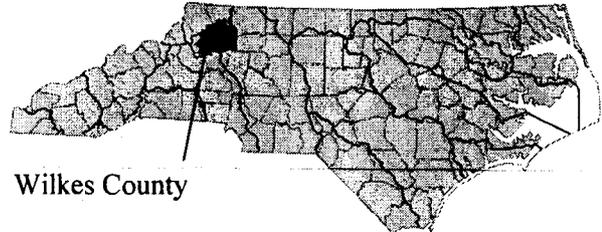


FLOOD INSURANCE STUDY

A Report of Flood Hazards in

WILKES COUNTY, NORTH CAROLINA



Wilkes County

AND INCORPORATED AREAS

Community Name	Community Number	River Basin
North Wilkesboro, Town of	370257	Yadkin
Ronda, Town of	370258	Yadkin
Wilkes County (Unincorporated Areas)	370256	Yadkin
Wilkesboro, Town of	370259	Yadkin



March 2, 2009

Federal Emergency Management Agency
State of North Carolina

Flood Insurance Study Number
37193CV000A

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:

March 2, 2009

This FIS has been produced as part of the North Carolina Floodplain Mapping Program. Wilkes 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
3003 Chamblee Tucker Road
Atlanta, Georgia 30341
(770) 220-5400



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Tributary Y-2	Profiles 11P - 12P
Tributary Y-3	Profile 13P
Yadkin River	Profiles 14P - 23P

Section 1.0 - Introduction

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/business/nfip/>.

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 Wilkes County and the jurisdictions therein (hereinafter referred to collectively as Wilkes 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 Wilkes County, North Carolina, including the jurisdictions listed in Table 1.

Table 1—Jurisdictions in Wilkes County

Community	Included in this FIS	Not Included in this FIS	If Not Included, Location of Flood Hazard/Flood Insurance Rate Data
Elkin, Town of		X	Surry County
North Wilkesboro, Town of	X		
Ronda, Town of	X		
Wilkes County (Unincorporated Areas)	X		
Wilkesboro, Town of	X		

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.

Section 2.0 – Floodplain Management Applications

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.

Section 2.0 – Floodplain Management Applications

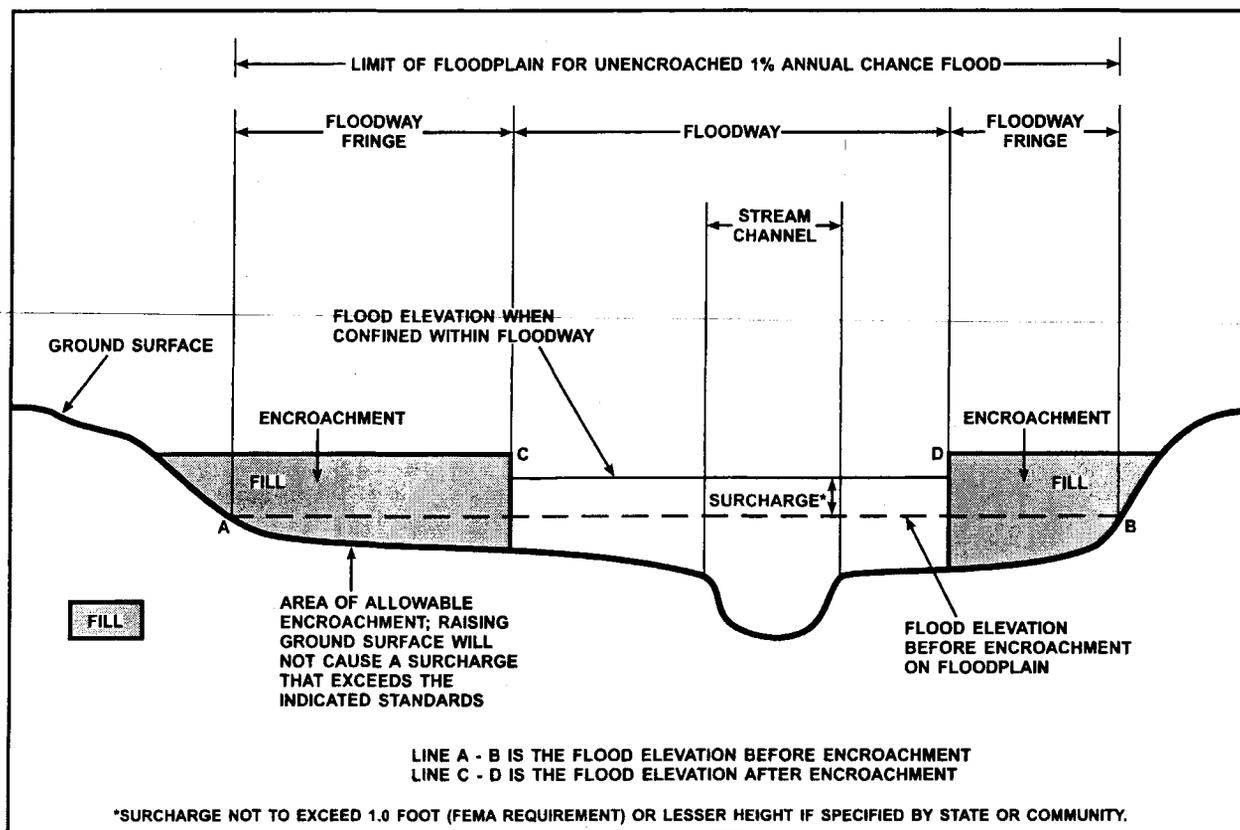


Figure 1—Floodway Schematic

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.

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:

Section 2.0 – Floodplain Management Applications

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

Section 2.0 – Floodplain Management Applications

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.

Section 3.0 – Insurance Applications

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.

Section 3.0 – Insurance Applications

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.
X (Future)	Zone X (Future Base Flood) is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined based on future-conditions hydrology. No BFEs or base flood 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.

Section 4.0 – Area Studied

4.1 Basin Characteristics

Yadkin River Basin

The Yadkin River Basin drains from the Virginia border to South Carolina, cutting a swath through west central North Carolina. With 7,400 square miles, or 15.6% of the land area, this is the second largest drainage basin in the state. It also has the second largest number of stream miles – 5,855. The basin originates on the eastern slopes of the Blue Ridge Mountains in Caldwell, Wilkes, and Surry Counties. A small portion of the Yadkin River headwaters originates in Virginia and flows northeasterly for about 100 miles, then flows to the southeast until it joins the Uwharrie River to form the Pee Dee River. The Pee Dee River continues flowing southeasterly through South Carolina to the Atlantic Ocean. The North Carolina portion of the basin contains approximately 5,991 miles of freshwater streams and rivers.

Forest land covers approximately 50% of the basin and 95% of that forestry is privately owned. Agriculture (including cultivated and uncultivated cropland (15.6%) and pastureland (14.1%)) covers approximately 30% of the land area, while 13% of the land is developed. The urban and built-up category comprises roughly 11% and exhibited the most dramatic change between 1982 and 1992 (38% increase). Other categories that showed substantial changes during this period were pasturelands (19% increase) and the "Other" category, which includes rural transportation (26% increase).

Both cultivated and uncultivated cropland decreased by a total of 46% in the basin between 1982 and 1992. It is likely that some of this cropland was converted to pastureland and to urban and built-up areas. Major land use activities in the basin include agriculture (crops, swine, poultry and cattle operations) and construction activities related to growth. Iredell County has the largest dairy cattle population in the state.

There are 28 counties and over 93 municipalities in this large drainage area. The basin includes all or portions of the following counties: Alexander, Allegheny, Anson, Ashe, Cabarrus, Caldwell, Davidson, Davie, Forsyth, Guilford, Iredell, Mecklenburg, Montgomery, Randolph, Richmond, Rowan, Scotland, Stanly, Stokes, Surry, Union, Watauga, Wilkes, and Yadkin. This is the second most densely populated watershed, with 1,193,353 people or 17.51 % of the state's total population. Based on 1990 census data, the population of the basin was 1.2 million people.

The most populated areas are in and near Winston-Salem and Charlotte. The overall population density is 163 persons per square mile versus a statewide average of 123 persons per square mile. While much of the basin contains rural areas surrounding small towns, many of the small to large cities have high density areas. The percent population growth over the ten year period between 1980 and 1990 was 10 percent.

This region is characterized by rolling hills and geologic formations consisting of crystalline or sedimentary rocks. Because of the moderate topography, more streams drain a smaller amount of land, creating moderate drainage density.

The Yadkin Basin serves as a corridor for plants and animals migrating from the mountains to the Coastal Plain, and vice-versa. This basin contains a variety of habitat types, as well as many rare plants and animals. Sportfishes in the Yadkin River upstream of the Kerr Scott Reservoir include smallmouth bass, redbreast sunfish and bullhead catfishes. A considerable amount of white and striped bass fish exist below Idols Dam (west of Clemmons – in Forsyth County) in the spring when the fish migrate from downstream reservoirs to spawn. In addition to being important

Section 4.0 – Area Studied

natural resources, these reservoir fisheries also help make the basin a popular place for recreation, significantly boosting the local economy.

4.2 Principal Flood Problems

Past flooding on the streams within Wilkes County indicates that flooding may occur during any season of the year; however, most floods occur during the spring as a result of heavy rainfall. Floods are often associated with tropical storms moving north along the Atlantic Ocean.

For the Town of North Wilkesboro, low-laying areas along the Yadkin River and the lower reaches of the Reddies River are subject to periodic flooding caused by overflow of these two rivers. The most severe flooding generally has occurred as a result of heavy rainfall caused by tropical hurricanes in the late summer and early fall. Notable floods have occurred in North Wilkesboro in 1899, 1916, 1918, 1928, 1929, 1940, and 1945. The worst of these floods occurred in August 1940 as a result of a hurricane. The return frequency of the August 1940 storm is estimated at approximately 100 years. Several lives were lost and property damage was estimated to be in the millions of dollars.

Although the major areas of flooding are located along the Reddies and Yadkin Rivers, other areas of North Wilkesboro are subject to somewhat lesser flooding as a result of overflow from the smaller tributaries included in this study.

The principal source of flooding in the Town of Wilkesboro is the Yadkin River.

4.3 Historic Flood Elevations

September 5, 2004 (Hurricane Frances)

On September 5, 2004, Hurricane Frances came ashore on the central east coast of Florida as a category 2 storm with 105 mph maximum sustained winds. According to the National Weather Service, Frances spawned more reported tornadoes – at least 101 – than any other tropical storm or hurricane to hit the Eastern Seaboard. Eleven of those tornadoes occurred in North Carolina. The remnants of Hurricane Frances washed out water lines or sanitation systems in several mountain towns leaving tens of thousands of people without drinking water for some time. In Western North Carolina many streams and rivers reached well above flood stage causing many roads to be closed. The total estimated damage from Frances is estimated to be about \$9 billion (US 2004 dollars).

September 16, 2004 (Hurricane Ivan)

This category 3 hurricane with sustained winds of 120 mph and possible gusts of up to 160 mph, hit Alabama and the extreme northwest Florida panhandle in the early morning hours of September 16, 2004. The storm surge was 10 – 15 feet above Mean Tide.

An outbreak of 117 tornadoes, including 4 in North Carolina, developed over a 3 day period within the United States. Rainfall from the remnants of Hurricane Ivan caused flooding and triggered numerous landslides in western North Carolina. Ivan caused an estimated \$13 billion worth of damage in the United States, making it the fifth costliest hurricane to ever strike the United States. Ivan is blamed for 8 deaths in North Carolina.

A strong storm system on January 19, 1996, brought high winds, damaging thunderstorm winds, heavy rain, and damaging lightning to portions of northwestern and north-central North Carolina.

Section 4.0 – Area Studied

The heavy rain combined with snow melt to produce flash flooding and then minor flooding on most rivers. Heavy rainfall and snow melt flooded several creeks and streams and some roads in Wilkesboro. Damage to Cub Creek Park in Wilkesboro was estimated at \$2,500. In Wilkesboro, flash flooding resulted in \$17,000 in damage to a business and submerged several vehicles. In addition, there were several mud slides in Wilkes County.

Thunderstorms produced flash flooding and damaging winds in north-central and northwest North Carolina during the early morning hours on April 17, 1998. Heavy rainfall resulted in the flooding of Moravian, Cub, and Mill Creeks in the southern portion of Wilkes County. Numerous roads were washed out, damaged, or flooded. In Wilkesboro, over a dozen businesses were damaged by flood waters. Road damage was estimated at \$500,000.

Thunderstorms in the late afternoon and evening of the July 9, 1999, produced flash flooding in southern Wilkes County. Several small streams and creeks, including Moravian Creek, Cub Creek, and Hunting Creek, flooded onto roads in the Thankful to Boomer area.

Heavy thunderstorm rains during the late evening and early morning of May 1 and 2, 2002 caused flash flooding in North Wilkesboro. Several roads were closed and several businesses reported water damage.

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).

To provide safe flood protection and be mapped as such, FEMA specifies that all levees must: have a minimum of three feet of freeboard against the 1% annual chance flood event; be equipped with closure devices at every opening; be constructed with embankments and foundations that are certified not to fail due to erosion, seepage, or instability; and be certified against future loss of freeboard due to settling. For additional requirements, please refer to 44 CFR 65.10.

Table 3, “Flood Protection Measures,” lists the flood protection measures undertaken to mitigate flood damage in Wilkes County.

Table 3—Flood Protection Measures

Type of Measure	Description of Measure or Location and Description of Structure	Levee Compliant with 44 CFR 65.10?
W. Scott Kerr Dam	Located on the Yadkin River approximately 6 miles upstream of North Wilkesboro	N/A

N/A-Not Applicable

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 Wilkes 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

Section 4.0 – Area Studied

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 Wilkes 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 4, “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 4—Flooding Sources Studied by
Detailed Methods: Revised or Newly Studied**

Source	Riverine Sources		Affected Communities
	From	To	
Elkin Creek	Approximately 1,700 feet downstream of the Wilkes/Surry County boundary	The Wilkes/Surry County boundary	Wilkes County (Unincorporated Areas)
Reddies River *	The confluence with Yadkin River	Approximately 0.5 mile upstream of the confluence with Yadkin River	Town of North Wilkesboro, Wilkes County (Unincorporated Areas)
Tributary Y-1	The confluence with Yadkin River	The confluence of Tributary Y-1-1	Town of North Wilkesboro
Tributary Y-3	The confluence with Yadkin River	Approximately 640 feet upstream of Main Street	Town of North Wilkesboro
Yadkin River	The Yadkin/Wilkes/Surry County boundary	The confluence of Elk Creek	Town of North Wilkesboro, Town of Ronda, Town of Wilkesboro, and Wilkes County (Unincorporated Areas)

* Revised to reflect backwater effects from a new detailed study

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Table 5, “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 5—Flooding Sources Studied by Detailed Methods: Redelineated

Source	Riverine Sources		Affected Communities
	From	To	
Reddies River	Approximately 0.5 mile upstream of the confluence with Yadkin River	Approximately 1.3 miles upstream of West D Street/US Highway 421	Town of North Wilkesboro, Wilkes County (Unincorporated Areas)
Tributary M-1	Approximately 850 feet downstream of the confluence of Tributary M-1-1	Approximately 1,390 feet upstream of Elkin Highway/NC Highway 268	Town of North Wilkesboro, Wilkes County (Unincorporated Areas)
Tributary R-1	The confluence with Reddies River	Approximately 1,360 feet upstream of Finley Street	Town of North Wilkesboro
Tributary Y-2	Approximately 850 feet upstream of the confluence with Yadkin River	Approximately 0.5 mile upstream of 2 nd Street/US Highway 421	Town of North Wilkesboro

Table 6, “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 6—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Beaver Creek	The confluence with Yadkin River	Approximately 750 feet upstream of the Caldwell/Wilkes County boundary	Wilkes County (Unincorporated Areas)
Beaver Creek Tributary 1	The confluence with Beaver Creek	Approximately 0.7 mile upstream of the confluence with Beaver Creek	Wilkes County (Unincorporated Areas)
Beaver Creek Tributary 2	The confluence with Beaver Creek	Approximately 590 feet upstream of Livingston Road (SR 1130)	Wilkes County (Unincorporated Areas)
Beaver Creek Tributary 3	The confluence with Beaver Creek	Approximately 0.7 mile upstream of the confluence with Beaver Creek	Wilkes County (Unincorporated Areas)

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**Table 6—Flooding Sources Studied by
Detailed Methods: Limited Detailed**

Source	Riverine Sources		Affected Communities
	From	To	
Big Branch	The confluence with Middle Prong Roaring River	Approximately 1,080 feet upstream of Moxley Road (SR 1735)	Wilkes County (Unincorporated Areas)
Big Bugaboo Creek	The confluence with Yadkin River	Approximately 0.9 mile upstream of the confluence of Big Bugaboo Creek Tributary 1	Wilkes County (Unincorporated Areas)
Big Bugaboo Creek Tributary 1	The confluence with Big Bugaboo Creek	Approximately 0.4 mile upstream of the confluence with Big Bugaboo Creek	Wilkes County (Unincorporated Areas)
Big Sandy Creek	The confluence with East Prong Roaring River	Approximately 1,270 feet upstream of Traphill-Brown Road (SR 1741)	Wilkes County (Unincorporated Areas)
Big Warrior Creek	The confluence with Warrior Creek	Approximately 1.8 miles upstream of the confluence of Big Warrior Creek Tributary 1	Wilkes County (Unincorporated Areas)
Big Warrior Creek Tributary 1	The confluence with Big Warrior Creek	Approximately 0.8 mile upstream of the confluence with Big Warrior Creek	Wilkes County (Unincorporated Areas)
Blood Creek	The confluence with Warrior Creek	Approximately 0.4 mile upstream of Walsh Town Road (SR 1119)	Wilkes County (Unincorporated Areas)
Brier Creek	The confluence with Yadkin River	Approximately 1,360 feet upstream of Ranse Staley Road (SR 2325)	Wilkes County (Unincorporated Areas)
Brier Creek Tributary 1	The confluence with Brier Creek	Approximately 1.1 miles upstream of Red White & Blue Road (SR 2324)	Wilkes County (Unincorporated Areas)
Brushy Creek	Approximately 1660 feet upstream of Iredell County Line Rd (SR 2415)	Approximately 1930 feet upstream of Iredell County Line Rd (SR 2415)	Wilkes County (Unincorporated Areas)
Cane Creek	The confluence with West Prong Roaring River	Approximately 1.7 miles upstream of Dehart Church Road (SR 1715)	Wilkes County (Unincorporated Areas)
Cub Creek	The confluence with Yadkin River	Approximately 0.6 mile upstream of Pennell Road (SR 2493)	Town of Wilkesboro, Wilkes County (Unincorporated Areas)
Darnell Creek	The confluence with North Fork Reddies River	Approximately 1.2 miles upstream of State Road 1567	Wilkes County (Unincorporated Areas)
Double Creek	The confluence with Middle Prong Roaring River	Approximately 100 feet upstream of confluence of Double Creek Tributary 1	Wilkes County (Unincorporated Areas)

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Table 6—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Double Creek Tributary 1	The confluence with Double Creek	Approximately 0.5 mile upstream of confluence with Double Creek	Wilkes County (Unincorporated Areas)
Dugger Creek	The confluence with Elk Creek	Approximately 1,170 feet upstream of Elk Creek Darby Road (SR 1162)	Wilkes County (Unincorporated Areas)
East Prong Roaring River	The confluence with Roaring River	Approximately 2.8 miles upstream of Longbottom Road (SR 1737)	Wilkes County (Unincorporated Areas)
East Swan Creek	The confluence with Swan Creek	Approximately 0.9 mile upstream of the confluence with Swan Creek	Wilkes County (Unincorporated Areas)
Elk Creek	The confluence with Yadkin River	The Watauga/Wilkes County boundary	Wilkes County (Unincorporated Areas)
Elk Creek Tributary 1	The confluence with Elk Creek	Approximately 0.8 mile upstream of Elk Creek Darby Road (SR 1162)	Wilkes County (Unincorporated Areas)
Elk Creek Tributary 2	The confluence with Elk Creek	Approximately 1040 feet upstream of Meadow Road	Wilkes County (Unincorporated Areas)
Elkin Creek	The Surry/Wilkes County boundary	Approximately 700 feet upstream of Union Community Road (SR 1919)	Wilkes County (Unincorporated Areas)
Elkin Creek Tributary 1	The confluence with Elkin Creek	Approximately 0.7 mile upstream of State Road 1910	Wilkes County (Unincorporated Areas)
Fishing Creek	The confluence with Yadkin River	Approximately 100 feet downstream of Speedway Road (SR 2355)	Wilkes County (Unincorporated Areas)
Fishing Creek Tributary 1	The confluence with Fishing Creek	Approximately 1.9 miles upstream of Old NC Highway 60 (SR 2318)	Wilkes County (Unincorporated Areas)
Fishing Creek Tributary 2	The confluence with Fishing Creek	Approximately 250 feet downstream of US Highway 421	Wilkes County (Unincorporated Areas)
Fishing Creek Tributary 2A	The confluence with Fishing Creek Tributary 2	Approximately 20 feet downstream of US Highway 421	Wilkes County (Unincorporated Areas)
Fletcher Creek	The confluence with South Prong Lewis Fork	Approximately 0.8 mile upstream of the confluence with South Prong Lewis Fork	Wilkes County (Unincorporated Areas)
Gambill Creek	The confluence with West Prong Roaring River	Approximately 0.6 mile upstream of the confluence with West Prong Roaring River	Wilkes County (Unincorporated Areas)

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Table 6—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Gladys Fork	The confluence with Stony Fork	Approximately 0.5 mile upstream of Mount Pleasant Road (SR 1135)	Wilkes County (Unincorporated Areas)
Grassy Creek West	The confluence with Elkin Creek	The Wilkes/Surry County boundary	Wilkes County (Unincorporated Areas)
Grassy Fork	The confluence with Elkin Creek	Approximately 1,990 feet upstream of the confluence with Elkin Creek	Wilkes County (Unincorporated Areas)
Grays Creek	The confluence with Yadkin River	Approximately 0.9 mile upstream of State Road 2321	Wilkes County (Unincorporated Areas)
Harris Creek	The confluence with Double Creek	Approximately 0.6 mile upstream of Longbottom Road (SR 1730)	Wilkes County (Unincorporated Areas)
Hoopers Branch	The confluence with Reddies River	Approximately 1,580 feet upstream of Hackett Street	Town of North Wilkesboro, Wilkes County (Unincorporated Areas)
Huffman Branch	The confluence with North Prong Lewis Fork	Approximately 0.7 mile upstream of the confluence with North Prong Lewis Fork	Wilkes County (Unincorporated Areas)
Hunting Creek	The Iredell/Wilkes County boundary	Approximately 1.4 miles upstream of Balls Mill Road (SR 2474)	Wilkes County (Unincorporated Areas)
Joshua Creek	The confluence with Mulberry Creek	Approximately 0.7 mile upstream of confluence with Mulberry Creek	Wilkes County (Unincorporated Areas)
Left Prong Stony Fork	The confluence with Stony Fork	The Watauga/Wilkes County boundary	Wilkes County (Unincorporated Areas)
Lewis Fork	The confluence with Yadkin River	The confluence of North Prong Lewis Fork and South Prong Lewis Fork	Wilkes County (Unincorporated Areas)
Little Bugaboo Creek	The confluence with Big Bugaboo Creek	Approximately 620 feet upstream of Hoots Road (SR 2014)	Wilkes County (Unincorporated Areas)
Little Elkin Creek	The confluence with Yadkin River	Approximately 0.6 mile upstream of Greenhorn Road (SR 1931)	Wilkes County (Unincorporated Areas)
Little Fork Creek	The confluence with North Prong Lewis Fork	Approximately 1.4 miles upstream of Benny Parsons Road (SR 1359)	Wilkes County (Unincorporated Areas)
Little Hunting Creek	The confluence with Hunting Creek	Approximately 2.0 miles upstream of Mountain View Church Road (SR 2503)	Wilkes County (Unincorporated Areas)

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Table 6—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Little Sandy Creek	The confluence with East Prong Roaring River	Approximately 0.5 mile upstream of Longbottom Road (SR 1737)	Wilkes County (Unincorporated Areas)
Little Warrior Creek	The confluence with Warrior Creek	Approximately 0.6 mile upstream of Thankful Church Road (SR 1125)	Wilkes County (Unincorporated Areas)
Long Branch North	The Wilkes/Yadkin County boundary	Approximately 50 feet upstream of the Wilkes/Yadkin County boundary	Wilkes County (Unincorporated Areas)
Middle Fork Reddies River	The confluence with Reddies River	Approximately 0.7 mile upstream of State Road 1580	Wilkes County (Unincorporated Areas)
Middle Prong Roaring River	The confluence with Roaring River	Approximately 3.4 miles upstream of the confluence of Big Branch	Wilkes County (Unincorporated Areas)
Mill Creek	The confluence with Cub Creek	Approximately 1.3 miles upstream of US Highway 421	Town of Wilkesboro, Wilkes County (Unincorporated Areas)
Mill Creek North	The confluence with North Fork Reddies	Approximately 2.1 miles upstream of Moxley Road (SR 1735)	Wilkes County (Unincorporated Areas)
Moravian Creek	The confluence with Yadkin River	The confluence of Moravian Creek Tributary 1	Town of Wilkesboro, Wilkes County (Unincorporated Areas)
Moravian Creek Tributary 1	The confluence with Moravian Creek	Approximately 0.5 mile upstream of Lowe Creek Road (SR 2488)	Wilkes County (Unincorporated Areas)
Mulberry Creek	The confluence with Yadkin River	The confluence of Joshua Creek	Town of North Wilkesboro, Wilkes County (Unincorporated Areas)
Mulberry Creek Tributary 1	The confluence with Mulberry Creek	Approximately 0.6 mile upstream of Sparta Road/ NC Highway 18	Wilkes County (Unincorporated Areas)
Naked Creek	The confluence with Lewis Fork	Approximately 0.9 mile upstream of Red Top Road (SR 1148)	Wilkes County (Unincorporated Areas)
North Fork Reddies River	The confluence with Reddies River	Approximately 1,160 feet upstream of Buckwheat Road (SR 1575)	Wilkes County (Unincorporated Areas)
North Little Hunting Creek	The Yadkin/Wilkes County boundary	Approximately 1,410 feet upstream of Somers Road (SR 2400)	Wilkes County (Unincorporated Areas)

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Table 6—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
North Little Hunting Creek Tributary 3	The confluence with North Little Hunting Creek	Approximately 610 feet upstream of the US Highway 421 East ramp	Wilkes County (Unincorporated Areas)
North Little Hunting Creek Tributary 4	The confluence with North Little Hunting Creek	Approximately 410 feet upstream of Somers Road (SR 2400)	Wilkes County (Unincorporated Areas)
North Prong Lewis Fork	The confluence with Lewis Fork	Approximately 2.0 miles upstream of Big Ivy Road (SR 1360)	Wilkes County (Unincorporated Areas)
Osborn Creek West	The confluence with Hunting Creek	Approximately 1.1 miles upstream of Hunting Creek Road (SR 2412)	Wilkes County (Unincorporated Areas)
Pumpkin Creek	The confluence with Warrior Creek	Approximately 0.4 mile upstream of Pumpkin Creek Road (SR 1193)	Wilkes County (Unincorporated Areas)
Pumpkin Run	The confluence with South Prong Lewis Fork	Approximately 1.0 mile upstream of Pumpkin Run Road (SR 1303)	Wilkes County (Unincorporated Areas)
Reddies River	Approximately 1.3 miles upstream of West D Street (US Highway 421)	The confluence of Middle Fork Reddies River and South Fork Reddies River	Town of North Wilkesboro, Wilkes County (Unincorporated Areas)
Roaring River	The confluence with Yadkin River	The confluence of Middle Prong Roaring River and East Prong Roaring River	Wilkes County (Unincorporated Areas)
Rocky Creek	The Alexander/Wilkes County boundary	Approximately 1.0 mile upstream of the confluence of Rocky Creek Tributary 1	Wilkes County (Unincorporated Areas)
Rocky Creek Tributary 1	The confluence with Rocky Creek	Approximately 1,500 feet upstream of the confluence with Rocky Creek	Wilkes County (Unincorporated Areas)
Shell Creek	The confluence with Stony Fork	Approximately 870 feet upstream of Mount Zion Road (SR 1155)	Wilkes County (Unincorporated Areas)
South Fork Reddies River	The confluence with Reddies River	Approximately 50 feet upstream of White Oak Road (SR 1355)	Wilkes County (Unincorporated Areas)
South Prong Lewis Fork	The confluence with Lewis Fork	Approximately 1.2 miles upstream of the confluence of Fletcher Creek	Wilkes County (Unincorporated Areas)
South Prong Lewis Fork Tributary 1	The confluence with South Prong Lewis Fork	Approximately 2.4 miles upstream of the confluence with South Prong Lewis Fork	Wilkes County (Unincorporated Areas)

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Table 6—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Sparks Creek	The confluence with Little Sandy Creek	Approximately 1,640 feet upstream of Austin Traphill Road (SR 1749)	Wilkes County (Unincorporated Areas)
Stony Fork	The confluence with Yadkin River	The Watauga/Wilkes County boundary	Wilkes County (Unincorporated Areas)
Swan Creek	The confluence with Yadkin River	The confluence of East Swan Creek and West Swan Creek	Wilkes County (Unincorporated Areas)
Tributary M-1-1	The confluence with Tributary M-1	Approximately 0.6 mile upstream of Elkin Highway/ NC Highway 268	Town of North Wilkesboro, Wilkes County (Unincorporated Areas)
Tributary R-1	Approximately 1,360 feet upstream of Finley Street	Approximately 0.4 mile upstream of Finley Street	Town of North Wilkesboro
Tributary R-1-1	The confluence with Tributary R-1	Approximately 0.4 mile upstream of the confluence with Tributary R-1	Town of North Wilkesboro
Tributary Y-1	The confluence of Tributary Y-1-1	Approximately 0.6 mile upstream of the confluence of Tributary Y-1-1	Town of North Wilkesboro
Tributary Y-1-1	The confluence with Tributary Y-1	Approximately 0.4 mile upstream of the confluence with Tributary Y-1	Town of North Wilkesboro
Tributary Y-2	Approximately 0.5 mile upstream of 2 nd Street/US Highway 421	Approximately 0.7 mile upstream of 2 nd Street/US Highway 421	Town of North Wilkesboro
Warrior Creek	The confluence with Yadkin River	Approximately 830 feet upstream of NC Highway 18	Wilkes County (Unincorporated Areas)
West Prong Moravian Creek	The confluence with Moravian Creek	Approximately 1.3 miles upstream of Falls Road (SR 1108)	Wilkes County (Unincorporated Areas)
West Prong Moravian Creek Tributary 1	The confluence with West Prong Moravian Creek	Approximately 0.5 mile upstream of the confluence with West Prong Moravian Creek	Wilkes County (Unincorporated Areas)
West Prong Roaring River	The confluence with Middle Prong Roaring River	Approximately 2.4 miles upstream of State Road 1731	Wilkes County (Unincorporated Areas)
West Swan Creek	The confluence with Swan Creek	Approximately 2.1 miles upstream of Bagley Springs Road (SR 2311)	Wilkes County (Unincorporated Areas)
Whites Creek	The confluence with Yadkin River	Approximately 1.1 miles upstream of NC Highway 268	Wilkes County (Unincorporated Areas)

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Table 6—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Yadkin River	The confluence of Elk Creek	The Wilkes/Caldwell County boundary	Wilkes County (Unincorporated Areas)
Yadkin River Tributary 14	The confluence with Yadkin River	Approximately 0.9 mile upstream of State Road 2306	Wilkes County (Unincorporated Areas)
Yadkin River Tributary 15	The confluence with Yadkin River	Approximately 0.5 mile upstream of State Road 2321	Wilkes County (Unincorporated Areas)

Table 7, “Stream Name Changes” contains a list of flooding sources that have been renamed since the previous FIS was published.

Table 7—Stream Name Changes

Community	Old Name	New Name
Wilkes County (Unincorporated Areas)	Grassy Creek	Grassy Creek West
Wilkes County (Unincorporated Areas)	Long Branch	Long Branch North
Wilkes County (Unincorporated Areas)	Mill Creek	Mill Creek North
Wilkes County (Unincorporated Areas)	Osborn Creek	Osborn Creek West

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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.

Pre-Countywide Analyses

Each jurisdiction within Wilkes County, with the exception of the Town of Ronda, had previously printed FIS Reports describing each community's hydrologic analyses. Those analyses have been compiled from the FIS Reports and are summarized below. These analyses remain valid for those flooding sources listed in Table 5, "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 hydrology for the Yadkin River and Reddies River were determined from the log-Pearson Type III analysis (Referece 3). Two continuous stream gages are located in the detailed study area which were used in the hydrologic analysis. The first gage is located on the Yadkin River about 150 feet downstream of the confluence of the Reddies River. This gage has records dating back to 1904 and included pre-dam regulated flow. The second gage is located on the Reddies River approximately 2.3 miles upstream from the confluence with the Yadkin River and dates back to 1904. Both are operated and maintained by the U.S. Geological Survey (USGS).

For all other streams in the Town of North Wilkesboro's FIS report, the USGS publication, Effects of Urban Development on Floods in the Piedmont Province of North Carolina was also used in determining discharges (USGS, 1972). For all of the streams included in the report, rainfall-runoff models were used to verify the results of the log-Pearson analysis (USACE, 1959).

Streamflow data obtained prior to the construction of the W. Kerr Scott Dam was adjusted to reflect present reservoir regulation of floods on the upper Yadkin River. Methods used to adjust the data included the modified Puls method and channel routing using the Muskingum method (USACE, 1973 and 1960).

Revised Analyses for Countywide FIS

The hydrologic analyses for the Yadkin 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). 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

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equations that cover North Carolina. Wilkes County is located in the hydrologic region known as the Piedmont region. The USGS urban and rural regression equations were used to estimate the 1% annual chance flow for the streams in Wilkes County. Analyses of historical high-water marks obtained from interviews of county residents were used to confirm the accuracy of the regression equation estimates.

A summary of the drainage area-peak discharge relationships for the flooding sources studied by detailed methods is shown in Table 8, "Summary of Discharges."

Table 8—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
Beaver Creek	At the confluence with Yadkin River	20.5	*	*	10,350	*
	Approximately 0.6 mile upstream of NC Highway 268	19.6	*	*	10,052	*
	Approximately 1.0 mile upstream of NC Highway 268	19.0	*	*	9,858	*
	Approximately 0.7 mile downstream of Beaver Creek Road (SR 1131)	17.7	*	*	9,448	*
	Approximately 0.5 mile downstream of Beaver Creek Road (SR 1131)	17.5	*	*	9,365	*
	Approximately 25 feet upstream of the confluence of Beaver Creek Tributary 1	13.7	*	*	8,030	*
	Approximately 0.9 mile upstream of the confluence of Beaver Creek Tributary 1	12.6	*	*	7,638	*
	Approximately 1.0 mile upstream of the confluence of Beaver Creek Tributary 1	12.4	*	*	7,550	*
	Approximately 1.6 miles upstream of the confluence of Beaver Creek Tributary 1	11.9	*	*	7,369	*
	Approximately 0.7 mile downstream of Livingston Road (SR 1130)	11.5	*	*	7,190	*

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Table 8—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
Beaver Creek	Approximately 0.4 mile downstream of Livingston Road (SR 1130)	10.7	*	*	6,885	*
	Approximately 125 feet upstream of Livingston Road (SR 1130)	9.1	*	*	6,243	*
	Approximately 25 feet upstream of the confluence of Beaver Creek Tributary 3	7.0	*	*	5,269	*
	Approximately 0.6 mile upstream of the confluence of Beaver Creek Tributary 3	3.5	*	*	3,456	*
Beaver Creek Tributary 1	At the confluence with Beaver Creek	3.4	*	*	3,372	*
	Approximately 1,500 feet upstream of the confluence with Beaver Creek	2.8	*	*	3,006	*
	Approximately 0.6 mile upstream the confluence with of Beaver Creek	2.3	*	*	2,622	*
Beaver Creek Tributary 2	At the confluence with Beaver Creek	1.1	*	*	1,619	*
	Approximately 100 feet upstream of Livingston Road (SR 1130)	0.9	*	*	1,502	*
Beaver Creek Tributary 3	At the confluence with Beaver Creek	2.1	*	*	2,465	*
	Approximately 0.5 mile upstream of the confluence with Beaver Creek	1.9	*	*	2,370	*
Big Branch	At the confluence with Middle Prong Roaring River	1.7	*	*	2,219	*
	Approximately 1,260 feet downstream of Moxley Road (SR 1735)	1.4	*	*	1,913	*
	Approximately 1,050 feet upstream of Moxley Road (SR 1735)	1.1	*	*	1,692	*

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Table 8—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
	At the confluence with Yadkin River	17.9	*	*	4,527	*
Big Bugaboo Creek	Approximately 1,900 feet upstream of Elkin Highway/NC Highway 268	17.4	*	*	4,438	*
	Approximately 620 feet downstream of State Road 1924	16.8	*	*	4,339	*
	Approximately 25 feet upstream of the confluence of Little Bugaboo Creek	10.2	*	*	3,174	*
	Approximately 100 feet downstream of Hoots Road (SR 2014)	9.1	*	*	2,960	*
	Approximately 1,360 feet downstream of Tharpes Mill Road (SR 2021)	8.1	*	*	2,751	*
	Approximately 0.4 mile upstream of Tharpes Mill Road (SR 2021)	7.1	*	*	2,538	*
	Approximately 0.5 mile downstream of Greenhorn Road (SR 1931)	6.7	*	*	2,444	*
	Approximately 270 feet downstream of Greenhorn Road (SR 1931)	6.5	*	*	2,398	*
	Approximately 1,030 feet upstream of Greenhorn Road (SR 1931)	5.7	*	*	2,219	*
	Approximately 1,960 feet downstream of the confluence of Big Bugaboo Creek Tributary 1	5.3	*	*	2,103	*
	Approximately 25 feet upstream of the confluence of Big Bugaboo Creek Tributary 1	4.1	*	*	1,794	*

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Table 8—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 Bugaboo Creek	Approximately 890 feet upstream of the confluence of Big Bugaboo Creek Tributary 1	3.9	*	*	1,732	*
	Approximately 0.6 mile upstream of the confluence of Big Bugaboo Creek Tributary 1	3.7	*	*	1,682	*
Big Bugaboo Creek Tributary 1	At the confluence with Big Bugaboo Creek	1.1	*	*	780	*
	Approximately 1,800 feet upstream of the confluence with Big Bugaboo Creek	1.0	*	*	730	*
Big Sandy Creek	At the confluence with East Prong Roaring River	6.1	*	*	4,824	*
	Approximately 500 feet downstream of Longbottom Road (SR 1737)	5.6	*	*	4,588	*
	Approximately 0.5 mile upstream of Longbottom Road (SR 1737)	5.1	*	*	4,310	*
	Approximately 400 feet downstream of Traphill-Brown Road (SR 1741)	4.6	*	*	4,085	*
	Approximately 600 feet upstream of Traphill-Brown Road (SR 1741)	0.4	*	*	900	*
Big Warrior Creek	At the confluence with Warrior Creek	8.2	*	*	5,816	*
	Approximately 1,460 feet upstream of NC Highway 18	7.9	*	*	5,688	*
	Approximately 0.4 mile upstream of NC Highway 18	5.6	*	*	4,593	*
	Approximately 25 feet upstream of the confluence of Big Warrior Creek Tributary 1	4.0	*	*	3,736	*

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Table 8—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
Big Warrior Creek	Approximately 0.9 mile upstream of the confluence of Big Warrior Creek Tributary 1	1.8	*	*	2,265	*
	Approximately 1.3 miles upstream of the confluence of Big Warrior Creek Tributary 1	1.5	*	*	2,041	*
	Approximately 1.6 miles upstream of the confluence of Big Warrior Creek Tributary 1	1.1	*	*	1,696	*
Big Warrior Creek Tributary 1	At the confluence with Big Warrior Creek	1.0	*	*	1,559	*
Blood Creek	At the confluence with Warrior Creek	3.3	*	*	3,318	*
	Approximately 450 feet upstream of NC 268	3.2	*	*	3,250	*
	Approximately 0.5 mile downstream of Walsh Town Road (SR 1119)	2.8	*	*	2,953	*
	Approximately 1,600 feet upstream of Walsh Town Road (SR 1119)	2.3	*	*	2,613	*
Brier Creek	At the confluence with the Yadkin River	10.0	*	*	6,624	*
	Approximately 100 feet upstream of State Road 2321	8.5	*	*	5,954	*
	Approximately 25 feet upstream of confluence of Brier Creek Tributary 1	6.9	*	*	5,260	*
	Approximately 0.6 mile upstream of Red White & Blue Road (SR 2324)	6.6	*	*	5,095	*
	Approximately 1.2 miles upstream of Red White & Blue Road (SR 2324)	5.7	*	*	4,644	*

Section 5.0 – Engineering Methods

Table 8—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
Brier Creek	Approximately 1.3 miles upstream of Red White & Blue Road (SR 2324)	5.4	*	*	4,517	*
	Approximately 0.7 mile downstream of Rance Staley Road (SR 2325)	4.3	*	*	3,885	*
	Approximately 560 feet upstream of Rance Staley Road (SR 2325)	3.8	*	*	3,605	*
Brier Creek Tributary 1	At the confluence with Brier Creek	1.5	*	*	2,015	*
	Approximately 950 feet upstream of Red White & Blue Road (SR 2324)	1.4	*	*	1,927	*
	Approximately 1.0 mile upstream of Red White & Blue Road (SR 2324)	0.9	*	*	1,469	*
Brushy Creek	At the Wilkes/Iredell County line	6.4	*	*	2,376	*
Cane Creek	Approximately 725 feet upstream of the confluence with West Prong Roaring River	6.2	*	*	4,904	*
	Approximately 890 feet downstream of Dehart Community Center Road (SR 1730)	6.2	*	*	4,879	*
	Approximately 0.6 mile upstream of Dehart Community Center Road (SR 1730)	4.8	*	*	4,162	*
	Approximately 50 feet upstream of Dehart Church Road (SR 1715)	3.9	*	*	3,644	*
	Approximately 1,500 feet upstream of Cane Creek Road (SR 1725)	3.5	*	*	3,398	*
	Approximately 0.5 mile upstream of Cane Creek Road (SR 1725)	3.0	*	*	3,085	*

Section 5.0 – Engineering Methods

Table 8—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
	At the confluence with the Yadkin River	20.3	*	*	10,265	*
Cub Creek	Approximately 25 feet upstream of the confluence of Mill Creek	13.5	*	*	7,950	*
	Approximately 1,470 feet downstream of Bridge Street	13.2	*	*	7,865	*
	Approximately 360 feet upstream of Bridge Street	12.7	*	*	7,678	*
	Approximately 0.4 mile downstream of US Highway 421	12.6	*	*	7,626	*
	Approximately 750 feet upstream of US Highway 421	12.1	*	*	7,443	*
	Approximately 300 feet upstream of Foster Street (SR 2516)	11.6	*	*	7,249	*
	Approximately 0.9 miles upstream of Foster Street (SR 2516)	9.1	*	*	6,235	*
	Approximately 1.7 miles downstream of Country Club Road (SR 2467)	8.7	*	*	6,064	*
	Approximately 0.9 mile downstream of Country Club Road (SR 2467)	7.6	*	*	5,542	*
	Approximately 1,500 feet downstream of Country Club Road (SR 2467)	7.2	*	*	5,398	*
	Approximately 100 feet upstream of Country Club Road (SR 2467)	6.8	*	*	5,172	*
	Approximately 1,450 feet downstream of Pennell Road (SR 2493)	6.6	*	*	5,084	*
	Approximately 1,660 feet upstream of Pennell Road (SR 2493)	5.1	*	*	4,323	*

Section 5.0 – Engineering Methods

Table 8—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
Cub Creek	Approximately 0.5 mile upstream of Pennell Road (SR 2493)	4.9	*	*	4,218	*
Darnell Creek	At the confluence with North Fork Reddies River	9.0	*	*	2,932	*
	Approximately 1,700 feet upstream of the confluence with North Fork Reddies River	8.9	*	*	2,915	*
	Approximately 750 feet upstream of State Road 1567	8.4	*	*	2,811	*
	Approximately 0.6 mile upstream of State Road 1567	7.9	*	*	2,705	*
Double Creek	At the confluence with Middle Prong Roaring River	7.8	*	*	5,662	*
	Approximately 530 feet upstream of Absher Road (SR 1736)	6.4	*	*	5,007	*
	Approximately 25 feet upstream of the confluence of Harris Creek	2.9	*	*	3,019	*
	Approximately 1,030 feet upstream of the confluence of Harris Creek	2.8	*	*	2,995	*
	Approximately 0.4 mile downstream of Piney Grove Church Road (SR 1737)	2.3	*	*	2,652	*
	Approximately 25 feet upstream of the confluence of Double Creek Tributary 1	0.8	*	*	1,319	*
Double Creek Tributary 1	At the confluence with Double Creek	1.4	*	*	1,975	*
	Approximately 0.5 mile upstream of Piney Grove Church Road (SR 1737)	1.23	*	*	1,785	*
	Approximately 0.6 mile upstream of Piney Grove Church Road (SR 1737)	1.20	*	*	1,753	*

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Table 8—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
	At the confluence with Elk Creek	8.0	*	*	5,726	*
Dugger Creek	Approximately 1,650 feet downstream of Elk Creek Darby Road (SR 1162)	7.2	*	*	5,360	*
	Approximately 480 feet downstream of Elk Creek Darby Road (SR 1162)	5.1	*	*	4,317	*
East Prong Roaring River	At the confluence with Roaring River	56.6	*	*	19,514	*
	Approximately 1,900 feet upstream of the confluence with Roaring River	56.5	*	*	19,481	*
	Approximately 0.6 mile upstream of the confluence with Roaring River	52.4	*	*	18,604	*
	Approximately 1.1 miles upstream of the confluence with Roaring River	52.0	*	*	18,505	*
	Approximately 1.7 miles upstream of the confluence with Roaring River	51.6	*	*	18,416	*
	Approximately 2.0 miles upstream of the confluence with Roaring River	49.2	*	*	17,884	*
	Approximately 2.2 miles upstream of the confluence with Roaring River	49.0	*	*	17,830	*
	Approximately 2.4 miles downstream of Crossroads Road (SR 1945)	48.8	*	*	17,777	*
	Approximately 1.5 miles downstream of Crossroads Road (SR 1945)	47.6	*	*	17,510	*
	Approximately 1.1 miles downstream of Crossroads Road (SR 1945)	47.3	*	*	17,452	*

Section 5.0 – Engineering Methods

Table 8—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
East Prong Roaring River	Approximately 2,000 feet downstream of Crossroads Road (SR 1945)	47.0	*	*	17,362	*
	Approximately 25 feet upstream of the confluence of Little Sandy Creek	30.1	*	*	13,142	*
	Approximately 0.6 mile downstream of Brewer Mill Road (SR 1943)	29.6	*	*	13,019	*
	Approximately 1,300 feet downstream of Brewer Mill Road (SR 1943)	28.7	*	*	12,768	*
	Approximately 100 feet upstream of Brewer Mill Road (SR 1943)	28.3	*	*	12,653	*
	Approximately 1,200 feet downstream of Traphill Road (SR 1002)	27.8	*	*	12,517	*
	Approximately 125 feet upstream of Traphill Road (SR 1002)	27.2	*	*	12,332	*
	Approximately 0.4 mile upstream of Traphill Road (SR 1002)	26.7	*	*	12,214	*
	Approximately 325 feet upstream of Twin Locust Road (SR 1743)	26.0	*	*	12,004	*
	Approximately 0.7 mile downstream of the confluence of Big Sandy Creek	25.1	*	*	11,747	*
	Approximately 25 feet upstream of the confluence of Big Sandy Creek	18.6	*	*	9,736	*
	Approximately 2,000 feet downstream of Longbottom Road (SR 1737)	18.0	*	*	9,524	*

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Table 8—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
East Prong Roaring River	Approximately 190 feet upstream of Longbottom Road (SR 1737)	17.5	*	*	9,369	*
	Approximately 0.6 miles upstream of Longbottom Road (SR 1737)	16.8	*	*	9,138	*
	Approximately 1.3 miles upstream of Longbottom Road (SR 1737)	16.2	*	*	8,943	*
	Approximately 1.6 miles upstream of Longbottom Road (SR 1737)	15.9	*	*	8,812	*
	Approximately 1.9 miles upstream of Longbottom Road (SR 1737)	12.4	*	*	7,570	*
	Approximately 2.5 miles upstream of Longbottom Road (SR 1737)	10.4	*	*	6,786	*
East Swan Creek	At the confluence with Swan Creek	6.6	*	*	2,432	*
	Approximately 2,000 feet upstream of the confluence with Swan Creek	6.3	*	*	2,355	*
	Approximately 0.8 mile upstream of the confluence with Swan Creek	4.2	*	*	1,814	*
Elk Creek	At the confluence with Yadkin River	50.6	*	*	28,961	*
	Approximately 1,030 feet downstream of NC 268	50.4	*	*	28,902	*
	Approximately 0.6 mile upstream of NC 268	50.0	*	*	28,557	*
	Approximately 815 feet downstream of Kendell-Town Road (SR 1163)	48.1	*	*	27,091	*
	Approximately 1,050 feet upstream of Kendell-Town Road (SR 1163)	46.7	*	*	26,037	*

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Table 8—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
Elk Creek	Approximately 1.1 miles upstream of Kendell-Town Road (SR 1163)	45.5	*	*	25,103	*
	Approximately 1.5 miles upstream of Kendell-Town Road (SR 1163)	45.1	*	*	24,790	*
	Approximately 1,920 feet downstream of Triplett Town Road (SR 1175)	44.6	*	*	24,424	*
	Approximately 100 feet downstream of Triplett Town Road (SR 1175)	43.3	*	*	23,507	*
	Approximately 1,050 feet upstream of Triplett Town Road (SR 1175)	42.7	*	*	23,055	*
	Approximately 0.5 mile upstream of Triplett Town Road (SR 1175)	41.4	*	*	22,114	*
	Approximately 0.9 mile upstream of Triplett Town Road (SR 1175)	40.9	*	*	21,765	*
	Approximately 1.2 miles downstream of Elk Creek Tributary 1	40.7	*	*	21,641	*
	Approximately 1,240 feet downstream of Elk Creek Tributary 1	38.5	*	*	20,098	*
	Approximately 25 feet upstream of Elk Creek Tributary 1	37.8	*	*	19,622	*
	Approximately 25 feet upstream of Elk Creek Tributary 2	36.1	*	*	18,495	*
	Approximately 1,620 feet upstream of Elk Creek Tributary 2	36.0	*	*	18,435	*
	Approximately 0.7 mile downstream of the confluence of Dugger Creek	35.0	*	*	17,740	*

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Table 8—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
Elk Creek	Approximately 25 feet upstream of the confluence of Dugger Creek	26.5	*	*	12,513	*
	Approximately 1,620 feet upstream of Elk Creek Darby Road (SR 1162)	26.4	*	*	12,445	*
	Approximately 740 feet downstream of Triplett Road (SR 1166)	25.4	*	*	11,860	*
	Approximately 0.6 mile upstream of Triplett Road (SR 1166)	24.4	*	*	11,527	*
Elk Creek Tributary 1	At the confluence with Elk Creek	0.6	*	*	1,186	*
	Approximately 0.7 mile upstream of the confluence with Elk Creek	0.5	*	*	1,017	*
	Approximately 0.8 mile upstream of the confluence with Elk Creek	0.4	*	*	902	*
Elk Creek Tributary 2	At the confluence with Elk Creek	1.6	*	*	2,102	*
	Approximately 0.5 mile upstream of the confluence with Elk Creek	0.9	*	*	1,492	*
	Approximately 440 feet upstream of Meadow Road	0.5	*	*	1,025	*
	Approximately 1,180 feet upstream of Meadow Road	0.2	*	*	591	*
Elkin Creek	At the Wilkes/Surry County boundary	33.2	6,138	8,942	10,334	14,117
	Approximately 130 feet upstream of the Wilkes/Surry County boundary	33.2	*	*	10,316	*
	Approximately 1,050 feet upstream of the Wilkes/Surry County boundary	30.9	*	*	9,675	*

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Table 8—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
Elkin Creek	Approximately 1,940 feet upstream of the Wilkes/Surry County boundary	30.8	*	*	9,647	*
	Approximately 25 feet upstream of the confluence of Grassy Creek West	26.4	*	*	8,439	*
	Approximately 100 feet downstream of State Road 2044	25.6	*	*	8,208	*
	Approximately 350 feet upstream of Preachers Field Road (SR 2042)	24.5	*	*	7,921	*
	Approximately 0.6 mile downstream of the confluence of Grassy Fork	23.1	*	*	7,538	*
	Approximately 0.5 mile downstream of the confluence of Grassy Fork	22.6	*	*	7,393	*
	Approximately 25 feet upstream of the confluence of Grassy Fork	18.2	*	*	6,191	*
	Approximately 1,360 feet upstream of Murray Road (SR 2035)	17.5	*	*	6,007	*
	Approximately 0.7 mile upstream of Murray Road (SR 2035)	16.0	*	*	5,694	*
	Approximately 0.7 mile downstream of Mining Ridge Church Road (SR 1913)	15.5	*	*	5,586	*
	Approximately 0.5 mile downstream of Mining Ridge Church Road (SR 1913)	15.3	*	*	5,529	*
	Approximately 1,230 feet downstream of Mining Ridge Church Road (SR 1913)	14.8	*	*	5,421	*

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Table 8—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
Elkin Creek	Approximately 420 feet upstream of Mining Ridge Church Road (SR 1913)	14.4	*	*	5,331	*
	Approximately 0.7 mile downstream of the confluence of Elkin Creek Tributary 1	13.6	*	*	5,133	*
	Approximately 915 feet downstream of the confluence of Elkin Creek Tributary 1	13.4	*	*	5,091	*
	Approximately 25 feet upstream of the confluence of Elkin Creek Tributary 1	9.1	*	*	3,990	*
	Approximately 1.1 miles upstream of the confluence of Elkin Creek Tributary 1	7.2	*	*	3,463	*
	Approximately 1.0 mile downstream of Roaring Gap Church Road (SR 1917)	6.7	*	*	3,307	*
	Approximately 2,000 feet downstream of Roaring Gap Church Road (SR 1917)	6.3	*	*	3,193	*
	Approximately 50 feet downstream of Roaring Gap Church Road (SR 1917)	6.1	*	*	3,120	*
	Approximately 670 feet upstream of Roaring Gap Church Road (SR 1917)	5.9	*	*	3,049	*
	Approximately 815 feet downstream of Wiley Royal Road (SR 1918)	4.8	*	*	2,698	*
	Approximately 100 feet downstream of Union Community Road (SR 1919)	3.0	*	*	2,001	*
Elkin Creek Tributary 1	At the confluence with Elkin Creek	2.8	*	*	1,401	*

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Table 8—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
Elkin Creek Tributary 1	Approximately 850 feet upstream of State Road 1910	2.7	*	*	1,376	*
	Approximately 0.4 mile upstream of State Road 1910	2.4	*	*	1,303	*
Fishing Creek	Approximately 1,900 feet upstream of the confluence with Yadkin River	17.8	*	*	9,484	*
	Approximately 25 feet upstream of the confluence of Fishing Creek Tributary 1	10.0	*	*	6,608	*
	Approximately 0.9 mile upstream of the confluence of Fishing Creek Tributary 1	9.6	*	*	6,447	*
	Approximately 1.3 miles upstream of the confluence of Fishing Creek Tributary 1	9.2	*	*	6,260	*
	Approximately 1.7 miles downstream of Fishing Creek Road (SR 2340)	8.7	*	*	6,051	*
	Approximately 1.3 miles downstream of Fishing Creek Road (SR 2340)	8.2	*	*	5,838	*
	Approximately 0.7 mile downstream of Fishing Creek Road (SR 2340)	7.7	*	*	5,618	*
	Approximately 25 feet upstream of the confluence of Fishing Creek Tributary 2	5.5	*	*	4,523	*
	Approximately 1,700 feet upstream of the confluence of Fishing Creek Tributary 2	4.2	*	*	3,832	*
	At the confluence with Fishing Creek	7.4	*	*	5,447	*
Fishing Creek Tributary 1	Approximately 1.0 mile upstream of the confluence with Fishing Creek	6.9	*	*	5,234	*

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Table 8—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
Fishing Creek Tributary 1	Approximately 1.6 miles upstream of the confluence with Fishing Creek	6.2	*	*	4,892	*
Fishing Creek Tributary 2	At the confluence with Fishing Creek	1.9	*	*	2,364	*
	Approximately 1.0 mile upstream of the confluence with Fishing Creek	1.4	*	*	1,960	*
	Approximately 25 feet upstream of the confluence of Fishing Creek Tributary 2A	1.0	*	*	1,584	*
Fishing Creek Tributary 2A	At the confluence with Fishing Creek Tributary 2	0.1	*	*	411	*
Fletcher Creek	At the confluence with South Prong Lewis Fork	2.9	*	*	3,078	*
	Approximately 0.4 mile upstream of the confluence with South Prong Lewis Fork	2.7	*	*	2,929	*
	Approximately 0.7 mile upstream of the confluence with South Prong Lewis Fork	2.5	*	*	2,762	*
Gambill Creek	At the confluence with West Prong Roaring River	1.9	*	*	2,373	*
	Approximately 0.6 mile upstream of West Prong Roaring River	1.5	*	*	2,036	*
Gladys Fork	At the confluence with Stony Fork	2.5	*	*	2,809	*
	Approximately 200 feet downstream of Mount Pleasant Road (SR 1135)	2.2	*	*	2,537	*
	Approximately 1,975 feet upstream of Mount Pleasant Road (SR 1135)	2.0	*	*	2,384	*
Grassy Creek West	At the confluence with Elkin Creek	0.1	*	*	1,800	*
Grassy Fork	At the confluence with Elkin Creek	4.3	*	*	1,852	*

Section 5.0 – Engineering Methods

Table 8—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
Grassy Fork	Approximately 1,550 feet upstream of Elkin Creek	4.2	*	*	1,826	*
Grays Creek	At the confluence with Yadkin River	4.9	*	*	2,015	*
	Approximately 1,750 feet downstream of State Road 2321	4.7	*	*	1,970	*
	Approximately 150 feet upstream of State Road 2321	4.0	*	*	1,781	*
	Approximately 0.5 mile upstream of State Road 2321	3.7	*	*	1,700	*
Harris Creek	At the confluence with Double Creek	3.4	*	*	3,361	*
	Approximately 890 feet downstream of Longbottom Road (SR 1730)	3.2	*	*	3,253	*
	Approximately 1,600 feet upstream of Longbottom Road (SR 1730)	3.0	*	*	3,138	*
Hoopers Branch	At the confluence with Reddies River	0.7	*	*	595	*
	Approximately 0.6 mile upstream of the confluence with Reddies River	0.5	*	*	503	*
	Approximately 500 feet upstream of Hackett Street	0.2	*	*	375	*
Huffman Branch	At the confluence with North Prong Lewis Fork	1.6	*	*	2,114	*
	Approximately 1,000 feet upstream of the confluence with North Prong Lewis Fork	1.5	*	*	2,041	*
	Approximately 0.5 mile upstream of North Prong Lewis Fork	1.3	*	*	1,853	*
Hunting Creek	Approximately 25 feet upstream of the confluence of Osborn Creek West	66.1	*	*	10,233	*

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Table 8—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
Hunting Creek	Approximately 1,860 feet upstream of the confluence of Osborn Creek West	57.8	*	*	9,404	*
	Approximately 1.1 miles upstream of the confluence of Osborn Creek West	57.5	*	*	9,379	*
	Approximately 25 feet upstream of the confluence of Little Hunting Creek	37.6	*	*	7,184	*
	Approximately 0.4 mile upstream of the confluence of Little Hunting Creek	36.7	*	*	7,082	*
	Approximately 1.2 mile upstream of the confluence of Little Hunting Creek	36.3	*	*	7,036	*
	Approximately 1.7 miles upstream of the confluence of Little Hunting Creek	35.9	*	*	6,985	*
	Approximately 2.3 miles upstream of the confluence of Little Hunting Creek	34.5	*	*	6,813	*
	Approximately 1.0 mile downstream of McCarter Road (SR 2423)	32.7	*	*	6,592	*
	Approximately 0.5 mile downstream of McCarter Road (SR 2423)	32.4	*	*	6,556	*
	Approximately 0.4 mile upstream of McCarter Road (SR 2423)	31.2	*	*	6,394	*
	Approximately 0.7 mile upstream of McCarter Road (SR 2423)	30.8	*	*	6,347	*
	Approximately 0.6 mile downstream of NC Highway 115/Statesville Road	30.3	*	*	6,275	*

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Table 8—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
Hunting Creek	Approximately 70 feet upstream of Highway 115/Statesville Road	28.3	*	*	6,014	*
	Approximately 0.4 mile upstream of Highway 115/Statesville Road	28.1	*	*	5,989	*
	Approximately 0.6 mile upstream of Highway 115/Statesville Road	27.6	*	*	5,924	*
	Approximately 1.3 miles downstream of Lewis Church Road (SR 2428)	21.7	*	*	5,101	*
	Approximately 0.6 mile downstream of Lewis Church Road (SR 2428)	21.4	*	*	5,053	*
	Approximately 265 feet downstream of Lewis Church Road (SR 2428)	20.4	*	*	4,909	*
	Approximately 50 feet upstream upstream of Lewis Church Road (SR 2428)	19.4	*	*	4,754	*
	Approximately 0.4 mile upstream of Lewis Church Road (SR 2428)	14.8	*	*	4,013	*
	Approximately 0.6 mile upstream of Lewis Church Road (SR 2428)	14.2	*	*	3,902	*
	Approximately 1.1 miles downstream of Old Salisbury Road (SR 2425)	13.8	*	*	3,845	*
	Approximately 0.6 mile downstream of Old Salisbury Road (SR 2425)	13.3	*	*	3,761	*
	Approximately 170 feet upstream of Old Salisbury Road (SR 2425)	12.2	*	*	3,561	*

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Table 8—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
Hunting Creek	Approximately 1,780 feet upstream of Old Salisbury Road (SR 2425)	11.2	*	*	3,373	*
	Approximately 0.7 mile upstream of Old Salisbury Road (SR 2425)	10.9	*	*	3,314	*
	Approximately 0.5 mile downstream of Balls Mill Road (SR 2474)	5.2	*	*	2,095	*
	Approximately 1,140 feet downstream of Balls Mill Road (SR 2474)	4.8	*	*	1,955	*
	Approximately 735 feet upstream of Balls Mill Road (SR 2474)	4.4	*	*	1,867	*
	Approximately 0.8 mile upstream of Balls Mill Road (SR 2474)	3.9	*	*	1,733	*
	Approximately 0.9 mile upstream of Balls Mill Road (SR 2474)	3.4	*	*	1,595	*
Joshua Creek	Approximately 600 feet upstream of Ellis Man Road (SR 1727)	3.7	*	*	3,554	*
	Approximately 380 feet upstream of Longbottom Road (SR 1728)	3.6	*	*	3,474	*
Left Prong Stony Fork	At the confluence with Stony Fork	8.5	*	*	5,974	*
	Approximately 0.7 mile upstream of the confluence with Stony Fork	8.1	*	*	5,778	*
	Approximately 1.1 miles upstream of the confluence with Stony Fork	7.6	*	*	5,552	*
	Approximately 1.6 miles upstream of the confluence with Stony Fork	6.6	*	*	5,075	*
	Approximately 2.3 miles upstream of the confluence with Stony Fork	6.1	*	*	4,872	*

Section 5.0 – Engineering Methods

Table 8—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
Left Prong Stony Fork	Approximately 2.8 miles upstream of the confluence with Stony Fork	5.0	*	*	4,304	*
Lewis Fork	At the confluence with Yadkin River	80.3	*	*	24,283	*
	Approximately 1,650 feet upstream of the confluence with Yadkin River	80.1	*	*	24,239	*
	Approximately 1.1 miles upstream of the confluence with Yadkin River	79.8	*	*	24,178	*
	Approximately 1.0 mile downstream of the confluence of Naked Creek	79.2	*	*	24,062	*
	Approximately 0.6 mile downstream of the confluence of Naked Creek	78.7	*	*	23,983	*
	Approximately 25 feet upstream of the confluence of Naked Creek	71.9	*	*	22,661	*
	Approximately 1,350 feet upstream of the confluence of Naked Creek	71.8	*	*	22,645	*
Little Bugaboo Creek	At the confluence with Big Bugaboo Creek	6.5	*	*	2,397	*
	Approximately 1,850 feet upstream of the confluence with Big Bugaboo Creek	6.2	*	*	2,334	*
	Approximately 0.5 mile downstream of Hoots Road (SR 2014)	5.8	*	*	2,239	*
	Approximately 1,900 feet downstream of Hoots Road (SR 2014)	5.5	*	*	2,162	*
	Approximately 735 feet downstream of Hoots Road (SR 2014)	5.3	*	*	2,100	*
Little Elkin Creek	At the confluence with Yadkin River	12.8	*	*	3,665	*

Section 5.0 – Engineering Methods

Table 8—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
Little Elkin Creek	Approximately 0.4 mile upstream of the confluence with Yadkin River	11.5	*	*	3,435	*
	Approximately 1.3 mile upstream of the confluence with Yadkin River	10.8	*	*	3,303	*
	Approximately 0.5 mile downstream of Little Elkin Church Road (SR 2021)	9.9	*	*	3,114	*
	Approximately 340 feet downstream of Little Elkin Church Road (SR 2021)	9.3	*	*	3,005	*
	Approximately 1,175 feet upstream of Little Elkin Church Road (SR 2021)	7.9	*	*	2,716	*
	Approximately 1,200 feet downstream of Luffman Road (SR 2024)	7.1	*	*	2,534	*
	Approximately 900 feet upstream of Luffman Road (SR 2024)	7.0	*	*	2,507	*
	Approximately 2,000 feet upstream of Luffman Road (SR 2024)	5.4	*	*	2,144	*
	Approximately 1.1 mile upstream of Luffman Road (SR 2024)	4.8	*	*	1,974	*
	Approximately 350 feet downstream of Greenhorn Road (SR 1931)	4.5	*	*	1,897	*
	Approximately 1,030 feet upstream of Greenhorn Road (SR 1931)	3.6	*	*	1,655	*
Little Fork Creek	At the confluence with North Prong Lewis Fork	4.5	*	*	4,023	*

Section 5.0 – Engineering Methods

Table 8—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
Little Fork Creek	Approximately 0.5 mile upstream of the confluence with North Prong Lewis Fork	4.4	*	*	3,956	*
	Approximately 0.8 mile upstream of the confluence with North Prong Lewis Fork	4.1	*	*	3,780	*
	Approximately 1.2 miles upstream of the confluence with North Prong Lewis Fork	3.9	*	*	3,670	*
	Approximately 1.5 miles upstream of the confluence with North Prong Lewis Fork	3.7	*	*	3,538	*
	Approximately 1.8 miles upstream of the confluence with North Prong Lewis Fork	3.4	*	*	3,375	*
	Approximately 2.1 miles upstream of the confluence with North Prong Lewis Fork	3.2	*	*	3,259	*
	Approximately 2.5 miles upstream of the confluence with North Prong Lewis Fork	2.9	*	*	3,061	*
	Approximately 2.7 miles upstream of the confluence with North Prong Lewis Fork	2.7	*	*	2,902	*
	Approximately 2.9 miles upstream of the confluence with North Prong Lewis Fork	2.5	*	*	2,759	*
	Little Hunting Creek	At the confluence with Hunting Creek	19.5	*	*	4,770
Approximately 1.2 miles upstream of the confluence with Hunting Creek		19.0	*	*	4,689	*
Approximately 1.6 miles upstream of the confluence with Hunting Creek		18.5	*	*	4,611	*
Approximately 0.2 mile downstream of Hunting Creek Road (SR 2412)		18.0	*	*	4,537	*

Section 5.0 – Engineering Methods

Table 8—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
Little Hunting Creek	Approximately 1.0 mile upstream of Hunting Creek Road (SR 2412)	14.2	*	*	3,905	*
	Approximately 0.7 mile downstream of Mitchell Mill Road (SR 2418)	13.9	*	*	3,851	*
	Approximately 540 feet downstream of Mitchell Mill Road (SR 2418)	13.0	*	*	3,693	*
	Approximately 870 feet upstream of Mitchell Mill Road (SR 2418)	12.6	*	*	3,622	*
	Approximately 1.1 miles upstream of Mitchell Mill Road (SR 2418)	12.2	*	*	3,558	*
	Approximately 1.8 miles upstream of Mitchell Mill Road (SR 2418)	11.1	*	*	3,360	*
	Approximately 1.3 miles downstream of Little Hunting Creek Road (SR 2419)	10.8	*	*	3,288	*
	Approximately 0.7 mile downstream of Little Hunting Creek Road (SR 2419)	10.3	*	*	3,192	*
	Approximately 1,430 feet downstream of South Windy Gap Road (SR 2418)	8.5	*	*	2,833	*
	Approximately 960 feet upstream of South Windy Gap Road (SR 2418)	8.1	*	*	2,748	*
	Approximately 0.9 mile upstream of South Windy Gap Road (SR 2418)	7.6	*	*	2,640	*
	Approximately 0.9 mile downstream of Mountain View Church Road (SR 2503)	7.2	*	*	2,549	*

Section 5.0 – Engineering Methods

Table 8—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
Little Hunting Creek	Approximately 985 feet downstream of Mountain View Church Road (SR 2503)	6.8	*	*	2,456	*
	Approximately 0.6 mile upstream of Mountain View Church Road (SR 2503)	5.6	*	*	2,180	*
	Approximately 0.9 mile upstream of Mountain View Church Road (SR 2503)	4.2	*	*	1,835	*
	Approximately 1.0 mile upstream of Mountain View Church Road (SR 2503)	2.8	*	*	1,424	*
	Approximately 1.6 miles upstream of Mountain View Church Road (SR 2503)	2.6	*	*	1,363	*
Little Sandy Creek	At the confluence with East Prong Roaring River	16.4	*	*	9,001	*
	Approximately 0.7 mile upstream of the confluence with East Prong Roaring River	16.2	*	*	8,935	*
	Approximately 1,575 feet downstream of the confluence of Sparks Creek	15.4	*	*	8,666	*
	Approximately 25 feet upstream of the confluence of Sparks Creek	4.2	*	*	3,826	*
	Approximately 750 feet upstream of Brewer Mill Road (SR 1943)	3.9	*	*	3,647	*
	Approximately 2,000 feet upstream of Brewer Mill Road (SR 1943)	3.7	*	*	3,543	*
	Approximately 1.2 mile downstream of Traphill Mill Road (SR 1940)	3.4	*	*	3,374	*

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Table 8—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
Little Sandy Creek	Approximately 0.8 mile downstream of Traphill Mill Road (SR 1940)	3.1	*	*	3,163	*
	Approximately 0.4 mile downstream of Traphill Mill Road (SR 1940)	2.7	*	*	2,889	*
	Approximately 170 feet upstream of Traphill Mill Road (SR 1940)	2.2	*	*	2,562	*
	Approximately 1,850 feet downstream of Longbottom Road (SR 1737)	2.0	*	*	2,401	*
	Approximately 860 feet downstream of Longbottom Road (SR 1737)	1.2	*	*	1,752	*
	Approximately 1,180 feet upstream of Longbottom Road (SR 1737)	1.1	*	*	1,646	*
	Approximately 1,600 feet upstream of Longbottom Road (SR 1737)	0.9	*	*	1,476	*
	Approximately 0.4 mile upstream of Longbottom Road (SR 1737)	0.8	*	*	1,353	*
Little Warrior Creek	At the confluence with Warrior Creek	6.6	*	*	5,081	*
	Approximately 1,170 feet downstream of High Rock Road (SR 1123)	6.0	*	*	4,774	*
	Approximately 0.9 mile upstream of High Rock Road (SR 1123)	4.4	*	*	3,949	*
	Approximately 1,520 feet downstream of Thankful Church Road (SR 1125)	3.1	*	*	3,142	*
	Approximately 850 feet downstream of Thankful Church Road (SR 1125)	3.0	*	*	3,135	*

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Table 8—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
Long Branch North	At the Wilkes/Yadkin County boundary	0.5	*	*	512	*
Middle Fork Reddies River	At the confluence with Reddies River	30.1	*	*	6,257	*
	Approximately 25 feet upstream of the confluence with Reddies River	16.93	*	*	4,366	*
	Approximately 1,050 feet upstream of the confluence with Reddies River	16.86	*	*	4,355	*
	Approximately 1.0 mile upstream of the confluence with Reddies River	16.4	*	*	4,274	*
	Approximately 230 feet upstream of State Road 1559	15.9	*	*	4,193	*
	Approximately 1,230 feet upstream of State Road 1559	15.4	*	*	4,122	*
	Approximately 400 feet downstream of State Road 1580	15.0	*	*	4,049	*
	Approximately 0.4 mile upstream of State Road 1580	14.6	*	*	3,976	*
Middle Prong Roaring River	At the confluence with Roaring River	121.5	*	*	35,348	*
	Approximately 25 feet upstream of the confluence with Roaring River	64.7	*	*	21,785	*
	Approximately 0.4 mile upstream of the confluence with Roaring River	62.8	*	*	21,275	*
	Approximately 0.9 mile upstream of the confluence with Roaring River	62.4	*	*	21,186	*
	Approximately 2.0 miles upstream of the confluence with Roaring River	57.3	*	*	20,085	*
	Approximately 1.7 miles downstream of Traphill Road (SR 1002)	56.8	*	*	19,960	*

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Table 8—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
Middle Prong Roaring River	Approximately 1.2 miles downstream of Traphill Road (SR 1002)	56.3	*	*	19,855	*
	Approximately 1.0 mile downstream of Traphill Road (SR 1002)	55.8	*	*	19,748	*
	Approximately 0.7 mile downstream of Traphill Road (SR 1002)	55.6	*	*	19,711	*
	Approximately 0.5 mile downstream of Traphill Road (SR 1002)	55.1	*	*	19,604	*
	Approximately 25 feet upstream of the confluence of West Prong Roaring River	33.8	*	*	14,145	*
	Approximately 1,870 feet upstream of the confluence of West Prong Roaring River	33.2	*	*	13,976	*
	Approximately 0.5 mile upstream of the confluence of West Prong Roaring River	33.0	*	*	13,915	*
	Approximately 1.7 miles downstream of first Absher Road (SR 1736) crossing	31.9	*	*	13,647	*
	Approximately 1.4 miles downstream of first Absher Road (SR 1736) crossing	31.8	*	*	13,603	*
	Approximately 1,470 feet downstream of first Absher Road SR 1736) crossing	30.7	*	*	13,318	*
	Approximately 50 feet upstream of first Absher Road (SR 1736) crossing	29.6	*	*	13,000	*
	Approximately 0.6 mile upstream of first Absher Road (SR 1736) crossing	28.9	*	*	12,811	*

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Table 8—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
Middle Prong Roaring River	Approximately 0.8 mile upstream of first Absher Road (SR 1736) crossing	28.7	*	*	12,760	*
	Approximately 1,450 feet downstream of second Absher Road (SR 1736) crossing	28.3	*	*	12,656	*
	Approximately 1,150 feet upstream of second Absher Road (SR 1736) crossing	27.8	*	*	12,524	*
	Approximately 0.7 mile upstream of second Absher Road (SR 1736) crossing	27.3	*	*	12,383	*
	Approximately 1,420 feet downstream of the confluence of Double Creek	26.9	*	*	12,252	*
	Approximately 25 feet upstream of the confluence of Double Creek	18.9	*	*	9,846	*
	Approximately 25 feet upstream of the confluence of Big Branch	17.1	*	*	9,239	*
	Approximately 0.7 mile downstream of Moxley Road (SR 1735)	16.9	*	*	9,178	*
	Approximately 0.4 mile downstream of Moxley Road (SR 1735)	16.4	*	*	9,010	*
	Approximately 50 feet downstream of Moxley Road (SR 1735)	16.0	*	*	8,855	*
	Approximately 0.4 mile upstream of Moxley Road (SR 1735)	15.5	*	*	8,682	*
	Approximately 1.1 miles upstream of Moxley Road (SR 1735)	11.7	*	*	7,295	*
Mill Creek	At the confluence with Cub Creek	6.6	*	*	5,076	*

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Table 8—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
Mill Creek	Approximately 1,400 feet upstream of the confluence with Cub Creek	5.7	*	*	4,632	*
	Approximately 450 feet downstream of Rouseau Farm Road	4.1	*	*	3,797	*
	Approximately 1,450 feet downstream of Edgewood Road (SR 2461)	3.9	*	*	3,639	*
	Approximately 1,990 feet upstream of US Highway 421	2.1	*	*	2,503	*
	Approximately 0.9 mile upstream of US Highway 421	1.9	*	*	2,369	*
Mill Creek North	At the confluence with North Fork Reddies River	2.5	*	*	2,754	*
	Approximately 1,950 feet upstream of the confluence with North Fork Reddies River	2.0	*	*	2,415	*
	Approximately 1.1 miles upstream of the confluence with North Fork Reddies River	1.3	*	*	1,804	*
	Approximately 1.4 miles upstream of the confluence with North Fork Reddies River	1.0	*	*	1,549	*
	Approximately 2.0 miles upstream of the confluence with North Fork Reddies River	0.4	*	*	833	*
Moravian Creek	At the confluence with Yadkin River	24.7	*	*	11,627	*
	Approximately 100 feet upstream of River Street/NC Highway 268	24.3	*	*	11,497	*
	Approximately 0.8 mile upstream of River Street/NC Highway 268	23.2	*	*	11,189	*
	Approximately 1.0 mile upstream of River Street/NC Highway 268	23.2	*	*	11,161	*

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Table 8—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
Moravian Creek	Approximately 1.5 miles upstream of River Street/NC Highway 268	22.7	*	*	11,014	*
	Approximately 2.5 miles downstream of Germantown Road (SR 1103)	22.2	*	*	10,883	*
	Approximately 1.9 miles downstream of Germantown Road (SR 1103)	21.9	*	*	10,769	*
	Approximately 1.0 mile downstream of Germantown Road (SR 1103)	20.9	*	*	10,462	*
	Approximately 0.9 mile downstream of Germantown Road (SR 1103)	20.8	*	*	10,435	*
	Approximately 850 feet downstream of Germantown Road (SR 1103)	19.5	*	*	10,037	*
	Approximately 1,540 feet downstream of NC Highway 18	18.4	*	*	9,675	*
	Approximately 25 feet upstream of the confluence of West Prong Moravian Creek	7.9	*	*	5,720	*
	Approximately 500 feet upstream of the confluence of West Prong Moravian Creek	7.0	*	*	5,277	*
	Approximately 1,820 feet downstream of Falls Road (SR 1108)	6.9	*	*	5,237	*
	Approximately 2,000 feet upstream of Falls Road (SR 1108)	6.4	*	*	5,002	*
	Approximately 500 feet downstream of Moravian Mill Road (SR 1109)	5.9	*	*	4,756	*
	Approximately 350 feet downstream of Garden Drive (SR 2487)	5.0	*	*	4,301	*

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Table 8—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
	At the confluence with Moravian Creek	5.0	*	*	4,301	*
Moravian Creek Tributary 1	Approximately 25 feet upstream of the confluence with Moravian Creek	1.3	*	*	1,819	*
	Approximately 235 feet upstream of Lowe Creek Road (SR 2488)	1.2	*	*	1,731	*
	Approximately 1,900 feet upstream of Lowe Creek Road (SR 2488)	1.0	*	*	1,590	*
	At the confluence with Yadkin River	49.2	*	*	17,882	*
Mulberry Creek	Approximately 0.5 mile upstream of River Liberty Grove Church Road (SR 2333)	48.7	*	*	17,772	*
	Approximately 1,530 feet downstream of Elkin Highway/NC Highway 268	46.5	*	*	17,261	*
	Approximately 250 feet downstream of Elkin Highway/NC Highway 268	45.8	*	*	17,094	*
	Approximately 0.5 mile upstream of Elkin Highway	43.8	*	*	16,615	*
	Approximately 0.9 mile upstream of Elkin Highway	43.3	*	*	16,516	*
	Approximately 1.3 miles upstream of Elkin Highway	43.1	*	*	16,452	*
	Approximately 2.3 miles downstream of Mountain View Road (SR 1002)	42.6	*	*	16,343	*
	Approximately 2.1 miles downstream of Mountain View Road (SR 1002)	42.2	*	*	16,244	*
	Approximately 1.7 miles downstream of Mountain View Road (SR 1002)	41.7	*	*	16,131	*

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Table 8—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
Mulberry Creek	Approximately 1.5 miles downstream of Mountain View Road (SR 1002)	41.4	*	*	16,048	*
	Approximately 0.6 mile downstream of Mountain View Road (SR 1002)	39.3	*	*	15,528	*
	Approximately 260 feet downstream of Mountain View Road (SR 1002)	39.1	*	*	15,485	*
	Approximately 0.5 mile upstream of Mountain View Road (SR 1002)	37.6	*	*	15,114	*
	Approximately 1.2 miles upstream of Mountain View Road (SR 1002)	33.2	*	*	13,973	*
	Approximately 1,150 feet downstream of Elledge Mill Road (SR 1703)	32.1	*	*	13,688	*
	Approximately 50 feet upstream of Elledge Mill Road (SR 1703)	29.0	*	*	12,853	*
	Approximately 0.8 mile upstream of Elledge Mill Road (SR 1703)	28.7	*	*	12,768	*
	Approximately 1.1 miles upstream of Elledge Mill Road (SR 1703)	28.3	*	*	12,640	*
	Approximately 0.4 mile downstream of Yellow Banks Road (SR 1717)	27.8	*	*	12,502	*
	Approximately 1,250 feet downstream of Yellow Banks Road (SR 1717)	27.7	*	*	12,488	*
	Approximately 1,260 feet upstream of Yellow Banks Road (SR 1717)	26.6	*	*	12,163	*

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Table 8—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
Mulberry Creek	Approximately 0.9 mile upstream of Yellow Banks Road (SR 1717)	26.2	*	*	12,049	*
	Approximately 1.2 miles upstream of Yellow Banks Road (SR 1717)	25.6	*	*	11,875	*
	Approximately 1.4 miles upstream of Yellow Banks Road (SR 1717)	25.1	*	*	11,734	*
	Approximately 1.7 miles upstream of Yellow Banks Road (SR 1717)	24.6	*	*	11,600	*
	Approximately 0.5 mile downstream of Sparta Road/NC Highway 18	24.1	*	*	11,456	*
	Approximately 1,200 feet downstream of Sparta Road/NC Highway 18	22.4	*	*	10,922	*
	Approximately 190 feet upstream of Sparta Road/NC Highway 18	19.2	*	*	9,925	*
	Approximately 0.5 mile upstream of Sparta Road/NC Highway 18	18.9	*	*	9,840	*
	Approximately 1.0 mile upstream of Sparta Road/NC Highway 18	16.5	*	*	9,039	*
	Approximately 1,770 feet downstream of Sparta Road/NC Highway 18	14.1	*	*	8,170	*
	Approximately 25 feet upstream of the confluence of Mulberry Creek Tributary 1	12.4	*	*	7,545	*
	Approximately 0.6 mile downstream of Cane Creek Road (SR 1725)	8.9	*	*	6,122	*

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Table 8—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
Mulberry Creek	Approximately 450 feet upstream of Cane Creek Road (SR 1725)	7.6	*	*	5,569	*
	Approximately 1,960 feet downstream of Ellis Man Road (SR 1727)	5.7	*	*	4,624	*
Mulberry Creek Tributary 1	At the confluence with Mulberry Creek	1.7	*	*	2,167	*
Naked Creek	At the confluence with Lewis Fork	6.4	*	*	4,994	*
	Approximately 410 feet upstream of Rest Home Road (SR 1150)	5.9	*	*	4,747	*
	Approximately 420 feet downstream of Dragstrip Road (SR 1151)	4.4	*	*	3,940	*
	Approximately 0.6 mile upstream of Dragstrip Road (SR 1151)	4.0	*	*	3,699	*
	Approximately 0.5 mile downstream of Red Top Road (SR 1148)	3.5	*	*	3,409	*
	Approximately 810 feet downstream of Red Top Road (SR 1148)	3.2	*	*	3,235	*
	Approximately 415 feet upstream of Red Top Road (SR 1148)	2.8	*	*	2,996	*
	Approximately 0.7 mile upstream of Red Top Road (SR 1148)	2.6	*	*	2,843	*
North Fork Reddies River	At the confluence with Reddies River	28.6	*	*	6,055	*
	Approximately 1,070 feet downstream of State Road 1559	28.2	*	*	6,006	*
	Approximately 1,670 feet upstream of State Road 1559	27.3	*	*	5,889	*
	Approximately 0.9 mile upstream of State Road 1559	25.9	*	*	5,695	*

Section 5.0 – Engineering Methods

Table 8—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
North Fork Reddies River	Approximately 1.0 mile downstream of Mertie Road (SR 1570)	25.6	*	*	5,658	*
	Approximately 0.5 mile downstream of Mertie Road (SR 1570)	25.2	*	*	5,592	*
	Approximately 25 feet upstream of the confluence of Mill Creek North	22.2	*	*	5,171	*
	Approximately 0.5 mile upstream of the confluence of Mill Creek North	22.0	*	*	5,143	*
	Approximately 25 feet upstream of the confluence of Darnell Creek	12.7	*	*	3,649	*
	Approximately 700 feet upstream of the confluence of Darnell Creek	12.6	*	*	3,633	*
	Approximately 0.5 mile upstream of the confluence of Darnell Creek	12.2	*	*	3,551	*
	Approximately 0.9 mile upstream of the confluence of Darnell Creek	11.8	*	*	3,486	*
	Approximately 1.2 miles upstream of the confluence of Darnell Creek	11.4	*	*	3,416	*
	Approximately 0.9 mile downstream of Buckwheat Road (SR 1575)	11.2	*	*	3,376	*
	Approximately 0.5 mile downstream of Buckwheat Road (SR 1575)	10.1	*	*	3,162	*
	Approximately 50 feet upstream of Buckwheat Road (SR 1575)	8.2	*	*	2,776	*
	North Little Hunting Creek	At the Wilkes/Yadkin County boundary	10.8	*	*	3,297

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Table 8—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
North Little Hunting Creek	Approximately 750 feet downstream of the confluence of North Little Hunting Creek Tributary 3	9.5	*	*	3,050	*
	Approximately 25 feet upstream of the confluence of North Little Hunting Creek Tributary 3	7.1	*	*	2,537	*
	Approximately 1,620 feet upstream of Redding Road (SR 2402)	6.8	*	*	2,478	*
	Approximately 0.7 mile upstream of Redding Road (SR 2402)	6.3	*	*	2,364	*
	Approximately 25 feet upstream of the confluence of North Little Hunting Creek Tributary 4	3.5	*	*	1,635	*
	Approximately 1,680 feet upstream of the confluence of North Little Hunting Creek Tributary 4	3.0	*	*	1,477	*
	Approximately 440 feet downstream of Somers Road (SR 2400)	2.1	*	*	1,192	*
	At the confluence with North Little Hunting Creek	2.4	*	*	1,284	*
North Little Hunting Creek Tributary 3	Approximately 550 feet downstream of Redding Road (SR 2402)	2.3	*	*	1,247	*
North Little Hunting Creek Tributary 4	At the confluence with North Little Hunting Creek	2.4	*	*	1,293	*
	Approximately 400 feet downstream of Somers Road (SR 2400)	2.3	*	*	1,267	*
North Prong Lewis Fork	At the confluence with Lewis Fork	35.0	*	*	14,455	*

Section 5.0 – Engineering Methods

Table 8—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
North Prong Lewis Fork	Approximately 1,290 feet upstream of the confluence with Lewis Fork	34.7	*	*	14,383	*
	Approximately 1.0 mile upstream of the confluence with Lewis Fork	33.4	*	*	14,037	*
	Approximately 1.8 miles downstream of Boone Trail (SR 1304)	28.8	*	*	12,781	*
	Approximately 1.0 mile downstream of Boone Trail (SR 1304)	24.7	*	*	11,631	*
	Approximately 1,480 feet downstream of Boone Trail (SR 1304)	24.3	*	*	11,515	*
	Approximately 100 feet downstream of Boone Trail (SR 1304)	23.8	*	*	11,369	*
	Approximately 100 feet downstream of Parsonville Road (SR 1300)	23.4	*	*	11,234	*
	Approximately 0.6 mile downstream of first Stanton Loop Road (SR 1353) crossing	22.6	*	*	10,983	*
	Approximately 1,985 feet downstream of first Stanton Loop Road (SR 1353) crossing	22.4	*	*	10,923	*
	Approximately 910 feet upstream of first Stanton Loop Road (SR 1353) crossing	21.9	*	*	10,791	*
	Approximately 1,450 feet downstream of second Stanton Loop Road (SR 1353) crossing	21.4	*	*	10,639	*
	Approximately 410 feet downstream of second Stanton Loop Road (SR 1353) crossing	20.9	*	*	10,482	*

Section 5.0 – Engineering Methods

Table 8—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
North Prong Lewis Fork	Approximately 100 feet upstream of second Stanton Loop Road (SR 1353) crossing	20.4	*	*	10,325	*
	Approximately 25 feet upstream of the confluence of Huffman Branch	17.4	*	*	9,349	*
	Approximately 1,740 feet upstream of the confluence of Huffman Branch	17.2	*	*	9,273	*
	Approximately 25 feet upstream of the confluence of Little Fork Creek	12.2	*	*	7,482	*
	Approximately 1,710 feet upstream of the confluence of Little Fork Creek	11.9	*	*	7,366	*
	Approximately feet 1,250 upstream of Parsonville Road (SR 1300)	10.1	*	*	6,663	*
	Approximately feet 1,090 upstream of Big Ivy Road (SR 1360)	9.4	*	*	6,333	*
	Approximately 0.6 mile upstream of Big Ivy Road (SR 1360)	8.9	*	*	6,155	*
	Approximately 1.3 miles upstream of Big Ivy Road (SR 1360)	8.7	*	*	6,051	*
	Approximately 1.4 miles upstream of Big Ivy Road (SR 1360)	8.2	*	*	5,832	*
	Approximately 1.9 miles upstream of Big Ivy Road (SR 1360)	7.1	*	*	5,310	*
Osborn Creek West	At the confluence with Hunting Creek	5.2	*	*	2,095	*
	Approximately 250 feet downstream of first State Road 2413 crossing	4.2	*	*	1,838	*
	Approximately 0.5 mile downstream of second State Road 2413 crossing	3.9	*	*	1,733	*

Section 5.0 – Engineering Methods

Table 8—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
Osborn Creek West	Approximately 0.4 mile downstream of Hunting Creek Road (SR 2412)	3.4	*	*	1,595	*
	Approximately 0.3 mile upstream of Hunting Creek Road (SR 2412)	2.3	*	*	1,255	*
	Approximately 0.5 mile upstream of Hunting Creek Road (SR 2412)	2.0	*	*	1,135	*
	Approximately 0.9 mile upstream of Hunting Creek Road (SR 2412)	1.0	*	*	750	*
Pumpkin Creek	At the confluence with Warrior Creek	2.6	*	*	2,873	*
	Approximately 0.6 mile upstream of the confluence with Warrior Creek	2.3	*	*	2,670	*
	Approximately 0.8 mile downstream of Pumpkin Creek Road (SR 1193)	1.8	*	*	2,246	*
	Approximately 920 feet downstream of Pumpkin Creek Road (SR 1193)	1.5	*	*	2,016	*
	Approximately 0.41 mile upstream of Pumpkin Creek Road (SR 1193)	1.0	*	*	1,564	*
	Approximately 0.43 mile upstream of Pumpkin Creek Road (SR 1193)	0.4	*	*	950	*
Pumpkin Run	At the confluence with South Prong Lewis Fork	3.3	*	*	3,298	*
	Approximately 0.7 mile upstream of the confluence with South Prong Lewis Fork	3.0	*	*	3,081	*
	Approximately 1.1 miles upstream of the confluence with South Prong Lewis Fork	2.5	*	*	2,744	*

Section 5.0 – Engineering Methods

Table 8—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
Pumpkin Run	Approximately 1.4 miles upstream of the confluence with South Prong Lewis Fork	2.1	*	*	2,473	*
	**	**	**	**	**	**
Reddies River	Approximately 25 feet upstream of the confluence of Hoopers Branch	91.2	*	*	14,365	*
	Approximately 300 feet upstream of Suncrest Sunset Connector Road (SR 1517)	89.4	*	*	14,263	*
	Approximately 0.9 mile upstream of Suncrest Sunset Connector Road (SR 1517)	88.0	*	*	14,066	*
	Approximately 1.2 miles upstream of Suncrest Sunset Connector Road (SR 1517)	87.7	*	*	14,030	*
	Approximately 1.8 miles upstream of Suncrest Sunset Connector Road (SR 1517)	82.3	*	*	13,267	*
	Approximately 2.6 miles upstream of Suncrest Sunset Connector Road (SR 1517)	80.0	*	*	12,937	*
	Approximately 3.2 miles upstream of Suncrest Sunset Connector Road (SR 1517)	79.8	*	*	12,905	*
	Approximately 3.9 miles upstream of Suncrest Sunset Connector Road (SR 1517)	79.3	*	*	12,838	*
	Approximately 4.0 miles downstream of Mountain Valley Church Road (SR 1540)	78.8	*	*	12,769	*

Section 5.0 – Engineering Methods

Table 8—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
Reddies River	Approximately 2.5 miles downstream of Mountain Valley Church Road (SR 1540)	77.7	*	*	12,605	*
	Approximately 2.4 miles downstream of Mountain Valley Church Road (SR 1540)	73.5	*	*	12,020	*
	Approximately 2.1 miles downstream of Mountain Valley Church Road (SR 1540)	73.1	*	*	11,966	*
	Approximately 1.4 miles downstream of Mountain Valley Church Road (SR 1540)	71.6	*	*	11,759	*
	Approximately 0.8 mile downstream of Mountain Valley Church Road (SR 1540)	68.9	*	*	11,373	*
	Approximately 100 feet downstream of Mountain Valley Church Road (SR 1540)	68.5	*	*	11,323	*
	Approximately 0.4 mile upstream of Mountain Valley Church Road (SR 1540)	68.0	*	*	11,254	*
	Approximately 0.9 mile upstream of Mountain Valley Church Road (SR 1540)	65.1	*	*	10,842	*
	Approximately 1.6 miles upstream of Mountain Valley Church Road (SR 1540)	61.6	*	*	10,363	*
	Approximately 0.7 mile downstream of Old NC Highway 16 (SR 1559)	61.3	*	*	10,315	*

Section 5.0 – Engineering Methods

Table 8—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
Reddies River	Approximately 1,450 feet downstream of Old NC Highway 16 (SR 1559)	60.8	*	*	10,249	*
	Approximately 100 feet upstream of Old NC Highway 16 (SR 1559)	60.5	*	*	10,213	*
	Approximately 1,260 feet downstream of the confluence of North Fork Reddies River	59.7	*	*	10,092	*
	Approximately 25 feet upstream of the confluence of North Fork Reddies River	31.0	*	*	6,367	*
	Approximately 800 feet upstream of NC Highway 16	30.6	*	*	6,321	*
	Approximately 275 feet downstream of Maple Leaf Drive	30.1	*	*	6,257	*
Roaring River	At the confluence with Yadkin River	139.5	*	*	37,589	*
	Approximately 0.7 mile upstream of Elkin Highway/NC Highway 268	138.8	*	*	37,515	*
	Approximately 0.4 mile downstream of Arbor Grove Church Road (SR 1993)	138.3	*	*	37,468	*
	Approximately 90 feet upstream of Arbor Grove Church Road (SR 1993)	137.9	*	*	37,421	*
	Approximately 970 feet upstream of Arbor Grove Church Road (SR 1993)	132.9	*	*	36,886	*
	Approximately 0.9 mile upstream of Arbor Grove Church Road (SR 1993)	131.9	*	*	36,776	*
	Approximately 1.0 mile downstream of Bethany Ford Road (SR 1990)	130.1	*	*	36,567	*

Section 5.0 – Engineering Methods

Table 8—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
Roaring River	Approximately 720 feet downstream of Bethany Ford Road (SR 1990)	128.6	*	*	36,398	*
	Approximately 790 feet upstream of Bethany Ford Road (SR 1990)	127.2	*	*	36,227	*
	Approximately 0.7 mile upstream of Bethany Ford Road (SR 1990)	124.1	*	*	35,501	*
	Approximately 1.2 miles upstream of Bethany Ford Road (SR 1990)	123.5	*	*	35,348	*
Rocky Creek	At the Wilkes/Alexander County boundary	12.8	*	*	3,666	*
	Approximately 1,050 downstream of Brushy Mountain Road (SR 1001)	11.8	*	*	3,487	*
	Approximately 25 feet upstream of the confluence of Rocky Creek Tributary 1	5.0	*	*	2,042	*
	Approximately 0.5 mile upstream of the confluence of Rocky Creek Tributary 1	4.8	*	*	1,983	*
	Approximately 1.0 mile upstream of the confluence of Rocky Creek Tributary 1	4.3	*	*	1,851	*
Rocky Creek Tributary 1	At the confluence with Rocky Creek	6.4	*	*	2,374	*
	Approximately 1,200 feet upstream of the confluence with Rocky Creek	6.2	*	*	2,339	*
Shell Creek	At the confluence with Stony Fork	2.5	*	*	2,771	*
	Approximately 435 feet upstream of Mount Zion Road (SR 1155)	2.4	*	*	2,706	*
South Fork Reddies River	At the confluence with Reddies River	12.7	*	*	3,649	*

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Table 8—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 Fork Reddies River	Approximately 670 feet upstream of the confluence with Reddies River	12.6	*	*	3,628	*
	Approximately 0.6 mile upstream of the confluence with Reddies River	12.2	*	*	3,553	*
	Approximately 0.9 mile upstream of the confluence with Reddies River	10.7	*	*	3,285	*
	Approximately 1.6 miles upstream of the confluence with Reddies River	10.4	*	*	3,217	*
	Approximately 2.4 miles upstream of the confluence with Reddies River	8.9	*	*	2,911	*
	Approximately 2.8 miles upstream of the confluence with Reddies River	8.2	*	*	2,774	*
	Approximately 2.8 miles upstream of the confluence with Reddies River	4.7	*	*	1,968	*
South Prong Lewis Fork	At the confluence with Lewis Fork	71.8	*	*	22,645	*
	Approximately 25 feet upstream of the confluence with Lewis Fork	36.3	*	*	14,784	*
	Approximately 0.6 mile upstream of the confluence with Lewis Fork	35.9	*	*	14,678	*
	Approximately 0.9 mile upstream of the confluence with Lewis Fork	35.4	*	*	14,552	*
	Approximately 1.1 mile downstream of Mount Pleasant Road (SR 1154)	34.3	*	*	14,276	*
	Approximately 0.6 mile downstream of Mount Pleasant Road (SR 1154)	32.5	*	*	13,806	*

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Table 8—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 Lewis Fork	Approximately 100 feet upstream of Mount Pleasant Road (SR 1154)	32.2	*	*	13,719	*
	Approximately 200 feet upstream of South Goforth Road (SR 1156)	31.2	*	*	13,435	*
	Approximately 1,650 feet upstream of South Goforth Road (SR 1156)	31.0	*	*	13,389	*
	Approximately 0.4 mile downstream of the confluence of South Prong Lewis Fork Tributary 1	30.5	*	*	13,257	*
	Approximately 25 feet upstream of the confluence of South Prong Lewis Fork Tributary 1	27.8	*	*	12,498	*
	Approximately 1,760 feet upstream of the confluence of South Prong Lewis Fork Tributary 1	27.6	*	*	12,452	*
	Approximately 0.6 mile upstream of the confluence of South Prong Lewis Fork Tributary 1	27.1	*	*	12,325	*
	Approximately 0.9 mile upstream of the confluence of South Prong Lewis Fork Tributary 1	27.0	*	*	12,291	*
	Approximately 450 feet downstream of Lewis Fork Baptist Church Road (SR 1155)	26.5	*	*	12,149	*
	Approximately 1,350 feet upstream of Lewis Fork Baptist Church Road (SR 1155)	26.0	*	*	12,006	*

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Table 8—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
South Prong Lewis Fork	Approximately 1.7 mile downstream of the confluence of Pumpkin Run	25.5	*	*	11,868	*
	Approximately 0.4 mile downstream of the confluence of Pumpkin Run	23.2	*	*	11,177	*
	Approximately 25 feet upstream of the confluence of Pumpkin Run	19.8	*	*	10,120	*
	Approximately 1,460 feet upstream of the confluence of Pumpkin Run	19.5	*	*	10,025	*
	Approximately 1.3 miles upstream of the confluence of Pumpkin Run	17.1	*	*	9,240	*
	Approximately 0.4 mile downstream of US Highway 421	16.2	*	*	8,928	*
	Approximately 25 feet upstream of the confluence of Fletcher Creek	12.9	*	*	7,747	*
	Approximately 0.5 mile upstream of US Highway 421	12.5	*	*	7,580	*
	Approximately 0.7 mile upstream of US Highway 421	12.2	*	*	7,494	*
	Approximately 1.0 mile upstream of US Highway 421	4.8	*	*	4,148	*
South Prong Lewis Fork Tributary 1	At the confluence with South Prong Lewis Fork	2.3	*	*	2,650	*
	Approximately 0.9 mile upstream of the confluence with South Prong Lewis Fork	1.9	*	*	2,354	*
	Approximately 1.6 miles upstream of the confluence with South Prong Lewis Fork	1.4	*	*	1,950	*

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Table 8—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 Lewis Fork Tributary 1	Approximately 1.9 miles upstream of the confluence with South Prong Lewis Fork	1.0	*	*	1,559	*
Sparks Creek	At the confluence with Little Sandy Creek	11.2	*	*	7,105	*
	Approximately 350 feet upstream of Billings Hill Church Road (SR 1939)	11.1	*	*	7,044	*
	Approximately 0.4 mile upstream of Billings Hill Church Road (SR 1939)	10.9	*	*	6,974	*
	Approximately 0.7 mile upstream of Billings Hill Church Road (SR 1939)	10.7	*	*	6,904	*
	Approximately 0.8 mile upstream of Billings Hill Church Road (SR 1939)	10.6	*	*	6,835	*
	Approximately 1.4 miles upstream of Billings Hill Church Road (SR 1939)	10.4	*	*	6,750	*
	Approximately 1.6 miles upstream of Billings Hill Church Road (SR 1939)	9.9	*	*	6,566	*
	Approximately 0.9 mile downstream of Austin Traphill Road (SR 1749)	9.7	*	*	6,460	*
	Approximately 0.8 mile downstream of Austin Traphill Road (SR 1749)	8.6	*	*	6,004	*
	Approximately 1,440 feet downstream of Austin Traphill Road (SR 1749)	8.3	*	*	5,884	*
	Approximately 100 feet downstream of Austin Traphill Road (SR 1749)	7.7	*	*	5,618	*
Stony Fork	At the confluence with Yadkin River	37.8	*	*	15,169	*

Section 5.0 – Engineering Methods

Table 8—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
Stony Fork	Approximately 1,120 feet downstream of the confluence of Gladys Fork	36.5	*	*	14,841	*
	Approximately 25 feet upstream of the confluence of Gladys Fork	33.9	*	*	14,151	*
	Approximately 1,670 feet upstream of Mount Pleasant Road (SR 1135)	33.6	*	*	14,087	*
	Approximately 0.8 mile upstream of Mount Pleasant Road (SR 1135)	33.2	*	*	13,980	*
	Approximately 1.3 miles downstream of the confluence of Shell Creek	30.8	*	*	13,353	*
	Approximately 1.1 miles downstream of the confluence of Shell Creek	29.7	*	*	13,029	*
	Approximately 0.5 mile downstream of the confluence of Shell Creek	29.4	*	*	12,950	*
	Approximately 0.4 mile downstream of the confluence of Shell Creek	28.9	*	*	12,827	*
	Approximately 100 feet downstream of State Road 1170	26.0	*	*	12,013	*
	Approximately 1,380 feet downstream of Avery Anderson Road (SR 1168)	24.3	*	*	11,517	*
	Approximately 940 feet upstream of Avery Anderson Road (SR 1168)	23.9	*	*	11,387	*
	Approximately 0.8 mile upstream of Avery Anderson Road (SR 1168)	22.8	*	*	11,056	*

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Table 8—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
Stony Fork	Approximately 1.0 mile downstream of the confluence of Left Prong Stony Fork	21.9	*	*	10,775	*
	Approximately 0.9 mile downstream of the confluence of Left Prong Stony Fork	20.1	*	*	10,220	*
	Approximately 0.7 mile downstream of the confluence of Left Prong Stony Fork	19.9	*	*	10,149	*
	Approximately 0.4 mile downstream of the confluence of Left Prong Stony Fork	19.4	*	*	9,991	*
	Approximately 1,150 feet downstream of the confluence of Left Prong Stony Fork	19.0	*	*	9,861	*
	Approximately 580 feet upstream of the confluence of Left Prong Stony Fork	10.0	*	*	6,605	*
	Approximately 960 feet upstream of Mount Zion Road (SR 1155)	9.9	*	*	6,572	*
	Approximately 1,710 feet upstream of Mount Zion Road (SR 1155)	9.4	*	*	6,364	*
	Approximately 0.8 mile upstream of Mount Zion Road (SR 1155)	9.2	*	*	6,286	*
	Approximately 1.6 miles downstream of Stony Fork Road (SR 1167)	8.7	*	*	6,073	*
	Approximately 1.1 miles downstream of Stony Fork Road (SR 1167)	7.3	*	*	5,441	*
	Approximately 0.4 mile downstream of Stony Fork Road (SR 1167)	7.0	*	*	5,286	*

Section 5.0 – Engineering Methods

Table 8—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
Stony Fork	Approximately 100 feet downstream of Stony Fork Road (SR 1167)	6.5	*	*	5,054	*
	Approximately 1,900 feet downstream of Stony Fork Road (SR 1167)	6.3	*	*	4,928	*
Swan Creek	At the confluence with Yadkin River	12.3	*	*	3,583	*
Tributary M-1	**	**	**	**	**	**
Tributary M-1-1	At the confluence with Tributary M-1	0.2	*	*	781	*
Tributary R-1	**	**	**	**	**	**
	Approximately 25 feet upstream of the confluence of Tributary R-1-1	0.1	*	*	200	*
	Approximately 1,400 feet upstream Finley Street	0.1	*	*	172	*
Tributary R-1-1	At the confluence with Tributary R-1	0.1	*	*	212	*
Tributary Y-1	At the confluence with Yadkin River	0.4	311	690	923	1,461
	Approximately 25 feet upstream of the confluence of Tributary Y-1-1	0.2	*	*	269	*
	Approximately 0.4 mile upstream of the confluence of Tributary Y-1-1	0.1	*	*	194	*
Tributary Y-1-1	At the confluence with Tributary Y-1	0.2	*	*	573	*
	Approximately 1,400 feet upstream of the confluence with Tributary Y-1	0.1	*	*	383	*
Tributary Y-2	**	**	**	**	**	**
	Approximately 0.6 mile upstream of the confluence with Yadkin River	0.2	*	*	775	*
Tributary Y-3	At the confluence with Yadkin River	0.3	387	786	904	1,283
	Approximately 740 feet downstream of Railroad	0.2	326	526	586	776

Section 5.0 – Engineering Methods

Table 8—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
Tributary Y-3	Approximately 25 feet upstream of Main Street	0.2	302	677	831	1,333
Warrior Creek	At the confluence with Yadkin River	25.9	*	*	11,968	*
	Approximately 1,860 feet upstream of the confluence with Yadkin River	25.6	*	*	11,873	*
	Approximately 1,825 feet downstream of the confluence of Blood Creek	25.0	*	*	11,695	*
	Approximately 25 feet upstream of the confluence of Blood Creek	21.4	*	*	10,613	*
	Approximately 25 feet upstream of the confluence of Pumpkin Creek	18.5	*	*	9,691	*
	Approximately 0.4 mile upstream of the confluence of Pumpkin Creek	18.3	*	*	9,628	*
	Approximately 0.7 mile downstream of Glenn Carlton Road (SR 1122)	17.2	*	*	9,274	*
	Approximately 25 feet upstream of the confluence of Little Warrior Creek	10.2	*	*	6,693	*
	Approximately 0.7 mile upstream of the confluence of Little Warrior Creek	9.9	*	*	6,552	*
	Approximately 100 feet upstream of NC Highway 18	0.8	*	*	1,372	*
	West Prong Moravian Creek	At the confluence with Moravian Creek	10.3	*	*	6,719
Approximately 1,520 feet upstream of Moravian Creek		10.1	*	*	6,637	*
Approximately 25 feet upstream of West Prong Moravian Creek Tributary 1		6.5	*	*	5,039	*

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Table 8—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 Prong Moravian Creek	Approximately 0.5 mile upstream of West Prong Moravian Creek Tributary 1	6.3	*	*	4,966	*
	Approximately 0.4 mile downstream of Falls Road (SR 1108)	5.3	*	*	4,434	*
	Approximately 175 feet upstream of Falls Road (SR 1108)	4.9	*	*	4,236	*
	Approximately 0.7 mile upstream of Falls Road (SR 1108)	4.5	*	*	4,004	*
	Approximately 1.2 miles upstream of Falls Road (SR 1108)	4.0	*	*	3,730	*
West Prong Moravian Creek Tributary 1	At the confluence with West Prong Moravian Creek	2.8	*	*	3,007	*
West Prong Roaring River	At the confluence with Middle Prong Roaring River	23.0	*	*	11,127	*
	Approximately 0.5 mile upstream of the confluence with Middle Prong Roaring River	22.8	*	*	11,040	*
	Approximately 1.0 mile downstream of the confluence of Cane Creek	21.4	*	*	10,611	*
	Approximately 775 feet upstream of the confluence of Cane Creek	14.3	*	*	8,263	*
	Approximately 100 feet upstream of Shumate Mountain Road (SR 1745)	14.1	*	*	8,169	*
	Approximately 0.5 mile downstream of first Cabin Creek Road (SR 1730) crossing	13.6	*	*	8,000	*
	Approximately 1,170 feet upstream of first Cabin Creek Road (SR 1730) crossing	12.4	*	*	7,556	*

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Table 8—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 Prong Roaring River	Approximately 1,840 feet downstream of second Cabin Creek Road crossing	12.3	*	*	7,521	*
	Approximately 0.4 mile upstream of second Cabin Creek Road crossing	10.7	*	*	6,882	*
	Approximately 0.5 mile downstream of the confluence of Gambill Creek	10.0	*	*	6,595	*
	Approximately 25 feet upstream of the confluence of Gambill Creek	7.6	*	*	5,585	*
	Approximately 960 feet downstream of State Road 1731	6.4	*	*	4,972	*
	Approximately 1,500 feet upstream of State Road 1731	5.9	*	*	4,739	*
	Approximately 0.8 mile upstream of State Road 1731	5.7	*	*	4,647	*
	Approximately 1.6 miles upstream of State Road 1731	4.3	*	*	3,890	*
	Approximately 1.9 miles upstream of State Road 1731	4.1	*	*	3,755	*
	Approximately 2.2 miles upstream of State Road 1731	3.8	*	*	3,609	*
West Swan Creek	At the confluence with Swan Creek	5.4	*	*	2,136	*
	Approximately 100 feet upstream of Bagley Springs Road (SR 2311)	5.2	*	*	2,094	*
	Approximately 0.5 mile upstream of Bagley Springs Road (SR 2311)	4.9	*	*	2,006	*
	Approximately 0.7 mile upstream of Bagley Springs Road (SR 2311)	4.5	*	*	1,911	*

Section 5.0 – Engineering Methods

Table 8—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 Swan Creek	Approximately 1.1 miles upstream of Bagley Springs Road (SR 2311)	4.4	*	*	1,874	*
	Approximately 1.4 miles upstream of Bagley Springs Road (SR 2311)	4.2	*	*	1,816	*
	Approximately 1.8 miles upstream of Bagley Springs Road (SR 2311)	3.9	*	*	1,738	*
Whites Creek	At the confluence with Yadkin River	3.4	*	*	3,374	*
	Approximately 0.5 mile upstream of the confluence with Yadkin River	3.1	*	*	3,167	*
	Approximately 1,425 feet downstream of NC Highway 268	2.6	*	*	2,848	*
	Approximately 0.4 mile upstream of NC Highway 268	2.2	*	*	2,564	*
	Approximately 0.8 mile upstream of NC Highway 268	1.7	*	*	2,193	*
Yadkin River	At the Wilkes/Surry/Yakin County boundary	829.7	26,600	48,300	62,100	113,700
	Approximately 25 feet upstream of the confluence of Little Elkin Creek	811.1	26,400	48,000	61,700	113,000
	Approximately 25 feet upstream of the confluence of Swan Creek	798.0	25,600	46,300	59,400	110,200
	Approximately 25 feet upstream of the confluence of Yadkin River Tributary 15	787.9	25,000	44,900	57,700	108,100
	Approximately 25 feet upstream of the confluence of Big Bugaboo Creek	763.5	23,600	41,800	53,700	103,000
	Approximately 25 feet upstream of the confluence of Brier Creek	749.5	22,800	40,100	51,500	100,100

Section 5.0 – Engineering Methods

Table 8—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
Yadkin River	Approximately 25 feet upstream of the confluence of Roaring River	608.8	15,600	25,000	31,900	72,700
	Approximately 25 feet upstream of the confluence of Fishing Creek	587.6	14,600	23,000	29,400	68,800
	Approximately 25 feet upstream of the confluence of Mulberry Creek	526.5	11,900	17,900	22,900	58,100
	Approximately 25 feet upstream of the confluence of Cub Creek	502.0	10,900	16,100	20,500	54,000
	Approximately 25 feet upstream of the confluence of Reddies River	408.6	7,500	11,000	13,100	35,500
	Approximately 25 feet upstream of the W. Kerr Scott Reservoir Dam	365.0	16,594	25,505	29,755	41,174
	Approximately 550 feet upstream of the W. Kerr Scott Reservoir Dam	364.8	27,022	49,982	62,533	86,518
	Approximately 0.8 miles upstream of the W. Kerr Scott Reservoir Dam	363.5	26,957	49,868	62,392	86,330
	Approximately 0.9 miles upstream of the W. Kerr Scott Reservoir Dam	362.3	26,895	49,757	62,255	86,146
	Approximately 1.4 miles upstream of the W. Kerr Scott Reservoir Dam	360.9	26,829	49,641	62,112	85,954
	Approximately 1.7 miles upstream of the W. Kerr Scott Reservoir Dam	360.8	26,823	49,630	62,099	85,937
	Approximately 2.2 miles upstream of the W. Kerr Scott Reservoir Dam	357.1	26,638	49,302	61,695	85,396

Section 5.0 – Engineering Methods

Table 8—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
Yadkin River	Approximately 3.0 miles upstream of the W. Kerr Scott Reservoir Dam	272.8	22,289	41,553	52,138	72,557
	Approximately 3.7 miles upstream of the W. Kerr Scott Reservoir Dam	246.4	20,839	38,958	48,931	68,233
	Approximately 5.2 miles upstream of the W. Kerr Scott Reservoir Dam	245.8	20,807	38,900	48,860	68,136
	Approximately 5.7 miles downstream of NC Highway 268	245.1	20,768	38,829	48,772	68,018
	Approximately 5.0 miles downstream of NC Highway 268	244.5	20,730	38,761	48,689	67,905
	Approximately 4.3 miles downstream of NC Highway 268	243.3	20,662	38,640	48,539	67,703
	Approximately 3.2 miles downstream of NC Highway 268	242.7	20,633	38,588	48,474	67,616
	Approximately 2.9 miles downstream of NC Highway 268	242.2	20,605	38,538	48,412	67,532
	Approximately 2.2 miles downstream of NC Highway 268	204.0	18,389	34,553	43,481	60,862
	Approximately 1.4 miles downstream of NC Highway 268	183.1	17,120	32,261	40,641	57,011
	Approximately 1,840 feet downstream of NC Highway 268	182.2	17,064	32,161	40,517	56,842
	Approximately 1,170 feet upstream of NC Highway 268	181.2	17,005	32,054	40,384	56,661
	Approximately 1.0 mile upstream of NC Highway 268	179.9	16,920	31,901	40,195	56,404
	Approximately 1.9 miles upstream of NC Highway 268	177.4	16,762	31,616	39,840	55,923
	Yadkin River Tributary 14	At the confluence with Yadkin River	2.9	*	*	1,435

Section 5.0 – Engineering Methods

Table 8—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
Yadkin River Tributary 14	Approximately 970 feet upstream of the confluence with Yadkin River	2.5	*	*	1,323	*
	Approximately 0.4 mile upstream of the confluence with Yakin River	2.3	*	*	1,265	*
	Approximately 1.0 mile upstream of the confluence with Yadkin River	2.1	*	*	1,190	*
Yadkin River Tributary 15	At the confluence with Yadkin River	3.6	*	*	1,671	*
	Approximately 0.6 mile upstream of the confluence with Yadkin River	3.5	*	*	1,625	*
	Approximately 680 feet downstream of State Road 2321	3.1	*	*	1,515	*
	Approximately 1,320 feet upstream of State Road 2321	2.8	*	*	1,403	*

*Data Not Available

**Discharge data is shown on Figure 2

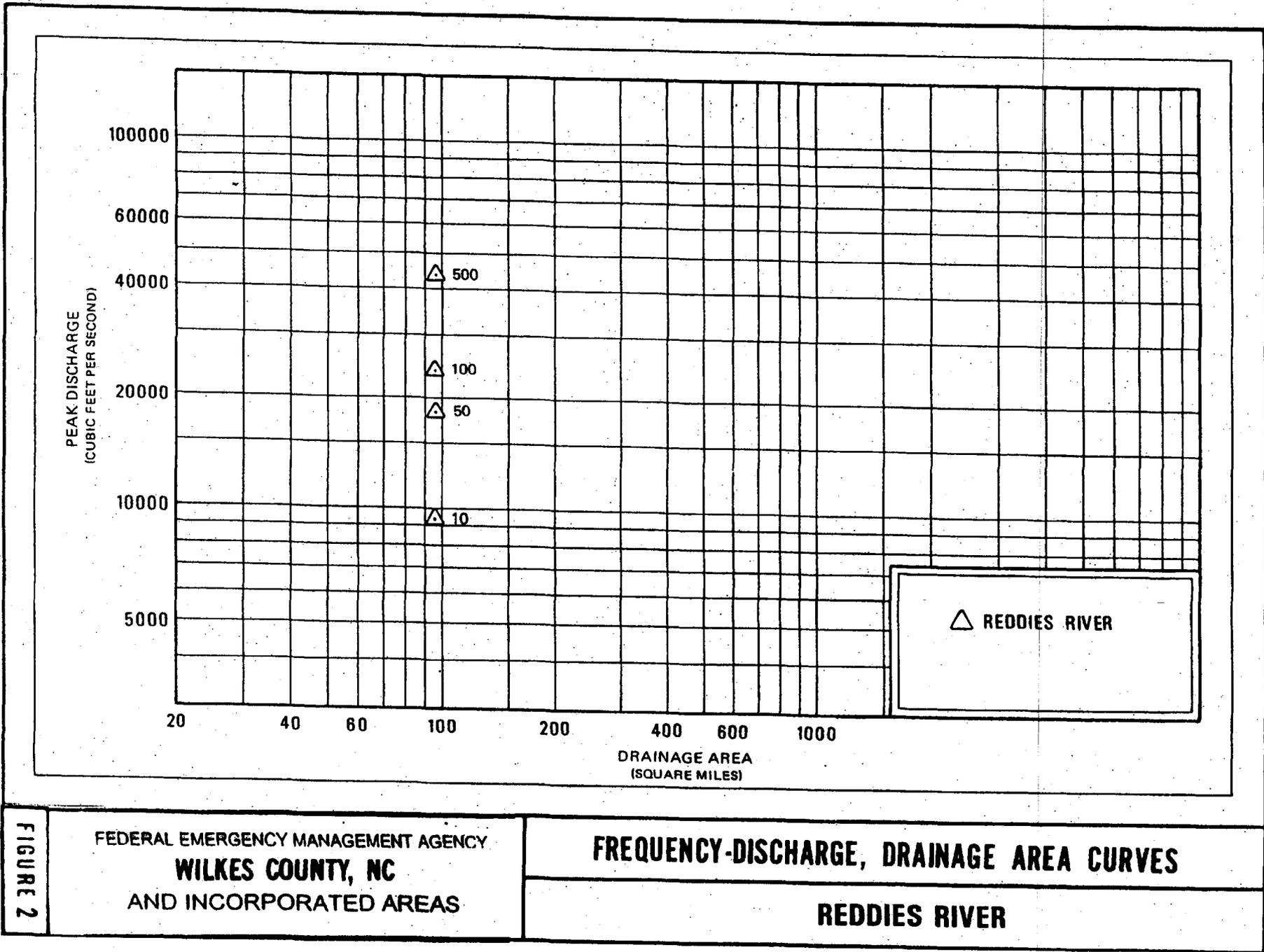


FIGURE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY
WILKES COUNTY, NC
 AND INCORPORATED AREAS

FREQUENCY-DISCHARGE, DRAINAGE AREA CURVES

REDDIES RIVER

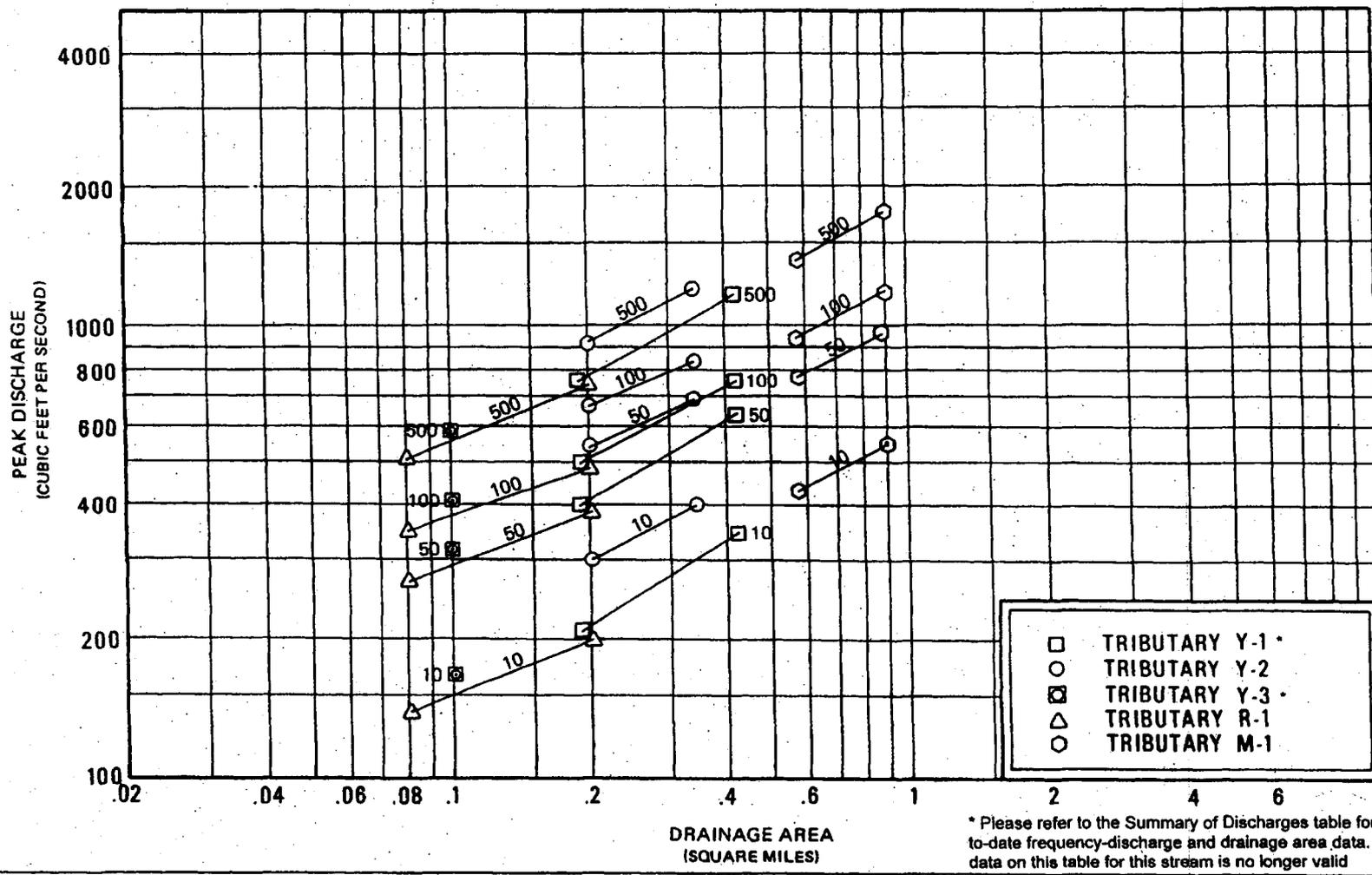


FIGURE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY
WILKES COUNTY, NC
 AND INCORPORATED AREAS

FREQUENCY-DISCHARGE, DRAINAGE AREA CURVES

TRIBUTARIES Y1, Y2, Y3, R1, M1

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Table 9, “Gage Information,” lists the stream gages located in Wilkes County, including the drainage area of the flooding source at the gage and the period of record available at the time of the publication of this FIS Report.

Table 9—Gage Information

Gage Number or Identifier	Flooding Source	Site Name	Drainage Area (square miles)	Period of Record	
				From	To
02111180	Elk Creek	Elk Creek at Elkville, NC	48.1	1961	2004
02111500	Reddies River	Reddies River at North Wilkesboro, NC	89.4	1940	2004
02112120	Roaring River	Roaring River near Roaring River, NC	127.2	1965	2004
02111340	South Prong Lewis Fork	South Prong Lewis Fork near North Wilkesboro, NC	12.5	1955	1971
02112000	Yadkin River	Yadkin River at Wilkesboro, NC	502	1904 1921	1916 present

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.

Pre-Countywide Analyses

Each jurisdiction within Wilkes County, with the exception of the Town of Ronda, had previously printed FIS Reports describing each community’s hydraulic analyses. Those analyses have been compiled and are summarized below. These analyses remain valid for those flooding sources listed in Table 5, “Flooding Sources Studied by Detailed Methods: Redelineated.”

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Cross sections for the backwater analyses were obtained from field surveys and located at close intervals above and below bridges and culverts in order to compute the significant backwater effects of these structures. The overbank cross section data for the backwater analyses were obtained from topographic maps with 2 feet contour interval (USGS, 1966).

For studied streams in Wilkes County and the Town of North Wilkesboro, water-surface elevations for floods of the selected recurrence intervals were developed using the HEC-2 step-backwater computer program (USACE, 1990). These computer models were calibrated using historic floodwater data collected during the field investigations. Starting water-surface elevations for the Yadkin River and Tributary M-1 were calculated using the slope/area method. Starting water-surface elevations for the Reddies River and Tributaries Y-1, Y-2, and Y-3 were taken from the Yadkin River profile. Starting water-surface elevations for Tributary R-1 were taken from the Reddies River profile.

Revised Analyses for 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 3.1.2 (USCE, 2004). The hydraulic analyses were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail. The computer models were calibrated using historic high water data collected during field investigations.

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 10, "Roughness Coefficients."

Table 10—Roughness Coefficients

Stream	Channel "n"	Overbank "n"
Beaver Creek	0.045-0.050	0.070-0.130
Beaver Creek Tributary 1	0.045	0.030-0.140
Beaver Creek Tributary 2	0.045	0.030-0.130
Beaver Creek Tributary 3	0.045-0.050	0.070-0.150
Big Branch	0.050	0.080-0.140
Big Bugaboo Creek	0.042-0.050	0.050-0.150
Big Bugaboo Creek Tributary 1	0.048	0.080-0.140
Big Sandy Creek	0.050	0.080-0.140
Big Warrior Creek	0.035-0.050	0.070-0.130
Big Warrior Creek Tributary 1	0.050	0.050-0.150

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Table 10—Roughness Coefficients

Stream	Channel "n"	Overbank "n"
Blood Creek	0.035-0.050	0.070-0.130
Brier Creek	0.050-0.060	0.080-0.150
Brier Creek Tributary 1	0.050	0.080-0.140
Brushy Creek	0.050	0.080-0.140
Cane Creek	0.050	0.080-0.200
Cub Creek	0.048	0.070-0.140
Darnell Creek	0.045-0.050	0.055-0.140
Double Creek	0.045	0.080-0.140
Double Creek Tributary 1	0.045	0.080-0.140
Dugger Creek	0.050	0.050-0.140
East Prong Roaring River	0.055	0.080-0.140
East Swan Creek	0.046-0.048	0.050-0.130
Elk Creek	0.045-0.050	0.060-0.140
Elk Creek Tributary 1	0.050	0.060-0.140
Elk Creek Tributary 2	0.040-0.045	0.070-0.140
Elkin Creek	0.040-0.050	0.035-0.150
Elkin Creek Tributary 1	0.050	0.080-0.140
Fishing Creek	0.045	0.080-0.140
Fishing Creek Tributary 1	0.045-0.050	0.080-0.140
Fishing Creek Tributary 2	0.045	0.080-0.140
Fishing Creek Tributary 2A	0.047	0.080-0.130
Fletcher Creek	0.048-0.055	0.080-0.130
Gambill Creek	0.048	0.080-0.150
Gladys Fork	0.050	0.015-0.150
Grassy Creek West	0.050	0.080-0.140
Grassy Fork	0.050	0.140
Grays Creek	0.050	0.080-0.140
Harris Creek	0.045	0.080-0.150
Hoopers Branch	0.050	0.030-0.140
Huffman Branch	0.045	0.100-0.140
Hunting Creek	0.040-0.045	0.080-0.150
Joshua Creek	0.050	0.080-0.200
Left Prong Stony Fork	0.040-0.050	0.070-0.150
Lewis Fork	0.035-0.040	0.100-0.140
Little Bugaboo Creek	0.049	0.050-0.140
Little Elkin Creek	0.035-0.051	0.035-0.15
Little Fork Creek	0.045-0.048	0.081-0.140
Little Hunting Creek	0.045	0.090-0.120
Little Sandy Creek	0.045	0.060-0.140
Little Warrior Creek	0.049-0.050	0.060-0.140
Long Branch North	0.045	0.012

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Table 10—Roughness Coefficients

Stream	Channel "n"	Overbank "n"
Middle Fork Reddies River	0.045	0.080-0.150
Middle Prong Roaring River	0.045-0.048	0.080-0.150
Mill Creek	0.047-0.048	0.060-0.140
Mill Creek North	0.043-0.050	0.070-0.150
Moravian Creek	0.042-0.055	0.070-0.020
Moravian Creek Tributary 1	0.050	0.090-0.150
Mulberry Creek	0.050	0.080-0.140
Mulberry Creek Tributary 1	0.050	0.070-0.140
Naked Creek	0.050	0.080-0.140
North Fork Reddies River	0.045	0.080-0.140
North Little Hunting Creek	0.040	0.060-0.120
North Little Hunting Creek Tributary 3	0.045	0.090-0.120
North Little Hunting Creek Tributary 4	0.045	0.090-0.120
North Prong Lewis Fork	0.045-0.048	0.080-0.140
Osborn Creek West	0.045	0.090-0.120
Pumpkin Creek	0.035-0.051	0.038-0.150
Pumpkin Run	0.050	0.080-0.140
Reddies River	0.015-0.217	0.050-0.180
Roaring River	0.045	0.050-0.140
Rocky Creek	0.040-0.050	0.110-0.200
Rocky Creek Tributary 1	0.045-0.050	0.125-0.140
Shell Creek	0.045-0.048	0.080-0.150
South Fork Reddies River	0.045	0.040-0.150
South Prong Lewis Fork	0.040-0.045	0.080-0.150
South Prong Lewis Fork Tributary 1	0.050-0.055	0.080-0.150
Sparks Creek	0.045	0.060-0.140
Stony Fork	0.045-0.060	0.015-0.150
Swan Creek	0.043-0.046	0.055-0.140
Tributary M-1	0.015-0.217	0.050-0.180
Tributary M-1-1	0.042-0.050	0.080-0.150
Tributary R-1	0.015-0.217	0.050-0.180
Tributary R-1-1	0.050	0.080-0.130
Tributary Y-1	0.047-0.055	0.080-0.150
Tributary Y-1-1	0.050-0.060	0.120-0.140
Tributary Y-2	0.015-0.217	0.050-0.180
Tributary Y-3	0.050	0.050-0.150
Warrior Creek	0.035-0.048	0.070-0.140
West Prong Moravian Creek	0.055	0.070-0.150
West Prong Moravian Creek Tributary 1	0.050	0.080-0.150
West Prong Roaring River	0.048-0.058	0.080-0.150
West Swan Creek	0.047-0.048	0.050-0.130

Section 5.0 – Engineering Methods

Table 10—Roughness Coefficients

Stream	Channel "n"	Overbank "n"
Whites Creek	0.035-0.045	0.100-0.150
Yadkin River	0.035-0.050	0.065-0.200
Yadkin River Tributary 14	0.047	0.080-0.130
Yadkin River Tributary 15	0.046-0.048	0.060-0.140

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). 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 11, "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 11. 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 11. 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.

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Table 11—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				
003	300	10,350	1,079.4 ⁴	28 / 57
006	591	10,350	1,079.4 ⁴	30 / 91
010	1,021	10,350	1,079.4 ⁴	128 / 65
013	1,290	10,350	1,079.4 ⁴	98 / 30
023	2,264	10,350	1,079.4 ⁴	25 / 370
034	3,417	10,350	1,079.4 ⁴	350 / 303
040	4,013	10,350	1,079.4 ⁴	243 / 225
045	4,518	10,350	1,079.4 ⁴	203 / 51
049	4,855	10,052	1,079.4 ⁴	40 / 130
054	5,387	10,052	1,079.4 ⁴	208 / 117
061	6,073	10,052	1,079.4 ⁴	27 / 425
066	6,633	9,858	1,079.4 ⁴	27 / 403
072	7,199	9,858	1,079.4 ⁴	29 / 357
078	7,824	9,448	1,079.4 ⁴	34 / 450
083	8,271	9,448	1,079.4 ⁴	25 / 510
087	8,680	9,448	1,079.4 ⁴	36 / 348
098	9,750	9,365	1,079.4 ⁴	25 / 399
104	10,394	9,365	1,079.4 ⁴	25 / 229
111	11,078	9,365	1,079.7	25 / 415
125	12,534	9,365	1,083.3	25 / 298
134	13,383	9,365	1,085.0	480 / 113
140	14,010	9,365	1,086.1	420 / 24
148	14,775	8,030	1,087.9	250 / 85
156	15,613	8,030	1,092.0	57 / 26
158	15,846	8,030	1,093.0	34 / 24
161	16,148	8,030	1,097.5	24 / 71
165	16,473	8,030	1,098.3	94 / 88
170	17,010	8,030	1,099.9	20 / 330
178	17,831	7,638	1,100.1	30 / 160
185	18,462	7,550	1,103.8	15 / 85
190	19,012	7,550	1,108.5	45 / 30
195	19,521	7,550	1,116.2	20 / 70
197	19,710	7,550	1,121.3	14 / 44
202	20,172	7,550	1,128.3	101 / 53
205	20,455	7,550	1,129.5	30 / 70
206	20,594	7,550	1,129.5	68 / 62
210	21,010	7,550	1,131.6	70 / 180
214	21,411	7,369	1,131.7	267 / 35
219	21,860	7,369	1,131.8	196 / 22
224	22,390	7,369	1,132.2	153 / 70
233	23,288	7,369	1,133.1	182 / 164
238	23,816	7,369	1,133.6	56 / 141
242	24,165	7,190	1,134.4	58 / 65
246	24,633	7,190	1,135.7	46 / 43
250	24,951	7,190	1,139.4	21 / 150

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Table 11—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				
257	25,656	6,885	1,140.2	240 / 27
263	26,343	6,885	1,141.1	224 / 61
268	26,795	6,885	1,141.7	97 / 122
277	27,732	6,885	1,144.4	31 / 90
282	28,189	6,243	1,152.5	30 / 30
285	28,528	6,243	1,152.7	27 / 27
290	28,970	6,243	1,154.9	28 / 25
295	29,496	6,243	1,158.5	26 / 66
300	29,986	5,269	1,160.1	22 / 23
306	30,575	5,269	1,166.0	20 / 22
310	30,959	5,269	1,171.7	22 / 22
315	31,503	5,269	1,176.5	22 / 57
321	32,137	5,269	1,178.6	22 / 22
324	32,384	5,269	1,179.8	32 / 29
326	32,622	5,269	1,183.8	18 / 230
333	33,283	3,456	1,184.1	33 / 38
339	33,869	3,456	1,198.0	18 / 21
344	34,365	3,456	1,205.8	20 / 220
348	34,756	3,456	1,227.7	129 / 259
BEAVER CREEK TRIBUTARY 1				
015	1,461	3,372	1,086.1 ⁵	22 / 22
019	1,915	3,006	1,089.2	16 / 30
025	2,525	3,006	1,094.2	51 / 20
028	2,766	3,006	1,095.2	56 / 46
030	2,960	3,006	1,096.2	90 / 100
033	3,275	2,622	1,097.5	85 / 17
037	3,667	2,622	1,099.6	56 / 66
BEAVER CREEK TRIBUTARY 2				
001	133	1,619	1,152.6 ⁴	11 / 30
004	444	1,619	1,152.6 ⁴	17 / 20
006	632	1,619	1,154.1	35 / 11
009	905	1,619	1,155.1	52 / 93
014	1,403	1,619	1,155.7	10 / 111
018	1,754	1,619	1,159.3	57 / 14
025	2,491	1,502	1,166.2	32 / 56
027	2,734	1,502	1,169.1	27 / 47
BEAVER CREEK TRIBUTARY 3				
001	76	2,465	1,158.7 ⁴	15 / 27
002	155	2,465	1,158.7 ⁴	25 / 36
004	412	2,465	1,160.8	19 / 28
008	838	2,465	1,166.8	38 / 54
013	1,299	2,465	1,168.7	21 / 44
019	1,861	2,465	1,173.2	41 / 41
026	2,577	2,465	1,178.8	60 / 15
030	2,978	2,370	1,183.2	49 / 96
033	3,264	2,370	1,184.3	62 / 40

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
BEAVER CREEK TRIBUTARY 3				
036	3,624	2,370	1,187.2	41 / 51
038	3,791	2,370	1,190.2	29 / 43
BIG BRANCH				
001	71	2,219	1,300.4 ⁴	50 / 64
004	423	2,219	1,302.5	115 / 10
006	602	2,219	1,304.1	100 / 10
008	791	2,219	1,307.0	60 / 22
009	939	2,219	1,310.1	32 / 36
011	1,098	2,219	1,312.5	104 / 20
014	1,352	2,219	1,314.0	80 / 36
015	1,500	2,219	1,315.0	80 / 35
020	2,022	1,913	1,320.3	90 / 52
022	2,181	1,913	1,321.2	70 / 20
024	2,423	1,913	1,325.3	22 / 80
026	2,583	1,913	1,328.0	32 / 55
027	2,703	1,913	1,330.2	32 / 10
030	3,031	1,913	1,339.8	14 / 50
032	3,195	1,913	1,341.3	64 / 20
034	3,444	1,913	1,343.1	21 / 46
036	3,635	1,692	1,345.8	40 / 36
039	3,934	1,692	1,349.8	25 / 18
BIG BUGABOO CREEK				
003	250	4,527	926.0 ⁴	40 / 22
005	500	4,527	926.0 ⁴	34 / 27
008	758	4,527	926.0 ⁴	27 / 36
009	896	4,527	926.0 ⁴	30 / 36
013	1,250	4,527	926.0 ⁴	24 / 41
015	1,500	4,527	926.0 ⁴	21 / 50
018	1,750	4,527	926.0 ⁴	21 / 30
020	2,000	4,527	926.0 ⁴	23 / 32
023	2,250	4,527	926.0 ⁴	35 / 30
025	2,500	4,527	926.0 ⁴	33 / 21
027	2,689	4,527	926.4	25 / 30
027	2,738	4,527	926.7	17 / 26
028	2,755	4,527	932.4	20 / 20
028	2,772	4,527	936.1	22 / 20
029	2,945	4,438	939.9	33 / 20
033	3,250	4,438	941.8	35 / 30
035	3,500	4,438	944.6	34 / 30
037	3,668	4,438	948.1	31 / 22
038	3,763	4,438	953.2	20 / 20
040	4,000	4,438	957.9	23 / 20
043	4,250	4,438	961.7	21 / 21
045	4,500	4,438	965.6	27 / 20
048	4,750	4,438	966.9	20 / 20
050	5,000	4,438	970.7	24 / 24
053	5,250	4,438	974.3	35 / 32

Section 5.0 – Engineering Methods

Table 11—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 BUGABOO CREEK				
055	5,469	4,438	974.4	33 / 20
057	5,699	4,438	975.2	33 / 20
058	5,830	4,438	979.2	23 / 20
060	6,000	4,438	982.2	22 / 23
063	6,250	4,438	983.5	22 / 20
065	6,500	4,438	985.2	21 / 20
068	6,767	4,438	987.7	20 / 25
070	7,000	4,438	989.0	23 / 25
073	7,265	4,438	990.0	36 / 23
075	7,504	4,438	990.2	20 / 33
077	7,737	4,438	990.9	29 / 28
081	8,064	4,438	991.6	43 / 19
083	8,250	4,339	991.7	29 / 20
085	8,500	4,339	992.8	24 / 29
090	9,000	4,339	996.9	33 / 38
093	9,250	4,339	1,000.5	56 / 41
094	9,404	4,339	1,002.4	30 / 23
095	9,500	4,339	1,007.4	19 / 23
097	9,651	4,339	1,010.1	22 / 22
098	9,750	4,339	1,012.0	24 / 19
099	9,890	4,339	1,016.1	19 / 30
100	10,000	4,339	1,019.8	24 / 26
100	10,046	4,339	1,023.2	37 / 36
101	10,073	4,339	1,028.5	48 / 44
102	10,172	4,339	1,031.2	23 / 26
103	10,346	3,174	1,034.8	19 / 171
105	10,500	3,174	1,035.0	15 / 222
108	10,806	3,174	1,035.7	15 / 190
110	11,000	3,174	1,036.4	15 / 139
112	11,249	3,174	1,038.1	15 / 223
115	11,504	3,174	1,038.7	25 / 178
118	11,750	3,174	1,039.6	135 / 139
120	12,000	3,174	1,040.4	132 / 114
123	12,299	3,174	1,041.1	15 / 88
125	12,465	3,174	1,042.8	15 / 132
128	12,804	3,174	1,043.7	210 / 15
130	13,016	3,174	1,045.1	162 / 15
133	13,250	3,174	1,046.0	77 / 25
138	13,849	2,960	1,049.2	15 / 238
141	14,074	2,960	1,049.6	79 / 155
143	14,250	2,960	1,049.8	86 / 152
145	14,495	2,960	1,050.2	15 / 224
148	14,775	2,960	1,050.7	56 / 75
150	15,000	2,960	1,052.5	126 / 108
152	15,225	2,960	1,052.9	159 / 20
155	15,500	2,960	1,054.0	207 / 15
158	15,779	2,960	1,055.8	71 / 69
161	16,072	2,960	1,056.5	32 / 18

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Table 11—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 BUGABOO CREEK				
163	16,292	2,960	1,057.2	17 / 17
165	16,509	2,960	1,060.0	37 / 51
168	16,750	2,960	1,060.7	14 / 138
170	17,007	2,960	1,061.1	90 / 114
172	17,225	2,960	1,061.9	61 / 69
175	17,500	2,751	1,063.3	65 / 49
178	17,774	2,751	1,064.2	14 / 34
180	18,037	2,751	1,065.7	27 / 16
182	18,249	2,751	1,066.5	19 / 17
185	18,500	2,751	1,070.4	31 / 27
190	18,968	2,751	1,073.7	35 / 27
192	19,157	2,751	1,079.1	40 / 20
192	19,192	2,751	1,080.7	30 / 17
193	19,305	2,751	1,084.5	39 / 42
194	19,382	2,751	1,084.5	39 / 41
195	19,500	2,751	1,087.4	30 / 23
196	19,576	2,751	1,090.2	20 / 14
197	19,675	2,751	1,094.2	30 / 24
198	19,750	2,751	1,097.2	28 / 14
199	19,889	2,751	1,103.6	30 / 27
200	19,973	2,751	1,107.1	38 / 23
200	20,021	2,751	1,109.9	23 / 7
203	20,255	2,751	1,115.8	68 / 28
205	20,491	2,751	1,116.7	67 / 102
208	20,770	2,751	1,117.2	14 / 120
210	21,031	2,538	1,117.4	20 / 13
213	21,251	2,538	1,119.6	31 / 24
214	21,383	2,538	1,122.2	53 / 18
215	21,500	2,538	1,125.5	20 / 16
217	21,747	2,538	1,130.6	53 / 17
220	22,020	2,538	1,132.3	45 / 27
222	22,213	2,538	1,133.5	40 / 28
225	22,489	2,538	1,134.8	82 / 66
228	22,750	2,538	1,136.1	164 / 74
230	23,000	2,538	1,137.0	159 / 117
233	23,250	2,538	1,137.6	23 / 139
234	23,406	2,538	1,137.8	18 / 20
236	23,568	2,538	1,139.6	13 / 38
238	23,750	2,538	1,141.6	17 / 29
240	24,026	2,538	1,143.4	16 / 63
243	24,254	2,444	1,144.1	36 / 16
245	24,500	2,444	1,146.3	42 / 15
248	24,750	2,444	1,147.6	36 / 13
250	25,000	2,444	1,149.1	78 / 13
253	25,257	2,444	1,149.7	30 / 66
255	25,535	2,444	1,150.7	27 / 23
258	25,750	2,444	1,152.4	18 / 49
261	26,082	2,444	1,154.5	146 / 13

Section 5.0 – Engineering Methods

Table 11—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 BUGABOO CREEK				
263	26,316	2,398	1,154.9	13 / 41
267	26,736	2,398	1,157.1	33 / 21
269	26,905	2,398	1,157.6	32 / 14
271	27,145	2,398	1,159.8	72 / 13
272	27,237	2,398	1,160.4	72 / 19
274	27,449	2,398	1,161.2	13 / 109
276	27,642	2,219	1,161.2	26 / 52
281	28,054	2,219	1,163.4	118 / 13
283	28,280	2,219	1,163.8	16 / 130
285	28,522	2,219	1,164.7	73 / 17
287	28,673	2,219	1,165.4	53 / 74
290	29,004	2,219	1,166.3	13 / 86
292	29,243	2,219	1,168.4	58 / 13
294	29,431	2,219	1,170.0	119 / 13
297	29,732	2,219	1,171.5	86 / 12
300	29,999	2,219	1,172.6	16 / 67
303	30,250	2,103	1,174.3	13 / 73
305	30,500	2,103	1,175.4	32 / 34
308	30,750	2,103	1,176.8	30 / 12
310	31,000	2,103	1,178.4	62 / 12
313	31,250	2,103	1,179.7	35 / 12
315	31,462	2,103	1,182.3	26 / 61
318	31,842	1,794	1,184.3	52 / 90
320	32,000	1,794	1,184.7	79 / 41
323	32,251	1,794	1,185.5	160 / 11
328	32,750	1,732	1,187.1	86 / 7
330	33,032	1,732	1,190.1	117 / 10
333	33,300	1,732	1,191.5	98 / 10
335	33,542	1,732	1,193.7	71 / 10
338	33,766	1,732	1,196.4	28 / 41
340	33,994	1,732	1,197.4	80 / 55
343	34,250	1,732	1,197.7	149 / 99
346	34,559	1,732	1,198.4	213 / 10
347	34,718	1,732	1,199.0	228 / 10
349	34,938	1,682	1,202.5	129 / 10
352	35,213	1,682	1,203.4	59 / 28
355	35,500	1,682	1,204.3	71 / 19
358	35,750	1,682	1,205.8	18 / 56
360	36,000	1,682	1,207.3	23 / 12
362	36,219	1,682	1,210.3	31 / 56
363	36,324	1,682	1,210.7	11 / 60
365	36,483	1,682	1,213.0	33 / 30
BIG BUGABOO CREEK TRIBUTARY 1				
001	69	780	1,183.0 ⁴	16 / 19
003	250	780	1,183.7	10 / 60
004	439	780	1,186.0	16 / 20
007	713	780	1,190.7	89 / 7

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
BIG BUGABOO CREEK TRIBUTARY 1				
010	1,000	780	1,192.8	44 / 7
013	1,250	780	1,194.3	22 / 4
015	1,500	780	1,199.2	37 / 7
018	1,750	780	1,203.2	34 / 7
020	2,000	730	1,206.7	58 / 7
BIG SANDY CREEK				
001	81	4,824	1,226.4 ⁴	25 / 100
004	414	4,824	1,228.3	13 / 204
009	940	4,824	1,230.7	61 / 134
013	1,278	4,824	1,235.1	80 / 35
016	1,633	4,824	1,239.5	60 / 50
019	1,927	4,824	1,245.0	70 / 100
023	2,252	4,824	1,251.7	86 / 11
025	2,462	4,824	1,254.6	32 / 40
027	2,710	4,824	1,258.1	66 / 55
030	3,027	4,824	1,261.9	165 / 8
034	3,449	4,824	1,264.1	90 / 8
037	3,748	4,824	1,268.9	55 / 8
041	4,059	4,824	1,273.3	50 / 25
043	4,305	4,824	1,277.2	37 / 35
046	4,607	4,824	1,282.3	100 / 65
050	4,972	4,824	1,282.6	200 / 15
053	5,255	4,824	1,283.0	140 / 80
056	5,586	4,588	1,284.0	75 / 110
065	6,500	4,588	1,287.3	200 / 100
071	7,050	4,588	1,289.5	70 / 140
076	7,620	4,588	1,293.8	130 / 150
085	8,455	4,588	1,298.8	28 / 170
088	8,818	4,310	1,302.6	28 / 206
094	9,393	4,310	1,304.8	162 / 106
100	9,972	4,310	1,308.3	188 / 55
105	10,497	4,310	1,311.7	112 / 60
107	10,661	4,085	1,313.9	88 / 52
111	11,149	4,085	1,318.7	40 / 111
114	11,391	4,085	1,320.7	35 / 214
116	11,635	900	1,321.6	100 / 160
122	12,214	900	1,323.1	33 / 39
BIG WARRIOR CREEK				
010	997	5,816	1,089.5 ⁴	30 / 128
011	1,141	5,816	1,089.5 ⁴	32 / 137
014	1,430	5,816	1,089.5 ⁴	97 / 230
017	1,680	5,816	1,089.9	126 / 42
019	1,917	5,816	1,091.5	178 / 61
027	2,684	5,816	1,096.6	196 / 207
031	3,061	5,816	1,096.8	229 / 86
035	3,459	5,816	1,097.2	76 / 324
037	3,744	5,816	1,097.4	164 / 175

Section 5.0 – Engineering Methods

Table 11—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 WARRIOR CREEK				
040	3,999	5,688	1,097.6	67 / 198
042	4,247	5,688	1,097.9	124 / 159
045	4,494	4,593	1,099.3	17 / 232
047	4,749	4,593	1,100.0	43 / 326
050	5,035	4,593	1,100.8	43 / 162
053	5,300	4,593	1,101.4	106 / 109
057	5,731	4,593	1,103.6	148 / 17
061	6,069	4,593	1,105.8	275 / 18
063	6,323	4,593	1,106.5	226 / 17
066	6,578	4,593	1,107.5	169 / 24
068	6,828	4,593	1,108.5	90 / 17
071	7,078	4,593	1,110.8	22 / 121
073	7,336	4,593	1,112.2	57 / 145
076	7,612	4,593	1,112.7	43 / 205
079	7,887	4,593	1,113.1	23 / 223
081	8,137	4,593	1,113.6	26 / 152
084	8,387	4,593	1,114.9	33 / 158
089	8,929	4,593	1,116.9	170 / 30
092	9,160	4,593	1,117.4	53 / 47
094	9,447	4,593	1,120.1	150 / 20
097	9,724	4,593	1,120.7	215 / 17
100	9,971	4,593	1,121.2	50 / 97
102	10,221	4,593	1,123.1	17 / 200
104	10,435	4,593	1,124.0	17 / 150
107	10,713	4,593	1,125.8	82 / 157
110	10,963	4,593	1,126.4	62 / 111
112	11,219	4,593	1,128.3	20 / 210
115	11,469	3,736	1,129.9	90 / 120
117	11,719	3,736	1,131.4	64 / 73
121	12,128	3,736	1,137.1	50 / 50
135	13,518	3,736	1,205.8	746 / 467
140	13,984	3,736	1,205.8	712 / 564
147	14,749	3,736	1,205.8	735 / 556
150	14,967	3,736	1,205.8	740 / 556
157	15,724	3,736	1,205.8	430 / 692
166	16,592	2,265	1,205.8	194 / 785
170	17,040	2,265	1,205.8	120 / 516
173	17,286	2,265	1,205.8	78 / 437
175	17,529	2,265	1,205.8	58 / 449
185	18,548	2,041	1,215.7	15 / 145
186	18,615	2,041	1,217.9	8 / 80
187	18,735	2,041	1,221.9	40 / 40
194	19,367	2,041	1,233.8	168 / 12
196	19,619	2,041	1,241.6	16 / 116
199	19,869	1,696	1,248.5	12 / 99
201	20,137	1,696	1,258.2	150 / 67
205	20,528	1,696	1,267.7	12 / 149
207	20,657	1,696	1,274.8	23 / 100

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
BIG WARRIOR CREEK TRIBUTARY 1				
003	288	1,559	1,128.9 ⁵	65 / 55
005	457	1,559	1,132.8	27 / 12
005	526	1,559	1,134.9	51 / 12
010	995	1,559	1,143.7	20 / 15
012	1,188	1,559	1,151.0	24 / 43
015	1,495	1,559	1,155.9	15 / 104
018	1,764	1,559	1,161.9	15 / 58
020	2,014	1,559	1,169.1	21 / 25
023	2,274	1,559	1,177.0	19 / 35
025	2,524	1,559	1,182.5	18 / 43
028	2,774	1,559	1,192.5	50 / 12
030	3,032	1,559	1,199.5	27 / 37
033	3,277	1,559	1,209.0	34 / 21
035	3,527	1,559	1,217.8	38 / 38
038	3,777	1,559	1,227.4	12 / 46
040	4,027	1,559	1,237.1	22 / 14
BLOOD CREEK				
010	1,011	3,318	1,075.2 ⁴	322 / 289
023	2,281	3,250	1,075.2 ⁴	100 / 99
026	2,618	3,250	1,075.2 ⁴	139 / 216
032	3,180	3,250	1,075.2 ⁴	172 / 183
035	3,541	3,250	1,075.2 ⁴	23 / 101
038	3,833	3,250	1,075.2 ⁴	67 / 68
042	4,152	3,250	1,075.2 ⁴	126 / 39
046	4,648	3,250	1,075.2 ⁴	91 / 257
050	5,049	3,250	1,075.2 ⁴	109 / 72
055	5,500	3,250	1,075.2 ⁴	31 / 173
058	5,797	3,250	1,075.2 ⁴	24 / 115
062	6,223	3,250	1,075.2 ⁴	169 / 33
067	6,656	2,953	1,075.2 ⁴	77 / 34
069	6,868	2,953	1,075.2 ⁴	180 / 18
070	7,024	2,953	1,075.2 ⁴	74 / 29
075	7,512	2,953	1,075.2 ⁴	20 / 35
077	7,724	2,953	1,075.2 ⁴	40 / 38
079	7,898	2,953	1,075.2 ⁴	86 / 43
085	8,513	2,953	1,075.2 ⁴	49 / 120
088	8,812	2,953	1,075.2 ⁴	80 / 70
093	9,305	2,953	1,075.8	36 / 19
095	9,519	2,953	1,076.5	32 / 40
101	10,069	2,953	1,078.2	31 / 94
107	10,694	2,953	1,079.7	145 / 17
111	11,053	2,613	1,080.8	46 / 56
BRIER CREEK				
013	1,340	6,624	932.7 ⁴	38 / 160
018	1,807	5,954	932.7 ⁴	24 / 42
020	1,998	5,954	932.7 ⁴	54 / 22
023	2,282	5,954	932.7 ⁴	54 / 84
026	2,644	5,954	932.7 ⁴	19 / 174

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Table 11—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)
BRIER CREEK				
029	2,852	5,954	932.7 ⁴	26 / 104
030	3,018	5,954	932.7 ⁴	90 / 24
032	3,163	5,954	932.7 ⁴	36 / 70
035	3,526	5,260	932.7 ⁴	23 / 187
040	3,953	5,260	933.4	103 / 28
043	4,333	5,260	935.1	18 / 130
046	4,619	5,260	935.9	59 / 31
050	5,021	5,260	939.2	50 / 50
054	5,362	5,260	942.1	26 / 90
056	5,645	5,260	944.7	36 / 37
059	5,876	5,260	946.3	24 / 43
060	6,025	5,260	947.8	28 / 70
062	6,226	5,260	948.7	38 / 65
065	6,466	5,260	949.8	139 / 41
070	6,997	5,095	950.4	111 / 140
074	7,385	5,095	950.8	172 / 53
079	7,911	5,095	951.3	179 / 102
086	8,576	5,095	951.8	44 / 148
093	9,257	5,095	953.9	42 / 150
097	9,722	5,095	955.2	18 / 126
102	10,179	4,644	958.3	98 / 90
107	10,739	4,644	960.2	70 / 150
111	11,055	4,517	960.8	92 / 148
116	11,610	4,517	962.5	140 / 64
120	12,013	4,517	964.1	70 / 42
124	12,371	4,517	966.3	40 / 18
126	12,596	4,517	970.1	16 / 44
129	12,860	4,517	972.5	40 / 9
131	13,144	4,517	977.8	22 / 48
134	13,403	4,517	979.6	16 / 30
137	13,741	4,517	985.2	19 / 34
141	14,061	4,517	987.4	21 / 57
144	14,392	4,517	989.0	105 / 34
149	14,872	4,517	990.0	99 / 57
153	15,281	4,517	990.8	140 / 64
158	15,825	4,517	991.7	150 / 240
164	16,355	4,517	992.2	17 / 230
168	16,772	4,517	993.0	26 / 160
174	17,363	3,885	995.4	132 / 71
177	17,740	3,885	996.5	62 / 51
180	18,019	3,885	998.2	150 / 48
184	18,444	3,885	999.1	166 / 20
189	18,947	3,885	1,001.4	16 / 137
192	19,154	3,885	1,004.7	8 / 70
194	19,356	3,885	1,007.1	26 / 16
195	19,506	3,885	1,013.4	27 / 45
197	19,678	3,885	1,024.9	44 / 82
199	19,929	3,885	1,028.3	76 / 110

Section 5.0 – Engineering Methods

Table 11—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)
BRIER CREEK				
202	20,207	3,885	1,028.6	190 / 100
206	20,553	3,885	1,028.9	180 / 140
212	21,152	3,885	1,031.2	260 / 40
215	21,452	3,605	1,031.9	130 / 20
218	21,843	3,605	1,036.3	70 / 90
222	22,159	3,605	1,039.2	50 / 40
BRIER CREEK TRIBUTARY 1				
005	516	2,015	932.7 ⁴	60 / 70
007	680	2,015	932.7 ⁴	40 / 25
008	843	2,015	932.7 ⁴	32 / 30
011	1,091	2,015	933.9	35 / 56
014	1,353	2,015	935.3	12 / 106
018	1,794	2,015	942.1	34 / 113
021	2,135	2,015	942.7	24 / 116
025	2,484	2,015	944.8	36 / 38
029	2,856	1,927	948.3	52 / 54
031	3,081	1,927	949.9	12 / 84
035	3,513	1,927	952.5	12 / 84
038	3,844	1,927	955.5	18 / 51
041	4,137	1,927	959.8	18 / 51
045	4,450	1,927	961.9	41 / 80
048	4,778	1,927	963.4	54 / 57
051	5,122	1,927	965.0	40 / 44
057	5,704	1,927	968.4	36 / 70
064	6,365	1,927	973.5	60 / 26
069	6,868	1,927	978.1	58 / 28
072	7,208	1,469	980.8	30 / 20
BRUSHY CREEK				
029	2,887	2,376	906.2	201 / 40
033	3,337	2,376	906.9	38 / 149
039	3,940	2,376	908.8	38 / 38
CANE CREEK				
010	973	4,904	1,174.5 ⁴	120 / 30
012	1,221	4,904	1,174.5 ⁴	100 / 56
015	1,539	4,879	1,174.5 ⁴	66 / 136
019	1,882	4,879	1,175.2	69 / 170
024	2,374	4,879	1,180.8	150 / 84
028	2,780	4,879	1,181.3	90 / 84
034	3,412	4,879	1,183.0	160 / 20
041	4,131	4,879	1,186.5	96 / 20
047	4,737	4,879	1,191.7	80 / 24
053	5,292	4,162	1,196.3	80 / 30
060	5,995	4,162	1,200.6	40 / 33
065	6,509	4,162	1,207.5	45 / 40
068	6,826	4,162	1,211.7	26 / 40
073	7,312	4,162	1,220.3	54 / 24
077	7,699	4,162	1,228.1	44 / 17
081	8,090	3,644	1,234.1	20 / 20

Section 5.0 – Engineering Methods

Table 11—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)
CANE CREEK				
084	8,443	3,644	1,236.4	30 / 12
090	9,005	3,644	1,242.5	34 / 54
095	9,467	3,644	1,245.3	14 / 62
099	9,896	3,644	1,251.0	40 / 60
105	10,502	3,644	1,255.9	90 / 56
110	10,969	3,644	1,259.6	20 / 80
114	11,357	3,644	1,265.8	26 / 34
116	11,571	3,644	1,269.1	44 / 34
119	11,949	3,644	1,277.5	54 / 22
121	12,129	3,644	1,281.7	54 / 24
123	12,317	3,644	1,286.6	6 / 40
126	12,555	3,644	1,292.1	5 / 60
127	12,746	3,644	1,293.3	110 / 18
130	12,998	3,644	1,293.7	176 / 10
135	13,504	3,398	1,296.0	43 / 79
142	14,186	3,398	1,302.0	54 / 90
146	14,562	3,085	1,305.6	114 / 120
151	15,112	3,085	1,309.7	38 / 142
157	15,665	3,085	1,315.0	14 / 108
162	16,223	3,085	1,319.3	26 / 130
168	16,794	3,085	1,325.3	60 / 26
CUB CREEK				
002	205	10,265	963.2 ⁴	444 / 159
004	399	10,265	963.2 ⁴	284 / 114
009	882	10,265	963.2 ⁴	235 / 89
012	1,219	10,265	963.2 ⁴	336 / 254
018	1,751	10,265	963.2 ⁴	643 / 436
022	2,206	10,265	963.8	690 / 354
030	3,000	7,950	963.9	409 / 267
034	3,359	7,950	964.0	279 / 185
040	4,000	7,950	964.3	412 / 147
048	4,753	7,950	966.3	516 / 208
055	5,469	7,950	966.8	182 / 462
057	5,742	7,950	967.1	239 / 268
061	6,102	7,950	967.8	262 / 50
065	6,484	7,865	968.5	160 / 30
070	6,997	7,865	971.9	205 / 30
075	7,506	7,865	973.2	213 / 28
078	7,794	7,865	975.0	230 / 131
080	7,987	7,865	975.4	252 / 189
085	8,454	7,678	975.9	268 / 222
087	8,739	7,678	975.9	150 / 126
090	8,994	7,678	977.5	62 / 267
098	9,814	7,678	979.7	228 / 44
104	10,420	7,626	981.8	241 / 118
109	10,913	7,626	982.3	160 / 35
114	11,356	7,626	985.8	265 / 30
118	11,809	7,626	990.7	105 / 32

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
CUB CREEK				
124	12,417	7,626	1,000.5	154 / 60
127	12,668	7,626	1,000.8	95 / 245
135	13,528	7,443	1,000.9	232 / 598
145	14,506	7,249	1,001.0	497 / 65
150	15,010	7,249	1,001.0	286 / 16
153	15,281	7,249	1,001.1	87 / 113
155	15,471	7,249	1,001.1	29 / 85
156	15,642	7,249	1,001.2	33 / 65
158	15,769	7,249	1,002.0	122 / 42
161	16,091	7,249	1,002.2	85 / 55
164	16,430	7,249	1,003.4	40 / 187
169	16,869	7,249	1,003.8	75 / 115
173	17,257	7,249	1,004.7	119 / 250
181	18,108	6,235	1,005.7	37 / 157
186	18,584	6,235	1,007.2	58 / 74
190	18,960	6,235	1,008.3	29 / 50
193	19,322	6,235	1,011.1	65 / 55
200	20,048	6,235	1,023.8	54 / 150
206	20,581	6,235	1,023.8	85 / 75
210	20,960	6,235	1,024.1	85 / 176
212	21,206	6,235	1,024.1	242 / 96
216	21,616	6,235	1,024.2	134 / 228
220	22,037	6,064	1,024.2	192 / 372
225	22,536	6,064	1,024.3	250 / 320
230	22,956	6,064	1,024.3	125 / 211
232	23,243	6,064	1,024.3	60 / 108
235	23,513	6,064	1,025.1	20 / 54
239	23,893	6,064	1,029.8	26 / 66
243	24,296	6,064	1,034.3	18 / 119
246	24,555	6,064	1,035.0	198 / 19
250	24,959	6,064	1,035.4	234 / 77
253	25,303	6,064	1,035.6	193 / 145
256	25,563	6,064	1,035.9	196 / 99
260	25,950	5,542	1,036.6	109 / 188
264	26,411	5,542	1,037.6	75 / 124
268	26,842	5,542	1,038.8	41 / 80
273	27,257	5,542	1,040.6	90 / 140
278	27,763	5,542	1,041.3	70 / 60
281	28,107	5,542	1,043.3	97 / 66
285	28,519	5,542	1,044.4	14 / 254
290	28,990	5,542	1,045.6	25 / 115
295	29,493	5,398	1,049.9	13 / 150
301	30,057	5,398	1,052.1	116 / 183
304	30,380	5,398	1,052.4	205 / 220
310	31,049	5,172	1,055.6	159 / 272
316	31,624	5,084	1,056.1	30 / 223
319	31,925	5,084	1,057.1	30 / 230
326	32,558	5,084	1,059.8	95 / 78

Section 5.0 – Engineering Methods

Table 11—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)
CUB CREEK				
332	33,245	5,084	1,065.4	21 / 350
338	33,775	5,084	1,066.6	75 / 125
341	34,082	5,084	1,069.5	65 / 180
345	34,470	5,084	1,072.2	150 / 100
350	35,000	4,323	1,076.7	15 / 196
354	35,416	4,323	1,080.2	12 / 138
359	35,881	4,218	1,083.6	165 / 124
DARNELL CREEK				
002	232	2,932	1,289.5	26 / 25
007	698	2,932	1,294.1	45 / 43
009	924	2,932	1,296.3	43 / 25
011	1,079	2,932	1,299.0	29 / 28
014	1,398	2,932	1,302.3	67 / 14
018	1,778	2,932	1,305.8	161 / 15
020	1,950	2,915	1,307.7	155 / 15
021	2,125	2,915	1,310.0	126 / 13
026	2,611	2,915	1,315.0	108 / 15
028	2,847	2,915	1,317.0	101 / 15
031	3,121	2,915	1,320.2	90 / 15
034	3,385	2,915	1,323.6	80 / 50
038	3,842	2,915	1,328.5	40 / 45
041	4,080	2,915	1,332.0	55 / 60
045	4,514	2,811	1,335.8	25 / 50
048	4,780	2,811	1,338.7	35 / 25
052	5,202	2,811	1,345.9	85 / 32
055	5,453	2,811	1,350.1	67 / 15
056	5,645	2,811	1,353.0	80 / 15
059	5,866	2,811	1,356.6	67 / 8
064	6,386	2,811	1,363.0	60 / 14
066	6,634	2,705	1,366.1	74 / 15
069	6,923	2,705	1,368.4	67 / 25
070	7,039	2,705	1,370.0	40 / 40
072	7,247	2,705	1,374.0	31 / 29
076	7,584	2,705	1,379.8	33 / 42
078	7,780	2,705	1,384.5	50 / 28
081	8,066	2,705	1,388.6	79 / 75
084	8,424	2,705	1,392.5	35 / 15
088	8,769	2,705	1,396.8	20 / 15
093	9,347	2,705	1,403.4	26 / 15
096	9,571	2,705	1,409.3	21 / 22
097	9,726	2,705	1,412.8	36 / 15
DOUBLE CREEK				
001	105	5,662	1,293.2 ⁴	155 / 45
003	330	5,662	1,293.2 ⁴	86 / 60
006	563	5,662	1,293.2 ⁴	110 / 115
010	963	5,662	1,293.2 ⁴	85 / 30
016	1,552	5,662	1,296.0	20 / 57
020	2,025	5,007	1,299.4	20 / 50

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
DOUBLE CREEK				
022	2,245	5,007	1,302.2	49 / 33
030	2,957	5,007	1,309.5	135 / 47
034	3,439	5,007	1,310.0	78 / 22
039	3,852	5,007	1,317.6	60 / 95
041	4,067	3,019	1,319.2	23 / 28
044	4,402	3,019	1,324.1	25 / 80
048	4,771	3,019	1,324.4	62 / 18
051	5,060	2,995	1,325.7	6 / 95
055	5,531	2,995	1,329.4	33 / 133
060	5,950	2,995	1,331.2	136 / 16
064	6,412	2,995	1,333.7	40 / 50
067	6,718	2,995	1,334.9	11 / 43
072	7,156	2,995	1,339.8	65 / 50
076	7,560	2,995	1,341.2	90 / 46
081	8,147	2,652	1,345.3	90 / 14
085	8,530	2,652	1,347.4	50 / 65
088	8,834	2,652	1,349.8	90 / 85
091	9,124	2,652	1,352.1	20 / 160
097	9,681	2,652	1,361.5	40 / 15
099	9,906	2,652	1,364.4	19 / 26
101	10,109	2,652	1,367.4	32 / 43
103	10,303	1,319	1,370.8	100 / 50
DOUBLE CREEK TRIBUTARY 1				
000	40	1,957	1,370.8 ⁴	15 / 53
002	233	1,957	1,370.8 ⁴	19 / 11
005	459	1,957	1,379.9	7 / 47
007	665	1,957	1,383.5	20 / 20
013	1,265	1,957	1,386.7	12 / 208
019	1,858	1,957	1,388.6	7 / 60
020	2,037	1,785	1,391.1	7 / 94
024	2,432	1,753	1,393.7	25 / 60
026	2,639	1,753	1,395.9	87 / 10
DUGGER CREEK				
001	132	5,726	1,278.1 ⁴	278 / 16
005	535	5,726	1,278.3	237 / 22
008	757	5,726	1,279.4	174 / 11
014	1,415	5,726	1,283.0	177 / 11
017	1,722	5,726	1,284.9	159 / 133
019	1,940	5,726	1,286.7	91 / 36
023	2,285	5,726	1,290.3	192 / 11
028	2,768	5,360	1,294.4	191 / 10
033	3,338	5,360	1,299.1	35 / 69
036	3,624	4,317	1,301.6	59 / 63
039	3,855	4,317	1,304.0	13 / 117
041	4,135	4,317	1,307.2	32 / 68
042	4,236	4,317	1,310.9	32 / 68
045	4,466	4,317	1,311.6	24 / 153
046	4,635	4,317	1,313.4	13 / 164

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
DUGGER CREEK				
049	4,855	4,317	1,316.3	9 / 114
054	5,360	4,317	1,322.9	28 / 21
EAST PRONG ROARING RIVER				
002	172	19,514	1,008.6 ⁴	70 / 60
009	941	19,514	1,009.0	36 / 64
018	1,775	19,514	1,011.7	60 / 40
026	2,638	19,481	1,014.0	43 / 58
033	3,307	18,604	1,015.2	24 / 78
038	3,759	18,604	1,016.8	46 / 64
042	4,163	18,604	1,017.1	54 / 36
055	5,512	18,604	1,023.9	80 / 38
065	6,495	18,505	1,027.3	74 / 48
079	7,926	18,505	1,030.4	56 / 44
089	8,921	18,505	1,032.8	48 / 44
099	9,890	18,416	1,034.6	44 / 48
106	10,574	17,884	1,035.9	48 / 60
115	11,530	17,884	1,038.7	55 / 47
124	12,398	17,830	1,041.2	29 / 45
131	13,110	17,830	1,044.6	38 / 78
137	13,720	17,830	1,045.6	30 / 64
147	14,741	17,830	1,048.7	62 / 56
158	15,808	17,830	1,049.7	66 / 46
169	16,940	17,830	1,051.6	36 / 64
178	17,813	17,830	1,053.5	31 / 38
184	18,429	17,777	1,056.5	28 / 68
192	19,223	17,777	1,058.1	59 / 60
201	20,117	17,777	1,059.7	53 / 46
214	21,448	17,777	1,062.5	50 / 54
223	22,347	17,777	1,063.5	52 / 74
232	23,192	17,510	1,065.5	37 / 72
243	24,333	17,510	1,067.3	21 / 70
249	24,902	17,510	1,068.4	47 / 42
254	25,407	17,452	1,069.9	43 / 57
268	26,785	17,452	1,072.4	64 / 39
275	27,475	17,452	1,073.2	50 / 52
284	28,420	17,452	1,074.9	39 / 39
289	28,853	17,452	1,077.4	48 / 65
296	29,621	17,362	1,079.4	90 / 37
302	30,218	17,362	1,081.7	160 / 64
307	30,698	17,362	1,082.6	97 / 180
313	31,256	17,362	1,083.1	88 / 82
316	31,641	17,362	1,084.2	100 / 104
323	32,304	13,142	1,084.9	72 / 38
329	32,941	13,142	1,086.5	19 / 64
338	33,795	13,142	1,089.6	70 / 29
344	34,390	13,142	1,095.6	66 / 60
349	34,895	13,142	1,096.6	41 / 52
355	35,454	13,142	1,098.2	44 / 62

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
EAST PRONG ROARING RIVER				
358	35,834	13,019	1,098.3	42 / 50
364	36,398	13,019	1,101.7	50 / 50
370	36,983	13,019	1,104.4	50 / 44
380	38,049	12,768	1,114.8	70 / 84
386	38,568	12,768	1,117.8	50 / 42
392	39,211	12,653	1,123.5	37 / 42
401	40,141	12,653	1,129.9	22 / 40
406	40,566	12,653	1,133.1	40 / 40
412	41,177	12,653	1,138.9	49 / 23
418	41,757	12,653	1,142.7	60 / 38
427	42,713	12,653	1,147.1	120 / 30
434	43,408	12,653	1,149.6	56 / 240
445	44,480	12,517	1,150.4	54 / 160
450	44,978	12,517	1,151.2	46 / 78
458	45,826	12,517	1,156.0	114 / 34
467	46,663	12,332	1,157.2	42 / 46
475	47,528	12,332	1,163.8	33 / 40
482	48,204	12,214	1,168.0	52 / 40
488	48,796	12,214	1,171.2	52 / 62
494	49,415	12,214	1,175.7	70 / 80
500	49,967	12,214	1,178.3	50 / 110
505	50,473	12,214	1,180.5	114 / 110
511	51,057	12,214	1,181.6	48 / 80
518	51,756	12,214	1,183.1	48 / 36
523	52,290	12,214	1,188.1	160 / 64
530	52,995	12,004	1,189.0	160 / 60
540	53,995	12,004	1,190.2	60 / 55
548	54,840	12,004	1,194.3	44 / 52
554	55,446	11,747	1,197.1	51 / 37
565	56,540	11,747	1,202.9	120 / 30
571	57,067	11,747	1,207.3	36 / 66
580	58,025	11,747	1,209.5	41 / 48
583	58,336	11,747	1,210.9	44 / 35
588	58,824	11,747	1,219.9	32 / 36
591	59,089	9,736	1,226.3	42 / 80
596	59,570	9,736	1,228.9	46 / 60
603	60,277	9,736	1,232.1	30 / 84
610	60,960	9,736	1,236.3	105 / 40
615	61,520	9,736	1,238.0	55 / 70
624	62,400	9,736	1,242.1	46 / 150
635	63,531	9,736	1,248.4	95 / 31
646	64,626	9,736	1,255.0	54 / 100
653	65,289	9,524	1,258.1	40 / 42
660	65,964	9,524	1,263.5	16 / 50
665	66,454	9,524	1,267.9	46 / 52
671	67,051	9,369	1,273.4	33 / 40
675	67,523	9,369	1,275.9	38 / 69
679	67,904	9,369	1,277.0	112 / 44

Section 5.0 – Engineering Methods

Table 11—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)
EAST PRONG ROARING RIVER				
684	68,435	9,369	1,278.0	74 / 70
692	69,178	9,369	1,284.0	95 / 100
701	70,074	9,369	1,289.4	184 / 120
713	71,256	9,138	1,292.9	100 / 60
717	71,706	9,138	1,296.0	90 / 46
722	72,181	9,138	1,299.9	70 / 40
727	72,675	9,138	1,305.0	44 / 60
735	73,503	9,138	1,309.7	150 / 60
743	74,250	8,943	1,311.5	50 / 280
752	75,169	8,943	1,317.1	170 / 60
759	75,944	8,812	1,323.2	95 / 22
768	76,814	8,812	1,330.5	46 / 32
775	77,548	7,570	1,339.9	28 / 90
781	78,123	7,570	1,343.8	46 / 30
788	78,759	7,570	1,351.6	60 / 36
796	79,573	7,570	1,358.6	60 / 34
801	80,139	6,786	1,363.8	21 / 33
804	80,398	6,786	1,365.8	21 / 17
806	80,613	6,786	1,371.1	21 / 20
809	80,917	6,786	1,375.0	24 / 25
812	81,225	6,786	1,381.2	15 / 40
815	81,543	6,786	1,389.1	12 / 55
EAST SWAN CREEK				
000	0	3,583	910.9 ⁴	155 / 44
004	399	2,432	910.9 ⁴	248 / 17
007	700	2,432	910.9 ⁴	356 / 29
011	1,050	2,432	910.9 ⁴	366 / 17
015	1,451	2,432	910.9 ⁴	257 / 16
017	1,693	2,432	910.9 ⁴	231 / 16
020	2,031	2,355	910.9 ⁴	155 / 35
025	2,481	2,355	910.9 ⁴	112 / 15
028	2,808	2,355	910.9 ⁴	15 / 62
030	3,018	2,355	910.9 ⁴	10 / 88
035	3,485	2,355	912.7	14 / 76
039	3,851	2,355	917.2	13 / 77
042	4,179	2,355	919.9	40 / 36
044	4,360	1,814	921.7	20 / 30
045	4,522	1,814	924.2	58 / 52
048	4,800	1,814	927.2	34 / 26
ELK CREEK				
011	1,114	28,961	1,090.0 ⁴	50 / 85
015	1,524	28,961	1,090.0 ⁴	230 / 40
021	2,134	28,961	1,090.4	135 / 90
025	2,534	28,902	1,093.6	95 / 125
036	3,591	28,902	1,096.9	115 / 54
040	4,021	28,902	1,103.7	185 / 135
044	4,421	28,902	1,104.9	134 / 123
049	4,901	28,902	1,105.4	55 / 77

Section 5.0 – Engineering Methods

Table 11—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)
ELK CREEK				
054	5,373	28,902	1,115.9	65 / 96
059	5,900	28,557	1,123.0	161 / 69
063	6,279	28,557	1,124.0	103 / 75
069	6,879	28,557	1,126.3	156 / 78
074	7,431	28,557	1,128.8	71 / 44
077	7,740	28,557	1,129.1	69 / 51
081	8,058	28,557	1,130.8	54 / 61
085	8,464	28,557	1,131.8	41 / 43
088	8,810	28,557	1,132.3	50 / 60
091	9,133	28,557	1,136.6	250 / 70
097	9,740	27,091	1,137.0	200 / 130
102	10,154	27,091	1,137.3	175 / 65
109	10,855	27,091	1,139.1	54 / 82
113	11,253	27,091	1,140.7	48 / 157
117	11,677	26,037	1,141.6	130 / 80
119	11,949	26,037	1,142.3	142 / 64
123	12,272	26,037	1,142.5	107 / 44
126	12,610	26,037	1,143.4	146 / 40
131	13,070	26,037	1,145.2	128 / 177
134	13,387	26,037	1,145.7	161 / 56
138	13,796	26,037	1,147.1	333 / 16
143	14,310	26,037	1,147.4	141 / 37
146	14,571	26,037	1,147.5	90 / 35
148	14,845	26,037	1,147.9	50 / 170
152	15,152	26,037	1,151.9	31 / 306
158	15,768	26,037	1,152.8	68 / 216
163	16,324	25,103	1,154.2	95 / 105
167	16,716	25,103	1,154.6	49 / 105
169	16,948	25,103	1,154.9	34 / 115
172	17,210	25,103	1,156.2	60 / 106
174	17,446	25,103	1,156.9	90 / 70
178	17,783	25,103	1,160.7	205 / 130
179	17,905	25,103	1,160.7	205 / 144
186	18,607	24,790	1,161.8	101 / 147
192	19,158	24,790	1,164.1	242 / 84
196	19,644	24,790	1,164.7	373 / 55
201	20,080	24,790	1,165.2	373 / 43
204	20,394	24,790	1,165.6	377 / 36
207	20,715	24,790	1,166.0	350 / 33
211	21,073	24,790	1,166.6	425 / 33
216	21,590	24,424	1,167.9	190 / 352
224	22,404	24,424	1,169.4	197 / 390
236	23,586	23,507	1,173.4	414 / 600
240	24,002	23,507	1,174.5	229 / 314
243	24,290	23,055	1,175.2	123 / 102
252	25,161	23,055	1,181.5	67 / 129
255	25,507	23,055	1,185.6	269 / 142
261	26,123	22,114	1,187.8	101 / 54

Section 5.0 – Engineering Methods

Table 11—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)
ELK CREEK				
265	26,477	22,114	1,190.3	170 / 39
270	26,996	22,114	1,195.8	251 / 55
275	27,547	22,114	1,197.0	99 / 156
280	28,012	21,765	1,199.3	110 / 237
288	28,810	21,765	1,200.3	86 / 314
293	29,343	21,765	1,201.1	56 / 400
300	29,971	21,641	1,202.9	193 / 80
303	30,304	21,641	1,204.9	234 / 30
308	30,842	21,641	1,209.0	100 / 70
312	31,210	21,641	1,210.7	71 / 60
317	31,688	21,641	1,216.2	93 / 344
321	32,128	21,641	1,217.1	160 / 400
325	32,499	21,641	1,217.7	150 / 330
328	32,796	21,641	1,218.4	325 / 240
333	33,287	21,641	1,219.4	180 / 65
337	33,748	21,641	1,220.4	95 / 67
343	34,326	21,641	1,225.8	181 / 61
353	35,274	20,098	1,233.5	213 / 56
356	35,557	20,098	1,234.2	272 / 47
366	36,570	20,098	1,236.5	125 / 275
371	37,146	19,622	1,237.4	310 / 110
376	37,574	19,622	1,237.9	433 / 64
380	37,983	18,495	1,238.8	281 / 161
386	38,559	18,495	1,240.0	253 / 31
391	39,125	18,435	1,242.3	210 / 106
399	39,900	18,435	1,245.8	69 / 160
403	40,344	18,435	1,246.9	26 / 129
409	40,871	18,435	1,250.3	161 / 261
415	41,459	18,435	1,251.8	177 / 55
420	42,003	18,435	1,254.3	59 / 235
424	42,445	18,435	1,255.8	128 / 109
431	43,126	18,435	1,258.7	174 / 165
439	43,916	18,435	1,260.7	257 / 126
449	44,855	17,740	1,266.5	138 / 350
453	45,293	17,740	1,268.6	248 / 231
459	45,887	17,740	1,270.1	109 / 444
463	46,346	17,740	1,271.5	108 / 333
469	46,916	17,740	1,273.9	277 / 124
475	47,513	17,740	1,276.3	250 / 35
487	48,677	12,513	1,283.1	134 / 53
490	49,001	12,513	1,283.6	127 / 32
495	49,508	12,513	1,285.1	175 / 35
498	49,767	12,513	1,287.3	130 / 30
504	50,398	12,445	1,289.7	36 / 139
508	50,796	12,445	1,290.3	30 / 65
512	51,189	12,445	1,294.3	43 / 175
514	51,431	12,445	1,296.1	54 / 171
517	51,719	12,445	1,296.5	28 / 188

Section 5.0 – Engineering Methods

Table 11—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)
ELK CREEK				
521	52,051	12,445	1,299.5	116 / 214
525	52,461	12,445	1,301.2	319 / 22
528	52,845	12,445	1,302.8	323 / 22
533	53,300	12,445	1,304.6	100 / 50
537	53,655	12,445	1,308.4	58 / 64
542	54,202	12,445	1,312.9	61 / 87
545	54,476	12,445	1,314.2	119 / 90
548	54,836	12,445	1,314.8	34 / 59
552	55,184	12,445	1,317.0	32 / 53
555	55,504	12,445	1,322.2	55 / 66
560	55,992	11,860	1,325.9	66 / 39
568	56,828	11,860	1,331.6	66 / 50
572	57,174	11,860	1,331.8	34 / 97
577	57,653	11,860	1,338.8	46 / 56
580	58,004	11,860	1,344.5	53 / 48
583	58,305	11,860	1,344.8	62 / 58
589	58,869	11,860	1,346.6	63 / 81
592	59,162	11,860	1,348.2	89 / 93
595	59,480	11,527	1,348.7	58 / 38
ELK CREEK TRIBUTARY 1				
001	56	1,186	1,234.9 ⁴	48 / 26
003	294	1,186	1,236.8	32 / 8
005	469	1,186	1,249.7	27 / 12
006	639	1,186	1,282.4	11 / 7
009	850	1,186	1,322.8	11 / 9
011	1,057	1,186	1,349.9	19 / 20
014	1,381	1,186	1,360.6	21 / 31
017	1,713	1,186	1,372.0	26 / 29
020	2,027	1,186	1,387.6	18 / 29
022	2,184	1,186	1,400.8	27 / 12
025	2,473	1,186	1,416.7	26 / 52
026	2,637	1,186	1,421.5	32 / 7
029	2,861	1,186	1,442.2	29 / 10
031	3,084	1,186	1,467.5	17 / 9
033	3,302	1,186	1,495.8	4 / 17
035	3,541	1,186	1,514.9	19 / 19
037	3,689	1,017	1,530.5	13 / 14
039	3,895	1,017	1,559.0	16 / 5
040	4,027	1,017	1,568.8	5 / 15
042	4,168	1,017	1,580.9	16 / 9
043	4,330	1,017	1,601.8	6 / 6
045	4,525	902	1,626.0	7 / 13
ELK CREEK TRIBUTARY 2				
013	1,298	2,102	1,238.8	79 / 150
016	1,604	2,102	1,244.2	16 / 162
018	1,780	2,102	1,250.4	27 / 136
022	2,230	2,102	1,258.9	99 / 12
025	2,503	2,102	1,264.2	25 / 20

Section 5.0 – Engineering Methods

Table 11—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)
ELK CREEK TRIBUTARY 2				
028	2,769	1,492	1,267.6	14 / 145
030	2,950	1,492	1,268.5	21 / 99
032	3,171	1,492	1,270.9	15 / 92
034	3,402	1,492	1,273.7	15 / 130
036	3,589	1,492	1,276.1	17 / 94
039	3,850	1,492	1,279.3	36 / 102
045	4,467	1,492	1,287.1	194 / 36
049	4,883	1,492	1,294.4	26 / 60
052	5,234	1,492	1,299.4	68 / 159
058	5,839	1,492	1,313.1	139 / 23
060	6,044	1,492	1,315.4	23 / 37
062	6,215	1,492	1,318.4	36 / 43
067	6,711	1,492	1,330.6	54 / 13
070	7,023	1,025	1,335.2	61 / 58
072	7,236	1,025	1,341.1	19 / 9
078	7,795	591	1,357.7	34 / 36
ELKIN CREEK				
135	13,524	10,334	944.8	37 / 36
139	13,928	10,316	948.5	43 / 45
143	14,324	10,316	952.2	33 / 55
150	15,023	9,675	959.7	310 / 44
156	15,624	9,647	962.7	102 / 50
162	16,185	9,647	964.2	146 / 27
165	16,516	9,647	965.8	49 / 200
170	17,028	9,647	970.4	375 / 30
175	17,500	9,647	970.9	606 / 27
180	18,000	9,647	972.5	429 / 28
185	18,500	9,647	973.8	180 / 74
190	19,000	9,647	975.6	31 / 205
195	19,500	9,647	980.0	300 / 64
199	19,878	8,439	980.4	82 / 53
204	20,431	8,439	989.6	41 / 70
217	21,682	8,439	998.4	261 / 154
221	22,062	8,439	999.2	132 / 138
227	22,685	8,208	1,001.3	52 / 34
231	23,125	8,208	1,002.0	39 / 30
235	23,500	8,208	1,004.0	50 / 42
238	23,833	8,208	1,005.4	137 / 51
244	24,354	8,208	1,008.5	71 / 41
248	24,844	8,208	1,010.2	54 / 35
254	25,432	8,208	1,025.4	57 / 60
260	25,964	8,208	1,068.6	58 / 55
265	26,531	8,208	1,081.4	106 / 42
277	27,682	8,208	1,088.1	150 / 240
282	28,211	8,208	1,088.6	31 / 150
292	29,200	8,208	1,090.1	49 / 42
295	29,500	8,208	1,091.6	40 / 35
300	30,000	8,208	1,093.5	47 / 441

Section 5.0 – Engineering Methods

Table 11—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)
ELKIN CREEK				
311	31,145	7,921	1,095.1	622 / 291
315	31,459	7,921	1,095.1	488 / 294
321	32,068	7,921	1,096.1	43 / 138
325	32,500	7,921	1,097.9	32 / 29
330	33,000	7,921	1,099.8	45 / 59
335	33,500	7,538	1,100.7	76 / 22
342	34,204	7,393	1,105.1	82 / 23
346	34,583	7,393	1,106.6	66 / 28
351	35,091	7,393	1,108.4	67 / 24
355	35,500	7,393	1,109.8	57 / 34
358	35,753	7,393	1,110.1	58 / 29
367	36,698	6,191	1,112.8	275 / 117
371	37,106	6,191	1,112.8	31 / 103
375	37,500	6,191	1,112.9	91 / 86
379	37,903	6,191	1,113.7	50 / 52
384	38,409	6,191	1,114.4	44 / 86
388	38,812	6,191	1,115.2	64 / 64
394	39,356	6,191	1,116.8	36 / 64
398	39,819	6,191	1,119.2	167 / 141
402	40,208	6,191	1,119.6	86 / 147
410	40,965	6,007	1,120.8	230 / 24
416	41,598	6,007	1,121.8	38 / 82
422	42,230	6,007	1,125.0	34 / 162
427	42,675	6,007	1,126.7	27 / 338
432	43,170	5,694	1,127.6	401 / 247
438	43,842	5,694	1,128.7	216 / 203
442	44,245	5,694	1,130.4	87 / 204
445	44,500	5,694	1,132.6	61 / 369
450	45,000	5,694	1,133.6	192 / 418
455	45,500	5,694	1,135.8	195 / 276
462	46,158	5,586	1,138.3	120 / 235
465	46,500	5,586	1,140.4	38 / 155
471	47,111	5,529	1,143.0	133 / 73
475	47,500	5,529	1,144.8	198 / 39
480	47,971	5,529	1,145.4	43 / 44
487	48,694	5,421	1,147.4	249 / 197
490	48,965	5,421	1,149.1	190 / 159
496	49,565	5,421	1,152.3	21 / 163
500	50,041	5,421	1,154.1	184 / 78
504	50,368	5,331	1,157.0	107 / 215
509	50,865	5,331	1,158.6	102 / 120
514	51,440	5,331	1,160.4	41 / 67
520	52,000	5,331	1,163.4	42 / 40
527	52,744	5,331	1,165.9	19 / 60
532	53,223	5,133	1,170.4	180 / 136
536	53,577	5,133	1,171.3	172 / 30
540	53,994	5,133	1,172.6	39 / 52
545	54,532	5,133	1,174.4	29 / 32

Section 5.0 – Engineering Methods

Table 11—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)
ELKIN CREEK				
549	54,918	5,133	1,179.5	24 / 80
553	55,286	5,133	1,179.9	16 / 47
560	56,047	5,091	1,184.1	96 / 29
565	56,513	5,091	1,185.1	229 / 270
571	57,114	3,990	1,185.4	199 / 20
576	57,589	3,990	1,186.6	23 / 194
580	58,000	3,990	1,188.3	14 / 173
585	58,500	3,990	1,191.6	14 / 240
590	59,000	3,990	1,193.8	320 / 15
595	59,500	3,990	1,195.0	300 / 15
600	60,000	3,990	1,198.0	357 / 55
605	60,500	3,990	1,200.1	369 / 110
610	61,000	3,990	1,202.3	160 / 142
615	61,500	3,990	1,203.8	124 / 442
620	62,047	3,990	1,206.2	84 / 425
626	62,561	3,463	1,209.5	137 / 65
631	63,050	3,463	1,213.2	78 / 52
637	63,749	3,463	1,218.2	44 / 120
640	63,986	3,463	1,218.9	39 / 31
645	64,500	3,463	1,222.0	84 / 37
650	64,985	3,463	1,224.6	86 / 25
655	65,464	3,463	1,229.0	187 / 21
661	66,106	3,463	1,230.2	82 / 19
665	66,501	3,307	1,233.3	126 / 30
673	67,310	3,307	1,236.4	28 / 400
680	68,048	3,307	1,237.9	43 / 43
687	68,736	3,307	1,242.8	27 / 103
691	69,136	3,307	1,245.7	50 / 44
696	69,606	3,193	1,247.4	68 / 35
700	70,000	3,193	1,247.5	23 / 14
705	70,482	3,193	1,250.9	62 / 36
709	70,890	3,193	1,254.2	149 / 28
714	71,406	3,193	1,256.0	85 / 47
720	71,970	3,120	1,258.2	33 / 190
725	72,500	3,049	1,260.8	51 / 256
730	73,007	3,049	1,262.8	54 / 280
735	73,501	3,049	1,266.3	143 / 36
744	74,388	3,049	1,271.9	150 / 91
755	75,500	2,698	1,278.3	59 / 278
758	75,845	2,698	1,281.1	25 / 157
763	76,310	2,698	1,284.3	33 / 34
775	77,527	2,001	1,293.1	16 / 136
ELKIN CREEK TRIBUTARY 1				
003	263	1,401	1,185.1 ⁴	35 / 90
004	390	1,401	1,185.1 ⁴	12 / 65
008	785	1,401	1,185.9	28 / 75
013	1,281	1,401	1,189.6	93 / 13
016	1,616	1,376	1,193.1	25 / 70

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
ELKIN CREEK TRIBUTARY 1				
020	2,026	1,376	1,197.0	40 / 65
023	2,339	1,376	1,198.9	120 / 75
028	2,792	1,376	1,201.2	110 / 40
032	3,171	1,303	1,205.2	60 / 45
038	3,849	1,303	1,209.6	120 / 25
043	4,302	1,303	1,212.5	35 / 50
FISHING CREEK				
037	3,651	9,484	942.4 ⁴	350 / 235
044	4,397	9,484	942.4 ⁴	245 / 45
046	4,611	9,484	942.4 ⁴	217 / 55
051	5,109	9,484	942.4 ⁴	144 / 84
055	5,452	9,484	942.8	74 / 43
058	5,751	9,484	945.1	93 / 82
060	6,019	6,608	945.2	20 / 45
067	6,655	6,608	949.4	16 / 62
072	7,186	6,608	954.7	85 / 45
076	7,576	6,608	956.0	52 / 28
080	8,040	6,608	958.2	70 / 90
085	8,535	6,608	958.2	37 / 43
090	8,972	6,608	960.2	27 / 133
093	9,314	6,608	960.7	130 / 20
098	9,813	6,608	961.6	60 / 43
104	10,352	6,608	965.3	130 / 70
109	10,878	6,447	965.6	66 / 160
114	11,396	6,447	966.4	90 / 200
120	12,029	6,447	966.8	147 / 20
123	12,322	6,447	967.7	88 / 31
130	12,958	6,260	971.0	210 / 27
135	13,500	6,260	971.7	194 / 146
139	13,899	6,260	972.1	151 / 87
145	14,467	6,260	974.3	116 / 82
150	15,000	6,260	976.7	118 / 32
155	15,455	6,260	979.0	198 / 20
160	15,952	6,260	981.1	116 / 132
164	16,381	6,260	982.9	176 / 20
170	17,039	6,260	986.4	276 / 19
178	17,792	6,051	990.3	75 / 73
182	18,199	6,051	993.2	53 / 110
185	18,526	6,051	993.6	74 / 19
190	19,041	5,838	998.3	48 / 46
195	19,500	5,838	1,000.4	48 / 35
199	19,895	5,838	1,002.1	39 / 27
203	20,288	5,838	1,005.4	60 / 49
208	20,753	5,838	1,007.0	200 / 19
213	21,292	5,838	1,007.0	83 / 37
220	22,000	5,838	1,008.1	100 / 140
226	22,551	5,618	1,008.5	150 / 100

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
FISHING CREEK				
232	23,245	5,618	1,009.3	67 / 62
236	23,603	5,618	1,011.1	97 / 158
240	24,047	5,618	1,011.9	65 / 207
245	24,544	5,618	1,013.0	140 / 95
250	24,981	5,618	1,014.3	110 / 37
257	25,713	5,618	1,019.0	72 / 202
265	26,526	5,618	1,022.0	60 / 184
271	27,147	4,523	1,023.2	200 / 17
277	27,709	4,523	1,027.4	115 / 30
281	28,058	4,523	1,031.9	70 / 16
285	28,506	4,523	1,038.1	80 / 30
291	29,138	3,832	1,041.7	16 / 100
297	29,662	3,832	1,044.2	47 / 69
301	30,129	3,832	1,045.6	16 / 42
305	30,500	3,832	1,048.8	45 / 50
309	30,912	3,832	1,050.4	65 / 125
313	31,331	3,832	1,050.7	69 / 180
319	31,935	3,832	1,051.0	91 / 108
326	32,575	3,832	1,052.0	16 / 186
330	32,976	3,832	1,053.4	22 / 68
332	33,154	3,832	1,056.9	124 / 45
338	33,837	3,832	1,058.9	72 / 25
344	34,364	3,832	1,061.0	67 / 50
349	34,856	3,832	1,062.4	70 / 154
352	35,209	3,832	1,062.7	55 / 220
354	35,386	3,832	1,062.8	37 / 223
356	35,574	3,832	1,063.2	81 / 176
FISHING CREEK TRIBUTARY 1				
001	89	5,447	945.1 ⁴	22 / 80
004	374	5,447	945.1 ⁴	31 / 38
006	581	5,447	948.3	25 / 42
007	702	5,447	948.4	32 / 27
008	813	5,447	949.5	12 / 39
009	934	5,447	953.1	20 / 63
012	1,164	5,447	953.5	16 / 100
014	1,366	5,447	959.2	60 / 120
015	1,524	5,447	959.7	44 / 120
018	1,769	5,447	960.2	138 / 8
022	2,205	5,447	960.3	50 / 12
024	2,403	5,447	967.5	47 / 19
026	2,583	5,447	971.3	40 / 25
027	2,735	5,447	971.9	37 / 24
029	2,914	5,447	974.9	50 / 59
032	3,180	5,447	976.5	76 / 125
033	3,266	5,447	976.5	85 / 92
035	3,463	5,447	976.5	55 / 73
036	3,648	5,447	976.6	29 / 61

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
FISHING CREEK TRIBUTARY 1				
038	3,813	5,447	977.5	47 / 89
039	3,914	5,447	977.7	52 / 97
042	4,204	5,447	978.4	84 / 194
047	4,713	5,447	978.8	164 / 214
053	5,299	5,447	979.0	109 / 88
055	5,521	5,234	980.2	50 / 62
060	6,040	5,234	982.7	28 / 125
063	6,329	5,234	983.2	26 / 60
065	6,536	5,234	984.0	26 / 50
067	6,723	5,234	984.3	18 / 29
070	6,981	5,234	987.0	24 / 29
072	7,193	5,234	988.3	28 / 29
074	7,417	5,234	990.4	23 / 35
076	7,591	5,234	993.5	61 / 34
078	7,779	5,234	994.5	87 / 103
081	8,135	5,234	994.8	18 / 196
085	8,512	4,892	995.0	81 / 132
088	8,794	4,892	995.0	30 / 78
091	9,094	4,892	996.3	76 / 88
096	9,565	4,892	997.0	145 / 145
101	10,139	4,892	997.3	53 / 178
FISHING CREEK TRIBUTARY 2				
002	157	2,364	1,022.7 ⁴	87 / 26
004	398	2,364	1,023.3	57 / 54
008	784	2,364	1,027.4	94 / 23
010	984	2,364	1,029.0	91 / 14
012	1,238	2,364	1,031.4	14 / 70
016	1,586	2,364	1,035.4	66 / 33
017	1,706	2,364	1,036.2	86 / 33
020	1,972	2,364	1,037.6	36 / 55
022	2,231	2,364	1,039.6	12 / 81
024	2,379	2,364	1,042.3	63 / 40
025	2,523	2,364	1,045.6	37 / 21
026	2,643	2,364	1,048.4	37 / 25
028	2,780	2,364	1,049.3	41 / 30
029	2,899	2,364	1,050.5	47 / 23
031	3,098	2,364	1,053.2	95 / 31
035	3,474	2,364	1,056.3	23 / 80
038	3,780	2,364	1,059.2	13 / 90
040	4,047	2,364	1,062.7	40 / 13
042	4,165	2,364	1,063.9	35 / 16
043	4,273	2,364	1,066.5	32 / 27
044	4,404	2,364	1,068.8	13 / 75
046	4,611	2,364	1,069.7	78 / 14
048	4,799	2,364	1,071.1	70 / 31
051	5,064	2,364	1,073.4	35 / 51
054	5,395	2,364	1,078.3	110 / 13

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
FISHING CREEK TRIBUTARY 2				
056	5,637	1,960	1,081.3	36 / 26
059	5,850	1,960	1,086.7	24 / 27
061	6,061	1,960	1,090.8	10 / 25
062	6,221	1,960	1,094.5	30 / 41
064	6,407	1,960	1,098.9	28 / 32
066	6,590	1,960	1,102.2	30 / 40
068	6,780	1,960	1,102.5	85 / 32
070	6,951	1,960	1,102.7	38 / 40
072	7,222	1,960	1,104.2	20 / 80
076	7,616	1,960	1,106.1	50 / 24
080	8,034	1,960	1,110.5	13 / 74
082	8,184	1,960	1,111.7	13 / 140
090	8,955	1,960	1,119.0	13 / 130
093	9,308	1,960	1,119.4	20 / 150
096	9,580	1,960	1,120.1	13 / 92
101	10,101	1,960	1,124.1	12 / 134
103	10,282	1,960	1,125.0	12 / 148
106	10,588	1,584	1,126.5	12 / 140
108	10,813	1,584	1,127.7	15 / 90
110	10,964	1,584	1,129.4	13 / 59
FISHING CREEK TRIBUTARY 2A				
015	1,501	411	1,125.0 ⁶	75 / 12
020	1,987	411	1,129.8	12 / 36
022	2,150	411	1,134.9	8 / 44
023	2,269	411	1,140.5	17 / 22
024	2,423	411	1,146.9	14 / 10
026	2,559	411	1,153.2	12 / 14
FLETCHER CREEK				
004	371	3,078	1,399.4 ⁷	8 / 179
005	500	3,078	1,400.3 ⁷	12 / 112
008	755	3,078	1,408.1	10 / 118
010	1,005	3,078	1,412.3	21 / 120
013	1,255	3,078	1,421.5	38 / 24
015	1,505	3,078	1,432.5	63 / 9
018	1,755	3,078	1,439.9	38 / 9
020	2,005	3,078	1,446.7	28 / 50
023	2,255	3,078	1,455.0	70 / 8
025	2,505	2,929	1,463.2	89 / 10
028	2,755	2,929	1,470.0	99 / 8
030	3,005	2,929	1,477.6	69 / 28
033	3,287	2,929	1,486.0	9 / 122
035	3,499	2,762	1,492.4	9 / 165
038	3,755	2,762	1,499.7	9 / 136
040	4,005	2,762	1,511.3	53 / 53
042	4,203	2,762	1,517.0	68 / 34
GAMBILL CREEK				
002	170	2,373	1,343.4 ⁴	52 / 30

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
GAMBILL CREEK				
002	248	2,373	1,344.4	32 / 58
005	501	2,373	1,347.1	14 / 94
008	819	2,373	1,352.3	29 / 63
010	1,001	2,373	1,356.5	13 / 74
013	1,299	2,373	1,361.4	13 / 95
015	1,502	2,373	1,364.4	13 / 84
019	1,885	2,373	1,371.1	19 / 28
026	2,551	2,373	1,382.4	13 / 20
030	3,034	2,036	1,390.6	123 / 18
036	3,626	2,036	1,400.8	32 / 52
GLADYS FORK				
003	275	2,809	1,091.7 ⁴	50 / 100
005	510	2,809	1,091.7 ⁴	53 / 97
009	900	2,809	1,091.7 ⁴	18 / 96
011	1,149	2,809	1,091.9	28 / 40
018	1,800	2,809	1,096.2	30 / 60
021	2,100	2,809	1,098.9	27 / 50
023	2,299	2,809	1,100.0	30 / 50
028	2,771	2,809	1,104.6	60 / 70
033	3,307	2,537	1,115.3	43 / 33
035	3,482	2,537	1,124.7	24 / 30
037	3,702	2,537	1,128.3	40 / 40
039	3,935	2,537	1,128.6	32 / 50
042	4,195	2,537	1,129.4	100 / 20
044	4,379	2,537	1,130.1	100 / 8
047	4,703	2,537	1,133.1	60 / 15
048	4,843	2,537	1,135.5	20 / 33
051	5,116	2,384	1,138.8	80 / 8
054	5,351	2,384	1,139.6	68 / 29
056	5,591	2,384	1,140.9	80 / 28
GRASSY CREEK WEST				
003	293	1,800	980.3 ⁴	12 / 28
007	709	1,800	983.3	35 / 18
GRASSY FORK				
001	111	1,852	1,111.7 ⁴	22 / 12
003	308	1,852	1,111.7 ⁴	25 / 20
006	587	1,852	1,111.7 ⁴	25 / 20
011	1,090	1,852	1,112.6	25 / 18
015	1,507	1,852	1,116.3	50 / 20
020	1,988	1,826	1,119.4	35 / 6
GRAYS CREEK				
001	140	2,015	920.7 ⁴	15 / 35
007	681	2,015	920.7 ⁴	70 / 50
010	1,014	2,015	920.7 ⁴	80 / 36
013	1,325	2,015	920.7 ⁴	65 / 110
017	1,738	2,015	920.7 ⁴	100 / 50
023	2,257	1,970	920.7 ⁴	70 / 70

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
GRAYS CREEK				
026	2,620	1,970	920.7 ⁴	85 / 70
032	3,228	1,970	920.7 ⁴	68 / 105
035	3,499	1,970	920.7 ⁴	17 / 55
044	4,361	1,781	920.7 ⁴	70 / 90
048	4,847	1,781	920.7 ⁴	50 / 80
056	5,563	1,781	920.7 ⁴	25 / 90
060	6,015	1,781	920.7 ⁴	16 / 100
066	6,577	1,700	920.9	69 / 35
072	7,195	1,700	922.9	43 / 57
077	7,704	1,700	923.7	45 / 25
083	8,322	1,700	928.1	40 / 80
086	8,634	1,700	928.9	90 / 20
HARRIS CREEK				
000	47	3,361	1,318.0 ⁴	40 / 20
001	135	3,361	1,319.7	9 / 45
003	306	3,361	1,324.0	80 / 61
005	493	3,361	1,325.3	25 / 100
008	752	3,361	1,328.6	80 / 90
010	995	3,361	1,331.1	42 / 37
014	1,406	3,361	1,336.2	80 / 50
016	1,617	3,361	1,337.3	154 / 17
022	2,238	3,361	1,344.6	57 / 83
025	2,459	3,361	1,348.6	34 / 36
027	2,737	3,361	1,354.9	13 / 16
030	2,965	3,361	1,360.6	30 / 42
033	3,261	3,361	1,364.5	32 / 18
035	3,526	3,361	1,369.3	56 / 44
039	3,928	3,253	1,371.6	85 / 85
043	4,323	3,253	1,374.4	115 / 130
046	4,597	3,253	1,377.6	120 / 50
050	5,031	3,253	1,383.4	95 / 25
053	5,265	3,253	1,385.7	60 / 17
056	5,590	3,253	1,390.2	25 / 120
059	5,920	3,253	1,393.7	110 / 17
063	6,338	3,253	1,398.6	127 / 17
067	6,749	3,138	1,404.5	65 / 109
070	7,042	3,138	1,408.5	16 / 127
074	7,411	3,138	1,413.8	92 / 75
078	7,758	3,138	1,419.0	63 / 65
081	8,086	3,138	1,424.5	38 / 40
HOOPERS BRANCH				
006	567	595	996.5 ⁴	16 / 10
012	1,231	595	996.5 ⁴	49 / 9
016	1,621	595	997.0	7 / 42
019	1,859	595	1,000.6	32 / 6
022	2,182	595	1,004.4	60 / 11
025	2,460	595	1,007.8	7 / 12
027	2,711	595	1,012.8	7 / 28

Section 5.0 – Engineering Methods

Table 11—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)
HOOPERS BRANCH				
031	3,053	595	1,018.5	7 / 9
034	3,373	503	1,026.7	7 / 7
036	3,598	503	1,031.9	11 / 21
038	3,819	503	1,036.4	7 / 7
041	4,091	503	1,042.3	9 / 7
044	4,354	503	1,047.8	7 / 7
047	4,727	503	1,055.9	14 / 10
052	5,185	503	1,064.9	15 / 7
054	5,443	503	1,069.9	10 / 9
056	5,590	375	1,071.4	7 / 7
057	5,749	375	1,072.9	7 / 7
059	5,911	375	1,074.6	7 / 7
061	6,131	375	1,077.9	7 / 7
064	6,380	375	1,082.6	7 / 7
066	6,569	375	1,088.1	13 / 8
HUFFMAN BRANCH				
005	495	2,114	1,278.3 ⁴	100 / 18
007	671	2,114	1,278.6	24 / 40
008	809	2,114	1,282.1	7 / 40
011	1,082	2,041	1,286.3	66 / 8
014	1,398	2,041	1,290.5	29 / 47
016	1,601	2,041	1,293.8	91 / 30
018	1,827	2,041	1,296.1	44 / 65
020	2,045	2,041	1,299.0	8 / 155
023	2,330	2,041	1,303.5	25 / 79
026	2,605	2,041	1,307.2	29 / 55
029	2,948	2,041	1,313.1	8 / 97
032	3,209	2,041	1,317.6	8 / 100
035	3,462	1,853	1,324.1	8 / 188
HUNTING CREEK				
1992	199,207	10,760	894.1	64 / 120
1995	199,495	10,760	894.5	70 / 54
2000	200,000	10,233	895.1	73 / 38
2004	200,446	10,233	895.3	63 / 53
2011	201,130	10,233	896.8	74 / 41
2016	201,565	10,233	897.0	63 / 53
2020	202,023	9,404	897.5	70 / 51
2025	202,535	9,404	897.8	61 / 51
2030	203,012	9,404	898.1	37 / 41
2035	203,505	9,404	898.6	61 / 51
2040	204,032	9,404	899.1	45 / 56
2045	204,502	9,404	899.5	41 / 41
2050	204,997	9,404	900.5	31 / 51
2055	205,493	9,404	901.5	63 / 51
2060	205,971	9,404	902.0	61 / 51
2065	206,480	9,379	902.6	68 / 51
2070	207,022	9,379	903.1	61 / 51
2075	207,517	9,379	903.6	61 / 43

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Table 11—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)
HUNTING CREEK				
2080	207,962	9,379	904.3	101 / 36
2085	208,523	9,379	905.1	55 / 71
2090	208,995	9,379	905.1	61 / 55
2095	209,500	9,379	905.9	40 / 40
2100	210,016	9,379	906.6	57 / 44
2105	210,503	9,379	908.5	61 / 33
2110	211,005	9,379	909.2	61 / 51
2115	211,503	9,379	910.0	53 / 61
2120	211,979	9,379	910.3	54 / 41
2125	212,502	9,379	912.0	61 / 32
2129	212,888	9,379	912.8	154 / 245
2140	213,996	7,184	915.6	79 / 400
2150	214,999	7,184	916.2	508 / 82
2156	215,575	7,184	916.4	424 / 297
2159	215,925	7,184	916.4	103 / 369
2166	216,596	7,082	917.5	230 / 340
2170	217,010	7,082	917.8	311 / 245
2175	217,509	7,082	918.0	40 / 380
2180	218,016	7,082	918.7	224 / 468
2185	218,502	7,082	919.3	36 / 578
2190	219,012	7,082	919.9	212 / 297
2195	219,500	7,082	920.9	138 / 264
2200	219,977	7,082	921.6	77 / 35
2205	220,519	7,036	923.7	353 / 143
2210	220,982	7,036	925.5	287 / 336
2215	221,485	7,036	926.3	165 / 443
2221	222,089	7,036	927.0	344 / 400
2225	222,497	6,985	927.7	378 / 419
2230	223,004	6,985	929.0	440 / 160
2234	223,428	6,985	930.0	230 / 180
2239	223,941	6,985	931.2	54 / 44
2245	224,480	6,985	933.1	68 / 48
2250	224,985	6,985	934.1	143 / 54
2255	225,490	6,985	935.3	44 / 44
2260	226,027	6,813	937.8	140 / 74
2265	226,493	6,813	938.7	92 / 26
2270	227,023	6,813	940.4	120 / 28
2275	227,455	6,813	941.2	53 / 53
2280	227,993	6,813	942.1	53 / 30
2286	228,591	6,813	942.8	193 / 42
2290	229,007	6,592	943.2	53 / 53
2295	229,487	6,592	944.0	53 / 53
2299	229,911	6,592	944.3	58 / 72
2303	230,338	6,592	944.5	56 / 37
2308	230,803	6,592	945.2	53 / 41
2312	231,246	6,592	946.0	53 / 40
2315	231,530	6,556	946.5	39 / 53
2320	231,962	6,556	947.0	43 / 53

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
HUNTING CREEK				
2325	232,478	6,556	948.0	44 / 40
2330	232,999	6,556	948.5	38 / 44
2335	233,488	6,556	949.1	35 / 46
2345	234,473	6,556	951.5	76 / 70
2350	234,990	6,556	952.5	136 / 53
2355	235,491	6,556	953.1	177 / 73
2359	235,914	6,556	953.4	370 / 239
2365	236,503	6,394	953.7	150 / 72
2370	237,011	6,394	954.2	52 / 287
2375	237,466	6,394	954.4	63 / 243
2380	237,997	6,347	954.9	659 / 325
2385	238,505	6,347	955.0	372 / 134
2390	239,033	6,347	955.3	185 / 399
2395	239,515	6,275	955.6	184 / 279
2400	239,997	6,275	956.0	217 / 246
2405	240,496	6,275	956.6	297 / 152
2410	240,985	6,275	957.0	138 / 105
2415	241,499	6,275	957.6	45 / 45
2420	241,956	6,275	958.1	41 / 45
2430	242,998	6,014	962.8	320 / 43
2435	243,482	6,014	963.1	183 / 43
2440	244,017	6,014	964.3	73 / 40
2445	244,514	6,014	965.2	70 / 51
2450	245,005	5,989	965.7	32 / 44
2455	245,523	5,924	967.9	49 / 67
2460	245,997	5,924	968.9	47 / 71
2466	246,550	5,924	970.0	61 / 54
2469	246,929	5,924	970.8	50 / 50
2474	247,419	5,924	972.3	61 / 29
2480	247,986	5,924	974.0	59 / 50
2485	248,526	5,924	975.3	35 / 50
2490	249,045	5,101	977.4	75 / 42
2495	249,512	5,101	977.6	47 / 52
2500	250,005	5,101	978.8	36 / 47
2505	250,500	5,101	980.0	35 / 58
2510	251,031	5,101	980.4	45 / 58
2515	251,486	5,101	981.2	47 / 34
2520	252,008	5,053	982.5	204 / 35
2525	252,463	5,053	982.8	192 / 55
2530	252,964	5,053	983.2	143 / 55
2535	253,507	5,053	983.7	79 / 75
2541	254,050	5,053	984.8	77 / 87
2545	254,483	5,053	985.5	77 / 58
2549	254,877	4,909	986.9	125 / 47
2555	255,497	4,754	991.4	327 / 128
2560	255,991	4,754	991.6	288 / 40
2565	256,480	4,754	991.9	208 / 135
2570	256,974	4,754	992.3	314 / 200

Section 5.0 – Engineering Methods

Table 11—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)
HUNTING CREEK				
2575	257,534	4,013	992.7	264 / 56
2580	258,021	4,013	993.2	281 / 128
2585	258,478	4,013	993.6	241 / 48
2590	259,009	3,902	994.5	43 / 134
2595	259,507	3,902	995.1	50 / 50
2600	259,975	3,902	996.1	43 / 70
2605	260,493	3,902	996.8	49 / 40
2610	261,000	3,902	997.9	32 / 20
2615	261,500	3,902	1,000.1	51 / 18
2620	262,000	3,902	1,001.2	47 / 34
2625	262,478	3,845	1,003.4	49 / 25
2630	263,006	3,845	1,004.9	42 / 42
2635	263,499	3,845	1,007.5	42 / 42
2640	264,032	3,845	1,009.3	45 / 24
2645	264,489	3,761	1,010.4	42 / 29
2650	264,966	3,761	1,013.4	42 / 13
2655	265,526	3,761	1,015.4	49 / 42
2660	265,975	3,761	1,016.1	25 / 37
2665	266,509	3,761	1,018.8	85 / 29
2670	266,984	3,761	1,020.3	36 / 25
2680	268,002	3,561	1,025.2	36 / 24
2685	268,494	3,561	1,028.3	28 / 87
2690	269,005	3,561	1,029.6	51 / 62
2695	269,514	3,373	1,030.9	26 / 22
2701	270,062	3,373	1,036.9	24 / 16
2705	270,492	3,373	1,041.8	32 / 32
2710	271,016	3,373	1,045.4	50 / 20
2713	271,302	3,314	1,046.7	50 / 28
2722	272,240	3,314	1,058.6	23 / 40
2726	272,582	3,314	1,063.6	19 / 19
2730	273,010	3,314	1,069.7	24 / 23
2734	273,414	3,314	1,072.9	58 / 27
2740	274,011	2,095	1,089.6	19 / 108
2750	275,014	2,095	1,099.3	43 / 243
2755	275,505	2,095	1,101.5	63 / 250
2760	276,016	1,995	1,103.2	71 / 267
2770	276,996	1,995	1,108.7	160 / 170
2775	277,495	1,867	1,109.5	36 / 120
2780	277,981	1,867	1,112.0	36 / 178
2785	278,496	1,867	1,114.2	70 / 124
2796	279,568	1,867	1,119.9	44 / 36
2800	280,001	1,867	1,121.9	80 / 72
2805	280,516	1,867	1,126.9	21 / 225
2810	280,959	1,733	1,131.6	25 / 56
2814	281,351	1,595	1,136.2	161 / 110
2823	282,272	1,595	1,149.1	15 / 30
2830	282,996	1,595	1,156.0	9 / 9
2834	283,433	1,595	1,165.3	11 / 38

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
HUNTING CREEK				
2840	283,968	1,595	1,175.5	3 / 38
JOSHUA CREEK				
000	1	4,624	1,452.8	102 / 30
005	503	3,554	1,463.9	94 / 78
011	1,087	3,554	1,475.6	29 / 31
015	1,488	3,554	1,483.7	35 / 80
018	1,837	3,554	1,490.4	13 / 120
022	2,228	3,554	1,499.3	19 / 65
025	2,519	3,554	1,505.7	5 / 101
029	2,925	3,554	1,513.6	42 / 19
032	3,222	3,474	1,520.4	75 / 32
036	3,629	3,474	1,528.3	15 / 66
LEFT PRONG STONY FORK				
009	894	5,974	1,337.4 ⁴	32 / 105
011	1,147	5,974	1,339.0	90 / 80
015	1,494	5,974	1,342.0	68 / 80
019	1,876	5,974	1,345.3	58 / 31
021	2,100	5,974	1,347.0	62 / 16
024	2,403	5,974	1,348.9	37 / 21
026	2,573	5,974	1,350.7	40 / 20
029	2,908	5,974	1,356.6	74 / 187
033	3,282	5,974	1,359.5	37 / 150
036	3,604	5,974	1,363.0	135 / 119
039	3,925	5,778	1,366.6	250 / 44
045	4,527	5,778	1,370.0	90 / 200
048	4,800	5,778	1,372.7	107 / 200
051	5,114	5,778	1,377.3	50 / 176
054	5,363	5,778	1,380.1	130 / 49
056	5,584	5,778	1,382.5	160 / 24
060	6,037	5,552	1,388.1	81 / 200
063	6,312	5,552	1,391.2	84 / 250
066	6,648	5,552	1,394.6	114 / 231
069	6,897	5,552	1,398.2	55 / 250
072	7,189	5,552	1,401.4	87 / 250
075	7,524	5,552	1,405.7	77 / 199
078	7,797	5,552	1,409.4	38 / 80
081	8,106	5,552	1,415.2	109 / 43
084	8,386	5,552	1,419.7	71 / 83
087	8,673	5,552	1,422.5	135 / 30
090	9,012	5,075	1,427.7	156 / 13
093	9,312	5,075	1,433.1	106 / 13
097	9,692	5,075	1,439.8	33 / 39
100	10,047	5,075	1,446.3	41 / 39
104	10,355	5,075	1,452.4	58 / 40
108	10,765	5,075	1,460.5	73 / 30
112	11,152	5,075	1,468.6	27 / 40
115	11,530	5,075	1,476.3	36 / 51
118	11,780	5,075	1,484.3	108 / 38

Section 5.0 – Engineering Methods

Table 11—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)
LEFT PRONG STONY FORK				
120	11,995	4,872	1,489.1	145 / 39
122	12,206	4,872	1,491.4	39 / 62
124	12,448	4,872	1,503.6	33 / 97
127	12,685	4,872	1,513.5	39 / 37
129	12,860	4,872	1,520.0	58 / 28
131	13,132	4,872	1,527.8	32 / 43
135	13,510	4,872	1,540.2	32 / 24
137	13,738	4,872	1,547.7	38 / 30
140	13,980	4,872	1,561.4	18 / 21
142	14,183	4,872	1,572.8	21 / 30
144	14,384	4,872	1,576.8	21 / 33
146	14,604	4,872	1,581.7	37 / 27
148	14,813	4,304	1,587.8	21 / 22
151	15,127	4,304	1,601.7	85 / 21
154	15,388	4,304	1,605.8	26 / 94
158	15,750	4,304	1,617.2	31 / 24
161	16,101	4,304	1,628.1	35 / 153
164	16,387	4,304	1,634.1	41 / 53
166	16,617	4,304	1,639.4	42 / 23
LEWIS FORK				
008	782	24,283	1,075.1 ⁴	220 / 360
010	1,038	24,283	1,075.1 ⁴	177 / 241
016	1,632	24,283	1,075.1 ⁴	362 / 350
022	2,168	24,239	1,075.1 ⁴	174 / 208
033	3,325	24,239	1,075.1 ⁴	173 / 151
046	4,587	24,239	1,075.1 ⁴	158 / 159
056	5,597	24,239	1,075.1 ⁴	160 / 115
068	6,793	24,178	1,075.1 ⁴	101 / 152
075	7,500	24,178	1,075.1 ⁴	145 / 109
081	8,052	24,178	1,075.1 ⁴	146 / 80
085	8,500	24,178	1,075.1 ⁴	206 / 62
089	8,877	24,178	1,075.1 ⁴	113 / 183
097	9,728	24,062	1,075.1 ⁴	141 / 73
106	10,617	24,062	1,075.1 ⁴	177 / 52
113	11,262	24,062	1,075.1 ⁴	83 / 177
119	11,896	23,983	1,075.1 ⁴	100 / 42
129	12,938	23,983	1,075.1 ⁴	112 / 65
138	13,789	23,983	1,075.1 ⁴	97 / 99
145	14,461	23,983	1,075.1 ⁴	155 / 55
150	15,000	22,661	1,075.1 ⁴	126 / 46
153	15,283	22,661	1,075.1 ⁴	57 / 36
155	15,500	22,661	1,075.1 ⁴	68 / 42
158	15,776	22,661	1,075.1 ⁴	62 / 53
165	16,500	22,645	1,075.1 ⁴	39 / 43
169	16,907	22,645	1,075.1 ⁴	64 / 45
173	17,306	22,645	1,075.1 ⁴	85 / 40
180	18,000	22,645	1,075.1	56 / 225
185	18,500	22,645	1,076.5	74 / 375

Section 5.0 – Engineering Methods

Table 11—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)
LEWIS FORK				
190	19,021	22,645	1,076.8	39 / 214
196	19,581	22,645	1,077.3	230 / 80
LITTLE BUGABOO CREEK				
001	128	2,397	1,034.8 ⁴	115 / 22
006	551	2,397	1,035.9	90 / 170
009	897	2,397	1,038.4	153 / 136
013	1,296	2,397	1,039.8	23 / 51
016	1,557	2,397	1,041.6	29 / 50
018	1,802	2,397	1,041.9	18 / 15
021	2,090	2,334	1,044.0	18 / 25
024	2,352	2,334	1,045.1	33 / 44
027	2,679	2,334	1,046.8	106 / 14
029	2,925	2,334	1,047.0	152 / 13
033	3,294	2,334	1,047.5	166 / 13
036	3,612	2,334	1,047.9	163 / 13
039	3,933	2,334	1,049.5	156 / 13
043	4,288	2,334	1,051.2	179 / 13
045	4,500	2,334	1,051.6	154 / 13
048	4,771	2,334	1,052.5	186 / 13
051	5,100	2,239	1,054.1	183 / 23
054	5,400	2,239	1,055.6	124 / 13
059	5,850	2,162	1,057.2	137 / 12
061	6,135	2,162	1,058.3	187 / 12
063	6,289	2,162	1,058.9	165 / 12
067	6,653	2,162	1,060.7	66 / 22
070	6,995	2,100	1,063.6	100 / 12
073	7,277	2,100	1,065.4	24 / 34
078	7,765	2,100	1,070.2	22 / 22
080	7,953	2,100	1,071.9	44 / 21
081	8,100	2,100	1,074.1	32 / 36
LITTLE ELKIN CREEK				
001	144	3,665	905.3 ⁴	72 / 75
005	500	3,665	905.3 ⁴	36 / 29
006	576	3,665	905.3 ⁴	47 / 18
007	688	3,665	905.3 ⁴	73 / 20
008	750	3,665	905.3 ⁴	25 / 24
010	1,000	3,665	905.3 ⁴	17 / 24
011	1,119	3,665	905.3 ⁴	16 / 14
012	1,167	3,665	905.3 ⁴	10 / 11
013	1,269	3,665	908.2	31 / 22
015	1,500	3,665	913.0	54 / 43
017	1,684	3,665	917.0	30 / 23
017	1,706	3,665	917.2	23 / 19
017	1,724	3,665	918.2	25 / 12
018	1,789	3,665	920.4	19 / 24
022	2,231	3,435	927.1	85 / 48
025	2,500	3,435	929.9	39 / 81
028	2,750	3,435	931.2	55 / 90

Section 5.0 – Engineering Methods

Table 11—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)
LITTLE ELKIN CREEK				
030	3,000	3,435	931.3	29 / 29
031	3,087	3,435	932.9	24 / 20
032	3,212	3,435	937.4	40 / 32
033	3,269	3,435	938.1	66 / 35
035	3,500	3,435	938.4	172 / 52
038	3,750	3,435	938.7	161 / 118
041	4,072	3,435	938.7	50 / 132
043	4,288	3,435	938.8	21 / 50
045	4,470	3,435	938.9	23 / 84
048	4,750	3,435	942.1	25 / 42
050	5,000	3,435	942.8	18 / 26
053	5,250	3,435	944.0	31 / 30
055	5,512	3,435	948.5	30 / 190
058	5,750	3,435	949.9	104 / 284
060	6,000	3,435	950.2	84 / 176
063	6,310	3,435	951.1	153 / 90
066	6,621	3,303	952.1	156 / 36
068	6,799	3,303	952.2	75 / 114
070	7,013	3,303	954.4	275 / 114
073	7,306	3,303	954.5	335 / 68
076	7,571	3,303	956.9	140 / 146
077	7,743	3,303	956.9	184 / 33
080	8,000	3,303	957.8	267 / 33
083	8,263	3,303	960.9	298 / 51
085	8,510	3,303	962.3	163 / 30
087	8,714	3,303	962.9	78 / 44
090	9,000	3,303	965.6	150 / 75
093	9,272	3,303	967.0	120 / 42
095	9,497	3,303	967.9	76 / 40
097	9,734	3,303	968.8	33 / 32
100	10,000	3,114	972.0	49 / 31
103	10,250	3,114	972.9	26 / 21
105	10,500	3,114	975.6	36 / 34
108	10,750	3,114	980.3	25 / 28
110	10,985	3,114	984.7	145 / 90
113	11,250	3,114	985.5	300 / 41
115	11,500	3,114	986.2	300 / 55
118	11,750	3,114	986.5	200 / 230
120	12,001	3,114	986.5	132 / 159
122	12,208	3,005	987.4	51 / 121
126	12,637	3,005	990.2	169 / 31
128	12,816	3,005	991.3	72 / 105
130	13,000	3,005	991.9	64 / 52
133	13,250	3,005	993.2	51 / 44
135	13,474	3,005	994.6	128 / 74
138	13,750	2,716	995.3	174 / 323
140	14,000	2,716	995.4	381 / 330
143	14,277	2,716	995.5	431 / 199

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
LITTLE ELKIN CREEK				
145	14,500	2,716	995.8	280 / 214
148	14,772	2,716	996.8	184 / 230
150	14,973	2,716	997.7	27 / 286
153	15,250	2,716	999.7	22 / 208
155	15,500	2,716	999.8	26 / 195
158	15,773	2,716	1,003.1	184 / 290
160	15,997	2,534	1,004.0	250 / 210
162	16,185	2,534	1,005.4	332 / 135
165	16,504	2,534	1,007.2	82 / 150
168	16,787	2,534	1,009.3	168 / 17
172	17,180	2,534	1,014.2	30 / 32
175	17,500	2,534	1,016.4	32 / 26
176	17,649	2,534	1,018.3	40 / 14
177	17,724	2,534	1,021.7	26 / 16
178	17,837	2,534	1,025.2	38 / 25
180	18,000	2,507	1,029.5	49 / 22
183	18,250	2,507	1,032.9	18 / 27
185	18,483	2,507	1,036.7	48 / 25
186	18,559	2,507	1,041.0	43 / 32
188	18,750	2,507	1,043.9	49 / 20
190	18,979	2,507	1,046.4	58 / 16
193	19,252	2,144	1,049.4	23 / 67
195	19,501	2,144	1,050.9	26 / 28
198	19,750	2,144	1,054.0	74 / 23
200	20,000	2,144	1,055.3	23 / 32
203	20,250	2,144	1,057.1	40 / 20
205	20,491	2,144	1,060.8	31 / 17
208	20,760	2,144	1,063.5	46 / 17
210	21,000	2,144	1,066.1	32 / 19
211	21,128	2,144	1,070.6	30 / 14
215	21,500	2,144	1,076.2	40 / 32
218	21,763	2,144	1,078.1	60 / 18
219	21,866	2,144	1,079.7	48 / 14
220	21,956	2,144	1,083.6	41 / 34
220	22,020	2,144	1,087.3	36 / 24
221	22,093	2,144	1,091.0	37 / 27
221	22,145	2,144	1,094.4	45 / 20
222	22,224	2,144	1,098.9	24 / 34
223	22,296	2,144	1,101.8	34 / 21
225	22,542	2,144	1,104.9	13 / 23
228	22,750	2,144	1,108.6	21 / 35
231	23,064	1,974	1,114.5	89 / 165
233	23,250	1,974	1,114.5	68 / 112
235	23,487	1,974	1,115.0	34 / 42
238	23,767	1,974	1,125.0	35 / 13
240	23,964	1,974	1,128.8	75 / 10
243	24,254	1,974	1,129.7	22 / 41
244	24,363	1,974	1,130.3	11 / 11

Section 5.0 – Engineering Methods

Table 11—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)
LITTLE ELKIN CREEK				
245	24,546	1,974	1,133.0	19 / 26
247	24,667	1,974	1,137.2	18 / 15
248	24,750	1,974	1,140.9	48 / 34
249	24,949	1,974	1,141.6	28 / 16
250	25,036	1,974	1,143.7	20 / 21
252	25,248	1,974	1,146.7	23 / 106
255	25,500	1,974	1,147.9	115 / 168
258	25,797	1,974	1,148.5	94 / 61
260	25,996	1,974	1,148.9	68 / 20
263	26,253	1,974	1,151.6	130 / 24
264	26,439	1,897	1,151.8	75 / 15
268	26,753	1,897	1,155.2	30 / 42
270	26,989	1,897	1,156.9	64 / 24
273	27,250	1,897	1,157.8	52 / 21
275	27,500	1,897	1,159.3	28 / 24
277	27,745	1,655	1,162.6	36 / 24
280	28,031	1,655	1,165.2	170 / 15
281	28,110	1,655	1,167.8	173 / 19
283	28,278	1,655	1,168.5	236 / 22
285	28,500	1,655	1,169.3	171 / 120
288	28,750	1,655	1,169.9	195 / 211
290	29,016	1,655	1,171.1	34 / 243
295	29,488	1,655	1,174.8	92 / 41
297	29,691	1,655	1,177.1	136 / 33
LITTLE FORK CREEK				
003	295	4,023	1,303.3 ⁴	70 / 24
005	504	4,023	1,304.1	14 / 166
010	1,007	4,023	1,308.9	86 / 99
012	1,203	4,023	1,311.3	11 / 142
015	1,479	4,023	1,314.0	13 / 143
018	1,768	4,023	1,316.3	23 / 288
025	2,494	4,023	1,318.6	222 / 11
028	2,800	3,956	1,323.2	131 / 11
032	3,248	3,956	1,327.2	111 / 105
035	3,463	3,956	1,330.0	100 / 50
039	3,947	3,956	1,336.3	115 / 133
042	4,200	3,956	1,340.5	195 / 43
046	4,616	3,780	1,346.0	39 / 116
049	4,900	3,780	1,350.9	102 / 40
053	5,250	3,780	1,356.6	75 / 28
057	5,658	3,780	1,362.8	143 / 47
060	5,950	3,780	1,368.6	100 / 25
063	6,300	3,670	1,374.5	101 / 17
067	6,679	3,670	1,382.1	128 / 45
070	7,000	3,670	1,388.8	63 / 40
073	7,321	3,670	1,394.5	52 / 82
077	7,672	3,670	1,401.9	21 / 90
080	7,950	3,670	1,407.6	69 / 68

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
LITTLE FORK CREEK				
084	8,400	3,538	1,417.8	10 / 98
087	8,708	3,538	1,424.7	37 / 17
092	9,156	3,538	1,433.9	61 / 64
094	9,417	3,375	1,439.8	21 / 53
097	9,724	3,375	1,448.0	33 / 55
102	10,150	3,375	1,455.3	31 / 23
105	10,500	3,375	1,463.3	44 / 22
109	10,873	3,375	1,472.9	60 / 10
113	11,263	3,259	1,480.4	47 / 34
116	11,550	3,259	1,489.6	71 / 19
119	11,948	3,259	1,498.9	20 / 25
123	12,250	3,259	1,507.9	24 / 35
126	12,567	3,259	1,524.5	28 / 24
128	12,836	3,259	1,537.4	34 / 21
131	13,125	3,061	1,543.8	30 / 38
133	13,349	3,061	1,547.7	25 / 44
137	13,650	3,061	1,556.1	39 / 12
139	13,934	3,061	1,562.3	29 / 14
142	14,194	2,902	1,575.2	28 / 8
144	14,435	2,902	1,586.7	35 / 21
147	14,700	2,902	1,594.3	32 / 21
150	14,954	2,902	1,608.0	18 / 22
153	15,259	2,902	1,618.2	44 / 17
155	15,475	2,902	1,626.2	53 / 9
158	15,750	2,759	1,634.1	29 / 23
161	16,100	2,759	1,642.1	16 / 33
165	16,450	2,759	1,654.3	20 / 80
168	16,800	2,759	1,664.4	14 / 65
LITTLE HUNTING CREEK				
003	255	4,770	914.9 ⁴	40 / 35
009	879	4,770	914.9 ⁴	20 / 26
014	1,392	4,770	916.4	26 / 26
018	1,804	4,770	918.2	26 / 26
024	2,443	4,770	920.7	26 / 26
029	2,938	4,770	924.1	26 / 26
035	3,457	4,770	927.7	26 / 26
040	3,982	4,770	930.7	34 / 32
046	4,583	4,770	934.8	26 / 40
052	5,155	4,770	940.4	26 / 26
057	5,664	4,770	942.1	26 / 37
063	6,301	4,770	943.1	32 / 27
069	6,850	4,689	944.2	118 / 26
074	7,404	4,689	944.8	26 / 26
079	7,932	4,689	947.7	26 / 29
084	8,424	4,611	949.5	33 / 223
089	8,907	4,611	950.0	28 / 217
096	9,553	4,611	952.1	29 / 161
100	10,043	4,611	953.2	19 / 25

Section 5.0 – Engineering Methods

Table 11—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)
LITTLE HUNTING CREEK				
107	10,708	4,611	956.8	36 / 38
113	11,317	4,611	958.3	25 / 25
117	11,744	4,537	960.9	25 / 25
123	12,280	4,537	964.5	85 / 28
129	12,902	4,537	966.3	106 / 25
135	13,511	4,537	968.3	25 / 151
140	13,952	4,537	969.6	34 / 54
143	14,282	4,537	970.5	79 / 34
148	14,782	4,537	972.3	70 / 25
153	15,260	4,537	974.4	31 / 25
159	15,850	4,537	977.1	28 / 25
164	16,383	4,537	979.2	25 / 41
170	16,994	4,537	980.5	25 / 25
173	17,293	4,537	982.0	25 / 29
179	17,912	4,537	984.0	25 / 51
186	18,570	3,905	985.9	76 / 160
192	19,181	3,905	986.5	65 / 103
198	19,840	3,905	991.3	20 / 29
204	20,352	3,905	995.6	23 / 38
209	20,939	3,905	997.1	23 / 17
215	21,545	3,851	999.5	34 / 32
220	21,983	3,851	1,000.2	22 / 22
225	22,531	3,851	1,002.6	22 / 43
232	23,201	3,851	1,004.7	29 / 29
237	23,722	3,851	1,007.0	22 / 22
243	24,330	3,851	1,010.0	22 / 91
247	24,741	3,693	1,010.9	22 / 22
252	25,234	3,693	1,015.1	22 / 22
258	25,781	3,622	1,022.5	22 / 22
263	26,331	3,622	1,026.6	22 / 115
269	26,877	3,622	1,027.9	59 / 31
273	27,344	3,622	1,029.0	28 / 29
279	27,866	3,622	1,030.7	191 / 22
283	28,309	3,622	1,031.1	209 / 22
287	28,668	3,622	1,031.6	185 / 85
291	29,149	3,622	1,032.3	82 / 95
295	29,463	3,622	1,032.9	29 / 22
299	29,882	3,622	1,035.0	209 / 22
304	30,362	3,622	1,035.7	222 / 25
310	31,002	3,558	1,036.4	21 / 21
316	31,624	3,558	1,039.9	26 / 19
321	32,082	3,558	1,041.7	21 / 26
327	32,677	3,558	1,044.8	21 / 21
332	33,195	3,558	1,048.2	21 / 21
336	33,642	3,558	1,050.7	21 / 21
342	34,182	3,558	1,053.8	21 / 21
347	34,688	3,360	1,057.3	48 / 32
353	35,284	3,360	1,058.4	23 / 21

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
LITTLE HUNTING CREEK				
359	35,907	3,360	1,060.0	21 / 40
362	36,194	3,360	1,060.6	44 / 21
367	36,668	3,360	1,061.8	69 / 83
372	37,214	3,360	1,062.0	21 / 21
377	37,677	3,360	1,064.3	21 / 21
383	38,267	3,360	1,066.8	29 / 21
388	38,752	3,360	1,068.3	183 / 21
393	39,311	3,360	1,069.0	48 / 165
399	39,860	3,360	1,069.8	21 / 116
404	40,387	3,288	1,071.7	21 / 21
409	40,911	3,288	1,073.6	28 / 21
414	41,437	3,288	1,075.5	22 / 91
420	42,004	3,288	1,076.7	175 / 21
424	42,443	3,288	1,077.2	260 / 21
429	42,927	3,288	1,077.7	300 / 49
435	43,459	3,288	1,078.4	34 / 145
440	43,958	3,192	1,079.4	20 / 20
444	44,364	3,192	1,082.9	102 / 167
449	44,944	3,192	1,083.7	20 / 183
455	45,475	3,192	1,085.2	69 / 157
459	45,893	3,192	1,085.5	20 / 20
465	46,489	3,192	1,088.9	64 / 20
469	46,922	3,192	1,090.1	99 / 42
474	47,404	3,192	1,091.7	215 / 20
478	47,795	3,192	1,092.1	208 / 62
483	48,325	3,192	1,092.7	42 / 291
488	48,840	3,192	1,093.2	44 / 104
493	49,328	3,192	1,094.8	113 / 104
498	49,769	3,192	1,095.8	63 / 109
504	50,406	2,833	1,097.6	112 / 214
509	50,878	2,833	1,098.1	19 / 27
513	51,330	2,833	1,101.2	24 / 47
518	51,826	2,833	1,105.6	175 / 19
523	52,310	2,833	1,105.7	19 / 35
529	52,890	2,748	1,106.9	19 / 19
534	53,376	2,748	1,108.3	19 / 39
539	53,898	2,748	1,109.3	49 / 38
545	54,451	2,748	1,110.0	217 / 103
549	54,922	2,748	1,110.2	176 / 172
555	55,467	2,748	1,110.6	75 / 108
559	55,947	2,748	1,111.5	103 / 75
565	56,548	2,640	1,113.2	63 / 113
570	57,040	2,640	1,114.5	153 / 30
575	57,508	2,640	1,115.8	24 / 109
580	57,979	2,640	1,117.3	19 / 71
585	58,461	2,640	1,119.5	110 / 123
590	58,982	2,640	1,120.6	78 / 19
595	59,492	2,549	1,122.6	155 / 13

Section 5.0 – Engineering Methods

Table 11—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)
LITTLE HUNTING CREEK				
601	60,072	2,549	1,125.5	18 / 145
606	60,567	2,549	1,127.2	18 / 17
611	61,119	2,549	1,133.7	37 / 25
615	61,465	2,549	1,135.7	21 / 153
621	62,112	2,549	1,138.0	18 / 18
627	62,748	2,456	1,144.3	18 / 35
633	63,289	2,456	1,147.4	27 / 36
638	63,830	2,456	1,152.0	18 / 18
644	64,417	2,456	1,155.8	20 / 18
649	64,870	2,456	1,161.3	18 / 13
655	65,522	2,456	1,170.8	18 / 86
659	65,932	2,456	1,177.6	114 / 19
665	66,468	2,456	1,183.5	12 / 28
670	66,966	2,180	1,191.6	20 / 27
675	67,479	2,180	1,206.8	27 / 17
680	68,049	2,180	1,218.4	20 / 99
685	68,524	1,835	1,224.2	9 / 15
691	69,099	1,424	1,235.3	14 / 14
695	69,542	1,424	1,243.0	14 / 38
701	70,062	1,424	1,250.5	14 / 54
706	70,568	1,424	1,256.6	24 / 14
711	71,134	1,424	1,264.8	11 / 16
717	71,697	1,424	1,269.7	31 / 50
723	72,275	1,363	1,271.4	80 / 26
728	72,842	1,363	1,273.2	14 / 18
733	73,315	1,363	1,276.7	14 / 131
737	73,692	1,363	1,277.8	14 / 65
742	74,208	1,363	1,281.3	14 / 71
LITTLE SANDY CREEK				
001	75	9,001	1,084.4 ⁴	235 / 100
006	554	9,001	1,084.4 ⁴	125 / 50
009	909	9,001	1,084.4 ⁴	30 / 112
014	1,441	9,001	1,085.8	21 / 119
020	1,958	9,001	1,091.1	76 / 84
022	2,200	9,001	1,091.7	96 / 57
026	2,649	9,001	1,092.4	50 / 75
029	2,909	9,001	1,092.4	34 / 92
032	3,184	9,001	1,093.6	42 / 54
035	3,507	8,935	1,097.8	35 / 75
039	3,949	8,935	1,101.9	90 / 65
044	4,393	8,935	1,103.8	250 / 40
048	4,842	8,935	1,104.0	105 / 75
051	5,078	8,935	1,104.3	70 / 90
054	5,401	8,935	1,105.1	75 / 160
060	5,994	8,666	1,106.0	110 / 70
063	6,265	8,666	1,106.2	140 / 30
065	6,466	8,666	1,106.6	65 / 97

Section 5.0 – Engineering Methods

Table 11—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)
LITTLE SANDY CREEK				
067	6,729	8,666	1,107.0	112 / 46
071	7,138	8,666	1,108.3	115 / 98
073	7,287	3,826	1,108.4	52 / 43
074	7,425	3,826	1,108.9	55 / 38
077	7,690	3,826	1,109.1	84 / 50
079	7,914	3,826	1,110.1	49 / 58
083	8,338	3,826	1,111.0	44 / 46
085	8,518	3,826	1,112.1	48 / 57
089	8,919	3,826	1,113.1	57 / 125
091	9,125	3,826	1,113.4	100 / 100
095	9,510	3,826	1,115.3	39 / 50
099	9,870	3,826	1,117.5	33 / 10
105	10,454	3,647	1,122.5	24 / 28
109	10,915	3,647	1,126.2	17 / 112
114	11,351	3,647	1,128.3	82 / 37
118	11,786	3,543	1,131.7	15 / 132
121	12,067	3,543	1,132.6	17 / 100
124	12,433	3,543	1,133.9	19 / 57
128	12,843	3,543	1,137.2	108 / 19
134	13,355	3,374	1,139.9	50 / 100
137	13,675	3,374	1,141.3	15 / 112
140	13,996	3,374	1,143.7	18 / 87
142	14,225	3,374	1,146.0	77 / 41
145	14,464	3,374	1,147.7	138 / 21
148	14,771	3,374	1,149.1	50 / 51
149	14,931	3,374	1,150.1	33 / 76
151	15,143	3,374	1,152.0	12 / 68
155	15,494	3,374	1,154.9	73 / 65
157	15,735	3,163	1,156.0	27 / 120
161	16,076	3,163	1,158.0	38 / 42
163	16,338	3,163	1,160.9	27 / 85
167	16,688	3,163	1,162.5	40 / 76
169	16,937	3,163	1,163.6	41 / 72
173	17,293	3,163	1,165.2	46 / 74
176	17,637	3,163	1,166.7	26 / 155
179	17,941	3,163	1,167.2	20 / 231
182	18,167	2,889	1,167.5	78 / 139
185	18,460	2,889	1,167.8	95 / 40
187	18,697	2,889	1,170.9	85 / 18
191	19,121	2,889	1,182.7	43 / 14
196	19,576	2,889	1,207.7	38 / 29
199	19,927	2,562	1,213.1	175 / 50
202	20,235	2,562	1,213.4	214 / 15
205	20,455	2,562	1,213.7	115 / 38
208	20,792	2,562	1,214.9	49 / 19
210	21,033	2,562	1,216.5	93 / 72
217	21,681	2,562	1,220.0	91 / 52

Section 5.0 – Engineering Methods

Table 11—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)
LITTLE SANDY CREEK				
218	21,837	2,562	1,220.6	77 / 119
221	22,050	2,562	1,221.4	48 / 62
222	22,217	2,562	1,222.5	76 / 40
225	22,469	2,562	1,232.3	55 / 25
226	22,627	2,562	1,235.8	88 / 10
229	22,894	2,562	1,238.0	101 / 10
232	23,235	2,562	1,239.3	162 / 10
238	23,819	2,562	1,242.1	131 / 10
242	24,227	2,401	1,244.3	15 / 189
248	24,838	1,752	1,247.7	28 / 89
254	25,366	1,752	1,252.3	88 / 12
260	25,957	1,752	1,262.6	96 / 35
265	26,457	1,752	1,263.0	30 / 143
267	26,664	1,752	1,263.4	24 / 83
268	26,793	1,752	1,265.0	35 / 28
269	26,860	1,752	1,266.0	39 / 8
273	27,285	1,646	1,270.6	50 / 35
276	27,591	1,476	1,273.0	22 / 125
279	27,896	1,476	1,274.4	9 / 125
281	28,085	1,353	1,277.0	35 / 17
282	28,234	1,353	1,279.5	46 / 10
LITTLE WARRIOR CREEK				
013	1,276	5,081	1,075.2 ⁴	13 / 308
015	1,479	5,081	1,075.2 ⁴	13 / 208
019	1,868	5,081	1,075.2 ⁴	41 / 228
020	2,000	5,081	1,075.2 ⁴	13 / 214
023	2,263	5,081	1,075.2 ⁴	72 / 216
026	2,566	4,774	1,075.2 ⁴	17 / 92
028	2,750	4,774	1,075.2 ⁴	48 / 88
030	3,000	4,774	1,075.3	64 / 79
033	3,250	4,774	1,075.3	65 / 18
040	4,000	4,774	1,082.3	93 / 171
045	4,500	4,774	1,082.5	160 / 169
050	5,023	4,774	1,082.9	122 / 74
053	5,250	4,774	1,083.3	71 / 60
055	5,453	4,774	1,083.8	52 / 29
058	5,750	4,774	1,086.6	57 / 34
060	6,000	4,774	1,087.0	100 / 25
064	6,413	4,774	1,088.2	51 / 74
068	6,750	4,774	1,089.3	216 / 13
072	7,181	4,774	1,089.9	260 / 35
074	7,440	4,774	1,090.2	156 / 102
080	7,977	4,774	1,091.4	235 / 80
086	8,579	3,949	1,092.6	101 / 138
089	8,895	3,949	1,093.3	11 / 251
093	9,257	3,949	1,094.5	35 / 191
095	9,527	3,949	1,095.3	117 / 224

Section 5.0 – Engineering Methods

Table 11—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)
LITTLE WARRIOR CREEK				
100	10,000	3,949	1,098.3	243 / 95
104	10,434	3,949	1,105.5	156 / 31
107	10,714	3,949	1,110.1	94 / 92
110	11,000	3,949	1,113.0	49 / 29
113	11,250	3,949	1,119.1	27 / 38
115	11,461	3,949	1,125.4	18 / 54
118	11,750	3,949	1,130.5	39 / 47
120	12,000	3,949	1,133.5	28 / 27
123	12,250	3,949	1,137.2	29 / 28
125	12,534	3,949	1,140.0	123 / 17
128	12,750	3,949	1,140.6	129 / 21
133	13,250	3,142	1,141.4	46 / 22
135	13,494	3,142	1,143.7	16 / 67
138	13,750	3,142	1,145.3	14 / 152
140	14,000	3,135	1,147.5	9 / 229
143	14,250	3,135	1,148.3	45 / 79
144	14,435	3,135	1,149.6	47 / 27
148	14,797	3,135	1,155.0	39 / 42
151	15,092	3,135	1,159.4	28 / 84
155	15,477	3,135	1,160.8	156 / 75
158	15,750	3,135	1,161.1	130 / 15
162	16,163	3,135	1,163.2	68 / 73
165	16,470	3,135	1,164.4	40 / 139
167	16,726	3,135	1,165.3	186 / 35
171	17,091	3,135	1,165.4	127 / 9
175	17,451	3,135	1,168.1	95 / 34
176	17,582	3,135	1,168.1	54 / 16
178	17,829	3,135	1,169.8	15 / 20
LONG BRANCH NORTH				
162	16,199	512	1,074.8	12/17
MIDDLE FORK REDDIES RIVER				
000	0	6,257	1,202.0	70 / 155
006	570	4,366	1,204.7	50 / 40
011	1,074	4,355	1,208.8	85 / 24
014	1,388	4,355	1,209.8	67 / 24
017	1,740	4,355	1,211.1	51 / 24
020	1,976	4,355	1,212.7	35 / 24
021	2,103	4,355	1,213.2	24 / 24
026	2,570	4,355	1,217.3	26 / 26
030	3,036	4,355	1,220.7	24 / 24
033	3,326	4,355	1,222.3	24 / 24
036	3,610	4,355	1,223.6	18 / 24
038	3,824	4,355	1,226.2	24 / 24
040	4,028	4,355	1,227.8	35 / 35
043	4,260	4,355	1,229.2	40 / 25
045	4,465	4,355	1,230.8	70 / 22
047	4,688	4,355	1,232.1	57 / 16

Section 5.0 – Engineering Methods

Table 11—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)
MIDDLE FORK REDDIES RIVER				
048	4,836	4,355	1,234.0	32 / 56
050	5,012	4,355	1,236.1	31 / 109
052	5,215	4,355	1,236.8	61 / 193
055	5,464	4,274	1,237.3	140 / 79
058	5,841	4,274	1,238.2	100 / 14
065	6,533	4,274	1,240.7	47 / 160
073	7,343	4,274	1,244.1	35 / 172
078	7,807	4,274	1,247.1	24 / 192
083	8,288	4,274	1,250.1	64 / 63
087	8,718	4,274	1,252.9	90 / 57
091	9,130	4,274	1,255.3	24 / 71
097	9,738	4,274	1,259.2	150 / 23
100	10,049	4,193	1,262.0	30 / 200
107	10,663	4,193	1,264.7	56 / 60
110	11,039	4,122	1,267.9	200 / 13
116	11,648	4,122	1,271.8	40 / 250
121	12,139	4,122	1,274.8	23 / 155
128	12,791	4,122	1,279.0	150 / 23
133	13,297	4,122	1,282.8	104 / 203
143	14,322	4,122	1,287.8	200 / 23
148	14,758	4,122	1,291.6	75 / 110
158	15,753	4,049	1,297.9	32 / 40
168	16,767	4,049	1,307.1	50 / 80
174	17,415	4,049	1,311.3	123 / 23
178	17,808	3,976	1,314.9	61 / 23
182	18,154	3,976	1,317.3	23 / 30
187	18,680	3,976	1,323.6	100 / 50
190	18,952	3,976	1,326.4	145 / 36
MIDDLE PRONG ROARING RIVER				
000	0	35,348	1,008.6 ⁴	120 / 49
001	120	21,785	1,009.2	103 / 50
004	357	21,785	1,009.3	62 / 40
011	1,075	21,785	1,010.7	54 / 65
018	1,838	21,275	1,012.4	56 / 51
025	2,455	21,275	1,013.7	59 / 56
030	3,000	21,275	1,015.7	46 / 56
038	3,750	21,275	1,017.4	32 / 82
045	4,500	21,275	1,019.8	82 / 32
053	5,250	21,186	1,022.9	73 / 32
060	6,000	21,186	1,025.1	71 / 41
064	6,360	21,186	1,025.9	57 / 47
068	6,750	21,186	1,028.6	40 / 79
075	7,468	21,186	1,030.2	34 / 90
083	8,250	21,186	1,032.8	41 / 72
090	9,000	21,186	1,035.2	49 / 68
093	9,307	21,186	1,035.9	54 / 53
098	9,750	21,186	1,038.2	109 / 42

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
MIDDLE PRONG ROARING RIVER				
105	10,500	21,186	1,039.8	110 / 34
113	11,250	20,085	1,041.4	57 / 43
120	12,000	20,085	1,042.5	50 / 55
124	12,445	20,085	1,043.9	62 / 53
128	12,750	20,085	1,045.3	62 / 50
135	13,500	20,085	1,047.4	71 / 42
143	14,250	20,085	1,049.6	60 / 59
150	15,000	20,085	1,051.2	77 / 56
158	15,750	20,085	1,052.7	76 / 41
164	16,491	19,960	1,054.9	38 / 87
173	17,250	19,960	1,056.5	33 / 59
180	18,000	19,960	1,060.3	61 / 64
188	18,750	19,960	1,062.4	67 / 59
195	19,500	19,855	1,063.3	49 / 40
203	20,250	19,855	1,068.9	54 / 41
210	21,000	19,748	1,071.3	58 / 56
218	21,750	19,711	1,075.9	75 / 51
225	22,500	19,711	1,077.4	70 / 52
233	23,250	19,604	1,081.5	81 / 114
240	24,000	19,604	1,085.0	139 / 61
248	24,750	19,604	1,086.2	100 / 43
253	25,318	19,604	1,088.3	95 / 44
258	25,787	19,604	1,090.2	52 / 124
263	26,250	14,145	1,091.1	72 / 35
270	27,000	14,145	1,092.4	74 / 29
278	27,750	14,145	1,096.4	40 / 71
285	28,500	13,976	1,098.3	29 / 53
293	29,250	13,915	1,101.0	39 / 58
300	30,000	13,915	1,105.9	33 / 28
308	30,750	13,915	1,115.4	28 / 66
315	31,500	13,915	1,117.6	47 / 28
323	32,250	13,915	1,124.7	42 / 38
330	33,000	13,915	1,129.8	68 / 45
338	33,750	13,915	1,132.9	28 / 91
345	34,500	13,915	1,135.5	50 / 28
349	34,879	13,647	1,137.8	28 / 67
353	35,250	13,647	1,139.6	37 / 37
360	36,000	13,647	1,144.3	69 / 30
368	36,750	13,603	1,148.0	34 / 46
372	37,210	13,603	1,149.0	28 / 50
375	37,500	13,603	1,151.2	29 / 42
383	38,250	13,603	1,154.4	67 / 36
390	39,000	13,603	1,158.8	41 / 86
398	39,750	13,603	1,164.1	65 / 41
405	40,500	13,603	1,169.7	33 / 118
413	41,250	13,603	1,172.6	69 / 32
420	42,000	13,603	1,176.8	29 / 34

Section 5.0 – Engineering Methods

Table 11—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)
MIDDLE PRONG ROARING RIVER				
428	42,750	13,318	1,183.3	48 / 46
435	43,500	13,318	1,186.2	49 / 27
443	44,304	13,318	1,192.0	159 / 35
450	45,000	13,000	1,193.7	96 / 178
458	45,750	13,000	1,194.5	105 / 116
465	46,500	13,000	1,197.2	61 / 115
473	47,250	12,811	1,200.3	45 / 196
480	48,000	12,811	1,204.8	31 / 134
488	48,750	12,760	1,208.8	93 / 32
495	49,500	12,760	1,215.9	49 / 39
499	49,864	12,760	1,218.9	27 / 54
502	50,163	12,760	1,223.6	45 / 36
506	50,602	12,760	1,229.9	81 / 46
510	51,001	12,760	1,233.1	97 / 42
518	51,751	12,760	1,239.1	96 / 39
523	52,330	12,656	1,243.8	89 / 27
531	53,064	12,656	1,247.9	42 / 50
540	54,001	12,656	1,258.2	53 / 37
546	54,590	12,524	1,261.4	25 / 80
552	55,156	12,524	1,263.7	25 / 74
555	55,501	12,524	1,265.1	39 / 25
559	55,931	12,524	1,269.9	46 / 29
563	56,251	12,524	1,271.0	37 / 25
571	57,117	12,383	1,276.6	126 / 25
578	57,751	12,383	1,278.0	43 / 137
582	58,247	12,383	1,280.4	107 / 37
587	58,683	12,252	1,280.6	45 / 81
593	59,251	12,252	1,284.5	153 / 26
599	59,948	12,252	1,285.9	55 / 32
610	61,035	9,846	1,293.2	92 / 25
617	61,657	9,846	1,295.8	35 / 84
625	62,459	9,239	1,299.6	130 / 25
630	63,000	9,239	1,301.1	31 / 39
638	63,762	9,239	1,308.4	37 / 25
645	64,500	9,239	1,312.6	48 / 25
651	65,064	9,239	1,315.5	33 / 29
654	65,433	9,178	1,317.9	24 / 36
661	66,111	9,178	1,323.0	45 / 27
668	66,804	9,010	1,326.6	100 / 78
676	67,605	9,010	1,328.9	72 / 96
683	68,251	9,010	1,332.0	26 / 95
687	68,730	9,010	1,335.3	63 / 45
690	68,984	9,010	1,337.4	120 / 164
693	69,317	8,855	1,338.5	56 / 86
697	69,653	8,855	1,340.0	28 / 83
704	70,436	8,855	1,346.6	34 / 27
712	71,211	8,855	1,354.8	20 / 226

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
MIDDLE PRONG ROARING RIVER				
721	72,097	8,682	1,357.7	70 / 245
728	72,751	8,682	1,360.0	228 / 24
735	73,501	8,682	1,366.7	310 / 24
743	74,251	8,682	1,371.2	144 / 117
750	75,001	7,295	1,379.8	74 / 261
758	75,751	7,295	1,385.3	133 / 120
765	76,501	7,295	1,393.8	176 / 21
773	77,251	7,295	1,400.7	98 / 26
780	78,001	7,295	1,408.2	60 / 46
788	78,751	7,295	1,415.8	80 / 27
796	79,565	7,295	1,428.2	100 / 21
803	80,251	7,295	1,441.8	98 / 21
MILL CREEK				
010	1,022	5,076	963.8 ⁴	30 / 313
013	1,337	5,076	963.8 ⁴	30 / 288
019	1,899	4,632	963.8 ⁴	64 / 141
022	2,193	4,632	964.1	40 / 221
024	2,375	4,632	964.7	30 / 194
028	2,775	4,632	966.4	133 / 96
034	3,365	4,632	969.1	192 / 42
037	3,657	4,632	970.3	114 / 88
040	4,043	3,797	972.1	95 / 88
045	4,500	3,797	975.2	101 / 97
048	4,811	3,797	976.1	51 / 107
054	5,400	3,797	979.2	72 / 85
058	5,836	3,797	981.1	21 / 106
062	6,203	3,797	982.7	64 / 35
064	6,441	3,797	984.6	104 / 42
068	6,781	3,797	986.4	43 / 115
072	7,222	3,797	988.1	30 / 139
077	7,706	3,639	991.2	36 / 67
080	8,024	3,639	993.6	30 / 136
083	8,287	3,639	995.0	33 / 114
087	8,704	3,639	997.4	130 / 30
091	9,117	3,639	1,002.2	17 / 22
094	9,423	3,639	1,002.8	15 / 30
106	10,635	3,639	1,011.4	40 / 100
109	10,921	3,639	1,012.0	160 / 50
112	11,181	3,639	1,012.2	104 / 30
114	11,352	3,639	1,013.8	61 / 69
115	11,523	3,639	1,014.7	20 / 60
117	11,712	3,639	1,017.7	40 / 28
118	11,811	3,639	1,018.1	65 / 25
122	12,243	2,503	1,020.8	30 / 100
125	12,472	2,503	1,021.1	18 / 98
127	12,655	2,503	1,021.9	18 / 83
131	13,052	2,503	1,024.2	65 / 107

Section 5.0 – Engineering Methods

Table 11—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)
MILL CREEK				
135	13,467	2,503	1,026.2	42 / 96
139	13,895	2,503	1,030.0	50 / 69
143	14,263	2,503	1,032.7	35 / 139
146	14,568	2,503	1,034.2	73 / 77
150	15,012	2,369	1,036.4	26 / 79
153	15,336	2,369	1,040.5	91 / 48
158	15,764	2,369	1,042.9	59 / 67
161	16,051	2,369	1,045.6	20 / 83
166	16,603	2,369	1,050.4	20 / 139
169	16,883	2,369	1,052.2	20 / 107
MILL CREEK NORTH				
000	35	2,754	1,257.6 ⁴	46 / 12
002	246	2,754	1,262.6	22 / 28
005	482	2,754	1,264.6	16 / 30
008	758	2,754	1,266.9	60 / 10
011	1,054	2,754	1,268.6	98 / 62
015	1,489	2,754	1,270.5	121 / 27
018	1,819	2,754	1,272.8	100 / 33
021	2,058	2,415	1,275.6	38 / 78
024	2,387	2,415	1,279.4	9 / 137
026	2,632	2,415	1,283.1	40 / 27
028	2,820	2,415	1,286.8	18 / 27
031	3,142	2,415	1,295.1	27 / 43
034	3,426	2,415	1,299.4	15 / 80
036	3,605	2,415	1,302.0	35 / 29
038	3,835	2,415	1,306.5	14 / 20
040	3,953	2,415	1,309.4	15 / 35
042	4,167	2,415	1,312.8	9 / 90
044	4,405	2,415	1,315.0	9 / 100
046	4,611	2,415	1,319.3	71 / 40
048	4,836	2,415	1,324.8	88 / 9
051	5,089	2,415	1,330.8	63 / 18
053	5,251	2,415	1,335.7	65 / 15
055	5,512	2,415	1,343.8	9 / 37
057	5,703	1,804	1,348.5	8 / 51
058	5,838	1,804	1,354.5	8 / 35
060	6,005	1,804	1,360.0	8 / 27
062	6,212	1,804	1,365.1	8 / 64
064	6,368	1,804	1,372.2	14 / 61
066	6,620	1,804	1,382.1	30 / 36
068	6,768	1,804	1,387.4	8 / 68
070	6,989	1,804	1,392.7	22 / 26
071	7,109	1,804	1,398.2	30 / 10
072	7,197	1,549	1,411.5	16 / 5
072	7,230	1,549	1,423.9	4 / 10
073	7,279	1,549	1,442.5	13 / 11
073	7,316	1,549	1,456.2	15 / 7

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
MILL CREEK NORTH				
074	7,364	1,549	1,471.4	19 / 21
075	7,464	1,549	1,483.9	11 / 14
076	7,555	1,549	1,491.3	8 / 33
076	7,648	1,549	1,497.1	10 / 50
078	7,821	1,549	1,501.9	8 / 45
080	7,955	1,549	1,506.3	8 / 42
082	8,150	1,549	1,512.3	8 / 34
084	8,439	1,549	1,527.8	15 / 50
085	8,523	1,549	1,531.5	10 / 17
087	8,679	1,549	1,542.6	15 / 15
088	8,753	1,549	1,548.1	16 / 14
089	8,868	1,549	1,559.2	25 / 25
090	8,967	1,549	1,562.8	17 / 32
091	9,108	1,549	1,571.8	12 / 46
092	9,237	1,549	1,581.2	13 / 45
094	9,356	1,549	1,590.3	13 / 22
095	9,488	1,549	1,601.7	7 / 19
096	9,590	1,549	1,608.6	7 / 27
097	9,670	1,549	1,613.9	8 / 42
098	9,751	1,549	1,620.7	7 / 20
098	9,832	1,549	1,625.2	8 / 26
099	9,940	1,549	1,631.1	11 / 15
100	10,035	1,549	1,637.2	29 / 21
101	10,116	1,549	1,646.2	8 / 25
103	10,255	1,549	1,656.3	17 / 44
104	10,382	833	1,659.5	14 / 17
104	10,438	833	1,668.3	10 / 5
105	10,502	833	1,673.4	9 / 14
106	10,593	833	1,684.4	15 / 23
107	10,669	833	1,698.4	12 / 16
107	10,696	833	1,706.5	6 / 13
107	10,737	833	1,715.1	17 / 13
108	10,812	833	1,727.4	10 / 20
109	10,888	833	1,735.2	4 / 20
110	10,989	833	1,742.2	10 / 19
110	11,018	833	1,748.5	4 / 40
111	11,097	833	1,756.4	7 / 21
112	11,213	833	1,763.0	7 / 21
114	11,392	833	1,773.2	23 / 5
116	11,559	833	1,784.0	13 / 7
117	11,654	833	1,793.0	11 / 7
119	11,908	833	1,819.9	14 / 30
120	12,021	833	1,831.7	10 / 9
121	12,062	833	1,839.7	6 / 16
121	12,121	833	1,853.7	8 / 12
122	12,198	833	1,860.9	11 / 8
123	12,294	833	1,871.0	17 / 8
124	12,366	833	1,879.5	23 / 11

Section 5.0 – Engineering Methods

Table 11—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)
MILL CREEK NORTH				
124	12,418	833	1,887.2	10 / 20
125	12,513	833	1,890.1	6 / 13
127	12,690	833	1,900.2	29 / 8
128	12,834	833	1,909.1	27 / 7
129	12,926	833	1,914.5	28 / 7
131	13,129	833	1,924.8	15 / 35
133	13,286	833	1,934.8	20 / 17
134	13,395	833	1,945.6	15 / 20
135	13,539	833	1,957.4	7 / 7
137	13,681	833	1,964.4	7 / 13
138	13,798	833	1,970.3	10 / 12
140	14,047	833	1,977.1	21 / 25
142	14,182	833	1,981.6	8 / 26
144	14,380	833	1,985.3	41 / 7
147	14,672	833	1,992.8	35 / 18
149	14,874	833	2,005.6	27 / 42
150	14,993	833	2,019.1	14 / 14
151	15,114	833	2,043.3	10 / 5
152	15,163	833	2,055.0	15 / 35
153	15,280	833	2,063.4	7 / 17
154	15,360	833	2,066.6	7 / 26
155	15,522	833	2,077.6	7 / 50
156	15,632	833	2,082.6	7 / 85
157	15,728	833	2,088.7	10 / 28
159	15,919	833	2,099.6	6 / 26
160	16,034	833	2,105.7	7 / 36
162	16,175	833	2,114.7	24 / 14
MORAVIAN CREEK				
004	380	11,627	968.4 ⁴	47 / 47
007	737	11,627	968.4 ⁴	46 / 46
012	1,188	11,627	968.4 ⁴	35 / 29
021	2,141	11,497	972.2	29 / 111
024	2,444	11,497	972.9	37 / 59
026	2,616	11,497	973.1	43 / 42
029	2,915	11,497	975.0	37 / 43
031	3,136	11,497	975.4	125 / 30
033	3,278	11,497	977.8	235 / 45
036	3,628	11,497	978.6	453 / 47
039	3,947	11,497	978.8	525 / 30
045	4,517	11,497	979.2	350 / 35
049	4,942	11,497	980.6	45 / 50
050	4,990	11,497	980.6	34 / 46
050	5,031	11,497	982.0	45 / 75
056	5,590	11,189	984.7	130 / 35
059	5,946	11,189	986.1	109 / 51
064	6,426	11,189	987.7	82 / 33
069	6,872	11,189	988.7	40 / 50

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
MORAVIAN CREEK				
071	7,111	11,161	991.6	90 / 56
076	7,595	11,161	992.0	90 / 35
079	7,931	11,161	992.9	73 / 72
085	8,487	11,161	994.7	95 / 130
090	8,991	11,161	995.7	186 / 34
096	9,562	11,161	997.5	75 / 70
097	9,706	11,014	997.9	79 / 46
102	10,167	11,014	998.9	33 / 37
105	10,456	11,014	999.9	34 / 36
108	10,807	11,014	1,001.4	45 / 50
113	11,292	11,014	1,003.5	35 / 50
116	11,568	11,014	1,003.6	25 / 40
117	11,734	11,014	1,005.0	33 / 37
121	12,088	11,014	1,008.3	43 / 37
125	12,472	10,883	1,009.7	67 / 33
129	12,908	10,883	1,011.7	80 / 30
132	13,181	10,883	1,013.2	48 / 36
136	13,621	10,883	1,014.2	56 / 29
139	13,931	10,883	1,015.5	28 / 67
143	14,327	10,883	1,017.6	37 / 63
149	14,945	10,883	1,019.2	35 / 50
153	15,259	10,883	1,020.1	44 / 36
154	15,359	10,883	1,020.2	55 / 40
155	15,480	10,883	1,020.4	39 / 61
156	15,596	10,883	1,021.6	50 / 35
160	16,000	10,769	1,026.2	50 / 35
165	16,469	10,769	1,027.5	26 / 29
168	16,828	10,769	1,030.8	50 / 35
171	17,144	10,769	1,031.6	45 / 40
175	17,539	10,769	1,033.3	40 / 35
180	18,026	10,769	1,037.2	40 / 110
182	18,215	10,769	1,037.8	30 / 210
187	18,742	10,769	1,038.5	231 / 59
192	19,209	10,769	1,039.1	122 / 144
196	19,635	10,769	1,039.3	82 / 53
200	19,987	10,769	1,039.6	38 / 47
203	20,342	10,462	1,042.3	95 / 105
209	20,870	10,462	1,042.9	346 / 164
211	21,149	10,435	1,042.9	298 / 247
213	21,314	10,435	1,042.9	235 / 250
216	21,552	10,435	1,043.2	285 / 275
220	22,013	10,435	1,043.6	220 / 260
223	22,323	10,435	1,043.7	157 / 88
226	22,638	10,435	1,044.4	110 / 25
229	22,935	10,435	1,046.3	50 / 120
233	23,331	10,435	1,047.6	111 / 179
239	23,910	10,435	1,048.2	73 / 297

Section 5.0 – Engineering Methods

Table 11—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)
MORAVIAN CREEK				
244	24,422	10,435	1048.7	121 / 449
249	24,936	10,037	1,049.2	138 / 322
253	25,287	10,037	1,049.3	135 / 85
256	25,645	10,037	1,050.6	110 / 70
259	25,922	10,037	1,052.0	50 / 300
263	26,320	10,037	1,052.4	135 / 290
268	26,849	10,037	1,052.8	80 / 130
271	27,149	10,037	1,052.8	35 / 70
274	27,447	10,037	1,053.7	41 / 49
279	27,875	10,037	1,057.2	57 / 83
280	28,030	10,037	1,058.6	235 / 35
288	28,805	9,675	1,058.9	320 / 30
292	29,235	9,675	1,058.9	102 / 93
297	29,687	9,675	1,067.7	105 / 125
299	29,885	9,675	1,067.8	120 / 275
305	30,452	9,675	1,067.8	230 / 145
310	31,028	5,720	1,067.8	135 / 190
313	31,318	5,277	1,067.8	110 / 175
316	31,610	5,277	1,067.8	50 / 125
320	31,964	5,277	1,068.0	30 / 120
323	32,335	5,277	1,068.3	30 / 150
328	32,785	5,237	1,068.6	20 / 250
332	33,160	5,237	1,068.7	25 / 140
336	33,644	5,237	1,071.8	170 / 25
341	34,060	5,237	1,076.8	90 / 40
342	34,212	5,237	1079.6	68 / 92
344	34,374	5,237	1,081.0	40 / 40
344	34,442	5,237	1,081.2	25 / 40
345	34,456	5,237	1,082.6	35 / 54
345	34,502	5,237	1,090.0	33 / 51
345	34,543	5,237	1,099.2	20 / 18
346	34,584	5,237	1,109.6	10 / 9
346	34,635	5,237	1,129.8	27 / 72
347	34,749	5,237	1,136.9	47 / 49
349	34,866	5,237	1,141.7	47 / 29
350	35,006	5,237	1,145.7	33 / 55
352	35,239	5,237	1,151.6	34 / 30
354	35,399	5,237	1,155.6	45 / 42
356	35,562	5,237	1,158.4	45 / 38
357	35,731	5,237	1,163.4	99 / 11
360	35,987	5,237	1,167.2	32 / 153
364	36,367	5,002	1,169.1	59 / 93
367	36,670	5,002	1,170.9	25 / 275
371	37,123	5,002	1,172.5	40 / 285
377	37,661	5,002	1,175.0	45 / 195
380	38,047	5,002	1,179.5	25 / 150
383	38,310	5,002	1,181.5	60 / 85

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
MORAVIAN CREEK				
386	38,615	5,002	1,184.8	185 / 30
390	39,037	5,002	1,185.7	90 / 25
394	39,426	5,002	1,190.0	75 / 35
397	39,667	4,756	1,191.6	25 / 40
399	39,926	4,756	1,194.5	30 / 55
402	40,215	4,756	1,198.0	20 / 45
405	40,462	4,756	1,198.9	20 / 30
407	40,745	4,756	1,204.1	65 / 15
412	41,200	4,756	1,208.2	32 / 12
415	41,499	4,756	1,211.1	30 / 50
417	41,697	4,756	1,211.8	20 / 40
419	41,873	4,756	1,214.6	55 / 50
422	42,222	4,756	1,216.2	190 / 35
425	42,541	4,756	1,217.1	195 / 20
428	42,797	4,756	1,217.5	155 / 40
433	43,268	4,756	1,219.2	40 / 30
436	43,607	4,756	1,223.5	20 / 25
438	43,811	4,756	1,224.5	12 / 30
440	43,999	4,756	1,230.5	15 / 65
444	44,416	4,756	1,230.8	20 / 95
447	44,670	4,301	1,231.5	120 / 55
450	45,017	4,301	1,232.1	50 / 190
452	45,232	4,301	1,232.2	60 / 90
454	45,400	4,301	1,232.4	25 / 70
456	45,588	4,301	1,232.8	17 / 75
MORAVIAN CREEK TRIBUTARY 1				
000	0	4,301	1,232.8	17 / 75
001	115	1,819	1,235.0	70 / 45
005	531	1,819	1,237.0	35 / 20
009	900	1,819	1,244.9	15 / 25
012	1,178	1,819	1,249.9	35 / 22
014	1,443	1,819	1,255.2	80 / 25
015	1,542	1,819	1,255.5	80 / 20
018	1,790	1,731	1,258.5	105 / 20
023	2,272	1,731	1,268.0	60 / 20
024	2,405	1,731	1,270.5	35 / 20
026	2,587	1,731	1,275.3	10 / 70
029	2,916	1,731	1,283.7	10 / 40
031	3,072	1,731	1,288.1	10 / 70
033	3,265	1,590	1,293.3	10 / 50
034	3,410	1,590	1,297.0	7 / 40
036	3,589	1,590	1,301.1	15 / 40
037	3,730	1,590	1,304.6	10 / 40
038	3,849	1,590	1,306.5	10 / 20
041	4,057	1,590	1,311.4	15 / 30
MULBERRY CREEK				
016	1,590	17,882	952.4 ⁴	46 / 42

Section 5.0 – Engineering Methods

Table 11—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)
MULBERRY CREEK				
020	1,976	17,882	952.4 ⁴	60 / 38
030	2,952	17,882	955.9	180 / 55
037	3,705	17,882	956.3	80 / 39
042	4,201	17,882	957.9	60 / 51
047	4,732	17,882	958.5	68 / 34
052	5,196	17,882	959.5	64 / 34
054	5,360	17,772	959.8	54 / 42
056	5,555	17,772	960.3	70 / 38
059	5,882	17,772	967.1	55 / 81
064	6,440	17,772	974.0	56 / 50
070	6,995	17,772	975.7	54 / 42
076	7,623	17,772	979.1	44 / 34
083	8,280	17,772	983.8	52 / 42
087	8,704	17,261	985.5	42 / 54
090	8,961	17,261	985.6	29 / 64
092	9,208	17,261	992.5	38 / 115
095	9,491	17,261	994.1	110 / 50
106	10,583	17,094	998.7	160 / 200
112	11,219	17,094	999.0	95 / 60
120	12,024	17,094	1,000.9	65 / 44
129	12,936	16,615	1,003.5	82 / 120
136	13,583	16,615	1,005.6	57 / 80
145	14,539	16,615	1,007.8	80 / 150
152	15,173	16,516	1,009.5	54 / 80
160	15,989	16,516	1,011.9	50 / 40
168	16,828	16,452	1,014.3	54 / 29
176	17,635	16,452	1,016.3	52 / 38
186	18,586	16,343	1,019.2	44 / 40
193	19,320	16,343	1,022.3	64 / 36
200	20,046	16,244	1,023.8	53 / 36
208	20,750	16,244	1,026.2	40 / 36
214	21,425	16,131	1,029.3	42 / 39
220	22,034	16,131	1,032.0	42 / 50
227	22,696	16,048	1,034.1	51 / 39
234	23,411	16,048	1,035.9	50 / 40
243	24,321	16,048	1,038.1	52 / 36
252	25,222	16,048	1,041.4	90 / 60
261	26,064	16,048	1,043.4	60 / 38
267	26,734	16,048	1,045.7	38 / 64
272	27,167	15,528	1,047.0	60 / 56
276	27,647	15,528	1,048.5	50 / 180
282	28,244	15,528	1,049.8	200 / 70
287	28,712	15,528	1,050.8	200 / 76
297	29,704	15,528	1,052.8	224 / 54
306	30,583	15,485	1,062.4	65 / 200
310	31,036	15,485	1,062.6	150 / 250
319	31,855	15,485	1,062.9	600 / 66
327	32,735	15,485	1,063.1	300 / 200

Section 5.0 – Engineering Methods

Table 11—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)
MULBERRY CREEK				
336	33,647	15,114	1,063.4	260 / 130
343	34,299	15,114	1,063.7	100 / 100
350	35,047	15,114	1,064.6	88 / 26
357	35,713	15,114	1,066.7	58 / 23
364	36,412	13,973	1,069.5	62 / 16
370	36,953	13,973	1,072.3	80 / 20
375	37,504	13,973	1,073.8	36 / 50
381	38,086	13,973	1,075.3	38 / 58
386	38,589	13,688	1,076.0	26 / 46
390	39,016	13,688	1,078.6	58 / 44
393	39,337	13,688	1,079.1	51 / 46
397	39,714	12,853	1,080.5	48 / 28
402	40,160	12,853	1,082.5	66 / 32
407	40,749	12,853	1,083.6	43 / 46
413	41,261	12,853	1,085.1	31 / 31
418	41,790	12,853	1,086.7	50 / 38
423	42,305	12,853	1,088.7	38 / 58
428	42,848	12,853	1,090.7	46 / 27
436	43,627	12,768	1,094.2	42 / 47
443	44,257	12,768	1,097.0	52 / 24
450	44,987	12,768	1,099.8	58 / 24
458	45,796	12,640	1,102.7	37 / 33
462	46,248	12,640	1,104.4	60 / 34
468	46,761	12,640	1,105.1	62 / 22
477	47,661	12,502	1,108.3	90 / 31
483	48,252	12,488	1,109.6	42 / 54
487	48,711	12,488	1,111.6	64 / 33
492	49,177	12,488	1,112.2	76 / 24
498	49,756	12,488	1,114.0	28 / 48
503	50,321	12,488	1,116.4	66 / 22
511	51,070	12,163	1,119.2	42 / 74
519	51,886	12,163	1,121.3	180 / 30
526	52,569	12,163	1,121.5	120 / 100
533	53,303	12,163	1,122.3	46 / 70
542	54,240	12,049	1,125.0	54 / 34
551	55,113	12,049	1,127.6	64 / 36
556	55,557	12,049	1,131.4	96 / 38
559	55,940	11,875	1,132.2	200 / 55
568	56,750	11,734	1,133.5	72 / 32
572	57,197	11,734	1,134.9	70 / 70
580	58,006	11,600	1,140.0	190 / 120
590	59,048	11,600	1,141.1	33 / 100
596	59,621	11,600	1,145.1	36 / 70
602	60,152	11,600	1,148.4	25 / 68
612	61,233	11,600	1,153.4	40 / 38
624	62,362	11,456	1,157.1	50 / 28
630	63,040	10,922	1,163.0	70 / 36
634	63,434	10,922	1,165.5	24 / 140

Section 5.0 – Engineering Methods

Table 11—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)
MULBERRY CREEK				
641	64,108	9,925	1,170.6	160 / 24
649	64,861	9,925	1,173.2	200 / 70
657	65,672	9,925	1,175.2	150 / 48
664	66,424	9,840	1,178.1	48 / 80
669	66,938	9,840	1,181.7	56 / 37
674	67,449	9,840	1,186.3	61 / 36
678	67,802	9,840	1,188.4	25 / 60
680	67,975	9,840	1,190.8	28 / 70
682	68,192	9,840	1,194.2	19 / 92
684	68,405	9,840	1,197.6	30 / 35
686	68,614	9,840	1,199.4	38 / 70
689	68,880	9,840	1,202.7	28 / 91
691	69,126	9,039	1,206.3	14 / 49
694	69,423	9,039	1,210.1	19 / 24
697	69,683	9,039	1,213.5	17 / 50
700	69,989	9,039	1,214.8	28 / 26
702	70,246	9,039	1,218.3	32 / 40
705	70,546	9,039	1,222.6	30 / 46
710	71,030	9,039	1,223.5	36 / 40
715	71,532	9,039	1,227.2	80 / 40
722	72,245	9,039	1,231.8	52 / 174
731	73,055	9,039	1,235.6	52 / 88
738	73,805	9,039	1,241.5	28 / 140
744	74,435	8,170	1,248.2	46 / 50
750	75,002	8,170	1,255.7	145 / 38
758	75,767	8,170	1,266.1	29 / 71
763	76,349	8,170	1,273.9	60 / 50
771	77,122	8,170	1,283.0	0 / 8
778	77,772	8,170	1,294.3	0 / 44
783	78,261	7,545	1,299.9	0 / 43
789	78,871	7,545	1,304.9	0 / 27
793	79,260	7,545	1,308.4	0 / 28
799	79,922	7,545	1,316.8	0 / 30
804	80,446	7,545	1,322.0	40 / 45
807	80,676	7,545	1,326.0	20 / 22
809	80,891	7,545	1,333.9	60 / 60
811	81,121	7,545	1,334.3	50 / 50
814	81,440	7,545	1,335.6	60 / 70
816	81,629	7,545	1,336.1	160 / 54
821	82,112	7,545	1,337.2	160 / 90
827	82,674	6,122	1,341.3	41 / 160
835	83,459	6,122	1,347.1	120 / 134
842	84,199	6,122	1,350.9	28 / 100
849	84,885	6,122	1,360.7	9 / 120
856	85,592	6,122	1,366.5	42 / 170
863	86,307	6,122	1,370.7	30 / 110
872	87,213	5,569	1,385.4	66 / 66
879	87,880	5,569	1,394.3	35 / 60

Section 5.0 – Engineering Methods

Table 11—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)
MULBERRY CREEK				
886	88,578	5,569	1,403.3	30 / 38
889	88,938	5,569	1,407.2	21 / 45
892	89,186	5,569	1,412.8	130 / 22
900	90,026	4,624	1,418.1	64 / 70
906	90,613	4,624	1,428.0	17 / 80
913	91,320	4,624	1,438.8	160 / 16
921	92,060	4,624	1,450.9	102 / 30
923	92,298	4,624	1,452.8	102 / 30
MULBERRY CREEK TRIBUTARY 1				
002	174	2,167	1,295.1 ⁴	61 / 7
004	386	2,167	1,295.1 ⁴	50 / 54
007	700	2,167	1,296.3	37 / 77
010	993	2,167	1,299.5	103 / 7
012	1,243	2,167	1,302.9	71 / 54
013	1,333	2,167	1,304.3	69 / 45
014	1,379	2,167	1,305.5	41 / 40
014	1,436	2,167	1,307.3	32 / 49
015	1,493	2,167	1,309.1	28 / 39
017	1,668	2,167	1,318.5	39 / 15
017	1,746	2,167	1,321.0	39 / 15
019	1,857	2,167	1,324.5	25 / 18
019	1,923	2,167	1,327.0	25 / 25
022	2,220	2,167	1,333.9	156 / 7
025	2,481	2,167	1,335.6	96 / 7
027	2,677	2,167	1,340.1	37 / 17
029	2,903	2,167	1,345.4	73 / 11
032	3,153	2,167	1,350.6	42 / 7
032	3,216	2,167	1,352.6	40 / 10
034	3,353	2,167	1,376.1	38 / 45
036	3,594	2,167	1,389.6	62 / 33
038	3,790	2,167	1,391.9	78 / 36
040	3,959	2,167	1,392.6	28 / 47
041	4,148	2,167	1,393.5	118 / 7
046	4,559	2,167	1,396.7	54 / 8
049	4,853	2,167	1,400.0	64 / 55
051	5,069	2,167	1,401.6	7 / 120
052	5,219	2,167	1,403.1	21 / 81
054	5,382	2,167	1,405.2	7 / 82
NAKED CREEK				
001	81	4,994	1,075.1 ⁴	19 / 29
005	529	4,994	1,075.1 ⁴	35 / 30
011	1,097	4,994	1,075.1 ⁴	40 / 61
014	1,396	4,994	1,075.1 ⁴	26 / 34
017	1,725	4,994	1,075.1 ⁴	44 / 45
020	2,049	4,994	1,075.1 ⁴	50 / 74
026	2,611	4,994	1,075.1 ⁴	51 / 19
029	2,929	4,994	1,077.2	13 / 41

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
NAKED CREEK				
035	3,535	4,994	1,082.6	20 / 50
041	4,141	4,994	1,086.9	137 / 164
047	4,683	4,747	1,087.4	127 / 68
054	5,366	4,747	1,088.9	107 / 57
061	6,069	4,747	1,091.5	48 / 106
066	6,551	4,747	1,093.7	154 / 27
071	7,112	4,747	1,095.9	86 / 107
082	8,210	3,940	1,101.3	96 / 74
088	8,770	3,940	1,103.6	36 / 134
091	9,100	3,940	1,104.9	35 / 59
096	9,555	3,940	1,108.1	22 / 81
101	10,056	3,940	1,111.2	32 / 25
106	10,581	3,940	1,117.0	20 / 35
110	10,988	3,699	1,120.6	46 / 166
115	11,462	3,409	1,121.1	121 / 104
121	12,106	3,409	1,123.0	33 / 75
125	12,506	3,409	1,124.8	69 / 131
129	12,939	3,409	1,126.3	99 / 104
134	13,444	3,235	1,128.7	190 / 41
144	14,397	3,235	1,135.7	219 / 55
150	15,004	2,996	1,137.9	89 / 9
154	15,357	2,996	1,140.3	38 / 24
158	15,848	2,996	1,144.0	45 / 27
165	16,528	2,996	1,150.2	94 / 9
170	17,036	2,996	1,155.1	59 / 9
175	17,532	2,996	1,161.0	43 / 9
179	17,855	2,843	1,163.7	181 / 9
184	18,417	2,843	1,167.9	46 / 99
187	18,724	2,843	1,172.0	39 / 15
NORTH FORK REDDIES RIVER				
006	633	6,055	1,166.6 ⁴	35 / 35
012	1,244	6,055	1,169.1	29 / 90
016	1,586	6,055	1,172.0	31 / 31
019	1,924	6,055	1,173.9	31 / 27
025	2,491	6,055	1,176.7	31 / 31
028	2,841	6,055	1,178.0	31 / 31
032	3,164	6,055	1,179.6	31 / 31
034	3,424	6,006	1,181.1	74 / 31
037	3,714	6,006	1,181.8	52 / 31
041	4,084	6,006	1,183.3	36 / 36
045	4,512	6,006	1,186.5	40 / 31
047	4,727	6,006	1,189.0	104 / 31
051	5,086	6,006	1,189.9	133 / 26
057	5,676	6,006	1,191.6	170 / 100
067	6,678	5,889	1,194.4	67 / 119
076	7,565	5,889	1,200.2	30 / 155
085	8,521	5,889	1,203.3	80 / 29

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
NORTH FORK REDDIES RIVER				
092	9,153	5,695	1,207.3	95 / 95
103	10,298	5,695	1,214.3	46 / 74
108	10,841	5,695	1,218.4	40 / 98
113	11,262	5,695	1,219.7	30 / 50
118	11,803	5,658	1,224.0	60 / 55
122	12,243	5,658	1,227.2	48 / 150
127	12,733	5,658	1,229.1	50 / 75
129	12,929	5,658	1,229.4	52 / 38
132	13,228	5,658	1,233.1	120 / 30
135	13,530	5,658	1,234.5	30 / 160
139	13,926	5,658	1,235.7	54 / 178
142	14,213	5,658	1,236.7	117 / 39
145	14,506	5,658	1,237.5	110 / 26
148	14,799	5,592	1,239.4	89 / 25
150	15,006	5,592	1,240.2	26 / 58
152	15,239	5,592	1,241.6	57 / 36
155	15,489	5,592	1,243.0	58 / 27
157	15,724	5,592	1,245.7	130 / 68
159	15,942	5,592	1,245.9	89 / 41
161	16,116	5,592	1,247.2	29 / 96
166	16,588	5,592	1,248.8	45 / 26
169	16,920	5,592	1,252.1	38 / 24
174	17,427	5,592	1,256.1	130 / 47
178	17,758	5,592	1,256.9	30 / 100
184	18,391	5,171	1,259.4	39 / 213
188	18,780	5,171	1,261.7	30 / 215
192	19,195	5,171	1,264.3	50 / 90
194	19,443	5,171	1,266.3	25 / 150
197	19,733	5,171	1,267.9	90 / 90
202	20,196	5,171	1,270.8	220 / 90
207	20,671	5,143	1,274.7	35 / 42
209	20,898	5,143	1,275.5	27 / 28
211	21,141	5,143	1,277.3	27 / 35
214	21,385	5,143	1,278.7	27 / 100
219	21,929	5,143	1,280.8	80 / 19
222	22,183	5,143	1,283.7	48 / 44
224	22,391	5,143	1,285.5	26 / 56
226	22,550	5,143	1,286.3	46 / 34
230	22,999	5,143	1,289.3	100 / 84
234	23,408	3,649	1,292.6	45 / 195
238	23,843	3,633	1,295.9	18 / 199
241	24,085	3,633	1,299.5	17 / 210
244	24,416	3,633	1,301.5	100 / 22
247	24,709	3,633	1,304.7	107 / 22
250	24,987	3,633	1,306.1	22 / 45
253	25,263	3,633	1,308.1	22 / 51
255	25,462	3,633	1,310.4	23 / 22

Section 5.0 – Engineering Methods

Table 11—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 FORK REDDIES RIVER				
257	25,747	3,633	1,313.9	22 / 50
260	26,026	3,551	1,315.8	22 / 21
262	26,195	3,551	1,317.8	23 / 45
263	26,324	3,551	1,319.4	20 / 30
265	26,542	3,551	1,321.5	13 / 16
269	26,912	3,551	1,328.1	18 / 15
272	27,197	3,551	1,331.9	23 / 12
274	27,431	3,551	1,334.3	21 / 21
276	27,618	3,551	1,337.9	65 / 28
279	27,896	3,551	1,338.8	65 / 80
283	28,255	3,486	1,343.7	28 / 95
285	28,501	3,486	1,347.0	35 / 130
288	28,837	3,486	1,350.6	100 / 33
292	29,163	3,486	1,354.0	20 / 31
295	29,472	3,486	1,358.9	70 / 26
297	29,668	3,416	1,359.5	84 / 59
302	30,174	3,416	1,363.6	165 / 88
304	30,440	3,416	1,365.7	39 / 108
307	30,714	3,416	1,368.5	35 / 64
312	31,174	3,416	1,373.1	17 / 50
316	31,555	3,416	1,377.3	43 / 160
319	31,937	3,376	1,379.5	86 / 89
324	32,374	3,376	1,383.5	72 / 64
327	32,743	3,376	1,388.5	120 / 21
333	33,305	3,376	1,394.3	58 / 85
336	33,640	3,376	1,397.9	35 / 35
339	33,921	3,376	1,401.3	25 / 18
342	34,213	3,162	1,406.8	20 / 35
345	34,501	3,162	1,411.0	20 / 40
348	34,798	3,162	1,416.5	64 / 20
352	35,196	3,162	1,422.3	26 / 22
354	35,381	3,162	1,426.0	43 / 22
356	35,609	3,162	1,427.9	29 / 14
358	35,814	3,162	1,431.9	25 / 16
360	36,007	3,162	1,435.8	22 / 18
362	36,225	3,162	1,438.8	18 / 42
365	36,532	3,162	1,443.7	60 / 33
371	37,052	2,776	1,448.4	15 / 76
373	37,309	2,776	1,452.4	112 / 43
375	37,516	2,776	1,453.9	115 / 115
379	37,881	2,776	1,459.9	50 / 96
NORTH LITTLE HUNTING CREEK				
927	92,711	3,297	1,023.9	57 / 21
933	93,253	3,297	1,024.6	21 / 18
937	93,714	3,297	1,025.9	24 / 21
942	94,163	3,297	1,028.5	28 / 81
947	94,699	3,297	1,029.3	21 / 94

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
NORTH LITTLE HUNTING CREEK				
953	95,338	3,297	1,031.0	24 / 141
957	95,689	3,297	1,032.2	79 / 97
961	96,053	3,297	1,032.9	21 / 106
967	96,713	3,297	1,035.3	21 / 111
971	97,148	3,297	1,037.5	53 / 123
976	97,637	3,050	1,038.2	31 / 214
983	98,330	2,537	1,039.2	14 / 320
992	99,198	2,537	1,040.6	18 / 173
999	99,888	2,537	1,041.6	18 / 180
1005	100,538	2,537	1,045.7	24 / 69
1012	101,187	2,537	1,046.5	18 / 18
1017	101,694	2,537	1,048.5	18 / 18
1021	102,134	2,478	1,051.1	18 / 18
1026	102,582	2,478	1,053.7	32 / 165
1032	103,233	2,478	1,053.8	18 / 22
1037	103,731	2,478	1,056.7	18 / 172
1042	104,189	2,364	1,057.5	22 / 130
1047	104,708	2,364	1,058.8	136 / 18
1051	105,138	2,364	1,060.1	18 / 40
1057	105,695	2,364	1,062.3	19 / 87
1063	106,286	2,364	1,064.0	18 / 88
1068	106,776	2,364	1,066.1	18 / 32
1071	107,147	2,364	1,067.1	18 / 18
1074	107,384	1,635	1,068.6	18 / 73
1079	107,934	1,635	1,068.6	15 / 10
1083	108,332	1,635	1,072.0	16 / 15
1089	108,862	1,635	1,076.3	19 / 38
1091	109,114	1,635	1,076.9	15 / 15
1094	109,374	1,635	1,080.5	29 / 15
1096	109,581	1,477	1,080.9	15 / 23
1098	109,798	1,477	1,084.5	34 / 200
1100	109,996	1,477	1,084.5	14 / 14
1106	110,581	1,477	1,091.3	14 / 18
1110	111,015	1,477	1,095.3	14 / 113
1115	111,509	1,477	1,097.9	20 / 14
1122	112,184	1,477	1,103.5	16 / 31
1127	112,686	1,477	1,106.6	79 / 79
1135	113,530	1,192	1,112.5	66 / 15
1140	114,041	1,192	1,115.6	10 / 40
1146	114,557	1,192	1,118.7	85 / 25
NORTH LITTLE HUNTING CREEK TRIBUTARY 3				
006	559	1,284	1,039.2 ⁴	11 / 139
011	1,084	1,284	1,042.0	13 / 12
015	1,527	1,284	1,050.9	18 / 50
018	1,832	1,284	1,052.6	142 / 100
022	2,243	1,284	1,052.7	73 / 67
027	2,669	1,247	1,052.9	77 / 15

Section 5.0 – Engineering Methods

Table 11—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 LITTLE HUNTING CREEK TRIBUTARY 3				
037	3,667	1,247	1,058.5	17 / 20
046	4,637	1,247	1,069.3	129 / 13
NORTH LITTLE HUNTING CREEK TRIBUTARY 4				
000	4	1,293	1,068.6 ⁴	27 / 18
002	240	1,293	1,072.0	12 / 32
007	736	1,293	1,081.2	13 / 13
011	1,123	1,293	1,086.5	13 / 27
015	1,521	1,293	1,090.0	61 / 35
024	2,375	1,267	1,098.0	13 / 234
NORTH PRONG LEWIS FORK				
003	320	14,455	1,077.3 ⁴	32 / 41
009	923	14,455	1,079.5	43 / 100
012	1,177	14,455	1,079.9	72 / 60
015	1,521	14,383	1,080.9	36 / 244
020	2,000	14,383	1,082.0	51 / 140
024	2,400	14,383	1,082.9	174 / 24
029	2,865	14,383	1,084.7	170 / 212
032	3,200	14,383	1,085.1	346 / 60
035	3,451	14,383	1,085.3	368 / 41
039	3,939	14,383	1,086.1	386 / 138
045	4,487	14,383	1,086.7	201 / 81
048	4,781	14,383	1,088.1	358 / 76
054	5,445	14,037	1,088.4	82 / 130
058	5,779	14,037	1,091.8	100 / 146
062	6,165	14,037	1,094.1	34 / 148
066	6,591	14,037	1,096.3	41 / 115
069	6,857	14,037	1,100.4	48 / 95
072	7,233	14,037	1,101.6	36 / 57
076	7,600	14,037	1,104.4	28 / 67
081	8,050	14,037	1,110.6	49 / 37
084	8,416	14,037	1,115.1	110 / 65
088	8,763	14,037	1,115.1	70 / 46
092	9,200	14,037	1,117.2	50 / 68
096	9,576	14,037	1,120.2	72 / 161
100	10,000	14,037	1,121.5	184 / 278
104	10,425	14,037	1,121.5	76 / 175
108	10,800	14,037	1,123.5	42 / 70
113	11,270	14,037	1,129.6	54 / 57
116	11,649	12,781	1,135.0	142 / 38
120	12,000	12,781	1,135.6	63 / 31
124	12,400	12,781	1,137.5	50 / 26
128	12,800	12,781	1,139.6	82 / 27
133	13,261	12,781	1,144.9	42 / 160
136	13,600	12,781	1,145.4	40 / 65
141	14,062	12,781	1,147.9	110 / 100
144	14,420	12,781	1,148.6	45 / 103
148	14,770	12,781	1,148.8	32 / 79

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
NORTH PRONG LEWIS FORK				
153	15,303	12,781	1,154.2	26 / 130
156	15,648	12,781	1,155.4	39 / 38
159	15,947	11,631	1,160.8	55 / 40
162	16,163	11,631	1,166.3	42 / 46
166	16,558	11,631	1,175.1	18 / 37
169	16,875	11,631	1,180.5	20 / 40
172	17,200	11,631	1,187.7	80 / 67
177	17,681	11,631	1,188.8	113 / 37
181	18,073	11,631	1,190.5	37 / 59
184	18,400	11,631	1,192.8	21 / 65
189	18,858	11,631	1,198.9	38 / 45
192	19,206	11,631	1,201.7	56 / 106
197	19,660	11,515	1,203.0	160 / 90
200	20,000	11,515	1,203.1	76 / 63
204	20,400	11,515	1,206.1	48 / 40
208	20,800	11,515	1,212.7	175 / 56
212	21,200	11,369	1,216.9	110 / 24
216	21,645	11,369	1,216.9	39 / 75
220	22,000	11,369	1,224.0	73 / 27
223	22,336	11,369	1,229.3	103 / 100
226	22,613	11,369	1,230.8	55 / 125
231	23,071	11,234	1,233.6	152 / 117
236	23,550	11,234	1,235.7	140 / 90
240	24,017	11,234	1,236.6	68 / 130
244	24,400	11,234	1,238.0	37 / 203
249	24,861	11,234	1,239.4	179 / 250
252	25,174	11,234	1,239.7	298 / 350
256	25,556	11,234	1,239.9	273 / 516
262	26,201	10,983	1,240.3	603 / 202
266	26,599	10,983	1,240.7	614 / 32
269	26,904	10,983	1,241.0	504 / 211
271	27,077	10,923	1,241.3	608 / 205
276	27,648	10,923	1,243.0	971 / 21
283	28,317	10,923	1,245.6	663 / 292
291	29,109	10,923	1,247.9	642 / 38
296	29,600	10,923	1,249.7	261 / 335
305	30,455	10,791	1,253.0	312 / 370
311	31,143	10,791	1,255.0	310 / 340
320	32,000	10,791	1,258.6	396 / 445
329	32,885	10,639	1,261.6	408 / 282
333	33,274	10,639	1,263.8	165 / 115
336	33,627	10,482	1,265.6	108 / 28
341	34,069	10,325	1,270.4	241 / 82
344	34,400	10,325	1,270.4	100 / 50
348	34,800	10,325	1,272.8	66 / 63
352	35,200	10,325	1,276.4	70 / 87
355	35,535	10,325	1,278.3	218 / 97

Section 5.0 – Engineering Methods

Table 11—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 LEWIS FORK				
361	36,147	9,349	1,278.6	25 / 97
365	36,485	9,349	1,284.2	86 / 88
368	36,800	9,349	1,286.1	128 / 64
372	37,200	9,349	1,286.8	201 / 37
377	37,697	9,273	1,287.9	50 / 410
383	38,257	9,273	1,288.2	192 / 56
385	38,512	9,273	1,289.1	352 / 111
390	38,952	9,273	1,289.8	431 / 203
395	39,519	9,273	1,291.4	235 / 173
407	40,711	9,273	1,298.0	431 / 180
414	41,401	9,273	1,300.8	18 / 332
422	42,180	7,482	1,305.7	280 / 190
431	43,095	7,482	1,311.6	93 / 171
434	43,403	7,482	1,313.8	16 / 264
442	44,178	7,366	1,319.5	15 / 265
447	44,720	7,366	1,325.0	172 / 93
452	45,207	7,366	1,328.5	150 / 65
461	46,095	7,366	1,338.4	255 / 35
466	46,622	7,366	1,343.0	90 / 60
470	46,994	7,366	1,347.5	39 / 332
476	47,600	7,366	1,353.6	27 / 578
478	47,843	7,366	1,357.4	33 / 300
483	48,324	6,663	1,362.1	20 / 184
488	48,800	6,663	1,365.8	61 / 23
492	49,202	6,663	1,374.7	30 / 86
497	49,736	6,663	1,381.3	75 / 106
502	50,192	6,663	1,385.5	176 / 116
505	50,500	6,663	1,388.0	170 / 150
509	50,855	6,663	1,393.9	54 / 255
512	51,200	6,333	1,400.1	59 / 239
516	51,600	6,333	1,404.9	112 / 87
520	52,000	6,333	1,412.3	136 / 95
525	52,477	6,333	1,421.1	172 / 18
529	52,925	6,333	1,428.6	224 / 64
532	53,200	6,155	1,433.7	107 / 51
536	53,600	6,155	1,443.4	51 / 30
540	54,000	6,155	1,453.4	50 / 46
544	54,400	6,155	1,469.4	30 / 31
548	54,800	6,155	1,487.5	43 / 24
552	55,200	6,155	1,500.6	32 / 48
556	55,600	6,155	1,509.3	46 / 60
560	56,000	6,155	1,516.4	64 / 93
564	56,400	6,155	1,527.6	92 / 36
568	56,800	6,051	1,535.4	50 / 61
572	57,200	6,051	1,549.7	33 / 43
576	57,600	5,832	1,561.4	30 / 80
580	58,000	5,832	1,573.5	44 / 26

Section 5.0 – Engineering Methods

Table 11—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 LEWIS FORK				
584	58,400	5,832	1,585.6	38 / 29
588	58,800	5,832	1,603.0	84 / 30
592	59,200	5,832	1,630.0	30 / 80
596	59,600	5,832	1,665.1	103 / 10
599	59,899	5,832	1,675.9	69 / 39
603	60,307	5,310	1,697.5	28 / 53
OSBORN CREEK WEST				
001	114	2,095	895.1 ⁴	30 / 17
006	594	2,095	895.1 ⁴	15 / 16
009	934	2,095	895.2	33 / 13
013	1,258	2,095	896.7	17 / 21
017	1,742	2,095	897.9	19 / 46
022	2,187	2,095	899.1	35 / 17
026	2,620	2,095	901.0	120 / 23
031	3,117	2,095	902.0	93 / 17
037	3,724	2,095	904.0	21 / 54
040	4,035	2,095	905.3	45 / 17
046	4,626	2,095	907.1	54 / 34
052	5,204	1,838	908.7	9 / 12
056	5,550	1,838	913.4	16 / 18
060	6,024	1,838	915.8	117 / 120
065	6,472	1,838	916.0	18 / 12
070	7,048	1,838	920.0	47 / 23
075	7,484	1,838	921.9	23 / 22
080	7,971	1,838	924.6	39 / 53
081	8,087	1,838	928.1	6 / 6
082	8,235	1,838	933.3	40 / 31
086	8,589	1,838	934.5	114 / 129
088	8,837	1,733	935.7	13 / 17
091	9,076	1,733	938.6	15 / 15
092	9,233	1,733	938.9	15 / 15
095	9,490	1,733	941.8	21 / 17
097	9,695	1,733	942.1	15 / 15
101	10,100	1,733	945.7	15 / 15
103	10,342	1,733	949.7	29 / 19
106	10,567	1,733	951.9	15 / 15
108	10,791	1,733	957.0	15 / 55
110	11,047	1,733	959.7	5 / 13
114	11,420	1,733	964.5	66 / 25
119	11,912	1,733	971.7	30 / 20
124	12,420	1,733	977.8	23 / 15
129	12,914	1,733	980.7	22 / 34
135	13,489	1,595	985.1	49 / 15
140	13,980	1,595	989.4	9 / 30
145	14,513	1,595	992.5	57 / 174
150	15,021	1,595	993.5	70 / 29
155	15,527	1,595	1,000.1	40 / 44

Section 5.0 – Engineering Methods

Table 11—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)
OSBORN CREEK WEST				
159	15,948	1,595	1,003.3	17 / 15
165	16,467	1,595	1,013.5	15 / 15
170	17,014	1,255	1,022.4	26 / 54
176	17,578	1,255	1,025.2	280 / 13
181	18,140	1,255	1,028.2	51 / 35
187	18,682	1,135	1,033.0	25 / 96
193	19,254	1,135	1,034.9	144 / 13
197	19,729	1,135	1,036.8	92 / 23
203	20,281	750	1,039.2	169 / 12
207	20,714	750	1,041.3	73 / 129
211	21,148	750	1,044.1	12 / 67
PUMPKIN CREEK				
023	2,300	2,873	1,075.2 ⁴	115 / 226
026	2,614	2,873	1,075.2 ⁴	151 / 107
028	2,800	2,873	1,075.2 ⁴	90 / 100
031	3,100	2,873	1,075.2 ⁴	9 / 170
034	3,400	2,670	1,075.2 ⁴	8 / 97
037	3,700	2,670	1,075.2 ⁴	115 / 18
038	3,807	2,670	1,075.2 ⁴	99 / 17
040	4,000	2,670	1,075.2 ⁴	8 / 59
041	4,100	2,670	1,075.2 ⁴	19 / 79
044	4,400	2,670	1,075.2 ⁴	117 / 29
048	4,800	2,670	1,075.2 ⁴	124 / 8
051	5,100	2,670	1,075.2 ⁴	91 / 13
055	5,500	2,670	1,075.2 ⁴	23 / 24
058	5,800	2,670	1,075.2 ⁴	28 / 54
060	6,000	2,670	1,075.2 ⁴	57 / 45
062	6,200	2,670	1,075.2 ⁴	32 / 34
063	6,301	2,670	1,075.2 ⁴	53 / 48
065	6,474	2,670	1,075.2 ⁴	52 / 50
066	6,602	2,670	1,075.2 ⁴	110 / 44
067	6,667	2,670	1,075.2 ⁴	140 / 23
068	6,786	2,670	1,075.2 ⁴	158 / 23
070	6,998	2,670	1,075.2 ⁴	48 / 142
072	7,214	2,670	1,075.2 ⁴	6 / 172
077	7,715	2,246	1,075.2 ⁴	80 / 8
080	8,000	2,246	1,077.6	135 / 8
083	8,292	2,246	1,079.8	41 / 31
084	8,416	2,246	1,081.6	16 / 81
088	8,790	2,246	1,084.3	8 / 194
090	8,997	2,246	1,085.0	11 / 169
092	9,170	2,246	1,086.2	85 / 12
095	9,505	2,246	1,089.5	115 / 8
098	9,794	2,246	1,090.9	14 / 99
102	10,229	2,246	1,094.2	8 / 95
106	10,599	2,246	1,097.9	12 / 62
108	10,804	2,246	1,100.5	8 / 70

Section 5.0 – Engineering Methods

Table 11—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)
PUMPKIN CREEK				
109	10,944	2,016	1,102.2	18 / 64
111	11,097	2,016	1,104.3	16 / 61
113	11,300	2,016	1,108.3	39 / 14
115	11,493	2,016	1,111.2	78 / 7
117	11,698	2,016	1,112.8	64 / 17
120	12,040	2,016	1,115.9	7 / 66
122	12,209	2,016	1,118.5	7 / 108
124	12,374	2,016	1,119.9	7 / 143
125	12,494	2,016	1,122.1	7 / 145
127	12,666	2,016	1,125.1	7 / 90
128	12,794	2,016	1,126.8	6 / 158
131	13,100	2,016	1,135.0	7 / 87
132	13,200	2,016	1,137.9	7 / 103
133	13,313	2,016	1,140.3	7 / 106
135	13,500	2,016	1,144.9	7 / 77
136	13,639	2,016	1,148.1	7 / 88
138	13,750	2,016	1,152.7	7 / 86
140	14,029	1,564	1,161.3	43 / 14
141	14,103	950	1,163.3	60 / 15
PUMPKIN RUN				
003	262	3,298	1,297.6 ⁴	60 / 55
006	602	3,298	1,297.6 ⁴	90 / 28
009	907	3,298	1,297.6 ⁴	100 / 35
012	1,240	3,298	1,301.3	35 / 50
015	1,527	3,298	1,305.9	25 / 95
018	1,815	3,298	1,308.6	100 / 20
021	2,062	3,298	1,311.0	100 / 8
022	2,183	3,298	1,312.6	62 / 9
023	2,277	3,298	1,314.0	50 / 12
024	2,440	3,298	1,319.4	55 / 40
026	2,628	3,298	1,320.4	87 / 52
027	2,731	3,298	1,320.6	120 / 20
030	2,954	3,298	1,321.3	90 / 40
032	3,202	3,298	1,323.0	50 / 90
034	3,364	3,298	1,325.4	50 / 75
036	3,591	3,298	1,329.5	60 / 58
038	3,765	3,081	1,332.3	110 / 28
041	4,101	3,081	1,337.4	18 / 76
044	4,387	3,081	1,341.9	110 / 45
046	4,583	3,081	1,344.9	80 / 22
048	4,800	3,081	1,348.8	60 / 14
050	5,041	3,081	1,353.3	70 / 15
053	5,276	3,081	1,357.1	75 / 14
054	5,444	3,081	1,359.7	60 / 16
056	5,556	3,081	1,362.0	55 / 40
058	5,751	2,744	1,365.8	50 / 105
060	6,011	2,744	1,369.0	25 / 56

Section 5.0 – Engineering Methods

Table 11—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)
PUMPKIN RUN				
062	6,200	2,744	1,372.8	40 / 19
064	6,423	2,744	1,376.2	30 / 30
066	6,646	2,744	1,380.5	50 / 45
070	6,957	2,744	1,384.1	76 / 13
072	7,246	2,744	1,389.7	25 / 45
075	7,462	2,473	1,393.5	19 / 50
077	7,652	2,473	1,397.3	30 / 55
078	7,813	2,473	1,400.0	20 / 70
REDDIES RIVER				
104	10,368	23,500	996.5	190 / 160
111	11,119	14,365	997.1	170 / 60
122	12,184	14,263	998.7	52 / 69
127	12,710	14,263	999.3	53 / 46
136	13,599	14,263	1,000.8	59 / 46
141	14,123	14,263	1,001.6	38 / 69
147	14,733	14,263	1,003.3	46 / 57
153	15,306	14,263	1,004.2	46 / 47
158	15,805	14,263	1,005.1	46 / 48
161	16,132	14,263	1,005.9	81 / 46
165	16,524	14,066	1,006.7	46 / 46
170	17,039	14,066	1,008.7	46 / 51
176	17,596	14,066	1,010.7	46 / 46
182	18,178	14,066	1,012.4	46 / 69
188	18,782	14,030	1,013.6	46 / 61
195	19,546	14,030	1,015.4	46 / 46
203	20,266	14,030	1,018.0	76 / 46
210	21,018	14,030	1,019.2	46 / 75
215	21,471	13,267	1,020.6	110 / 130
221	22,058	13,267	1,020.7	45 / 76
229	22,878	13,267	1,021.9	45 / 49
235	23,492	13,267	1,023.0	45 / 45
239	23,900	13,267	1,023.7	45 / 45
245	24,503	13,267	1,025.2	56 / 45
251	25,121	13,267	1,026.5	45 / 45
260	25,998	12,937	1,029.2	45 / 45
262	26,244	12,937	1,029.9	45 / 45
268	26,810	12,937	1,030.9	45 / 45
276	27,561	12,937	1,032.5	51 / 45
281	28,119	12,937	1,033.3	46 / 51
291	29,123	12,905	1,034.6	40 / 60
298	29,773	12,905	1,035.4	45 / 45
307	30,733	12,905	1,037.1	45 / 45
314	31,433	12,905	1,038.4	45 / 45
322	32,163	12,905	1,040.2	65 / 45
327	32,666	12,838	1,040.8	45 / 45
331	33,086	12,838	1,041.6	45 / 45
339	33,868	12,769	1,043.0	45 / 45

Section 5.0 – Engineering Methods

Table 11—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)
REDDIES RIVER				
346	34,554	12,769	1,044.1	55 / 37
352	35,247	12,769	1,045.1	45 / 45
358	35,782	12,769	1,046.4	63 / 45
364	36,380	12,769	1,047.7	45 / 45
368	36,769	12,769	1,048.7	45 / 45
373	37,323	12,769	1,050.4	45 / 45
377	37,712	12,769	1,051.5	45 / 45
383	38,282	12,769	1,054.1	45 / 45
390	38,965	12,769	1,056.1	45 / 45
397	39,679	12,769	1,057.9	103 / 45
401	40,075	12,769	1,058.2	45 / 45
406	40,567	12,769	1,059.5	45 / 45
411	41,140	12,769	1,060.9	45 / 45
417	41,719	12,605	1,062.1	44 / 44
423	42,340	12,020	1,063.6	44 / 44
430	42,969	12,020	1,065.1	44 / 44
435	43,544	12,020	1,066.7	44 / 44
442	44,154	11,966	1,068.5	44 / 44
446	44,643	11,966	1,070.2	44 / 43
451	45,050	11,966	1,071.3	44 / 44
456	45,582	11,966	1,072.4	44 / 44
460	46,043	11,966	1,073.4	34 / 60
465	46,536	11,966	1,074.8	44 / 44
470	47,045	11,966	1,076.0	44 / 44
476	47,583	11,759	1,077.5	44 / 44
482	48,243	11,759	1,079.8	44 / 44
487	48,722	11,759	1,081.3	44 / 44
492	49,167	11,759	1,082.8	37 / 92
496	49,596	11,759	1,083.8	44 / 44
499	49,945	11,759	1,085.0	80 / 44
506	50,626	11,373	1,086.5	55 / 43
514	51,445	11,373	1,088.4	43 / 43
521	52,093	11,373	1,090.2	43 / 43
526	52,605	11,373	1,091.4	43 / 43
532	53,163	11,373	1,092.6	43 / 43
537	53,683	11,373	1,093.7	43 / 43
541	54,058	11,373	1,094.6	43 / 43
544	54,369	11,373	1,095.8	47 / 43
548	54,777	11,323	1,097.5	43 / 43
551	55,124	11,323	1,098.5	43 / 43
557	55,672	11,323	1,101.0	26 / 155
565	56,511	11,323	1,102.4	58 / 109
572	57,198	11,254	1,103.7	43 / 78
577	57,699	11,254	1,105.1	43 / 90
582	58,217	11,254	1,106.4	35 / 89
590	59,013	11,254	1,108.2	45 / 58
596	59,572	10,842	1,109.6	37 / 44

Section 5.0 – Engineering Methods

Table 11—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)
REDDIES RIVER				
601	60,072	10,842	1,111.4	37 / 48
605	60,507	10,842	1,112.5	37 / 49
611	61,068	10,842	1,114.0	36 / 51
616	61,602	10,842	1,115.7	39 / 39
620	62,013	10,842	1,117.3	39 / 37
626	62,625	10,842	1,119.2	57 / 43
632	63,159	10,363	1,120.6	42 / 42
636	63,567	10,363	1,121.8	39 / 30
640	63,984	10,363	1,124.6	42 / 42
643	64,316	10,363	1,125.4	42 / 42
647	64,668	10,363	1,127.1	60 / 42
649	64,856	10,363	1,129.1	88 / 45
651	65,095	10,363	1,134.6	40 / 93
655	65,545	10,363	1,139.5	73 / 40
660	66,031	10,363	1,142.6	170 / 33
665	66,522	10,315	1,143.2	54 / 76
671	67,110	10,315	1,145.2	53 / 54
676	67,598	10,315	1,146.5	49 / 75
682	68,199	10,315	1,149.2	140 / 100
688	68,837	10,249	1,150.0	42 / 261
694	69,359	10,249	1,151.1	35 / 179
709	70,891	10,213	1,154.9	42 / 180
726	72,607	10,213	1,161.0	382 / 42
743	74,265	10,092	1,163.9	60 / 250
757	75,676	6,367	1,170.7	120 / 188
770	76,994	6,367	1,173.9	120 / 90
794	79,410	6,321	1,183.6	65 / 32
803	80,329	6,321	1,188.7	33 / 32
814	81,380	6,257	1,194.1	32 / 70
823	82,306	6,257	1,197.7	155 / 45
830	83,043	6,257	1,200.0	100 / 50
835	83,475	6,257	1,202.0	70 / 155
ROARING RIVER				
009	872	37,589	936.3 ⁴	58 / 56
019	1,873	37,589	936.3 ⁴	150 / 65
024	2,404	37,589	936.3 ⁴	62 / 110
030	2,966	37,589	937.6	145 / 165
033	3,281	37,589	937.7	83 / 97
036	3,594	37,589	937.7	83 / 83
040	4,017	37,589	939.9	112 / 92
044	4,366	37,589	940.9	145 / 75
050	4,993	37,515	942.6	90 / 150
053	5,329	37,515	944.0	125 / 80
056	5,649	37,515	947.3	145 / 105
059	5,918	37,515	948.4	170 / 90
062	6,221	37,515	948.8	115 / 80
066	6,600	37,515	950.7	113 / 73

Section 5.0 – Engineering Methods

Table 11—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)
ROARING RIVER				
070	7,019	37,515	951.7	125 / 72
075	7,472	37,468	952.9	62 / 110
077	7,664	37,468	955.2	135 / 195
081	8,085	37,468	956.9	325 / 335
086	8,620	37,468	958.0	260 / 505
091	9,056	37,468	958.3	190 / 305
098	9,807	37,421	959.8	132 / 46
100	10,039	37,421	960.5	120 / 68
105	10,501	36,886	962.5	145 / 172
109	10,915	36,886	963.3	187 / 180
112	11,171	36,886	963.3	146 / 62
116	11,636	36,886	964.7	109 / 75
122	12,235	36,886	967.1	122 / 62
126	12,624	36,886	968.0	77 / 80
130	13,005	36,886	969.3	61 / 111
135	13,506	36,886	970.6	61 / 125
140	13,999	36,776	972.2	144 / 156
144	14,431	36,776	972.7	93 / 116
149	14,925	36,776	973.5	89 / 61
153	15,299	36,776	974.8	61 / 128
157	15,652	36,776	976.0	61 / 147
160	16,016	36,776	977.4	89 / 190
165	16,485	36,567	978.0	83 / 61
168	16,844	36,567	979.3	113 / 61
172	17,235	36,567	980.8	113 / 100
177	17,688	36,567	982.1	142 / 69
184	18,419	36,567	983.7	341 / 62
189	18,854	36,567	984.2	206 / 70
194	19,401	36,567	985.3	240 / 82
198	19,798	36,567	986.0	250 / 111
205	20,457	36,567	987.3	61 / 146
210	21,009	36,398	988.1	83 / 155
213	21,290	36,398	988.3	100 / 140
219	21,888	36,398	990.5	135 / 61
223	22,265	36,398	990.8	106 / 75
228	22,783	36,227	992.4	103 / 132
233	23,301	36,227	993.3	166 / 97
237	23,733	36,227	993.4	173 / 80
243	24,268	36,227	993.9	117 / 52
248	24,805	36,227	994.9	133 / 60
253	25,318	35,501	995.6	119 / 60
259	25,872	35,501	996.2	93 / 77
263	26,287	35,501	996.8	90 / 75
267	26,695	35,501	997.5	119 / 65
270	27,009	35,501	998.0	134 / 56
273	27,335	35,501	998.4	107 / 41
278	27,788	35,501	999.5	115 / 80

Section 5.0 – Engineering Methods

Table 11—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)
ROARING RIVER				
281	28,099	35,501	1,000.5	166 / 63
283	28,339	35,348	1,000.6	133 / 69
287	28,733	35,348	1,002.9	155 / 65
293	29,314	35,348	1,004.2	110 / 64
298	29,764	35,348	1,005.4	88 / 126
303	30,272	35,348	1,006.1	95 / 75
306	30,620	35,348	1,006.6	94 / 55
309	30,922	35,348	1,008.3	135 / 60
312	31,196	35,348	1,008.6	120 / 49
ROCKY CREEK				
1925	192,520	3,666	1,190.9	31 / 16
1931	193,132	3,666	1,193.8	68 / 166
1935	193,531	3,666	1,194.8	22 / 95
1939	193,946	3,666	1,196.3	25 / 25
1944	194,412	3,666	1,198.8	30 / 128
1949	194,898	3,487	1,203.2	17 / 32
1954	195,406	3,487	1,206.0	25 / 25
1960	195,980	3,487	1,208.0	50 / 40
1962	196,239	3,487	1,209.3	50 / 42
1966	196,566	3,487	1,213.6	12 / 12
1970	196,997	3,487	1,218.6	33 / 22
1975	197,476	3,487	1,219.9	17 / 22
1979	197,946	3,487	1,223.3	59 / 17
1984	198,446	3,487	1,224.7	25 / 48
1990	198,966	3,487	1,227.6	20 / 15
1994	199,369	3,487	1,230.6	14 / 14
1999	199,898	3,487	1,233.2	15 / 14
2004	200,446	3,487	1,238.9	16 / 16
2008	200,828	3,487	1,241.3	16 / 16
2011	201,113	3,487	1,241.9	12 / 12
2014	201,423	3,487	1,244.8	30 / 18
2021	202,064	3,487	1,249.9	30 / 18
2024	202,446	3,487	1,252.9	30 / 18
2030	203,009	2,042	1,256.8	30 / 35
2035	203,536	2,042	1,261.0	49 / 48
2039	203,893	2,042	1,262.2	48 / 15
2044	204,428	2,042	1,264.5	20 / 99
2050	205,014	2,042	1,267.6	20 / 20
2054	205,358	2,042	1,271.0	130 / 25
2059	205,894	1,983	1,274.0	10 / 80
2065	206,492	1,983	1,278.7	39 / 70
2070	207,009	1,851	1,280.3	20 / 20
2078	207,771	1,851	1,286.8	20 / 25
ROCKY CREEK TRIBUTARY 1				
000	26	2,374	1,254.8 ⁴	18 / 18
006	576	2,374	1,258.4	47 / 43
010	1,005	2,374	1,259.6	29 / 21

Section 5.0 – Engineering Methods

Table 11—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)
ROCKY CREEK TRIBUTARY 1				
015	1,500	2,339	1,262.6	18 / 18
SHELL CREEK				
007	741	2,771	1,163.7 ⁴	77 / 34
011	1,051	2,771	1,167.4	62 / 31
011	1,140	2,771	1,168.6	61 / 18
013	1,286	2,771	1,172.6	10 / 68
014	1,356	2,771	1,174.0	19 / 55
015	1,452	2,771	1,175.8	38 / 33
020	2,030	2,771	1,184.7	15 / 55
024	2,435	2,706	1,194.4	50 / 80
025	2,536	2,706	1,196.6	20 / 82
SOUTH FORK REDDIES RIVER				
003	263	3,649	1,202.0 ⁴	160 / 130
008	802	3,628	1,206.5	25 / 170
013	1,255	3,628	1,210.2	50 / 200
016	1,554	3,628	1,212.9	50 / 200
019	1,887	3,628	1,215.2	90 / 22
021	2,119	3,628	1,217.7	85 / 16
026	2,569	3,628	1,220.7	22 / 53
027	2,728	3,628	1,222.4	20 / 58
031	3,081	3,628	1,226.2	120 / 22
034	3,378	3,553	1,227.6	118 / 36
037	3,727	3,553	1,229.8	22 / 128
039	3,912	3,553	1,230.8	22 / 90
042	4,191	3,553	1,233.7	22 / 155
045	4,525	3,553	1,234.8	22 / 125
050	4,998	3,285	1,237.8	100 / 85
053	5,325	3,285	1,238.8	30 / 90
056	5,590	3,285	1,241.6	21 / 219
060	5,976	3,285	1,242.6	32 / 196
063	6,291	3,285	1,244.7	21 / 110
065	6,498	3,285	1,246.4	46 / 66
068	6,764	3,285	1,247.6	70 / 22
072	7,161	3,285	1,250.8	21 / 140
075	7,541	3,285	1,251.7	21 / 140
078	7,814	3,285	1,252.6	21 / 125
082	8,206	3,285	1,254.7	145 / 21
089	8,906	3,217	1,258.7	172 / 21
097	9,686	3,217	1,263.3	149 / 11
098	9,783	3,217	1,266.0	252 / 54
100	10,032	3,217	1,268.0	340 / 110
103	10,262	3,217	1,269.4	180 / 80
109	10,947	3,217	1,274.0	41 / 128
112	11,199	3,217	1,277.3	58 / 155
115	11,504	3,217	1,279.7	84 / 103
119	11,939	3,217	1,282.2	130 / 62

Section 5.0 – Engineering Methods

Table 11—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 FORK REDDIES RIVER				
125	12,484	3,217	1,287.8	36 / 149
132	13,244	2,911	1,295.7	64 / 44
135	13,542	2,911	1,298.5	43 / 17
138	13,823	2,911	1,302.5	61 / 25
141	14,078	2,911	1,305.2	30 / 78
144	14,400	2,911	1,308.0	20 / 140
150	15,040	2,774	1,314.1	19 / 65
157	15,715	2,774	1,322.4	19 / 40
160	16,006	2,774	1,325.7	19 / 30
163	16,267	2,774	1,330.5	37 / 52
164	16,421	2,774	1,334.6	50 / 70
167	16,737	2,774	1,340.6	30 / 42
169	16,921	2,774	1,343.7	22 / 27
171	17,063	2,774	1,347.0	42 / 18
174	17,354	2,774	1,356.1	40 / 30
176	17,561	2,774	1,363.3	16 / 51
177	17,725	1,969	1,375.4	31 / 40
178	17,803	1,969	1,383.4	31 / 39
179	17,904	1,969	1,387.8	33 / 16
SOUTH PRONG LEWIS FORK				
000	0	22,645	1,077.3	230 / 80
002	232	14,784	1,079.1	65 / 60
006	594	14,784	1,079.2	70 / 49
008	849	14,784	1,079.8	60 / 49
012	1,158	14,784	1,084.5	90 / 100
018	1,771	14,784	1,087.2	125 / 22
021	2,103	14,784	1,091.5	150 / 90
025	2,464	14,784	1,092.1	115 / 99
030	3,012	14,784	1,097.7	55 / 90
033	3,310	14,784	1,102.1	50 / 27
038	3,795	14,678	1,108.4	47 / 60
043	4,344	14,678	1,111.8	65 / 60
052	5,187	14,552	1,114.9	88 / 97
060	6,049	14,552	1,116.9	85 / 157
069	6,916	14,552	1,119.0	165 / 38
075	7,490	14,552	1,121.2	74 / 73
084	8,368	14,276	1,125.7	90 / 175
092	9,169	14,276	1,127.3	89 / 217
096	9,562	14,276	1,127.9	45 / 215
102	10,206	14,276	1,131.2	160 / 70
107	10,701	13,806	1,132.1	35 / 84
114	11,415	13,806	1,135.6	33 / 70
119	11,859	13,806	1,137.3	90 / 34
121	12,109	13,806	1,137.7	52 / 30
127	12,692	13,806	1,141.9	29 / 59
131	13,082	13,806	1,144.8	60 / 55
134	13,427	13,806	1,145.6	26 / 80

Section 5.0 – Engineering Methods

Table 11—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 LEWIS FORK				
139	13,851	13,719	1,148.7	105 / 35
144	14,431	13,719	1,149.4	60 / 41
149	14,883	13,719	1,151.3	67 / 40
155	15,476	13,719	1,153.3	58 / 34
157	15,707	13,719	1,157.5	36 / 30
162	16,177	13,719	1,163.9	55 / 70
165	16,525	13,719	1,167.2	50 / 150
169	16,911	13,719	1,168.1	52 / 130
174	17,425	13,435	1,168.7	65 / 165
182	18,208	13,435	1,170.8	105 / 200
187	18,652	13,389	1,171.6	210 / 145
198	19,775	13,389	1,173.6	400 / 65
207	20,682	13,389	1,176.3	220 / 87
214	21,350	13,389	1,178.0	50 / 216
220	22,030	13,389	1,181.9	55 / 330
226	22,588	13,389	1,183.5	115 / 75
228	22,844	13,257	1,184.7	124 / 125
235	23,531	13,257	1,188.2	145 / 70
239	23,913	13,257	1,188.3	66 / 34
243	24,326	13,257	1,191.8	52 / 45
251	25,088	12,498	1,197.5	50 / 128
258	25,788	12,498	1,199.6	75 / 90
264	26,441	12,498	1,200.8	40 / 50
269	26,890	12,452	1,204.1	27 / 50
277	27,658	12,452	1,211.5	40 / 68
279	27,949	12,325	1,213.4	65 / 120
283	28,285	12,325	1,214.4	200 / 49
289	28,905	12,325	1,215.4	140 / 28
294	29,427	12,291	1,218.2	40 / 84
301	30,136	12,291	1,220.0	35 / 70
310	31,020	12,291	1,223.8	31 / 60
321	32,118	12,291	1,228.6	154 / 62
331	33,134	12,291	1,231.4	85 / 100
335	33,498	12,149	1,231.7	26 / 80
339	33,928	12,149	1,239.7	209 / 77
346	34,626	12,149	1,240.4	312 / 29
358	35,755	12,006	1,241.2	60 / 300
369	36,884	12,006	1,243.8	55 / 270
380	37,973	12,006	1,248.3	60 / 131
388	38,777	12,006	1,252.8	123 / 80
396	39,606	11,868	1,256.8	170 / 160
406	40,598	11,868	1,259.6	50 / 150
410	41,031	11,868	1,261.3	30 / 80
419	41,931	11,868	1,275.5	38 / 135
423	42,287	11,868	1,275.6	36 / 210
430	42,976	11,868	1,286.4	82 / 48
435	43,494	11,177	1,286.7	95 / 140

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
SOUTH PRONG LEWIS FORK				
441	44,089	11,177	1,296.7	62 / 81
447	44,696	11,177	1,297.3	150 / 140
452	45,171	11,177	1,297.6	140 / 200
462	46,179	10,120	1,306.9	123 / 40
466	46,561	10,120	1,307.0	31 / 73
469	46,862	10,025	1,307.4	40 / 62
472	47,205	10,025	1,307.8	52 / 46
475	47,523	10,025	1,309.6	42 / 55
479	47,927	10,025	1,310.6	35 / 32
484	48,369	10,025	1,313.6	50 / 24
488	48,824	10,025	1,321.0	30 / 45
492	49,230	10,025	1,327.1	165 / 30
503	50,254	10,025	1,331.6	52 / 255
508	50,836	10,025	1,336.0	46 / 305
514	51,446	10,025	1,339.7	140 / 37
521	52,131	10,025	1,346.2	50 / 240
530	52,963	9,240	1,350.5	27 / 205
539	53,943	9,240	1,356.4	130 / 35
547	54,733	9,240	1,363.7	251 / 55
553	55,298	8,928	1,368.0	167 / 50
558	55,830	8,928	1,372.4	152 / 36
562	56,220	8,928	1,376.4	133 / 21
573	57,257	8,928	1,390.6	11 / 220
580	57,957	8,928	1,391.6	60 / 190
584	58,431	8,928	1,395.9	186 / 240
593	59,327	7,747	1,400.7	62 / 120
600	59,961	7,747	1,416.9	21 / 50
603	60,289	7,747	1,417.4	60 / 50
605	60,496	7,747	1,421.4	50 / 225
611	61,071	7,747	1,426.8	30 / 250
619	61,881	7,747	1,432.4	42 / 200
623	62,250	7,747	1,438.6	45 / 109
628	62,777	7,580	1,442.1	60 / 45
632	63,176	7,580	1,447.3	62 / 27
634	63,437	7,494	1,453.2	100 / 8
639	63,928	7,494	1,454.8	87 / 26
645	64,489	7,494	1,463.0	22 / 60
649	64,931	7,494	1,470.0	35 / 22
653	65,274	4,148	1,478.1	20 / 38
SOUTH PRONG LEWIS FORK TRIBUTARY 1				
001	59	2,650	1,195.1 ⁴	24 / 24
003	270	2,650	1,196.3	29 / 154
007	721	2,650	1,197.2	26 / 80
010	1,027	2,650	1,202.3	20 / 100
013	1,295	2,650	1,206.6	15 / 70
015	1,506	2,650	1,214.9	35 / 35
017	1,664	2,650	1,221.6	31 / 7

Section 5.0 – Engineering Methods

Table 11—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 LEWIS FORK TRIBUTARY 1				
018	1,827	2,650	1,226.8	80 / 12
021	2,111	2,650	1,227.4	60 / 40
025	2,454	2,650	1,228.9	22 / 42
027	2,717	2,650	1,233.6	40 / 50
029	2,948	2,650	1,237.2	25 / 22
031	3,094	2,650	1,248.3	25 / 26
032	3,233	2,650	1,252.9	3 / 71
035	3,495	2,650	1,254.6	22 / 65
038	3,818	2,650	1,258.5	42 / 130
043	4,281	2,650	1,261.2	38 / 100
047	4,708	2,650	1,268.2	23 / 81
051	5,081	2,354	1,273.1	12 / 60
055	5,540	2,354	1,280.4	8 / 153
060	5,950	2,354	1,285.9	85 / 52
064	6,387	2,354	1,294.6	51 / 64
068	6,824	2,354	1,302.0	102 / 7
071	7,105	2,354	1,308.2	31 / 50
075	7,495	2,354	1,317.6	15 / 90
078	7,815	2,354	1,325.9	50 / 20
082	8,177	2,354	1,334.2	30 / 25
085	8,522	1,950	1,345.4	25 / 25
087	8,737	1,950	1,352.7	12 / 45
089	8,949	1,950	1,357.8	28 / 27
092	9,166	1,950	1,363.6	28 / 12
094	9,357	1,950	1,370.3	15 / 56
095	9,513	1,950	1,375.5	25 / 65
098	9,821	1,950	1,382.5	60 / 25
100	9,969	1,950	1,390.4	54 / 100
102	10,199	1,559	1,396.0	18 / 100
104	10,367	1,559	1,401.6	22 / 60
106	10,592	1,559	1,409.0	160 / 4
108	10,839	1,559	1,414.3	79 / 5
110	11,010	1,559	1,423.2	38 / 20
112	11,229	1,559	1,428.6	43 / 7
114	11,408	1,559	1,437.5	62 / 7
115	11,520	1,559	1,444.1	110 / 7
117	11,651	1,559	1,452.4	160 / 4
118	11,804	1,559	1,468.1	75 / 10
119	11,924	1,559	1,477.3	22 / 22
120	12,026	1,559	1,486.1	13 / 25
121	12,132	1,559	1,497.2	46 / 7
122	12,235	1,559	1,509.1	26 / 7
123	12,321	1,559	1,517.2	19 / 12
124	12,407	1,559	1,529.3	18 / 25
125	12,468	1,559	1,536.4	18 / 16
SPARKS CREEK				
000	6	7,105	1,108.3 ⁴	41 / 26

Section 5.0 – Engineering Methods

Table 11—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)
SPARKS CREEK				
003	303	7,105	1,108.3 ⁴	50 / 28
007	692	7,105	1,108.3 ⁴	17 / 126
013	1,305	7,105	1,112.4	74 / 16
019	1,923	7,105	1,114.5	85 / 30
022	2,190	7,105	1,115.7	70 / 20
028	2,770	7,105	1,119.2	17 / 154
031	3,091	7,044	1,121.3	40 / 46
035	3,479	7,044	1,121.9	16 / 48
038	3,794	7,044	1,123.6	123 / 37
042	4,175	7,044	1,123.7	26 / 27
044	4,433	7,044	1,124.9	16 / 26
048	4,775	6,974	1,127.7	70 / 19
050	5,004	6,974	1,128.7	43 / 16
053	5,250	6,974	1,130.4	25 / 47
057	5,659	6,974	1,131.6	59 / 17
059	5,913	6,974	1,131.9	64 / 16
063	6,281	6,974	1,132.7	33 / 64
065	6,533	6,904	1,134.4	86 / 26
071	7,130	6,835	1,136.3	14 / 175
074	7,389	6,835	1,136.7	62 / 34
077	7,733	6,835	1,137.7	36 / 30
084	8,381	6,835	1,140.4	52 / 17
088	8,830	6,835	1,143.4	60 / 26
091	9,054	6,835	1,144.3	22 / 49
093	9,329	6,835	1,144.9	17 / 45
095	9,546	6,835	1,146.0	15 / 64
098	9,772	6,750	1,147.6	12 / 156
101	10,148	6,750	1,148.0	193 / 19
104	10,383	6,750	1,148.2	86 / 104
110	10,974	6,566	1,149.0	61 / 333
117	11,710	6,566	1,150.3	78 / 18
122	12,237	6,566	1,153.7	177 / 39
126	12,584	6,566	1,154.8	15 / 384
129	12,853	6,566	1,155.0	150 / 124
131	13,145	6,566	1,155.7	155 / 251
135	13,456	6,566	1,156.0	95 / 126
137	13,743	6,460	1,157.7	15 / 381
142	14,191	6,460	1,158.8	15 / 311
147	14,658	6,004	1,160.9	14 / 211
150	14,973	6,004	1,162.9	37 / 18
152	15,238	6,004	1,166.0	108 / 156
156	15,587	6,004	1,167.1	28 / 111
161	16,071	6,004	1,171.7	23 / 212
163	16,316	6,004	1,173.7	32 / 251
168	16,776	6,004	1,176.8	239 / 14
171	17,055	6,004	1,178.6	107 / 14
175	17,470	5,884	1,182.9	168 / 145
179	17,938	5,884	1,184.9	49 / 71

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
SPARKS CREEK				
183	18,261	5,618	1,187.5	60 / 40
189	18,937	5,618	1,194.4	300 / 27
194	19,374	5,618	1,195.0	275 / 66
198	19,829	5,618	1,196.6	269 / 104
202	20,174	5,618	1,200.0	132 / 224
STONY FORK				
002	240	15,169	1,078.1 ⁴	49 / 40
005	501	15,169	1,078.1 ⁴	52 / 52
009	883	15,169	1,078.1 ⁴	51 / 44
011	1,078	15,169	1,078.1 ⁴	39 / 33
016	1,595	15,169	1,078.1 ⁴	45 / 69
018	1,789	15,169	1,078.1 ⁴	35 / 30
021	2,112	15,169	1,078.1 ⁴	35 / 52
024	2,353	15,169	1,078.1 ⁴	48 / 54
026	2,595	15,169	1,078.1 ⁴	92 / 40
029	2,888	15,169	1,078.1 ⁴	59 / 57
030	3,000	15,169	1,078.1 ⁴	48 / 48
032	3,211	15,169	1,078.1 ⁴	30 / 55
033	3,349	15,169	1,078.1 ⁴	28 / 65
036	3,609	15,169	1,078.1 ⁴	50 / 37
039	3,866	15,169	1,079.2	55 / 78
041	4,075	15,169	1,079.5	30 / 117
044	4,446	15,169	1,080.5	42 / 60
046	4,626	15,169	1,080.9	63 / 59
049	4,876	15,169	1,080.9	60 / 58
052	5,179	15,169	1,081.7	48 / 69
054	5,400	15,169	1,081.9	44 / 40
057	5,725	15,169	1,082.8	40 / 43
064	6,395	15,169	1,086.5	40 / 48
066	6,630	15,169	1,089.4	240 / 51
069	6,869	14,841	1,089.7	231 / 80
074	7,385	14,841	1,090.4	232 / 44
077	7,749	14,841	1,091.4	200 / 100
085	8,457	14,151	1,093.1	100 / 96
093	9,263	14,151	1,098.3	111 / 35
096	9,584	14,151	1,099.0	81 / 40
099	9,900	14,151	1,102.4	77 / 60
103	10,342	14,151	1,104.2	114 / 51
109	10,888	14,087	1,106.6	175 / 100
112	11,177	14,087	1,106.8	92 / 70
114	11,400	14,087	1,107.4	57 / 84
119	11,948	14,087	1,110.9	90 / 90
122	12,248	14,087	1,112.5	120 / 44
125	12,520	14,087	1,112.5	84 / 42
128	12,782	14,087	1,113.3	54 / 53
133	13,255	13,980	1,115.4	52 / 55
137	13,738	13,980	1,121.4	50 / 145

Section 5.0 – Engineering Methods

Table 11—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)
STONY FORK				
143	14,265	13,980	1,122.9	100 / 41
145	14,531	13,980	1,123.5	60 / 40
150	15,010	13,980	1,125.4	40 / 63
154	15,372	13,980	1,127.9	42 / 82
158	15,783	13,980	1,128.9	75 / 37
162	16,152	13,980	1,130.7	52 / 38
165	16,463	13,980	1,132.0	51 / 36
171	17,100	13,353	1,135.0	41 / 45
174	17,427	13,353	1,135.8	40 / 40
177	17,714	13,353	1,136.0	38 / 33
180	18,000	13,353	1,140.4	53 / 37
189	18,879	13,029	1,143.6	43 / 59
192	19,200	13,029	1,144.7	46 / 37
195	19,488	13,029	1,146.2	41 / 47
199	19,910	13,029	1,147.0	36 / 36
204	20,355	13,029	1,150.1	128 / 30
207	20,727	13,029	1,150.7	63 / 43
210	21,000	13,029	1,151.4	64 / 42
212	21,239	13,029	1,152.5	43 / 85
216	21,633	12,950	1,153.0	57 / 32
220	22,017	12,827	1,157.0	89 / 46
224	22,367	12,827	1,157.3	37 / 32
228	22,800	12,827	1,159.6	91 / 37
232	23,235	12,827	1,162.2	51 / 108
238	23,811	12,827	1,163.3	386 / 42
242	24,200	12,827	1,163.7	463 / 36
246	24,600	12,827	1,163.7	324 / 77
252	25,200	12,013	1,166.8	360 / 35
258	25,800	12,013	1,168.3	396 / 119
263	26,272	12,013	1,169.3	336 / 39
267	26,686	12,013	1,170.6	304 / 66
270	27,000	12,013	1,172.0	242 / 117
273	27,343	12,013	1,172.9	232 / 84
276	27,622	12,013	1,173.7	143 / 68
279	27,903	12,013	1,174.8	121 / 48
282	28,200	12,013	1,176.2	104 / 43
285	28,500	12,013	1,177.3	201 / 72
289	28,853	12,013	1,179.2	169 / 187
293	29,289	12,013	1,180.7	47 / 297
297	29,666	11,517	1,182.0	200 / 97
300	29,980	11,517	1,185.3	150 / 350
304	30,429	11,517	1,188.5	114 / 300
313	31,273	11,517	1,191.8	34 / 180
315	31,500	11,517	1,193.1	34 / 180
318	31,800	11,387	1,196.9	30 / 245
321	32,105	11,387	1,198.4	26 / 250
324	32,400	11,387	1,201.4	51 / 250
327	32,700	11,387	1,203.9	54 / 159

Section 5.0 – Engineering Methods

Table 11—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)
STONY FORK				
330	33,000	11,387	1,204.3	40 / 123
333	33,300	11,387	1,208.5	42 / 78
335	33,483	11,387	1,209.3	53 / 97
339	33,900	11,387	1,212.2	107 / 102
342	34,246	11,387	1,216.3	196 / 130
345	34,511	11,387	1,219.2	150 / 153
351	35,100	11,056	1,222.6	100 / 62
354	35,434	11,056	1,226.2	67 / 51
360	36,015	11,056	1,240.6	46 / 48
363	36,300	11,056	1,246.8	28 / 32
364	36,428	11,056	1,256.1	43 / 27
366	36,600	11,056	1,264.3	33 / 39
369	36,900	11,056	1,281.0	23 / 39
377	37,742	11,056	1,295.9	176 / 183
381	38,100	11,056	1,296.8	235 / 174
387	38,700	10,775	1,302.5	304 / 252
390	39,000	10,775	1,303.7	206 / 282
393	39,294	10,220	1,305.2	215 / 166
396	39,567	10,220	1,306.0	114 / 71
398	39,750	10,220	1,306.4	190 / 88
400	40,024	10,220	1,309.9	103 / 35
406	40,557	10,149	1,312.6	243 / 161
408	40,800	10,149	1,313.4	223 / 294
411	41,072	10,149	1,314.4	210 / 148
413	41,345	10,149	1,317.1	181 / 221
416	41,563	10,149	1,317.8	209 / 240
420	42,000	9,991	1,320.0	283 / 267
423	42,300	9,991	1,322.3	312 / 160
429	42,900	9,861	1,327.5	297 / 132
432	43,231	9,861	1,328.8	300 / 90
435	43,500	9,861	1,331.1	350 / 53
437	43,736	9,861	1,331.6	250 / 68
442	44,241	9,861	1,336.1	200 / 350
447	44,710	6,605	1,339.3	150 / 300
456	45,600	6,605	1,349.1	179 / 232
460	46,019	6,605	1,355.4	200 / 200
463	46,345	6,572	1,358.4	165 / 130
467	46,711	6,364	1,363.1	80 / 95
471	47,100	6,364	1,371.6	173 / 26
474	47,382	6,364	1,374.5	50 / 43
480	48,000	6,364	1,386.4	300 / 41
487	48,674	6,364	1,396.1	156 / 34
489	48,900	6,364	1,399.9	121 / 39
494	49,391	6,286	1,407.5	39 / 100
498	49,780	6,286	1,416.1	37 / 310
501	50,144	6,286	1,421.1	134 / 242
505	50,458	6,286	1,425.3	70 / 150
507	50,724	6,286	1,429.4	39 / 196

Section 5.0 – Engineering Methods

Table 11—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)
STONY FORK				
510	51,000	6,286	1,433.6	42 / 200
513	51,300	6,286	1,438.7	27 / 112
516	51,600	6,286	1,443.6	42 / 44
519	51,900	6,286	1,453.4	137 / 37
522	52,200	6,286	1,459.5	47 / 79
524	52,403	6,286	1,464.2	60 / 110
527	52,708	6,286	1,472.0	60 / 201
531	53,100	6,073	1,483.0	94 / 90
534	53,400	6,073	1,492.2	71 / 46
538	53,813	6,073	1,503.5	29 / 24
539	53,918	6,073	1,511.5	40 / 26
540	54,022	6,073	1,516.9	27 / 28
541	54,103	6,073	1,535.0	25 / 35
542	54,158	6,073	1,547.5	43 / 47
543	54,299	6,073	1,554.1	30 / 19
544	54,389	6,073	1,566.8	62 / 20
546	54,601	6,073	1,571.1	58 / 47
549	54,901	6,073	1,573.5	36 / 30
552	55,218	6,073	1,581.4	25 / 35
553	55,328	6,073	1,587.9	51 / 82
558	55,802	5,441	1,594.3	43 / 28
561	56,076	5,441	1,603.8	49 / 28
563	56,311	5,441	1,625.5	26 / 46
564	56,416	5,441	1,629.1	40 / 56
567	56,736	5,441	1,635.2	40 / 34
570	57,002	5,441	1,649.5	20 / 20
571	57,061	5,441	1,667.7	20 / 21
571	57,102	5,441	1,676.4	23 / 22
572	57,154	5,441	1,681.2	12 / 24
572	57,213	5,441	1,694.1	12 / 39
573	57,258	5,441	1,703.1	10 / 35
573	57,299	5,441	1,708.2	9 / 27
574	57,362	5,441	1,715.8	30 / 19
576	57,564	5,441	1,724.1	75 / 37
579	57,910	5,441	1,730.1	185 / 26
584	58,376	5,441	1,735.8	150 / 67
586	58,579	5,441	1,739.7	125 / 36
588	58,810	5,441	1,743.0	64 / 82
591	59,110	5,286	1,746.6	33 / 72
594	59,420	5,286	1,751.3	40 / 19
597	59,724	5,286	1,759.7	42 / 23
600	60,002	5,286	1,770.9	34 / 32
602	60,217	5,286	1,777.8	34 / 34
603	60,291	5,286	1,779.9	31 / 29
604	60,447	5,286	1,784.1	38 / 39
609	60,910	5,286	1,795.3	116 / 104
615	61,525	5,054	1,806.6	24 / 29
618	61,810	5,054	1,811.8	26 / 27

Section 5.0 – Engineering Methods

Table 11—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)
STONY FORK				
620	61,987	5,054	1,824.8	26 / 51
621	62,111	5,054	1,829.4	34 / 34
623	62,255	5,054	1,834.0	27 / 31
624	62,415	5,054	1,839.1	42 / 53
627	62,711	5,054	1,845.6	35 / 68
630	63,011	5,054	1,854.5	43 / 19
633	63,291	5,054	1,865.3	39 / 45
636	63,611	5,054	1,872.5	50 / 40
639	63,912	5,054	1,878.4	71 / 30
642	64,226	4,928	1,883.7	29 / 36
645	64,511	4,928	1,893.0	30 / 34
647	64,710	4,928	1,897.4	31 / 27
648	64,831	4,928	1,901.3	24 / 17
651	65,133	4,928	1,923.9	36 / 27
657	65,660	4,928	1,937.5	58 / 58
663	66,311	4,928	1,952.8	50 / 29
666	66,606	4,928	1,965.1	26 / 34
669	66,911	4,928	1,975.4	43 / 43
SWAN CREEK				
002	247	3,583	910.9 ⁴	89 / 173
005	534	3,583	910.9 ⁴	28 / 96
009	885	3,583	910.9 ⁴	45 / 94
012	1,215	3,583	910.9 ⁴	79 / 151
015	1,488	3,583	910.9 ⁴	110 / 192
018	1,798	3,583	910.9 ⁴	108 / 142
021	2,110	3,583	910.9 ⁴	23 / 73
024	2,367	3,583	910.9 ⁴	19 / 39
025	2,539	3,583	910.9 ⁴	19 / 22
030	3,007	3,583	910.9 ⁴	22 / 28
033	3,311	3,583	910.9 ⁴	19 / 41
036	3,571	3,583	910.9 ⁴	36 / 43
038	3,778	3,583	910.9 ⁴	73 / 19
040	4,008	3,583	910.9 ⁴	88 / 39
043	4,325	3,583	910.9 ⁴	121 / 19
TRIBUTARY M-1-1				
001	62	781	1,070.7 ⁴	24 / 9
014	1,370	781	1,097.9	60 / 8
015	1,538	781	1,102.9	30 / 7
019	1,916	781	1,113.2	14 / 9
021	2,128	781	1,119.4	34 / 8
024	2,425	781	1,126.8	29 / 7
027	2,665	781	1,137.0	17 / 14
029	2,934	781	1,148.0	14 / 18
032	3,186	781	1,159.7	14 / 12
TRIBUTARY R-1				
035	3,522	200	1,090.2	15 / 20

Section 5.0 – Engineering Methods

Table 11—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)
TRIBUTARY R-1				
037	3,676	172	1,093.0	12 / 7
038	3,812	172	1,097.3	9 / 6
040	4,046	172	1,109.4	10 / 9
043	4,283	172	1,126.2	10 / 5
TRIBUTARY R-1-1				
000	43	212	1,046.8 ⁴	17 / 7
001	101	212	1,046.8 ⁴	7 / 7
003	293	212	1,052.3	7 / 7
004	371	212	1,053.9	7 / 8
005	485	212	1,057.4	8 / 15
006	576	212	1,059.6	17 / 11
008	789	212	1,068.8	7 / 7
009	916	212	1,073.2	17 / 17
010	989	212	1,076.7	35 / 6
011	1,050	212	1,077.9	17 / 15
011	1,148	212	1,081.9	25 / 12
012	1,219	212	1,083.2	12 / 12
013	1,337	212	1,087.9	9 / 7
014	1,389	212	1,090.0	7 / 7
015	1,463	212	1,091.9	8 / 6
016	1,612	212	1,101.7	10 / 7
018	1,779	212	1,114.4	3 / 10
018	1,833	212	1,122.1	7 / 7
019	1,915	212	1,127.0	7 / 7
021	2,064	212	1,138.2	7 / 7
021	2,111	212	1,139.7	7 / 7
022	2,184	212	1,144.7	6 / 11
023	2,289	212	1,153.1	7 / 7
TRIBUTARY Y-1				
009	863	565	959.4	37 / 20
010	1024	269	959.4	15 / 15
012	1177	269	962.4	7 / 7
014	1361	269	969.2	7 / 7
015	1499	269	973.1	7 / 7
017	1698	269	978.4	7 / 5
018	1779	269	981.2	3 / 7
018	1825	269	983.6	45 / 9
019	1941	269	988.8	5 / 12
020	2047	269	992.7	7 / 7
023	2289	269	1,007.6	7 / 7
024	2404	269	1,013.0	14 / 16
025	2494	269	1,016.2	14 / 4
026	2583	269	1,019.6	12 / 8
027	2678	269	1,022.9	15 / 4
027	2718	269	1,023.7	8 / 7
028	2787	269	1,025.9	18 / 10
029	2930	269	1,030.4	29 / 17

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
TRIBUTARY Y-1				
031	3102	194	1,035.4	13 / 7
032	3156	194	1,039.9	23 / 5
033	3266	194	1,044.7	10 / 4
033	3336	194	1,046.4	21 / 7
035	3535	194	1,050.7	11 / 12
037	3727	194	1,061.4	24 / 4
038	3777	194	1,064.6	5 / 3
038	3821	194	1,066.6	7 / 6
039	3877	194	1,067.4	7 / 8
039	3921	194	1,070.4	7 / 7
041	4126	194	1,081.1	7 / 7
042	4163	194	1,083.8	14 / 10
042	4199	194	1,085.4	7 / 7
043	4278	194	1,087.6	6 / 8
TRIBUTARY Y-1-1				
001	59	573	959.4 ⁴	40 / 32
001	144	573	959.4 ⁴	42 / 7
002	235	573	963.4	26 / 10
003	300	573	965.1	16 / 7
004	435	573	969.3	8 / 3
006	611	573	977.9	4 / 6
007	734	573	984.5	4 / 7
008	825	573	992.1	5 / 10
009	885	573	999.7	2 / 20
010	950	573	1,004.1	7 / 10
011	1,093	573	1,012.0	9 / 9
012	1,183	573	1,016.7	20 / 7
013	1,292	573	1,029.3	11 / 4
014	1,434	383	1,037.2	10 / 4
016	1,608	383	1,044.1	5 / 11
017	1,742	383	1,051.4	7 / 11
019	1,904	383	1,059.6	7 / 7
020	2,049	383	1,068.2	7 / 7
022	2,165	383	1,071.6	10 / 7
TRIBUTARY Y-2				
031	3,100	775	1,014.2	13 / 27
032	3,225	775	1,018.1	8 / 13
033	3,337	775	1,021.0	7 / 7
035	3,481	775	1,027.9	12 / 15
036	3,597	775	1,032.4	18 / 18
037	3,701	775	1,038.9	7 / 7
038	3,779	775	1,050.1	18 / 5
039	3,930	775	1,060.5	27 / 19
040	4,031	775	1,063.1	20 / 21
041	4,118	775	1,066.5	20 / 8
042	4,163	775	1,073.7	32 / 7

Section 5.0 – Engineering Methods

Table 11—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)
TRIBUTARY Y-2				
042	4,203	775	1,075.6	38 / 8
043	4,301	775	1,078.4	20 / 19
WARRIOR CREEK				
016	1,594	11,968	1,075.2 ⁴	587 / 585
025	2,518	11,873	1,075.2 ⁴	364 / 291
037	3,650	11,695	1,075.2 ⁴	120 / 124
044	4,431	11,695	1,075.2 ⁴	816 / 757
064	6,380	10,613	1,075.2 ⁴	296 / 411
074	7,433	10,613	1,075.2 ⁴	424 / 387
079	7,896	9,691	1,075.2 ⁴	194 / 255
085	8,476	9,691	1,075.2 ⁴	168 / 78
092	9,150	9,691	1,075.2 ⁴	76 / 128
100	10,040	9,628	1,075.2 ⁴	54 / 140
107	10,718	9,628	1,075.2 ⁴	75 / 55
113	11,340	9,628	1,075.2 ⁴	55 / 90
117	11,692	9,628	1,075.2 ⁴	170 / 50
127	12,651	9,628	1,075.2 ⁴	36 / 253
132	13,222	9,628	1,075.2 ⁴	60 / 43
136	13,622	9,628	1,075.2 ⁴	34 / 34
139	13,942	9,628	1,075.2 ⁴	31 / 50
142	14,195	9,628	1,075.2 ⁴	150 / 31
144	14,436	9,274	1,075.2 ⁴	240 / 100
148	14,773	9,274	1,075.2 ⁴	186 / 62
152	15,229	9,274	1,075.2 ⁴	113 / 66
155	15,530	9,274	1,075.2 ⁴	100 / 110
159	15,916	9,274	1,075.2 ⁴	32 / 80
162	16,229	9,274	1,075.2 ⁴	51 / 35
166	16,645	9,274	1,075.2 ⁴	125 / 40
172	17,169	9,274	1,075.2 ⁴	68 / 56
177	17,711	9,274	1,075.2 ⁴	29 / 197
184	18,404	9,274	1,075.2 ⁴	48 / 85
187	18,684	9,274	1,075.2 ⁴	43 / 51
191	19,079	9,274	1,075.2 ⁴	175 / 30
195	19,520	9,274	1,075.2 ⁴	380 / 30
199	19,875	6,693	1,075.2 ⁴	165 / 102
204	20,351	6,693	1,075.2 ⁴	51 / 72
207	20,690	6,693	1,075.2 ⁴	36 / 37
209	20,913	6,693	1,075.2 ⁴	31 / 40
211	21,136	6,693	1,075.2 ⁴	36 / 45
213	21,317	6,693	1,075.2 ⁴	36 / 40
216	21,572	6,693	1,076.6	28 / 51
218	21,750	6,693	1,077.9	42 / 49
219	21,934	6,693	1,078.4	68 / 66
226	22,560	6,552	1,080.7	240 / 24
231	23,082	6,552	1,080.9	237 / 189
237	23,651	6,552	1,081.1	304 / 80
243	24,308	6,552	1,081.6	262 / 100

Section 5.0 – Engineering Methods

Table 11—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)
WARRIOR CREEK				
249	24,873	6,552	1,082.3	169 / 64
257	25,679	6,552	1,084.3	149 / 113
266	26,572	6,552	1,086.7	496 / 20
275	27,469	1,372	1,095.1	65 / 120
277	27,688	1,372	1,097.6	35 / 60
280	28,049	1,372	1,106.7	14 / 18
WEST PRONG MORAVIAN CREEK				
002	199	6,719	1,067.8 ⁴	25 / 245
007	741	6,719	1,067.8 ⁴	170 / 40
013	1,295	6,719	1,067.8 ⁴	280 / 115
019	1,899	6,637	1,067.8 ⁴	180 / 25
020	1,984	6,637	1,067.8 ⁴	105 / 25
021	2,121	6,637	1,067.8 ⁴	165 / 25
026	2,561	6,637	1,067.8 ⁴	85 / 130
028	2,785	6,637	1,068.1	180 / 40
030	3,038	6,637	1,068.7	300 / 45
034	3,435	6,637	1,069.4	95 / 200
039	3,931	6,637	1,070.6	215 / 140
044	4,358	6,637	1,071.6	30 / 280
047	4,732	6,637	1,072.7	145 / 115
053	5,276	6,637	1,074.9	120 / 190
055	5,539	5,039	1,076.1	215 / 20
059	5,921	5,039	1,077.8	110 / 140
064	6,372	5,039	1,080.0	145 / 20
066	6,612	5,039	1,082.2	70 / 40
069	6,949	5,039	1,084.5	185 / 35
073	7,326	5,039	1,085.8	120 / 90
077	7,734	5,039	1,087.8	70 / 30
079	7,948	5,039	1,090.7	20 / 35
082	8,227	4,966	1,093.4	40 / 25
085	8,489	4,966	1,096.7	30 / 20
088	8,839	4,966	1,101.1	20 / 55
090	8,969	4,966	1,102.1	35 / 50
092	9,161	4,966	1,103.9	215 / 30
096	9,574	4,966	1,104.2	55 / 180
099	9,927	4,966	1,104.7	30 / 90
100	10,027	4,966	1,105.3	25 / 40
101	10,133	4,966	1,105.9	15 / 60
102	10,234	4,966	1,109.3	30 / 60
104	10,438	4,966	1,111.8	23 / 40
105	10,532	4,966	1,116.0	28 / 52
107	10,677	4,966	1,121.0	15 / 40
108	10,800	4,966	1,125.4	18 / 63
109	10,917	4,966	1,125.9	30 / 30
111	11,080	4,966	1,126.9	100 / 20
114	11,363	4,966	1,127.4	95 / 135
119	11,887	4,966	1,127.8	210 / 20

Section 5.0 – Engineering Methods

Table 11—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 PRONG MORAVIAN CREEK				
124	12,400	4,966	1,128.5	70 / 50
126	12,603	4,966	1,128.5	18 / 42
128	12,800	4,966	1,132.8	25 / 85
130	13,009	4,966	1,133.3	95 / 110
132	13,224	4,434	1,133.5	210 / 35
135	13,513	4,434	1,133.6	110 / 110
141	14,141	4,434	1,134.3	25 / 190
146	14,575	4,434	1,135.5	95 / 105
149	14,910	4,434	1,137.6	20 / 130
155	15,459	4,236	1,143.8	110 / 110
158	15,778	4,236	1,144.0	25 / 150
160	16,042	4,236	1,144.5	20 / 70
164	16,380	4,236	1,147.0	65 / 35
167	16,733	4,236	1,149.5	90 / 80
170	17,036	4,236	1,150.8	130 / 20
173	17,253	4,236	1,152.1	25 / 115
180	17,986	4,236	1,157.7	13 / 135
183	18,328	4,236	1,160.6	20 / 200
189	18,857	4,004	1,164.8	115 / 40
191	19,114	4,004	1,168.1	65 / 20
193	19,349	4,004	1,171.0	20 / 30
196	19,554	4,004	1,173.7	20 / 60
200	20,000	4,004	1,175.9	50 / 70
204	20,409	4,004	1,177.3	20 / 205
207	20,737	4,004	1,178.1	110 / 155
210	20,991	4,004	1,179.1	60 / 90
213	21,263	4,004	1,180.1	25 / 50
215	21,461	4,004	1,182.7	60 / 120
218	21,807	3,730	1,183.9	20 / 150
WEST PRONG MORAVIAN CREEK TRIBUTARY 1				
001	120	3,007	1,075.4 ⁴	14 / 150
002	200	3,007	1,076.5	14 / 134
003	334	3,007	1,077.3	14 / 119
005	464	3,007	1,078.4	14 / 101
009	888	3,007	1,083.7	106 / 14
012	1,168	3,007	1,086.2	155 / 14
015	1,533	3,007	1,088.7	63 / 14
017	1,742	3,007	1,091.4	53 / 65
020	2,006	3,007	1,093.4	20 / 68
023	2,287	3,007	1,097.0	85 / 30
024	2,449	3,007	1,100.1	60 / 19
WEST PRONG ROARING RIVER				
002	221	11,127	1,090.5 ⁴	30 / 95
003	256	11,127	1,090.5 ⁴	29 / 74
008	750	11,127	1,090.5 ⁴	28 / 35
015	1,500	11,127	1,093.8	44 / 65
023	2,250	11,127	1,096.0	91 / 28

Section 5.0 – Engineering Methods

Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
WEST PRONG ROARING RIVER				
030	3,000	11,040	1,099.7	19 / 75
037	3,702	11,040	1,106.3	131 / 31
045	4,500	11,040	1,108.0	46 / 149
053	5,250	11,040	1,109.6	67 / 37
060	5,964	11,040	1,117.1	53 / 58
068	6,750	11,040	1,124.0	21 / 46
075	7,500	11,040	1,128.0	95 / 35
081	8,084	11,040	1,131.6	51 / 33
083	8,262	11,040	1,134.9	75 / 40
090	9,012	10,611	1,136.8	97 / 25
093	9,328	10,611	1,137.9	37 / 90
095	9,487	10,611	1,138.6	35 / 96
098	9,762	10,611	1,139.3	49 / 50
105	10,498	10,611	1,143.0	40 / 59
113	11,262	10,611	1,149.5	19 / 146
116	11,607	10,611	1,151.8	50 / 66
120	11,961	10,611	1,155.8	54 / 29
121	12,099	10,611	1,158.6	56 / 29
123	12,314	10,611	1,159.8	92 / 22
128	12,762	10,611	1,162.1	100 / 29
135	13,512	10,611	1,166.3	32 / 65
143	14,262	10,611	1,173.3	34 / 114
146	14,647	10,611	1,174.2	16 / 87
150	15,012	8,263	1,175.1	25 / 53
154	15,351	8,263	1,178.2	40 / 35
157	15,674	8,263	1,181.9	35 / 17
163	16,293	8,263	1,188.6	21 / 34
169	16,853	8,263	1,194.9	43 / 53
173	17,309	8,263	1,197.1	22 / 95
178	17,807	8,263	1,202.3	29 / 33
187	18,698	8,263	1,209.3	35 / 49
192	19,248	8,169	1,215.2	53 / 70
195	19,512	8,169	1,218.3	80 / 36
198	19,755	8,169	1,221.5	86 / 25
203	20,262	8,169	1,226.3	42 / 52
206	20,591	8,169	1,231.2	55 / 63
212	21,213	8,169	1,235.3	81 / 48
219	21,881	8,169	1,238.1	144 / 17
225	22,512	8,169	1,238.4	30 / 38
233	23,262	8,169	1,247.8	37 / 123
248	24,762	8,000	1,251.4	103 / 63
255	25,512	8,000	1,253.5	124 / 48
263	26,269	8,000	1,256.9	49 / 85
270	27,019	8,000	1,260.5	37 / 163
278	27,773	8,000	1,262.8	73 / 175
285	28,519	7,556	1,265.1	157 / 29
293	29,269	7,556	1,270.3	109 / 25

Section 5.0 – Engineering Methods

Table 11—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 PRONG ROARING RIVER				
300	30,019	7,521	1,275.7	96 / 22
308	30,769	7,521	1,280.9	33 / 158
318	31,829	7,521	1,289.1	45 / 100
323	32,340	7,521	1,295.8	55 / 80
328	32,845	7,521	1,298.7	27 / 51
333	33,333	7,521	1,305.9	56 / 58
340	34,011	6,882	1,308.8	75 / 21
346	34,583	6,882	1,316.7	60 / 39
354	35,373	6,595	1,322.7	161 / 22
360	36,019	6,595	1,323.2	233 / 42
368	36,769	6,595	1,326.2	60 / 103
377	37,731	6,595	1,335.7	119 / 42
380	37,952	6,595	1,337.5	98 / 70
387	38,730	5,585	1,343.3	94 / 38
390	39,034	5,585	1,346.0	124 / 19
393	39,338	5,585	1,349.9	77 / 39
404	40,433	5,585	1,362.1	38 / 43
407	40,722	5,585	1,365.8	82 / 98
409	40,938	4,972	1,366.4	86 / 84
413	41,339	4,972	1,370.3	43 / 54
420	42,019	4,972	1,380.1	17 / 23
427	42,723	4,972	1,395.6	54 / 15
435	43,519	4,739	1,404.6	78 / 57
443	44,269	4,739	1,410.3	127 / 18
450	45,019	4,739	1,421.1	72 / 100
459	45,944	4,739	1,432.4	17 / 64
464	46,392	4,647	1,437.9	38 / 19
473	47,269	4,647	1,451.3	17 / 22
480	48,019	4,647	1,461.9	98 / 77
488	48,769	4,647	1,471.2	124 / 13
495	49,519	4,647	1,480.7	27 / 147
503	50,274	3,890	1,491.5	66 / 18
510	51,019	3,890	1,504.2	53 / 57
518	51,777	3,755	1,515.8	96 / 46
525	52,527	3,755	1,527.6	16 / 186
533	53,277	3,609	1,543.1	80 / 15
543	54,298	3,609	1,561.1	15 / 109
WEST SWAN CREEK				
021	2,134	2,136	910.9 ⁴	19 / 122
024	2,408	2,136	910.9 ⁴	84 / 95
028	2,832	2,094	910.9 ⁴	132 / 38
032	3,156	2,094	910.9 ⁴	169 / 16
035	3,472	2,094	910.9 ⁴	78 / 82
038	3,836	2,094	910.9 ⁴	71 / 99
043	4,290	2,094	910.9 ⁴	116 / 30
046	4,609	2,094	910.9 ⁴	52 / 24
049	4,900	2,094	911.7	77 / 64

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Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
WEST SWAN CREEK				
052	5,199	2,094	912.5	74 / 101
056	5,649	2,006	913.6	52 / 35
060	5,988	2,006	914.5	120 / 15
063	6,327	1,911	915.3	88 / 22
066	6,645	1,911	916.2	108 / 13
071	7,056	1,911	918.1	36 / 59
074	7,394	1,911	919.2	13 / 103
076	7,609	1,911	919.7	22 / 74
080	8,025	1,911	920.7	73 / 56
085	8,456	1,911	921.8	90 / 45
088	8,750	1,874	923.0	114 / 41
091	9,127	1,874	923.9	94 / 14
095	9,545	1,874	926.2	18 / 77
099	9,876	1,874	926.8	27 / 28
102	10,176	1,816	928.0	29 / 22
105	10,494	1,816	929.0	21 / 32
109	10,925	1,816	930.2	36 / 16
113	11,278	1,816	931.2	19 / 13
115	11,534	1,816	932.3	36 / 13
118	11,841	1,816	933.5	21 / 28
123	12,312	1,738	935.0	29 / 28
126	12,550	1,738	936.4	45 / 14
128	12,799	1,738	936.9	51 / 13
132	13,246	1,738	940.1	12 / 33
137	13,688	1,738	943.5	16 / 47
WHITES CREEK				
022	2,200	3,374	1,075.1 ⁴	206 / 227
026	2,646	3,167	1,075.1 ⁴	260 / 186
030	3,036	3,167	1,075.1 ⁴	76 / 180
034	3,436	3,167	1,075.1 ⁴	196 / 209
039	3,876	3,167	1,075.1 ⁴	215 / 250
042	4,200	3,167	1,075.1 ⁴	184 / 275
046	4,600	3,167	1,075.1 ⁴	229 / 156
049	4,943	2,848	1,075.1 ⁴	263 / 244
054	5,435	2,848	1,075.1 ⁴	247 / 189
058	5,800	2,848	1,075.1 ⁴	68 / 84
066	6,600	2,848	1,078.8	151 / 221
068	6,800	2,848	1,078.8	158 / 218
070	7,000	2,848	1,078.8	184 / 216
072	7,184	2,848	1,078.8	164 / 152
074	7,400	2,848	1,078.8	194 / 139
076	7,600	2,848	1,078.8	208 / 97
078	7,803	2,848	1,078.8	60 / 154
080	8,000	2,848	1,078.8	70 / 96
082	8,200	2,848	1,078.8	156 / 124
084	8,422	2,564	1,078.8	184 / 80
086	8,600	2,564	1,078.8	157 / 127

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Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
WHITES CREEK				
087	8,747	2,564	1,078.8	307 / 67
090	8,998	2,564	1,078.8	158 / 87
092	9,200	2,564	1,078.8	57 / 58
094	9,400	2,564	1,078.8	36 / 38
096	9,600	2,564	1,078.9	30 / 44
098	9,794	2,564	1,079.1	53 / 121
100	9,973	2,564	1,079.2	79 / 180
102	10,166	2,564	1,079.2	26 / 200
104	10,378	2,193	1,079.2	33 / 126
106	10,583	2,193	1,079.2	50 / 33
108	10,800	2,193	1,079.6	80 / 46
111	11,057	2,193	1,079.6	42 / 32
114	11,414	2,193	1,085.7	20 / 21
116	11,600	2,193	1,087.5	15 / 30
118	11,799	2,193	1,090.8	15 / 21
120	11,979	2,193	1,093.7	8 / 80
YADKIN RIVER				
12427	1,242,717	39,840	1,090.0	885 / 100
YADKIN RIVER TRIBUTARY 14				
002	207	1,435	903.3 ⁸	27 / 34
005	462	1,435	903.4 ⁸	90 / 14
008	761	1,435	903.5 ⁸	149 / 50
012	1,209	1,323	903.6 ⁴	80 / 26
020	1,992	1,323	903.6 ⁴	97 / 14
022	2,241	1,323	903.6 ⁴	47 / 20
027	2,677	1,265	903.6 ⁴	50 / 23
029	2,932	1,265	903.6 ⁴	16 / 45
032	3,239	1,265	903.6 ⁴	107 / 13
036	3,590	1,265	903.6 ⁴	57 / 24
040	3,989	1,265	905.2	80 / 25
047	4,749	1,265	907.0	10 / 78
053	5,273	1,265	909.7	15 / 75
055	5,496	1,190	911.1	92 / 89
058	5,795	1,190	912.1	111 / 13
061	6,101	1,190	914.0	33 / 28
064	6,381	1,190	917.0	15 / 34
YADKIN RIVER TRIBUTARY 15				
003	302	1,671	919.4 ⁴	18 / 63
007	679	1,671	919.4 ⁴	68 / 12
011	1,070	1,671	919.4 ⁴	14 / 100
014	1,446	1,671	919.4 ⁴	50 / 72
017	1,745	1,671	919.4 ⁴	92 / 32
021	2,100	1,671	919.4 ⁴	97 / 28
025	2,471	1,671	919.4 ⁴	24 / 71
028	2,783	1,671	919.4 ⁴	65 / 14
031	3,149	1,625	919.4 ⁴	81 / 12
035	3,499	1,625	919.4 ⁴	72 / 13

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Table 11—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
YADKIN RIVER TRIBUTARY 15				
038	3,829	1,625	919.4 ⁴	26 / 29
041	4,149	1,625	919.4 ⁴	17 / 16
046	4,603	1,625	919.4 ⁴	59 / 13
050	5,020	1,625	919.4 ⁴	19 / 102
052	5,199	1,625	919.4 ⁴	44 / 76
056	5,562	1,625	919.4 ⁴	12 / 84
059	5,862	1,625	919.4	44 / 23
062	6,175	1,515	920.8	13 / 76
070	7,011	1,515	923.9	59 / 19
074	7,352	1,515	925.8	51 / 12
077	7,689	1,515	927.5	12 / 25
081	8,107	1,403	928.8	52 / 11
083	8,274	1,403	930.1	50 / 51
086	8,578	1,403	933.8	54 / 42
088	8,781	1,403	935.6	31 / 51
090	8,975	1,403	937.7	11 / 20
092	9,155	1,403	941.9	13 / 21

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

²Feet above mouth.

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

⁴Elevation includes backwater effects.

⁵Flooding controlled by Beaver Creek.

⁶Flooding controlled by Fishing Creek Tributary 2.

⁷Flooding controlled by South Prong Lewis Fork.

⁸Flooding controlled by Yadkin River.

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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 Wilkes 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 Wilkes County is -0.48 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 12, "Datum Conversion Locations and Values," is shown below.

Table 12—Datum Conversion Locations and Values

Latitude	Longitude	Conversion from NGVD 29 to NAVD 88 (feet)
36.375	-81.125	-0.49
36.375	-81.000	-0.43
36.375	-80.875	-0.50
36.250	-81.500	-0.29
36.250	-81.375	-0.40
36.250	-81.250	-0.47
36.250	-81.125	-0.52
36.250	-81.000	-0.49
36.250	-80.875	-0.53
36.125	-81.500	-0.43
36.125	-81.375	-0.49
36.125	-81.250	-0.53
36.125	-81.125	-0.50

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Table 12—Datum Conversion Locations and Values

Latitude	Longitude	Conversion from NGVD 29 to NAVD 88 (feet)
36.125	-81.000	-0.47
36.125	-80.875	-0.52
36.000	-81.375	-0.50
36.000	-81.250	-0.56
36.000	-81.125	-0.59
36.000	-81.000	-0.55
Average conversion in Wilkes County from NGVD 29 to NAVD 88 = -0.48 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 Wilkes 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)

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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:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(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 (FIPZONE 3200) referenced to the North American Datum of 1983 (NAD83), GRS80 ellipsoid.

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6.2 Base Map

The county-obtained orthophotos, based on 2003 aerial photography, are used as the base maps for digital FIRM production for Wilkes 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.

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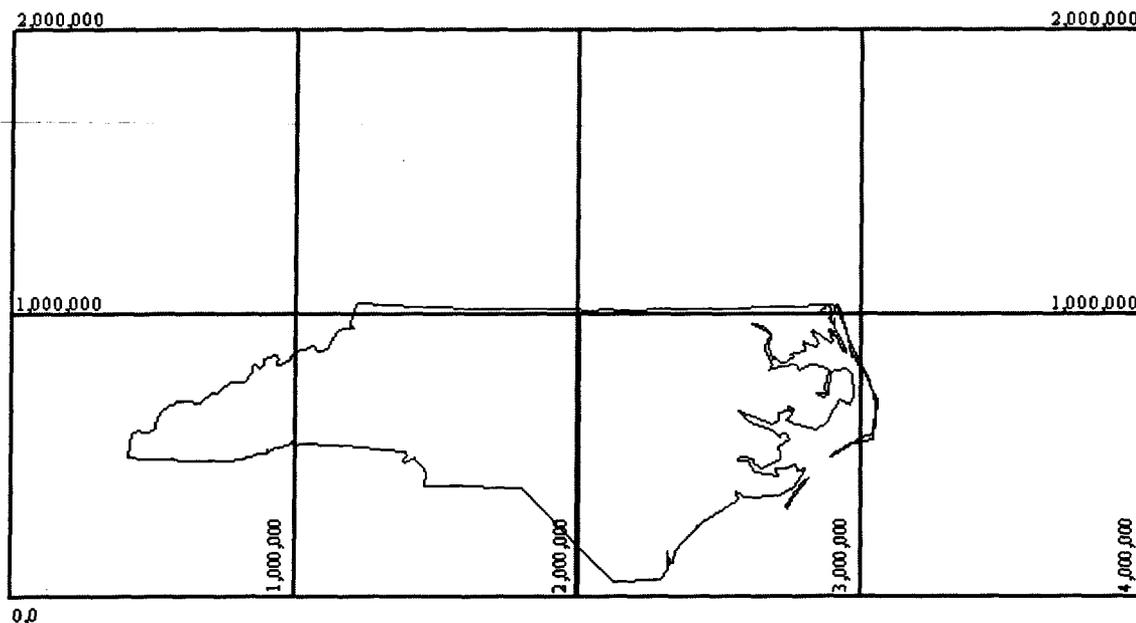


Figure 3—North Carolina's State Plane Coordinate System

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 2002-2003 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

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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 13, “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.

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
Elkin Creek								
119	11,867	156	1,804	5.9	937.9	937.9	938.6	0.7
127	12,696	87	1,057	9.8	940.2	940.2	941.1	0.9
135	13,524	73	773	13.4	944.8	944.8	945.5	0.7
Reddies River								
033	3,285	130	2,430	9.8	975.1	975.1	976.1	1.0
034	3,425	130	2,780	8.6	976.9	976.9	976.9	0.0
046	4,625	150	4,778	5.0	978.7	978.7	979.0	0.3
047	4,660	150 ²	6,936	3.4	988.3	988.3	989.3	1.0
060	6,000	185	2,909	8.2	988.3	988.3	989.3	1.0
080	8,000	155	2,715	8.7	992.4	992.4	993.4	1.0
100	10,000	210	3,537	6.7	996.0	996.0	997.0	1.0
Tributary M-1								
084	8,350	30	138	7.6	1,080.1	1,080.1	1,080.2	0.1
100	10,000	45 ²	88	10.7	1,096.5	1,096.5	1,097.1	0.6
102	10,200	60	228	4.1	1,105.8	1,105.8	1,105.9	0.1
111	11,100	50 ²	130	7.2	1,110.4	1,110.4	1,110.7	0.3
Tributary R-1								
002	225	70	594	0.8	990.1	990.1	991.1	1.0
009	900	70 ²	104	4.7	1,012.6	1,012.6	1,012.8	0.2
014	1,400	70 ²	100	4.9	1,036.5	1,036.5	1,036.6	0.1
025	2,500	50	73	3.2	1,064.8	1,064.8	1,064.8	0.0
033	3,300	40 ²	50	4.0	1,090.2	1,090.2	1,090.4	0.2

¹Feet above mouth

² Value is inaccurate, as the floodway has been adjusted in this area to match topographic-based floodplain redelineation

TABLE 13	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	WILKES COUNTY, NC AND INCORPORATED AREAS	ELKIN CREEK – REDDIES RIVER – TRIBUTARY M-1 - TRIBUTARY R-1

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 Y-1								
004	400	45	628	1.5	959.2	959.2	959.2	0.0
009	863	57	367	1.5	959.4	959.4	960.0	0.6
Tributary Y-2								
010	950	90	974	0.9	969.6	969.6	970.6	1.0
014	1,350	90	974	0.9	970.1	970.1	971.1	1.0
018	1,750	70	186	4.5	971.7	971.7	972.7	1.0
023	2,250	60 ²	106	8.5	988.8	988.8	989.8	1.0
031	3,100	40	153	5.5	1,013.8	1,013.8	1,014.8	1.0
Tributary Y-3								
031	3,106	29	76	7.7	971.0	971.0	971.1	0.1
037	3,662	90	804	1.0	989.2	989.2	989.6	0.4
042	4,247	30	96	8.7	996.3	996.3	996.7	0.4

¹Feet above mouth

²Value is inaccurate, as the floodway has been adjusted in this area to match topographic-based floodplain redelineation

TABLE 13

FEDERAL EMERGENCY MANAGEMENT AGENCY

**WILKES COUNTY, NC
AND INCORPORATED AREAS**

FLOODWAY DATA

**TRIBUTARY Y-1 – TRIBUTARY Y-2 –
TRIBUTARY Y-3**

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
Yadkin River								
10150	1,014,959	655	14,759	4.2	903.1	903.1	904.1	1.0
10155	1,015,534	740	15,655	4.0	903.3	903.3	904.3	1.0
10164	1,016,422	715	14,789	4.2	903.6	903.6	904.6	1.0
10175	1,017,548	775	15,170	4.1	904.1	904.1	905.1	1.0
10187	1,018,718	715	14,883	4.2	904.5	904.5	905.5	1.0
10195	1,019,537	465	11,013	5.6	904.7	904.7	905.7	1.0
10206	1,020,595	410	10,204	6.1	905.2	905.2	906.1	0.9
10229	1,022,877	555	11,465	5.4	906.6	906.6	907.6	1.0
10245	1,024,486	535	11,486	5.4	907.5	907.5	908.5	1.0
10266	1,026,591	380	9,692	6.4	908.9	908.9	909.9	1.0
10290	1,029,041	1610	26,173	2.3	911.3	911.3	912.3	1.0
10321	1,032,124	1385	21,362	2.8	911.7	911.7	912.7	1.0
10345	1,034,548	1570	24,719	2.4	912.5	912.5	913.5	1.0
10365	1,036,548	1335	20,824	2.9	912.9	912.9	913.9	1.0
10391	1,039,091	1455	21,452	2.8	913.6	913.6	914.6	1.0
10418	1,041,756	1685	23,645	2.5	914.3	914.3	915.2	0.9
10427	1,042,678	1445	21,746	2.7	914.6	914.6	915.5	0.9
10443	1,044,267	1005	14,767	4.0	915.8	915.8	916.5	0.7
10467	1,046,679	1340	15,815	3.8	916.8	916.8	917.6	0.8
10487	1,048,690	1045	13,494	4.4	917.9	917.9	918.8	0.9
10513	1,051,271	1125	16,286	3.7	919.2	919.2	920.2	1.0

¹Feet above mouth

TABLE 13	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	WILKES COUNTY, NC AND INCORPORATED AREAS	YADKIN RIVER

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
Yadkin River								
10541	1,054,125	1360	17,330	3.3	921.4	921.4	922.4	1.0
10579	1,057,917	2080	22,788	2.5	923.1	923.1	924.1	1.0
10593	1,059,349	1365	20,155	2.9	923.6	923.6	924.6	1.0
10626	1,062,575	1570	22,479	2.6	925.9	925.9	926.9	1.0
10648	1,064,823	1165	19,026	2.8	926.6	926.6	927.6	1.0
10667	1,066,681	765	11,745	4.6	927.0	927.0	928.0	1.0
10688	1,068,778	890	13,602	4.0	928.4	928.4	929.3	0.9
10707	1,070,655	1725	20,559	2.6	929.5	929.5	930.5	1.0
10733	1,073,258	480	8,456	6.4	930.1	930.1	931.0	0.9
10754	1,075,375	405	9,135	5.9	932.0	932.0	932.9	0.9
10765	1,076,526	660	10,574	4.9	933.0	933.0	934.0	1.0
10782	1,078,159	955	14,799	3.5	934.8	934.8	935.8	1.0
10800	1,079,956	930	13,329	3.9	935.9	935.9	936.8	0.9
10824	1,082,426	1300	16,831	1.9	936.7	936.7	937.7	1.0
10845	1,084,548	1295	15,668	2.0	937.1	937.1	938.1	1.0
10865	1,086,548	590	9,432	3.4	937.5	937.5	938.5	1.0
10886	1,088,625	245	5,164	6.2	938.4	938.4	939.4	1.0
10915	1,091,548	510	8,769	3.6	940.4	940.4	941.4	1.0
10933	1,093,263	290	5,947	5.4	940.9	940.9	941.9	1.0
10946	1,094,592	880	14,166	2.3	942.1	942.1	943.1	1.0
10965	1,096,469	1490	15,160	1.9	942.5	942.5	943.5	1.0
10991	1,099,055	980	10,014	2.9	943.2	943.2	944.2	1.0

¹Feet above mouth

TABLE 13	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	WILKES COUNTY, NC AND INCORPORATED AREAS	
		YADKIN RIVER

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
Yadkin River								
11006	1,100,569	640	8,429	3.5	943.7	943.7	944.7	1.0
11024	1,102,378	880	12,079	2.4	945.2	945.2	946.2	1.0
11044	1,104,388	450	6,800	4.3	946.5	946.5	947.5	1.0
11067	1,106,685	875	8,248	3.6	948.1	948.1	949.1	1.0
11090	1,108,959	730	8,891	3.3	949.5	949.5	950.5	1.0
11109	1,110,904	1060	10,905	2.7	950.4	950.4	951.4	1.0
11125	1,112,548	550	7,137	4.1	951.1	951.1	952.0	0.9
11145	1,114,457	955	9,431	3.1	952.0	952.0	953.0	1.0
11168	1,116,772	325	4,491	5.1	952.7	952.7	953.7	1.0
11183	1,118,269	230	4,198	5.5	953.5	953.5	954.4	0.9
11204	1,120,385	195	3,583	6.4	954.6	954.6	955.5	0.9
11225	1,122,518	380	5,155	4.4	956.4	956.4	957.3	0.9
11245	1,124,548	293	4,703	4.9	957.8	957.8	958.8	1.0
11274	1,127,387	405	7,001	3.3	962.5	962.5	963.5	1.0
11320	1,131,994	375	5,111	4.0	963.4	963.4	964.4	1.0
11355	1,135,467	780	8,133	1.6	964.9	964.9	965.8	0.9
11389	1,138,876	380	4,627	2.8	965.4	965.4	966.4	1.0
11407	1,140,687	760	6,198	2.1	965.8	965.8	966.8	1.0
11425	1,142,527	365	3,306	4.0	966.2	966.2	967.2	1.0
11441	1,144,089	208	3,095	4.2	967.0	967.0	967.9	0.9
11481	1,148,108	205	2,897	4.5	970.0	970.0	970.8	0.8

¹Feet above mouth

TABLE 13

FEDERAL EMERGENCY MANAGEMENT AGENCY

**WILKES COUNTY, NC
AND INCORPORATED AREAS**

FLOODWAY DATA

YADKIN RIVER

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
Yadkin River								
11496	1,149,627	270	2,889	4.5	970.7	970.7	971.6	0.9
11515	1,151,548	200	2,955	4.4	971.7	971.7	972.7	1.0
11536	1,153,556	184	2,667	4.9	973.1	973.1	973.8	0.7
11557	1,155,663	180	2,742	4.8	974.1	974.1	975.1	1.0
11577	1,157,712	162	2,660	4.9	975.4	975.4	976.4	1.0
11601	1,160,051	160	2,650	4.9	976.7	976.7	977.5	0.8
11611	1,161,107	180	2,742	4.8	977.7	977.7	978.5	0.8
11646	1,164,559	1255	69,396	0.9	1,075.1	1,075.1	1,075.4	0.3
11677	1,167,673	1805	98,820	0.6	1,075.1	1,075.1	1,075.4	0.3
11695	1,169,548	2075	114,101	0.6	1,075.1	1,075.1	1,075.4	0.3
11717	1,171,690	960	53,726	1.2	1,075.1	1,075.1	1,075.4	0.3
11735	1,173,548	1160	63,901	1.0	1,075.1	1,075.1	1,075.4	0.3
11765	1,176,548	1890	105,310	0.6	1,075.1	1,075.1	1,075.5	0.4
11805	1,180,548	1180	64,598	0.8	1,075.1	1,075.1	1,075.5	0.4
11835	1,183,548	1200	65,597	0.8	1,075.2	1,075.2	1,075.5	0.3
11848	1,184,817	555	30,119	1.6	1,075.2	1,075.2	1,075.5	0.3
11867	1,186,695	365	19,457	2.5	1,075.2	1,075.2	1,075.5	0.3
11887	1,188,702	410	21,694	2.3	1,075.2	1,075.2	1,075.5	0.3
11905	1,190,548	360	18,677	2.6	1,075.2	1,075.2	1,075.5	0.3

¹Feet above mouth

TABLE 13

FEDERAL EMERGENCY MANAGEMENT AGENCY

**WILKES COUNTY, NC
AND INCORPORATED AREAS**

FLOODWAY DATA

YADKIN RIVER

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
Yadkin River								
11915	1,191,548	330	16,278	3.0	1,075.2	1,075.2	1,075.5	0.3
11925	1,192,548	305	14,676	3.3	1,075.2	1,075.2	1,075.5	0.3
11940	1,193,991	400	19,267	2.5	1,075.4	1,075.4	1,075.7	0.3
11965	1,196,548	295	13,311	3.7	1,075.4	1,075.4	1,075.8	0.4
11986	1,198,554	490	21,687	2.3	1,076.0	1,076.0	1,076.3	0.3
12003	1,200,251	370	16,536	3.0	1,076.0	1,076.0	1,076.4	0.4
12023	1,202,265	330	14,746	3.3	1,076.2	1,076.2	1,076.6	0.4
12038	1,203,828	450	19,253	2.5	1,076.4	1,076.4	1,076.9	0.5
12055	1,205,548	220	9,659	5.0	1,076.4	1,076.4	1,076.9	0.5
12075	1,207,548	325	13,605	3.6	1,076.9	1,076.9	1,077.5	0.6
12097	1,209,696	330	12,958	3.7	1,077.2	1,077.2	1,077.8	0.6
12115	1,211,515	355	13,658	3.5	1,077.4	1,077.4	1,078.2	0.8
12125	1,212,548	410	15,171	3.2	1,077.6	1,077.6	1,078.4	0.8
12135	1,213,548	255	9,536	5.1	1,077.6	1,077.6	1,078.5	0.9
12152	1,215,193	265	9,339	4.7	1,078.1	1,078.1	1,079.1	1.0
12171	1,217,078	555	17,309	2.5	1,079.0	1,079.0	1,080.0	1.0
12188	1,218,758	345	11,694	3.7	1,079.2	1,079.2	1,080.1	0.9
12201	1,220,097	620	18,252	2.2	1,079.6	1,079.6	1,080.6	1.0
12224	1,222,394	515	14,300	2.8	1,079.8	1,079.8	1,080.8	1.0
12241	1,224,108	505	12,783	3.2	1,080.5	1,080.5	1,081.5	1.0
12260	1,225,981	495	11,163	3.6	1,080.8	1,080.8	1,081.8	1.0

¹Feet above mouth

TABLE 13

FEDERAL EMERGENCY MANAGEMENT AGENCY

**WILKES COUNTY, NC
AND INCORPORATED AREAS**

FLOODWAY DATA

YADKIN RIVER

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
Yadkin River								
12273	1,227,290	265	7,217	5.6	1,081.5	1,081.5	1,082.5	1.0
12280	1,228,025	315	8,223	4.9	1,081.9	1,081.9	1,082.9	1.0
12288	1,228,788	600	14,611	2.8	1,082.8	1,082.8	1,083.7	0.9
12295	1,229,511	575	13,445	3.0	1,082.9	1,082.9	1,083.9	1.0
12307	1,230,711	740	14,411	2.8	1,083.3	1,083.3	1,084.2	0.9
12316	1,231,643	925	16,310	2.5	1,083.5	1,083.5	1,084.4	0.9
12324	1,232,387	732	12,668	3.2	1,083.6	1,083.6	1,084.6	1.0
12335	1,233,461	685	12,969	3.1	1,083.9	1,083.9	1,084.9	1.0
12343	1,234,262	670	12,545	3.2	1,084.1	1,084.1	1,085.1	1.0
12351	1,235,057	375	8,109	5.0	1,084.1	1,084.1	1,085.1	1.0
12360	1,235,958	290	6,363	6.3	1,084.7	1,084.7	1,085.6	0.9
12368	1,236,771	640	11,211	3.6	1,086.1	1,086.1	1,087.1	1.0
12378	1,237,801	535	9,731	4.1	1,086.6	1,086.6	1,087.6	1.0
12387	1,238,712	555	9,151	4.4	1,087.2	1,087.2	1,088.2	1.0
12396	1,239,599	465	7,551	5.3	1,087.8	1,087.8	1,088.7	0.9
12405	1,240,476	543	9,341	4.3	1,088.9	1,088.9	1,089.9	1.0
12418	1,241,790	1,435	20,792	1.9	1,089.8	1,089.8	1,090.8	1.0
12427	1,242,717	985	17,463	2.3	1,090.0	1,090.0	1,091.0	1.0

¹Feet above mouth

TABLE 13

FEDERAL EMERGENCY MANAGEMENT AGENCY

**WILKES COUNTY, NC
AND INCORPORATED AREAS**

FLOODWAY DATA

YADKIN RIVER

Section 7.0 – Revising the FIS

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

Section 7.0 – Revising the FIS

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 and the NCFMP 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 and the NCFMP 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 and the NCFMP before construction takes place. This assures communities participating in the NFIP that proposed projects meet minimum NFIP requirements. The result of FEMA's and the NCFMP'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) or the NCFMP at 919-715-5711.

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, or the NCFMP at 919-715-5711.

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

Section 7.0 – Revising the FIS

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 Wilkes 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 North Carolina Statewide FIRM, which includes Wilkes County, are presented in Table 14, “Community Map History.”

Information pertaining to revised and unrevised flood hazards for each jurisdiction within Wilkes 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 Wilkes County.

Section 7.0 – Revising the FIS

Table 14—Community Map History

Community Name	Initial Identification Date	FHBM Revision Date	FIRM Effective Date	FIRM Revision Date
North Wilkesboro, Town of	April 12, 1974	None	February 15, 1978	September 17, 1992 February 18, 1998 March 2, 2009
Ronda, Town of	September 6, 1974	May 14, 1976	July 3, 1986	March 2, 2009
Wilkes County (Unincorporated Areas)	December 20, 1974	August 25, 1978	May 15, 1991	September 17, 1992 August 9, 1999 March 2, 2009
Wilkesboro, Town of	June 14, 1974	August 29, 1980 July 9, 1976	June 1, 1987	February 3, 1993 August 9, 1999 March 2, 2009

Section 8.0 – Study Contracting and Community Coordination

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 previous FISs for the geographic area of Wilkes County. Table 15, “Authority and Acknowledgments,” includes information for the single-jurisdiction FISs published for each community included in this countywide FIS, with the exception of the Town of Ronda, as compiled from their previously printed FIS Reports. The table also includes information for this revision.

Table 15—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)
Wilkes County and Incorporated Areas	March 2, 2009	FEMA	North Carolina Floodplain Mapping Program	N/A	November 2007
Wilkes County (Unincorporated Areas)	August 9, 1999	FEMA	Hayes, Seay, Mattern & Mattern, Inc.	EMW-87-C-2454	February 1989
North Wilkesboro, Town of	February 18, 1998	FEMA	N/A	N/A	N/A
North Wilkesboro, Town of	February 15, 1978	FIA	U.S. Army Corps of Engineers, Charleston District	IAA-H-7-76	December 1976
Wilkesboro, Town of	August 9, 1999	N/A	N/A	N/A	N/A
Wilkesboro, Town of	February 3, 1993	FEMA	U.S. Army Corps of Engineers, Wilmington District	EMW-90-E-3600	N/A

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.

Section 8.0 – Study Contracting and Community Coordination

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 Wilkes County were compiled from their previous FIS Reports and are shown in Table 16, "Consultation Coordination Officer's Meetings." Dates are not shown for the Town of Ronda because this community never had previously printed FISs.

Table 16—Consultation Coordination Officer's Meetings

Community Name	For FIS Dated	Initial CCO Date	Attended by	Final CCO Date	Attended by
Wilkes County (Unincorporated Areas)	August 9, 1999	*	*	June 27, 1990	Representatives of Hayes, Seay, Mattern & Mattern, FEMA, and Wilkes County
North Wilkesboro, Town of	February 18, 1998	*	*	*	*
North Wilkesboro, Town of	February 15, 1978	May 1, 1976	Representatives of the Town of North Wilkesboro, the U.S. Army Corps of Engineers, and the Flood Insurance Administration	February 24, 1977	Representatives of the Town of North Wilkesboro, the U.S. Army Corps of Engineers, and the Flood Insurance Administration
Wilkesboro, Town of	August 9, 1999	*	*	*	*

Section 8.0 – Study Contracting and Community Coordination

Table 16—Consultation Coordination Officer’s Meetings

Community Name	For FIS Dated	Initial CCO Date	Attended by	Final CCO Date	Attended by
Wilkesboro, Town of	February 3, 1993	*	*	February 4, 1992	Representatives from FEMA, the Town of Wilkesboro, and the U.S. Army Corps of Engineers, Wilmington District

*Data Not Available

A Preliminary Meeting was held in Wilkesboro, North Carolina on March 12, 2008 to disseminate and review the FIS Report and FIRM panels Wilkes County. This meeting was attended by community officials from Wilkes 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 May 8, 2008 to review and discuss the FIS Report and FIRM panels for Wilkes County in a public setting.

The dates of the Initial and Final Scoping Meetings held for Wilkes County are shown in Table 17, “Scoping Meetings.”

Table 17—Scoping Meetings

Community Name	Basin	Initial Scoping Date	Attended by	Final Scoping Date	Attended by
Wilkes County (Unincorporated Areas)	Yadkin	November 18, 2003	Representatives of the State, Dewberry, Wilkes County, and the Towns of North Wilkesboro, Ronda, and Wilkesboro	January 19, 2006	Representatives of the State, Dewberry, and Wilkes County
North Wilkesboro, Town of	Yadkin	November 18, 2003	Representatives of the State, Dewberry, Wilkes County, and the Towns of North Wilkesboro, Ronda, and Wilkesboro	January 19, 2006	Representatives of the State, Dewberry, and Wilkes County
Ronda, Town of	Yadkin	November 18, 2003	Representatives of the State, Dewberry, Wilkes County, and the Towns of North Wilkesboro, Ronda, and Wilkesboro	January 19, 2006	Representatives of the State, Dewberry, and Wilkes County

Section 8.0 – Study Contracting and Community Coordination

Table 17—Scoping Meetings

Community Name	Basin	Initial Scoping Date	Attended by	Final Scoping Date	Attended by
Wilkesboro, Town of	Yadkin	November 18, 2003	Representatives of the State, Dewberry, Wilkes County, and the Towns of North Wilkesboro, Ronda, and Wilkesboro	January 19, 2006	Representatives of the State, Dewberry, and Wilkes County

*Data Not Available

Section 9.0 – Guide to Additional Information

FISs have been prepared for Alexander County and Incorporated Areas (FEMA, 2007) and Iredell County and Incorporated Areas (FEMA, 2008). Countywide FISs to accompany the Statewide FIRM are being prepared for Alleghany County and Incorporated Areas (FEMA, 2004), Ashe County and Incorporated Areas (FEMA, 1999), Caldwell County and Incorporated Areas (FEMA, 1998), Watauga County and Incorporated Areas (FEMA, 1998), and Yadkin County and Incorporated Areas (FEMA, 1991). 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 18, “Additional Information,” contains useful contact information regarding this FIS, the FIRM, and data.

Table 18—Additional Information

FEMA and the NFIP	
FEMA website	www.fema.gov
NFIP Internet website	http://www.fema.gov/business/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/
NCGS website	www.ncgs.state.nc.us/
NCFMP website	www.ncfloodmaps.com

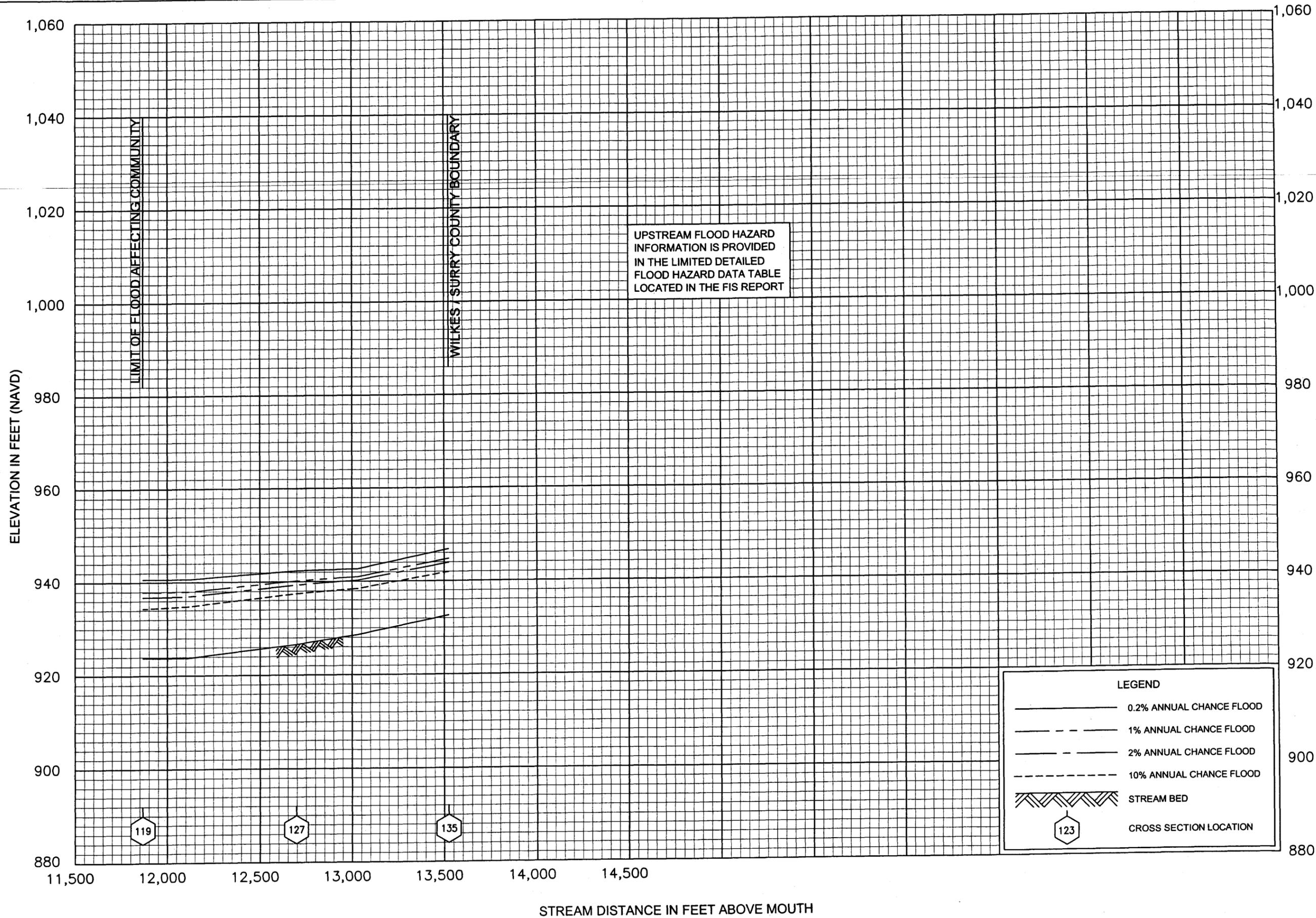


Section 10.0 – Bibliography and References

- Federal Emergency Management Agency. (March 18, 2008). Flood Insurance Study, Iredell County, North Carolina and Incorporated Areas. Washington, D.C.
- Federal Emergency Management Agency. (December 18, 2007). Flood Insurance Study, Alexander County, North Carolina and Incorporated Areas. Washington, D.C.
- Federal Emergency Management Agency. (February 1, 2004). Flood Insurance Rate Maps, Alleghany County (Unincorporated Areas). Washington D.C. Currently being revised.
- Federal Emergency Management Agency. (October 20, 1999). Flood Insurance Study, Ashe County (Unincorporated Areas). Washington D.C. Currently being revised.
- Federal Emergency Management Agency. (September 21, 1998). Flood Insurance Study, Watauga County and Incorporated Areas. Washington D.C. Currently being revised.
- Federal Emergency Management Agency. (August 3, 1998). Flood Insurance Study, Caldwell County, North Carolina and Incorporated Areas. Washington, D.C. Currently being revised.
- Federal Emergency Management Agency. (May 15, 1991). Flood Insurance Study, Yadkin County, North Carolina (Unincorporated Areas). Washington, D.C. Currently being revised.
- Federal Emergency Management Agency. (September 15, 1989). Flood Insurance Study, Surry County, North Carolina (Unincorporated Areas). Washington, D.C. Currently being revised.
- U.S. Army Corps of Engineers, Hydraulic Engineering Center. (June, 2004). HEC-RAS step-backwater computer program version 3.1.2. Davis, California.
- U.S. Army Corps of Engineers, Hydrologic Engineering Center. (September 1990). HEC-2 Water Surface Profiles, Users Manual. Davis, California.
- U.S. Army Corps of Engineers. (January 1973). HEC-1 Flood Hydrograph Package, Users Manual. Davis, California.
- U.S. Army Corps of Engineers. (March 1960). Routing of Floods Through River Channels, EM 1110-2-1408. Davis, California.
- U.S. Army Corps of Engineers. (August 1959). Flood Hydrograph Analyses and Computations, EM 1110-2-1405.
- U.S. Department of the Interior, Geological Survey. (2001). Water Resources Investigations Report 01-4207, Estimating the Magnitude and Frequency of Floods in Rural Basins in North Carolina – Revised. J.C. Robbins, B.F. Pope, and G.D. Tasker (authors).
- U.S. Department of the Interior, Geological Survey. (1996). Water Resources Investigations Report 96-4084, Estimation of Flood Frequency Characteristics of Small Urban Streams in North Carolina. J.C. Robbins and B.F. Pope (authors).

Section 10.0 – Bibliography and References

- U.S. Geological Survey, Interagency Advisory Committee on Water Data, Office of Water Data Collection, Hydrology Subcommittee. (March 1982). Bulletin No. 17B, Guidelines for Determining Flood Flow Frequency. Reston, Virginia.
- U.S. Geological Survey. (1972). Effects of Urban Development on Floods in the Piedmont Province of North Carolina. Arthur L. Putnam.
- U.S. Geological Survey. 7.5 Minute Series Topographic Maps. Scale 1:24,000, Contour Interval 10 feet: Roaring River, North Carolina, 1966; Wilkesboro, North Carolina, 1966.



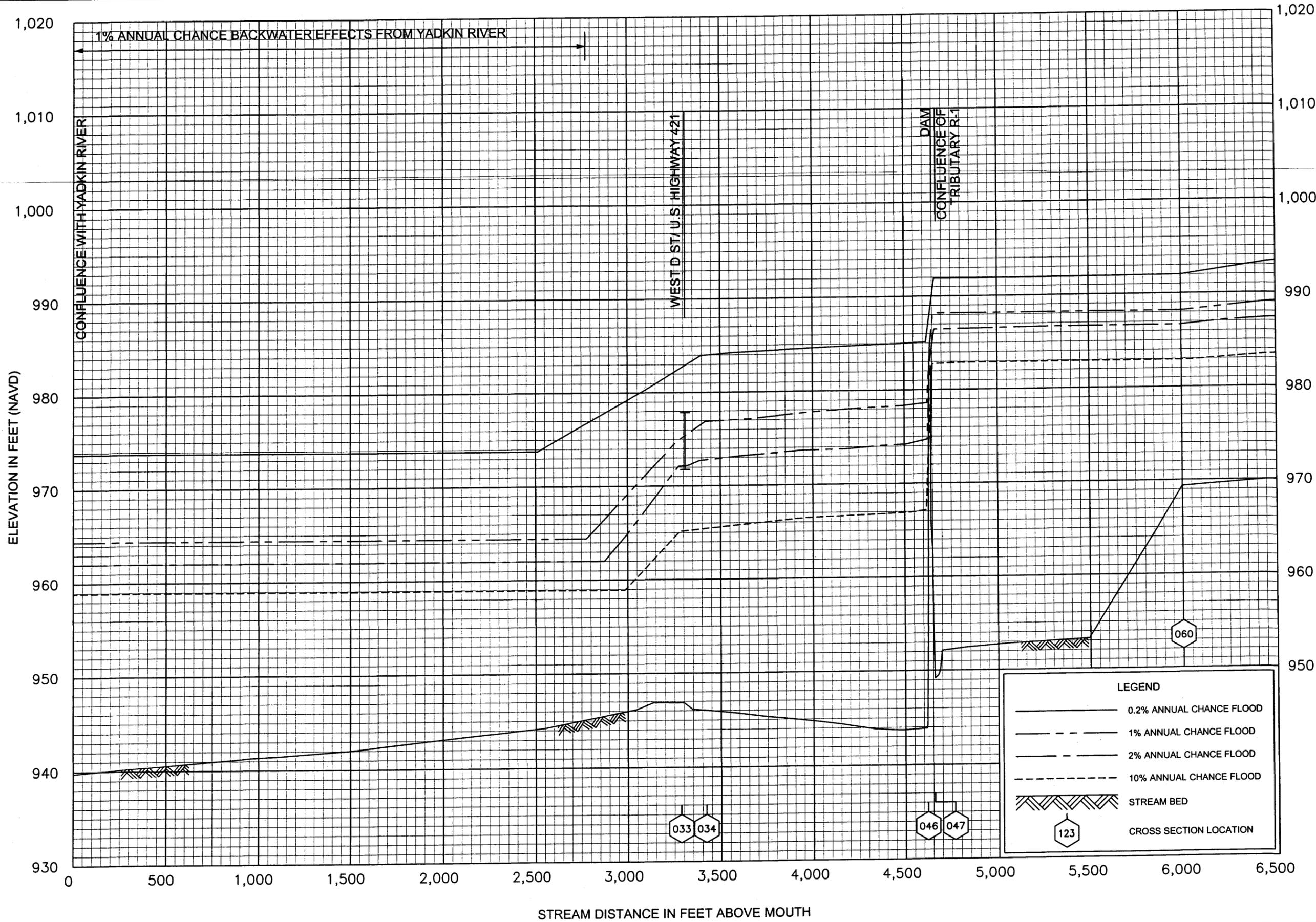
FLOOD PROFILES

ELKIN CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

WILKES COUNTY, NC
AND INCORPORATED AREAS

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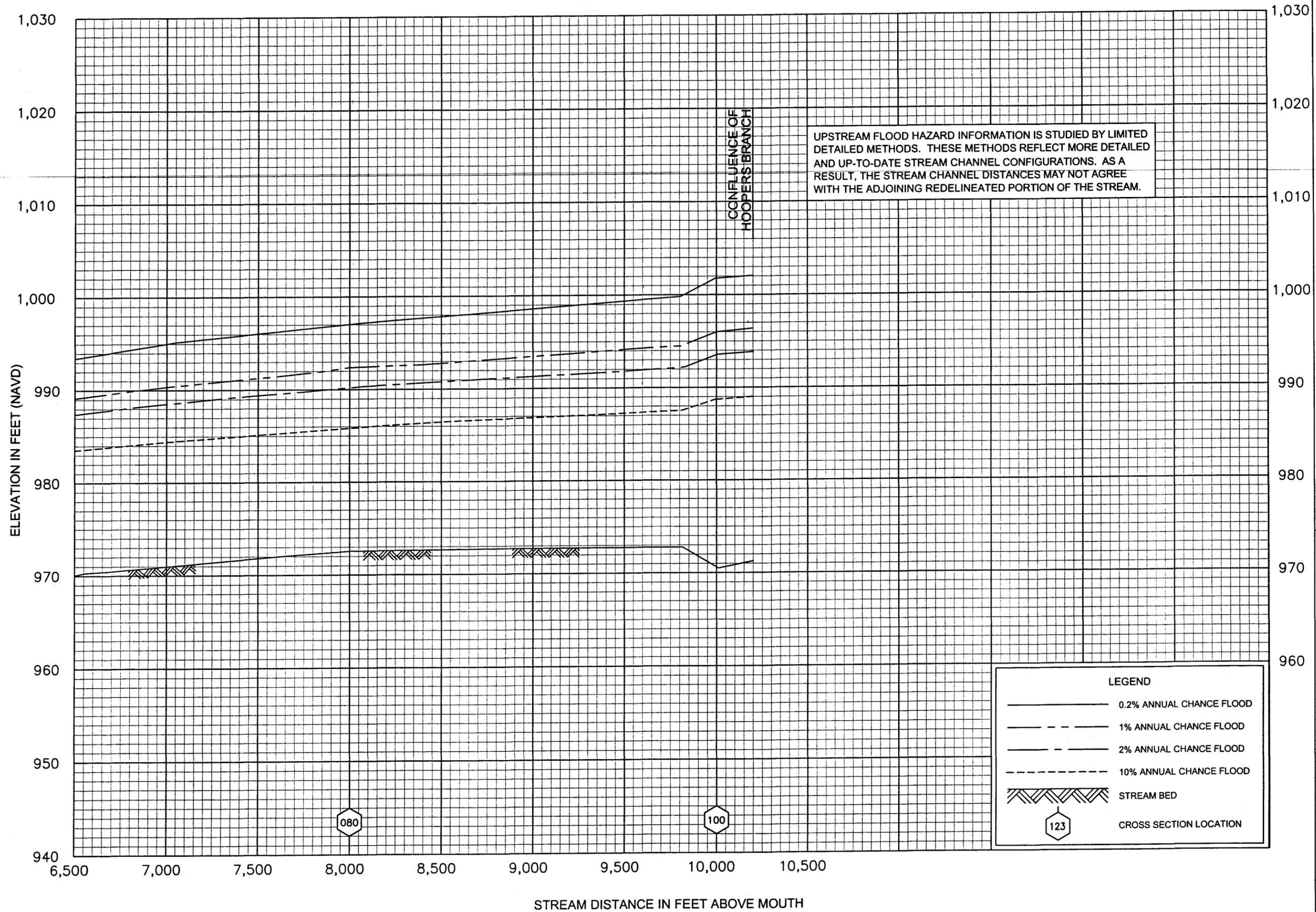
FLOOD PROFILES

REDDIES RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

WILKES COUNTY, NC
AND INCORPORATED AREAS

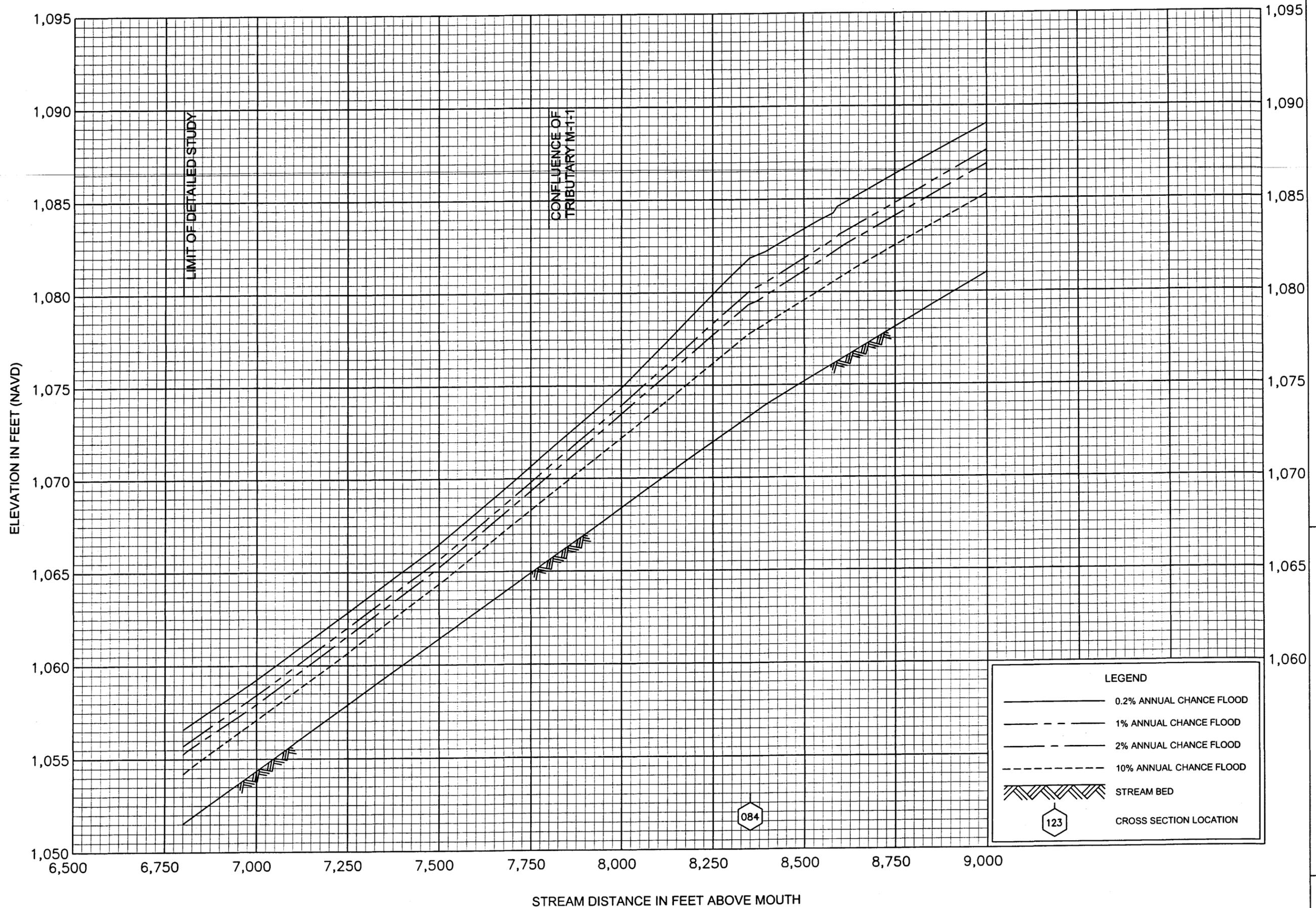
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WILKES COUNTY, NC
AND INCORPORATED AREAS

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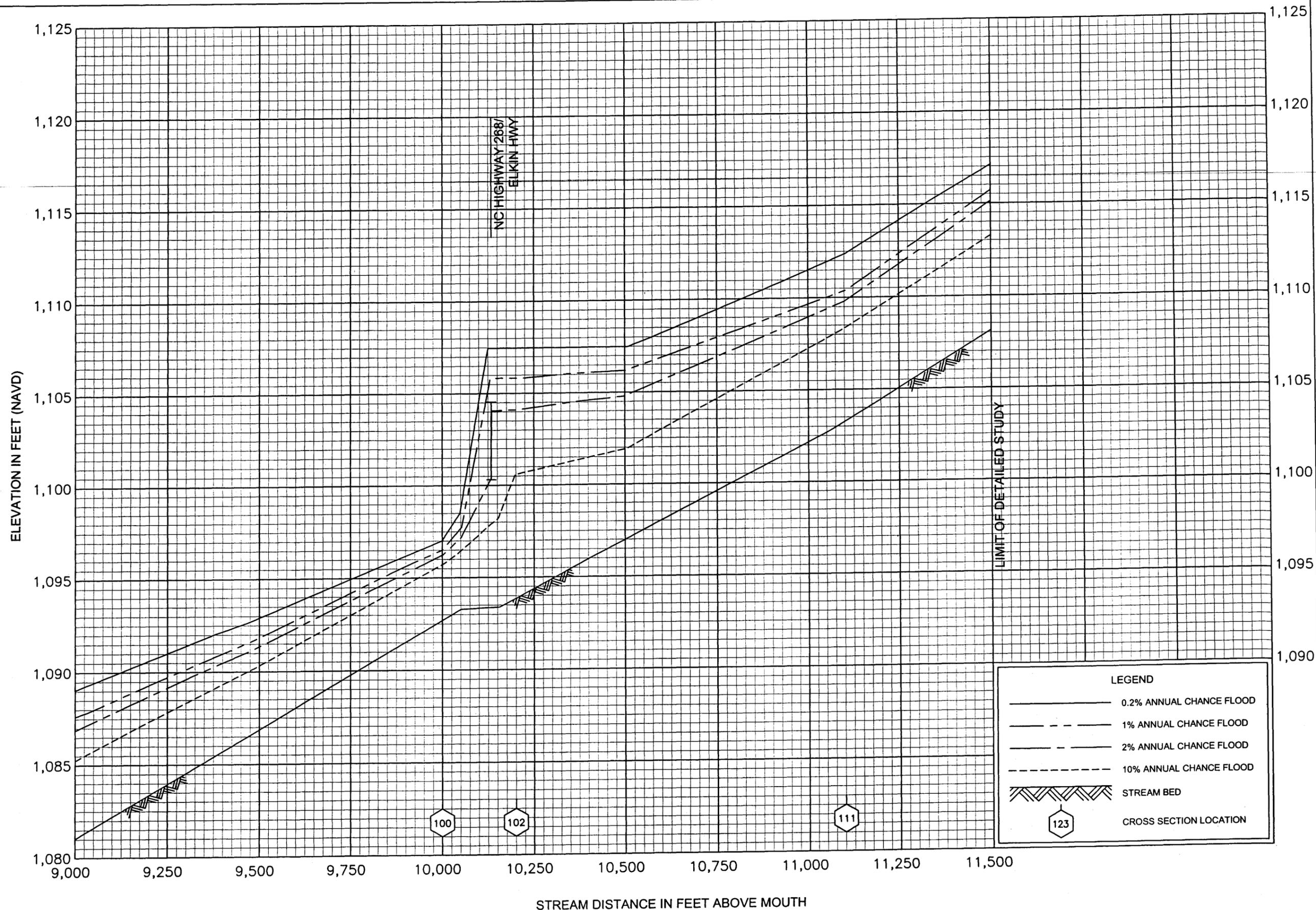


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AND INCORPORATED AREAS



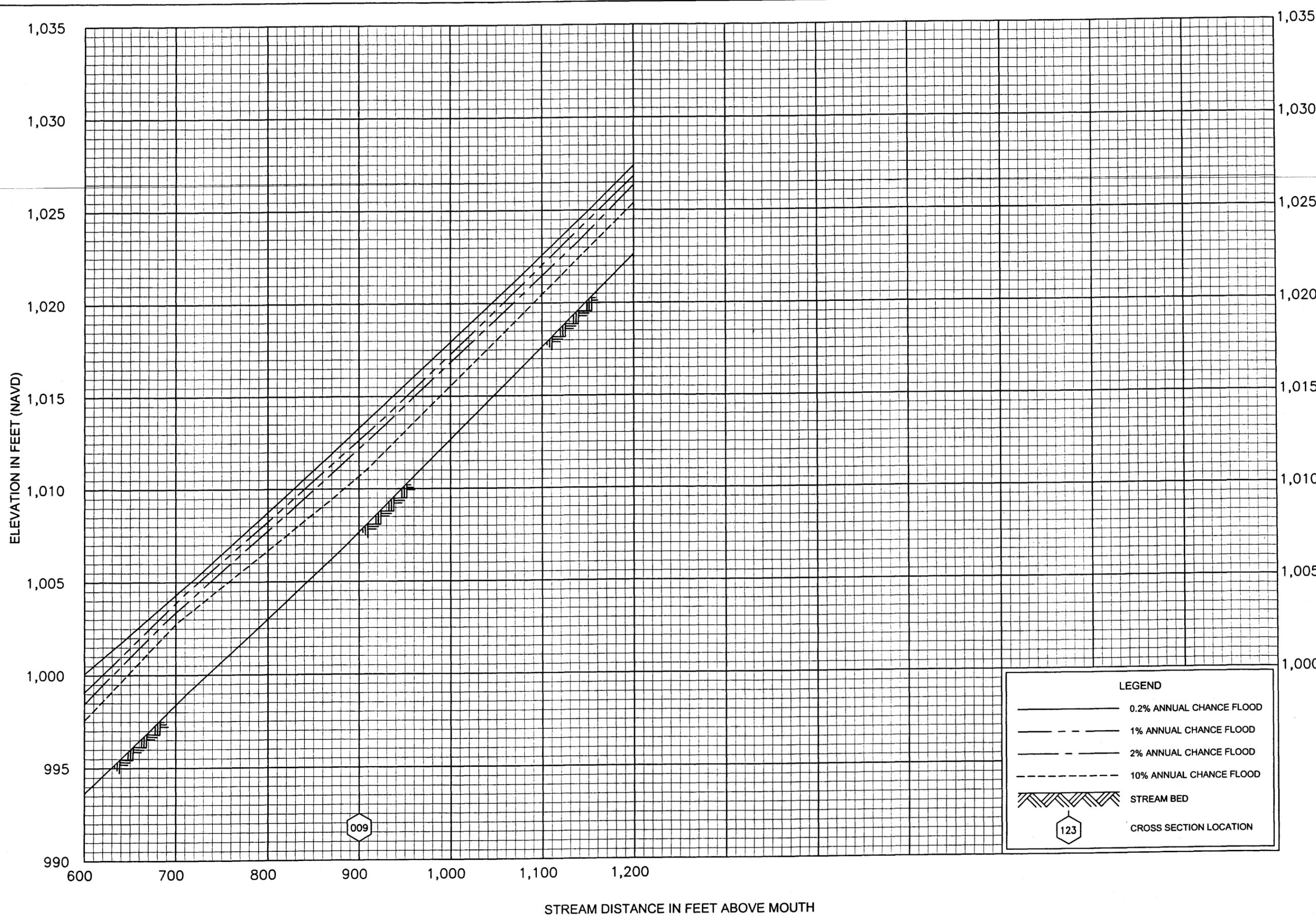
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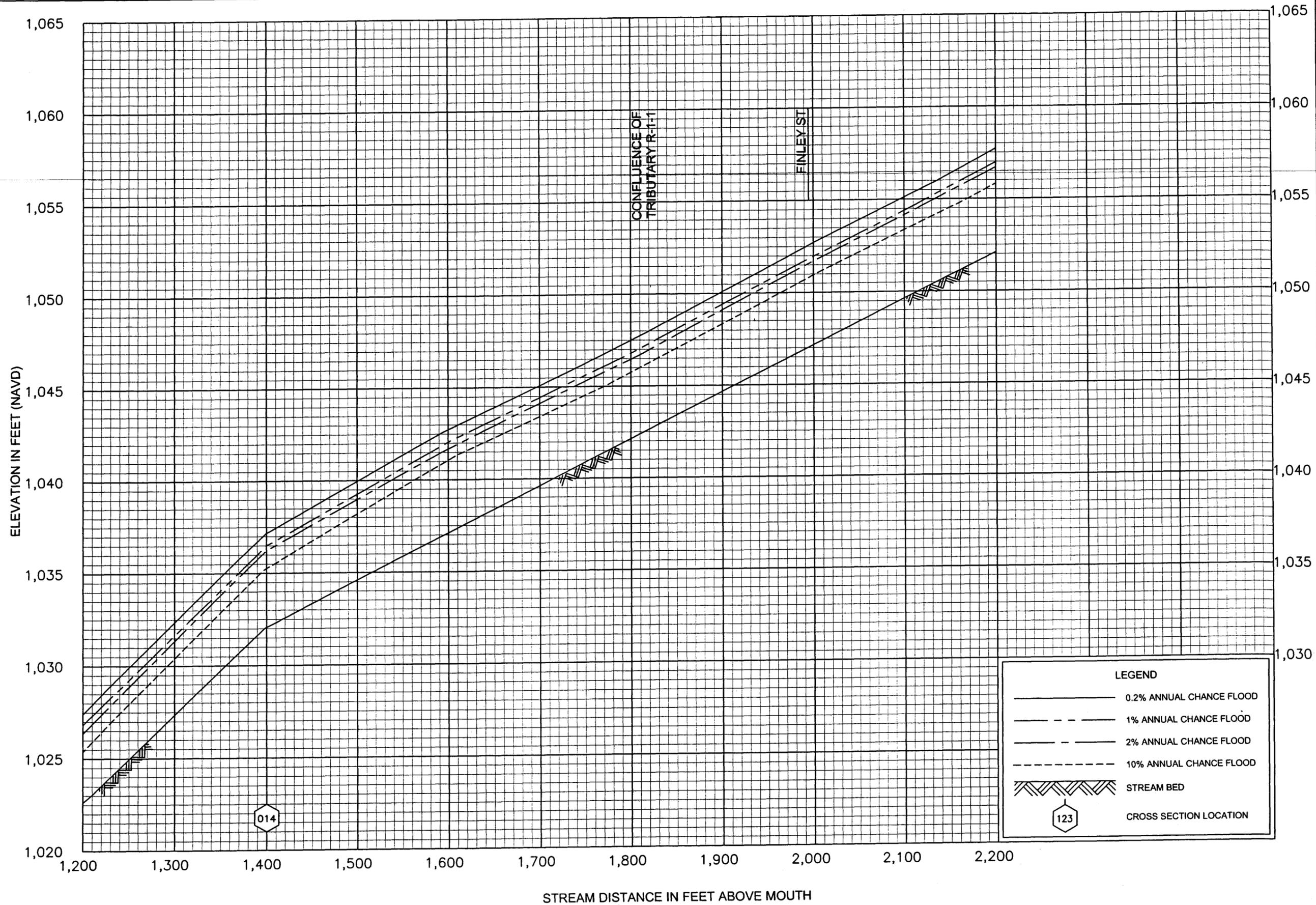
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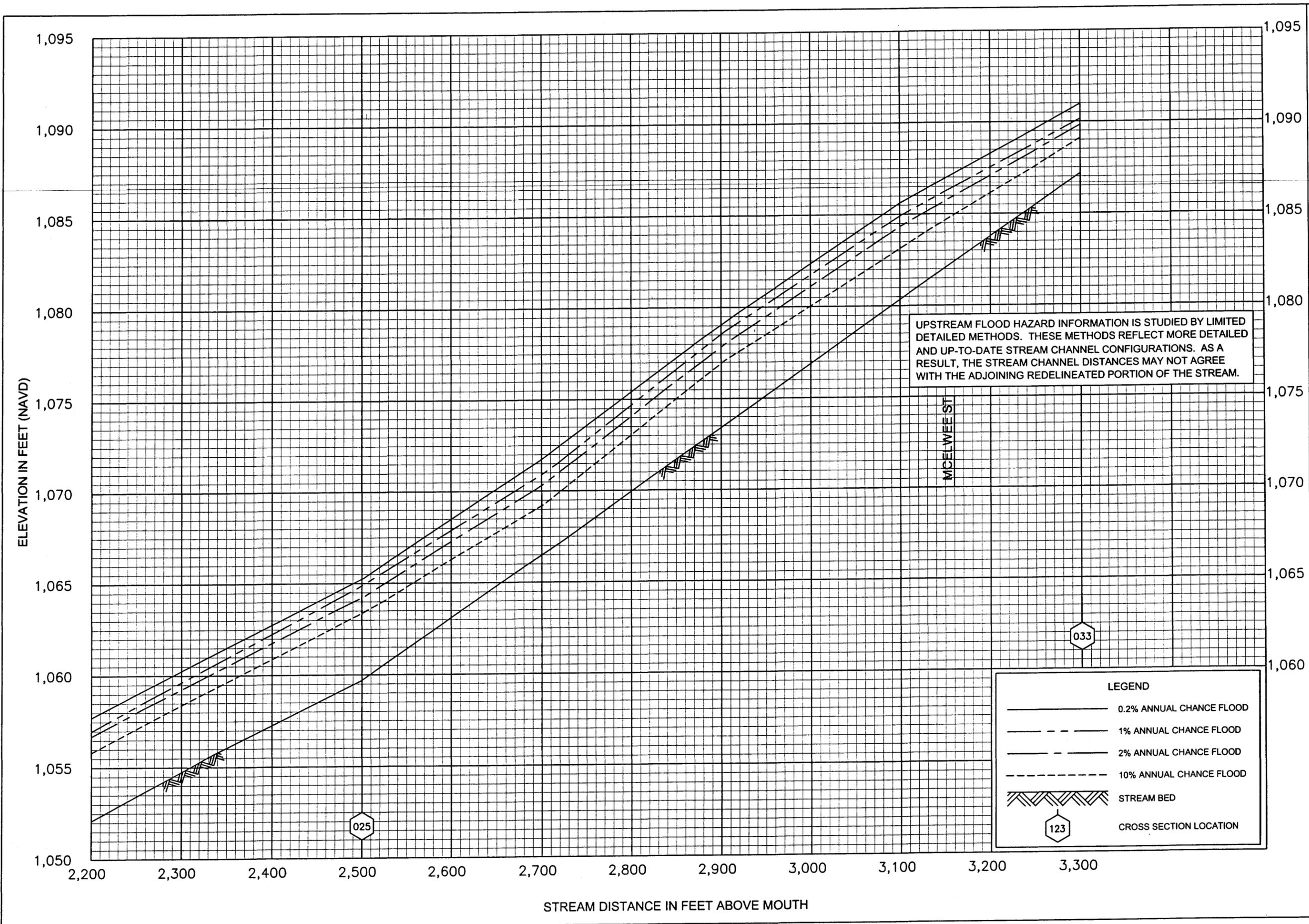
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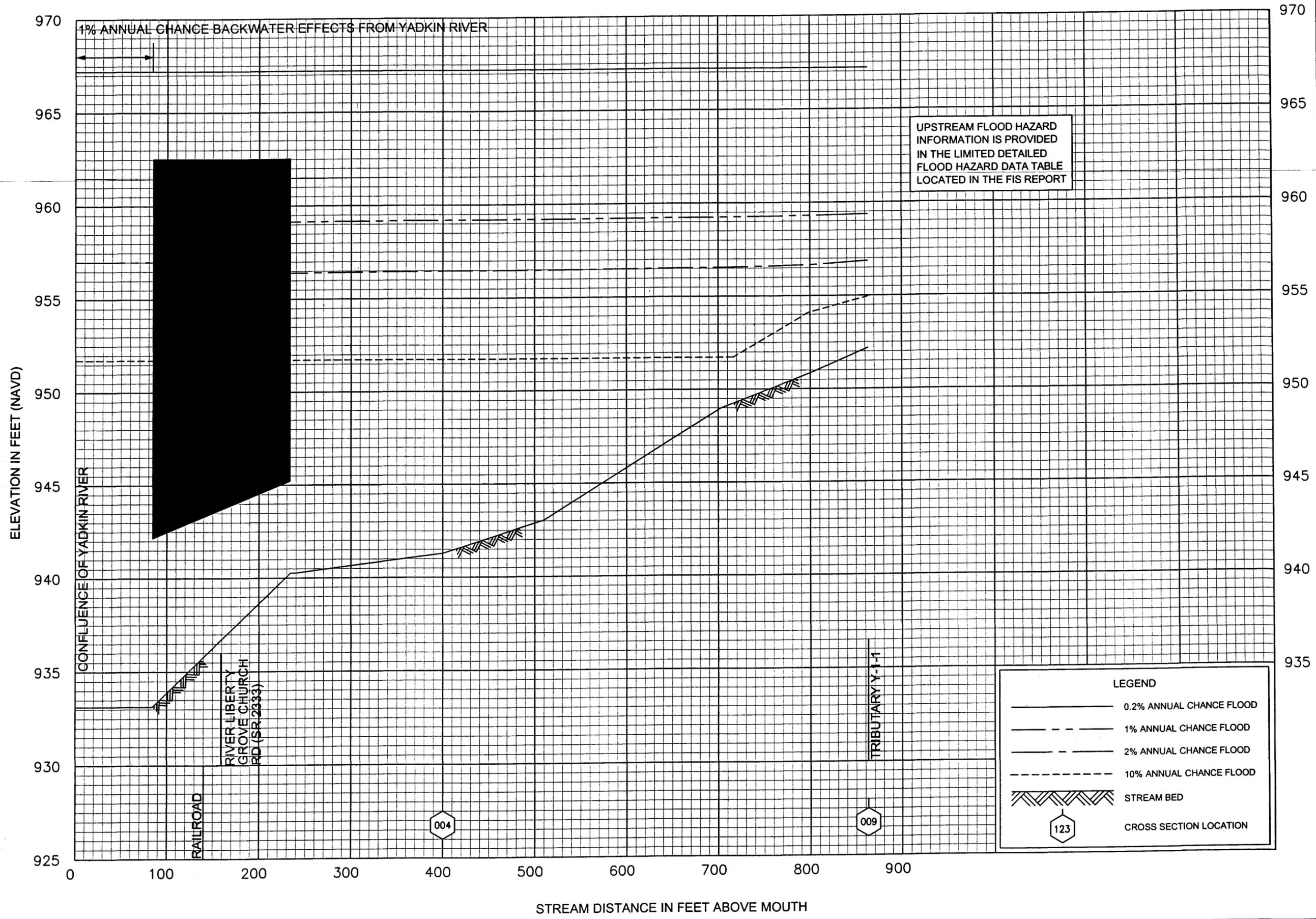
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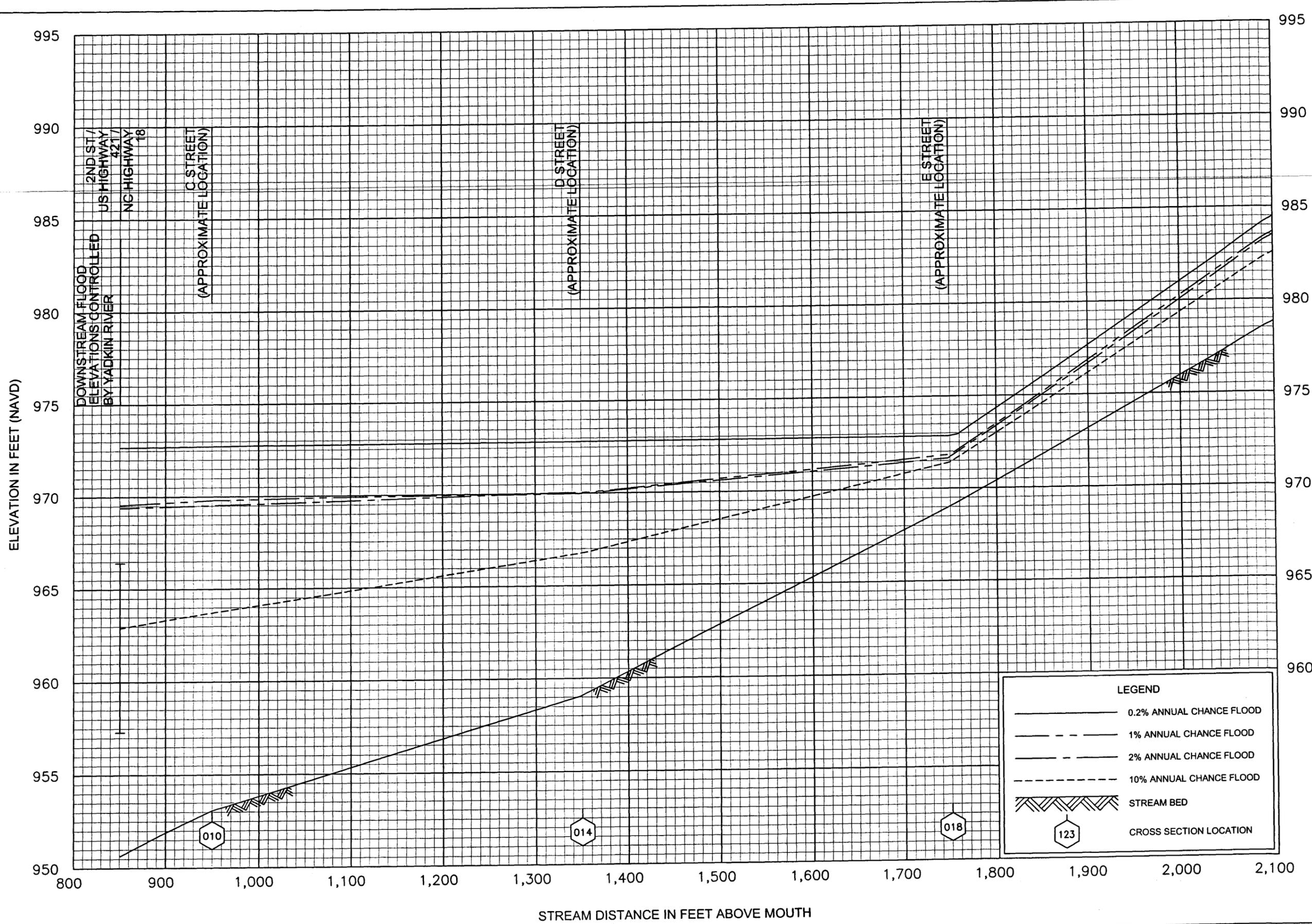


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AND INCORPORATED AREAS**

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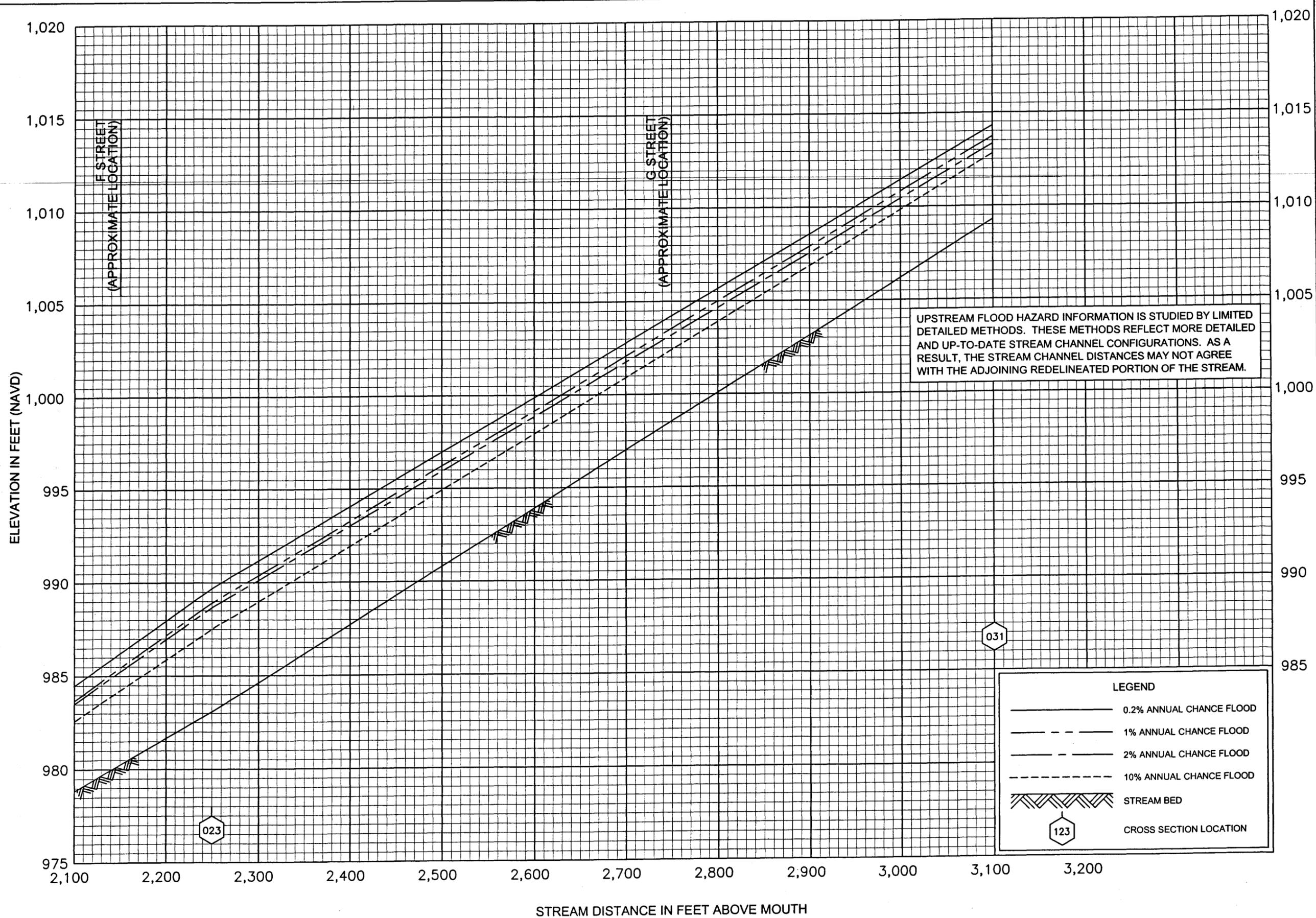


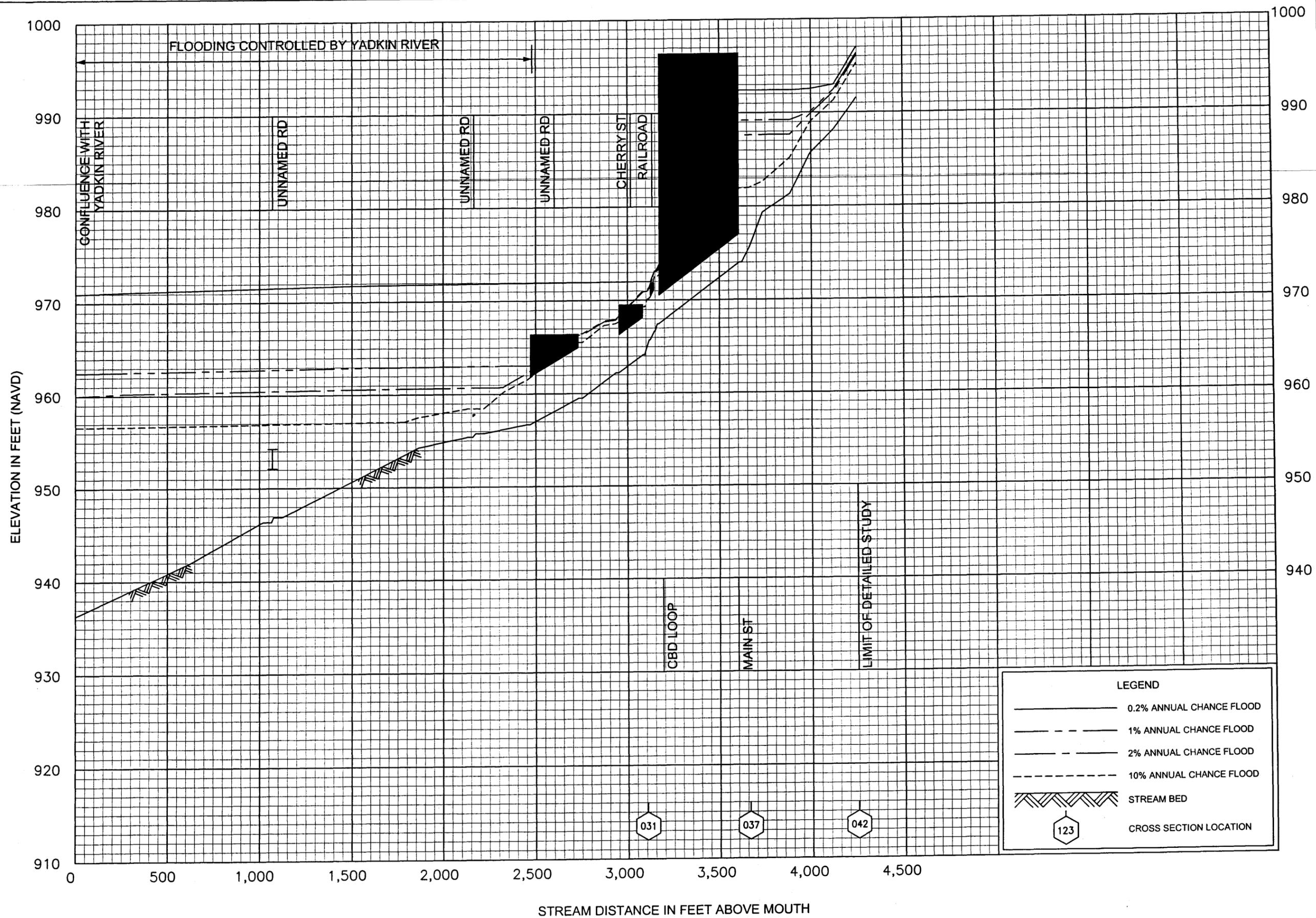
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AND INCORPORATED AREAS

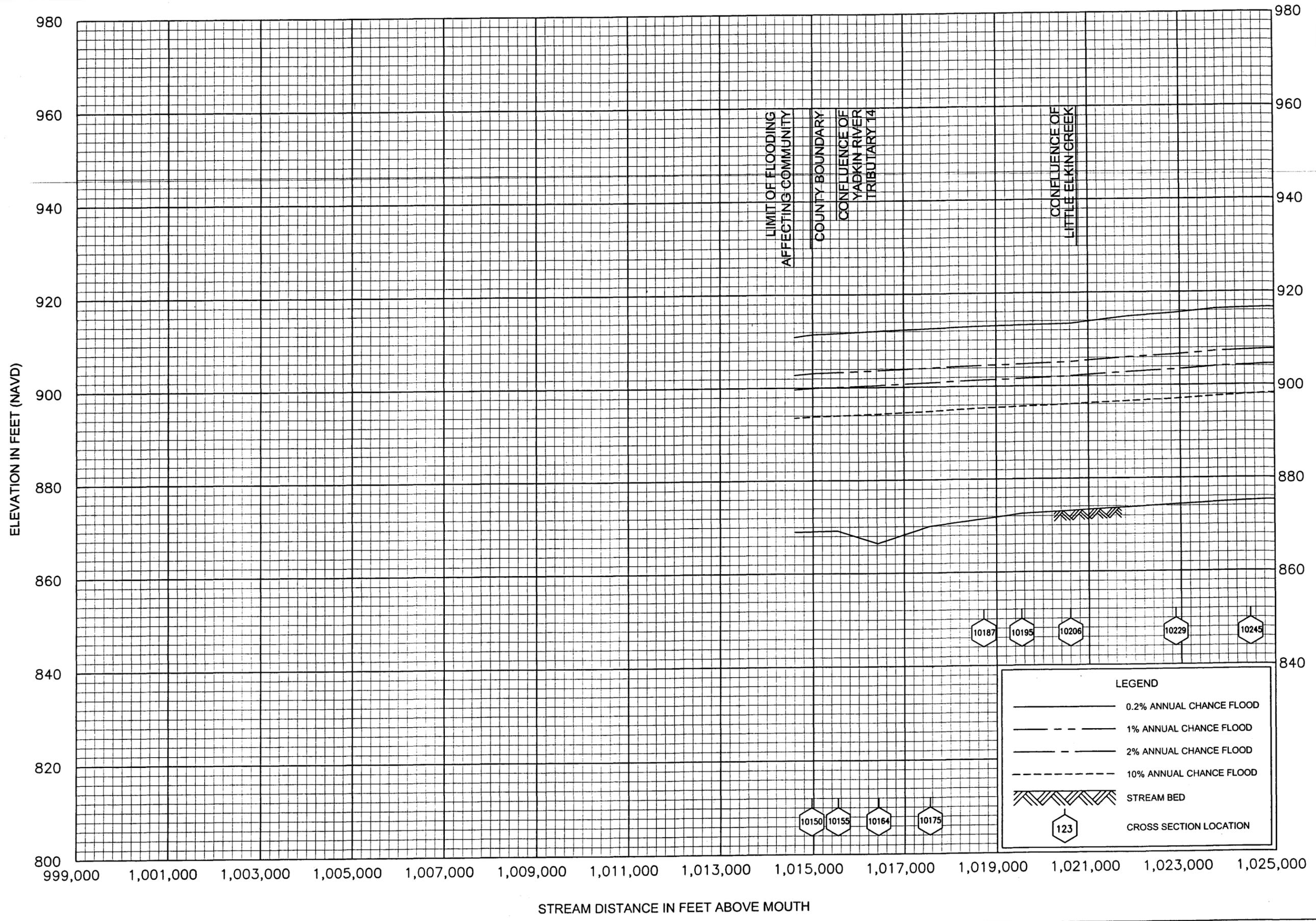




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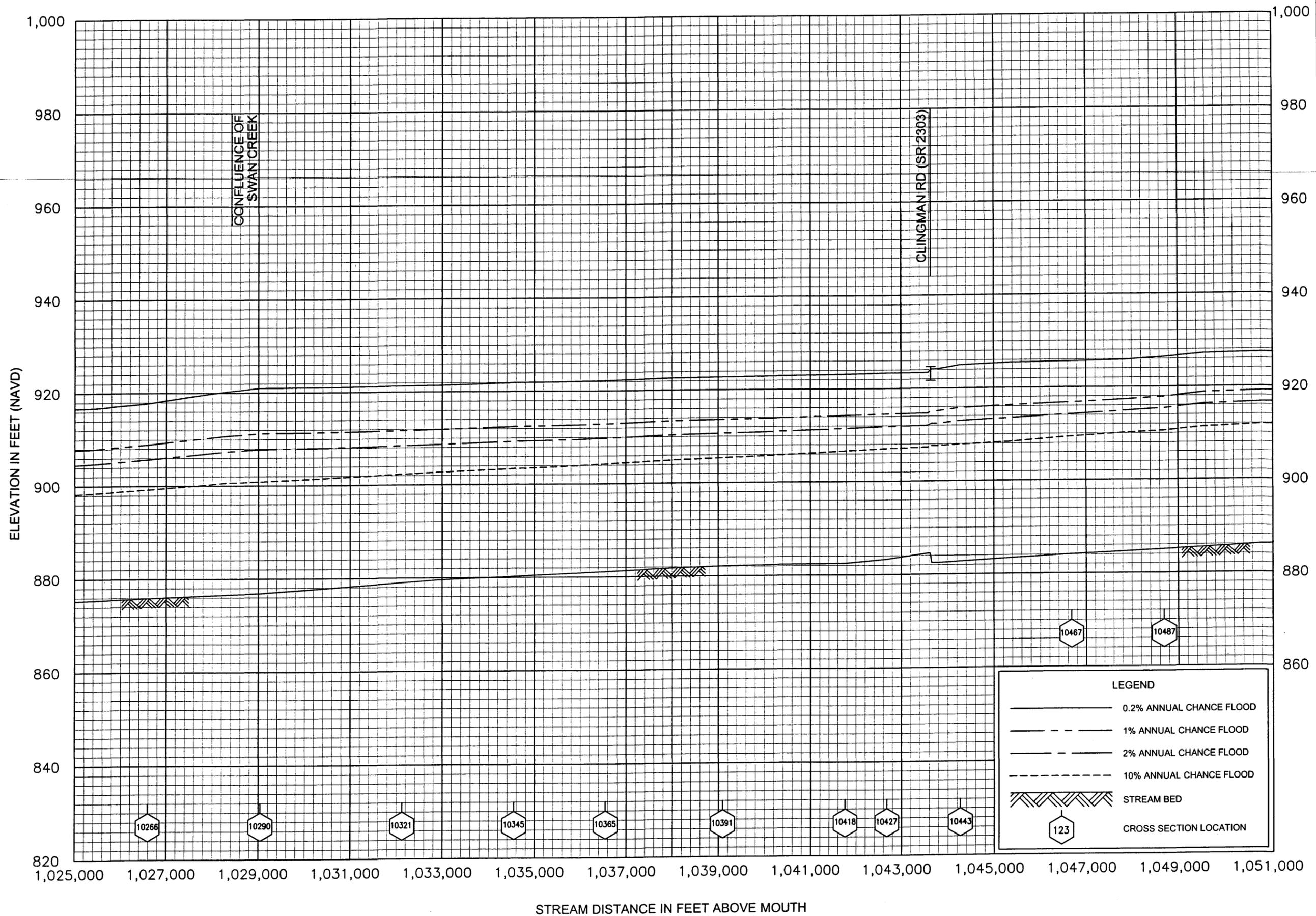


FLOOD PROFILES

YADKIN RIVER

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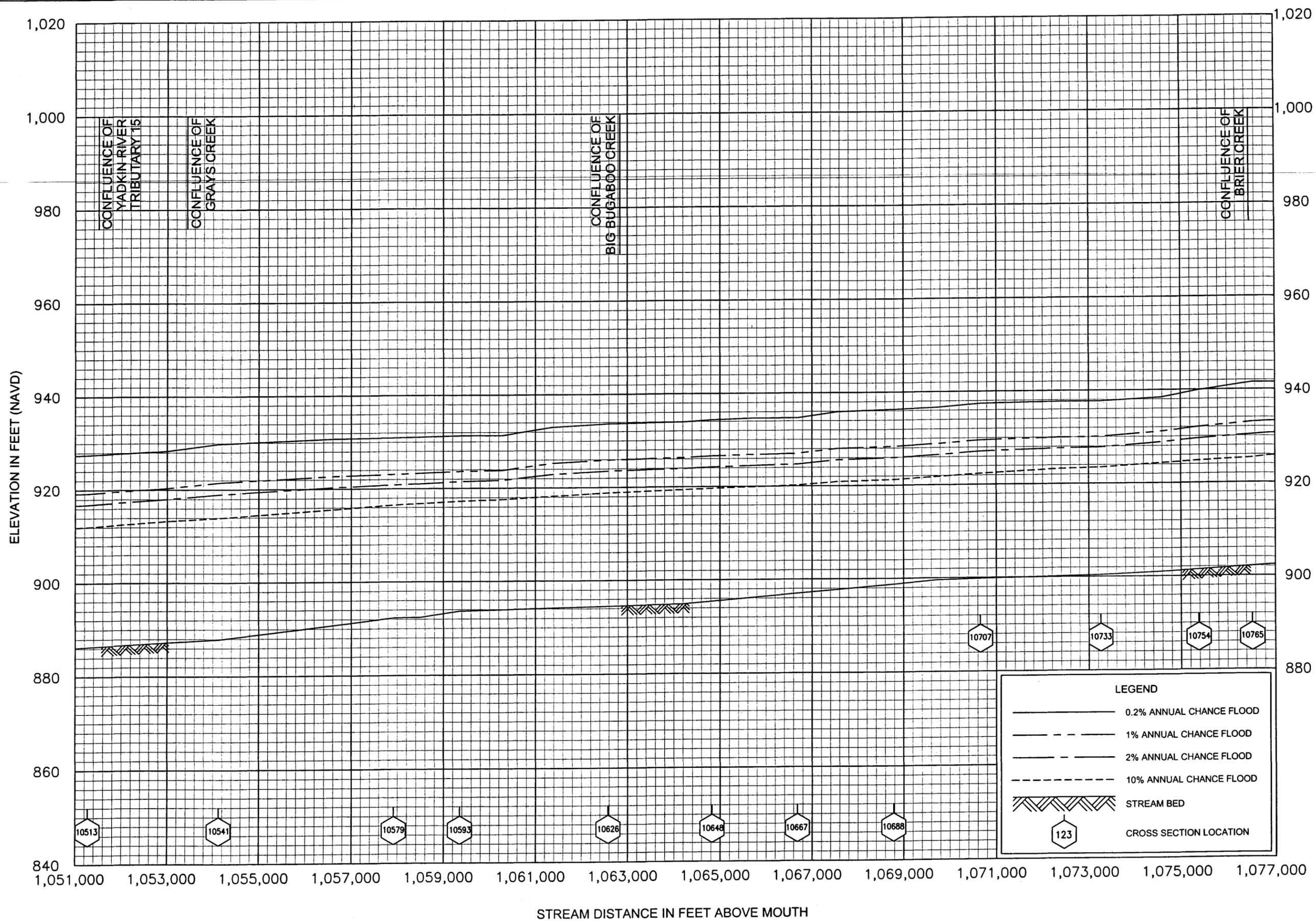


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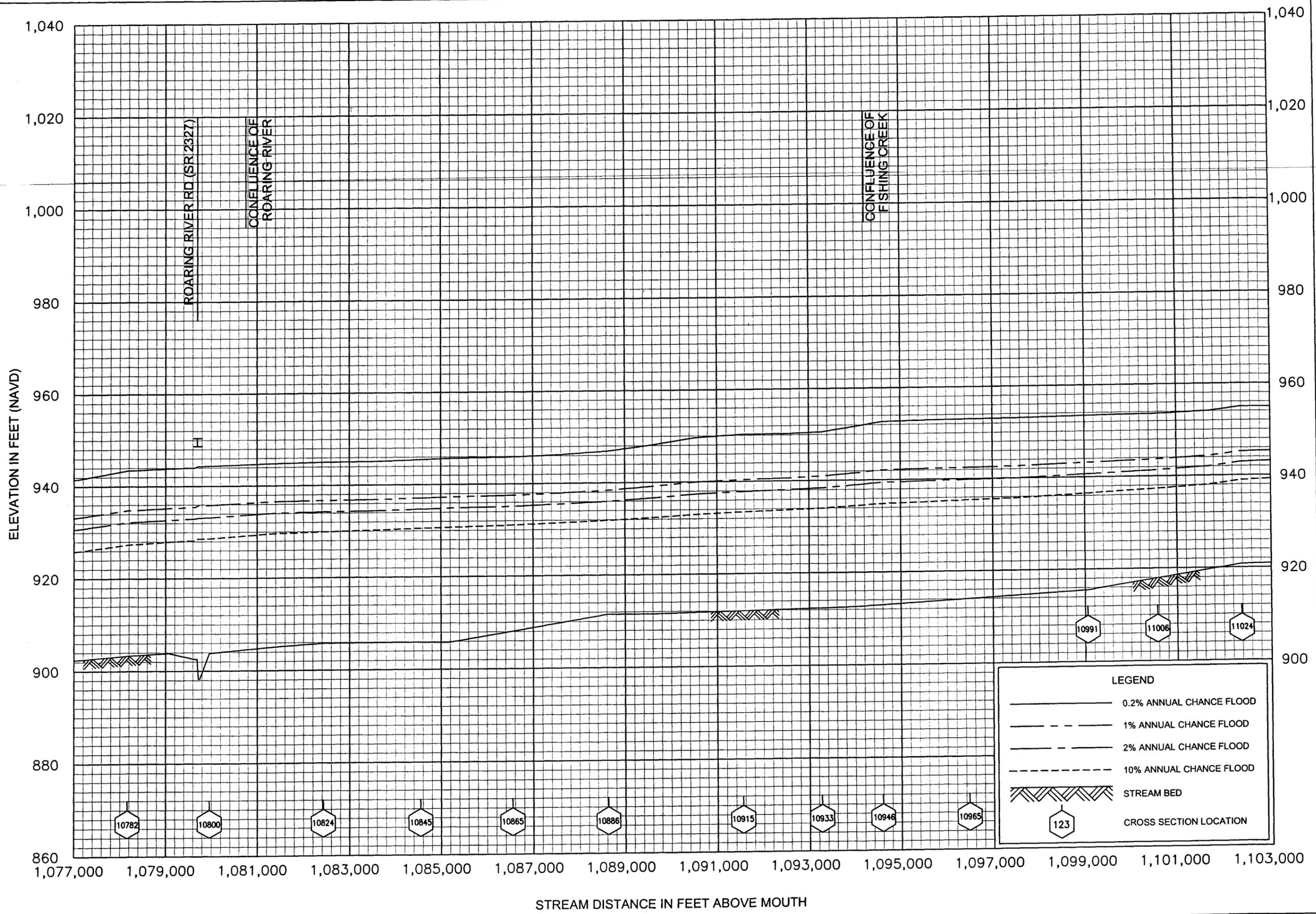


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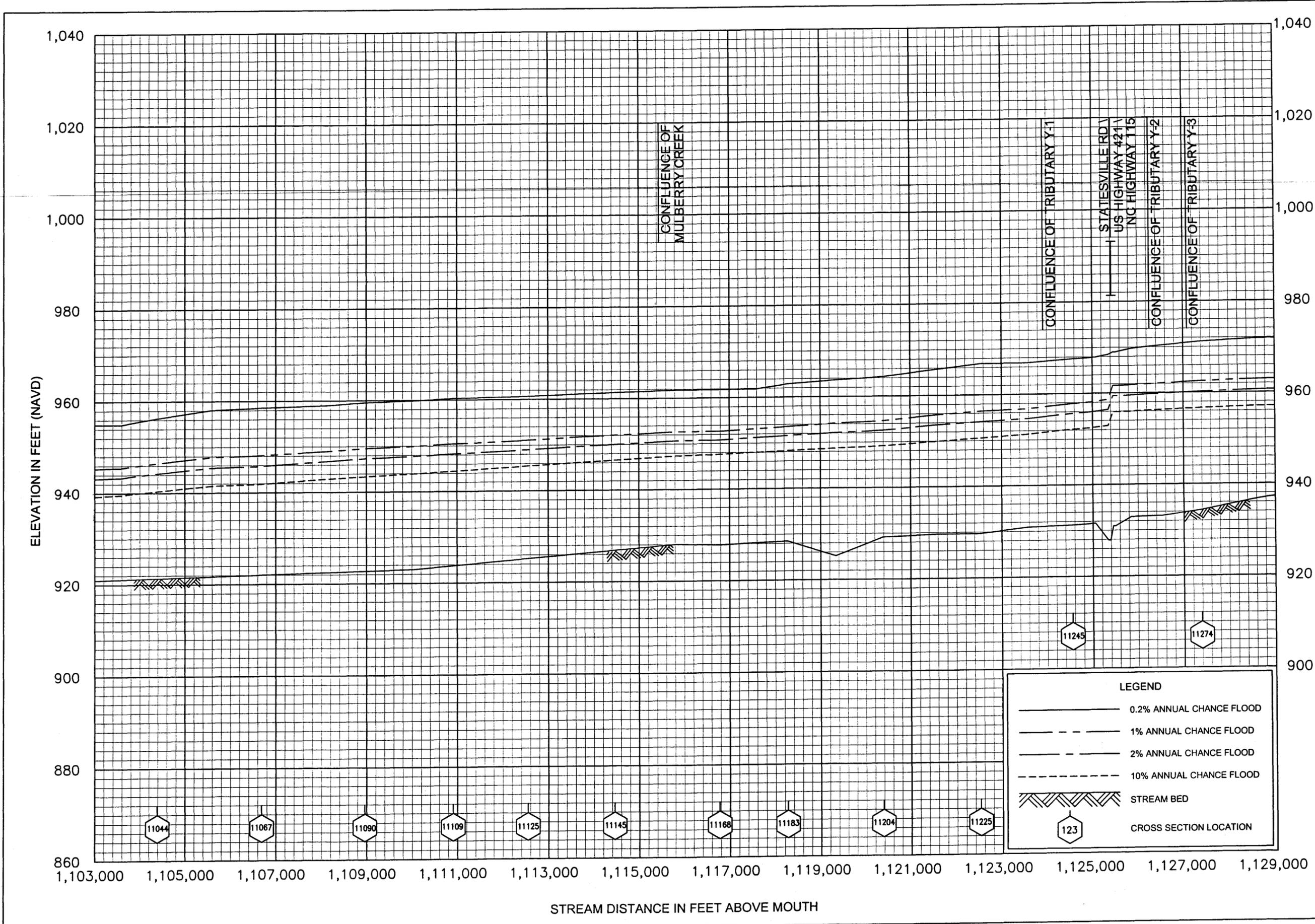


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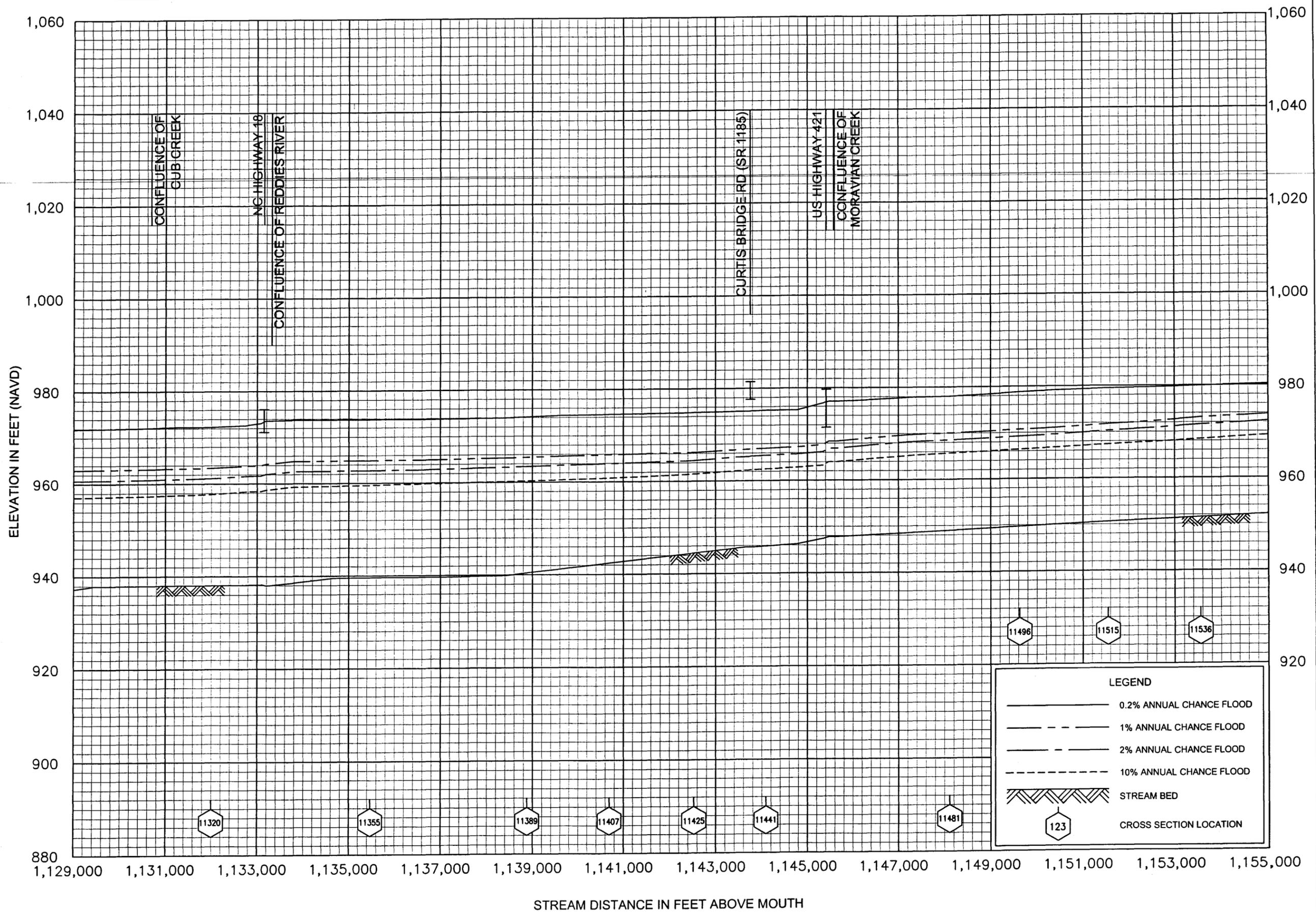
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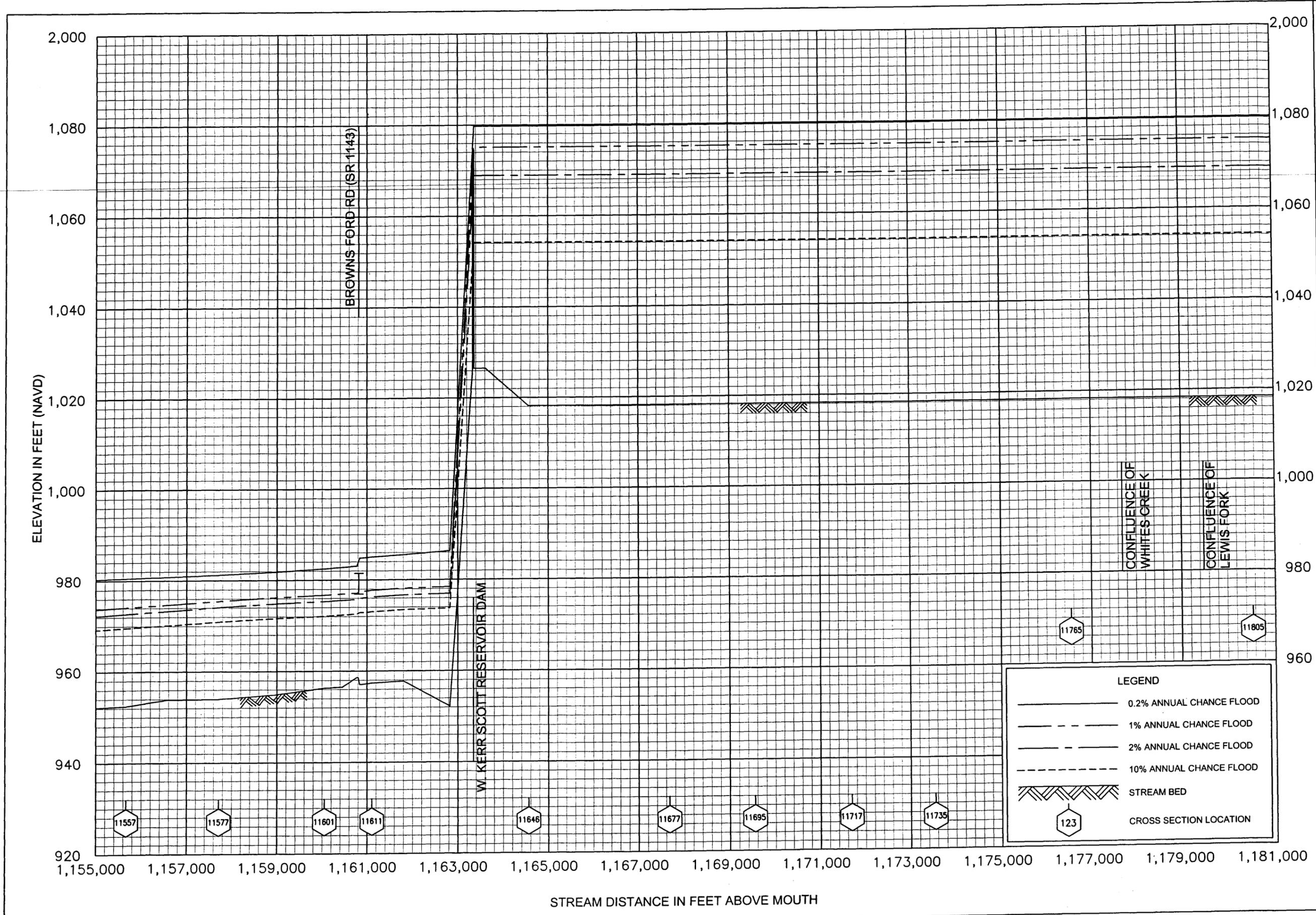


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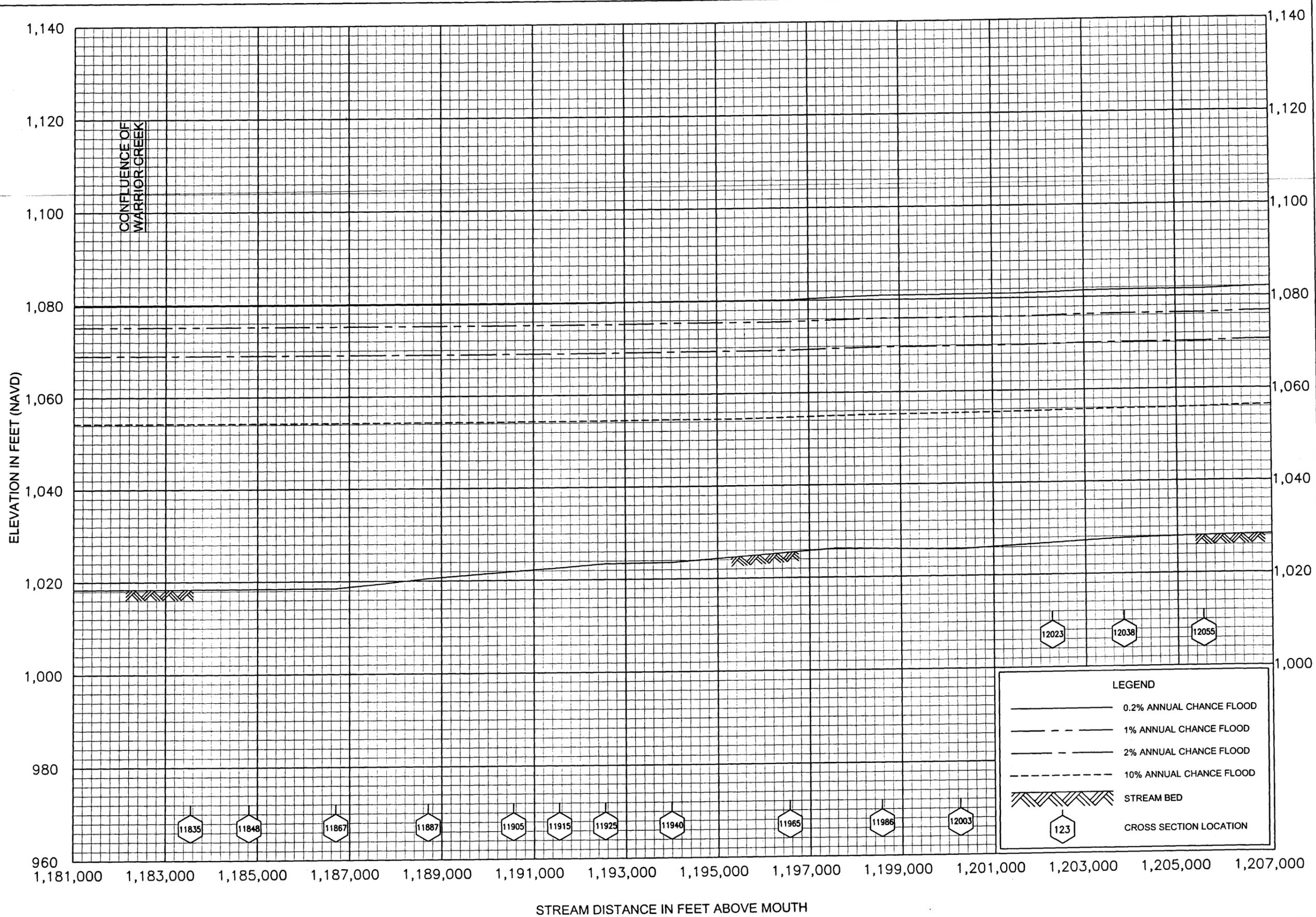
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AND INCORPORATED AREAS

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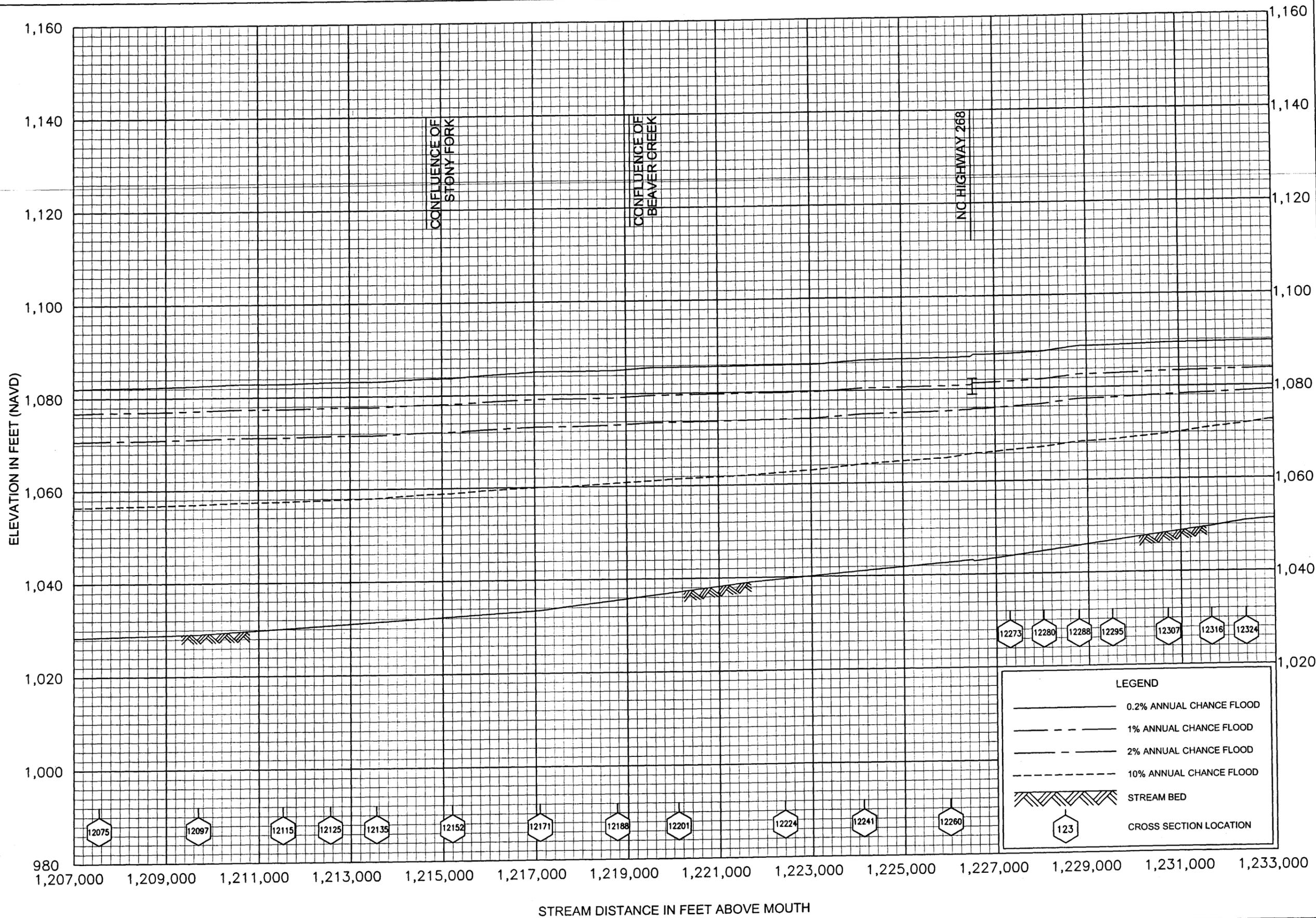
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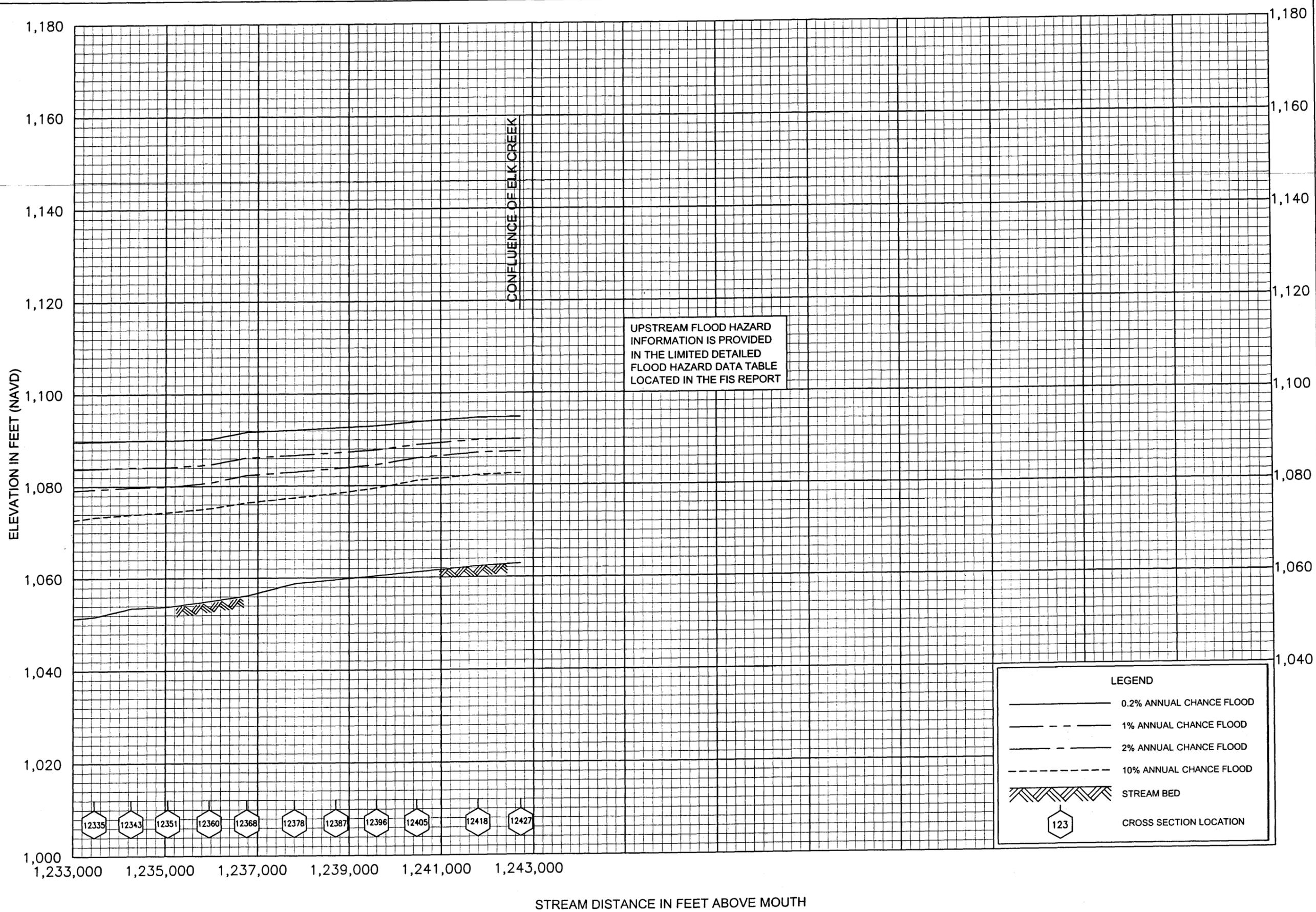
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