and structural geometry. The overbank cross section data for the backwater analyses were obtained from topographic maps (U.S. Geological Survey, 1981 et al).

Water-surface elevations for floods of the selected recurrence intervals were computed using the HEC-2 step backwater computer program (U.S. Army Corps of Engineers, 1984). These computer models were calibrated using historic floodwater data collected during field investigations.

Starting water-surface elevations were obtained by using the slope area option of the HEC-2 step-backwater computer program. The starting water-surface elevation for the Black River were taken from existing hydraulic models (U.S. Army Corps of Engineers, 1965). The starting water-surface elevations for the Cape Fear River were taken from the Cumberland County Flood Insurance Study (FEMA, 1982). The hydraulic model for Cape Fear River was provided by the U.S. Army Corps of Engineers (1982).

Revised Analyses for This Countywide FIS

For the streams studied by detailed methods, water-surface elevations of floods of the selected recurrence intervals were computed through use of the Army Corps of Engineers' HEC-RAS step-backwater computer program version 3.0 (U.S. Army Corps of Engineers, 2001). The hydraulic analyses were based on unobstructed flow. The computer models were calibrated using historic high water data collected during field investigations. Floodway computations were run on the calibrated models using a target surcharge value of 1.0 foot. Starting conditions for the hydraulic models were set to normal depth using starting slopes calculated from channel invert values taken from the LIDAR data or, where applicable, derived from the water-surface elevations of existing effective Flood Insurance Study water-surface elevations.

The cross section geometries were obtained from a combination of digital elevation data obtained by Light Detection and Ranging (LIDAR) and field surveys. All bridges, dams, and culverts were field surveyed to obtain elevation data and structural geometry. Natural floodplain cross sections were surveyed approximately every 4000' along the detail study reaches to obtain the channel geometry between bridges and culverts. Overbank cross section data for the backwater analyses were obtained from recently flown LIDAR data.

Channel roughness factors (Manning's "n") used in the hydraulic computations were made in the field by an engineer where stream access was possible, with orthophotos used to supplement areas that could not be accessed. The channel and overbank "n" values for all of the streams studied by detailed methods are shown in Table 7, "Roughness Coefficients."

Table 7—Roughness Coefficients

Stream	Channel “n”	Overbank “n”
Anderson Creek	0.050	0.150
Anderson Creek Tributary 1	0.050	0.150
Avents Creek	0.048	0.110-0.150
Barbecue Creek	0.040-0.042	0.120-0.140
Beaver Creek	0.065-0.100	0.100
Big Branch (into Barbecue Creek)	0.065-0.100	0.100
Big Branch (into Black River)	0.041-0.050	0.100-0.150
Black River	0.033-0.058	0.040-0.300
Buffalo Creek	0.055	0.070-0.090
Buffalo Creek Tributary 2	0.055	0.070-0.110
Buffalo Creek Tributary 3	0.020-0.055	0.020-0.090
Buffalo Meadows Creek	0.050	0.150
Buies Creek	0.040-0.080	0.080-0.500
Camels Creek	0.048	0.100-0.150
Cape Fear River	0.040-0.052	0.120-0.400
Cedar Creek	0.048	0.130-0.150
Cypress Creek (into Crane Creek)	0.055	0.100
Cypress Creek (into Gum Swamp)	0.050	0.150
Daniels Creek	0.048	0.130-0.150
Dry Creek	0.044	0.140
Duncans Creek	0.026-0.055	0.090-0.110
Duncans Creek Tributary 1	0.055	0.070-0.110
East Buies Creek	0.045-0.063	0.085-0.500
Gum Swamp	0.047	0.100-0.150
Hector Creek (into Cape Fear River)	0.048	0.100-0.150
Hector Creek (into Little River)	0.050	0.150
Jumping Run Creek	0.035-0.050	0.100-0.150
Jumping Run Creek Tributary 1	0.050	0.150
Jumping Run Creek Tributary 2	0.050	0.150
Juniper Creek (into Black River)	0.038-0.050	0.100-0.150
Juniper Creek (into Black River) Tributary 1	0.036-0.050	0.090-0.150
Juniper Creek (into Cape Fear River)	0.050-0.080	0.090-0.370
Kates Creek	0.050	0.150
Kenneth Creek	0.053-0.056	0.100-0.160
Lower Little River	0.050	0.100-0.160
Lower Run	0.046	0.130-0.140
McDougald Branch	0.055	0.090
McDougald Branch Tributary	0.055	0.090

Table 7—Roughness Coefficients

Stream	Channel “n”	Overbank “n”
McLeans Creek	0.042-0.045	0.120-0.140
McLeod Creek	0.045-0.050	0.120-0.150
Mill Creek	0.048	0.150
Mingo Swamp	0.043-0.046	0.130-0.160
Mingo Swamp Tributary 1	0.043	0.130
Mire Branch	0.044-0.050	0.140-0.150
Muddy Creek	0.050-0.065	0.150
Muddy Creek Tributary 1	0.050	0.150
Muddy Creek Tributary 2	0.050	0.150
Muddy Creek Tributary 3	0.040-0.050	0.100-0.110
Neills Creek	0.035-0.048	0.100-0.150
Neills Creek Tributary 1	0.050	0.100-0.150
North Prong Anderson Creek	0.050-0.055	0.150
North Prong Anderson Creek Tributary 1	0.050	0.150
Parker Creek	0.050	0.130-0.150
Reedy Branch	0.055	0.090
Reedy Swamp	0.050	0.150
South Prong Anderson Creek	0.050-0.055	0.120-0.450
South Prong Anderson Creek Tributary 1	0.050	0.150
Stewarts Creek	0.043-0.065	0.076-0.254
Stewarts Creek Tributary 1	0.045	0.100-0.150
Stony Run	0.048-0.078	0.120-0.500
Stony Run Tributary 1	0.065	0.110
Tributary 1	0.050-0.072	0.150-0.500
Tributary 2	0.046-0.066	0.130-0.350
Upper Little River	0.033-0.400	0.070-0.150
Walkers Creek	0.046	0.150
West Buies Creek	0.045-0.053	0.100-0.280

For flooding sources studied by limited detailed methods in the county, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this report and the FIRM panels. This method entails developing a HEC-RAS hydraulic model, resulting in the calculation of BFEs and the delineation of the 1% annual chance floodplain (designated as Zone AE). The model was developed using HEC-RAS 3.0, run for the 1% and 0.2% annual chance storms, and calibrated to known historic flood marks where available. Approximately 1% annual chance floodway models were also developed using method 4 in HEC-RAS 3.0. Starting conditions were set to normal depth using starting slopes calculated from channel invert values taken from the LIDAR data or, where applicable, derived from the water-surface elevations of existing effective flood elevations. Cross sections for the flooding sources studied by limited

detailed methods were obtained using digital elevation data obtained with LIDAR technology developed as part of the North Carolina Statewide Floodplain Mapping Program. The hydraulic model is prepared using this digital elevation data, without surveying bathymetric or structural data. Where bridge or culvert data are readily available, such as from the North Carolina Department of Transportation, these data have been reflected in the hydraulic model. If these structural data are not readily available, field measurements of these structures were made to approximate their geometry in the hydraulic models. In addition, this method does not include field surveys that determine specifics on channel and floodplain characteristics. A limited detailed study is a “buildable” product that can be upgraded to a fully detailed study at a later date by verifying stream channel characteristics, bridge and culvert opening geometry, and by analyzing multiple recurrence intervals.

The results of the HEC-RAS computations are tabulated for all cross sections (Table 8, “Limited Detailed Flood Hazard Data”). Flood Profiles have not been developed for streams studied by limited detailed methods. In addition, floodways for streams studied by limited detailed methods are not delineated on the FIRM. However, the 1% annual chance water-surface elevations, flood discharges, and non-encroachment widths from the limited detailed studies for every modeled cross section are given in Table 8. The non-encroachment widths given at modeled cross sections can be used by communities to enforce floodplain management ordinances that meet the requirement defined in 44 CFR 60.3(c)(10).

Between cross sections for streams studied by limited detailed methods, 1% annual chance water-surface elevations should be calculated by mathematical interpolation using the distance along the stream centerline. Non-encroachment widths and, therefore, the location of a non-encroachment area boundary between cross sections should be determined based on either 1) mathematical interpolation, or 2) the non-encroachment width at the upstream or downstream cross section, whichever is larger. If the width determined by this second method is wider than the Special Flood Hazard Area (SFHA) or the 1% annual chance floodplain delineated on the FIRM for this location along the stream, the non-encroachment area shall be considered to be coincident with the SFHA. A full detailed study incorporating field survey data in the HEC-RAS hydraulic model may be submitted for a Letter of Map Revision (LOMR) request to map a regulatory floodway along a section of a stream in lieu of applying the non-encroachment widths listed in Table 10. FEMA’s current (as of August 2001) map revision structure exempts submittal fees for map revision requests based solely on the submission of more detailed data.

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
ANDERSON CREEK				
002	168	1,705	103.0 ⁴	11 / 39
005	515	1,705	103.0 ⁴	10 / 29
008	812	1,705	103.0 ⁴	39 / 30
012	1,235	1,705	103.0 ⁴	37 / 13
014	1,379	1,705	103.0 ⁴	75 / 19
017	1,683	1,705	103.0 ⁴	61 / 29
ANDERSON CREEK (continued)				

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
020	1,965	1,705	103.0 ⁴	28 / 11
023	2,270	1,705	103.0 ⁴	30 / 11
025	2,491	1,705	103.0 ⁴	15 / 15
028	2,768	1,705	103.0 ⁴	54 / 10
030	3,039	1,615	103.0 ⁴	20 / 34
034	3,387	1,615	103.0 ⁴	19 / 13
038	3,791	1,615	103.0 ⁴	12 / 19
040	4,020	1,615	103.0 ⁴	15 / 19
044	4,383	1,615	103.0 ⁴	10 / 13
048	4,828	1,615	103.0 ⁴	21 / 10
051	5,127	1,615	103.0 ⁴	23 / 10
053	5,282	1,615	103.0 ⁴	9 / 65
055	5,519	1,615	103.0 ⁴	36 / 35
057	5,703	1,615	103.2	24 / 28
059	5,925	1,615	103.4	20 / 20
061	6,141	1,615	104.0	45 / 20
064	6,414	1,615	104.7	25 / 15
070	7,037	1,608	105.6	24 / 50
073	7,284	1,608	106.1	13 / 23
075	7,545	1,608	106.6	17 / 41
079	7,934	1,608	107.3	25 / 50
080	8,043	1,608	107.2	9 / 20
084	8,390	1,608	108.2	14 / 27
085	8,536	1,608	108.7	19 / 36
087	8,718	1,608	109.1	40 / 45
089	8,943	1,608	109.5	45 / 9
091	9,107	1,608	109.5	15 / 20
094	9,407	1,608	110.9	50 / 15
097	9,683	1,608	111.6	50 / 130
101	10,134	1,608	112.0	150 / 205
103	10,329	1,608	112.1	21 / 13
106	10,581	1,608	112.8	9 / 78
108	10,793	1,601	113.0	30 / 12
110	11,024	1,601	113.6	39 / 35
111	11,142	1,601	113.8	72 / 19
113	11,298	1,601	114.1	9 / 67
114	11,447	1,601	114.3	58 / 32
116	11,628	1,601	114.6	16 / 72
118	11,752	1,601	114.8	27 / 36
120	11,973	1,601	115.1	58 / 19
121	12,079	1,601	115.4	78 / 10
122	12,234	1,601	115.4	45 / 38
125	12,460	1,601	115.7	28 / 43

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
ANDERSON CREEK (continued)				
126	12,630	1,601	115.8	23 / 44
130	12,990	1,601	116.8	47 / 86
134	13,411	1,601	117.1	66 / 149
139	13,931	1,601	117.7	54 / 106
146	14,557	1,601	119.3	131 / 157
152	15,170	1,467	120.6	84 / 230
160	16,016	1,467	121.8	55 / 300
166	16,636	1,467	122.5	179 / 190
174	17,394	1,460	123.4	256 / 125
182	18,170	1,460	124.6	8 / 343
187	18,652	1,460	125.3	72 / 368
193	19,280	1,460	125.8	16 / 501
198	19,805	1,460	126.3	23 / 493
202	20,170	1,460	126.6	38 / 447
204	20,408	1,460	126.9	40 / 410
206	20,625	1,460	127.2	8 / 258
210	20,966	1,460	127.7	8 / 499
213	21,309	1,460	128.0	8 / 608
216	21,587	1,460	128.2	8 / 597
218	21,783	1,427	128.3	8 / 472
221	22,097	1,427	128.6	8 / 531
227	22,674	1,404	128.9	8 / 526
231	23,136	1,404	129.2	8 / 532
234	23,420	1,404	129.4	20 / 553
238	23,773	1,404	129.6	77 / 529
240	24,035	1,404	129.8	56 / 425
243	24,289	1,404	130.0	40 / 399
247	24,718	1,404	130.8	36 / 74
252	25,156	1,404	132.9	15 / 129
254	25,363	1,404	133.2	196 / 64
265	26,546	1,404	135.2	57 / 70
271	27,081	1,400	135.7	126 / 153
275	27,541	1,400	136.0	8 / 237
279	27,927	1,400	136.2	275 / 380
285	28,472	1,400	136.5	100 / 250
289	28,880	1,400	136.9	155 / 150
294	29,429	1,400	137.3	330 / 225
ANDERSON CREEK TRIBUTARY 1				
001	145	105	128.8 ⁴	4 / 59
006	555	105	128.8 ⁴	38 / 22
008	815	105	128.8	40 / 19
011	1,127	105	129.0	95 / 38
013	1,316	105	129.1	74 / 31

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
ANDERSON CREEK TRIBUTARY 1 (continued)				
014	1,397	105	129.2	45 / 48
016	1,575	105	129.4	61 / 13
017	1,748	105	129.8	30 / 45
019	1,865	105	130.0	20 / 75
020	1,962	105	130.2	34 / 29
021	2,142	105	130.3	14 / 95
023	2,292	105	130.4	28 / 81
024	2,386	105	130.5	26 / 45
031	3,061	99	134.1	22 / 111
035	3,472	99	134.1	92 / 90
038	3,789	99	134.1	42 / 76
041	4,089	99	134.2	127 / 40
044	4,404	99	134.2	90 / 16
049	4,880	99	134.2	113 / 27
053	5,345	99	134.2	189 / 50
058	5,789	99	134.3	266 / 70
060	5,959	99	134.3	341 / 25
066	6,567	71	134.3	34 / 7
069	6,874	71	136.4	20 / 36
AVENTS CREEK				
014	1,364	3,994	141.3 ⁴	45 / 50
017	1,678	3,994	141.3 ⁴	25 / 35
020	2,047	3,994	141.3 ⁴	55 / 40
026	2,561	3,994	141.3 ⁴	45 / 35
028	2,847	3,994	141.3 ⁴	50 / 25
031	3,064	3,994	141.3 ⁴	35 / 20
034	3,411	3,994	141.3 ⁴	25 / 20
038	3,842	3,994	141.3 ⁴	20 / 20
041	4,100	3,922	142.2	25 / 20
046	4,563	3,922	144.2	25 / 20
049	4,949	3,922	147.2	25 / 20
054	5,385	3,922	149.2	50 / 50
058	5,814	3,922	150.1	110 / 20
061	6,119	3,922	150.8	40 / 20
063	6,337	3,922	151.3	25 / 20
070	7,023	3,419	154.8	70 / 100
074	7,369	3,419	155.6	40 / 100
079	7,889	3,419	157.1	50 / 290
085	8,480	3,419	157.9	75 / 50
090	8,985	3,267	160.1	80 / 45
095	9,476	3,267	162.0	180 / 20
102	10,221	3,267	163.3	180 / 165
106	10,644	3,267	164.0	200 / 130

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
AVENTS CREEK (continued)				
113	11,322	3,267	166.8	160 / 20
119	11,900	3,267	169.5	150 / 20
124	12,412	3,189	171.2	100 / 25
128	12,785	3,189	173.0	100 / 75
133	13,291	3,189	175.9	150 / 75
137	13,662	3,189	177.3	100 / 225
142	14,170	3,189	178.9	200 / 20
148	14,800	3,189	181.4	200 / 140
153	15,343	3,189	183.4	140 / 125
159	15,891	3,189	185.7	180 / 125
173	17,264	3,069	191.3	40 / 20
178	17,814	3,069	195.1	200 / 20
183	18,316	3,069	197.3	135 / 20
189	18,903	3,069	200.9	20 / 35
197	19,719	2,732	204.9	25 / 120
201	20,090	2,732	205.9	20 / 20
204	20,406	2,732	208.1	25 / 15
208	20,770	2,732	210.1	20 / 60
212	21,203	2,732	212.0	80 / 20
217	21,723	2,732	214.1	200 / 35
223	22,270	2,288	214.9	20 / 15
230	22,955	2,288	221.4	20 / 40
233	23,311	2,288	223.1	130 / 20
240	24,030	2,288	224.9	20 / 120
247	24,709	2,203	227.9	20 / 50
254	25,403	2,203	231.1	35 / 150
259	25,940	2,203	233.0	110 / 85
265	26,479	2,203	234.8	130 / 40
BARBECUE CREEK				
005	536	4,243	193.4 ⁵	224 / 40
018	1,760	4,243	193.5 ⁵	90 / 90
029	2,861	4,243	193.6 ⁵	90 / 90
038	3,757	4,243	193.7 ⁵	119 / 40
061	6,068	4,243	193.8 ⁴	188 / 40
066	6,596	4,243	193.8 ⁴	40 / 119
070	7,010	4,243	193.8 ⁴	182 / 40
080	7,997	4,243	193.8 ⁴	221 / 51
094	9,372	4,144	193.8 ⁴	39 / 236
102	10,217	4,144	193.8 ⁴	40 / 368
115	11,502	4,144	194.5	270 / 228
130	13,036	4,144	195.8	39 / 515
142	14,209	4,144	196.9	146 / 89
170	16,973	4,005	201.4	230 / 238

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
BARBECUE CREEK (continued)				
182	18,160	4,005	201.9	588 / 38
196	19,551	4,005	202.8	247 / 187
210	20,950	4,005	203.7	252 / 194
215	21,524	4,005	204.0	108 / 444
226	22,606	4,005	204.7	88 / 247
236	23,633	4,005	205.9	431 / 38
251	25,116	4,005	207.0	326 / 38
263	26,291	4,005	208.0	221 / 38
270	27,046	4,005	208.8	159 / 224
279	27,872	3,734	209.6	122 / 152
288	28,823	3,734	210.7	155 / 315
304	30,379	3,375	214.2	591 / 65
318	31,818	3,375	214.7	669 / 33
329	32,905	3,375	215.3	219 / 161
346	34,611	3,267	218.5	259 / 90
356	35,622	3,267	219.1	121 / 340
363	36,326	3,267	219.5	32 / 371
376	37,576	3,267	220.5	78 / 465
386	38,638	3,267	221.3	154 / 132
393	39,325	1,582	222.7	108 / 148
401	40,125	1,582	224.5	87 / 89
411	41,114	1,582	228.4	156 / 19
419	41,895	1,582	230.0	19 / 149
429	42,860	1,582	236.5	48 / 185
435	43,517	1,582	236.8	75 / 90
447	44,723	1,582	238.3	44 / 45
463	46,262	1,582	240.8	97 / 177
471	47,118	1,328	242.1	123 / 32
479	47,852	1,328	243.1	127 / 130
486	48,641	1,328	243.8	276 / 178
494	49,431	1,328	244.2	127 / 139
505	50,498	1,328	246.4	94 / 112
516	51,627	1,328	248.3	57 / 189
534	53,416	857	251.8	237 / 16
543	54,276	857	254.1	56 / 201
551	55,053	857	257.6	72 / 85
560	56,035	857	261.5	130 / 65
574	57,361	738	266.7	80 / 57
582	58,200	738	271.6	63 / 46
593	59,299	738	274.1	16 / 134
603	60,258	571	280.0	81 / 32
BEAVER CREEK				
374	37,399	637	305.5	74 / 21

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
BEAVER CREEK (continued)				
379	37,886	637	308.6	34 / 34
382	38,181	637	310.9	37 / 75
389	38,944	637	316.9	72 / 45
393	39,310	637	319.1	83 / 27
400	40,010	637	324.0	29 / 21
407	40,681	637	329.1	20 / 82
411	41,061	637	333.1	27 / 21
414	41,356	637	336.8	50 / 69
416	41,592	637	337.2	98 / 108
422	42,232	379	341.4	22 / 20
428	42,797	379	350.8	20 / 37
431	43,093	379	358.0	25 / 25
432	43,206	379	359.0	21 / 58
439	43,915	379	361.8	20 / 20
444	44,414	379	366.8	46 / 82
449	44,879	379	377.4	20 / 20
453	45,275	379	393.4	24 / 21
455	45,530	379	402.6	22 / 22
458	45,809	379	408.9	20 / 20
BIG BRANCH (INTO BARBECUE CREEK)				
004	431	1,260	214.0 ⁴	17 / 290
010	968	1,260	214.0 ⁴	17 / 197
019	1,941	1,260	215.8	72 / 161
029	2,938	1,260	224.3	206 / 18
039	3,865	1,260	224.5	92 / 126
048	4,775	1,090	225.8	100 / 16
056	5,602	1,090	230.6	102 / 16
065	6,537	1,090	235.1	24 / 113
071	7,109	1,090	237.8	53 / 48
080	7,981	1,090	241.1	108 / 16
092	9,182	1,090	247.2	85 / 16
099	9,850	1,090	249.0	16 / 143
104	10,365	1,090	250.4	103 / 20
107	10,730	1,090	252.0	16 / 66
BIG BRANCH (INTO BLACK RIVER)				
012	1,210	802	206.1 ⁴	120 / 24
019	1,876	802	206.1	100 / 83
025	2,487	802	207.3	86 / 28
032	3,160	802	209.3	59 / 85
037	3,667	802	210.3	23 / 106
045	4,492	802	215.3	100 / 60
051	5,121	802	215.3	100 / 66
056	5,639	802	215.5	49 / 100

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
BIG BRANCH (INTO BLACK RIVER) (continued)				
062	6,177	802	216.0	60 / 49
068	6,773	802	217.1	19 / 104
071	7,134	331	217.8	85 / 24
078	7,756	331	219.4	28 / 33
BLACK RIVER				
237	23,721	5,590	138.2	730 / 550
259	25,885	5,520	139.4	222 / 997
265	26,539	5,520	139.7	564 / 867
271	27,091	5,520	140.0	413 / 889
278	27,807	5,520	140.5	1,069 / 540
285	28,490	5,470	140.9	565 / 624
291	29,079	5,470	141.4	725 / 268
299	29,918	5,470	142.3	830 / 334
304	30,441	5,470	143.0	600 / 400
313	31,266	5,470	144.4	700 / 270
324	32,414	5,470	145.1	559 / 610
333	33,280	5,400	145.5	286 / 716
359	35,904	5,400	149.7	438 / 250
Cross section shown on Floodway Data Table and Profile for this portion				
641	64,071	4,742	176.1	100 / 1,500
646	64,601	4,742	176.1	99 / 1,918
654	65,379	4,742	176.2	122 / 1,480
662	66,159	4,686	176.4	264 / 1,242
668	66,821	4,686	176.5	310 / 1,202
675	67,463	4,686	176.7	36 / 1,060
680	67,969	4,686	176.9	238 / 1,235
685	68,478	4,686	177.1	512 / 1,207
689	68,943	4,604	177.2	390 / 896
695	69,510	4,604	177.7	157 / 659
700	70,017	4,604	178.1	242 / 696
707	70,655	4,604	178.4	800 / 333
721	72,060	4,549	183.1	990 / 1,003
727	72,721	4,549	183.1	534 / 1,149
734	73,361	4,549	183.1	35 / 1,459
739	73,884	4,549	183.2	35 / 1,416
744	74,445	4,549	183.2	319 / 1,232
752	75,157	4,549	183.3	1,086 / 363
760	75,955	4,549	183.3	1,181 / 559
767	76,736	4,485	183.4	924 / 514
773	77,348	4,485	183.5	762 / 304
780	77,995	4,485	183.6	417 / 860
786	78,568	4,485	183.8	312 / 1,249

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
BLACK RIVER (continued)				
791	79,126	4,485	183.9	264 / 1,049
797	79,731	4,421	184.2	377 / 978
802	80,177	4,421	184.5	360 / 905
808	80,776	4,421	184.8	289 / 1,334
815	81,458	4,421	185.0	455 / 1,260
820	82,049	4,421	185.3	127 / 983
829	82,881	4,421	185.9	950 / 293
835	83,496	4,421	186.3	1,061 / 325
842	84,151	4,345	186.7	1,274 / 220
848	84,829	4,345	187.0	1,302 / 275
855	85,480	4,345	187.3	1,003 / 643
864	86,392	4,309	187.7	1,332 / 286
872	87,177	4,309	188.1	496 / 538
882	88,166	4,226	191.0	1,009 / 433
889	88,935	4,226	191.2	1,031 / 260
897	89,742	4,142	191.4	778 / 129
909	90,898	4,142	192.0	1,039 / 110
918	91,829	4,142	192.4	1,155 / 32
925	92,468	4,077	192.8	1,058 / 77
933	93,265	4,077	193.3	1,215 / 32
942	94,244	3,937	194.0	825 / 840
951	95,120	3,880	194.5	1,021 / 451
960	96,016	3,880	194.9	420 / 749
968	96,806	3,880	195.4	985 / 494
977	97,741	3,880	195.7	747 / 821
987	98,671	3,880	196.2	309 / 796
997	99,730	3,806	197.1	1282 / 56
1005	100,496	3,806	197.5	1636 / 30
1013	101,325	3,698	198.0	1,067 / 209
1029	102,930	3,698	203.8	335 / 544
1035	103,521	3,698	203.9	522 / 334
1042	104,155	3,667	204.0	740 / 607
1051	105,105	3,667	204.1	575 / 468
1059	105,926	3,532	204.3	238 / 513
1077	107,677	3,532	205.3	29 / 1,842
1086	108,568	3,532	205.3	424 / 1,994
1094	109,394	3,411	205.4	621 / 1,352
1102	110,213	3,411	205.6	817 / 761
1108	110,791	3,411	205.8	300 / 759
1113	111,300	3,411	206.1	431 / 647
1122	112,185	3,154	206.6	373 / 786
1129	112,879	3,154	206.9	1,012 / 426
1136	113,598	3,154	207.3	1,184 / 277

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
BLACK RIVER (continued)				
1144	114,391	3,154	208.0	999 / 272
1150	115,047	3,154	208.8	1071 / 26
1159	115,901	3,090	209.5	1,018 / 26
1173	117,340	3,090	212.6	823 / 170
1180	117,965	3,090	212.8	883 / 203
1188	118,826	3,090	213.3	721 / 26
1198	119,830	2,980	213.8	675 / 407
1205	120,483	2,791	214.0	914 / 436
1213	121,291	2,791	214.3	669 / 292
1223	122,290	2,778	215.0	367 / 203
1234	123,413	2,778	216.4	75 / 470
1243	124,312	2,778	217.2	337 / 372
1255	125,460	2,701	217.9	443 / 444
1264	126,358	2,701	218.4	670 / 249
1270	127,007	2,701	218.7	508 / 268
1278	127,755	2,583	219.2	628 / 480
1283	128,320	2,583	219.6	587 / 522
1288	128,845	2,583	220.0	614 / 452
1301	130,075	2,347	221.6	673 / 39
1307	130,739	2,347	222.1	764 / 37
1313	131,259	2,347	222.5	514 / 119
1319	131,931	2,347	223.1	472 / 87
1326	132,586	2,286	223.8	715 / 110
1331	133,146	2,286	224.4	580 / 21
1336	133,647	2,286	225.0	634 / 30
1344	134,384	2,286	225.7	399 / 172
1353	135,338	2,286	229.2	762 / 499
1360	135,955	2,286	229.2	490 / 258
1366	136,611	2,131	229.2	300 / 367
1371	137,139	2,131	229.3	327 / 396
1378	137,848	2,131	229.3	300 / 200
1386	138,553	2,131	230.5	194 / 148
1391	139,103	1,992	231.0	154 / 274
1395	139,514	1,992	231.3	196 / 221
1401	140,119	1,992	231.6	159 / 212
1405	140,546	1,992	231.9	220 / 82
1415	141,549	1,907	235.1	206 / 128
1424	142,391	1,907	235.4	313 / 141
1430	143,008	1,490	235.5	152 / 199
1440	143,995	1,490	239.4	58 / 137
BUFFALO CREEK				
144	14,395	1,010	216.2	272 / 16
147	14,658	1,010	217.8	32 / 97

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
BUFFALO CREEK (continued)				
158	15,840	1,010	218.5	361 / 15
170	16,953	1,010	219.3	34 / 457
181	18,117	691	221.5	72 / 122
193	19,301	691	223.4	315 / 54
203	20,347	691	224.6	160 / 124
217	21,748	691	227.3	82 / 221
230	22,997	691	231.3	90 / 15
243	24,271	621	232.7	15 / 335
255	25,522	621	234.4	15 / 58
266	26,589	621	237.3	33 / 325
278	27,765	621	239.1	15 / 230
289	28,883	515	240.9	121 / 60
300	30,020	515	242.2	164 / 30
307	30,662	515	243.6	69 / 166
317	31,735	515	245.4	15 / 325
327	32,718	515	247.3	253 / 16
338	33,799	515	250.7	119 / 206
BUFFALO CREEK TRIBUTARY 2				
000	7	519	220.0	154 / 213
008	760	519	222.4	69 / 71
022	2,169	519	224.9	131 / 115
036	3,624	478	227.2	84 / 137
048	4,837	478	230.7	46 / 120
061	6,060	478	231.8	124 / 132
066	6,558	478	232.4	26 / 114
072	7,210	478	235.1	100 / 168
085	8,484	478	238.0	31 / 62
089	8,934	478	241.4	96 / 105
098	9,757	478	241.6	20 / 119
104	10,399	478	243.7	76 / 14
110	10,958	478	250.6	20 / 18
115	11,463	478	251.0	102 / 155
119	11,934	478	251.0	116 / 93
122	12,213	369	251.0	127 / 177
129	12,899	369	251.1	88 / 231
138	13,783	369	251.0	14 / 18
142	14,186	369	251.5	171 / 51
144	14,446	369	251.5	56 / 69
146	14,635	369	254.2	15 / 32
151	15,058	369	255.0	44 / 339
158	15,796	251	255.0	79 / 126
172	17,175	251	258.2	14 / 14
184	18,428	251	261.2	53 / 147

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
BUFFALO CREEK TRIBUTARY 2 (continued)				
197	19,682	251	266.8	10 / 10
203	20,297	251	269.8	46 / 75
208	20,761	251	270.0	49 / 51
212	21,239	251	270.7	14 / 8
217	21,673	178	272.7	67 / 45
221	22,055	178	273.2	18 / 31
228	22,774	178	276.0	106 / 50
BUFFALO CREEK TRIBUTARY 3				
000	45	143	239.0	5 / 85
013	1,283	143	243.6	15 / 14
019	1,928	143	248.3	15 / 15
023	2,264	143	249.3	14 / 14
029	2,878	143	251.0	14 / 14
035	3,453	143	256.5	20 / 30
038	3,835	143	267.7	217 / 230
042	4,188	143	267.7	153 / 162
046	4,554	143	269.8	14 / 14
050	4,956	143	271.3	16 / 45
053	5,334	143	273.0	14 / 37
055	5,531	143	273.8	41 / 43
060	5,983	143	275.9	14 / 14
063	6,318	143	287.0	156 / 156
070	6,964	143	286.9	14 / 14
075	7,471	143	292.1	14 / 14
BUFFALO MEADOWS CREEK				
003	296	324	119.5	15 / 49
006	571	324	120.5	66 / 15
008	822	324	121.6	15 / 15
011	1,080	324	123.3	15 / 15
014	1,387	324	124.9	15 / 15
019	1,932	324	126.4	33 / 15
023	2,323	324	126.9	61 / 16
026	2,610	324	127.2	37 / 28
029	2,934	324	127.6	15 / 56
032	3,213	324	127.9	15 / 64
062	6,241	263	139.2	150 / 205
066	6,642	263	139.5	52 / 59
BUIES CREEK				
210	20,978	1,160	176.4	150 / 150
216	21,613	1,160	177.3	269 / 196
225	22,468	1,120	177.6	105 / 140
229	22,884	1,120	178.1	89 / 169
234	23,411	1,120	179.2	143 / 150

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
BUIES CREEK (continued)				
241	24,116	1,080	181.0	45 / 212
247	24,712	1,080	182.6	28 / 230
252	25,162	1,080	184.3	50 / 94
CAMELS CREEK				
004	402	3,295	142.4 ⁴	71 / 49
010	963	3,295	142.4 ⁴	42 / 59
015	1,542	3,295	142.4 ⁴	39 / 44
021	2,099	3,295	142.4 ⁴	33 / 78
029	2,934	3,295	142.4 ⁴	169 / 455
036	3,551	3,295	142.4 ⁴	39 / 76
040	3,960	3,295	142.4 ⁴	81 / 50
043	4,323	3,295	142.4 ⁴	24 / 193
048	4,764	3,295	142.4 ⁴	16 / 149
051	5,113	3,295	143.0	57 / 92
057	5,666	3,295	144.2	41 / 48
060	5,972	3,295	145.7	113 / 126
062	6,240	3,295	146.2	242 / 106
069	6,937	3,166	147.4	90 / 17
074	7,400	3,166	149.5	27 / 19
078	7,811	3,166	151.5	58 / 19
081	8,056	3,166	152.2	33 / 44
083	8,301	3,166	153.6	80 / 15
087	8,671	3,166	155.0	53 / 15
088	8,804	3,166	156.2	287 / 15
092	9,203	3,166	156.6	332 / 33
096	9,631	3,166	157.2	170 / 38
100	10,022	3,166	158.1	19 / 19
107	10,655	3,020	161.5	24 / 21
111	11,070	3,020	163.3	322 / 52
116	11,555	3,020	163.9	122 / 40
122	12,214	3,020	166.6	45 / 16
126	12,620	3,020	168.6	111 / 15
131	13,117	3,020	170.8	15 / 207
134	13,440	3,020	171.7	15 / 129
137	13,704	2,825	173.0	25 / 128
142	14,218	2,825	174.9	14 / 149
146	14,624	2,825	176.1	163 / 14
149	14,942	2,825	177.5	43 / 77
154	15,360	2,825	178.7	18 / 18
158	15,818	2,825	180.8	16 / 20
161	16,128	2,785	182.1	17 / 17
164	16,388	2,785	183.6	18 / 35
169	16,850	2,785	185.7	32 / 184

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
CAMELS CREEK (continued)				
171	17,111	2,785	186.2	52 / 75
177	17,655	2,785	187.6	41 / 18
180	17,996	2,785	189.1	34 / 56
185	18,485	2,615	190.8	18 / 20
189	18,899	2,615	193.6	100 / 179
196	19,615	2,615	195.7	223 / 21
201	20,115	2,615	198.6	90 / 70
204	20,449	2,615	200.4	161 / 14
208	20,773	2,428	201.6	165 / 59
213	21,257	2,428	203.0	83 / 108
218	21,833	2,428	206.2	235 / 17
223	22,310	2,428	209.7	103 / 60
225	22,506	2,428	211.3	29 / 122
228	22,803	2,428	213.8	162 / 15
234	23,410	1,796	215.6	88 / 12
238	23,779	1,796	218.6	44 / 12
243	24,335	1,796	222.4	14 / 53
251	25,080	1,796	227.2	160 / 33
258	25,773	1,796	230.4	54 / 12
262	26,208	1,796	235.1	82 / 12
267	26,715	1,796	238.0	51 / 112
277	27,680	1,703	244.8	12 / 61
CEDAR CREEK				
004	371	2,207	144.0 ⁴	64 / 41
005	510	2,207	144.0 ⁴	26 / 61
010	1,044	2,207	144.0 ⁴	35 / 65
015	1,531	2,207	144.0 ⁴	33 / 136
024	2,449	2,207	144.0 ⁴	326 / 17
031	3,082	2,207	144.0 ⁴	88 / 53
035	3,505	2,207	144.4	54 / 143
042	4,168	2,207	145.5	17 / 85
047	4,691	2,207	147.9	71 / 44
054	5,437	1,988	150.5	118 / 17
058	5,808	1,988	151.8	93 / 17
061	6,077	1,988	152.5	29 / 27
069	6,919	1,988	157.7	17 / 198
074	7,438	1,896	158.6	16 / 47
079	7,885	1,896	160.2	28 / 21
084	8,416	1,896	161.8	16 / 116
089	8,887	1,896	163.0	25 / 115
097	9,704	1,561	166.3	19 / 111
106	10,626	1,561	171.0	19 / 19
114	11,415	1,561	176.9	21 / 66

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
CEDAR CREEK (continued)				
119	11,946	1,561	178.7	20 / 19
125	12,476	1,561	181.3	19 / 19
130	13,001	1,561	184.8	19 / 19
133	13,330	1,561	186.2	19 / 19
144	14,380	1,494	191.8	19 / 19
151	15,118	1,494	195.8	18 / 19
155	15,523	1,352	198.3	19 / 17
CYPRESS CREEK (INTO CRANE CREEK)				
040	3,950	1,790	228.2 ⁴	1,474 / 1,473
041	4,108	1,790	228.2 ⁴	160 / 164
053	5,291	1,790	229.0	101 / 111
066	6,616	1,790	229.9	371 / 17
081	8,071	1,790	230.9	17 / 440
098	9,816	1,400	234.0	164 / 17
110	11,029	1,400	238.7	17 / 157
120	11,955	1,110	243.3	37 / 73
125	12,477	1,110	243.9	116 / 51
134	13,411	1,110	244.8	66 / 91
142	14,214	1,110	245.8	131 / 100
151	15,070	1,110	247.3	65 / 95
155	15,517	1,110	248.1	62 / 137
162	16,155	1,110	249.1	44 / 131
167	16,687	1,110	250.8	75 / 18
173	17,254	923	252.5	17 / 141
177	17,720	923	254.7	24 / 81
181	18,146	923	258.3	84 / 16
187	18,707	923	259.6	17 / 140
191	19,141	923	260.5	82 / 79
194	19,383	923	261.9	21 / 106
200	19,999	923	264.1	17 / 120
204	20,377	923	265.1	97 / 67
CYPRESS CREEK (INTO GUM SWAMP)				
001	130	1,450	239.1 ⁴	149 / 141
008	762	1,450	239.1 ⁴	72 / 186
012	1,211	1,450	239.7	40 / 99
024	2,377	1,450	243.9	150 / 19
032	3,164	1,450	245.3	176 / 43
041	4,100	1,450	248.8	54 / 165
045	4,529	1,450	249.7	66 / 50
050	4,975	1,450	251.2	30 / 215
054	5,407	1,450	251.7	227 / 64
058	5,800	1,450	252.0	42 / 185
063	6,333	1,450	252.4	132 / 68

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
CYPRESS CREEK (INTO GUM SWAMP) (continued)				
067	6,707	1,450	252.9	58 / 91
073	7,336	1,290	254.5	126 / 56
079	7,907	1,290	255.3	152 / 18
084	8,394	1,290	256.7	78 / 18
099	9,894	1,290	264.1	55 / 107
105	10,497	1,180	264.3	169 / 146
111	11,106	1,180	264.5	99 / 172
120	12,033	1,180	265.1	72 / 128
128	12,793	1,180	266.3	201 / 17
134	13,433	1,180	268.6	121 / 61
140	13,981	1,180	270.4	258 / 17
146	14,642	1,180	271.7	226 / 21
153	15,300	788	273.3	316 / 15
163	16,269	788	275.1	83 / 88
170	17,018	788	278.1	15 / 209
178	17,784	788	282.3	55 / 78
187	18,675	788	287.5	20 / 185
197	19,722	553	290.7	15 / 144
205	20,505	553	296.4	35 / 73
212	21,205	553	298.9	70 / 129
218	21,813	553	302.9	45 / 57
226	22,640	553	306.8	55 / 71
DANIELS CREEK				
015	1,502	4,114	148.0 ⁴	50 / 87
026	2,606	4,114	148.0 ⁴	364 / 87
036	3,607	4,114	148.0 ⁴	28 / 109
044	4,441	4,114	148.0 ⁴	18 / 45
059	5,875	4,023	149.5	272 / 18
063	6,328	4,023	150.6	217 / 105
068	6,817	4,023	152.0	301 / 18
070	7,037	4,023	152.4	144 / 18
074	7,424	4,023	154.4	240 / 66
077	7,737	4,023	155.2	191 / 18
081	8,102	3,859	156.5	200 / 47
087	8,670	3,859	158.7	25 / 55
090	8,972	3,859	161.2	71 / 126
093	9,291	3,859	162.1	105 / 18
096	9,578	3,859	162.8	58 / 17
098	9,836	3,859	163.9	31 / 25
102	10,204	3,784	165.7	17 / 132
105	10,546	3,784	166.7	17 / 214
109	10,866	3,784	167.5	133 / 210
114	11,412	3,784	168.7	56 / 348

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
DANIELS CREEK (continued)				
119	11,916	3,784	169.7	422 / 217
126	12,564	3,784	170.7	702 / 22
131	13,070	3,784	172.8	317 / 22
134	13,404	3,784	174.6	275 / 17
144	14,393	3,784	179.1	56 / 251
149	14,944	3,637	179.8	41 / 70
153	15,292	3,637	180.9	17 / 76
155	15,513	3,637	181.9	21 / 129
163	16,258	3,637	183.8	22 / 60
168	16,756	3,637	185.8	195 / 29
172	17,170	3,637	187.2	89 / 86
176	17,649	3,637	189.7	17 / 102
181	18,146	3,637	192.0	17 / 198
189	18,897	3,407	194.6	253 / 18
192	19,188	3,407	195.5	204 / 110
196	19,585	3,407	197.3	314 / 16
200	19,973	3,407	199.3	360 / 23
205	20,472	2,950	201.0	41 / 130
209	20,852	2,950	202.4	220 / 39
211	21,136	2,950	203.0	109 / 46
215	21,545	2,950	204.5	266 / 20
218	21,816	2,950	205.1	114 / 15
221	22,149	2,950	206.9	52 / 136
225	22,451	2,950	208.4	69 / 156
231	23,057	2,906	210.7	197 / 14
235	23,525	2,906	212.4	53 / 134
240	23,982	2,906	214.3	14 / 182
243	24,316	2,906	216.1	23 / 219
247	24,721	2,906	217.3	121 / 34
254	25,385	2,848	221.1	298 / 14
258	25,824	2,848	222.4	168 / 14
261	26,126	2,848	223.6	50 / 14
264	26,439	2,848	225.9	67 / 28
267	26,739	2,343	227.0	112 / 15
271	27,077	2,343	228.5	136 / 13
274	27,449	2,343	230.0	66 / 118
280	27,981	2,343	232.1	132 / 13
283	28,313	2,343	234.4	96 / 13
286	28,582	2,343	236.0	170 / 52
290	28,975	2,343	237.5	59 / 87
293	29,300	2,266	238.9	187 / 13
297	29,734	2,266	240.5	107 / 13
300	30,011	2,266	242.2	25 / 159

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
DANIELS CREEK (continued)				
305	30,452	2,266	243.8	13 / 187
DRY CREEK				
002	211	1,060	231.8 ⁴	85 / 130
008	799	1,060	231.8 ⁴	75 / 42
011	1,096	1,060	233.2	142 / 35
016	1,581	1,060	234.4	32 / 76
021	2,093	1,060	236.3	85 / 15
024	2,447	1,060	237.3	140 / 19
029	2,893	1,060	238.6	80 / 18
034	3,364	1,060	242.3	149 / 16
038	3,819	1,060	243.6	112 / 51
044	4,372	902	245.0	154 / 21
050	4,973	902	246.4	77 / 35
054	5,357	902	247.5	14 / 84
058	5,849	902	249.0	84 / 15
DUNCANS CREEK				
000	16	515	250.8	14 / 147
006	603	515	252.3	186 / 40
015	1,547	417	253.7	76 / 69
018	1,846	417	258.1	57 / 93
028	2,848	417	258.2	35 / 208
039	3,869	417	258.3	238 / 37
048	4,846	362	259.3	258 / 14
051	5,079	362	260.4	165 / 14
053	5,314	362	263.7	185 / 171
057	5,729	362	263.7	285 / 282
064	6,350	362	264.5	112 / 14
DUNCANS CREEK TRIBUTARY 1				
000	7	246	264.5	111 / 14
006	575	246	265.8	13 / 100
016	1,623	246	268.9	13 / 99
023	2,341	246	274.4	13 / 105
EAST BUIES CREEK				
163	16,340	2,132	195.7	90 / 91
172	17,213	2,132	196.2	250 / 232
179	17,856	2,132	196.3	300 / 279
185	18,512	1,946	196.5	256 / 340
192	19,192	1,946	196.8	92 / 290
202	20,151	1,946	198.6	242 / 79
206	20,641	1,946	199.9	239 / 111
216	21,589	1,731	201.7	53 / 225
223	22,335	1,731	203.4	101 / 158
229	22,878	1,731	204.7	191 / 51

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
GUM SWAMP				
003	265	2,650	221.7 ⁴	261 / 200
007	729	2,650	223.6	275 / 100
014	1,414	2,650	225.3	340 / 32
019	1,939	2,650	225.9	22 / 403
026	2,587	2,650	226.5	457 / 322
032	3,212	2,650	227.0	505 / 22
038	3,850	2,650	228.1	94 / 286
043	4,292	2,650	228.9	25 / 187
051	5,136	2,650	230.9	20 / 258
057	5,737	2,650	231.6	236 / 195
061	6,150	2,650	231.8	138 / 457
065	6,509	2,260	231.9	149 / 237
070	7,026	2,260	232.0	141 / 133
075	7,547	2,260	233.5	96 / 184
081	8,092	2,260	234.4	373 / 125
088	8,835	2,260	235.4	511 / 75
094	9,415	2,260	236.2	335 / 250
100	9,991	2,260	236.9	121 / 346
109	10,950	2,260	238.6	86 / 167
116	11,563	1,440	240.2	86 / 60
127	12,736	1,440	243.7	18 / 76
131	13,110	1,440	244.5	135 / 42
136	13,577	1,440	245.8	72 / 94
147	14,664	1,440	254.3	46 / 119
150	15,048	1,440	254.3	56 / 70
153	15,324	1,440	254.5	83 / 71
159	15,936	1,330	254.6	133 / 112
163	16,344	1,330	254.7	57 / 153
169	16,937	1,330	254.9	17 / 196
173	17,338	1,330	255.0	62 / 195
180	18,031	1,330	255.4	59 / 125
187	18,735	1,330	256.0	81 / 114
192	19,183	1,330	256.5	118 / 16
197	19,709	1,330	258.5	85 / 28
203	20,308	1,330	259.5	62 / 70
213	21,312	1,330	264.2	100 / 60
216	21,636	1,330	264.2	73 / 73
222	22,214	854	264.3	70 / 52
233	23,280	854	268.1	247 / 57
239	23,908	854	268.2	140 / 145
245	24,520	730	268.8	52 / 140
251	25,051	730	270.0	13 / 125
256	25,574	730	271.1	133 / 65

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
GUM SWAMP (continued)				
261	26,129	730	272.6	160 / 13
265	26,528	730	276.2	58 / 50
271	27,061	730	280.6	50 / 123
HECTOR CREEK (INTO CAPE FEAR RIVER)				
016	1,599	4,809	135.0 ⁴	164 / 26
020	2,000	4,809	135.0 ⁴	53 / 138
035	3,490	4,809	135.0 ⁴	432 / 341
045	4,457	4,809	135.0 ⁴	294 / 97
053	5,261	4,809	135.0 ⁴	349 / 148
059	5,854	4,809	135.0 ⁴	286 / 342
063	6,274	4,809	135.0 ⁴	224 / 250
071	7,075	4,809	135.0 ⁴	320 / 110
078	7,786	4,809	135.3	274 / 25
083	8,284	4,809	136.0	159 / 25
088	8,794	4,390	138.2	148 / 27
092	9,202	4,390	139.1	101 / 132
099	9,948	4,326	140.8	156 / 19
109	10,902	4,326	143.3	201 / 19
114	11,378	4,326	144.6	204 / 19
118	11,823	4,326	146.0	109 / 25
126	12,604	3,942	148.6	18 / 217
130	12,990	3,942	149.2	95 / 104
137	13,677	3,942	150.4	479 / 18
140	14,010	3,942	150.7	519 / 134
144	14,382	3,942	151.0	350 / 193
147	14,682	3,942	151.5	79 / 227
151	15,063	3,942	152.6	25 / 215
156	15,625	3,942	155.0	18 / 476
164	16,364	3,880	156.4	22 / 100
169	16,920	3,880	159.0	18 / 191
175	17,514	3,880	160.3	17 / 155
180	18,030	3,880	161.3	18 / 76
188	18,762	3,390	163.4	16 / 45
189	18,896	3,390	163.9	16 / 35
195	19,458	3,390	165.8	40 / 45
208	20,768	3,349	167.7	116 / 22
210	21,014	3,349	168.0	47 / 27
215	21,504	3,349	168.9	65 / 25
221	22,084	3,349	170.0	24 / 16
227	22,741	3,296	173.1	19 / 19
231	23,104	3,296	177.9	22 / 29
234	23,392	3,296	179.0	57 / 31
238	23,828	3,284	179.8	41 / 39

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
HECTOR CREEK (INTO CAPE FEAR RIVER) (continued)				
244	24,421	3,284	180.9	20 / 32
249	24,892	3,284	182.5	64 / 51
255	25,458	3,228	183.0	111 / 17
258	25,827	3,228	183.5	23 / 38
263	26,291	3,228	184.6	26 / 35
271	27,110	3,228	187.2	29 / 272
276	27,647	3,141	187.9	161 / 139
281	28,065	3,141	188.7	32 / 21
285	28,524	3,141	190.4	15 / 25
291	29,056	3,141	192.4	41 / 36
301	30,070	2,693	194.9	75 / 105
310	31,035	2,693	197.9	24 / 14
316	31,604	2,669	200.3	65 / 19
326	32,571	2,669	202.9	71 / 118
332	33,241	2,669	204.3	30 / 31
337	33,726	2,621	206.0	15 / 20
343	34,278	2,621	208.9	109 / 57
349	34,948	2,621	210.5	13 / 139
355	35,512	2,621	212.8	129 / 69
361	36,069	2,083	214.4	12 / 84
369	36,932	2,083	219.0	12 / 155
375	37,539	2,059	221.5	84 / 22
384	38,403	2,059	225.9	20 / 12
389	38,934	2,059	229.7	20 / 14
396	39,589	2,059	233.4	279 / 12
405	40,500	1,967	235.5	63 / 57
410	41,018	1,967	237.2	12 / 160
417	41,671	1,967	239.6	12 / 98
HECTOR CREEK (INTO LITTLE RIVER)				
065	6,547	397	195.2	11 / 17
070	7,013	397	197.6	16 / 16
076	7,589	397	199.2	16 / 16
126	12,646	291	218.4	19 / 150
131	13,147	291	220.1	18 / 69
135	13,458	291	223.4	55 / 16
140	14,005	229	225.5	126 / 24
144	14,363	229	225.9	26 / 73
JUMPING RUN CREEK				
049	4,873	1,419	139.9	10 / 74
054	5,377	1,419	140.7	64 / 97
055	5,541	1,419	140.8	98 / 73
059	5,949	1,419	141.2	34 / 78
064	6,394	1,419	142.0	66 / 33

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
JUMPING RUN CREEK (continued)				
069	6,942	1,386	142.9	38 / 45
075	7,450	1,386	143.7	36 / 99
078	7,781	1,386	144.0	34 / 154
082	8,244	1,386	144.4	126 / 59
086	8,623	1,386	144.9	216 / 69
089	8,904	1,386	145.2	126 / 40
095	9,455	1,386	146.3	10 / 30
097	9,726	1,386	147.2	29 / 105
102	10,211	1,386	148.0	49 / 59
106	10,589	1,386	149.2	10 / 43
110	10,955	1,328	150.1	44 / 112
114	11,393	1,328	150.7	10 / 141
120	11,978	1,328	151.8	32 / 63
126	12,561	1,328	152.8	82 / 65
129	12,923	1,328	153.2	139 / 17
136	13,639	1,328	154.0	43 / 90
159	15,901	1,310	161.8	202 / 322
177	17,717	1,310	162.1	320 / 474
181	18,118	1,297	162.0	188 / 106
189	18,934	1,297	164.1	74 / 130
196	19,587	1,297	165.2	30 / 162
207	20,654	1,261	165.9	337 / 55
212	21,153	1,261	166.1	135 / 88
216	21,577	1,261	166.5	46 / 128
220	22,000	1,261	166.9	9 / 171
225	22,514	1,261	167.4	99 / 154
231	23,090	1,261	167.8	150 / 73
235	23,525	1,261	168.3	38 / 107
240	23,990	1,261	169.0	222 / 80
246	24,637	1,261	169.6	212 / 185
260	26,037	1,233	170.5	252 / 129
276	27,623	1,233	172.7	9 / 257
287	28,715	1,233	175.2	207 / 9
295	29,522	1,127	176.7	20 / 248
300	30,018	1,127	177.6	29 / 180
305	30,472	1,127	178.2	36 / 89
315	31,466	1,127	179.3	67 / 214
320	31,970	1,117	179.5	200 / 230
325	32,454	1,117	179.8	132 / 58
333	33,250	1,117	180.6	233 / 211
338	33,827	1,117	180.8	102 / 333
343	34,337	1,117	181.1	486 / 49
352	35,205	1,117	181.5	430 / 8

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
JUMPING RUN CREEK (continued)				
361	36,130	1,117	182.5	154 / 8
368	36,756	1,034	183.8	420 / 7
375	37,500	1,034	184.3	417 / 7
382	38,153	1,034	185.0	287 / 7
405	40,484	953	188.1	339 / 7
415	41,479	953	189.3	226 / 7
422	42,169	925	190.6	317 / 7
433	43,340	925	192.0	178 / 7
439	43,917	925	193.0	201 / 7
448	44,787	925	194.4	137 / 7
JUMPING RUN CREEK TRIBUTARY 1				
010	989	216	176.6 ⁴	58 / 58
014	1,394	216	176.6 ⁴	203 / 3
024	2,353	216	180.5	3 / 35
030	3,012	216	185.0	3 / 70
038	3,787	216	187.7	3 / 66
045	4,545	216	190.9	84 / 3
049	4,934	216	192.1	3 / 83
052	5,227	144	193.2	1 / 42
055	5,493	144	194.8	38 / 22
061	6,068	144	198.6	1 / 36
JUMPING RUN CREEK TRIBUTARY 2				
000	38	81	192.6 ⁴	11 / 41
004	423	81	195.1	15 / 11
JUNIPER CREEK (INTO BLACK RIVER)				
008	774	1,360	159.3	24 / 32
013	1270	1,360	160.9	23 / 85
019	1871	1,360	162.2	34 / 23
025	2512	1,360	166.6	23 / 23
031	3059	1,360	169.9	23 / 23
036	3552	1,360	172.7	55 / 29
041	4069	1,360	175.3	23 / 104
045	4488	1,360	176.1	53 / 70
049	4864	1,290	176.5	90 / 130
052	5226	1,290	176.7	22 / 126
061	6127	1,290	180.1	24 / 31
067	6658	1,040	182.7	73 / 22
074	7353	1,040	183.8	48 / 22
080	7990	1,040	185.4	68 / 26
085	8482	1,040	186.4	48 / 23
092	9165	1,040	189.7	46 / 70
095	9539	1,040	190.9	100 / 41
099	9856	840	193.2	84 / 17

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
JUNIPER CREEK (INTO BLACK RIVER) (continued)				
120	12010	840	198.6	64 / 33
127	12655	840	203.2	85 / 29
137	13655	840	204.8	92 / 58
140	14005	840	205.3	131 / 33
145	14503	840	206.4	110 / 62
150	14967	840	207.3	117 / 17
156	15583	840	209.6	181 / 17
162	16203	840	212.6	22 / 139
JUNIPER CREEK (INTO BLACK RIVER) TRIBUTARY 1				
003	310	470	190.8	13 / 66
008	780	470	192.0	29 / 56
017	1667	470	194.9	57 / 57
021	2122	470	196.0	44 / 66
027	2705	470	197.1	24 / 84
KATES CREEK				
004	419	336	155.0 ⁴	99 / 293
010	954	336	155.0 ⁴	77 / 27
018	1,762	336	156.1	68 / 10
026	2,639	336	156.9	33 / 85
030	3,040	336	157.2	52 / 49
035	3,473	336	157.4	180 / 81
038	3,796	336	157.5	27 / 84
045	4,533	276	158.1	67 / 40
050	4,994	276	158.6	30 / 9
055	5,505	276	159.4	120 / 27
059	5,869	276	159.8	59 / 37
063	6,277	276	160.5	68 / 9
071	7,136	276	162.7	9 / 69
080	7,987	276	164.1	111 / 25
093	9,262	201	167.1	7 / 13
100	10,022	136	170.5	6 / 60
107	10,660	136	171.6	44 / 6
KENNETH CREEK				
007	693	4,314	202.6	441 / 19
012	1,176	4,314	203.5	498 / 236
017	1,681	4,314	203.9	83 / 432
022	2,209	4,314	205.5	35 / 485
026	2,556	4,314	206.4	76 / 616
031	3,094	4,314	207.5	19 / 496
036	3,608	4,259	209.5	172 / 319
042	4,152	4,259	211.2	298 / 62
047	4,651	4,259	213.2	275 / 56
053	5,333	4,228	215.6	67 / 306

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
KENNETH CREEK (continued)				
058	5,807	4,228	216.7	26 / 463
064	6,415	4,228	218.4	338 / 203
075	7,513	4,116	220.8	126 / 22
079	7,892	4,116	222.3	176 / 18
083	8,270	4,100	223.8	38 / 56
088	8,789	4,100	225.2	18 / 97
091	9,103	4,100	226.0	63 / 26
098	9,767	4,100	227.6	66 / 99
104	10,383	4,048	228.3	328 / 63
109	10,881	4,048	228.6	304 / 18
114	11,381	4,048	229.2	451 / 18
118	11,822	3,988	229.7	317 / 18
124	12,443	3,988	230.7	221 / 142
131	13,072	3,988	231.6	50 / 238
136	13,637	3,988	232.7	72 / 22
140	14,017	3,988	234.1	18 / 149
147	14,654	3,988	235.6	130 / 24
153	15,338	3,988	237.2	43 / 71
157	15,696	3,988	238.1	18 / 154
163	16,297	3,807	240.7	13 / 122
167	16,663	3,807	241.8	32 / 94
174	17,361	3,807	243.3	73 / 104
178	17,823	3,605	243.9	74 / 122
182	18,224	3,605	244.2	39 / 62
188	18,791	3,605	245.6	119 / 18
194	19,373	3,532	246.7	22 / 88
199	19,884	3,532	247.9	44 / 95
204	20,368	3,532	248.6	32 / 98
209	20,936	3,532	249.5	72 / 74
230	22,984	3,389	252.5	32 / 94
236	23,635	3,389	254.0	92 / 79
241	24,087	3,389	255.0	98 / 141
247	24,685	3,389	256.5	18 / 113
LOWER LITTLE RIVER				
003	281	12,000	102.8 ⁴	79 / 49
007	678	12,000	102.8 ⁴	79 / 68
014	1,361	12,000	102.8 ⁴	125 / 101
018	1,757	12,000	102.8 ⁴	75 / 122
019	1,946	11,900	102.8 ⁴	254 / 108
023	2,307	11,900	102.8 ⁴	90 / 85
028	2,777	11,900	102.8 ⁴	101 / 104
031	3,078	11,900	102.8 ⁴	152 / 116
036	3,573	11,900	102.8 ⁴	69 / 96

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
LOWER LITTLE RIVER (continued)				
039	3,903	11,900	102.8 ⁴	61 / 130
042	4,248	11,900	102.8 ⁴	72 / 56
047	4,686	11,900	102.8 ⁴	67 / 60
051	5,108	11,900	102.8 ⁴	70 / 59
056	5,602	11,900	102.8 ⁴	113 / 41
063	6,318	11,900	102.8 ⁴	49 / 73
069	6,868	11,900	102.8 ⁴	60 / 71
074	7,370	11,900	102.8 ⁴	27 / 84
080	7,980	11,900	102.8 ⁴	29 / 89
087	8,726	11,900	102.8 ⁴	131 / 53
094	9,388	11,900	102.8 ⁴	38 / 203
098	9,768	11,900	102.8 ⁴	223 / 202
101	10,136	11,900	102.8 ⁴	74 / 43
106	10,630	11,900	102.8 ⁴	76 / 37
110	11,033	11,900	102.8 ⁴	62 / 129
114	11,441	11,900	102.8 ⁴	118 / 27
123	12,327	11,900	102.8 ⁴	40 / 75
131	13,064	11,900	102.8 ⁴	67 / 54
140	13,987	11,900	102.8 ⁴	45 / 72
146	14,554	11,900	102.8 ⁴	45 / 45
159	15,915	11,800	102.8 ⁴	73 / 75
172	17,236	11,800	102.8 ⁴	97 / 91
181	18,106	11,800	102.8 ⁴	73 / 145
185	18,468	11,800	102.8 ⁴	215 / 62
189	18,870	11,800	102.8 ⁴	77 / 62
194	19,442	11,800	102.8 ⁴	78 / 44
200	19,966	11,800	102.8 ⁴	59 / 44
208	20,832	11,800	102.8 ⁴	30 / 77
215	21,523	11,800	102.8 ⁴	50 / 68
219	21,881	11,800	102.8 ⁴	38 / 54
224	22,414	11,800	102.8 ⁴	45 / 53
228	22,786	11,800	102.8 ⁴	51 / 51
235	23,495	11,800	102.8 ⁴	324 / 72
242	24,192	11,800	102.8 ⁴	100 / 80
257	25,682	11,800	102.8 ⁴	252 / 354
271	27,102	11,800	102.8 ⁴	510 / 30
283	28,286	11,800	102.8 ⁴	70 / 305
294	29,386	11,800	102.8 ⁴	286 / 26
309	30,867	11,700	102.8 ⁴	115 / 59
322	32,162	11,700	102.8 ⁴	33 / 45
333	33,293	11,700	102.8 ⁴	30 / 75
349	34,897	11,700	102.8 ⁴	40 / 63
353	35,330	11,700	102.8 ⁴	74 / 72

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
LOWER LITTLE RIVER (continued)				
360	35,983	11,700	102.8 ⁴	457 / 26
366	36,628	11,700	102.8 ⁴	200 / 210
377	37,719	11,700	102.8 ⁴	30 / 570
387	38,685	11,700	102.8 ⁴	316 / 83
398	39,829	11,700	102.8 ⁴	42 / 52
409	40,871	11,700	102.8 ⁴	40 / 45
418	41,845	11,700	102.8 ⁴	110 / 95
426	42,588	11,700	102.8 ⁴	26 / 460
438	43,785	11,700	102.8 ⁴	670 / 305
445	44,522	11,700	102.8 ⁴	790 / 80
456	45,620	11,700	102.9	120 / 35
460	46,013	10,700	103.0	65 / 30
467	46,653	10,700	103.6	72 / 50
476	47,628	10,700	104.2	194 / 53
481	48,140	10,700	104.3	143 / 26
488	48,763	10,700	104.6	37 / 150
492	49,246	10,700	104.7	64 / 41
500	50,046	10,700	105.7	59 / 48
505	50,506	10,700	106.0	55 / 40
513	51,301	10,700	106.5	30 / 45
521	52,115	10,700	107.2	45 / 50
530	53,001	10,700	107.7	45 / 65
543	54,281	10,600	108.9	45 / 80
550	54,979	10,600	109.3	55 / 30
553	55,282	10,600	109.5	26 / 52
565	56,459	10,600	110.4	61 / 39
575	57,481	10,600	111.0	45 / 56
584	58,351	10,600	111.6	92 / 55
591	59,124	10,600	111.9	69 / 30
597	59,650	10,600	112.2	50 / 49
601	60,125	10,500	112.5	33 / 37
607	60,691	10,500	112.9	49 / 29
613	61,273	10,500	113.4	50 / 49
620	61,955	10,500	113.9	67 / 49
626	62,622	10,500	114.3	38 / 295
634	63,422	10,500	114.7	77 / 45
642	64,170	10,500	115.3	399 / 46
648	64,845	10,500	115.6	39 / 55
655	65,483	10,500	115.9	26 / 43
662	66,196	10,500	116.5	39 / 56
667	66,733	10,500	116.9	49 / 32
674	67,400	10,500	117.4	40 / 34
681	68,052	10,500	118.0	175 / 43

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
LOWER LITTLE RIVER (continued)				
688	68,805	10,500	118.5	64 / 38
697	69,701	10,500	119.2	37 / 209
705	70,460	10,500	119.8	51 / 125
713	71,338	10,500	120.2	29 / 67
723	72,327	10,500	120.9	57 / 74
731	73,118	10,500	121.4	44 / 76
736	73,605	10,500	121.7	29 / 208
745	74,459	10,500	122.2	32 / 86
754	75,404	10,500	122.8	242 / 60
760	75,970	10,500	123.2	319 / 44
769	76,883	10,500	123.5	279 / 46
780	78,043	10,500	124.2	86 / 135
798	79,758	10,500	125.1	99 / 56
807	80,748	10,500	125.8	55 / 336
817	81,661	10,400	126.3	30 / 149
825	82,539	10,400	126.8	223 / 122
836	83,613	10,400	127.5	319 / 74
840	84,047	10,400	127.7	75 / 220
848	84,778	10,400	128.0	141 / 57
854	85,437	10,400	128.5	25 / 416
861	86,121	10,400	128.6	327 / 165
867	86,736	10,400	128.8	371 / 71
875	87,454	10,300	129.0	292 / 25
884	88,420	10,300	129.6	170 / 65
891	89,115	10,300	130.1	120 / 140
901	90,063	10,300	130.7	30 / 275
908	90,847	10,300	131.3	310 / 32
915	91,507	10,300	131.6	264 / 44
920	92,027	10,300	131.9	44 / 261
927	92,651	10,200	132.3	393 / 89
933	93,316	10,200	132.5	501 / 25
941	94,083	10,200	132.8	720 / 60
954	95,359	10,200	133.2	30 / 651
956	95,644	10,200	133.3	30 / 715
960	95,974	10,200	133.4	35 / 708
969	96,888	10,200	133.7	708 / 59
979	97,947	10,200	134.0	25 / 800
991	99,132	10,100	134.3	1,155 / 479
1006	100,550	10,100	134.7	139 / 442
LOWER RUN				
001	124	364	272.9	19 / 72
006	596	364	276.4	176 / 16
013	1,289	364	283.9	38 / 12

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
LOWER RUN (continued)				
017	1,730	364	288.9	24 / 15
023	2,348	364	293.9	12 / 35
028	2,766	364	297.6	40 / 10
032	3,155	364	301.0	28 / 26
036	3,594	364	307.2	40 / 11
041	4,050	364	315.0	11 / 17
045	4,452	364	320.7	19 / 25
049	4,867	364	337.5	11 / 18
MCDUGALD BRANCH				
001	132	465	233.6 ⁴	15 / 65
008	821	465	233.6 ⁴	65 / 16
011	1,095	465	233.6 ⁴	53 / 19
017	1,734	465	234.8	52 / 14
021	2,087	465	236.5	41 / 21
026	2,560	465	240.3	17 / 37
027	2,687	465	240.8	16 / 49
028	2,778	465	240.9	16 / 26
031	3,142	465	249.2	95 / 16
033	3,313	465	249.2	102 / 16
036	3,614	465	249.2	70 / 44
042	4,187	465	249.2	74 / 25
MCDUGALD BRANCH TRIBUTARY				
000	0	315	249.2 ⁴	30 / 18
004	374	315	249.9	17 / 22
006	587	315	252.0	17 / 19
007	745	315	253.3	17 / 35
009	948	315	254.9	17 / 24
014	1,399	315	259.3	28 / 17
018	1,772	315	265.1	29 / 12
020	1,990	315	266.0	61 / 17
025	2,485	315	270.9	17 / 17
027	2,659	315	273.5	40 / 14
MCLEANS CREEK				
015	1,540	2,360	135.6 ⁴	516 / 163
039	3,892	2,360	136.4	210 / 245
055	5,518	2,360	138.5	537 / 18
067	6,655	2,170	140.6	191 / 94
074	7,422	2,170	142.6	94 / 66
096	9,565	2,170	146.8	36 / 248
123	12,251	1,640	149.9	207 / 72
133	13,346	1,640	151.2	222 / 96
147	14,676	1,050	152.5	264 / 53
159	15,864	1,050	154.0	51 / 120

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
MCLEOD CREEK				
004	424	508	194.4 ⁴	10 / 40
013	1,316	508	195.9	23 / 18
020	1,952	508	198.8	18 / 18
025	2,534	508	201.7	18 / 18
030	2,960	508	203.2	10 / 20
035	3,529	508	205.3	200 / 20
071	7,072	475	215.9	200 / 50
076	7,630	361	217.4	8 / 248
079	7,903	361	217.6	50 / 70
083	8,285	361	218.5	35 / 50
087	8,737	358	220.0	15 / 16
090	8,969	358	221.1	90 / 8
097	9,651	358	224.4	40 / 20
099	9,868	358	225.1	10 / 87
104	10,446	358	228.9	50 / 20
109	10,907	345	229.2	265 / 300
116	11,581	345	233.0	70 / 205
120	11,995	345	235.8	100 / 35
123	12,314	345	237.7	50 / 35
127	12,679	302	239.5	28 / 29
129	12,937	302	240.4	52 / 50
133	13,303	302	241.6	84 / 23
139	13,914	302	243.2	10 / 43
140	14,042	229	244.4	25 / 50
142	14,248	229	245.4	33 / 13
144	14,401	229	246.5	13 / 50
146	14,642	229	247.4	64 / 13
MILL CREEK				
004	400	1,383	151.7 ⁴	13 / 13
007	709	1,383	153.6	17 / 17
014	1,425	1,383	158.3	13 / 13
018	1,767	1,383	161.6	13 / 13
022	2,202	1,334	165.3	13 / 23
025	2,512	1,334	168.1	13 / 12
029	2,886	1,334	171.8	13 / 12
033	3,347	1,334	175.5	12 / 13
037	3,732	1,304	178.8	12 / 12
042	4,197	1,304	183.0	31 / 12
MINGO SWAMP				
128	12,770	4,412	134.3	452 / 41
135	13,548	4,412	136.8	1,349 / 41
142	14,177	4,361	137.3	1,756 / 109
150	14,969	4,361	137.5	1,366 / 41

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
MINGO SWAMP (continued)				
159	15,853	4,361	137.8	1,527 / 41
166	16,634	4,361	138.0	1,161 / 217
174	17,402	4,314	138.2	1,699 / 41
181	18,139	4,314	138.6	1,558 / 41
187	18,687	4,294	139.0	1,249 / 41
192	19,240	4,294	139.8	683 / 426
201	20,090	4,294	140.6	1,005 / 86
209	20,879	4,223	143.1	1,179 / 41
213	21,288	4,223	143.3	1,117 / 403
223	22,278	4,223	143.6	374 / 338
228	22,822	4,223	144.0	1,213 / 117
234	23,413	4,223	144.3	1,130 / 41
238	23,812	4,223	144.6	972 / 41
245	24,528	4,223	145.1	629 / 341
250	24,980	4,223	145.5	855 / 277
254	25,419	4,223	145.9	659 / 540
259	25,907	4,223	146.3	488 / 1,015
265	26,527	4,223	146.8	572 / 313
270	27,017	4,223	147.5	337 / 709
276	27,622	4,223	148.1	40 / 1,112
285	28,476	4,160	149.6	39 / 1,274
288	28,786	4,160	149.7	480 / 40
299	29,928	3,731	151.0	944 / 221
306	30,563	3,731	151.5	877 / 140
311	31,114	3,731	152.1	778 / 241
317	31,689	3,731	152.7	1,025 / 180
322	32,180	3,731	153.1	865 / 751
327	32,704	3,731	153.3	955 / 392
331	33,055	3,731	153.5	1,108 / 53
337	33,690	3,731	153.9	868 / 37
341	34,098	3,708	154.3	371 / 278
345	34,493	3,708	154.9	208 / 612
352	35,190	3,655	155.5	355 / 279
358	35,845	3,655	156.0	182 / 770
365	36,476	3,592	156.4	827 / 36
372	37,244	3,592	156.9	1,063 / 85
377	37,689	3,592	157.3	1,294 / 53
380	38,005	3,592	157.5	749 / 36
383	38,339	3,592	158.0	661 / 36
389	38,919	3,056	158.8	948 / 32
394	39,432	3,056	159.2	808 / 52
403	40,268	3,056	160.0	554 / 357
416	41,566	3,056	161.0	32 / 933

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
MINGO SWAMP (continued)				
426	42,568	3,056	163.6	32 / 1270
432	43,173	3,029	163.7	31 / 910
436	43,606	3,029	163.9	52 / 1,025
442	44,160	3,029	164.2	31 / 698
448	44,818	3,029	164.6	59 / 253
453	45,304	3,029	165.4	166 / 219
459	45,924	3,029	165.9	267 / 462
466	46,598	3,029	166.2	115 / 572
473	47,292	3,029	166.7	31 / 814
492	49,187	2,979	167.8	510 / 453
501	50,073	2,979	168.2	518 / 566
509	50,945	2,979	168.5	835 / 126
516	51,560	2,979	168.7	908 / 89
527	52,651	2,903	169.3	431 / 166
535	53,533	2,903	170.0	669 / 692
542	54,211	2,903	170.4	596 / 522
546	54,602	2,903	170.7	291 / 621
558	55,842	2,793	171.6	47 / 779
566	56,603	2,793	172.1	68 / 934
575	57,450	2,793	172.8	439 / 211
581	58,134	2,747	173.5	478 / 268
588	58,803	2,747	174.1	500 / 318
596	59,583	2,747	174.7	898 / 29
605	60,511	2,747	175.5	79 / 517
612	61,155	2,689	176.4	29 / 302
616	61,571	2,689	177.0	185 / 455
621	62,144	2,689	177.4	234 / 551
628	62,754	2,689	177.8	273 / 396
633	63,253	2,636	178.3	514 / 453
640	63,986	2,369	179.0	387 / 132
652	65,237	2,369	182.8	696 / 255
658	65,802	2,369	183.0	906 / 250
664	66,365	2,369	183.1	839 / 26
672	67,164	2,369	183.5	1,160 / 26
678	67,763	2,344	183.7	1,069 / 26
692	69,191	2,070	185.8	90 / 493
699	69,857	2,070	186.2	366 / 148
705	70,491	2,070	186.8	297 / 227
712	71,178	2,070	187.8	247 / 222
719	71,911	2,070	188.7	246 / 377
725	72,544	2,070	189.4	158 / 414
732	73,158	2,070	190.2	466 / 217
739	73,937	1,995	191.3	616 / 23

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
MINGO SWAMP (continued)				
745	74,531	1,995	192.5	506 / 56
754	75,449	1,995	194.1	353 / 170
761	76,108	1,995	194.9	121 / 399
773	77,349	1,931	197.0	243 / 221
781	78,099	1,931	197.7	275 / 327
788	78,842	1,931	198.9	62 / 103
795	79,486	1,931	200.5	251 / 402
802	80,220	1,931	201.0	428 / 379
824	82,422	1,467	205.0	321 / 375
828	82,784	1,467	205.1	371 / 146
832	83,162	1,467	205.2	378 / 73
836	83,628	1,467	205.5	241 / 191
841	84,079	1,467	205.9	148 / 163
845	84,486	1,467	206.4	188 / 88
850	84,974	1,467	207.1	128 / 304
854	85,440	1,467	207.6	226 / 303
859	85,881	1,467	208.4	217 / 120
863	86,334	1,467	209.5	241 / 161
867	86,707	1,467	210.2	228 / 119
870	87,017	1,467	210.5	473 / 146
874	87,357	1,467	210.8	217 / 197
877	87,674	1,467	211.5	157 / 210
880	88,028	1,467	212.1	67 / 310
885	88,469	1,467	213.0	181 / 222
888	88,840	1,467	213.8	267 / 131
894	89,420	1,467	214.6	248 / 292
900	90,027	1,467	215.4	133 / 171
907	90,689	1,467	216.5	367 / 19
913	91,263	1,467	217.4	185 / 51
920	91,993	1,467	219.6	201 / 301
923	92,341	870	219.6	99 / 223
928	92,758	870	219.8	58 / 257
932	93,172	870	220.1	55 / 105
935	93,497	870	220.9	46 / 161
940	93,957	870	222.1	96 / 16
944	94,398	870	223.7	108 / 68
950	94,998	870	225.4	88 / 115
953	95,268	870	226.2	107 / 106
957	95,734	870	227.6	101 / 56
961	96,149	870	229.0	106 / 97
966	96,556	870	230.2	41 / 121
971	97,063	870	231.7	86 / 207
977	97,666	870	233.1	86 / 77

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
MINGO SWAMP (continued)				
982	98,185	870	234.6	238 / 28
986	98,551	870	235.7	142 / 47
991	99,123	870	236.7	251 / 72
996	99,562	870	237.5	111 / 23
1000	100,047	690	239.5	158 / 48
1005	100,531	690	240.4	52 / 64
1009	100,949	690	241.6	162 / 50
1018	101,767	690	244.6	111 / 106
1022	102,248	690	245.5	13 / 121
1028	102,806	690	247.2	38 / 145
1032	103,185	690	247.8	136 / 62
1037	103,664	611	248.8	96 / 48
1040	104,043	611	250.3	21 / 97
1045	104,464	611	252.7	12 / 103
1050	104,984	611	254.6	12 / 152
MINGO SWAMP TRIBUTARY 1				
006	622	768	179.3	107 / 17
010	990	768	180.9	75 / 30
020	2,043	768	185.9	116 / 17
027	2,671	768	189.3	171 / 17
037	3,671	768	198.7	130 / 148
043	4,294	768	198.9	156 / 80
049	4,931	768	200.3	25 / 108
054	5,413	768	203.3	16 / 63
060	5,996	768	206.2	13 / 150
066	6,621	768	208.0	69 / 16
073	7,267	768	212.7	31 / 13
076	7,644	768	216.5	54 / 15
084	8,370	768	223.1	45 / 49
088	8,841	527	225.1	60 / 57
094	9,417	527	226.5	26 / 69
098	9,833	527	228.0	45 / 31
107	10,721	527	234.3	118 / 129
113	11,334	527	234.4	120 / 100
MIRE BRANCH				
006	572	724	250.4	83 / 98
013	1,317	724	252.1	62 / 56
022	2,241	724	253.9	102 / 70
029	2,940	659	254.9	119 / 67
046	4,579	659	262.5	50 / 72
062	6,241	659	269.6	341 / 204
068	6,773	659	273.5	211 / 108
074	7,359	483	278.8	35 / 80

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
MUDDY CREEK				
137	13,688	920	169.2	30 / 27
140	14,002	920	175.3	60 / 59
143	14,329	920	175.8	35 / 45
148	14,764	889	176.6	73 / 23
153	15,267	889	177.6	106 / 23
156	15,615	889	178.5	23 / 73
158	15,849	889	179.3	23 / 84
161	16,141	889	180.2	128 / 23
168	16,822	889	181.8	35 / 101
175	17,474	889	183.3	105 / 45
179	17,940	889	184.2	105 / 125
186	18,624	787	187.0	44 / 135
195	19,512	787	187.5	21 / 190
201	20,063	787	188.6	330 / 110
207	20,658	787	189.3	300 / 150
215	21,541	750	190.6	21 / 21
224	22,366	750	199.3	251 / 249
240	24,048	602	200.9	163 / 14
246	24,629	602	202.0	109 / 85
255	25,507	602	203.0	127 / 115
260	26,007	602	203.5	375 / 20
266	26,606	602	203.8	155 / 95
273	27,344	602	204.4	125 / 60
276	27,620	575	204.9	109 / 35
279	27,944	575	205.7	109 / 32
283	28,252	575	206.8	240 / 19
286	28,578	522	207.1	125 / 62
287	28,725	522	207.3	18 / 116
290	28,996	522	207.6	190 / 45
293	29,317	522	207.9	30 / 90
298	29,834	522	209.3	115 / 76
312	31,176	502	212.7	59 / 66
315	31,537	502	213.6	69 / 18
325	32,489	462	216.5	41 / 39
329	32,860	462	217.3	65 / 25
333	33,312	387	218.4	33 / 42
338	33,834	387	221.3	75 / 32
342	34,176	387	222.1	53 / 32
346	34,641	387	223.6	52 / 65
353	35,274	387	225.2	16 / 84
356	35,593	387	226.6	51 / 16
358	35,807	387	228.1	11 / 11
362	36,229	387	230.0	79 / 16

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
MUDDY CREEK (continued)				
374	37,425	351	232.4	105 / 70
378	37,798	351	232.7	180 / 15
380	38,045	351	233.1	137 / 28
386	38,603	351	234.6	15 / 66
393	39,303	321	237.9	66 / 38
398	39,793	321	239.4	14 / 60
401	40,130	243	240.5	95 / 25
406	40,556	243	242.4	35 / 22
408	40,799	243	244.2	59 / 26
MUDDY CREEK TRIBUTARY 1				
003	297	176	184.3	59 / 22
007	724	176	188.0	7 / 31
011	1,070	176	189.5	35 / 21
015	1,475	176	191.1	29 / 7
018	1,788	176	193.3	14 / 32
021	2,143	176	194.8	49 / 22
027	2,727	144	198.1	26 / 8
045	4,455	144	212.5	73 / 53
049	4,895	144	212.9	31 / 95
058	5,833	62	218.0	20 / 7
061	6,147	62	222.4	52 / 20
MUDDY CREEK TRIBUTARY 2				
004	416	303	197.9	24 / 204
014	1,385	303	199.5	152 / 97
019	1,901	303	199.9	77 / 87
025	2,492	303	200.9	24 / 83
030	2,957	303	202.1	69 / 75
039	3,948	261	205.0	23 / 81
042	4,237	261	206.0	38 / 116
046	4,575	261	208.0	56 / 23
052	5,153	261	211.4	23 / 58
054	5,421	261	212.2	63 / 23
056	5,649	261	213.2	17 / 21
062	6,247	261	217.4	23 / 59
069	6,884	179	219.7	122 / 23
073	7,285	179	222.0	33 / 16
MUDDY CREEK TRIBUTARY 3				
000	57	137	206.9	33 / 11
001	138	137	207.9	8 / 10
003	326	137	210.5	11 / 35
005	518	137	212.9	42 / 10
008	812	137	215.9	34 / 6
016	1,560	133	220.3	3 / 9

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
MUDDY CREEK TRIBUTARY 3 (continued)				
019	1,904	133	223.9	2 / 22
023	2,267	133	224.7	57 / 12
024	2,393	133	224.9	64 / 3
034	3,385	121	232.9	5 / 38
038	3,797	121	236.7	24 / 5
042	4,161	121	240.2	14 / 21
045	4,464	121	243.6	10 / 3
048	4,787	121	246.1	11 / 30
052	5,223	69	250.3	7 / 2
NEILLS CREEK				
026	2,620	7,239	130.1 ⁴	400 / 314
035	3,544	7,239	130.1 ⁴	1,001 / 443
045	4,545	7,202	130.1 ⁴	203 / 488
055	5,474	7,202	130.1 ⁴	704 / 124
059	5,926	7,202	130.1 ⁴	977 / 25
064	6,354	7,202	130.1 ⁴	933 / 144
067	6,694	7,202	130.1 ⁴	1,012 / 51
070	7,012	7,202	130.1 ⁴	676 / 25
075	7,539	7,202	130.1 ⁴	1,451 / 25
080	8,049	7,202	130.1 ⁴	1,393 / 25
083	8,289	7,202	130.1 ⁴	451 / 25
085	8,546	7,202	130.7	496 / 25
092	9,166	7,202	132.2	930 / 25
097	9,685	7,202	132.8	617 / 35
101	10,135	7,202	133.9	657 / 25
106	10,583	7,202	135.5	542 / 25
110	11,038	7,202	136.9	349 / 25
116	11,625	7,021	139.1	252 / 30
121	12,061	7,021	140.1	749 / 24
125	12,544	6,996	140.5	753 / 24
140	14,030	6,996	142.8	466 / 65
147	14,741	6,937	143.7	511 / 120
153	15,291	6,937	144.3	754 / 205
160	16,004	6,937	145.2	242 / 598
167	16,681	6,626	146.7	79 / 416
172	17,246	6,593	148.1	113 / 572
180	18,034	6,593	149.1	132 / 500
188	18,752	6,593	149.9	223 / 580
193	19,272	6,593	150.5	389 / 689
202	20,218	6,593	151.6	197 / 346
209	20,913	6,546	153.2	22 / 454
214	21,443	6,546	154.5	258 / 618
223	22,250	6,509	156.0	22 / 286

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
NEILLS CREEK (continued)				
226	22,642	6,509	158.2	74 / 390
239	23,891	6,488	160.2	745 / 22
245	24,487	6,488	160.7	690 / 33
250	24,977	6,488	161.2	617 / 60
255	25,486	6,488	161.8	130 / 310
268	26,790	6,488	164.6	63 / 752
279	27,897	6,488	165.8	310 / 452
288	28,830	6,388	167.3	604 / 90
293	29,271	6,388	168.1	587 / 190
297	29,746	6,267	169.1	587 / 43
303	30,269	6,267	169.9	516 / 302
308	30,809	6,215	170.4	470 / 441
313	31,309	6,215	171.0	188 / 584
318	31,809	6,215	171.9	69 / 596
328	32,809	6,215	173.2	325 / 525
333	33,341	6,057	173.7	483 / 194
339	33,857	6,057	174.4	412 / 270
344	34,359	6,057	175.2	42 / 803
350	34,984	6,046	176.2	21 / 809
354	35,364	6,046	177.0	21 / 530
359	35,882	6,046	178.2	193 / 238
364	36,382	5,793	179.3	207 / 643
369	36,897	5,793	179.8	79 / 853
374	37,405	5,793	180.3	65 / 713
379	37,922	5,747	181.1	150 / 619
384	38,428	5,747	181.9	78 / 702
388	38,823	5,747	182.7	44 / 831
395	39,481	5,730	184.0	170 / 606
400	39,995	5,730	184.6	29 / 28
405	40,497	5,725	186.2	50 / 311
412	41,246	5,725	187.7	290 / 106
416	41,555	5,725	188.3	161 / 20
420	42,042	5,725	189.3	63 / 214
425	42,538	5,725	190.3	91 / 199
430	43,042	5,725	191.1	133 / 379
436	43,555	5,725	191.6	204 / 203
444	44,353	5,564	193.8	100 / 70
447	44,671	5,564	194.9	300 / 40
458	45,814	5,564	200.6	52 / 293
462	46,209	5,564	201.9	56 / 197
467	46,715	2,743	203.9	171 / 309
484	48,371	2,743	212.1	180 / 358
490	48,974	2,743	212.1	112 / 240

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
NEILLS CREEK (continued)				
493	49,286	2,743	212.2	195 / 155
498	49,829	2,743	213.0	190 / 92
505	50,473	2,488	214.7	69 / 152
509	50,865	2,488	215.9	91 / 223
513	51,258	2,488	216.9	143 / 147
518	51,763	2,488	218.9	51 / 107
521	52,093	2,488	220.3	100 / 74
528	52,817	1,812	223.6	131 / 104
533	53,261	1,812	224.8	69 / 68
539	53,930	1,812	228.5	91 / 71
543	54,289	1,812	230.2	94 / 78
548	54,789	1,812	232.6	115 / 63
553	55,309	1,812	235.1	104 / 68
559	55,887	1,705	238.1	136 / 62
564	56,387	1,705	240.8	147 / 182
569	56,886	1,705	242.6	20 / 251
574	57,421	1,469	244.4	139 / 104
579	57,921	1,469	246.3	132 / 27
584	58,421	1,469	248.9	106 / 66
590	59,022	1,469	251.7	112 / 43
594	59,421	1,469	253.6	86 / 90
599	59,929	1,469	256.3	47 / 192
604	60,413	1,394	262.0	117 / 111
609	60,909	1,394	262.4	201 / 112
614	61,362	1,187	262.9	23 / 54
620	61,992	1,187	266.7	17 / 222
NEILLS CREEK TRIBUTARY 1				
003	330	1,234	221.4	46 / 22
009	917	1,234	224.9	47 / 16
012	1,179	1,234	226.9	45 / 40
020	1,950	1,206	231.9	15 / 93
025	2,450	1,153	233.7	15 / 15
028	2,819	1,153	237.7	58 / 15
033	3,264	1,153	241.5	41 / 15
NORTH PRONG ANDERSON CREEK				
000	7	908	137.3	330 / 225
013	1,278	906	138.2	100 / 29
017	1,710	906	138.6	13 / 133
023	2,255	906	139.4	330 / 225
030	2,999	906	140.0	165 / 180
037	3,685	906	140.5	114 / 81
049	4,913	860	142.0	175 / 59
061	6,091	860	143.3	39 / 124

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
NORTH PRONG ANDERSON CREEK (continued)				
071	7,089	860	144.8	37 / 93
089	8,893	860	147.0	46 / 142
102	10,250	860	148.7	31 / 121
111	11,136	860	149.8	112 / 202
121	12,080	860	150.4	140 / 110
124	12,425	860	150.7	151 / 12
131	13,134	767	152.0	39 / 35
139	13,899	767	153.4	90 / 100
150	15,005	592	155.0	43 / 65
159	15,878	592	156.2	95 / 90
167	16,745	592	157.3	86 / 40
173	17,261	565	159.0	9 / 73
177	17,738	565	159.7	100 / 90
179	17,887	565	159.8	127 / 193
183	18,309	565	160.4	100 / 63
190	19,025	560	161.9	23 / 155
205	20,484	560	169.3	166 / 38
212	21,159	560	169.8	48 / 233
216	21,575	560	169.9	380 / 40
219	21,858	560	169.9	25 / 336
225	22,509	526	170.2	67 / 147
230	22,975	526	171.4	8 / 125
238	23,837	526	173.5	138 / 12
247	24,658	526	175.0	8 / 116
254	25,381	471	176.0	47 / 188
263	26,267	471	177.8	7 / 94
267	26,666	471	179.6	38 / 139
275	27,531	471	182.5	150 / 7
281	28,144	471	185.0	29 / 60
290	28,968	416	187.3	102 / 7
296	29,615	416	188.4	62 / 20
302	30,188	416	189.4	9 / 18
311	31,097	416	191.5	20 / 105
322	32,207	416	193.6	8 / 8
332	33,182	416	200.0	8 / 8
339	33,864	416	202.5	10 / 10
353	35,265	352	207.7	73 / 25
359	35,854	352	211.7	5 / 48
366	36,599	294	214.2	18 / 85
377	37,684	294	218.6	15 / 4
389	38,901	294	225.0	4 / 54
NORTH PRONG ANDERSON CREEK TRIBUTARY 1				
002	238	162	151.6 ⁴	12 / 87

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
NORTH PRONG ANDERSON CREEK TRIBUTARY 1 (continued)				
009	932	162	151.7	57 / 11
012	1,219	162	152.2	7 / 71
015	1,529	162	153.1	60 / 7
020	1,966	162	154.4	7 / 42
027	2,661	151	155.9	7 / 75
032	3,223	151	157.6	69 / 7
PARKER CREEK				
023	2,324	2,999	151.1 ⁴	55 / 82
026	2,585	2,999	151.1 ⁴	41 / 29
031	3,065	2,986	151.1 ⁴	25 / 20
035	3,525	2,986	151.1 ⁴	34 / 15
040	3,988	2,986	151.1 ⁴	15 / 20
043	4,324	2,900	152.7	28 / 15
047	4,706	2,900	155.7	24 / 27
051	5,140	2,900	157.7	17 / 23
055	5,545	2,900	160.2	15 / 192
058	5,777	2,900	161.3	43 / 38
062	6,164	2,900	163.6	15 / 56
064	6,433	2,900	164.4	32 / 42
068	6,816	2,900	167.1	39 / 31
073	7,288	2,900	169.1	31 / 56
077	7,724	2,900	171.1	32 / 35
081	8,109	2,833	172.9	56 / 15
086	8,601	2,833	175.7	74 / 46
090	9,038	2,833	177.7	16 / 24
095	9,491	2,481	181.1	14 / 56
100	10,015	2,481	183.1	44 / 71
106	10,590	2,481	185.1	20 / 30
110	11,042	2,481	187.9	27 / 73
115	11,532	2,481	189.7	14 / 51
123	12,322	2,481	193.3	14 / 133
128	12,836	2,481	195.7	14 / 83
132	13,229	2,481	197.2	17 / 62
138	13,755	2,356	200.0	25 / 15
140	14,034	2,356	202.0	13 / 47
146	14,586	2,356	203.9	94 / 27
153	15,261	2,356	205.5	16 / 17
157	15,725	2,257	209.9	15 / 44
162	16,192	2,257	212.1	25 / 44
167	16,745	2,257	214.7	28 / 14
171	17,085	2,257	216.6	13 / 13
177	17,702	2,257	223.1	64 / 16
183	18,260	2,257	226.0	13 / 106

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
PARKER CREEK (continued)				
186	18,648	2,117	227.6	18 / 50
191	19,139	2,117	230.1	45 / 67
196	19,592	2,117	231.9	46 / 35
200	20,049	2,117	234.0	19 / 73
204	20,354	2,117	235.8	13 / 115
206	20,572	2,117	236.6	70 / 30
REEDY BRANCH				
002	200	742	236.9	118 / 15
008	770	742	239.3	67 / 37
019	1903	742	248.0	91 / 40
023	2277	742	248.0	117 / 16
026	2606	742	248.6	43 / 35
034	3407	742	251.6	15 / 112
041	4059	742	253.1	122 / 15
045	4504	742	255.9	90 / 15
053	5271	742	259.2	61 / 37
058	5786	742	261.3	32 / 54
061	6074	742	262.1	20 / 76
065	6491	742	263.2	15 / 79
070	7021	567	265.0	55 / 25
074	7354	567	266.3	59 / 17
076	7629	567	269.5	23 / 30
078	7835	567	270.3	74 / 44
082	8157	567	270.4	18 / 92
084	8371	567	270.6	23 / 60
087	8717	567	272.1	81 / 15
089	8896	567	272.6	15 / 79
091	9077	567	273.2	55 / 38
094	9432	567	274.5	79 / 15
098	9829	567	277.4	32 / 17
101	10104	567	278.7	47 / 15
103	10348	567	279.6	46 / 15
106	10623	567	282.2	47 / 21
REEDY SWAMP				
000	20	590	194.4 ⁴	15 / 10
006	576	590	194.8	25 / 20
014	1,433	590	196.5	20 / 9
019	1,914	590	201.3	79 / 29
024	2,434	590	202.8	155 / 142
031	3,096	590	204.0	148 / 29
045	4,463	590	206.0	400 / 29
053	5,293	590	207.2	19 / 19
058	5,788	551	210.7	139 / 18

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
REEDY SWAMP (continued)				
074	7,366	532	218.2	405 / 289
079	7,940	532	218.2	268 / 211
087	8,722	463	218.3	170 / 195
094	9,376	463	218.4	261 / 181
104	10,355	463	220.2	99 / 27
116	11,648	463	224.3	291 / 27
214	21,417	169	301.6	22 / 36
SOUTH PRONG ANDERSON CREEK				
002	204	819	137.3 ⁴	70 / 58
007	734	819	137.4	55 / 33
012	1,230	819	138.2	22 / 111
016	1,644	819	138.7	22 / 123
022	2,178	819	139.3	62 / 36
025	2,545	819	140.0	22 / 37
029	2,914	819	140.7	33 / 61
034	3,397	819	141.4	44 / 52
037	3,685	819	141.7	65 / 61
039	3,896	819	141.8	139 / 53
041	4,105	819	141.9	155 / 64
047	4,689	800	142.2	112 / 34
055	5,481	800	142.8	100 / 70
059	5,884	800	143.2	40 / 80
064	6,353	800	143.6	21 / 110
073	7,267	800	144.4	223 / 38
077	7,678	800	144.8	126 / 29
081	8,142	800	145.5	94 / 69
086	8,604	800	146.1	168 / 21
092	9,195	800	146.8	76 / 65
100	10,004	800	147.4	157 / 123
108	10,826	755	147.7	23 / 265
110	11,029	755	147.7	30 / 245
113	11,312	755	147.8	21 / 342
115	11,507	755	148.0	21 / 218
118	11,784	755	148.2	153 / 118
121	12,143	755	148.7	183 / 21
125	12,450	755	149.3	161 / 21
128	12,769	755	150.0	100 / 79
130	12,999	755	150.5	117 / 21
133	13,315	755	151.1	86 / 56
139	13,854	711	151.7	64 / 170
142	14,212	711	152.0	62 / 136
149	14,857	711	152.2	316 / 44
152	15,159	711	152.2	131 / 261

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
SOUTH PRONG ANDERSON CREEK (continued)				
154	15,383	711	152.3	148 / 218
157	15,654	711	152.5	26 / 243
161	16,063	711	152.9	20 / 161
165	16,529	711	153.8	54 / 127
170	17,030	711	154.8	56 / 28
174	17,351	711	155.3	112 / 77
183	18,290	596	156.4	175 / 19
189	18,911	596	157.8	34 / 145
197	19,663	596	158.7	142 / 141
204	20,419	596	159.9	126 / 19
208	20,803	596	161.0	53 / 119
214	21,370	596	162.1	36 / 84
231	23,091	568	167.2	56 / 59
238	23,769	568	169.9	127 / 9
Cross sections shown on Floodway Data Table and Profile for this section.				
318	31,777	420	186.5	323 / 158
323	32,297	420	186.5	234 / 219
330	33,018	369	186.5	295 / 112
340	33,974	307	186.6	9 / 33
SOUTH PRONG ANDERSON CREEK TRIBUTARY 1				
001	115	236	156.4 ⁴	110 / 10
008	830	236	156.4 ⁴	136 / 8
014	1,362	236	158.5	56 / 8
017	1,726	236	160.5	50 / 50
022	2,240	236	161.8	63 / 55
026	2,564	236	162.1	122 / 128
031	3,143	236	162.5	68 / 26
036	3,578	236	164.0	35 / 8
049	4,931	190	167.2	16 / 58
052	5,204	190	167.7	99 / 27
STEWARTS CREEK				
128	12,770	2,072	163.4	118 / 208
131	13,055	2,072	163.5	96 / 204
134	13,431	2,072	163.8	53 / 34
140	13,998	2,072	166.1	103 / 122
145	14,548	1,477	167.2	100 / 71
150	15,020	1,477	168.2	83 / 121
154	15,440	1,477	169.1	54 / 68
159	15,851	1,450	170.1	157 / 101
163	16,324	1,450	170.9	76 / 105
167	16,727	1,450	172.3	20 / 118
173	17,298	1,351	174.7	17 / 120
176	17,640	1,351	175.7	82 / 93

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
STEWARTS CREEK (continued)				
183	18,265	1,351	177.3	101 / 95
190	19,009	1,351	180.2	188 / 23
196	19,592	1,351	183.1	68 / 96
STEWARTS CREEK TRIBUTARY 1				
007	677	656	166.6	117 / 13
011	1,144	656	168.4	45 / 23
015	1,534	656	170.3	94 / 24
019	1,857	656	171.5	43 / 41
026	2,606	623	177.1	12 / 75
032	3,156	623	178.9	54 / 62
036	3,572	623	181.6	42 / 38
040	4,029	623	184.3	235 / 12
STONY RUN TRIBUTARY 1				
006	631	840	190.1 ⁴	160 / 30
014	1,389	840	190.1 ⁴	57 / 125
022	2,195	840	192.1	33 / 125
031	3,062	840	195.5	199 / 27
037	3,741	840	197.8	100 / 75
045	4,545	773	198.3	215 / 75
TRIBUTARY 1				
074	7438	253	163.3	25 / 25
077	7687	253	163.3	78 / 44
081	8143	253	163.3	3 / 58
084	8396	253	165.1	6 / 15
086	8633	112	167.7	8 / 32
091	9143	112	169.8	17 / 7
TRIBUTARY 2				
032	3161	68	181.3	25 / 25
UPPER LITTLE RIVER				
206	20,579	13,017	109.5	929 / 405
231	23,148	13,017	114.2	609 / 641
247	24,660	13,017	117.6	943 / 450
282	28,180	13,017	120.2	766 / 519
287	28,676	13,017	120.5	971 / 590
301	30,104	13,017	121.4	65 / 2,099
340	34,006	13,017	122.0	1,298 / 842
347	34,721	13,017	122.2	444 / 1,362
363	36,266	12,924	122.5	66 / 1,870
373	37,260	12,924	122.8	285 / 1,514
388	38,801	12,924	123.2	1,314 / 533
397	39,669	12,914	123.5	1,614 / 190
402	40,243	12,914	123.6	1,579 / 931
416	41,581	12,914	123.8	2,592 / 853

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
UPPER LITTLE RIVER (continued)				
434	43,358	12,914	123.9	2,396 / 1,107
452	45,198	12,863	124.2	357 / 2,068
460	45,990	12,863	124.4	979 / 1,430
482	48,206	12,835	124.9	77 / 3,499
497	49,694	12,832	125.2	64 / 2,905
507	50,693	12,832	125.5	351 / 2,133
522	52,185	12,832	126.7	154 / 965
539	53,872	12,772	130.0	282 / 2,127
547	54,684	12,772	130.2	586 / 1,484
555	55,511	12,772	130.4	696 / 1,102
564	56,370	12,733	130.6	1,092 / 1,256
572	57,198	12,733	130.8	770 / 2,020
581	58,074	12,733	130.9	453 / 2,156
587	58,744	12,733	131.0	837 / 2,282
591	59,143	12,733	131.1	774 / 2,227
598	59,772	12,733	131.2	1,399 / 2,472
608	60,819	12,733	131.4	63 / 1,903
618	61,845	12,733	131.9	793 / 1,181
637	63,687	12,733	132.6	2,922 / 360
656	65,565	12,672	133.3	2,262 / 597
669	66,916	12,672	133.9	1,924 / 480
681	68,077	12,672	134.4	2,622 / 656
693	69,281	12,672	135.0	1,819 / 1,715
716	71,571	12,523	135.8	2,630 / 1,149
726	72,603	12,521	136.2	1,962 / 1,852
740	73,963	12,521	137.2	2,451 / 1,487
753	75,316	12,521	138.3	1,854 / 832
771	77,137	12,467	141.0	1,400 / 821
788	78,789	12,467	143.8	1,138 / 327
798	79,794	12,467	145.5	617 / 78
813	81,348	12,467	149.2	71 / 275
821	82,058	12,445	150.0	444 / 61
826	82,649	12,445	150.5	328 / 100
832	83,189	12,445	151.2	253 / 104
860	85,986	12,445	154.3	317 / 653
880	87,996	12,445	154.4	490 / 2029
889	88,942	12,445	154.5	61 / 2292
909	90,933	12,386	154.5	2,439 / 1103
930	92,956	12,210	154.6	1,000 / 1,730
975	97,525	12,210	154.8	3,877 / 60
992	99,182	12,210	154.9	3,605 / 1,146
1017	101,707	12,190	155.0	3,804 / 58
1055	105,477	12,153	155.4	1,786 / 1,218

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
UPPER LITTLE RIVER (continued)				
1070	106,952	12,153	155.7	2,050 / 609
1082	108,194	12,153	156.6	990 / 559
1090	109,042	12,153	157.2	1,663 / 59
1105	110,541	11,853	158.1	2,142 / 57
1118	111,849	11,853	159.2	1,885 / 57
1151	115,074	11,853	161.1	57 / 1,876
1166	116,617	11,807	161.8	57 / 2,491
1197	119,747	11,775	163.1	1,885 / 819
1212	121,181	11,775	164.1	1,515 / 57
1254	125,403	11,775	167.1	3,418 / 57
1296	129,646	11,775	168.1	1,291 / 1,034
1326	132,567	11,775	169.5	1,574 / 55
1343	134,274	11,700	170.3	2,455 / 55
1386	138,595	11,696	172.2	2,471 / 56
1418	141,784	11,675	175.2	980 / 775
1427	142,725	11,675	176.0	1,256 / 382
1446	144,641	11,638	177.3	550 / 545
1456	145,635	11,608	178.9	456 / 525
1473	147,339	11,606	181.7	55 / 863
1488	148,805	11,584	182.4	1,092 / 238
1498	149,845	11,584	183.0	791 / 136
1515	151,455	11,584	184.7	1,523 / 55
1558	155,839	11,511	189.3	302 / 55
1562	156,201	11,511	189.9	524 / 55
1576	157,633	11,504	191.2	87 / 420
1591	159,059	11,504	191.9	702 / 87
1602	160,221	11,504	192.2	696 / 66
1618	161,774	11,482	192.8	145 / 584
1631	163,146	11,482	193.2	896 / 332
1657	165,678	10,254	193.5	46 / 1,545
1675	167,512	10,254	193.7	249 / 1,657
1693	169,331	10,254	193.9	1,169 / 520
1704	170,399	10,238	194.4	1,251 / 287
1713	171,285	10,238	195.5	875 / 152
1726	172,586	10,238	196.7	1,197 / 40
1737	173,682	10,238	197.2	533 / 1,014
1757	175,706	10,238	199.3	46 / 1,185
1776	177,614	10,162	202.8	45 / 826
1795	179,545	10,155	205.0	716 / 46
1810	180,988	10,155	206.1	45 / 566
1823	182,318	10,155	206.5	1,188 / 36
1840	184,013	10,136	206.8	590 / 639
1856	185,569	10,122	207.4	138 / 565

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
UPPER LITTLE RIVER (continued)				
1871	187,078	10,122	208.9	718 / 204
1880	187,965	10,122	209.2	1,104 / 169
1887	188,732	10,039	209.6	539 / 237
1922	192,186	10,039	214.5	36 / 687
1933	193,311	10,039	215.4	528 / 511
1941	194,105	10,039	216.1	405 / 205
1954	195,406	9,977	217.8	421 / 44
1968	196,786	9,977	219.2	533 / 97
1986	198,638	9,915	219.7	756 / 443
1991	199,133	9,915	219.9	170 / 467
2002	200,236	9,911	220.6	44 / 751
2022	202,237	9,911	221.2	1,425 / 44
2038	203,761	9,911	221.6	864 / 274
2048	204,784	9,911	222.2	455 / 406
2078	207,834	9,911	224.0	185 / 1,008
2095	209,494	9,911	225.0	44 / 1,049
2108	210,772	9,859	226.4	515 / 268
2130	212,964	9,859	227.9	628 / 200
2174	217,385	9,714	232.4	42 / 1,556
2186	218,625	9,714	232.8	220 / 913
2203	220,346	9,714	235.3	799 / 42
2217	221,703	9,714	237.0	195 / 517
2225	222,503	9,714	237.5	594 / 574
2245	224,522	9,643	238.6	60 / 1,494
2266	226,572	9,643	240.6	59 / 910
WALKERS CREEK				
020	2,012	3,770	157.4 ⁴	599 / 287
036	3,588	3,170	157.4 ⁴	237 / 462
059	5,936	3,140	159.7	96 / 231
070	7,028	3,140	165.7	128 / 250
081	8,092	3,140	167.7	237 / 292
087	8,738	3,140	169.0	235 / 209
097	9,736	3,140	172.0	101 / 171
112	11,228	3,140	177.2	296 / 102
120	12,013	3,140	179.1	246 / 37
129	12,893	2,940	181.6	280 / 166
136	13,643	2,940	183.2	209 / 116
144	14,371	2,940	185.4	40 / 373
150	14,999	2,940	186.6	153 / 260
156	15,628	2,940	187.6	464 / 24
164	16,444	2,940	189.1	239 / 220
172	17,207	2,940	191.0	242 / 83
179	17,897	2,940	193.8	69 / 183

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
WALKERS CREEK (continued)				
185	18,479	2,940	195.0	392 / 19
191	19,093	2,940	196.1	171 / 39
199	19,851	2,400	198.9	59 / 259
206	20,569	2,400	201.1	100 / 100
WEST BUIES CREEK				
078	7,828	3,153	155.2	218 / 134
080	8,006	3,153	155.4	165 / 209
082	8,220	3,153	155.6	121 / 353
084	8,435	3,153	155.9	91 / 297
086	8,563	3,120	156.2	84 / 265
091	9,065	3,120	157.7	20 / 272
098	9,808	3,120	161.3	133 / 131
106	10,617	3,120	164.6	423 / 55
112	11,247	3,120	166.7	326 / 20
118	11,814	3,120	168.8	376 / 39
124	12,427	3,006	171.1	171 / 110
130	12,977	3,006	173.4	373 / 52
135	13,544	3,006	175.2	75 / 170
141	14,112	3,006	177.1	53 / 257
146	14,571	2,909	178.5	141 / 217
149	14,945	2,909	179.7	237 / 137
151	15,141	2,909	180.4	270 / 113
155	15,450	2,909	181.6	118 / 254
160	15,976	2,909	183.5	218 / 211
165	16,498	2,909	185.3	310 / 22
169	16,920	2,909	187.2	19 / 245
174	17,385	2,909	188.9	194 / 129
182	18,152	2,909	190.7	308 / 43
188	18,797	2,909	193.1	200 / 200
198	19,755	2,813	196.4	30 / 438
206	20,569	2,813	199.1	19 / 495
212	21,165	2,813	200.6	130 / 182
215	21,544	2,813	202.1	377 / 19
220	21,964	2,696	203.3	333 / 44
225	22,524	2,696	204.7	104 / 235
229	22,887	2,696	205.6	120 / 207
237	23,731	2,461	207.7	407 / 18
242	24,169	2,461	208.7	277 / 116
247	24,741	2,461	210.1	397 / 18

Table 8—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width³ (feet)
WEST BUIES CREEK				
255	25,498	2,461	212.9	370 / 18
263	26,343	2,461	215.8	339 / 109

¹ This table reflects all modeled cross sections. Some cross sections shown in this table may not appear on map

² Feet above mouth

³ Left/right distance from the mapped center of stream to encroachment boundary based on a 1.0 foot or less surcharge (looking downstream)

⁴ Elevation includes backwater effects

⁵ Flooding controlled by Upper Little River

6.1 Vertical and Horizontal Control

Vertical Datum

All FISs 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 FISs was the National Geodetic Vertical Datum of 1929 (NGVD 29). With the finalization of the North American Vertical Datum of 1988 (NAVD 88), many FISs are being prepared using NAVD 88 as the referenced vertical datum.

All flood elevations shown on the FIRM for Harnett County are referenced to NAVD 88. Structure and ground elevations in the county must, therefore, be referenced to NAVD 88. It is important to note that FISs for adjacent communities may be referenced to NGVD 29. This may result in BFE differences across political boundaries between the communities.

Prior versions of this FIS were referenced to NGVD 29. When a datum conversion is effected for an FIS, the Flood Profiles, BFEs, and bench marks reflect the new datum values. To compare structural and ground elevations to 1% annual chance flood elevations shown in this FIS, the subject structural and ground elevations must be referenced to the new datum values.

As noted above, the elevations shown in this FIS are referenced to NAVD 88. Ground, structure, and flood elevations may be compared and/or referenced to NGVD 29 by applying a standard conversion factor. The conversion factor for Harnett County is -0.82 feet. The locations used to establish the conversion factor were USGS quadrangle corners that fell within the county, as well as those that were within 2.5 miles outside the county. The benchmarks are referenced to NAVD 88. Table 9, "Datum Conversion Locations and Values," is shown below.

Table 9—Datum Conversion Locations and Values

Latitude	Longitude	Conversion from NGVD 29 to NAVD 88 (feet)
35.500	79.000	-0.75
35.500	78.875	-0.80
35.500	78.750	-0.81
35.500	78.625	-0.84
35.375	79.125	-0.77
35.375	79.000	-0.78
35.375	78.875	-0.83
35.375	78.750	-0.87
35.375	78.625	-0.87
35.250	79.250	-0.81
35.250	79.125	-0.79
35.250	79.000	-0.80
35.250	78.875	-0.84
35.350	78.750	-0.88

Table 9—Datum Conversion Locations and Values

Latitude	Longitude	Conversion from NGVD 29 to NAVD 88 (feet)
35.250	78.625	-0.91
Average conversion in Harnett County from NGVD 29 to NAVD 88 = -0.82 feet		

The BFEs shown on the FIRM represent whole-foot rounded values. For example, a 1% annual chance water-surface elevation of 102.4 feet will appear as 102 on the FIRM and 102.6 feet will appear as 103. Therefore, users who wish to convert the elevations in this FIS to NGVD 29 should apply the stated conversion factor(s) 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 on NAVD 88, see *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 (<http://www.ngs.noaa.gov>).

Vertical Control Monuments

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

The National Geodetic Survey establishes precisely located monuments on the North Carolina Grid System and Bench Marks referenced to a vertical datum (NGVD 1929 and NAVD 1988).

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, when local jurisdictions have established their own vertical monument network, these monuments may also be shown on the FIRM with the appropriate designations. Local monuments will be placed on the FIRM if the community has requested that they be included and if the monuments meet the aforementioned criteria.

North Carolina Geodetic Survey (NCGS) and contractor surveyed vertical control monuments will be shown on the FIRM panels. Those cataloged by NCGS meet similar requirements to the NGS monuments as described above. Most monuments that have been cataloged by NCGS have been established to NGS standards, but have not been submitted to NGS for inclusion into the NSRS. The qualifying criteria for depicting bench marks established by the State's contractors on the new digital FIRM panels include:

- GPS surveying of permanent 3-D survey monuments to 5-centimeter or better local network accuracy guidelines, in accordance with NOAA Technical Memorandum NOS NGS-58 "Guidelines for Establishing GPS-Derived Ellipsoid Heights (Standards: 2 cm and 5 cm)," and conversion to NAVD 88 orthometric heights using NGS' latest geoid mode;
- Requiring a stability classification of "C" or better; and
- Submitting GPS files and station descriptions to NCGS.

To obtain current information for cataloging local bench marks in the NSRS, please visit the Data Sheet page of the NGS website at <http://www.ngs.noaa.gov/datasheet.html>, or contact the NGS Information Services Branch at (301) 713-3242. Information regarding the NCGS or State contractor bench marks can be obtained through the NCGS website at www.ncgs.state.nc.us, or by phone at (919) 733-3836.

It is important to note that temporary vertical monuments, sometimes called Elevation Reference Marks, 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, interested individuals may contact FEMA to access this information.

Horizontal Datum and Control

The digital files that comprise the FIRM are georeferenced to an established coordinate system. The coordinate system used for the production of this FIRM is North Carolina State Plane (FIPSZONE 3200) referenced to the North American Datum of 1983 (NAD83), GRS80 ellipsoid.

6.2 Base Map

County orthophotos, dated 2002, are used as the base maps for digital FIRM production for Harnett County. The base maps are supplemented with stream centerlines, shoreline, and political boundaries, and road name data from other sources; this includes locally available GIS data.

The projection used in the preparation of this map was the North Carolina State Plane Coordinate System. The horizontal datum was NAD83, GRS80 spheroid. Differences in datum, spheroid, or projection used in the production of FIRMs for adjacent states may result in slight positional differences in map features across the state boundary. These differences do not affect the accuracy of this FIRM.

As part of the North Carolina CTS Initiative, North Carolina digital FIRM panel numbers are consistent with the North Carolina Land Records Management Program (LRMP).

The 11-digit digital FIRM panel numbering system for North Carolina is: SS MM LLLL PP X, where SS = State Federal Information Processing Code (37); MM = Easting-Northing (EN) 1,000,000-foot coordinates; LLLL = LRMP map numbers to include the EN 100,000-foot coordinates, and the EN 10,000-foot coordinates; PP = place holders for additional EN 1,000-foot coordinates; and X = suffix (“J” for the initial edition). North Carolina’s State Plane Coordinate System origin is outside the State boundary to the southwest (in Georgia), the eastings range from approximately 0,404,000 (Tennessee border) to 3,040,000 (Atlantic Ocean); and the northings range from approximately 0,045,000 (South Carolina border) to 1,043,000 (Virginia border). Digital FIRM panels were compiled at either 1"=1,000', covering an area of 20,000 feet x 20,000 feet (20" x 20" panels); or at 1"=500', covering an area of 10,000 feet x 10,000 feet (20" x 20" panels). An additional 2 digits (both zeros) are held in reserve as a “place holder” in the event that future FIRMs are printed at a larger scale; e.g., 1"=250', covering an area of 5,000 feet x 5,000 feet for which the 1,000-foot coordinates would either be 0 or 5.

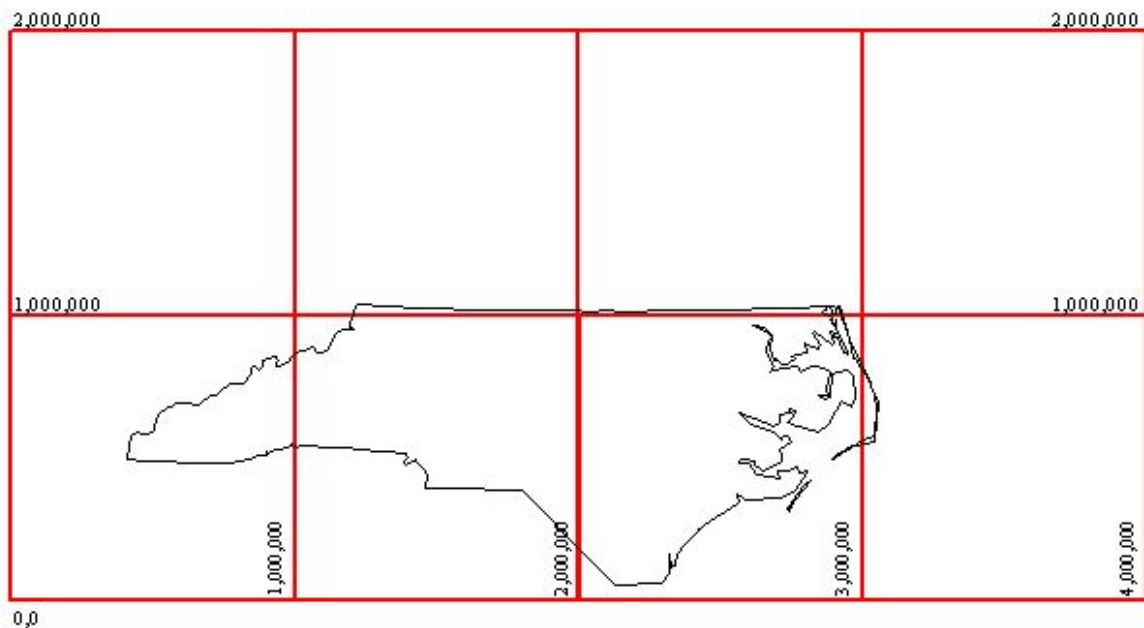


Figure 3—North Carolina’s State Plane Coordinate System

6.3 Floodplain and Floodway Delineation

Floodplain Delineation

For streams restudied by detailed and limited detailed methods, the 1% and 0.2% annual chance floodplains were delineated using flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic data acquired using airborne Light Detection and Ranging (LIDAR). This LIDAR data was acquired during the winter 2000-2001 flying season.

The topographic data satisfies a vertical root-mean-square error (RMSE) accuracy standard of 20 cm (1.3 feet accuracy at the 95% confidence limit) for the Outer Banks and 25 cm (1.6 feet accuracy at the 95% confidence limit) for those portions of the basin lying west of the Outer Banks. These data could be contoured at roughly a 2-foot vertical contour interval. All elevations were referenced to the NAVD 88 and reflect orthometric heights. Variably spaced, bare-earth digital topographic data in ASCII point file format were combined with imagery (either flown concurrently with the LIDAR data or using existing digital orthophotos) to establish a Triangulated Irregular Network (TIN) of digital elevation points, which include selected breaklines to be used for hydraulic modeling. Furthermore, a uniformly spaced sampling of the TIN resulted in uniformly spaced Digital Elevation Models (DEMs), with 20 ft x 20 ft post spacing, which was generated in multiple file formats.

The 1% annual chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones VE, AO, AH, A99, AR, A, and AE), and the 0.2% annual chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 1% and 0.2% annual chance floodplain boundaries are close together, only the 1% annual chance floodplain boundaries have been shown.

Floodway Delineation

The floodways presented in this FIS 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 (Table 10, "Floodway Data"). The computed floodway is shown on the FIRM. In cases where the floodway and 1% annual chance floodplain boundaries are either close together or collinear, only the floodway boundary is shown. In areas where the top of the bridge or road is higher than the 1.0-percent annual chance (100-year) flood, the FIRM will show the flood discharge as contained within the structure for emergency management purposes. It is important to note that FEMA and community floodway regulations still apply in and around those areas.

Table 10—Floodway Data

FLOODING SOURCE		FLOODWAY				BASE FLOOD WATER-SURFACE ELEVATION - (FEET NAVD 88)		
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Black River								
380	38,000 ¹	1,100	7,881	0.7	151.1	151.1	152.1	1.0
428	42,800 ¹	800	5,293	1.1	153.6	153.6	154.4	0.8
458	45,800 ¹	700	4,382	1.3	155.7	155.7	156.3	0.6
514	51,360 ¹	143	931	5.7	159.6	159.6	160.6	1.0
569	56,900 ¹	600	2,741	1.9	166.3	166.3	166.7	0.4
584	58,440 ¹	600	3,933	1.3	169.0	169.0	169.5	0.5
612	61,220 ¹	600	3,573	1.4	170.7	170.7	171.2	0.5
647	64,660 ¹	700	4,650	1.0	172.8	172.8	173.8	1.0
1439	143,856 ²	100	869	1.7	239.1	239.1	239.5	0.4
1448	144,839 ²	445 ³	3,913	0.4	244.1	244.1	244.1	0.0
1466	146,647 ²	205 ³	1,727	0.9	244.1	244.1	244.2	0.1
1478	147,815 ²	80	416	3.3	244.3	244.3	244.4	0.1
1499	149,910 ²	155	682	2.0	248.2	248.2	249.1	0.9
1509	150,884 ²	125	596	2.2	250.9	250.9	251.8	0.9
1521	152,087 ²	190	751	1.8	254.1	254.1	255.1	1.0
1527	152,735 ²	130	626	2.0	255.7	255.7	256.6	0.9
1539	153,909 ²	110	576	2.2	257.6	257.6	258.6	1.0
1549	154,908 ²	40	292	4.4	259.9	259.9	260.7	0.8

¹Feet above confluence with Mingo Swamp

² Feet above mouth

³Value is inaccurate, as the floodway has been adjusted in this area to match topographic-based floodplain redelineation

FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
HARNETT COUNTY, NC AND INCORPORATED AREAS	BLACK RIVER

TABLE 10

¹Feet above confluence with Mingo Swamp

²Feet above mouth

³Value is inaccurate, as the floodway has been adjusted in this area to match topographic-based floodplain redelineation

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

FLOODWAY DATA

BLACK RIVER

TABLE 10

FLOODING SOURCE		FLOODWAY				BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE	
Buies Creek									
061	6,120	85	601	5.7	120.5	120.5	121.1	0.6	
077	7,670	165	1,273	2.7	128.9	128.9	129.2	0.3	
094	9,370	154	1,004	3.4	134.1	134.1	134.9	0.8	
108	10,847	142	1,297	2.6	148.4	148.4	149.3	0.9	
130	13,037	276	2,626	1.3	150.7	150.7	151.7	1.0	
143	14,337	290	1,592	1.1	151.9	151.9	152.9	1.0	
155	15,487	67	330	5.4	154.2	154.2	155.0	0.8	
173	17,287	67	414	4.3	162.3	162.3	163.2	0.9	
184	18,417	131	834	2.1	168.1	168.1	169.1	1.0	
194	19,417	198	1,080	1.6	170.0	170.0	171.0	1.0	
¹ Feet above mouth									
FEDERAL EMERGENCY MANAGEMENT AGENCY					FLOODWAY DATA				
HARNETT COUNTY, NC AND INCORPORATED AREAS					BUIES CREEK				
TABLE 10									

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Cape Fear River								
8944	894,432	677	25,205	4.3	107.1	107.1	107.7	0.6
9018	901,824	477	18,233	6.0	108.2	108.2	108.9	0.7
9108	910,800	520	13,495	6.0	110.5	110.5	111.4	0.9
9256	925,584	1,012	15,974	5.0	117.1	117.1	118.1	1.0
9462	946,176	620	13,324	6.0	127.9	127.9	128.8	0.9
9478	947,760	479	12,916	6.2	128.7	128.7	129.6	0.9
9657	965,712	1,137	18,033	4.4	134.6	134.6	135.6	1.0
9794	979,440	912	17,959	4.1	139.9	139.9	140.8	0.9
9942	994,224	995	16,747	4.4	144.5	144.5	145.4	0.9

¹Feet above mouth

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

TABLE 10

FLOODWAY DATA

CAPE FEAR RIVER

FLOODING SOURCE		FLOODWAY				BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)		
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Juniper Creek (into Cape Fear River)	8,292 ¹	65	540	4.4	110.7	110.7	111.6	0.9
	9,210 ¹	367	2,139	1.1	115.7	115.7	115.7	0.0
	12,038 ¹	66	545	4.4	123.7	123.7	124.2	0.5
	15,460 ¹	107	569	2.2	143.0	143.0	143.7	0.7
	19,030 ¹	66	263	2.7	164.9	164.9	165.9	1.0
	21,851 ¹	60	175	4.0	184.1	184.1	184.3	0.2
South Prong Anderson Creek	2,650 ²	432	1,475	1.1	170.5	170.5	171.5	1.0
	4,316 ²	229	1146	1.4	176.8	176.8	177.7	0.9
	5,030 ²	303	1666	1.0	177.7	177.7	178.6	0.9
	6,280 ²	197	1085	1.5	180.4	180.4	181.4	1.0
	7,710 ²	270	1534	1.0	183.8	183.8	184.7	0.9
	9,510 ²	247	1395	1.0	186.5	186.5	187.4	0.9
¹ Feet above mouth ² Feet above State Road 210								
FEDERAL EMERGENCY MANAGEMENT AGENCY		FLOODWAY DATA						
HARNETT COUNTY, NC AND INCORPORATED AREAS		JUNIPER CREEK (INTO CAPE FEAR RIVER) – SOUTH PRONG ANDERSON CREEK						
TABLE 10								

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)				
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE	
Stewarts Creek 003 007 011 025 045 065 094 123	303 ¹	100	431	4.1	124.1	123.9 ⁴	123.9	0.0	
	688 ¹	160	73	2.4	125.2	125.2	125.9	0.7	
	1,076 ¹	92	466	3.8	127.4	127.4	128.0	0.6	
	2,490 ¹	86	465	3.8	129.9	129.9	130.8	0.9	
	4,512 ¹	75	562	3.2	141.2	141.2	141.4	0.2	
	6,464 ¹	34	277	6.4	145.8	145.8	145.9	0.1	
	9,410 ¹	174	876	1.9	151.3	151.3	152.3	1.0	
	12,297 ¹	63	441	3.8	162.7	162.7	163.5	0.8	
Stony Run 001 015 016 042 068 087 105 126 142 159 176 202	10 ²	555	3,649	0.5	160.3	160.3	161.3	1.0	
	1,539 ²	26	240	7.6	164.1	164.1	165.0	0.9	
	1,584 ²	1,022 ³	6,915	0.3	167.4	167.4	168.3	0.9	
	4,182 ²	285	1,148	1.6	172.8	172.8	172.8	0.0	
	6,835 ²	319	2,083	0.9	179.1	179.1	180.1	1.0	
	8,732 ²	908 ³	2,737	0.4	190.2	190.2	190.9	0.7	
	10,529 ²	136	713	1.7	194.6	194.6	194.6	0.0	
	12,582 ²	81	527	2.3	198.7	198.7	199.0	0.3	
	14,235 ²	244	1,841	0.6	200.5	200.5	201.4	0.9	
	15,885 ²	269	1,483	0.8	201.5	201.5	202.5	1.0	
	17,585 ²	177	1,055	1.1	205.1	205.1	206.1	1.0	
	20,187 ²	181	553	1.4	218.0	218.0	219.0	1.0	

¹Feet above mouth

²Feet above Harnett/Sampson county boundary

³Value is inaccurate, as the floodway has been adjusted in this area to match topographic-based floodplain redelineation

⁴Elevation computed without consideration of backwater effects from Juniper Creek

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

FLOODWAY DATA

STEWARTS CREEK – STONY RUN

TABLE 10

¹Feet above mouth

²Feet above Harnett/Sampson county boundary

³Value is inaccurate, as the floodway has been adjusted in this area to match topographic-based floodplain redelineation

⁴Elevation computed without consideration of backwater effects from Juniper Creek

FEDERAL EMERGENCY MANAGEMENT AGENCY HARNETT COUNTY, NC AND INCORPORATED AREAS	FLOODWAY DATA	
	STEWARTS CREEK – STONY RUN	

TABLE 10

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Tributary 1	013	214	1,311	0.9	134.2	133.9 ²	134.9	1.0
	022	83	384	3.1	136.8	136.8	137.6	0.8
	036	56	439	2.7	143.9	143.9	144.9	1.0
	049	144	824	1.2	150.2	150.2	151.2	1.0
	061	38	231	4.2	155.8	155.8	156.7	0.9
	068	90	572	1.6	163.3	163.3	164.3	1.0
Tributary 2	004							
	011	51	162	2.6	149.3	149.3	150.1	0.8
	023	26	89	4.7	161.4	161.4	162.1	0.7
		42	63	2.6	173.5	173.5	174.4	0.9

¹Feet above mouth

²Elevation computed without consideration of backwater effects from Lower Little River

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

FLOODWAY DATA

TRIBUTARY 1 – TRIBUTARY 2

TABLE 10

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
West Buies Creek 016 020 035 050 065 070	1,559	167	1,240	1.7	126.3	126.3	126.3	0.0
	1,968	163	929	2.3	126.8	126.8	126.9	0.1
	3,480	153	1,085	2.0	134.7	134.7	135.6	0.9
	4,980	143	810	2.6	140.8	140.8	141.8	1.0
	6,530	80	554	3.8	149.1	149.1	150.0	0.9
	6,994	53	411	5.0	152.5	152.5	152.8	0.3
¹ Feet above mouth								
FEDERAL EMERGENCY MANAGEMENT AGENCY					FLOODWAY DATA			
HARNETT COUNTY, NC AND INCORPORATED AREAS					WEST BUIES CREEK			
TABLE 10								

This FIS is based on the most up-to-date data available to FEMA or the State at the time of production; however, flood hazard conditions change over time. Communities or private parties may request flood map revisions at any time; certain types of revisions will require the submission of supporting data. FEMA or the State may also initiate a revision. FIS revisions may take several forms; these include Letters of Map Amendment (LOMAs), Letters of Map Revision - based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs), Physical Map Revisions (PMRs), and FEMA or the State-contracted restudies.

7.1 Letters of Map Amendment and Letters of Map Revision - Based on Fill

LOMAs and LOMR-Fs are documents issued by FEMA that officially remove a property and/or a structure from a Special Flood Hazard Area (SFHA), if data supporting the removal are submitted. LOMAs and LOMR-Fs are generally determinations regarding areas that are too small to be shown on a FIRM panel; consequently, the changes they describe become official without revising the FIRM or the FIS Report.

NFIP regulations require that the lowest adjacent grade (the lowest ground touching the structure) be at or above the 1% annual chance flood elevation for a LOMA to be issued. Currently, there is no fee for FEMA's review of a LOMA request, but the requester of a LOMA is responsible for providing all the information needed for the review, which may include structure and/or property elevations certified by a licensed land surveyor or professional engineer. Therefore, LOMA requesters may need to retain the services of a land surveyor or engineer.

A LOMA cannot be used for property on which fill has been placed. For those situations, a LOMR-F must be used. As a participant in the NFIP, a local government must adopt ordinances that meet the minimum Federal floodplain management standards, which are outlined in Section 60.3 of the NFIP regulations. For a number of reasons, these ordinances generally vary from community to community. Nonetheless, because the placement of fill within the floodplain can affect flood hazards in the surrounding area, additional information is needed before FEMA can process a LOMR-F request. Among the data required for a LOMR-F is the community acknowledgment form. This form is FEMA's assurance that all appropriate Federal, State, and local floodplain management requirements have been met. Furthermore, NFIP regulations require that the lowest adjacent grade (the lowest ground touching the structure) be at or above the 1% annual chance flood elevation for a LOMR-F to be issued removing the structure from the floodplain. Because LOMR-F requests are the result of changed physical conditions rather than limitations of scale or topographic definition, FEMA charges a fee for the review of a LOMR-F request. As with the LOMA, the requester of a LOMR-F is responsible for providing all supporting information, including structure and/or property elevation data.

In cases where property owners plan to add fill in the SFHA, NFIP regulations require plans and technical information to be submitted for review by FEMA before construction takes place. FEMA will issue a conditional LOMR-F stating how flood hazards would change and what portions of the property, if any, would remain in the SFHA if the project were built according to the submitted plans.

The issuance of a LOMA or LOMR-F ends the property owner's obligation to purchase flood insurance as a condition of Federal or federally backed financing. However, the property owner's mortgage company maintains the prerogative to require flood insurance as a condition of providing financing. Before attempting to obtain a LOMA or LOMR-F, property owners are advised to consult their mortgage companies regarding this policy. Even if the mortgage company indicates

that it will require flood insurance if a LOMA or LOMR-F is issued, it may be advantageous for property owners to request a LOMA or LOMR-F because flood insurance premiums are lower for properties removed from the SFHA than for properties that remain within the SFHA.

For additional information regarding LOMAs, LOMR-Fs, conditional LOMR-Fs, or current application fees, please call the FEMA Map Assistance Center toll-free information line at 1-877-FEMA MAP (1-877-336-2627).

7.2 Letters of Map Revision

A Letter of Map Revision (LOMR) is a document issued by FEMA that revises an FIS Report and/or FIRM. A LOMR is used to change flood risk zones, floodplain and/or floodway delineations, flood elevations, or planimetric features such as road systems or corporate limits. A LOMR provides FEMA with a cost-effective means of revising the FIS information without physically changing and reprinting the map or report itself. A portion of the FIRM panel or FIS Report showing the revised information is issued with the LOMR. The LOMR is sent to all affected communities and is archived in the communities' NFIP map repository for public reference.

In cases where a proposed project (such as construction in the 1% annual chance floodplain) would result in a significant rise in 1% annual chance water-surface elevations, NFIP regulations require the community to submit plans and technical information for review by FEMA before construction takes place. This assures communities participating in the NFIP that proposed projects meet minimum NFIP requirements. The result of FEMA's review is documented in a conditional LOMR.

For additional information regarding LOMRs, conditional LOMRs, or current application fees, please call the FEMA Map Assistance Center toll-free information line at 1-877-FEMA MAP (1-877-336-2627).

7.3 Physical Map Revisions

Physical Map Revisions (PMRs) are processed to incorporate information concerning conditions present in the community that are not reflected in the FIS, and involve distributing republished FISs that supersede the most current NFIP data in the community repository. PMRs may be initiated by a request from a community resident or agency, or FEMA may initiate a PMR to incorporate one or more LOMRs, to reflect significant changes in corporate limits, to correct errors, or to update flood hazards to match new information from an adjacent community's FIS. Due to the costs associated with updating and distributing FISs, map revisions will be processed as LOMRs rather than PMRs whenever possible. For more information regarding PMRs, please contact the FEMA Map Assistance Center toll-free information line at 1-877-FEMA MAP (1-877-336-2627) or the FEMA Regional Office at the address listed on the Notice to Flood Insurance Study Users page at the front of this report.

7.4 Contracted Restudies

The NFIP provides for a periodic review and restudy of flood hazards in a given community. FEMA accomplishes this through a national mapping needs assessment process that assigns priorities and allocates funds to sponsor or subsidize new flood hazard analyses used to update FIS Reports. For more information regarding FEMA-contracted restudies, please contact the FEMA Map Assistance Center toll-free information line at 1-877-FEMA MAP

(1-877-336-2627) or the FEMA Regional Office at the address listed on the Notice to Flood Insurance Study Users page at the front of this report.

7.5 Map Revision History

The current FIRM is a subset of the Statewide FIRM, showing flood hazard information for the entire geographic area of Harnett County. Previously, separate Flood Hazard Boundary Maps (FHBMs), Flood Boundary and Floodway Maps (FBFMs), and/or FIRMs were prepared for each identified flood prone jurisdiction within the county. Historical data relating to the NFIP maps prepared for each community prior to and including the October 3, 2006 North Carolina Statewide FIRM, which includes Harnett County, are presented in Table 11, "Community Map History."

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

Table 11—Community Map History

Community Name	Initial Identification Date	FHBM Revision Date	FIRM Effective Date	FIRM Revision Date
Angier, Town of	August 18, 1978 ¹	None	April 16, 1990 ¹	October 3, 2006
Dunn, City of	September 9, 1977	None	September 4, 1986	April 16, 1990 October 3, 2006
Erwin, Town of	April 16, 1990	None	April 16, 1990	October 3, 2006
Harnett County (Unincorporated Areas)	August 18, 1978	None	April 16, 1990	October 3, 2006
Harnett County (Unincorporated Areas)	August 18, 1978	None	October 3, 2006	February 2, 2007
Harnett County (Unincorporated Areas)	August 18, 1978	None	February 2, 2007	July 19, 2022
Lillington, Town of	May 5, 1978	None	September 4, 1986	April 16, 1990 October 3, 2006

¹ This community did not have its own FIRM prior to the October 3, 2006, countywide FIS. The land area for this community was previously shown on the FIRM for the Harnett County and incorporated areas, dated April 16, 1990. Therefore, the dates for this community were taken from the FIRM for Harnett County.

8.1 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 revises and updates the previous countywide FIS for the geographic area of Harnett County and Incorporated Areas. Table 12, “Authority and Acknowledgments,” includes information for the previous countywide FIS and for this revision.

Table 12—Authority and Acknowledgments

Community	FIS Dated	Study Contracted by	Data Source (Study Contractor or Source of Data)	Contract or Inter-Agency Agreement (IAA) Number	Work Completed in (month and/or year)
Harnett County and Incorporated Areas	October 3, 2006	FEMA	North Carolina Floodplain Mapping Program	N/A	June 2005
Harnett County and Incorporated Areas	April 16, 1990	FEMA	Hayes, Seay, Mattern and Mattern	EMW-86-C-2254	September 1987

N/A – Not Applicable

This FIS Report was produced through a unique cooperative partnership between the State of North Carolina and FEMA. The State of North Carolina, through FEMA’s Cooperating Technical Partner (CTP) Initiative, has become the first Cooperating Technical State (CTS) and will assume primary ownership of the NFIP FIRM panels for all North Carolina communities. This role has traditionally been fulfilled by FEMA. The North Carolina Floodplain Mapping Program is conducting flood hazard analyses and producing updated, digital FIRM panels. The hydrologic and hydraulic analyses and the FIRM panels were produced by Watershed Concepts, under contract with the State of North Carolina.

In August 2000, the North Carolina General Assembly allocated \$23 million to Phase I of the Program. FEMA has contributed an additional \$10.0 million towards the Program, as well as in-kind contributions of engineering, mapping, and program management services.

8.2 Consultation Coordination Officer’s Meetings/Scoping Meetings

In general, for each FIS an initial Consultation Coordination Officer’s (CCO) meeting is held with representatives from FEMA, the communities, and the study contractors to explain the nature and purpose of the FIS and to identify the streams to be studied by detailed methods. A final CCO meeting is held with representatives from FEMA, the communities, and the study contractors to review the results of the study.

For each FIS produced by the State of North Carolina and FEMA’s unique partnership, an Initial Scoping Meeting is held with representatives from FEMA, the county, the incorporated communities, and the State of North Carolina. A Final Scoping meeting is held to review the Draft

Basin Plan and finalize the streams to be studied by detailed methods. This information is then used to create the Final Basin Plan.

The dates of the initial and final CCO meetings held for Harnett County and Incorporated Areas were compiled from the previous countywide FIS Report and are shown in Table 13, “Consultation Coordination Officer’s Meetings.”

Table 13—Consultation Coordination Officer’s Meetings

Community Name	For FIS Dated	Initial CCO Date	Attended by	Final CCO Date	Attended by
Harnett County and Incorporated Areas	April 16, 1990	February 1986	Representatives of local communities, Harnett County, the State, FEMA, and the study contractor	April 13, 1989	Representatives of local communities, Harnett County, and the study contractor

A Preliminary Meeting was held in Lillington, North Carolina, on September 27, 2005, to disseminate and review the FIS Report and FIRM panels for the Cape Fear River Basin portion of Harnett County. This meeting was attended by community officials from Harnett County and the incorporated communities, along with representatives from the State of North Carolina, Dewberry, and Watershed Concepts. A Public Participation Meeting was held on November 14, 2005, to review and discuss the FIS Report and FIRM panels for the Cape Fear River Basin portion of Harnett County in a public setting.

The dates of the Initial and Final Scoping Meetings held for Harnett County are shown in Table 14, “Scoping Meetings.”

Table 14—Scoping Meetings

Community Name	Basin	Initial Scoping Date	Attended by	Final Scoping Date	Attended by
Town of Angier, City of Dunn, Town of Erwin, Harnett County, Town of Lillington	Cape Fear	December 5, 2005	Community representatives, NCFMP, FEMA, NCEM	March 7, 2001	Community representatives, NCFMP, FEMA, NCEM

Countywide FISs to accompany the Statewide FIRM are being prepared for Chatham, Cumberland, Lee, Johnston, Moore, Sampson, and Wake Counties and Incorporated Areas (FEMA, July 1991, May 2000, October 2000, September 1989, December 1989, July 1991, November 1998). All FIRM panels created for the State of North Carolina are produced in a seamless statewide format; however, FIS Reports are produced for individual counties.

Copies of FIRM panels are available for a nominal fee. To obtain a copy of the current flood map for a specific community, contact the FEMA Map Service Center at 1-800-358-9616. To facilitate the processing of your request, please review the current flood map on file at your local community repository and obtain the panel number in which you are interested. If necessary, users may also order a FIRM Index from the Map Service Center to determine the appropriate panel numbers. The Map Service Center also accepts orders for the Community Status Book and the Flood Insurance Manual. The FIS Report, FIRM panels, and digital data used to produce the FIRM panels are available online at www.ncfloodmaps.com.

Information concerning the data used in the preparation of this FIS, contained in an Engineering Study Data Package, may be obtained by contacting the FEMA Regional Office at the address listed on the Notice to Flood Insurance Study Users page at the front of this report.

Table 15, “Additional Information,” contains useful contact information regarding this FIS, the FIRM, and data.

Table 15—Additional Information

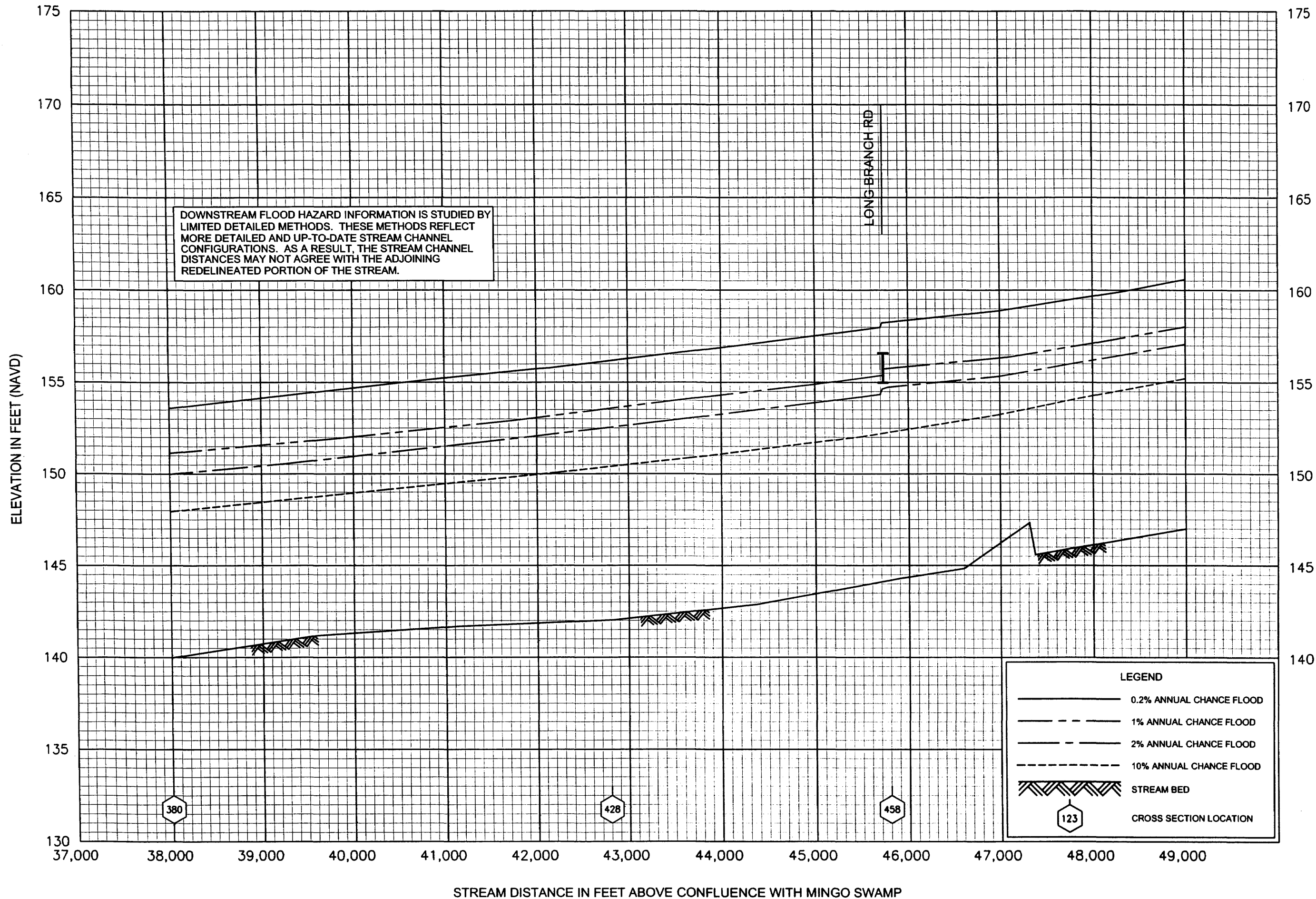
FEMA and the NFIP	
FEMA website	www.fema.gov
NFIP Internet website	www.fema.gov/nfip/
Other Federal Agencies	
USGS website	www.usgs.gov/
Hydraulic Engineering Center website	www.hec.usace.army.mil/
State Agencies and Organizations	
CGIA website	www.cgia.state.nc.us/cgia/
NCGS website	www.ncgs.state.nc.us/
NCFMP website	www.ncfloodmaps.com

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- Federal Emergency Management Agency. (May 4, 2000). Flood Insurance Rate Map, Cumberland County, Unincorporated Areas, North Carolina. Washington, D.C. Currently being revised.
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- U.S. Army Corps of Engineers, Wilmington District. (December 1965). Black River, North Carolina, Detailed Project Report.
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U.S. Department of Interior, Geological Survey, Interagency Committee on Water Data, Office of Water Data Coordination, Hydrology Subcommittee. (September 1981, revised March 1982). Bulletin No. 17B, Guidelines for Determining Flood Flow Frequency. Washington D.C.

U.S. Department of Interior, Geological Survey. (Cokesbury, North Carolina, 1974, photorevised 1981; Fuquay Varina, North Carolina, 1974, photorevised 1981; Angier, North Carolina, 1966, photorevised 1982; Mamers, North Carolina, 1974, photorevised 1981; Lillington, North Carolina, 1978; Coats, North Carolina, 1978, photorevised 1980; Benson, North Carolina, 1973; Anderson Creek, North Carolina, 1981; Erwin, North Carolina, 1973, photorevised 1981; Dunn, North Carolina, 1973, photorevised 1981; Manchester, North Carolina, 1957, photorevised 1981; Bunn Level, North Carolina, 1956, photorevised 1981). 7.5 Minute Series Topographic Maps. Scale 1:24000, Contour Interval 10 feet.

U.S. Geological Survey. (1976). Water Resources Investigation Report 76-17, Magnitude and Frequency of Floods in North Carolina. N.M. Jackson, Jr. (author).



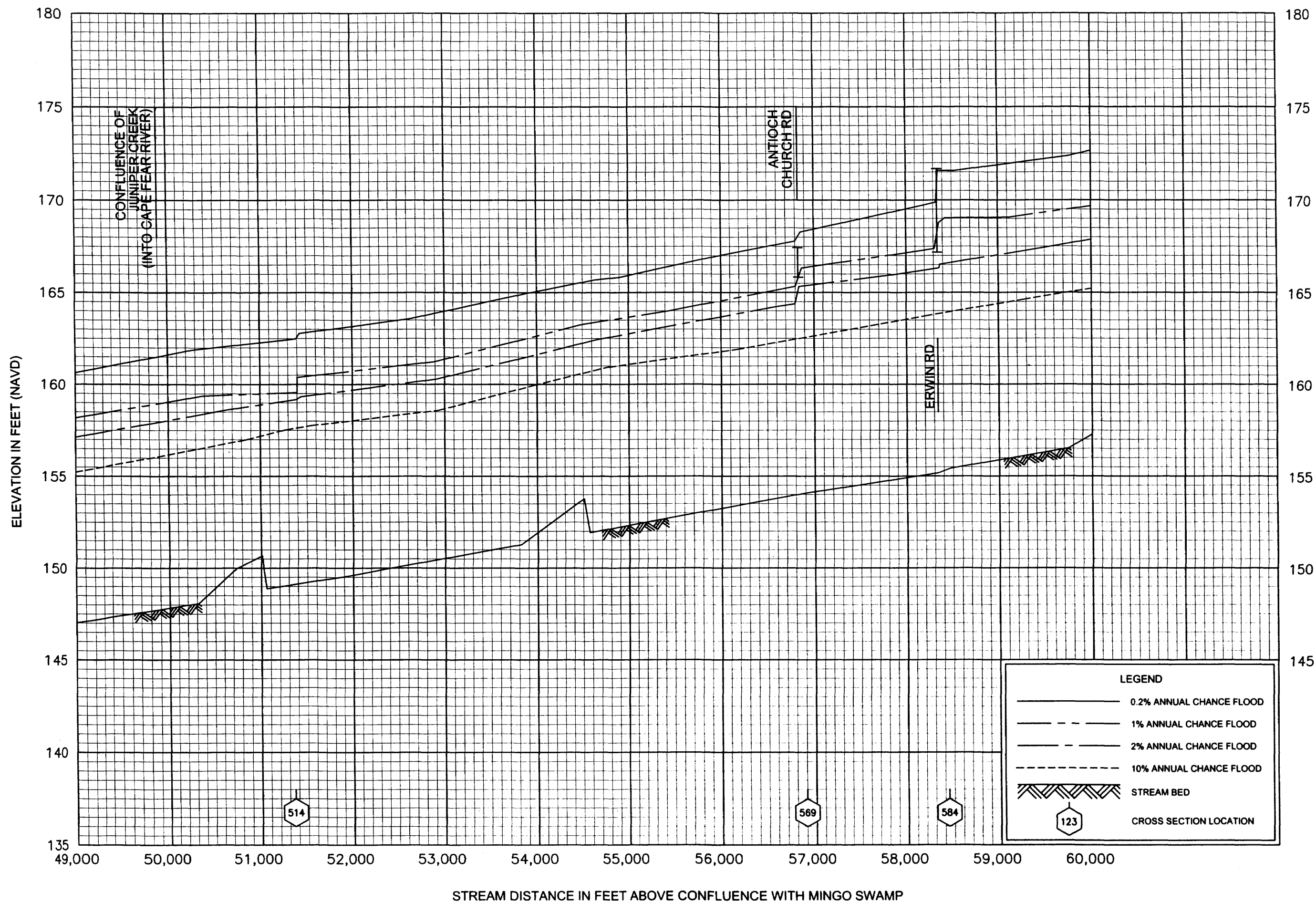
FLOOD PROFILES

BLACK RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

01P



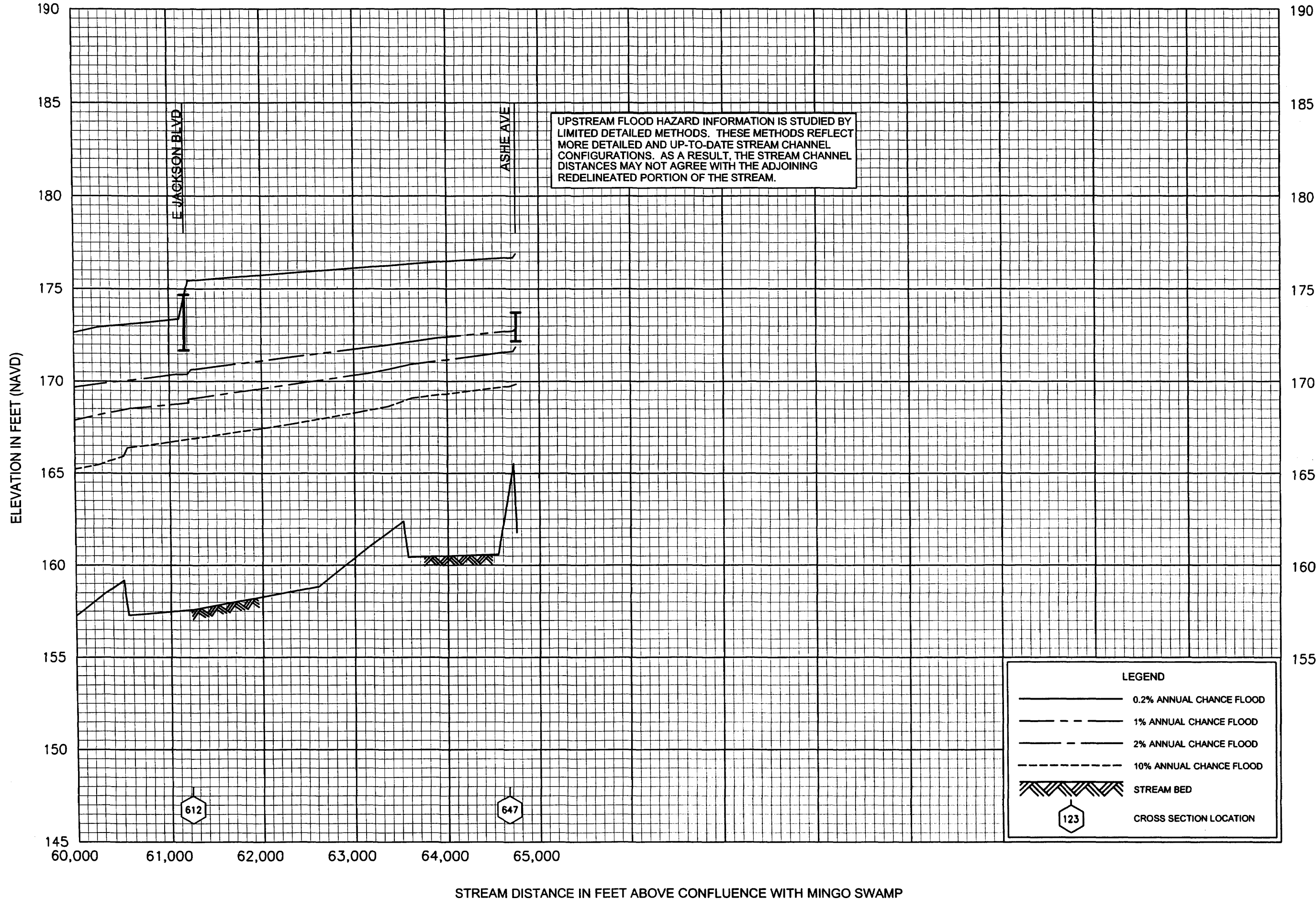
FLOOD PROFILES

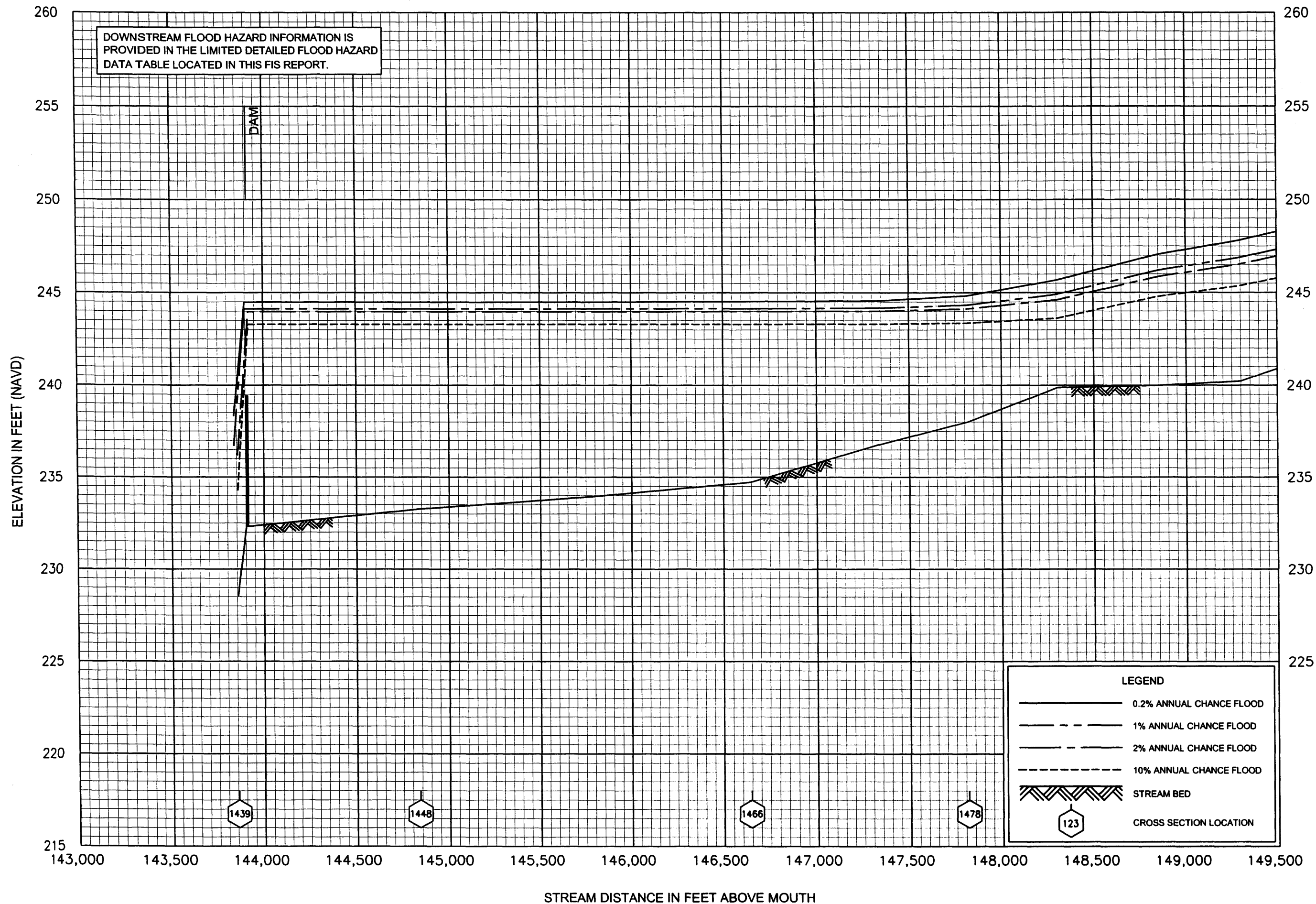
BLACK RIVER

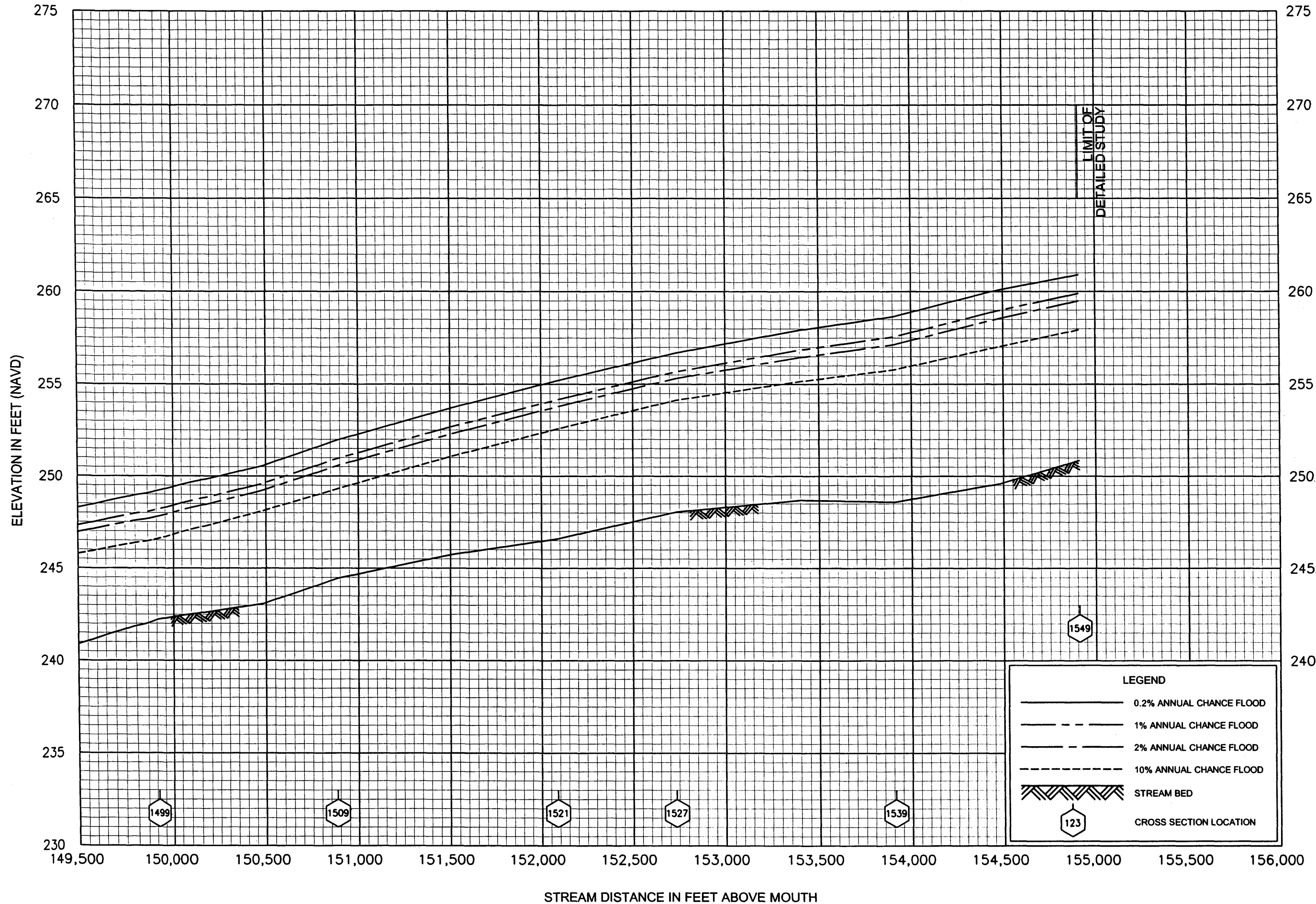
FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

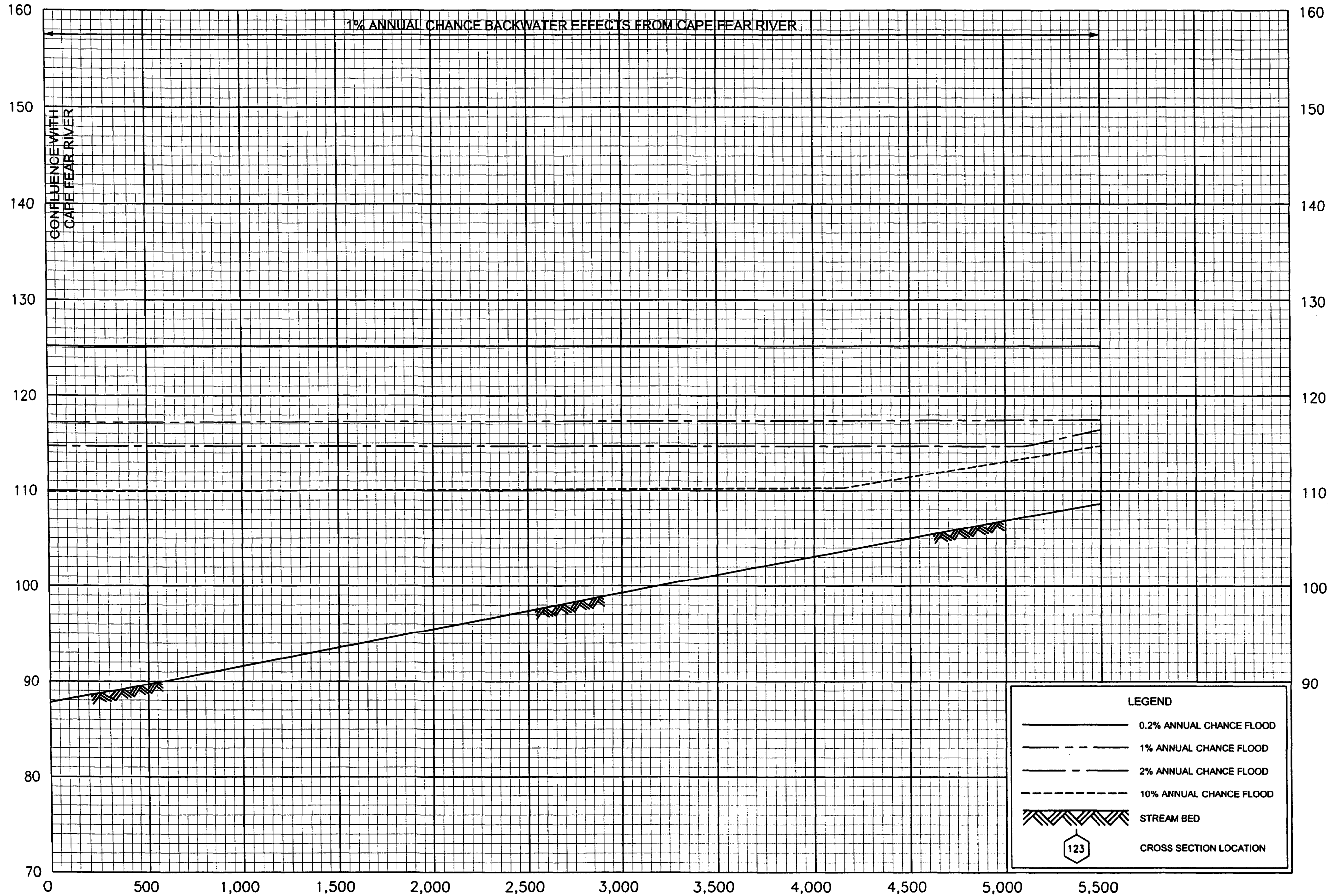
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ELEVATION IN FEET (NAVD)



STREAM DISTANCE IN FEET ABOVE MOUTH

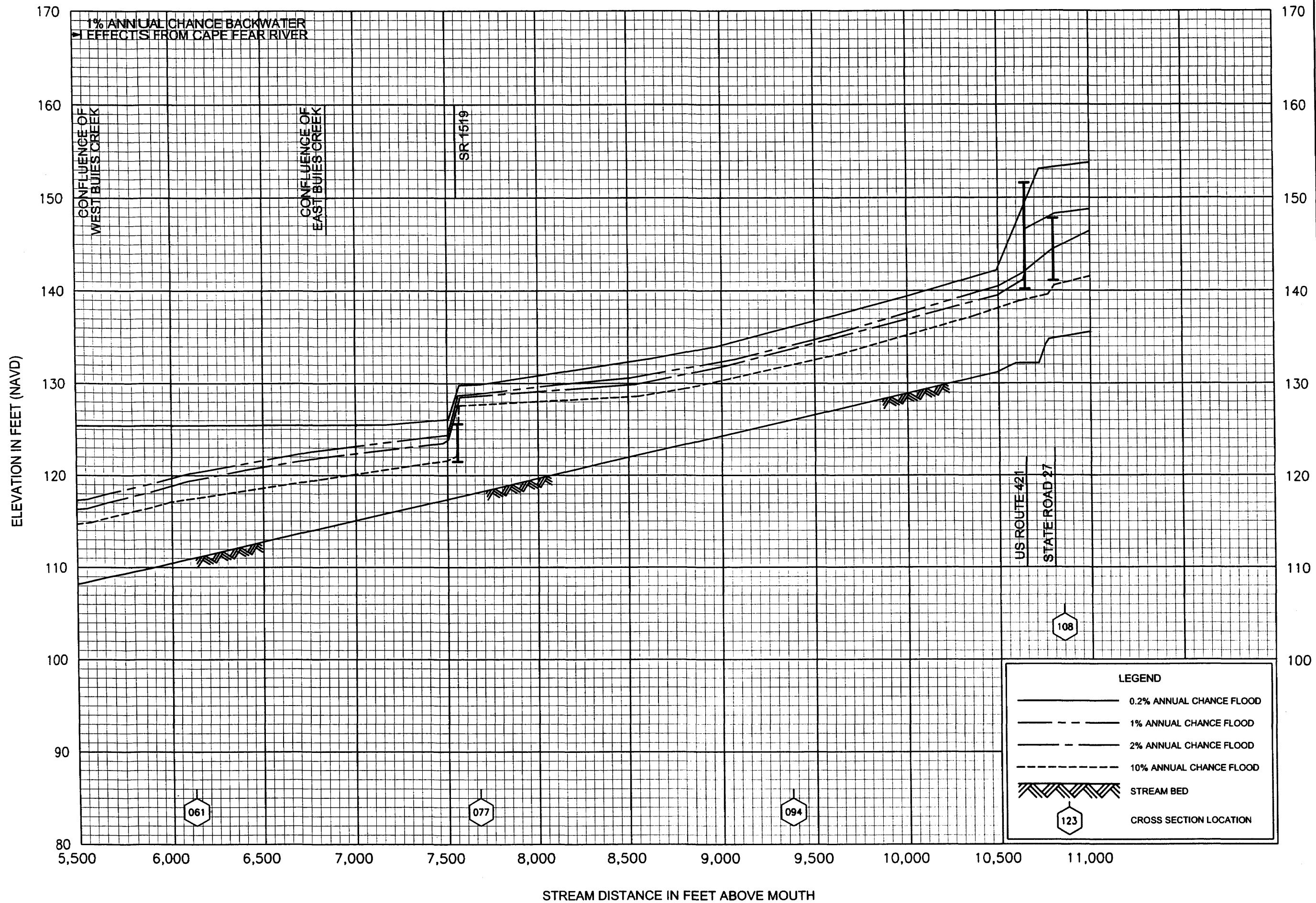
FLOOD PROFILES

BUIES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

06P



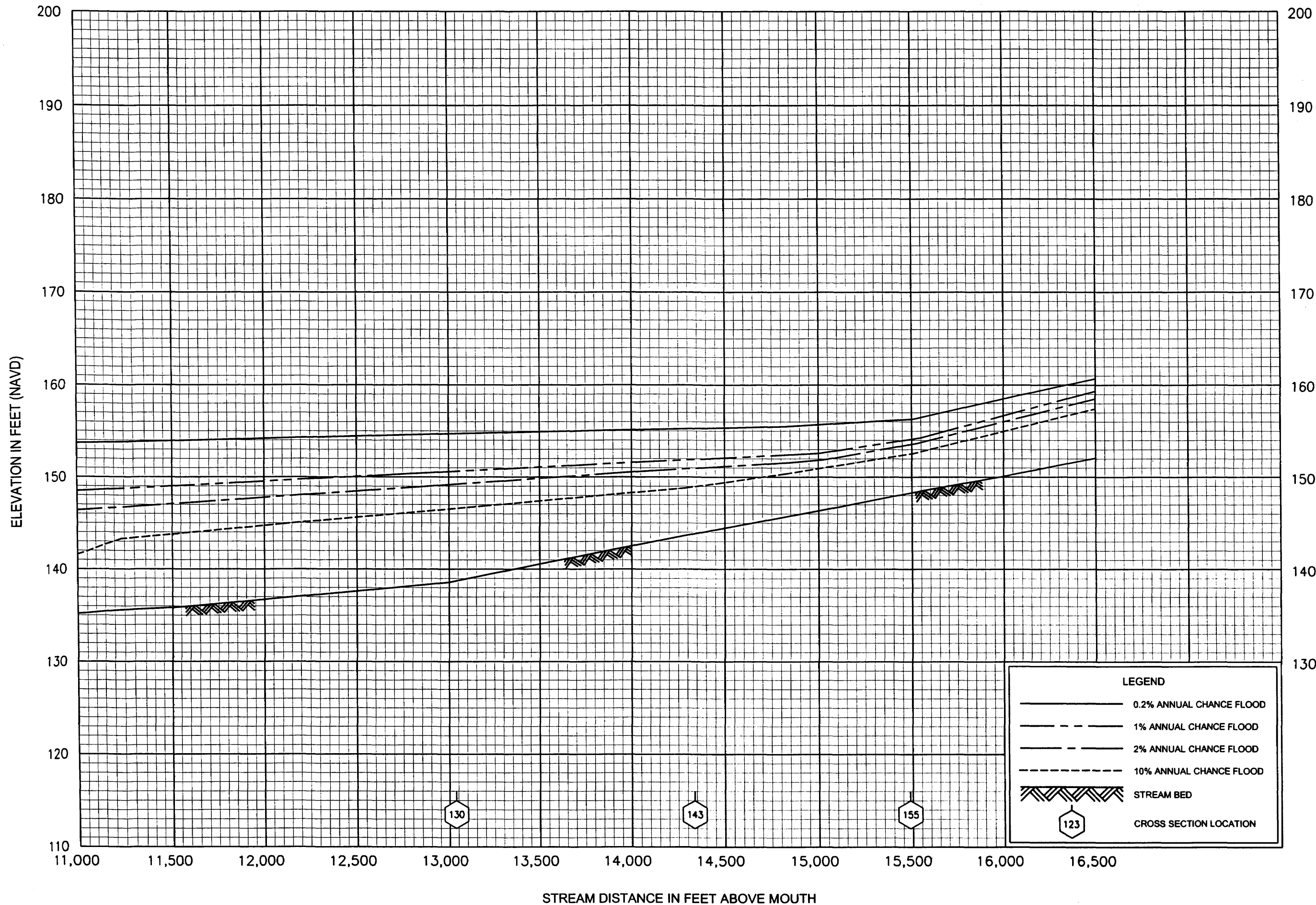
FLOOD PROFILES

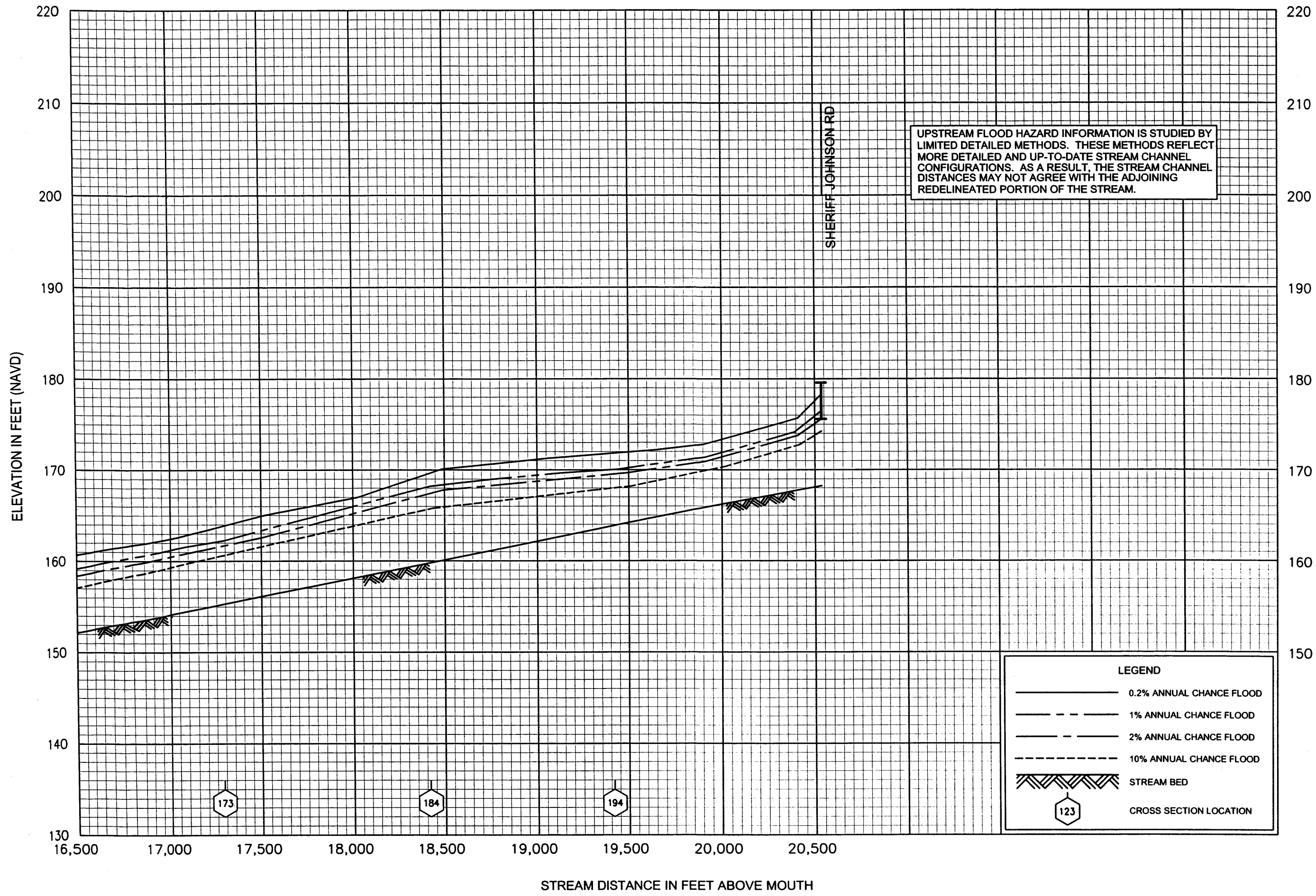
BUIES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

07P





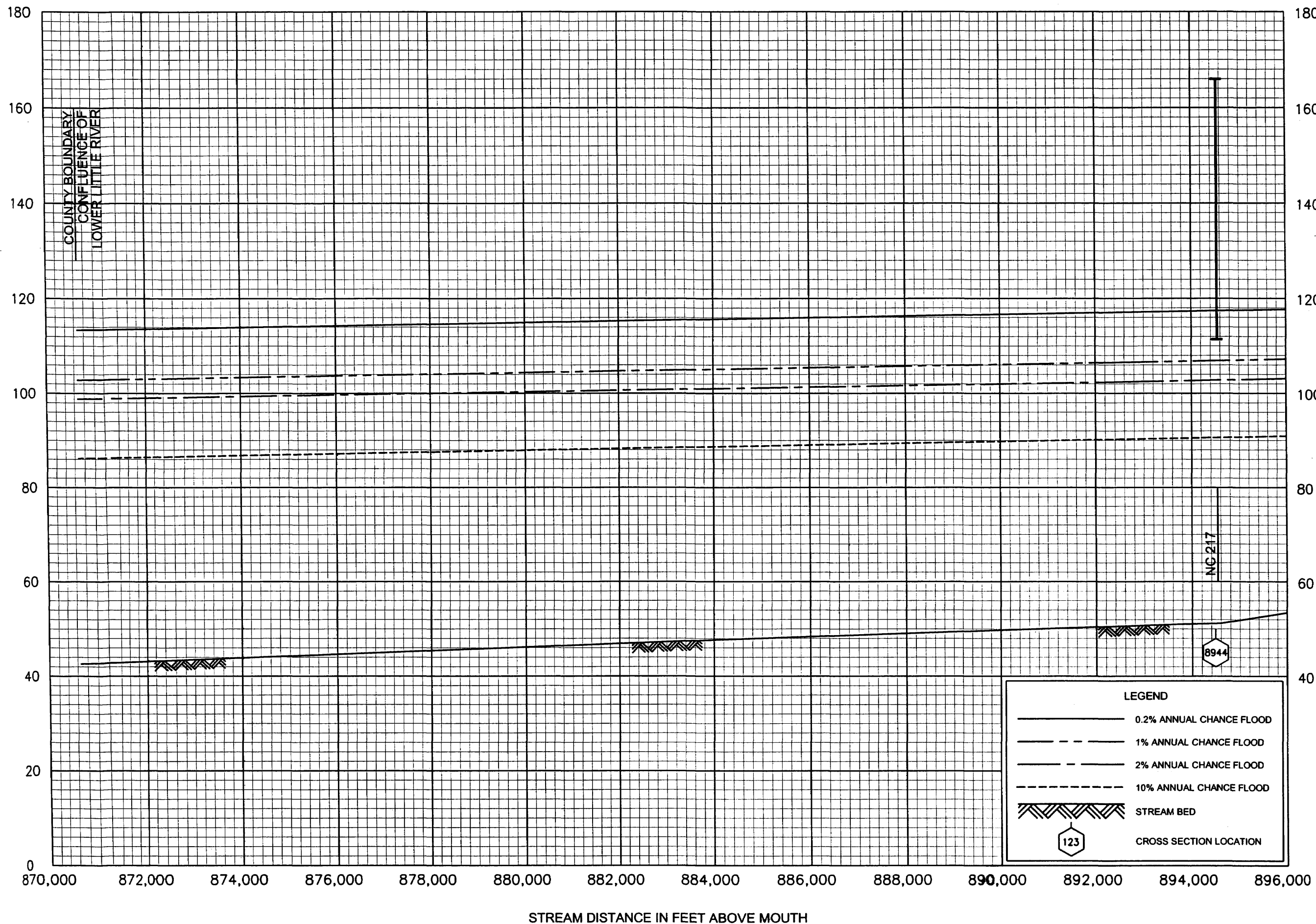
FLOOD PROFILES

BUIES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)



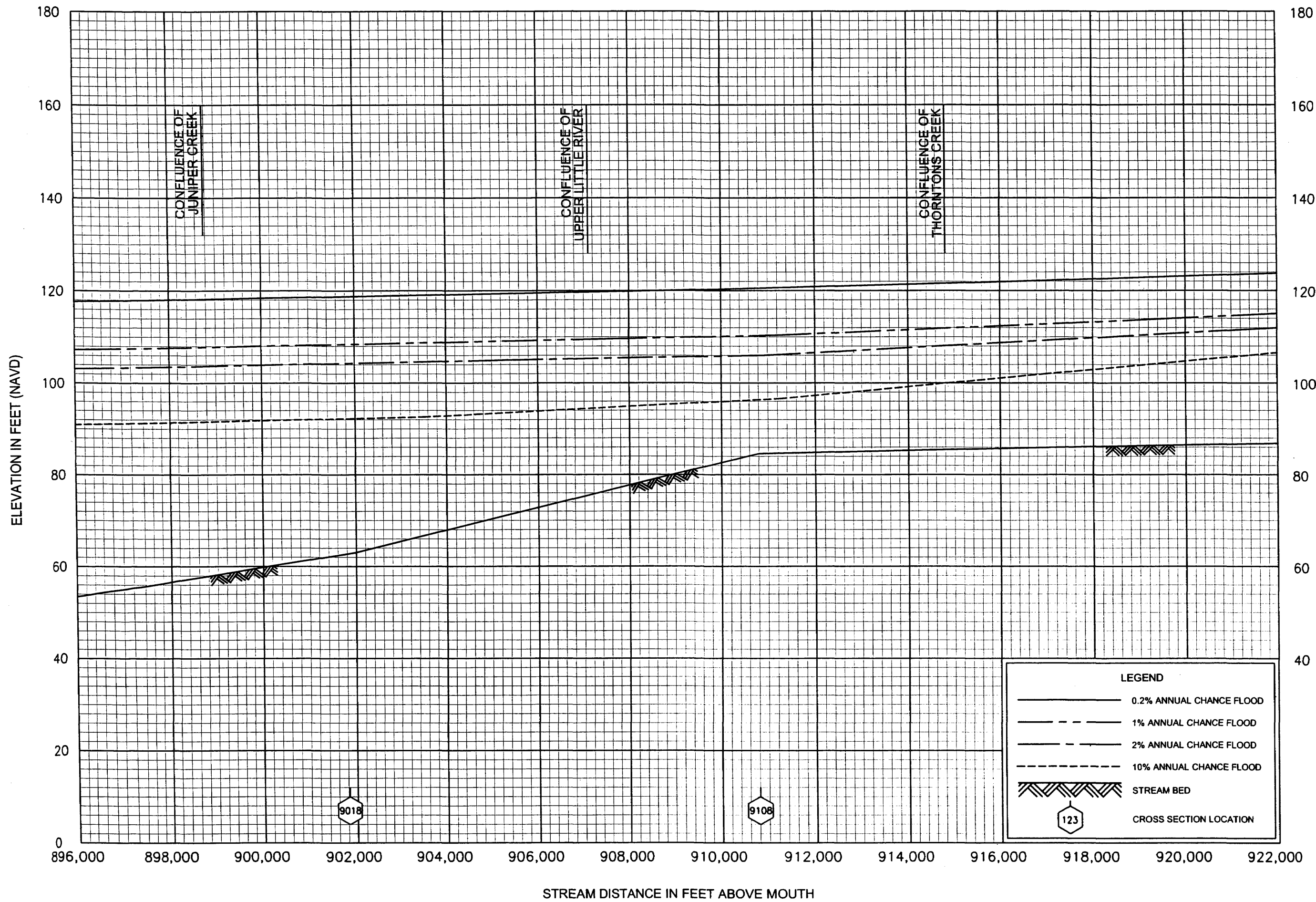
FLOOD PROFILES

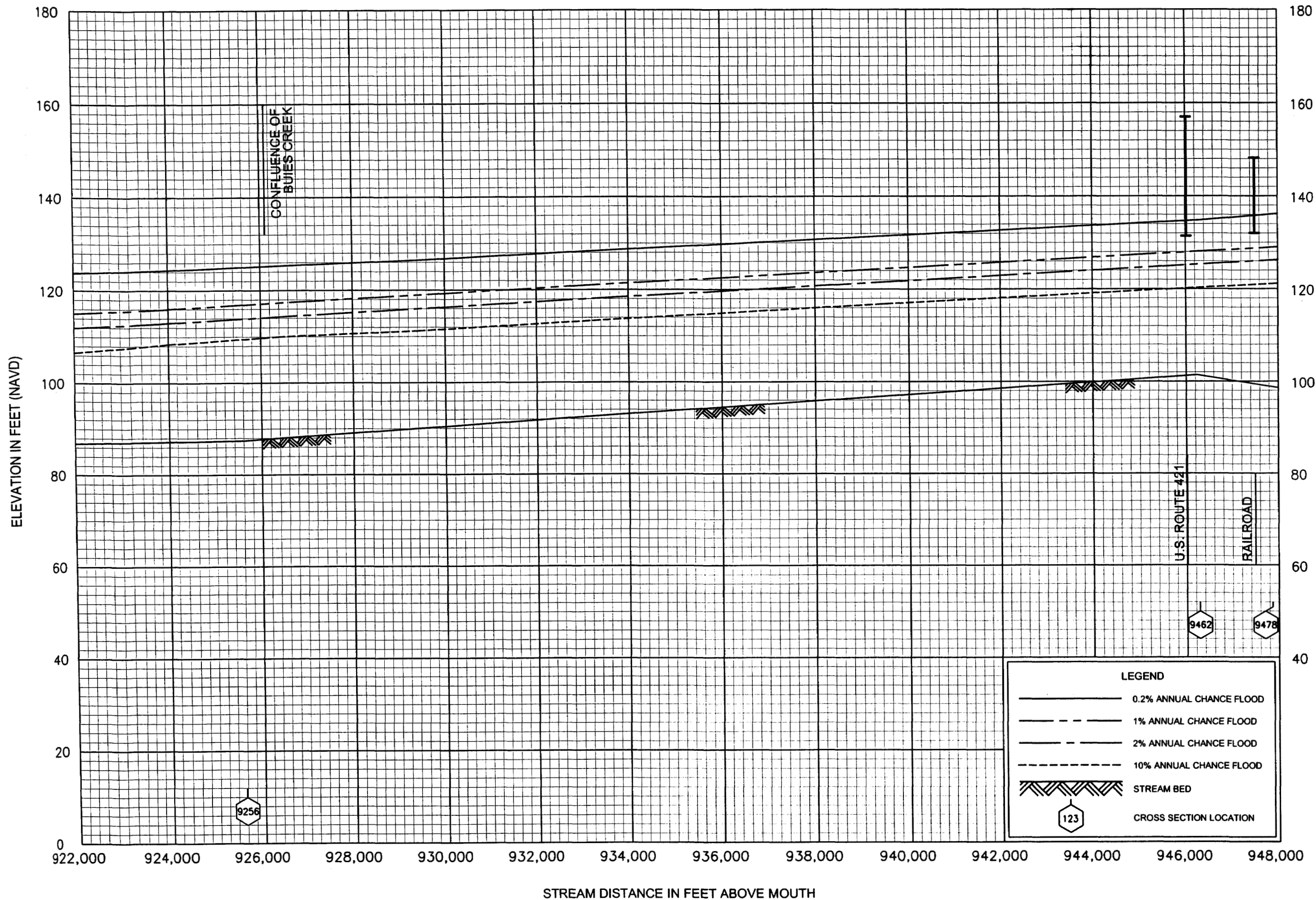
CAPE FEAR RIVER

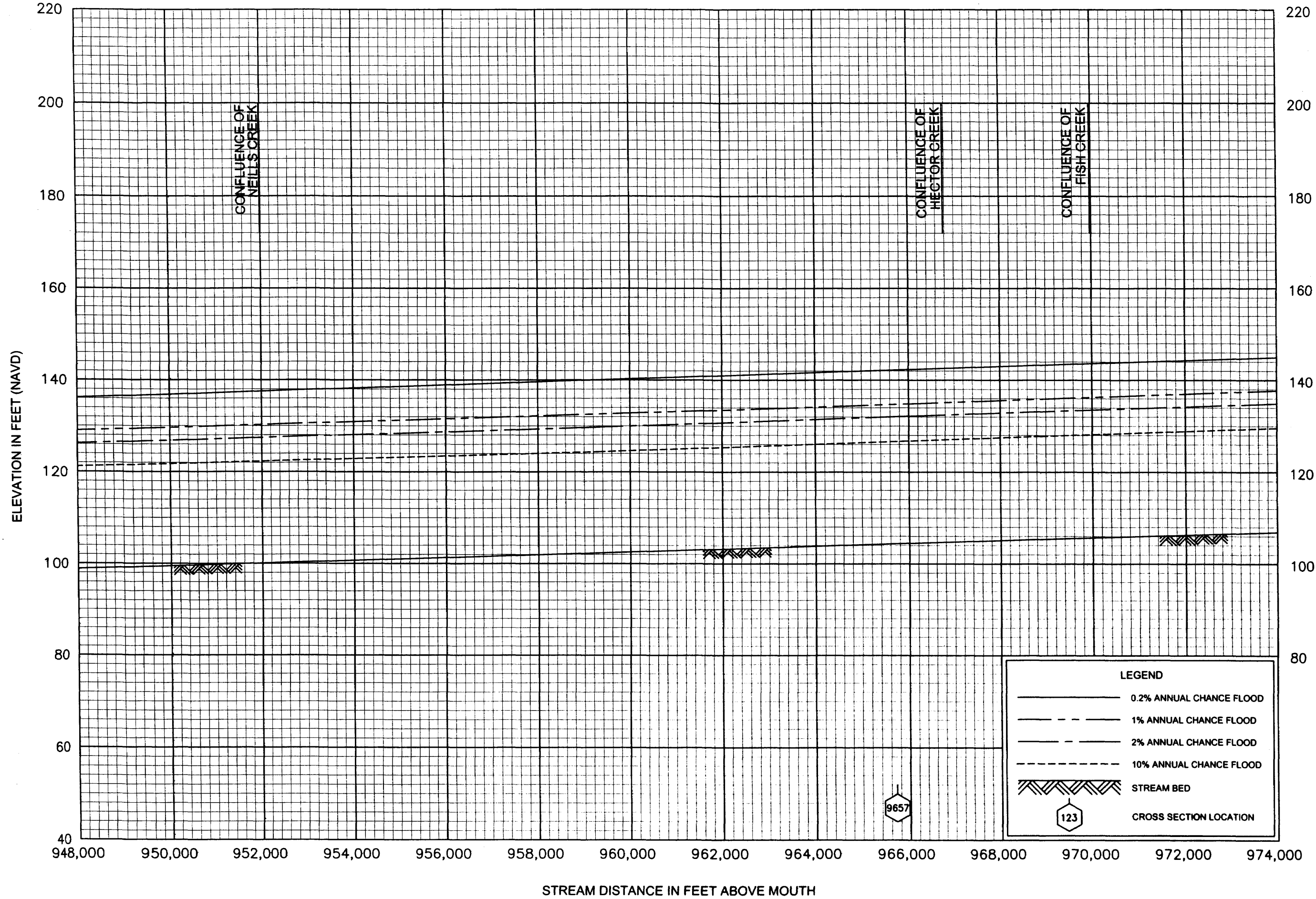
FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

10P







FLOOD PROFILES
CAPE FEAR RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
HARNETT COUNTY, NC
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)

220
200
180
160
140
120
100
80
60
40

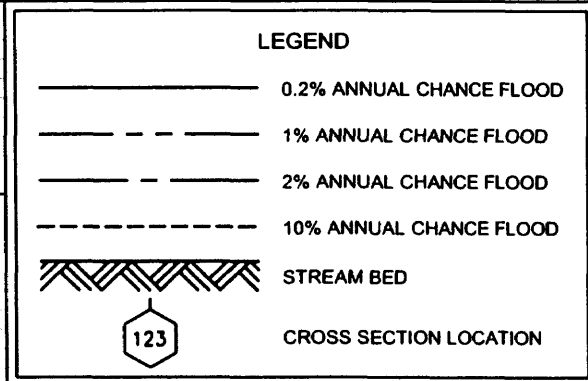
1,000,000 1,002,000 1,004,000 1,006,000 1,008,000 1,010,000 1,012,000

STREAM DISTANCE IN FEET ABOVE MOUTH

CONFLUENCE OF
DANIELS CREEK

CONFLUENCE OF
PARKER CREEK

COUNTY BOUNDARY



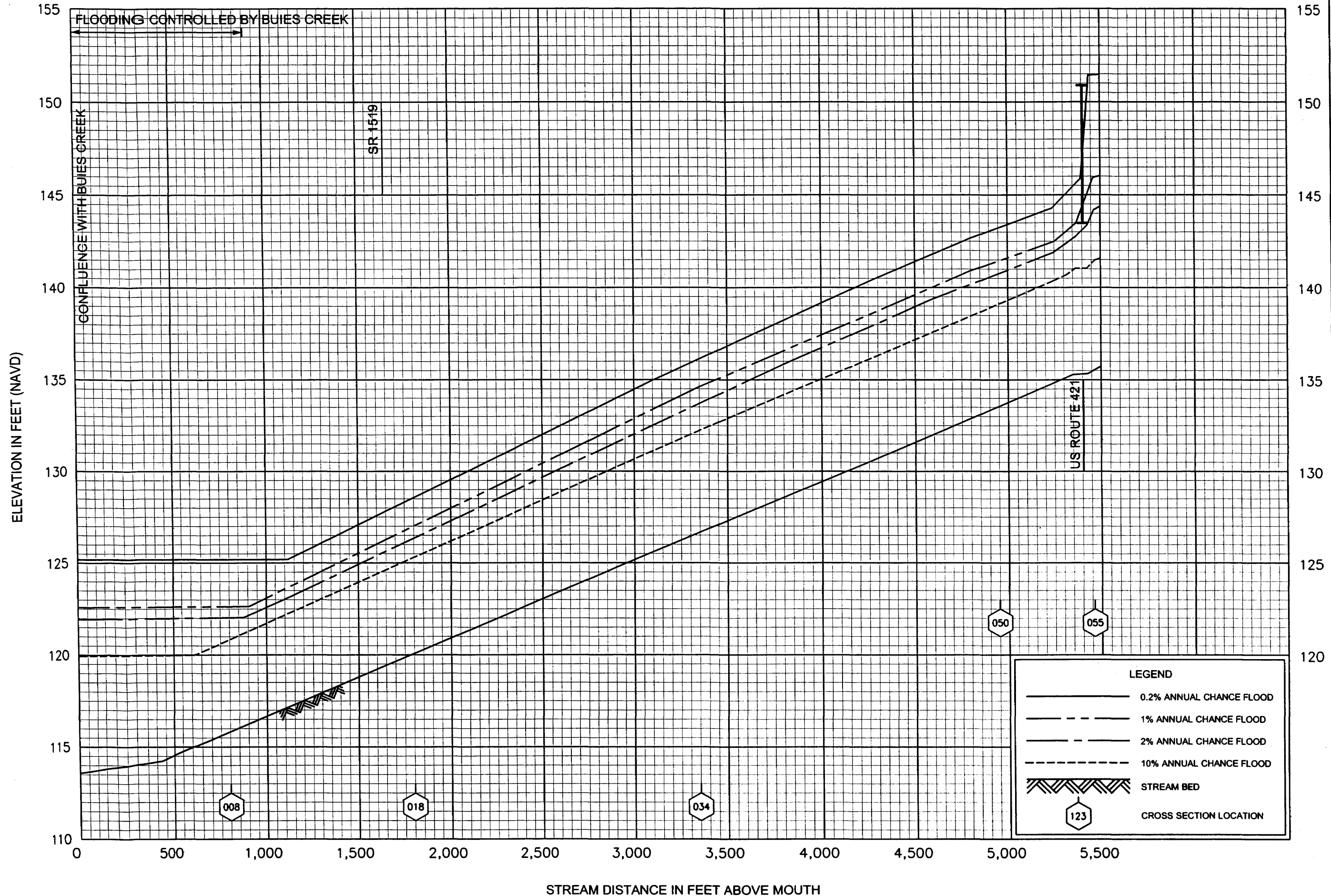
FLOOD PROFILES

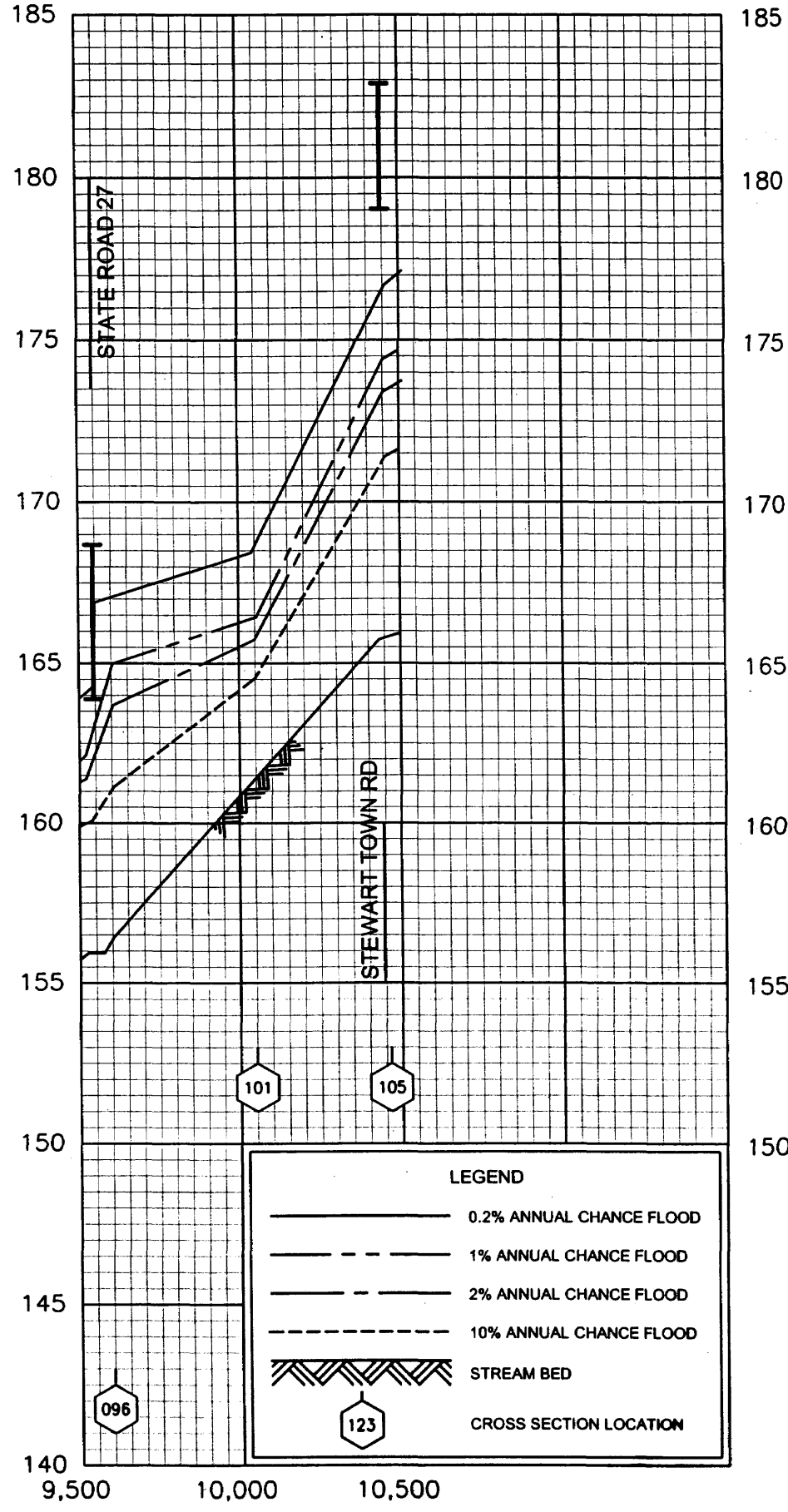
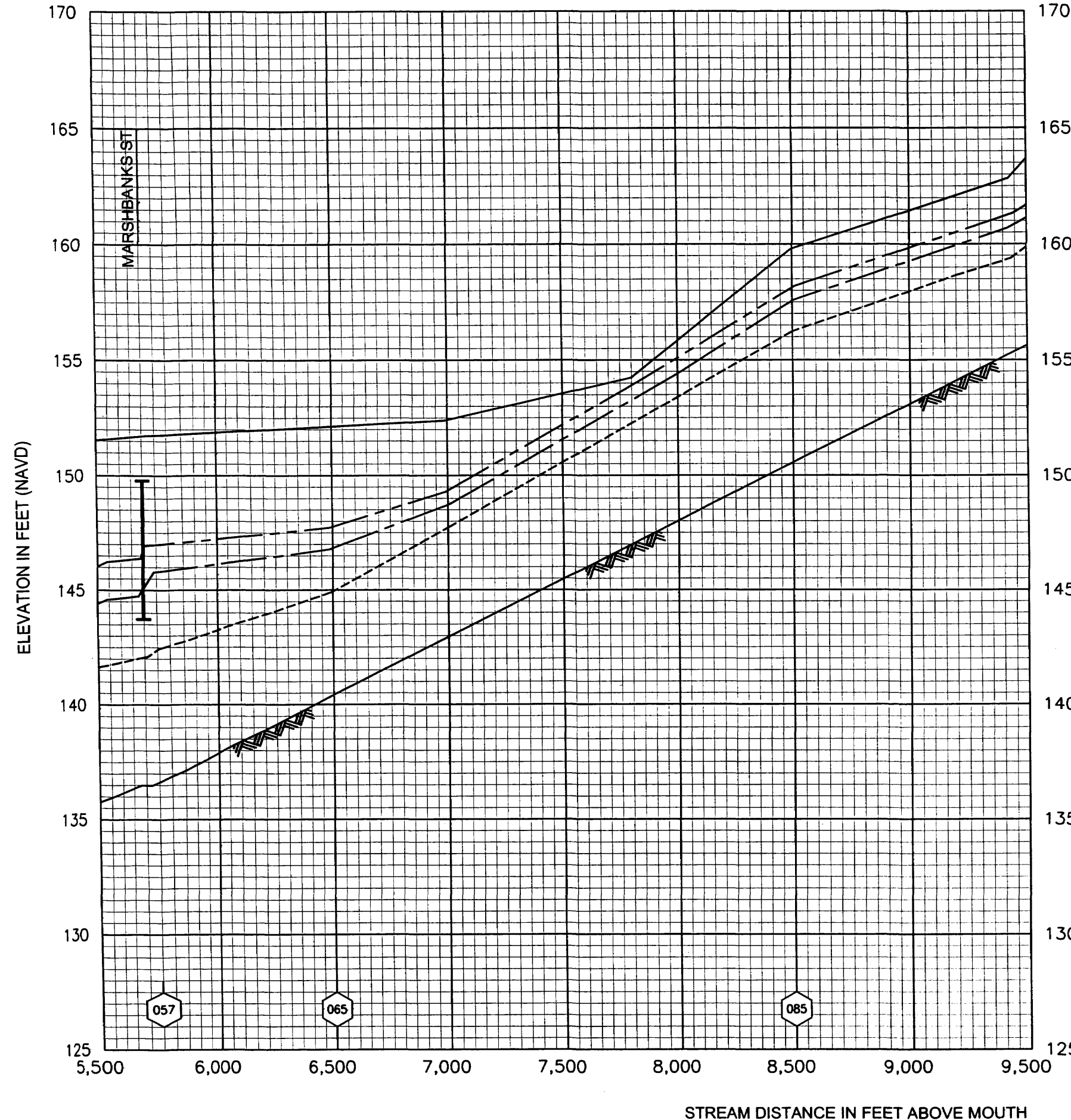
CAPE FEAR RIVER

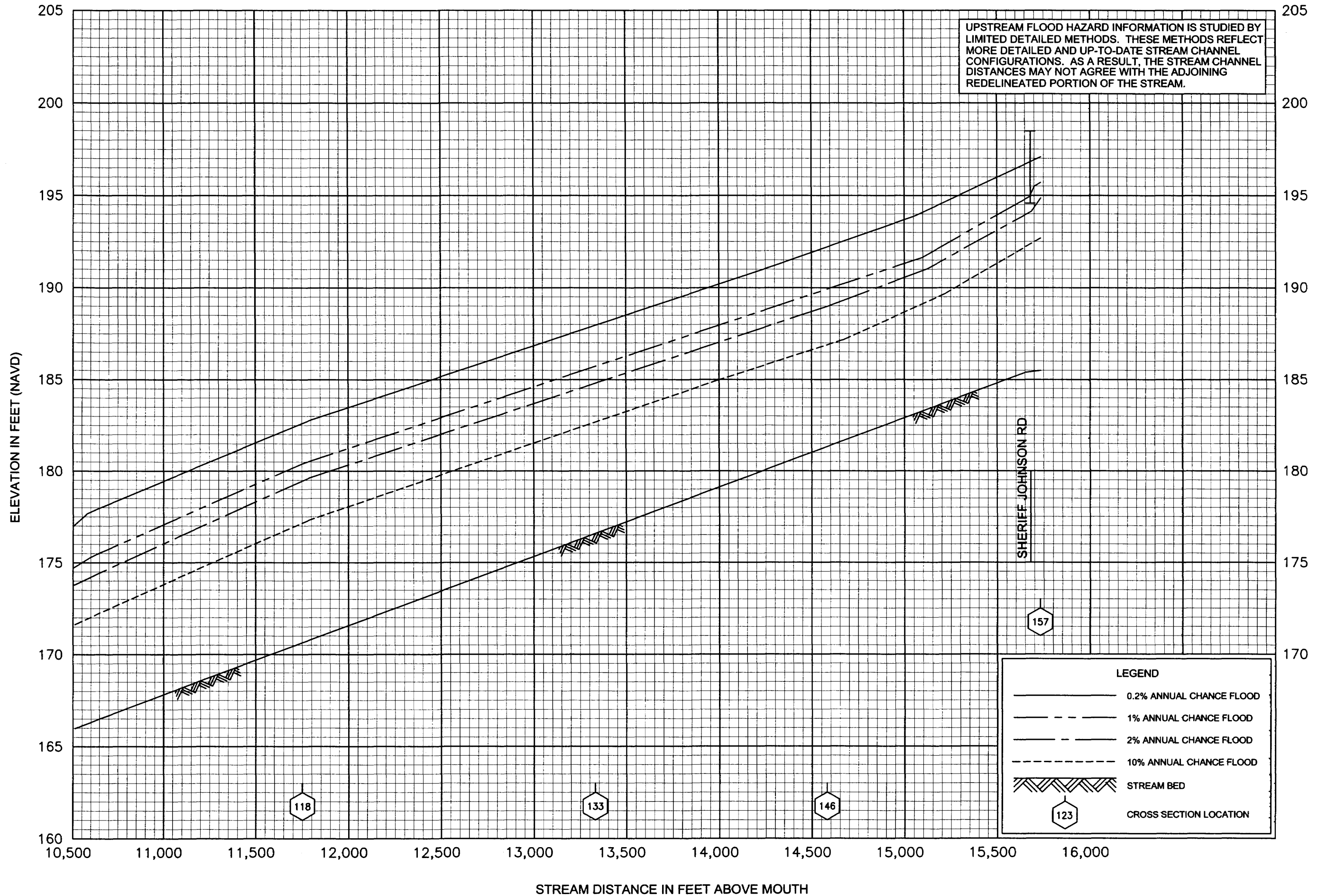
FEDERAL EMERGENCY MANAGEMENT AGENCY

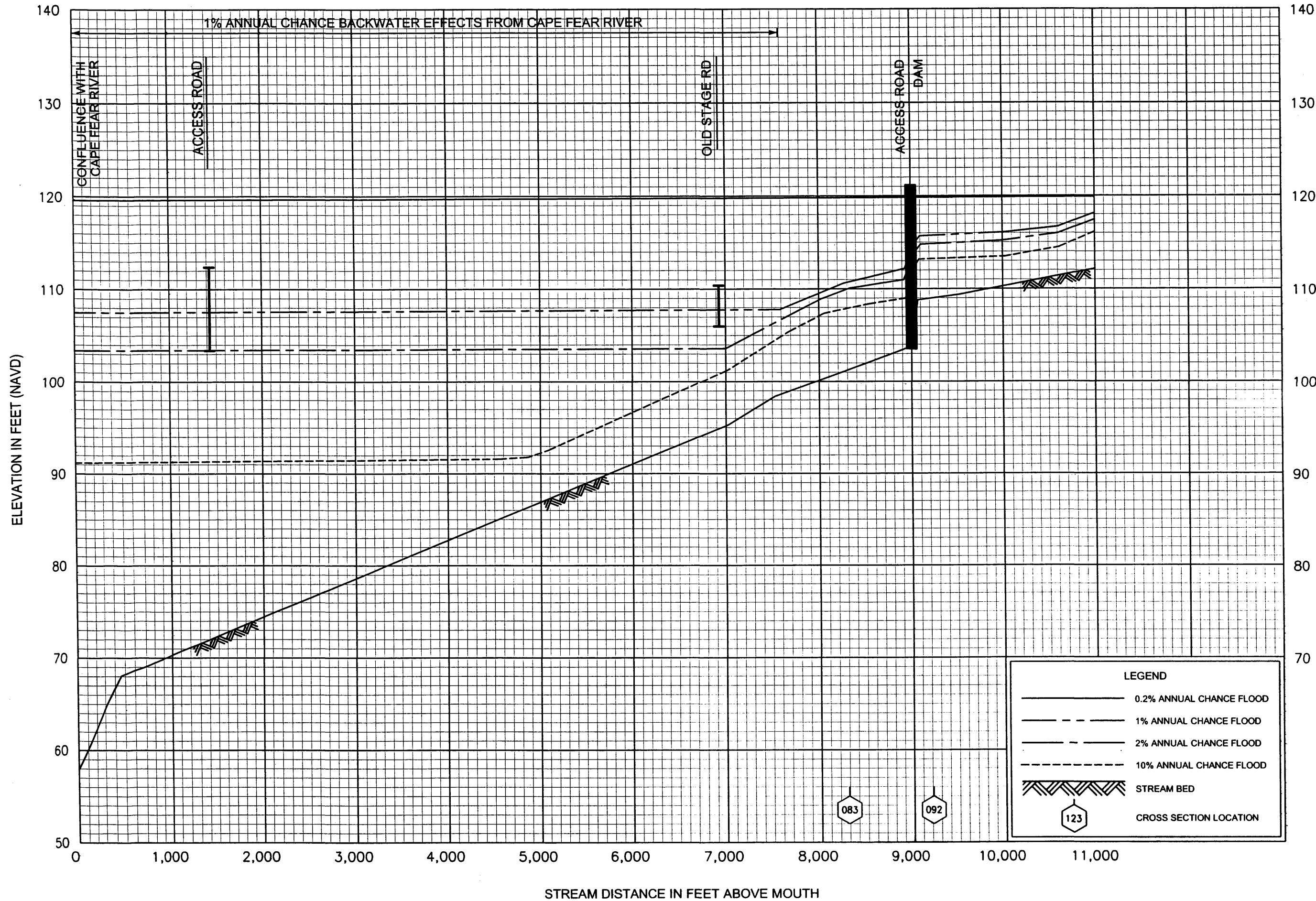
HARNETT COUNTY, NC
AND INCORPORATED AREAS

15P







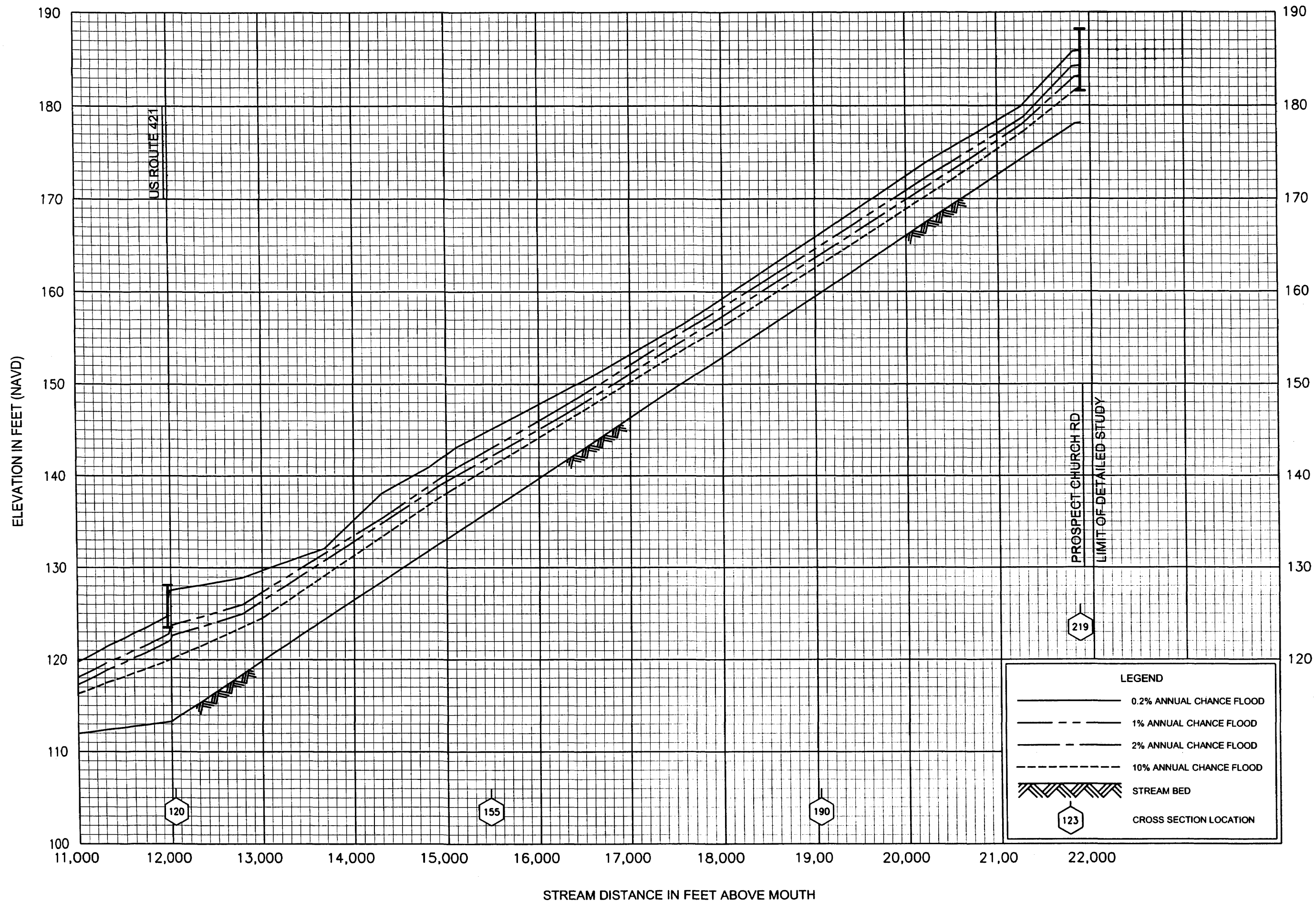


FLOOD PROFILES

JUNIPER CREEK (INTO CAPE FEAR RIVER)

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS



FLOOD PROFILES

JUNIPER CREEK (INTO CAPE FEAR RIVER)

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

20P

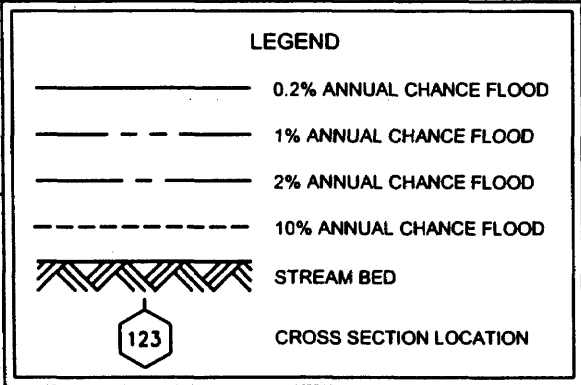
ELEVATION IN FEET (NAVD)

DOWNSTREAM FLOOD HAZARD INFORMATION IS STUDIED BY LIMITED DETAILED METHODS. THESE METHODS REFLECT MORE DETAILED AND UP-TO-DATE STREAM CHANNEL CONFIGURATIONS. AS A RESULT, THE STREAM CHANNEL DISTANCES MAY NOT AGREE WITH THE ADJOINING REDELINEATED PORTION OF THE STREAM.

UPSTREAM FLOOD HAZARD INFORMATION IS STUDIED BY LIMITED DETAILED METHODS. THESE METHODS REFLECT MORE DETAILED AND UP-TO-DATE STREAM CHANNEL CONFIGURATIONS. AS A RESULT, THE STREAM CHANNEL DISTANCES MAY NOT AGREE WITH THE ADJOINING REDELINEATED PORTION OF THE STREAM.

OVERHILLS ROAD

BERNARD ST



FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

FLOOD PROFILES

SOUTH PRONG ANDERSON CREEK

21P

200
195
190
185
180
175
170
165
160
155

200
195
190
185
180
175
170
165
160
155

2,000 3,000 4,000 5,000 6,000 7,000 8,000 9,000 10,000

STREAM DISTANCE IN FEET ABOVE STATE ROAD 210

027

043

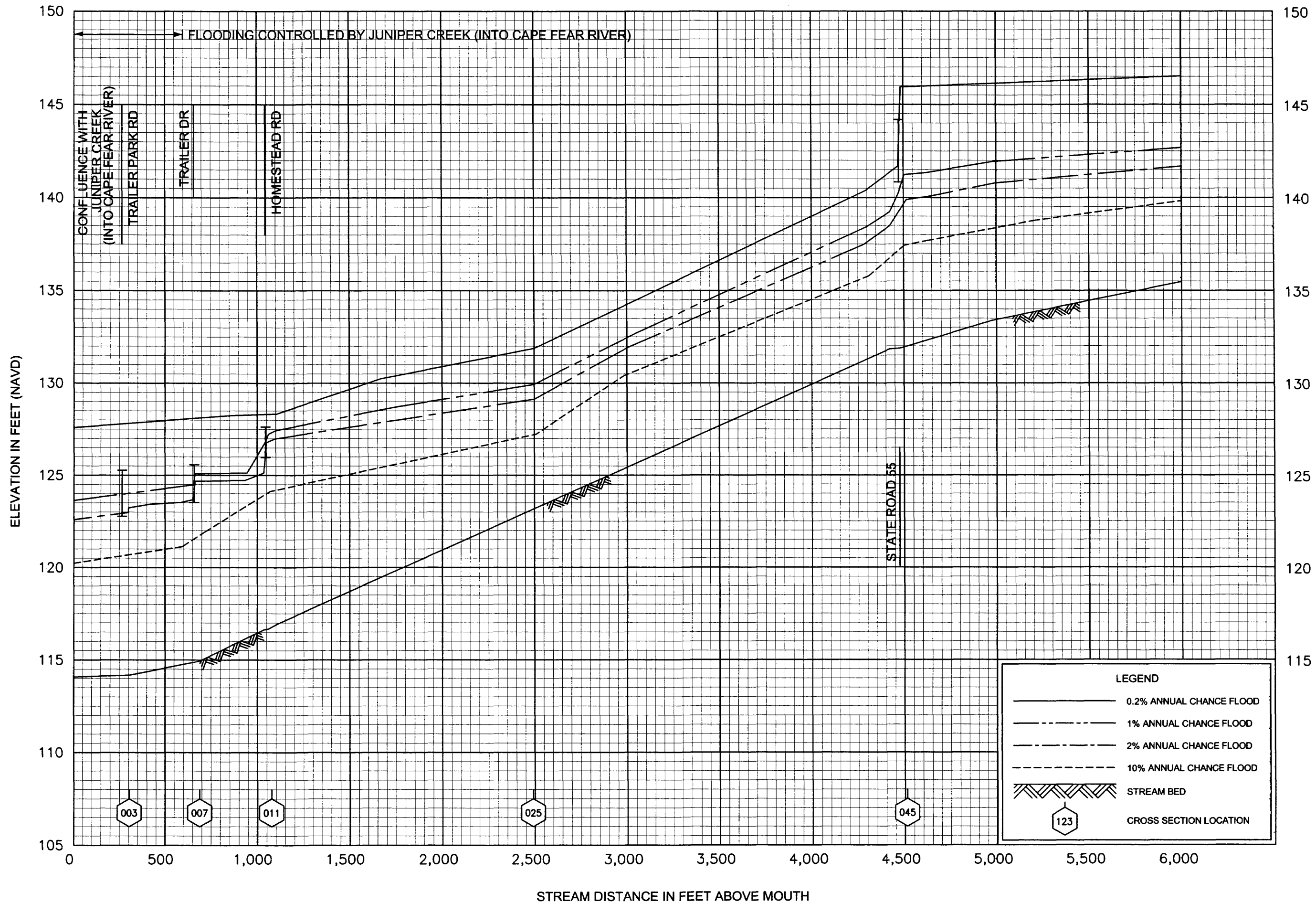
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063

077

095

123

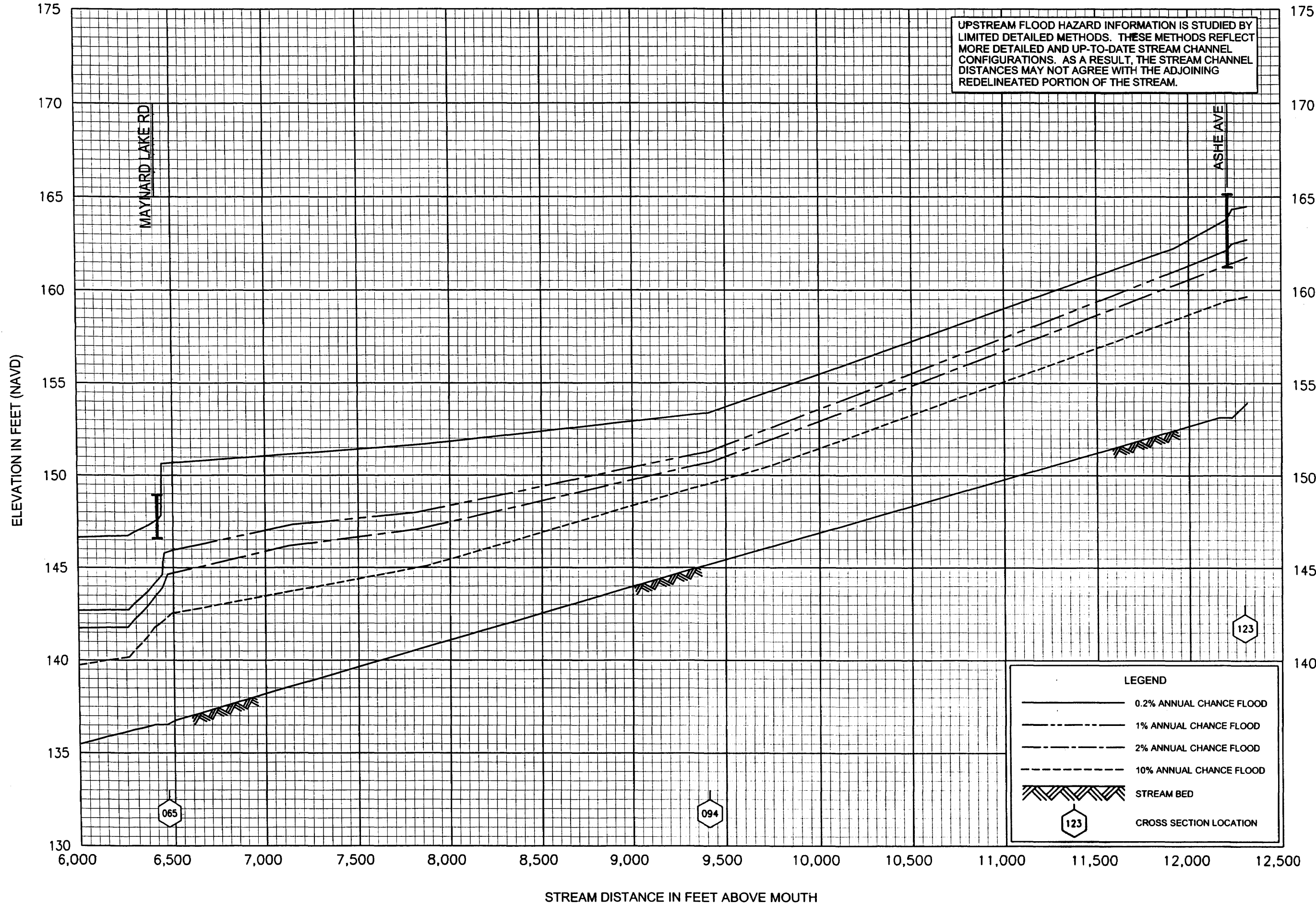


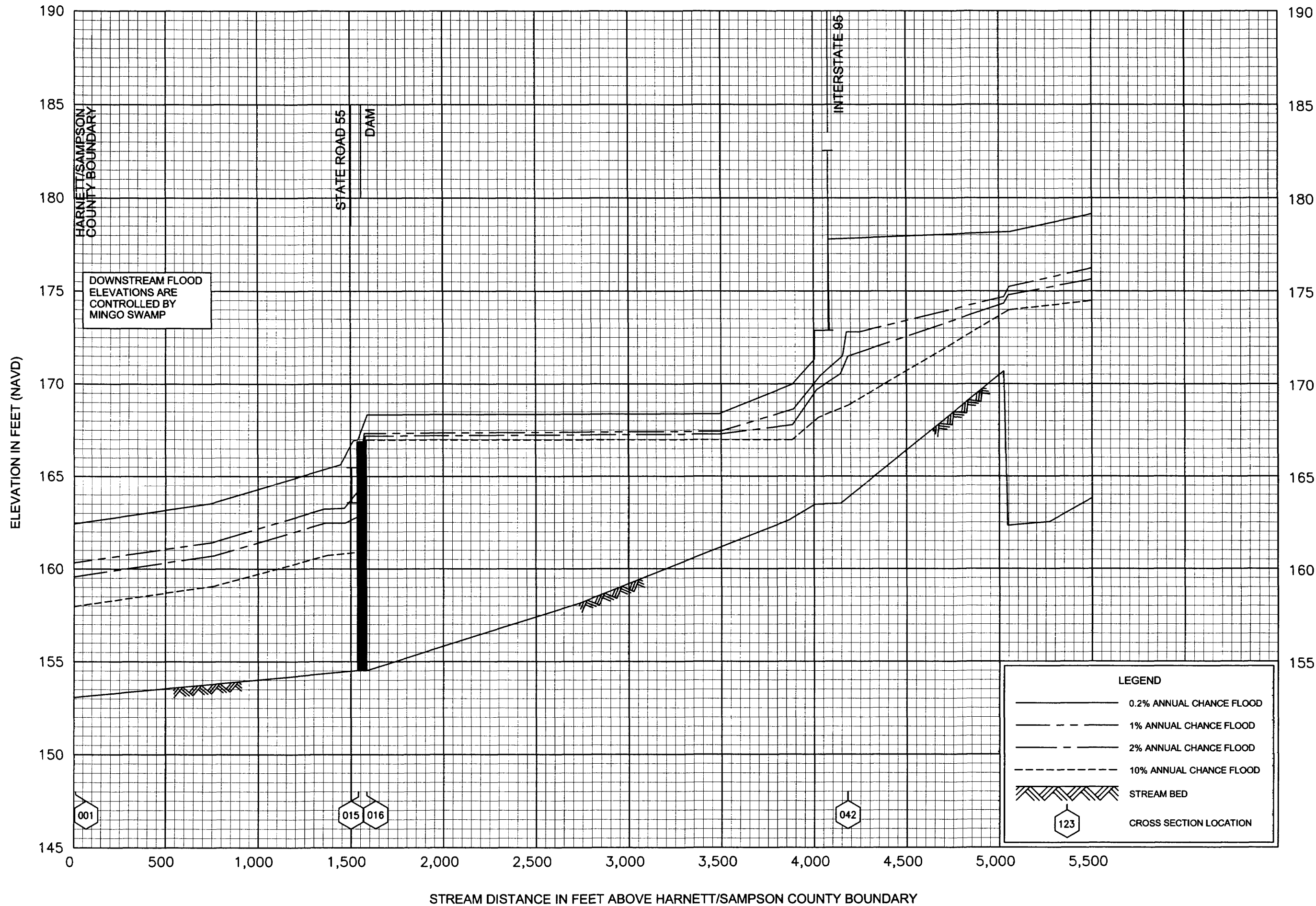
FLOOD PROFILES

STEWARTS CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS





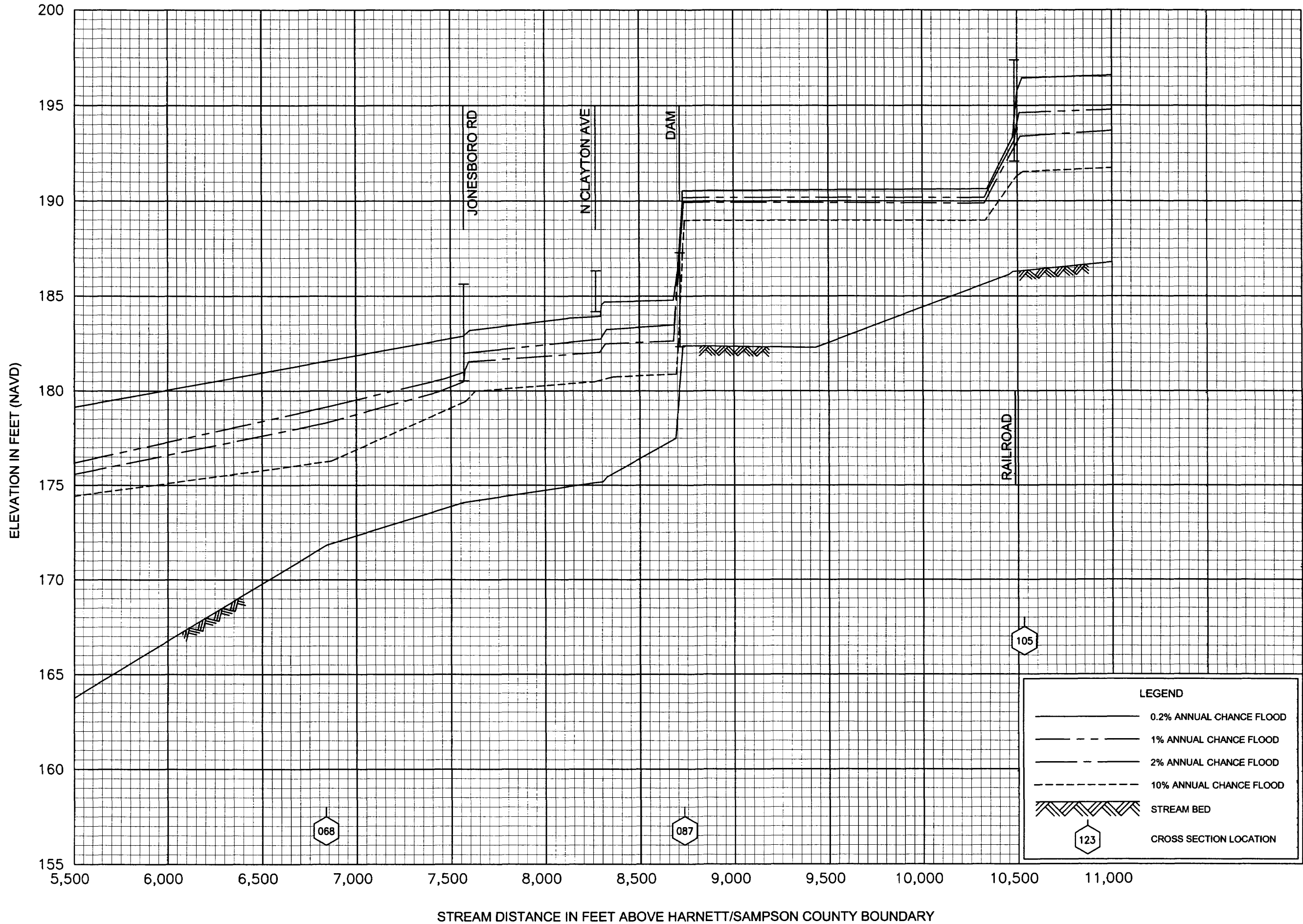
FLOOD PROFILES

STONY RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC

AND INCORPORATED AREAS

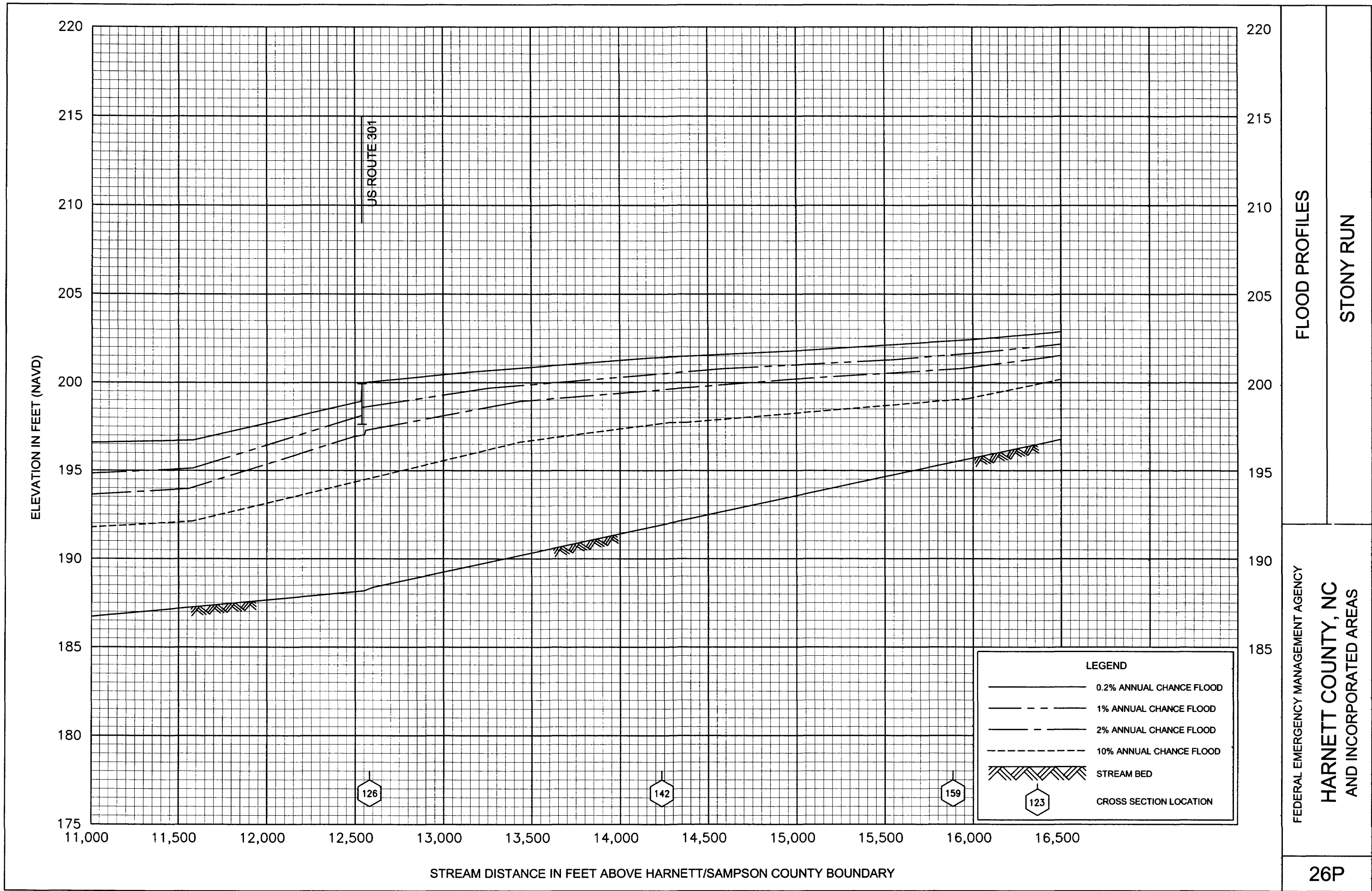


FLOOD PROFILES

STONY RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS



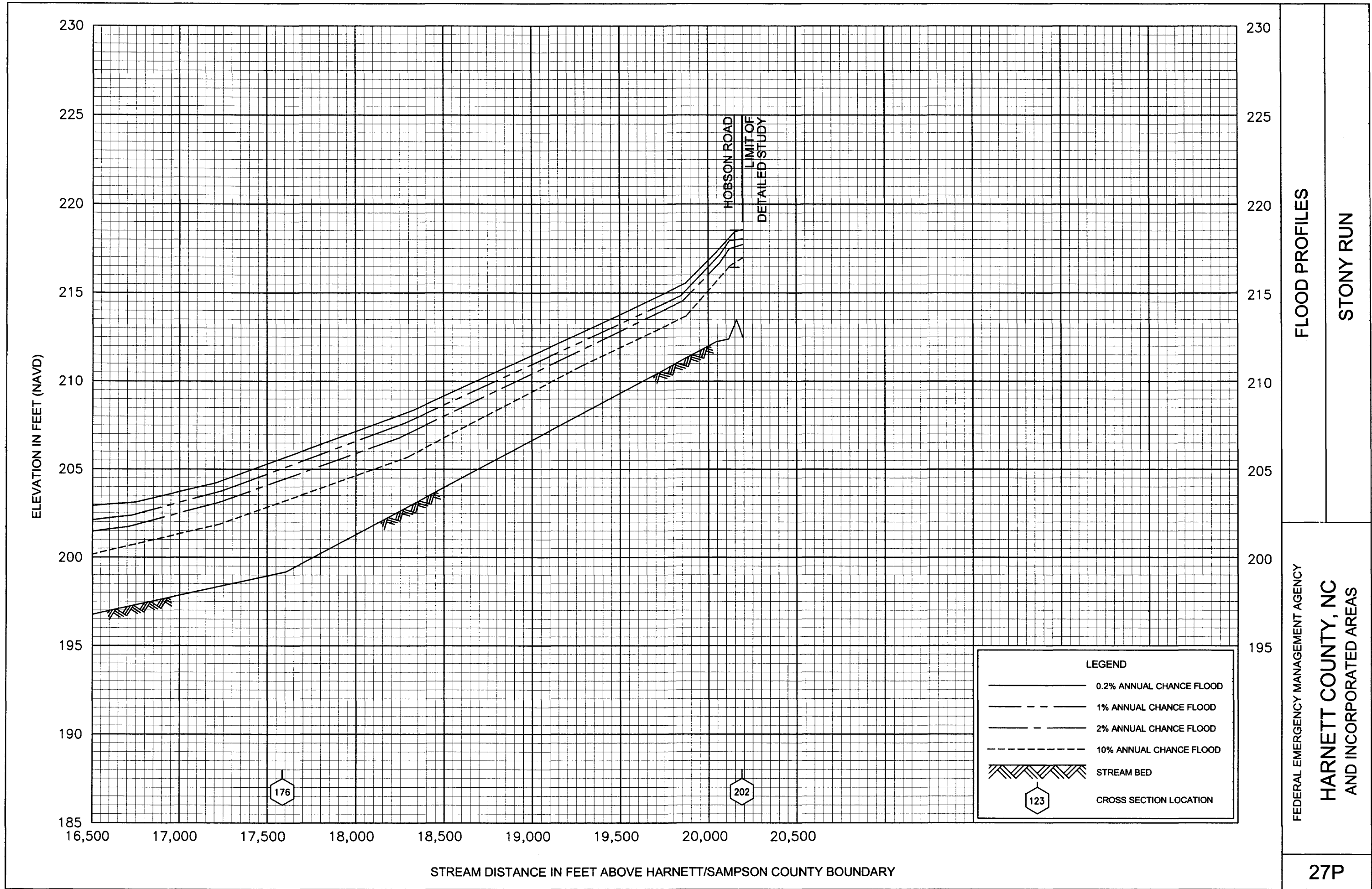
FLOOD PROFILES

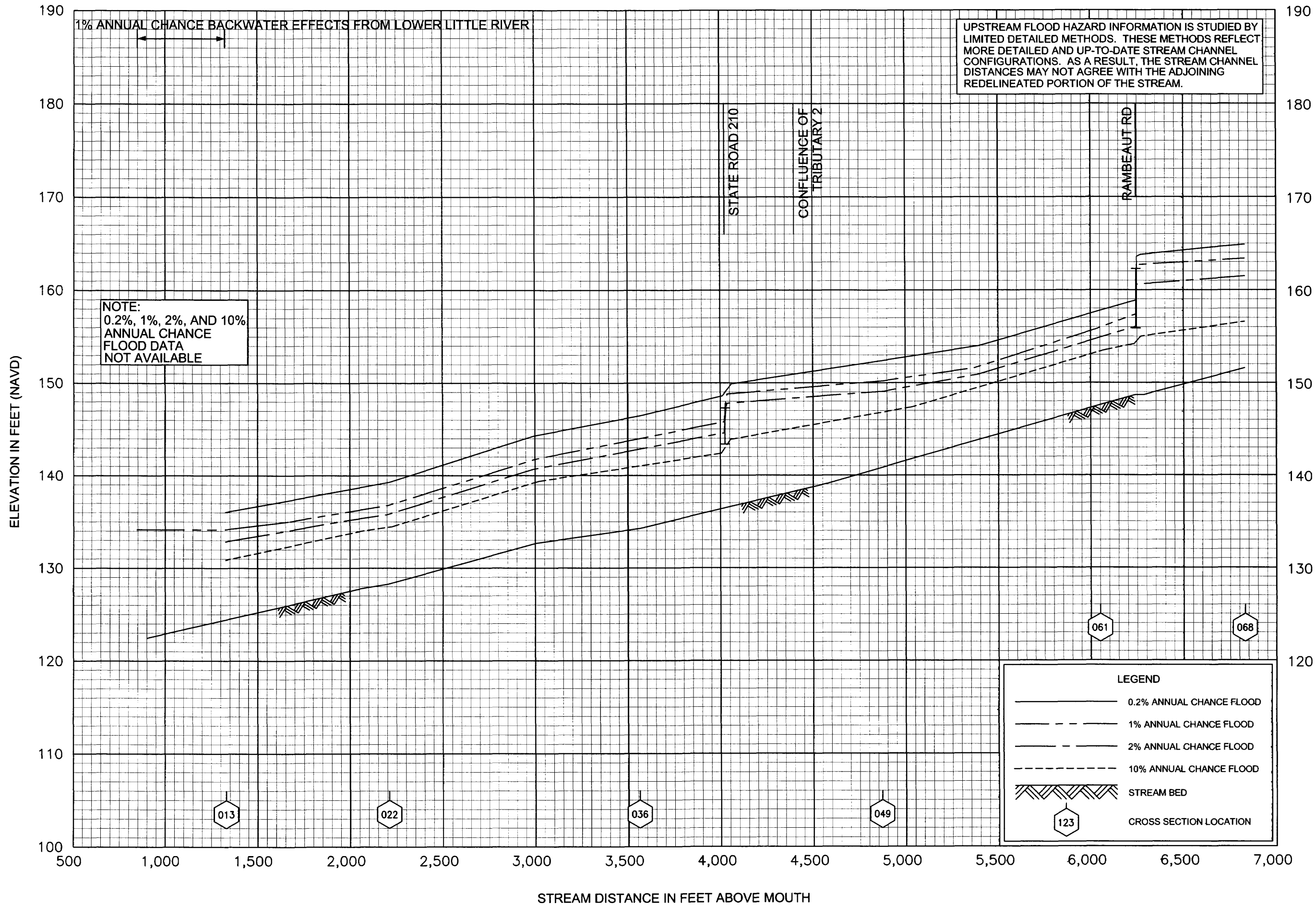
STONY RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

26P





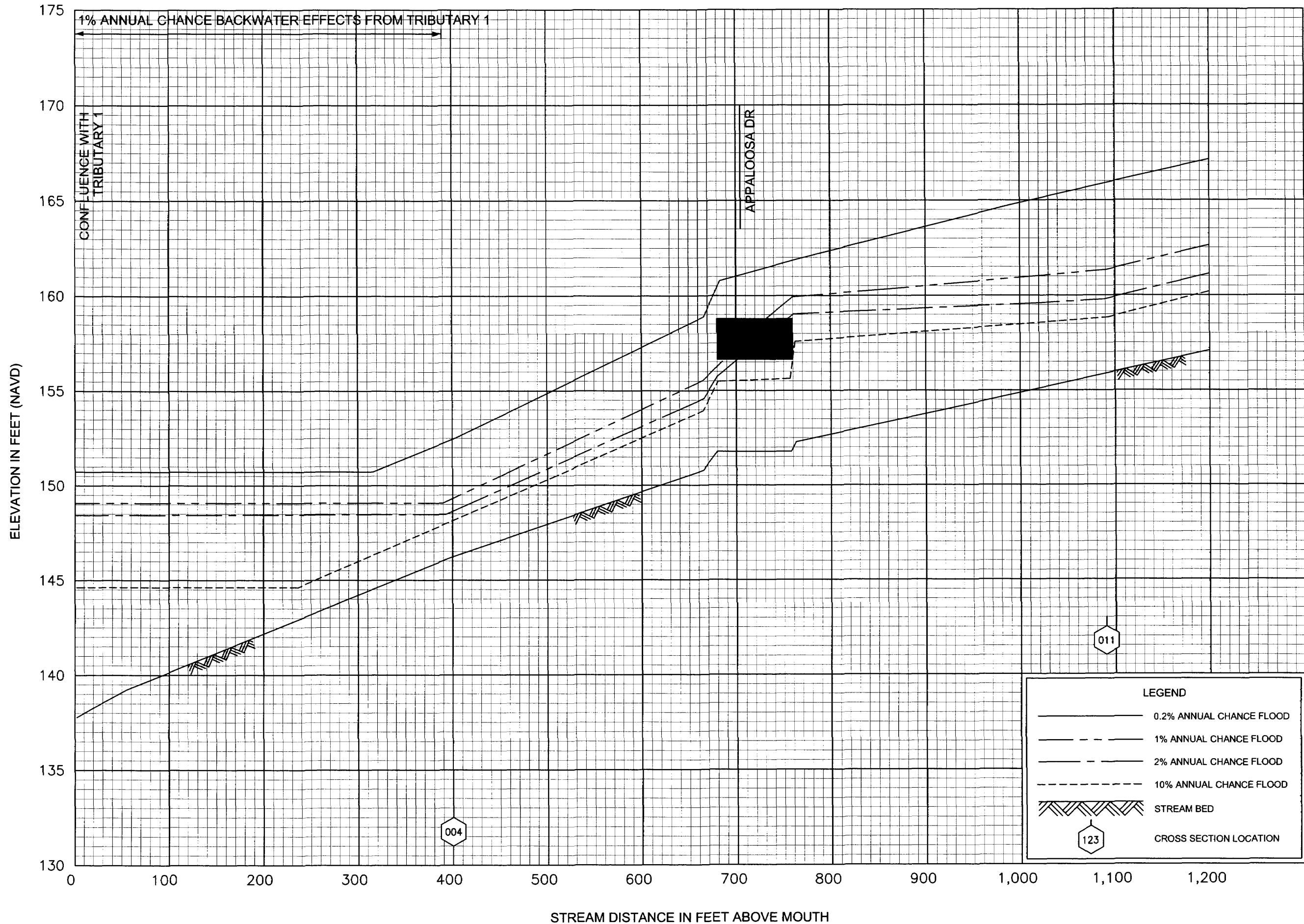
FLOOD PROFILES

TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

28P



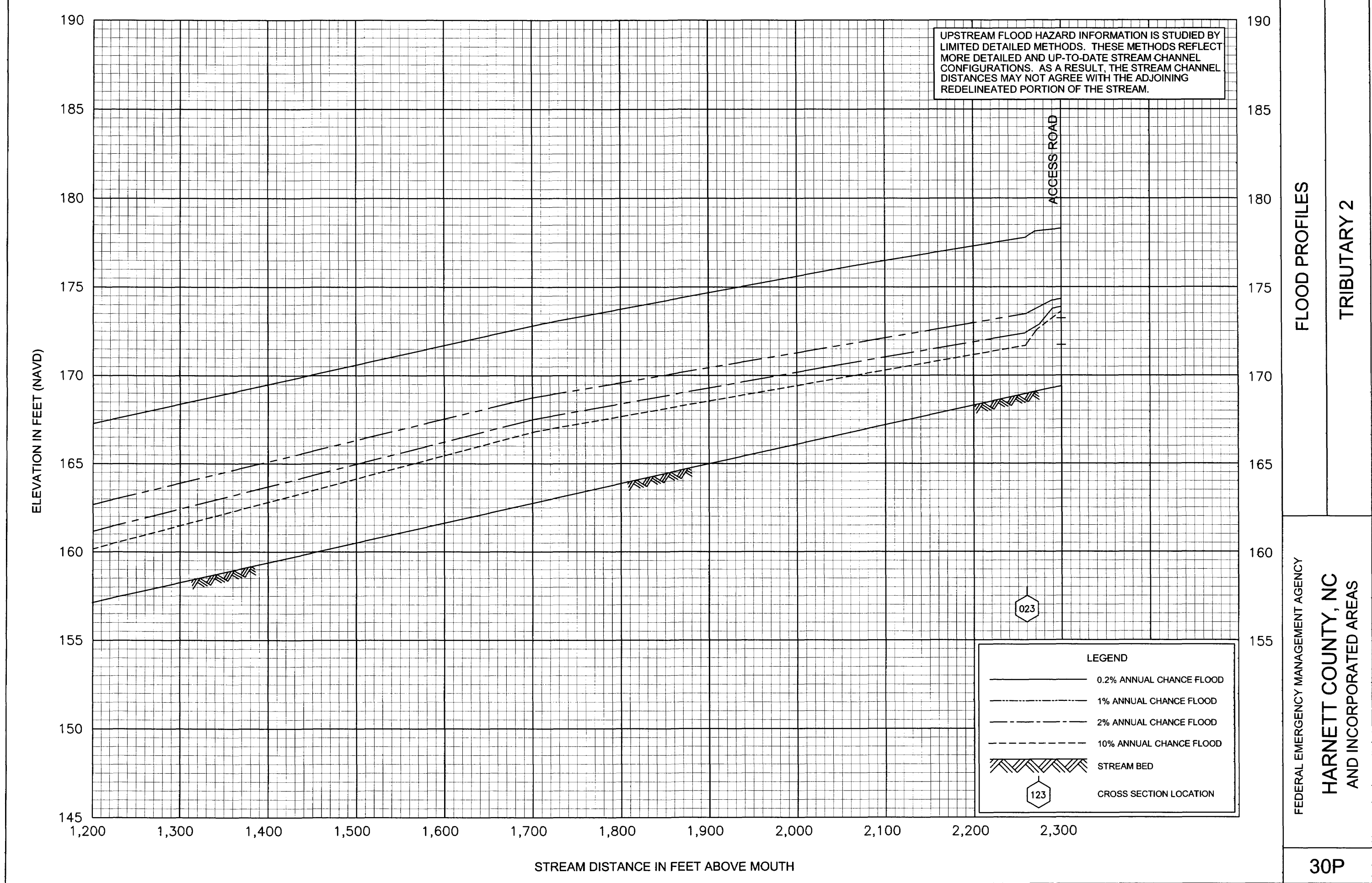
FLOOD PROFILES

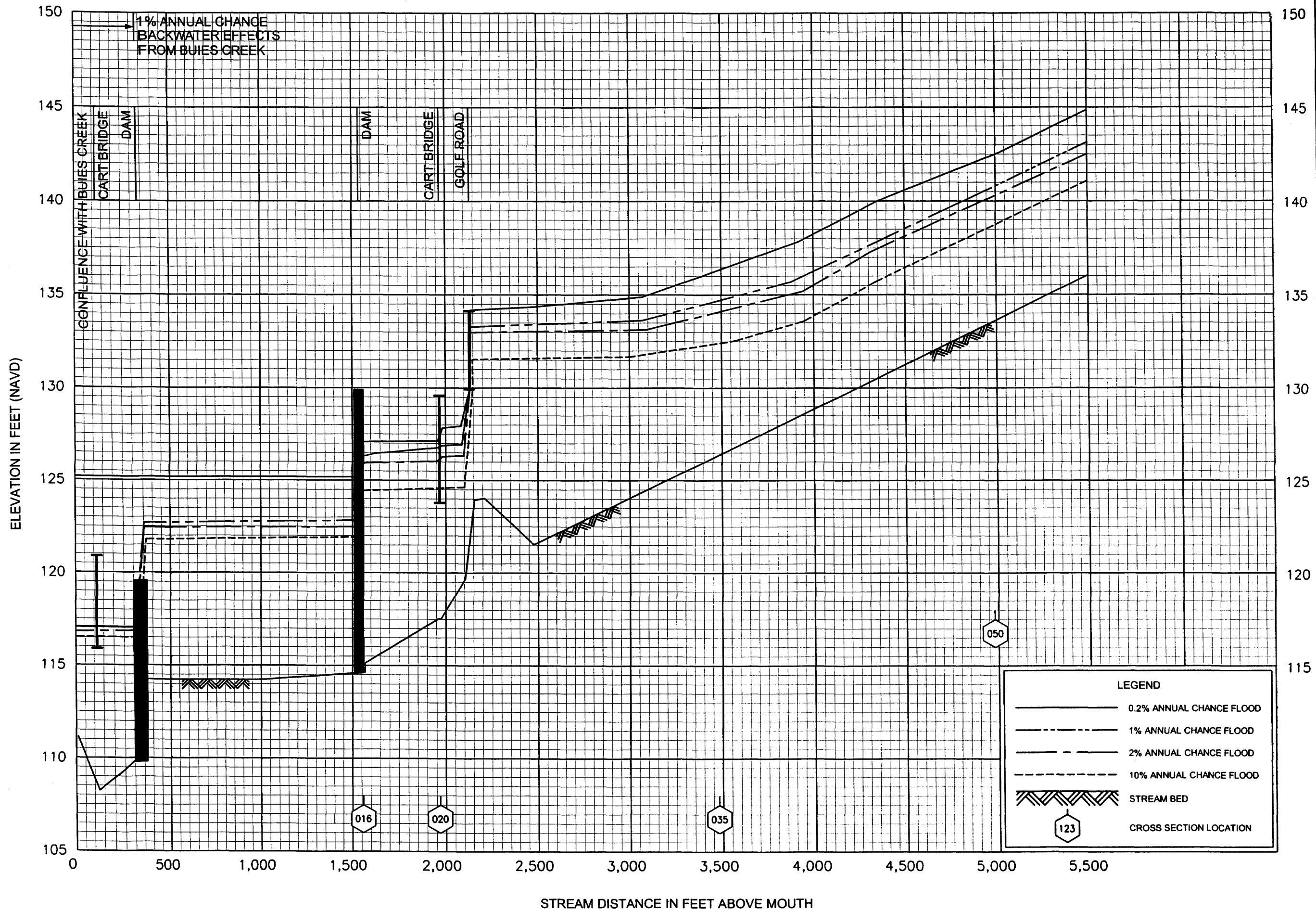
TRIBUTARY 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS

29P

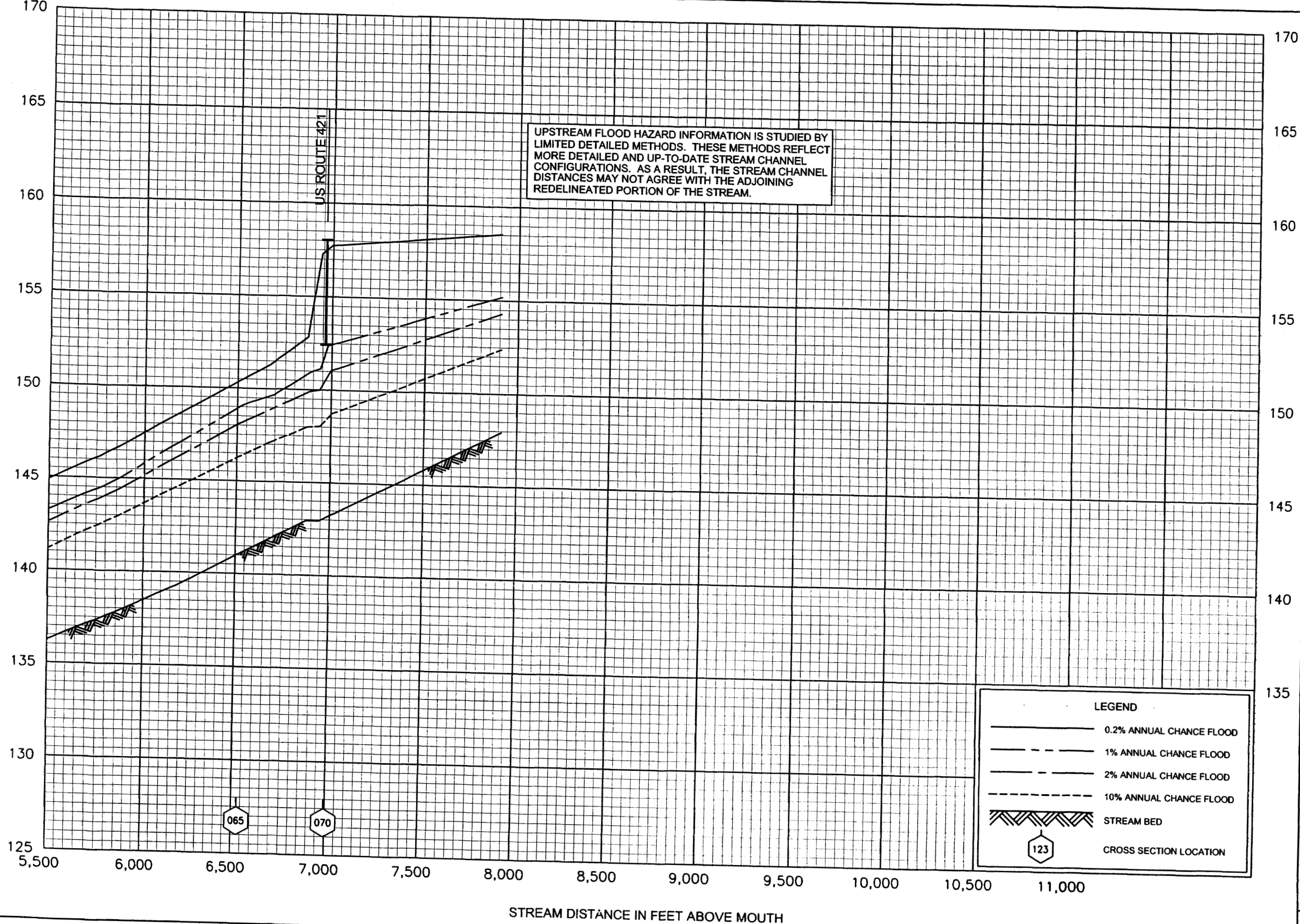




FLOOD PROFILES
WEST BUIES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
HARNETT COUNTY, NC
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)



FLOOD PROFILES

WEST BUIES CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARNETT COUNTY, NC
AND INCORPORATED AREAS