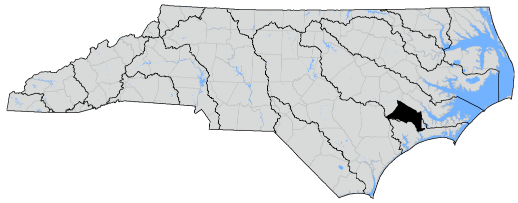
PRELIMINARY FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

A Report of Flood Hazards in

JONES COUNTY, NORTH CAROLINA AND INCORPORATED AREAS



Community Name	Community Number
JONES COUNTY	370379
TOWN OF MAYSVILLE	370330
TOWN OF POLLOCKSVILLE	370142
TOWN OF TRENTON	370141

NORTH CAROLINA
Cooperating Technical State
FEMA'S COOPERATING TECHNICAL PARTNER

PRELIMINARY: 6/30/2016

REVISED: 6/30/2016

Federal Emergency Management Agency

State of North Carolina

Flood Insurance Study Number

37103CV000

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.

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:

Date	Reason
7/2/2004	Initial Countywide FIS Report Effective Date

This FIS has been produced as part of the North Carolina Floodplain Mapping Program. Jones 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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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 Jones County and the jurisdictions therein (hereinafter referred to collectively as Jones 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 Jones County, North Carolina, including the jurisdictions listed in Table 1.

Table 1 - Jurisdictions in Jones County

Community	Included in this FIS	If Not Included, Location of Flood Hazard/Flood Insurance Rate Data
JONES COUNTY	Yes	*
TOWN OF MAYSVILLE	Yes	*
TOWN OF POLLOCKSVILLE	Yes	*
TOWN OF TRENTON	Yes	*

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 and/or Water-surface elevation rasters.

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.

1.4 Considerations for Using this Flood Insurance Study Report

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

It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 27, "Map Repositories," within this FIS Report.

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

The Initial Countywide FIS Report for Jones became Effective on 7/2/2004. Refer to Table XX for information about subsequent revisions to FIRMs.

Selected FIRM panels for the community may contain information (such as floodways and cross sections) that was previously shown separately on the corresponding Flood Boundary and Floodway Map panels. In addition, former flood hazard zone designations have been changed as follows:

Old Zone	New Zone
A1 through A30	AE
V1 through V30	VE
B	X (shaded)
C	X (unshaded)

FEMA does not impose floodplain management requirements or special insurance ratings based on Limit of Moderate Wave Action (LiMWA) delineations at this time. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. If the LiMWA is shown on the FIRM, it is being provided by FEMA as information only. For communities that do adopt Zone VE building standards in the area defined by the LiMWA, additional Community Rating System (CRS) credits are available. Refer to Section 2.5.4 for additional information about the LiMWA.

The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Visit the FEMA Web site at http://www.fema.gov or contact your appropriate FEMA Regional Office for more information about this program.

Previous FIS Reports and FIRMs may have included levees that were accredited as reducing the risk associated with the 1% annual chance flood based on the information available and the mapping standards of the NFIP at that time. For FEMA to continue to accredit the identified levees, the levees must meet the criteria of the Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10), titled "Mapping of Areas Protected by Levee Systems.

Since the status of levees is subject to change at any time, the user should contact the appropriate agency for the latest information regarding levees presented in Table 9 of this FIS Report. For levees owned or operated by the U.S. Army Corps of Engineers (USACE), information may be obtained from the USACE national levee database. For all other levees, the user is encouraged to contact the appropriate local community.

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

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.

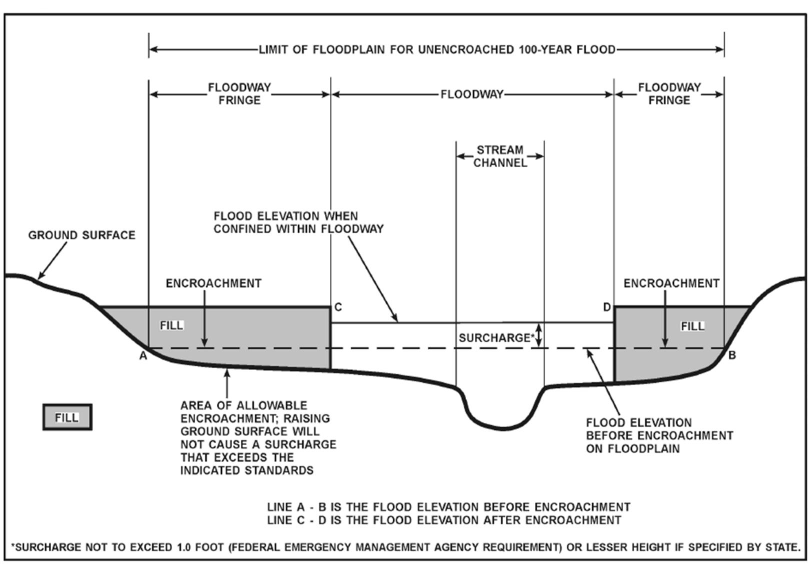

Figure 1- Floodway Schematic

2.3 Base Flood Elevations

The hydraulic characteristics of flooding sources were analyzed to provide estimates of the elevations of floods of the selected recurrence intervals. The Base Flood Elevation (BFE) is the elevation of the 1% annual chance flood. These BFEs are most commonly rounded to the whole foot, as shown on the FIRM, but in certain circumstances or locations they may be rounded to 0.1 foot. Cross section lines shown on the FIRM may also be labeled with the BFE rounded to 0.1 foot. Whole-foot BFEs derived from engineering analyses that apply to coastal areas, areas of ponding, or other static areas with little elevation change may also be shown at selected intervals on the FIRM. Cross sections with BFEs shown on the FIRM correspond to the cross sections shown in the Floodway Data table and Flood Profiles in this FIS Report. BFEs are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM.

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

2.4 Watershed Characteristics

Because a FIS is a probability analysis that may not account for some of the factors listed below, communities are strongly encouraged to consider adopting more restrictive or higher floodplain management criteria or ordinances than the minimum Federal requirements. Communities may also increase the validity of their flood hazard data by investing in continuous maintenance of river gages (see the Data Validity and Reliability paragraph below). If the U.S. Geological Survey (USGS) or other agencies do not maintain gages on the flooding sources of interest, partnerships with the USGS may be pursued, or local gages may be installed. For more information, see Section 9.0 of this report.

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

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

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

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

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

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

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

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

Data Validity and Reliability

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

Developmental and Topographic Changes Over Time

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

Erosion, Deposition, and Debris Flow

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

Meandering and Lateral Migration

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

2.5 Coastal Flood Hazard Areas

For most areas along rivers, streams, and small lakes, BFEs and floodplain boundaries are based on the amount of water expected to enter the area during a 1% annual chance flood and the geometry of the floodplain. Floods in these areas are typically caused by storm events. However, for areas on or near ocean coasts, large rivers, or large bodies of water, BFE and floodplain boundaries may need to be based on additional components, including storm surges and waves. Communities on or near ocean coasts face flood hazards caused by offshore seismic events as well as storm events.

Coastal flooding sources that are included in this Flood Risk Project are shown in Table XX.

2.5.1 Water Elevations and the Effects of Waves

Specific terminology is used in coastal analyses to indicate which components have been included in evaluating flood hazards.

The stillwater elevation (SWEL or still water level) is the surface of the water resulting from astronomical tides, storm surge, and freshwater inputs, but excluding wave setup contribution or the effects of waves.

- *Astronomical tides* are periodic rises and falls in large bodies of water caused by the rotation of the earth and by the gravitational forces exerted by the earth, moon and sun.
- *Storm surge* is the additional water depth that occurs during large storm events. These events can bring air pressure changes and strong winds that force water up against the shore.
- *Freshwater inputs* include rainfall that falls directly on the body of water, runoff from surfaces and overland flow, and inputs from rivers.

The 1% annual chance stillwater elevation is the stillwater elevation that has been calculated for a storm surge from a 1% annual chance storm. The 1% annual chance storm surge can be determined from analyses of tidal gage records, statistical study of regional historical storms, or other modeling approaches. Stillwater elevations for storms of other frequencies can be developed using similar approaches.

The total stillwater elevation (also referred to as the mean water level) is the stillwater elevation plus wave setup contribution but excluding the effects of waves.

- *Wave setup* is the increase in stillwater elevation at the shoreline caused by the reduction of waves in shallow water. It occurs as breaking wave momentum is transferred to the water column.

Like the stillwater elevation, the total stillwater elevation is based on a storm of a particular frequency, such as the 1% annual chance storm. Wave setup is typically estimated using standard engineering practices or calculated using models, since tidal gages are often sited in areas sheltered from wave action and do not capture this information.

Coastal analyses may examine the effects of overland waves by analyzing storm-induced erosion, overland wave propagation, wave runup, and/or wave overtopping.

- *Storm-induced erosion* is the modification of existing topography by erosion caused by a specific storm event, as opposed to general erosion that occurs at a more constant rate.
- *Overland wave propagation* describes the combined effects of variation in ground elevation, vegetation, and physical features on wave characteristics as waves move onshore.
- *Wave runup* is the uprush of water from wave action on a shore barrier. It is a function of the roughness and geometry of the shoreline at the point where the stillwater elevation intersects the land.
- *Wave overtopping* refers to wave runup that occurs when waves pass over the crest of a barrier.

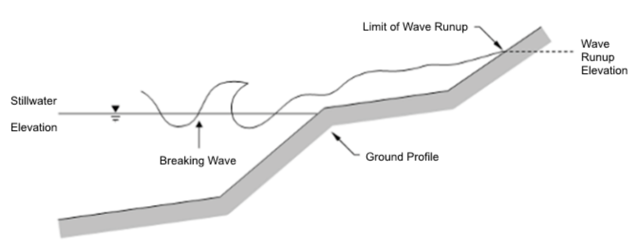

Figure 5: Wave Runup Transect Schematic

2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

For coastal communities along the Atlantic and Pacific Oceans, the Gulf of Mexico, the Great Lakes, and the Caribbean Sea, flood hazards must take into account how storm surges, waves, and extreme tides interact with factors such as topography and vegetation. Storm surge and waves must also be considered in assessing flood risk for certain communities on rivers or large inland bodies of water.

Beyond areas that are affected by waves and tides, coastal communities can also have riverine floodplains with designated floodways, as described in previous sections.

Floodplain Boundaries

In many coastal areas, storm surge is the principle component of flooding. The extent of the 1% annual chance floodplain in these areas is derived from the total stillwater elevation (stillwater elevation including storm surge plus wave setup) for the 1% annual chance storm. The methods that were used for calculation of total stillwater elevations for coastal areas are described in Section 5.3 of this FIS Report. Location of total stillwater elevations for coastal areas are shown in Figure 8, "1% Annual Chance Total Stillwater Levels for Coastal Areas.

In some areas, the 1% annual chance floodplain is determined based on the limit of wave runup or wave overtopping for the 1% annual chance storm surge. The methods that were used for calculation of wave hazards are described in Section 5.3 of this FIS Report.

Table 18 and 18P presents the types of coastal analyses that were used in mapping the 1% annual chance floodplain in coastal areas.

Coastal BFEs

CWhere they apply, coastal BFEs are calculated along transects extending from offshore to the limit of coastal flooding onshore. Results of these analyses are accurate until local topography, vegetation, or development type and density within the community undergoes major changes.

Parameters that were included in calculating coastal BFEs for each transect included in this FIS Report are presented in Table 20, "Coastal Transect Parameters." The locations of transects are shown in Figure 9, "Transect Location Map." More detailed information about the methods used in coastal analyses and the results of intermediate steps in the coastal analyses are presented in Section 5.3 of this FIS Report. Additional information on specific mapping methods is provided in Section 6.4 of this FIS Report.

2.5.3 Coastal High Hazard Areas

Certain areas along the open coast and other areas may have higher risk of experiencing structural damage caused by wave action and/or high-velocity water during the 1% annual chance flood. These areas will be identified on the FIRM as Coastal High Hazard Areas.

- *Coastal High Hazard Area (CHHA)* is a SFHA extending from offshore to the inland limit of the primary frontal dune (PFD) or any other area subject to damages caused by wave action and/or high-velocity water during the 1% annual chance flood.
- *Primary Frontal Dune (PFD)* is a continuous or nearly continuous mound or ridge of sand with relatively steep slopes immediately landward and adjacent to the beach. The PFD is subject to erosion and overtopping from high tides and waves during major coastal storms.

CHHAs are designated as "V" zones (for "velocity wave zones") and are subject to more stringent regulatory requirements and a different flood insurance rate structure. The areas of greatest risk are shown as VE on the FIRM. Zone VE is further subdivided into elevation zones and shown with BFEs on the FIRM.

The landward limit of the PFD occurs at a point where there is a distinct change from a relatively steep slope to a relatively mild slope; this point represents the landward extension of Zone VE. Areas of lower risk in the CHHA are designated with Zone V on the FIRM. More detailed information about the identification and designation of Zone VE is presented in Section 6.4 of this FIS Report.

Areas that are not within the CHHA but are SFHAs may still be impacted by coastal flooding and damaging waves; these areas are shown as "A" zones on the FIRM.

Figure 6, “Coastal Transect Schematic,” illustrates the relationship between the base flood elevation, the 1% annual chance stillwater elevation, and the ground profile as well as the location of the Zone VE and Zone AE areas in an area without a PFD subject to overland wave propagation. This figure also illustrates energy dissipation and regeneration of a wave as it moves inland.

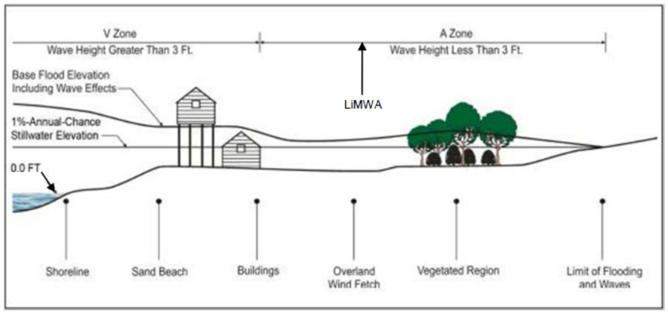

Figure 6: Coastal Transect Schematic

Methods used in coastal analyses in this Flood Risk Project are presented in Section 5.3 and mapping methods are provided in Section 6.4 of this FIS Report.

Coastal floodplains are shown on the FIRM using the symbology described in Figure 3, “Map Legend for FIRM.” In many cases, the BFE on the FIRM is higher than the stillwater elevations shown in Table 17 due to the presence of wave effects. The higher elevation should be used for construction and/or floodplain management purposes.

2.5.4 Limit of Moderate Wave Action

Laboratory tests and field investigations have shown that wave heights as little as 1.5 feet can cause damage to and failure of typical Zone AE building construction. Wood-frame, light gage steel, or masonry walls on shallow footings or slabs are subject to damage when exposed to waves less than 3 feet in height. Other flood hazards associated with coastal waves (floating debris, high velocity flow, erosion, and scour) can also damage Zone AE construction.

Therefore, a LiMWA boundary may be shown on the FIRM as an informational layer to assist coastal communities in safe rebuilding practices. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The location of the LiMWA relative to Zone VE and Zone AE is shown in Figure 6.

The effects of wave hazards in Zone AE between Zone VE (or the shoreline where Zone VE is not identified) and the limit of the LiMWA boundary are similar to, but less severe than, those in Zone VE where 3-foot or greater breaking waves are projected to occur during the 1% annual chance flooding event. Communities are therefore encouraged to adopt and enforce more stringent floodplain management requirements than the minimum NFIP requirements in the LiMWA. The NFIP Community Rating System provides credits for these actions.

Where wave runup elevations dominate over wave heights, there is no evidence to date of significant damage to residential structures by runup depths less than 3 feet. Examples of these areas include areas with steeply sloped beaches, bluffs, or flood protection structures that lie parallel to the shore. In these areas, the FIRM shows the LiMWA immediately landward of the VE/AE boundary. Similarly, in areas where the zone VE designation is based on the presence of a primary frontal dune or wave overtopping, the LiMWA is delineated immediately landward of the Zone VE/AE boundary.

3.0 Insurance Applications

3.1 National Flood Insurance Program Insurance Zones

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 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.
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.

3.2 Coastal Barrier Resources System

3.2 Coastal Barrier Resources System

The Coastal Barrier Resources Act (CBRA) of 1982 was established by Congress to create areas along the Atlantic and Gulf coasts and the Great Lakes, where restrictions for Federal financial assistance including flood insurance are prohibited. In 1990, Congress passed the Coastal Barrier Improvement Act (CBIA), which increased the extent of areas established by the CBRA and added “Otherwise Protected Areas” (OPA) to the system. These areas are collectively referred to as the John. H Chafee Coastal Barrier Resources System (CBRS). The CBRS boundaries that have been identified in the project area are in Table 4: Coastal Barrier Resource System Information.

Table 4: “Coastal Barrier Resources System Information” is not applicable in Jones County.

4.0 Area Studied

Jones County is found in the Coastal Plain region of North Carolina. It is surrounded by Lenoir County to the northwest, Craven County to the northeast and east, Carteret County to the southeast, Onslow County to the south, and Duplin County to the west.

4.1 Basin Description

Table 3, "Basin Description" contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its area.

Table 3 - Basin Description

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description	HUC Area (square miles)
Lower Neuse	03020204	Neuse River	The Lower Neuse River Basin reaches up into Lenoir County, North Carolina and then drains east into the Pamlico Sound. The basin drains significant portions of Cartaret, Craven, Jones, and Pamlico Counties.	1,583
Middle Neuse	03020202	Neuse River	The Middle Neuse River Basin headwaters are in Wayne and Pitt Counties. The basin also drains significant portions of Beaufort, Greene, Jones, and Lenoir Counties and ends near New Bern, North Carolina in Craven County.	1,065
New River	03020302	New River	The New River Basin begins above the northwestern corner of Onslow County. The basin also includes coastal regions of Brunswick, New Hanover, Pender, and Onslow Counties.	891
Northeast Cape Fear	03030007	Northeast Cape Fear River	The Northeast Cape Fear River Basin begins in the northeastern region of Sampson County and along the Wayne/Duplin County boundary. The basin then drains south through Pender County, ending at the Cape Fear River in New Hanover County.	1,741
White Oak River	03020301	White Oak River	The White Oak River Basin drains southern portions of Jones and Craven Counties. The basin also includes coastal regions of Cartert and Onslow Counties.	932

4.2 Principal Flood Problems

Table 4, "Principal Flood Problems" contains a list of principal flooding problems in Jones County.

Table 4 - Principal Flood Problems

Flooding Source	Problem
All Sources	The Trent River is the dominant source of flooding in Jones County. Flooding in the county is of two distinct types: floods caused by rain and floods caused by wind-tides or storm surge associated with tropical storms or hurricanes. Riverine flooding can

4.3 Historic Flood Elevations

Hurricane Floyd

(9/16/1999)

Hurricane Floyd made landfall near Wilmington with category two winds of 105 to 110 mph. Rainfall totals from Floyd were as high as 15 to 20 inches over portions of eastern North Carolina; with a record of 23.45 inches of rain falling in the month of September at Wilmington, NC. This breaks the previous record of 21.12 inches set in July 1886. These rains combined with saturated ground from previous rain events, including Hurricane Dennis, to produce an inland flood disaster. There were 74 deaths in the United States, including 52 in North Carolina, due to drowning from flood waters. This makes Floyd the deadliest U.S. hurricane since Agnes in 1972. Data from the USGS indicate that eleven of their stream gage monitoring sites in North Carolina (Ahoskie, Rocky Mount, Hilliardston, White Oak, Enfield, Tarboro, Lucama, Hookerton, Trenton, Chinquapin, and Freeland) exceeded 0.2% annual chance flood levels due to Floyd. Total losses in North Carolina approach $5 billion with an estimated $3.5 billion in damages to North Carolina homes, businesses, roads, and infrastructure. Floyd passed relatively close to the entire U.S. east coast, justifying hurricane warnings from Florida to Massachusetts and requiring an estimated two million people to evacuate. The last hurricane to require warnings for as large a stretch of coastline was Hurricane Donna in 1960.

Hurricane Bonnie

(8/26/1998)

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

Hurricane Fran
(9/5/1996)
The landfall location of Fran near the city of Wilmington and its progression into the Raleigh-Durham area caused an estimated $1.275 billion in damage in North Carolina alone. Fran hit with gusts up to 105 mph and a storm surge of approximately 16 feet. Over $1 billion in damage was reported in North Topsail Beach and Surf City and 23 people were killed.

Hurricane Bertha
(7/12/1996)
1996 was a damaging year in the hurricane history of North Carolina. Tropical Storm Arthur, Hurricane Bertha, and Hurricane Fran all made direct landfall on the North Carolina coastline. It was the most active tropical cyclone season in the state since 1955, when Hurricanes Connie, Diane, and Ione all hit the coast. Bertha entered North Carolina in North Topsail Beach with 105 mph gust and a storm surge of approximately 5 feet.

Hurricane Gloria
(9/26/1985)
The landfall location of Gloria was Cape Hatteras, with 90 knot winds and a storm surge of approximately 6-8 feet.

Hurricane Diana
(9/13/1984)
The landfall location of Diana was 38 miles south of Wilmington with 90 mph winds at its closest approach to Wilmington. Diana had 115 mph sustained winds before landfall. Storm surge was approximately 5-6 feet.

Hurricane Donna
(8/29/1960)
Hurricane Donna crossed the North Carolina coast between Wilmington and Morehead City of September 11, 1960. The center of the storm passed a few miles east of Wrightsville Beach, although Wilmington and Wrightsville Beach were each in the eye for about an hour. The lowest barometric pressure recorded during this storm was 962 mb at Wilmington. High tides, 6 to 8 feet above normal, together with high winds, caused severe damage at many points. Winds of hurricane force, up to 97 mph, were reported from Wilmington. During the night of September 11, the storm center moved northward, parallel, and slightly east of a line drawn between Wilmington and Norfolk. Wind gusts were in excess of 97 mph and tides were 4 to 8 feet above normal. High tides of 10.3 and 8.3 feet NGVD were reported at Atlantic Beach and Wrightsville Beach, respectively. Coastal communities from Wilmington to Nags Head suffered heavy structural damage and considerable beach erosion. Eight deaths and approximately 100 injuries were attributed to the storm. Damages were estimated at millions of dollars.

Hurricane Irene
(9/19/1955)
Flooding occured at the confluence of the Trent and Neuse Rivers approximately 5 miles downstream from the Jones County line. The crest elevation was 9.5 feet.

Hurricane Diane
(8/7/1955)
Five days after Hurricane Connie, and before the damage from that storm could be estimated, Hurricane Diane struck the coast near Carolina Beach about 6 a.m. on August 17. The highest wind speed reported during this storm was 74 mph at Wilmington Airport. Storm tides ranged from 5 to 9 feet above mean low water on the beaches (6.8 feet NGVD at Wrightsville Beach), and in some areas of sounds and rivers emptying into sounds, estimated water levels were 5 to 9 feet above normal. Water was 3 feet above flood level in the business district of Belhaven and “waist deep” in parts of Washington and New Bern. Diane caused severe beach erosion along the North Carolina coast. The total damage caused in North Carolina by both Connie and Diane was estimated to be in excess of $90 million. No deaths or injuries in North Carolina were attributed to either of the storms.

Hurricane Connie
(8/3/1955)
Hurricane Connie entered North Carolina close to Cape Lookout at about 8:30 a.m. on August 12. The prolonged pounding of high waves against the coast caused tremendous beach erosion, probably worse than that caused by Hazel in 1954. Storm tides along the

coast from Southport to Nags Head were reported to be about 7 feet NGVD (6.9 feet NGVD at Wrightsville Beach and 7.5 feet NGVD at Kure Beach). Water in sounds and near the mouths of rivers was 5 to 8 feet above normal. At Wilmington, winds were reported at 72 mph, gusting to 83 mph. At Fort Macon, winds of 75 mph, gusts of 100 mph, and barometric pressure of 962 mb were reported. The storm also brought torrential rains with the maximum rainfall, around 12 inches in 48 hours, occurring near Morehead City. Total damage throughout the state was estimated at $50 million.

Hurricane Hazel
(10/5/1954)
Hurricane Hazel was the most destructive storm in the history of North Carolina. The storm crossed the coast just north of Myrtle Beach, South Carolina, as hurricane winds hit the Atlantic coast between Georgetown, South Carolina, and Cape Lookout, North Carolina. Storm tides (i.e., hurricane surge) devastated the immediate ocean front of this stretch of coast. Every fishing pier along 170 miles of coast, from Myrtle Beach to Cedar Island, North Carolina, was destroyed. The waterfront between the South Carolina/North Carolina state boundary and Cape Fear was destroyed. Beach homes, which had been built in a continuous line five miles long behind and along grass-covered dunes (some of which were 20 feet high), simply disappeared – dunes, houses, and all. From Cape Fear to Cape Lookout, the degree of devastation was not as great, but oceanfront property was damaged an average of 50 percent along this entire stretch. To the north of Cape Lookout, the damage was relatively light. Storm surges of 16.6 feet above NGVD were observed at Holden Beach Bridge and Calabash, North Carolina. The highest tide of record was observed during Hurricane Hazel, when ocean tide levels reached approximately 10 feet NGVD at Wrightsville Beach and 11 feet NGVD at Carolina Beach. The lowest recorded barometric pressure of the storm was 938 millibars (mb), reported at Little River Inlet on the North Carolina/South Carolina border. Maximum wind speeds were 83 miles per hour (mph), with gusts recorded at 98 mph at Wilmington, North Carolina, 106 mph at Myrtle Beach, South Carolina, and an estimated 150 mph at Cape Fear. The storm continued inland through North Carolina, causing widespread damage due to high winds and record rainfalls. Nineteen people were killed and 200 injured during this storm.

September 1933 Storm
(9/18/1933)
Flooding occured at the confluence of the Trent and Neuse Rivers approximately 5 miles downstream from the Jones County line. The crest elevation was 8.6 feet.

September 1913 Storm
(9/3/1913)
Flooding occured at the confluence of the Trent and Neuse Rivers approximately 5 miles downstream from the Jones County line. The crest elevation was 6.6 feet.

Table 5, “Historic Flood Elevations”, lists selected flooding sources in Jones County with records of past stages. The table shows the historic peak, a location description, approximate stream station, the date of the historic peak, and approximate recurrence interval of the flood elevation. The approximate recurrence interval for a flood is often estimated based on an analysis of rainfall amounts from a storm and /or stream gage data.

Table 5 - Historic Flood Elevations

Flooding Source/Tropical Storm	Location Description	Approx. Stream Station	Historic Peak (Feet NAVD 88)	Date	Approximate Recurrence Interval (in years)
Crooked Run / Hurricane Floyd	Crooked Run	5795	27.7	10/1/1999	100
Crooked Run / Hurricane Floyd	Crooked Run	4486	28.4	10/1/1999	100
Trent River / Hurricane Floyd	Trent River	94770	16.4	10/1/1999	100
Trent River / Hurricane Floyd	Trent River	198194	28.3	10/18/1999	100

* Data Not Available

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).

Table 6, “Non-Levee Flood Protection Measures” is not applicable in Jones County.

Table 7, “Levees” is not applicable in Jones County.

4.5 Scope of Study

For this map maintenance revision, a scoping meeting was held in Jones County to present the results of initial research to the county and communities within the county and to discuss their floodplain mapping needs. The county and communities were asked to provide input on proposed study priorities and analysis methods. These meetings resulted in the identification of flooding sources having a floodplain mapping need. Map Maintenance Plans were developed based on the results of the scoping meetings and were both mailed to each jurisdiction within Jones County and posted to the State’s website at www.ncfloodmaps.com.

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 Jones 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 Water-surface elevation rasters and/or the FIRM.

Table 8P, “Scope of Revisions: Revised or New Detailed Study -Preliminary”, lists flooding sources that were newly studied by detailed methods or were previously studied by detailed methods and had a change in backwater elevation due to flooding effects from a newly studied flooding source.

Table 8P - Scope of Revisions: Revised or New Detailed Study - Preliminary

Source	Riverine Sources		Affected Communties
	From	To	
Deep Gully	The confluence with Trent River	Approximately 1.7 miles upstream of the confluence with Trent River	Jones County
Raccoon Creek	The confluence with Trent River	Approximately 1.0 mile upstream of the confluence with Trent River	Jones County
Reedy Branch	The confluence with Trent River	Approximately 0.4 mile upstream of Crump Farm Road	Jones County
Scott Creek	The confluence with Trent River	Approximately 1.4 miles upstream of the confluence with Trent River	Jones County
Trent River	Approximately 1,015 feet upstream of the confluence of Raccoon Creek	Approximately 1.87 miles upstream of the confluence with Raccoon Creek	Jones County Town Of Pollocksville
Trent River	The confluence with Neuse River	Approximately 1,015 feet upstream of the confluence of Raccoon Creek	Jones County

Table 9P, “Scope of Revisions: Redelineated - Preliminary” is not applicable in Jones County.

Table 10P, “Scope of Revisions: Limited Detailed - Preliminary”, lists flooding sources that were newly studied by limited detailed methods or were previously studied by limited detailed methods and had a change in backwater elevation due to flooding effects from a newly studied flooding source.

Table 10P - Scope of Revisions: Limited Detailed - Preliminary

Source	Riverine Sources		Affected Communties
	From	To	
Goshen Branch[1]	Approximately 0.10 mile upstream of Bell Loop Road	Approximately 0.5 mile upsteam of Goshen Road	Jones County
Holston Creek[1]	The confluence with White Oak River	Approximately 70 feet upstream of NC Highway 58	Jones County
Island Creek	Approximately 1.2 miles upstream of the confluence with Trent River	Approximately 1.25 miles upstream of Island Creek Road	Jones County
Mill Creek[1]	The confluence with Mill Creek Tributary 1	Approximately 1.4 miles upstream of the confluence with Mill Creek Tributary 1	Jones County
Mill Creek[1]	The confluence with Trent River	The confluence with Mill Creek Tributary 1	Jones County
Mill Creek Tributary 1[1]	The confluence with Mill Creek	Approximately 138 feet upstream of Ravenwood Road	Jones County
Raccoon Creek	Approximately 1.0 mile upstream of the confluence with Trent River	Approximately 2.28 miles upstream of the confluence with Trent River	Jones County

Table 10P - Scope of Revisions: Limited Detailed - Preliminary

Source	Riverine Sources		Affected Communties
	From	To	
Tracey Swamp	The confluence with Moseley Creek (into Neuse River)	Approximately 370 feet upstream of Burkett Road	Jones County
Tracey Swamp Tributary[1]	The confluence with Tracey Swamp	Approximately 0.6 mile upstream of the confluence with Tracey Swamp	Jones County
Trent River[1]	Approximately 1.87 miles upstream of the confluence with Raccoon Creek	Approximately 1.5 miles upstream of the confluence of Goshen Branch	Jones County
White Oak River[1]	The confluence of Webb Creek	Approximately 12.2 miles upstream of the confluence of Webb Creek	Jones County

[1]**Revised to reflect backwater effects from new detailed study**

Table 8, "Flooding Sources Studied by Detailed Methods", lists all flooding sources within the county that were studied by detailed methods for this FIS and previous FISs.

Table 8 - Flooding Sources Studied by Detailed Methods: Revised or Newly Studied

Source	Riverine Sources		Affected Communties
	From	To	
Crooked Run	Confluence with Trent River	Approximately 3.3 miles upstream of confluence with Trent River	Jones County Town Of Trenton
Deep Gully	The confluence with Trent River	Approximately 1.7 miles upstream of the confluence with Trent River	Jones County
Raccoon Creek	The confluence with Trent River	Approximately 1.0 mile upstream of the confluence with Trent River	Jones County
Reedy Branch	The confluence with Trent River	Approximately 0.4 mile upstream of Crump Farm Road	Jones County
Scott Creek	The confluence with Trent River	Approximately 1.4 miles upstream of the confluence with Trent River	Jones County
Southwest Creek	The confluence with Neuse River	Approximately 1.0 mile upstream of Liddell Road (SR 1143)	Jones County
Trent River	Approximately 1,015 feet upstream of the confluence of Raccoon Creek	Approximately 1.87 miles upstream of the confluence with Raccoon Creek	Jones County Town Of Pollocksville
Trent River	Approximately 2.8 miles downstream of confluence with Musselshell Creek	Confluence with Musselshell Creek	Jones County Town Of Trenton
Trent River	The confluence with Neuse River	Approximately 1,015 feet upstream of the confluence of Raccoon Creek	Jones County
Tuckahoe Swamp	At the Lenoir/Jones County boundary	Approximately 0.5 mile downstream of West Pleasant Road	Jones County

Table 9, "Flooding Sources Studied by Detailed Methods: Redelineated", lists all flooding sources that were studied by detailed methods for the pre- statewide FIS and redelineated for previous FISs. These flooding sources were not part of this revision and their effective analyses remain valid.

Table 9 - Flooding Sources Studied by Detailed Methods: Redelineated

Source	Riverine Sources		Affected Communties
	From	To	
Southwest Creek	At the confluence with Neuse River	Approximately 0.95 mile upstream of Liddell Road	Jones County

Table 10, "Flooding Sources Studied by Detailed Methods: Limited Detailed", lists all flooding sources within the county that were studied by limited detailed methods for either this FIS or previous FISs.

Table 10 - Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communties
	From	To	
Ash Branch	At the confluence with Vine Swamp	Approximately 0.61 mile upstream of State Highway 58 crossing	Jones County
Bachelor Creek	Washington Post Road	Approximately 1.6 miles upstream of Craven/Jones County boundary	Jones County
Beaver Creek	At the confluence with Trent River	At the confluence with Vine Swamp	Jones County

Table 10 - Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communties
	From	To	
Beaverdam Branch	At the confluence with Mill Run	Approximately 0.53 mile upstream of Davis Field Road crossing	Jones County
Beaverdam Creek	At the confluence with Trent River	Approximately 2.92 miles upstream of Ten Mile Fork Road crossing	Jones County
Black Swamp	At the confluence with Trent River	Approximately 1.07 miles upstream of Foley Branch Lane crossing	Jones County
Black Swamp Creek	At the confluence with White Oak River	Approximately 0.90 mile upstream of Catfish Lake Road	Jones County
Chinkapin Branch	At the confluence with White Oak River	1.71 miles upstream of confluence with White Oak River	Jones County
Chinquapin Branch	At the confluence with White Oak River	1.71 miles upstream of confluence with White Oak River	Jones County
Crooked Run	At the confluence with Trent River	Approximately 7.56 miles upstream of State Highway 58	Jones County
Cypress Creek	At the confluence with Trent River	Approximately 2.87 miles upstream of Old Comfort Highway crossing	Jones County
Deep Bottom Branch	At the confluence with Beaver Creek	Approximately 1.14 miles upstream of Private Road crossing	Jones County
Flat Swamp	At the confluence with Rattlesnake Branch	Approximately 0.6 mile upstream of confluence with Flat Swamp Tributary	Jones County
Flat Swamp Tributary	At the confluence with Flat Swamp	Approximately 0.25 mile upstream of confluence with Flat Swamp	Jones County
Goshen Branch	The confluence with Trent River	Approximately 0.1 mile upstream of Bell Loop Road	Jones County
Grape Branch	At the confluence with Tuckahoe Swamp	Approximately 0.88 mile upstream of confluence with Grape Branch Tributary 1	Jones County
Grape Branch Tributary	At the confluence with Grape Branch	Approximately 0.27 mile upstream of confluence with Grape Branch	Jones County
Great Lake	The confluence with White Oak River	Approximately 750 feet upstream of confluence of Wolf Swamp	Jones County
Heath Mill Run	At the confluence with Beaver Creek	Approximately 0.58 mile upstream of Foy Tram Road crossing	Jones County
Hollis Branch	Confluence with Bachelor Creek	Approximately 800 feet upstream of Craven/Jones County boundary	Jones County
Holston Creek	The confluence with White Oak River	Approximately 2.63 miles upstream of State Highway 58	Jones County
Hunters Creek	The confluence with White Oak River	Approximately 750 feet upstream of confluence of Wolf Swamp	Jones County
Island Branch Swamp	At the confluence with Resolution Branch	Approximately 0.68 mile upstream of Henderson Road crossing	Jones County
Island Creek	Approximately 1.2 miles upstream of the confluence with Trent River	Approximately 1.25 miles upstream of Island Creek Road	Jones County
Joshua Creek	At the confluence with Trent River	Approximately 1.24 miles upstream of Vine Swamp Road crossing	Jones County
Jumping Creek	At the confluence with Trent River	Approximately 1.43 miles upstream of Ten Mile Creek Road crossing	Jones County
Little Chinquapin Branch	At the confluence with Trent River	Approximately 0.56 mile upstream of Pleasant Hill Road crossing	Jones County
Little Hell Creek	At the confluence with Trent River	Approximately 1.79 miles upstream of State Highway 58 crossing	Jones County
Long Branch	At the confluence with Trent River	Approximately 0.11 mile upstream of Ben Banks Road crossing	Jones County
Mill Branch	At the confluence with Trent River	Approximately 0.67 mile upstream of Stone Chapel Road crossing	Jones County
Mill Creek	The confluence with Mill Creek Tributary 1	Approximately 2.32 miles upstream of Bender Road crossing	Jones County
Mill Creek	The confluence with Trent River	The confluence with Mill Creek Tributary 1	Jones County
Mill Creek Tributary 1	At the confluence with Tributary to Mill Creek Tributary 1	Approximately 0.55 mile upstream of confluence of Tributary to Mill Creek Tributary 1	Jones County
Mill Creek Tributary 1	The confluence with Mill Creek	The confluence with Tributary to Mill Creek Tributary 1	Jones County
Mill Run	At the confluence with Trent River	Approximately 1.35 miles upstream of confluence with Beaverdam Branch	Jones County
Musselshell Creek	At the confluence with Trent River	Approximately 0.47 mile upstream of Kingfield Road crossing	Jones County
Pocoson Branch	At the confluence with Trent River	Approximately 1.27 miles upstream of State Highway 41 crossing	Jones County
Poplar Branch	At the confluence with Trent River	Approximately 0.97 mile upstream of State Highway 41 crossing	Jones County
Raccoon Creek	Approximately 1.0 mile upstream of the confluence with Trent River	Approximately 2.28 miles upstream of the confluence with Trent River	Jones County
Rattlesnake Branch	At the confluence with Beaver Creek	Approximately 0.42 mile upstream of Moore Road crossing	Jones County

Table 10 - Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communties
	From	To	
Resolution Branch	At the confluence with Trent River	Approximately 0.83 mile upstream of Wyse Fork Road crossing	Jones County
Southwest Creek Tributary	The confluence with Southwest Creek	Approximately 170 feet downstream of Whaley Road (SR 1904)	Jones County
Tracey Swamp	The confluence with Moseley Creek (into Neuse River)	Approximately 370 feet upstream of Burkett Road	Jones County
Tracey Swamp Tributary	The confluence with Tracey Swamp	Approximately 1.1 miles downstream of confluence with Tracey Swamp	Jones County
Trent River	Approximately 1.87 miles upstream of the confluence with Raccoon Creek	Approximately 2.8 miles downstream of confluence with Musselshell Creek	Jones County
Trent River	Confluence with Musselshell Creek	Approximately 0.6 mile upstream of State Highway 11	Jones County
Tributary to Mill Creek Tributary 1	At the confluence with Mill Creek Tributary 1	Approximately 0.85 mile upstream of confluence with Mill Creek Tributary 1	Jones County
Tuckahoe Creek	At the confluence with Trent River	Approximately 0.22 mile upstream of Lee Mills Road crossing	Jones County
Tuckahoe Swamp	At the confluence with Tuckahoe Creek	Approximately 2.9 miles upstream of Watering Pond Road crossing	Jones County
Vine Swamp	At the confluence with Beaver Creek	Approximately 0.14 mile upstream of Parker Fork Road	Jones County
White Oak River	The confluence of Webb Creek	Approximately 2.8 miles upstream of confluence with Chinkapin Branch	Jones County
White Oak River Tributary 1	At the confluence with White Oak River	Approximately 1.0 mile upstream of confluence with White Oak River	Jones County Town Of Maysville
White Oak River Tributary 2	At the confluence with White Oak River Tributary 1	Approximately 0.95 miles upstream of confluence with White Oak River Tributary 1	Jones County Town Of Maysville

Table 11, “Stream Name Changes” is not applicable in Jones County.

Table 12, “Letters of Map Revision” is not applicable in Jones County.

5.0 Engineering Methods

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2% annual chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. For details on the county’s hydrologic analyses, the hydrologic report is available by request.

A summary of the drainage area-peak discharge relationships for the flooding sources studied by detailed methods is shown in Table 13, “Summary of Discharges”.

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)			
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Ash Branch					
At the confluence with Vine Swamp	4.19	*	*	1050	*
Approximately 145 feet downstream of State Highway 58	3.68	*	*	979	*
Approximately 0.37 mile upstream of State Highway 58	3.41	*	*	937	*
Bachelor Creek					
Approximately 0.67 mile downstream of Craven/Jones County boundary	3.37	*	*	931	*
Beaver Creek					
At the confluence with Trent River	49.47	*	*	4260	*
Approximately 0.23 mile upstream of confluence with Trent River	47.20	*	*	4150	*
At the confluence with Deep Bottom Branch	42.40	*	*	3900	*
Approximately 0.61 mile upstream of confluence with Deep Bottom Branch	41.09	*	*	3830	*
Approximately 0.28 mile upstream of McDaniel Fork Road	40.99	*	*	3780	*
At the confluence with Heath Mill Run	34.72	*	*	3480	*
Approximately 0.48 mile upstream of Taylor Road	33.10	*	*	3390	*
Approximately 1.63 miles upstream of Taylor Road	30.94	*	*	3260	*
At the confluence with Rattlesnake Branch	18.94	*	*	2470	*
Approximately 0.7 mile upstream of confluence with Rattlesnake Branch	18.63	*	*	2450	*
Beaverdam Branch					
At the confluence with Mill Run	2.69	*	*	819	*
Beaverdam Creek					
At the confluence with Trent River	6.95	*	*	1400	*
Approximately 0.92 mile upstream of confluence with Trent River	6.34	*	*	1330	*
Approximately 0.11 mile upstream of Ten Mile Fork Road	5.60	*	*	1240	*
Approximately 0.36 mile upstream of Ten Mile Fork Road	4.60	*	*	1110	*
Approximately 1.36 miles upstream of Ten Mile Fork Road	3.71	*	*	982	*
Approximately 1.89 miles upstream of Ten Mile Fork Road	2.87	*	*	849	*
Approximately 2.2 miles upstream of Ten Mile Fork Road	1.87	*	*	666	*
Approximately 2.8 miles upstream of Ten Mile Fork Road	1.10	*	*	495	*
Black Swamp					
At the confluence with Trent River	2.92	*	*	858	*
Approximately 0.91 mile upstream of confluence with Trent River	2.39	*	*	766	*
Approximately 1.72 miles upstream of confluence with Trent River	2.02	*	*	697	*
Black Swamp Creek					
At the confluence with White Oak River	33.93	*	*	5220	*
Approximately 0.3 mile upstream of State Highway 58	33.11	*	*	5150	*
Approximately 0.6 mile upstream of State Highway 58	32.12	*	*	5060	*
Approximately 1.3 miles upstream of State Highway 58	31.30	*	*	4990	*
Approximately 1.7 miles upstream of State Highway 58	30.44	*	*	4910	*
Approximately 2.1 miles upstream of State Highway 58	26.78	*	*	4560	*
Approximately 2.3 miles upstream of State Highway 58	25.13	*	*	4400	*
Approximately 1.7 miles downstream of Catfish Lake Road	24.17	*	*	4300	*
Approximately 1.0 miles downstream of Catfish Lake Road	19.96	*	*	3850	*
Approximately 0.6 mile downstream of Catfish Lake Road	18.98	*	*	3740	*
Catfish Lake Road	18.62	*	*	3700	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)			
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Approximately 0.5 mile upstream of Catfish Lake Road	16.68	*	*	3480	*
Approximately 0.8 mile upstream of Catfish Lake Road	15.71	*	*	3360	*
Approximately 1.4 miles upstream of Catfish Lake Road	7.82	*	*	2250	*
Chinkapin Branch					
Approximately 1.0 miles upstream of confluence with White Oak River	9.13	*	*	2460	*
Approximately 1.31 miles upstream of confluence with White Oak River	1.03	*	*	704	*
Chinquapin Branch					
At the confluence with Trent River	19.36	*	*	2500	*
Approximately 0.83 mile upstream of confluence with Trent River	18.22	*	*	2420	*
Approximately 250 feet upstream of Chinquapin Chapel Road	17.88	*	*	2390	*
Approximately 1.0 mile upstream of Chinquapin Chapel Road	16.49	*	*	2290	*
Approximately 1.37 miles upstream of Chinquapin Chapel Road	15.49	*	*	2210	*
Approximately 1.65 miles downstream of Pine Street	14.59	*	*	2130	*
Approximately 0.83 mile downstream of Pine Street	12.70	*	*	1970	*
Approximately 325 feet upstream of Pine Street	10.49	*	*	1770	*
Crooked Run					
At the confluence with Trent River	29.30	*	*	3170	*
Approximately 0.19 mile upstream of State Hwy 58	28.36	*	*	3110	*
Approximately 2.28 miles upstream of State Hwy 58	21.57	*	*	2818	*
Approximately 3.29 miles upstream of State Hwy 58	20.61	*	*	2594	*
Approximately 4.15 miles upstream of State Hwy 58	20.07	*	*	2556	*
Approximately 4.71 miles upstream of State Hwy 58	16.43	*	*	2282	*
Approximately 5.57 miles upstream of State Hwy 58	14.59	*	*	2134	*
Approximately 6.30 miles upstream of State Hwy 58	10.69	*	*	1789	*
Approximately 6.73 miles upstream of State Hwy 58	9.77	*	*	1700	*
Approximately 7.37 miles upstream of State Hwy 58	8.37	*	*	1557	*
Approximately 7.55 miles upstream of State Hwy 58	1.43	*	*	573	*
Cypress Creek					
At the confluence with Trent River	18.06	*	*	2410	*
Approximately 700 feet downstream of State Highway 41	17.34	*	*	2350	*
Approximately 0.50 mile upstream of State Highway 41	15.31	*	*	2190	*
Approximately 465 feet upstream of Old Comfort Hwy	14.08	*	*	2090	*
Approximately 0.68 mile upstream of Old Comfort Hwy	12.53	*	*	1960	*
Approximately 1.60 miles upstream of Old Comfort Hwy	6.03	*	*	1290	*
Approximately 2.61 miles upstream of Old Comfort Hwy	5.36	*	*	1210	*
Deep Bottom Branch					
At the confluence with Beaver Creek	4.48	*	*	1090	*
Approximately 0.32 mile downstream of Wyse Fork Road	3.93	*	*	1020	*
Approximately 115 feet upstream of Wyse Fork Road	0.65	*	*	366	*
Approximately 0.30 mile upstream of Wyse Fork Road	0.56	*	*	337	*
Deep Gully					
Just upstream of confluence with Trent River	3.47	400	750	950	1510
Approximately 180 feet upstream of Railroad	2.74	350	660	830	1330
Approximately 950 feet upstream of U.S. Highway 17	2.22	310	580	740	1190

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)			
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Approximately 1.2 miles upstream of U.S. Highway 17	1.23	210	410	530	870
Flat Swamp					
At the confluence with Rattlesnake Branch	5.92	*	*	1280	*
At the confluence with Trace Branch	4.56	*	*	1100	*
At the confluence with Flat Swamp Tributary	2.32	*	*	753	*
Approximately 0.36 mile upstream of confluence with Flat Swamp Tributary	1.04	*	*	478	*
Flat Swamp Tributary					
At the confluence with Flat Swamp	1.35	*	*	554	*
Goshen Branch					
At the confluence with Trent River	2.62	*	*	807	*
Approximately 0.12 mile upstream of Bell Loop Road	2.02	*	*	698	*
Approximately 0.20 mile downstream of Bell Loop Road	1.26	*	*	533	*
Grape Branch					
At the confluence with Tuckahoe Swamp	4.08	*	*	1037	*
At the confluence with Grape Branch Tributary	2.48	*	*	782	*
Grape Branch Tributary					
At the confluence with Grape Branch	1.30	*	*	543	*
Heath Mill Run					
At the confluence with Beaver Creek	4.50	*	*	1100	*
Approximately 1.15 mile upstream of Wyse Fork Road	3.87	*	*	1010	*
Approximately 1.60 miles upstream of Wyse Fork Road	3.29	*	*	918	*
Approximately 1.83 miles upstream of Wyse Fork Road	2.99	*	*	870	*
Hollis Branch					
Approximately 0.5 mile upstream of Jones County line	1.66	*	*	624	*
Holston Creek					
Confluence with White Oak River	13.10	*	*	3030	*
Approximately 0.71 mile upstream of confluence with White Oak River	12.70	*	*	2970	*
Approximately 0.60 mile downstream of State Highway 58	11.04	*	*	2740	*
Approximately 0.16 mile downstream of State Highway 58	10.08	*	*	2600	*
Approximately 0.52 mile upstream of State Highway 58	9.14	*	*	2460	*
Approximately 0.65 mile upstream of State Highway 58	8.15	*	*	2310	*
Approximately 1.72 miles upstream of State Highway 58	7.63	*	*	2220	*
Approximately 2.06 miles upstream of State Highway 58	4.92	*	*	1730	*
Hunters Creek					
Confluence with White Oak River	32.75	*	*	5120	*
Approximately 0.88 mile upstream of confluence with White Oak River	32.14	*	*	5060	*
Approximately 1.36 miles upstream of confluence with White Oak River	31.21	*	*	4980	*
Approximately 1.82 miles upstream of confluence with White Oak River	30.30	*	*	4890	*
Approximately 0.4 mile downstream of N.C. 58	29.33	*	*	4800	*
Approximately 0.49 mile upstream of Hunters Creek Road	28.42	*	*	4720	*
Approximately 0.64 mile upstream of Hunters Creek Road	27.43	*	*	4620	*
Approximately 1.32 miles upstream of Hunters Creek Road	26.88	*	*	4570	*
Approximately 1.62 miles upstream of Hunters Creek Road	25.89	*	*	4470	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)			
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Approximately 1.98 miles upstream of Hunters Creek Road	25.50	*	*	4430	*
Approximately 2.76 miles upstream of Hunters Creek Road	24.54	*	*	4340	*
Approximately 0.70 mile downstream of confluence with Wolf Swamp	23.24	*	*	4200	*
Confluence of Wolf Swamp	16.86	*	*	3500	*
Approximately 0.50 mile upstream of confluence with Wolf Swamp	16.38	*	*	3440	*
Approximately 1.0 mile upstream of confluence with Wolf Swamp	13.73	*	*	3110	*
Island Branch Swamp					
At the confluence with Resolution Branch	1.36	*	*	558	*
Approximately 0.40 mile upstream of Henderson Road	1.00	*	*	468	*
Island Creek					
Approximately 95 feet upstream of confluence with Trent River	14.84	990	1750	2150	3310
Approximately 0.6 miles upstream of confluence with Trent River	14.55	980	1730	2130	3270
Approximately 0.92 miles upstream of confluence with Trent River	12.81	900	1610	1980	3060
Approximately 1.32 miles upstream of confluence with Trent River	12.46	*	*	1950	*
Approximately 1.90 miles downstream of Island Creek Road	10.95	*	*	1810	*
Approximately 600 feet upstream of Island Creek Road	10.01	*	*	1720	*
Approximately 610 feet upstream of Island Creek Road	8.75	*	*	1600	*
Joshua Creek					
At the confluence with Trent River	17.88	*	*	2390	*
Approximately 0.93 mile upstream of confluence with Trent River	16.01	*	*	2250	*
Approximately 1.1 miles downstream of Fordham Road	15.76	*	*	2230	*
Approximately 0.43 mile downstream of Fordham Road	12.24	*	*	1930	*
Approximately 0.54 mile downstream of the Jones/Lenoir County boundary	10.19	*	*	1740	*
Jumping Creek					
At the confluence with Trent River	7.83	*	*	1500	*
Approximately 0.46 mile upstream of confluence with Trent River	7.24	*	*	1435	*
Approximately 0.78 mile downstream of Ten Mile Fork Road	6.40	*	*	1338	*
Approximately 0.35 mile upstream of Ten Mile Fork Road	5.41	*	*	1217	*
Little Chinquapin Branch					
At the confluence with Trent River	7.73	*	*	1490	*
Approximately 0.50 mile upstream of Plantation Road (East Crossing)	6.94	*	*	1400	*
Approximately 0.37 mile downstream of Plantation Road (West Crossing)	6.06	*	*	1300	*
Approximately 0.22 mile upstream of Plantation Road (West Crossing)	4.07	*	*	1040	*
Approximately 0.10 mile upstream of Pleasant Hill Road	3.68	*	*	979	*
Little Hell Creek					
At the confluence with Trent River	7.95	*	*	1510	*
Approximately 1.20 miles downstream of State Highway 58	6.64	*	*	1370	*
Approximately 0.34 mile upstream of State Highway 58	5.66	*	*	1250	*
Approximately 0.66 mile upstream of State Highway 58	4.73	*	*	1130	*
Approximately 1.12 miles upstream of State Highway 58	4.12	*	*	1040	*
Approximately 1.79 miles upstream of State Highway 58	3.34	*	*	926	*
Long Branch					
At the confluence with Trent River	3.27	*	*	915	*
Approximately 0.92 mile upstream of confluence with Trent River	2.72	*	*	824	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)			
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Approximately 0.45 mile downstream of Ten Mile Fork Road	2.61	*	*	805	*
Approximately 0.18 mile downstream of Ten Mile Fork Road	2.49	*	*	784	*
Approximately 165 feet downstream of Ten Mile Fork Road	2.42	*	*	771	*
Approximately 0.27 mile upstream of Ten Mile Fork Road	0.62	*	*	357	*
Mill Branch					
At the confluence with Trent River	2.40	*	*	768	*
Approximately 160 feet downstream of Stone's Chapel Road	1.20	*	*	520	*
Approximately 0.25 mile upstream of Stone's Chapel Road	0.83	*	*	421	*
Mill Creek					
At the confluence with Trent River	31.02	*	*	3270	*
Approximately 175 feet upstream of Island Creek Road	30.59	*	*	3240	*
Approximately 0.80 mile upstream of Island Creek Road	29.38	*	*	3170	*
At the confluence with Mill Creek Tributary 1	20.77	*	*	2610	*
Approximately 0.44 mile upstream of confluence with Mill Creek Tributary 1	20.45	*	*	2580	*
Approximately 1.61 miles upstream of confluence with Mill Creek Tributary 1	18.19	*	*	2420	*
Approximately 2.1 miles upstream of Mill Creek Tributary 1	16.90	*	*	2320	*
Approximately 1.58 miles downstream of Bender Road	16.47	*	*	2280	*
Approximately 0.80 mile downstream of Bender Road	13.67	*	*	2060	*
Approximately 0.45 mile downstream of Bender Road	3.76	*	*	991	*
Approximately 0.76 mile upstream of Bender Road	2.83	*	*	843	*
Approximately 1.0 mile upstream of Bender Road	1.86	*	*	665	*
Approximately 2.2 miles upstream of Bender Road	1.04	*	*	479	*
Mill Creek Tributary 1					
At the confluence with Mill Creek	7.61	*	*	1476	*
Approximately 0.18 mile upstream of Ravenwood Lane	7.16	*	*	1426	*
At the confluence with Tributary to Mill Creek Tributary 1	3.59	*	*	965	*
Mill Run					
At the confluence with Trent River	9.42	*	*	1670	*
Approximately 245 feet downstream of State Highway 58	8.27	*	*	1550	*
At the confluence with Beaverdam Branch 2	4.97	*	*	1160	*
Approximately 1.0 mile upstream of Beaverdam Branch 2	2.89	*	*	853	*
Approximately 1.35 miles upstream of Beaverdam Branch 2	2.67	*	*	816	*
Musselshell Creek					
At the confluence with Trent River	14.08	*	*	2090	*
Approximately 0.22 mile upstream of Henderson Road	13.58	*	*	2050	*
At the confluence with Musselshell Creek Tributary 1	12.66	*	*	1970	*
Approximately 155 feet upstream of Ten Mile Fork Road	11.82	*	*	1890	*
Approximately 0.30 mile downstream of Kingfield Road (South Crossing)	9.66	*	*	1690	*
Approximately 470 feet upstream of Kingfield Road (South Crossing)	5.93	*	*	1280	*
Approximately 0.36 mile upstream of Kingfield Road (North Crossing)	5.31	*	*	1200	*
Pocoson Branch					
At the confluence with Trent River	2.14	*	*	720	*
Approximately 0.25 mile downstream of State Highway 41	1.99	*	*	691	*
Approximately 1.27 miles upstream of State Highway 41	1.01	*	*	471	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)			
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Poplar Branch					
At the confluence with Trent River	1.43	*	*	572	*
Approximately 0.48 mile upstream of confluence with Trent River	1.18	*	*	514	*
Approximately 400 feet upstream of State Highway 41	0.45	*	*	297	*
Approximately 0.69 mile upstream of State Highway 41	0.33	*	*	252	*
Raccoon Creek					
Approximately 185 feet upstream of the confluence with Trent River	3.65	420	780	970	1550
Approximately 1.0 mile upstream of confluence with Trent River	2.99	*	*	870	*
Approximately 1.32 miles upstream of confluence with Trent River	2.32	*	*	753	*
Approximately 1.72 miles upstream of confluence with Trent River	1.26	*	*	534	*
Approximately 2.04 miles upstream of confluence with Trent River	1.13	*	*	500	*
Rattlesnake Branch					
At the confluence with Beaver Creek	10.87	*	*	1810	*
At the confluence with Flat Swamp	4.66	*	*	1120	*
Approximately 0.17 mile upstream of Moore Road	3.85	*	*	1000	*
Reedy Branch					
Approximately 1,500 feet upstream of confluence with Trent River	5.04	510	940	1170	1850
Approximately 1,670 feet upstream of Crump Farm Road	3.31	390	730	920	1470
Approximately 650 feet downstream of Murphy Road	2.69	350	650	820	1320
Approximately 2,560 feet upstream of Murphy Road	1.89	280	530	670	1090
Approximately 2,150 feet upstream of Island Creek Road	1.27	220	420	540	880
Reedy Branch 1					
Approximately 400 feet upstream of the confluence with Trent River	6.80	610	1110	1380	2170
At NC Highway 41	6.15	570	1050	1310	2060
Approximately 1,870 feet upstream of NC Highway 41	3.95	440	810	1020	1620
Approximately 0.85 miles upstream of NC Highway 41	3.19	380	720	900	1440
Approximately 1.25 miles upstream of NC Highway 41	2.75	350	660	830	1330
Resolution Branch					
At the confluence with Trent River	3.58	*	*	963	*
At the confluence with Island Branch Swamp	2.08	*	*	709	*
Approximately 0.10 mile downstream of Wyse Fork Road	1.95	*	*	682	*
Approximately 0.11 mile upstream of Wyse Fork Road	0.89	*	*	438	*
Scott Creek					
Approximately 115 feet upstream of confluence with Trent River	2.02	290	550	700	1130
Approximately 650 feet upstream of confluence with Trent River	1.80	270	520	650	1060
Approximately 3,900 feet downstream of N.C. Highway 17	1.00	190	370	470	770
Starkys Creek					
Confluence with White Oak River	14.87	*	*	3254	*
Tracey Swamp					
Approximately 0.21 mile downstream of U.S. Highway 70	5.07	*	*	1173	*
Approximately 81 feet downstream of U.S. Highway 70	4.99	*	*	1163	*
Approximately 0.10 mile upstream of U.S. Highway 70	4.79	*	*	1136	*
Approximately 0.24 mile upstream of U.S. Highway 70	4.61	*	*	1111	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)			
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
At the confluence with Tracey Swamp Tributary	3.17	*	*	899	*
Approximately 0.52 mile upstream of confluence with Tracey Swamp Tributary	2.79	*	*	836	*
Approximately 0.76 mile upstream of confluence with Tracey Swamp Tributary	0.98	*	*	461	*
Approximately 1.05 miles upstream of confluence with Tracey Swamp Tributary	0.45	*	*	296	*
Tracey Swamp Tributary					
At the confluence with Tracey Swamp	1.35	*	*	554	*
Approximately 0.31 mile upstream of confluence with Tracey Swamp	0.63	*	*	360	*
Approximately 0.67 mile upstream of confluence with Tracey Swamp	0.55	*	*	333	*
Approximately 1.0 mile upstream of confluence with Tracey Swamp	0.38	*	*	272	*
Trent River					
Approximately 400 feet upstream of confluence with Island Creek	414.86	7660	12000	14200	19900
Approximately 160 feet upstream of confluence with Deep Gully	408.42	7590	11900	14100	19800
Just upstream of confluence with Scott Creek	405.39	7550	11900	14000	19700
Approximately 2,370 feet downstream of confluence with Racoon Creek	404.97	7550	11900	14000	19700
At the confluence with Raccoon Creek	400.83	*	*	13900	*
Approximately 1.87 miles upstream of confluence with Raccoon Creek	399.83	*	*	13900	*
Approximately 1.83 miles downstream of confluence with Mill Creek	396.00	*	*	13800	*
At the confluence with Mill Creek	357.53	*	*	13000	*
At the confluence with Goshen Branch	354.31	*	*	12978	*
Approximately 0.50 mile upstream of confluence with Goshen Branch	353.11	*	*	12953	*
Approximately 1.91 miles upstream of confluence with Goshen Branch	352.70	*	*	12944	*
Approximately 1.61 miles downstream of confluence with Mill Run	343.70	*	*	12756	*
At the confluence with Mill Run	333.84	*	*	12548	*
Approximately 0.90 mile upstream of confluence with Mill Run	332.62	*	*	12522	*
Approximately 0.26 mile upstream of Oak Grove Road	330.27	*	*	12472	*
At the confluence with Long Branch	326.23	*	*	12385	*
At the confluence with Beaverdam Creek	318.97	*	*	12228	*
Approximately 1.04 miles upstream of confluence with Beaverdam Creek	317.37	*	*	12194	*
Approximately 1.64 miles upstream of confluence with Beaverdam Creek	315.55	*	*	12154	*
Approximately 1.13 miles downstream of confluence with Jumping Creek	313.33	*	*	12105	*
At the confluence with Jumping Creek	305.24	*	*	11928	*
Approximately 1.40 miles upstream of confluence with Jumping Creek	301.47	*	*	11844	*
Approximately 2.11 miles upstream of confluence with Jumping Creek	301.22	*	*	11838	*
Approximately 0.68 mile downstream of confluence with Crooked Run	296.78	*	*	11700	*
At the confluence with Crooked Run	265.48	*	*	11000	*
Approximately 1.32 miles upstream of Crooked Run	265.06	*	*	11000	*
Approximately 1.78 miles upstream of Crooked Run	264.03	*	*	11000	*
At the confluence with Musselshell Creek	256.26	*	*	10803	*
At the confluence with Resolution Branch	250.41	*	*	10663	*
Approximately 2.51 miles downstream of confluence with Beaver Creek	248.48	*	*	10616	*
At the confluence with Beaver Creek	197.88	*	*	9333	*
Approximately 0.11 mile downstream of Middle Road	196.78	*	*	9303	*
At the confluence with Chinquapin Branch	177.01	*	*	8762	*
Approximately 0.81 mile upstream of confluence with Chinquapin Branch	176.52	*	*	8748	*
Approximately 0.74 mile downstream of State Highway 58	175.52	*	*	8720	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)			
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Approximately 0.35 mile upstream of State Highway 58	174.87	*	*	8702	*
At the confluence with Poplar Branch	172.66	*	*	8640	*
Approximately 0.68 mile downstream of confluence with Pocoson Branch	171.96	*	*	8620	*
At the confluence with Pocoson Branch	169.10	*	*	8538	*
Approximately 1.38 miles upstream of confluence with Pocoson Branch	168.45	*	*	8520	*
Approximately 1.04 miles downstream of State Road 1129	167.45	*	*	8491	*
At the confluence with Little Chinquapin Branch	158.73	*	*	8238	*
Approximately 0.7 mile upstream of confluence with Little Chinquapin Branch	157.65	*	*	8206	*
Approximately 1.98 miles upstream of confluence with Little Chinquapin Branch	156.95	*	*	8185	*
Approximately 0.81 mile downstream of confluence with Mill Branch 2	152.33	*	*	8048	*
At the confluence with Mill Branch 2	149.26	*	*	7956	*
Approximately 1.46 miles downstream of confluence with Cypress Creek	148.73	*	*	7940	*
At the confluence with Cypress Creek	130.27	*	*	7366	*
Approximately 1.45 miles upstream of confluence with Cypress Creek	125.03	*	*	7197	*
Approximately 1.98 miles upstream of confluence with Cypress Creek	121.18	*	*	7071	*
Approximately 1.57 miles downstream of confluence with Reedy Branch 1	119.73	*	*	7023	*
Approximately 0.91 mile downstream of confluence with Reedy Branch 1	118.74	*	*	6990	*
At the confluence with Reedy Branch 1	111.45	*	*	6744	*
Approximately 0.35 mile upstream of confluence with Reedy Branch 1	109.88	*	*	6690	*
At the confluence with Black Swamp	106.54	*	*	6574	*
Approximately 0.85 mile upstream of confluence with Black Swamp	103.73	*	*	6475	*
At the confluence with Tuckahoe Creek	49.28	*	*	4249	*
Approximately 0.44 mile upstream of confluence with Tuckahoe Creek	48.35	*	*	4203	*
Approximately 0.28 mile downstream of Pleasant Hill Road	47.38	*	*	4155	*
At the confluence with Joshua Creek	28.55	*	*	3120	*
Approximately 0.83 mile upstream of confluence with Joshua Creek	27.98	*	*	3084	*
Approximately 0.59 mile downstream of Vine Swamp Road	27.04	*	*	3025	*
Approximately 0.55 mile downstream of Jones/Lenoir County boundary	26.50	*	*	2991	*
Tributary to Mill Creek Tributary 1					
At the confluence with Mill Creek Tributary 1	2.58	*	*	800	*
Approximately 0.73 mile upstream of confluence with Mill Creek Tributary 1	2.35	*	*	760	*
Tuckahoe Creek					
At the confluence with Trent River	54.15	*	*	4480	*
Approximately 0.60 mile downstream of Weyerhaeuser Road	53.81	*	*	4470	*
Approximately 0.91 mile upstream of Weyerhaeuser Road	50.51	*	*	4310	*
Approximately 1.41 miles upstream of Weyerhaeuser Road	48.85	*	*	4230	*
Approximately 0.65 mile downstream of confluence with Tuckahoe Swamp	42.69	*	*	3920	*
At the confluence with Tuckahoe Swamp	2.33	*	*	756	*
Tuckahoe Swamp					
At the confluence with Tuckahoe Creek	40.16	*	*	3780	*
Approximately 0.74 mile upstream of confluence with Tuckahoe Creek	34.31	*	*	3460	*
Approximately 1.38 miles upstream of confluence with Tuckahoe Creek	34.11	*	*	3450	*
At the confluence with Grape Branch	29.03	*	*	3150	*
At U.S. Highway 258	28.17	*	*	3100	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)			
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Approximately 0.55 mile upstream of U.S. Highway 258	26.95	*	*	3020	*
Approximately 1.13 miles downstream of Watering Pond Road	23.25	*	*	2780	*
Approximately 0.88 mile upstream of Watering Pond Road	22.26	*	*	2710	*
Vine Swamp					
At the confluence with Beaver Creek	15.30	*	*	2190	*
Approximately 0.22 mile upstream of Cobb Road	14.81	*	*	2150	*
At the confluence with Ash Branch	9.68	*	*	1690	*
Approximately 0.81 mile upstream of confluence with Ash Branch	9.09	*	*	1630	*
At the confluence with Vine Swamp Tributary	6.32	*	*	1330	*
Approximately 0.40 mile upstream of Vine Swamp Road	4.56	*	*	1100	*
Approximately 0.14 mile upstream of Billy Becton Road	2.18	*	*	728	*
White Oak River					
Confluence of Grants Creek	156.04	*	*	12520	*
Confluence of Holstons Creek	135.41	*	*	11540	*
Confluence of Starkys Creek	116.61	*	*	10590	*
Approximately 0.96 mile downstream of U.S. Highway 17	68.31	*	*	7800	*
U.S. Highway 17	67.92	*	*	7780	*
Confluence of Gibson Branch	55.09	*	*	6890	*
SR 1333	23.96	*	*	4280	*
Confluence of Chinkapin Branch	9.96	*	*	2590	*
White Oak River Tributary 1					
At the confluence with White Oak River	1.23	*	*	780	*
Approximately 0.50 miles upstream of the confluence with White Oak River.	0.74	*	*	585	*
White Oak River Tributary 2					
At the confluence with White Oak River Tributary 1	0.34	*	*	373	*

Table 14, "Summary of Stillwater Elevations" is not applicable in Jones County.

Table 15, "Gage Information", lists the stream gages located in Jones 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 15 - Gage Information

Gage Number	Flooding Source	Site Name	Drainage Area (square miles)	Period of Record	
				From	To
2092500	Trent River	TRENT RIVER NEAR TRENTON, NC	168.00	1928	2001
2092554	Trent River	TRENT R AT POLLOCKSVILLE, NC	370.00	1996	2005

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 and/or Water-surface elevation rasters. For stream segments for which BFEs were computed, selected cross-section locations are also shown on the FIRM. Flood Profiles and/or Water-surface elevation rasters 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 and/or Water-surface elevation rasters 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.

For details on the county's hydraulic analyses, the hydraulic report is available by request.

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 . The hydraulic analyses were based on unobstructed flow. The flood elevations shown on the Profiles and/or Water-surface elevation rasters 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 feet 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 16, "Roughness Coefficients".

Table 16 - Roughness Coefficients

Stream	Channel "n"	Overbank "n"
Ash Branch	0.040 to 0.045	0.100 to 0.110
Bachelor Creek	0.045	0.130
Beaver Creek	0.045 to 0.055	0.120 to 0.150
Beaverdam Branch	0.045 to 0.050	0.140 to 0.150
Beaverdam Creek	0.045 to 0.050	0.120 to 0.150
Black Swamp	0.045 to 0.050	0.140 to 0.150
Black Swamp Creek	0.045 to 0.050	0.135 to 0.150
Chinkapin Branch	0.050	0.120
Chinquapin Branch	0.045 to 0.055	0.110 to 0.150
Crooked Run	0.050 to 0.060	0.100 to 0.150
Cypress Creek	0.040 to 0.050	0.100 to 0.150
Deep Bottom Branch	0.045 to 0.055	0.130 to 0.150
Deep Gully	0.050	0.045 to 0.090
Flat Swamp	0.045 to 0.050	0.110 to 0.140
Flat Swamp Tributary	0.045	0.120 to 0.130
Goshen Branch	0.040 to 0.050	0.110 to 0.140
Grape Branch	0.050 to 0.055	0.140 to 0.150
Grape Branch Tributary	0.045	0.140
Heath Mill Run	0.040 to 0.050	0.110 to 0.140
Hollis Branch	0.045	0.130
Holston Creek	0.045 to 0.050	0.135 to 0.150
Hunters Creek	0.043 to 0.045	0.120 to 0.150
Island Branch Swamp	0.050	0.110 to 0.140
Island Creek	0.045 to 0.050	0.080 to 0.150
Joshua Creek	0.040 to 0.050	0.110 to 0.150
Jumping Creek	0.045 to 0.050	0.130 to 0.150
Little Chinquapin Branch	0.045 to 0.050	0.110 to 0.150
Little Hell Creek	0.045 to 0.050	0.130 to 0.150
Long Branch	0.045 to 0.050	0.110 to 0.150
Mill Branch	0.045 to 0.050	0.130 to 0.150
Mill Creek	0.040 to 0.050	0.120 to 0.150
Mill Creek Tributary 1	0.045 to 0.055	0.130 to 0.150
Mill Run	0.045 to 0.050	0.130 to 0.150
Musselshell Creek	0.040 to 0.050	0.110 to 0.150

Table 16 - Roughness Coefficients

Stream	Channel "n"	Overbank "n"
Pocoson Branch	0.045 to 0.050	0.110 to 0.150
Poplar Branch	0.045 to 0.050	0.110 to 0.150
Raccoon Creek	0.045 to 0.050	0.045 to 0.150
Rattlesnake Branch	0.045 to 0.050	0.120 to 0.130
Reedy Branch	0.032 to 0.050	0.045 to 0.090
Reedy Branch 1	0.045 to 0.050	0.130 to 0.150
Resolution Branch	0.045 to 0.050	0.110 to 0.150
Scott Creek	0.050	0.050 to 0.085
Southwest Creek	0.032 to 0.050	0.010 to 0.120
Southwest Creek Tributary	0.050 to 0.060	0.090 to 0.150
Tracey Swamp	0.014 to 0.070	0.100 to 10.000
Tracey Swamp Tributary	0.047	0.130
Trent River	0.045 to 0.063	0.032 to 0.200
Tributary to Mill Creek Tributary 1	0.045 to 0.050	0.120 to 0.140
Tuckahoe Creek	0.045 to 0.055	0.130 to 0.150
Tuckahoe Swamp	0.045 to 0.055	0.035 to 0.180
Vine Swamp	0.040 to 0.050	0.110 to 0.150
West Prong Brice Creek	0.045	0.150
White Oak River	0.040 to 0.045	0.120 to 0.150
White Oak River Tributary 1	0.045 to 0.050	0.113 to 0.150
White Oak River Tributary 2	0.045 to 0.048	0.113 to 0.165

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 17, “Limited Detailed Flood Hazard Data”). Flood Profiles have not been developed for streams studied by limited detailed methods. Water-surface elevation rasters were developed for steams 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 17. 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 can 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 17.

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
Ash Branch				
005	500	1,053	55.9[1]	13 / 94
010	1,000	1,053	55.9[1]	7 / 18
015	1,500	1,053	56.3	199 / 16
021	2,083	1,053	56.7	110 / 67
034	3,416	979	59.1	100 / 20
040	4,000	979	59.4	63 / 113
045	4,500	979	59.7	156 / 100
051	5,102	937	60.1	145 / 53
056	5,602	937	60.7	83 / 72
Bachelor Creek				
1073	107,305	931	29.8	57 / 175
1084	108,383	931	32.5	130 / 180
1090	109,022	931	32.6	279 / 338
1097	109,659	931	32.7	11 / 188
1102	110,203	931	32.9	149 / 298
1107	110,664	931	33.1	63 / 58
1113	111,325	931	33.7	108 / 218
1120	111,958	931	34.0	14 / 698
1125	112,460	931	34.1	364 / 717
1131	113,068	931	34.3	45 / 481
1135	113,549	931	34.6	204 / 106
1142	114,174	931	35.0	152 / 224
1147	114,732	931	35.2	151 / 378
1152	115,230	931	35.3	155 / 283
1157	115,663	931	35.5	187 / 123
Beaver Creek				
004	439	4,258	28.6[1]	280 / 350
012	1,209	4,147	28.6[1]	380 / 100
018	1,827	4,147	28.6[1]	360 / 240
032	3,164	4,147	28.6[1]	516 / 30
039	3,940	4,147	28.6[1]	250 / 80
047	4,697	4,147	28.6[1]	300 / 32
055	5,500	4,147	28.6[1]	100 / 160
059	5,876	4,147	28.6[1]	35 / 45
063	6,270	4,147	28.6[1]	60 / 40
068	6,821	4,147	28.6[1]	500 / 79
075	7,472	4,147	28.6[1]	250 / 40
082	8,213	4,147	28.6[1]	100 / 42
091	9,138	3,902	28.6[1]	80 / 40
097	9,657	3,902	28.6[1]	146 / 269
103	10,278	3,902	28.6[1]	40 / 48
117	11,747	3,902	28.6[1]	200 / 40
129	12,940	3,834	28.6[1]	198 / 133
134	13,445	3,834	28.6[1]	83 / 26
139	13,922	3,834	28.6[1]	30 / 196

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
146	14,561	3,834	28.6[1]	32 / 190
154	15,361	3,834	28.6[1]	73 / 33
160	15,964	3,834	28.6[1]	34 / 228
168	16,750	3,834	28.6[1]	130 / 49
178	17,813	3,834	28.6[1]	42 / 129
188	18,825	3,834	28.6[1]	200 / 36
196	19,562	3,834	28.6[1]	508 / 35
200	20,000	3,834	28.6[1]	193 / 98
207	20,706	3,834	28.6[1]	100 / 35
213	21,291	3,834	28.6[1]	26 / 26
229	22,862	3,834	28.6[1]	26 / 397
236	23,551	3,834	28.8	396 / 26
240	24,000	3,834	29.0	716 / 31
244	24,414	3,834	29.2	33 / 61
254	25,360	3,834	29.8	36 / 77
260	26,000	3,834	30.0	64 / 51
270	26,982	3,781	30.4	46 / 51
284	28,380	3,781	30.9	35 / 60
290	29,000	3,781	31.0	32 / 40
299	29,853	3,485	31.4	50 / 69
311	31,065	3,485	31.8	49 / 38
321	32,096	3,485	32.2	40 / 52
328	32,791	3,485	32.5	35 / 25
339	33,933	3,485	33.4	92 / 51
352	35,152	3,485	34.0	39 / 150
362	36,210	3,392	34.6	250 / 200
371	37,055	3,392	34.8	350 / 180
378	37,828	3,392	35.0	585 / 390
386	38,592	3,392	35.2	45 / 950
394	39,394	3,392	35.5	450 / 350
405	40,500	3,392	36.2	230 / 96
415	41,525	3,392	37.2	450 / 30
428	42,785	3,265	38.1	133 / 247
438	43,819	3,265	38.8	35 / 22
449	44,915	3,265	40.4	46 / 52
459	45,901	3,265	41.3	161 / 36
474	47,448	3,265	42.1	222 / 293
485	48,500	3,265	42.5	142 / 168
496	49,624	2,473	43.2	355 / 43
504	50,438	2,473	43.6	121 / 57
514	51,351	2,473	44.1	80 / 47
524	52,369	2,450	45.0	40 / 142
537	53,674	2,450	45.7	220 / 80
545	54,549	2,450	46.0	150 / 187
559	55,898	2,450	46.4	150 / 170

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
569	56,870	2,450	46.5	82 / 180
575	57,471	2,450	47.2	127 / 113
581	58,060	2,450	48.6	39 / 145
Beaverdam Branch				
007	667	819	15.6[1]	117 / 140
011	1,118	819	15.6[1]	111 / 30
015	1,457	819	15.6[1]	116 / 70
018	1,849	819	15.6[1]	16 / 89
025	2,547	819	17.4	127 / 66
029	2,927	819	18.2	124 / 4
035	3,469	819	19.7	25 / 130
040	4,043	819	21.1	60 / 25
054	5,410	819	26.8	100 / 30
060	6,000	819	27.3	150 / 33
065	6,500	819	28.1	90 / 62
071	7,057	819	29.7	59 / 139
076	7,575	819	30.4	114 / 136
Beaverdam Creek				
011	1,104	666	18.9[1]	8 / 121
016	1,562	666	18.9[1]	154 / 11
020	2,026	666	18.9[1]	33 / 105
027	2,672	666	18.9[1]	64 / 100
032	3,203	666	18.9[1]	130 / 19
034	3,360	666	18.9[1]	166 / 8
039	3,870	666	18.9[1]	46 / 8
045	4,500	666	18.9[1]	22 / 151
050	5,000	666	18.9[1]	123 / 31
055	5,500	666	18.9[1]	10 / 8
060	6,041	666	18.9[1]	113 / 15
067	6,656	666	18.9[1]	28 / 397
071	7,141	666	18.9[1]	198 / 50
074	7,410	666	18.9[1]	176 / 8
081	8,088	666	18.9[1]	15 / 27
086	8,619	666	18.9[1]	78 / 197
091	9,093	666	18.9[1]	88 / 78
096	9,567	666	18.9[1]	8 / 167
100	10,000	666	18.9[1]	8 / 71
105	10,500	666	18.9[1]	76 / 51
110	11,000	666	18.9[1]	44 / 38
115	11,540	666	18.9[1]	17 / 74
122	12,216	666	18.9[1]	8 / 120
125	12,538	666	18.9[1]	123 / 8
129	12,913	666	18.9[1]	153 / 8
145	14,500	666	18.9[1]	90 / 165
150	15,000	666	19.4	15 / 117

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
156	15,595	666	20.2	123 / 7
161	16,112	666	21.0	43 / 77
165	16,500	666	21.8	54 / 106
170	17,032	666	22.7	53 / 6
175	17,518	666	23.4	35 / 105
183	18,312	666	24.0	63 / 113
191	19,078	666	24.7	7 / 84
197	19,682	666	25.5	147 / 7
205	20,491	666	26.2	122 / 16
211	21,068	666	27.0	12 / 128
215	21,540	666	27.7	10 / 86
221	22,087	666	28.7	67 / 174
225	22,500	666	29.5	15 / 92
229	22,947	666	30.4	52 / 27
235	23,539	666	31.6	59 / 39
240	23,952	666	32.2	87 / 46
245	24,500	666	33.0	18 / 133
249	24,893	666	33.7	56 / 119
255	25,500	666	34.8	25 / 96
260	26,000	666	36.1	90 / 4
268	26,839	666	38.6	52 / 69
275	27,500	666	40.1	64 / 27
280	27,974	666	40.6	85 / 64
287	28,709	666	41.1	121 / 36
292	29,222	666	41.7	45 / 83
Black Swamp				
006	550	858	48.8[1]	36 / 120
011	1,100	858	48.8[1]	150 / 35
017	1,650	858	48.8[1]	90 / 100
022	2,189	858	48.8[1]	60 / 300
033	3,300	858	51.4	100 / 60
039	3,879	858	52.0	169 / 109
044	4,400	858	52.6	400 / 100
050	4,950	766	53.4	300 / 200
055	5,500	766	53.7	600 / 100
061	6,050	766	53.8	600 / 199
066	6,600	766	53.9	638 / 348
072	7,150	766	54.2	50 / 310
077	7,700	766	55.1	30 / 600
083	8,250	766	55.7	620 / 125
088	8,800	766	56.4	500 / 150
095	9,498	697	58.0	50 / 150
Black Swamp Creek				
054	5,445	5,220	10.9	116 / 349
060	6,000	5,220	11.2	319 / 445

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
065	6,508	5,220	11.4	494 / 305
070	6,998	5,220	11.6	277 / 467
075	7,500	5,220	11.8	487 / 480
080	7,963	5,220	11.6	88 / 70
080	8,016	5,220	13.9	38 / 53
085	8,502	5,220	15.1	23 / 788
090	9,004	5,220	15.2	52 / 828
095	9,461	5,220	15.2	197 / 932
101	10,109	5,220	15.3	323 / 673
109	10,856	5,150	15.4	244 / 907
114	11,366	5,150	15.5	342 / 725
120	12,012	5,060	15.6	639 / 250
125	12,511	5,060	15.7	595 / 354
130	13,011	5,060	15.8	494 / 319
135	13,511	5,060	15.9	472 / 693
140	14,010	5,060	16.0	309 / 614
145	14,511	5,060	16.2	22 / 535
150	14,957	5,060	16.5	36 / 603
155	15,510	5,060	16.9	163 / 533
160	16,010	5,060	17.1	267 / 487
165	16,509	5,060	17.3	359 / 377
170	17,009	4,990	17.5	282 / 519
175	17,509	4,990	17.7	402 / 282
180	18,009	4,990	18.0	340 / 297
185	18,509	4,990	18.3	533 / 124
190	19,009	4,910	18.6	399 / 362
195	19,523	4,910	19.0	114 / 706
200	20,009	4,910	19.2	401 / 415
205	20,508	4,910	19.5	248 / 337
210	21,009	4,560	19.9	20 / 551
214	21,352	4,560	20.2	15 / 601
214	21,389	4,560	20.3	15 / 594
221	22,129	4,560	20.9	146 / 459
225	22,549	4,400	21.4	19 / 550
231	23,075	4,400	21.9	212 / 125
237	23,722	4,400	22.3	347 / 497
242	24,248	4,400	22.4	316 / 389
247	24,740	4,400	22.5	347 / 540
253	25,271	4,400	22.6	161 / 748
255	25,535	4,400	22.6	360 / 558
262	26,247	4,400	22.7	122 / 563
266	26,595	4,300	22.8	321 / 555
271	27,059	4,300	23.0	171 / 628
276	27,590	4,300	23.1	140 / 638
281	28,099	4,300	23.3	42 / 555

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
286	28,598	4,300	23.6	69 / 630
291	29,104	4,300	23.9	270 / 404
296	29,609	4,300	24.1	347 / 398
301	30,111	4,300	24.3	375 / 193
306	30,610	3,850	24.5	496 / 145
311	31,111	3,850	24.7	397 / 314
316	31,611	3,850	24.9	160 / 402
321	32,111	3,850	25.2	137 / 412
326	32,610	3,740	25.6	326 / 307
331	33,109	3,740	25.8	517 / 119
336	33,612	3,740	26.1	286 / 130
341	34,111	3,740	26.5	179 / 327
346	34,611	3,740	26.8	152 / 377
351	35,113	3,740	27.1	347 / 279
355	35,457	3,740	27.3	543 / 248
355	35,493	3,740	27.5	542 / 248
361	36,108	3,700	28.0	571 / 247
366	36,612	3,700	28.1	478 / 384
371	37,110	3,700	28.2	315 / 658
376	37,611	3,700	28.4	600 / 573
381	38,111	3,480	28.6	530 / 63
386	38,609	3,480	28.9	411 / 242
391	39,109	3,480	29.3	492 / 99
396	39,609	3,480	29.6	597 / 52
401	40,107	3,360	29.9	522 / 76
406	40,647	3,360	30.2	714 / 127
411	41,104	3,360	30.5	532 / 17
418	41,801	3,360	30.9	96 / 566
426	42,599	3,360	31.3	300 / 435
435	43,496	2,250	32.0	302 / 205
443	44,299	2,250	32.5	50 / 50
444	44,352	2,250	33.5	50 / 50
452	45,212	1,720	34.0	489 / 224
460	46,023	1,320	34.5	476 / 4
466	46,571	1,320	34.9	379 / 167
471	47,087	1,320	35.3	259 / 78
482	48,215	1,320	36.4	1,119 / 78
491	49,089	1,320	36.9	1,548 / 4
Chinquapin Branch				
009	925	1,771	30.3[1]	41 / 25
015	1,536	1,771	30.3[1]	25 / 23
024	2,354	1,771	30.3[1]	38 / 360
030	2,998	1,771	30.3[1]	429 / 16
035	3,471	1,771	30.3[1]	163 / 35
040	4,000	1,771	30.3[1]	29 / 374

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
045	4,500	1,771	30.3[1]	79 / 522
051	5,099	1,771	30.3[1]	248 / 89
058	5,778	1,771	30.3[1]	84 / 506
065	6,541	1,771	30.3[1]	26 / 513
073	7,265	1,771	30.3[1]	69 / 411
085	8,489	1,771	30.3[1]	201 / 210
093	9,325	1,771	30.3[1]	21 / 204
100	10,038	1,771	30.3[1]	17 / 242
114	11,365	1,771	30.3[1]	17 / 390
119	11,892	1,771	30.3[1]	27 / 290
130	12,980	1,771	30.3[1]	242 / 25
143	14,311	1,771	30.3[1]	25 / 345
151	15,136	1,771	30.3[1]	69 / 187
156	15,569	1,771	30.3[1]	81 / 289
161	16,147	1,771	30.3[1]	334 / 25
166	16,578	1,771	30.3[1]	101 / 18
173	17,336	1,771	30.8	108 / 330
180	18,047	1,771	31.1	377 / 20
185	18,453	1,771	31.2	122 / 150
191	19,149	1,771	31.7	277 / 200
196	19,577	1,771	31.9	191 / 217
200	20,000	1,771	32.1	99 / 136
205	20,500	1,771	32.6	25 / 292
210	21,000	1,771	33.1	25 / 193
222	22,202	1,771	35.0	117 / 110
229	22,863	1,771	35.4	106 / 50
236	23,552	1,771	36.0	321 / 45
240	24,000	1,771	36.3	583 / 35
244	24,404	1,771	36.3	526 / 50
250	25,000	1,771	36.9	222 / 36
256	25,573	1,771	37.4	299 / 103
269	26,940	1,771	38.3	202 / 232
275	27,500	1,771	38.6	120 / 111
Crooked Run				
177	17,669	2,818	30.3	359 / 60
185	18,498	2,594	31.0	220 / 100
189	18,930	2,594	31.1	150 / 150
194	19,367	2,594	31.3	80 / 90
198	19,768	2,594	31.7	142 / 70
204	20,364	2,594	32.2	100 / 60
214	21,409	2,594	33.2	60 / 150
221	22,067	2,594	33.5	460 / 27
226	22,566	2,594	33.6	133 / 50
230	22,998	2,594	33.9	180 / 200
234	23,389	2,556	34.1	660 / 110

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
240	23,998	2,556	34.2	107 / 26
245	24,498	2,556	34.8	40 / 553
250	24,998	2,556	34.9	289 / 830
254	25,437	2,556	35.0	367 / 812
259	25,933	2,556	35.0	224 / 1,109
266	26,573	2,556	35.1	294 / 468
271	27,062	2,556	35.4	588 / 175
275	27,498	2,556	35.6	234 / 312
280	28,039	2,282	36.0	299 / 275
284	28,385	2,282	36.3	400 / 28
290	28,998	2,282	36.7	527 / 384
295	29,498	2,282	36.9	336 / 438
300	29,998	2,282	37.2	303 / 105
305	30,498	2,282	37.6	373 / 82
310	30,998	2,134	37.8	430 / 150
315	31,498	2,134	38.0	584 / 113
319	31,871	2,134	38.2	405 / 223
323	32,276	2,134	38.4	784 / 204
327	32,745	2,134	38.5	792 / 66
331	33,142	2,134	38.7	678 / 50
340	33,998	2,134	39.1	278 / 274
350	34,998	2,134	39.4	201 / 343
358	35,768	1,789	39.7	220 / 130
368	36,807	1,789	40.1	100 / 410
378	37,831	1,789	40.5	100 / 310
389	38,885	1,789	41.3	110 / 190
398	39,814	1,700	42.0	65 / 414
405	40,510	1,700	42.4	155 / 289
412	41,151	1,700	42.8	100 / 400
424	42,376	1,557	43.5	95 / 310
440	43,977	573	44.2	480 / 64
445	44,498	1,557	44.4	320 / 168
455	45,498	573	45.4	25 / 70
Cypress Creek				
005	529	2,408	42.9[1]	15 / 702
010	1,000	2,408	42.9[1]	55 / 816
019	1,859	2,408	42.9[1]	15 / 608
028	2,795	2,408	42.9[1]	131 / 44
034	3,367	2,408	42.9[1]	1,077 / 15
039	3,948	2,408	42.9[1]	1,258 / 15
044	4,410	2,408	42.9[1]	384 / 165
050	5,000	2,352	42.9[1]	454 / 140
067	6,747	2,352	42.9[1]	171 / 539
075	7,500	2,352	42.9[1]	341 / 194
087	8,667	2,192	42.9[1]	127 / 342

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
100	10,000	2,192	43.1	189 / 101
120	12,000	2,091	44.4	307 / 129
125	12,500	2,091	44.6	52 / 348
130	13,000	2,091	44.7	243 / 115
135	13,500	2,091	44.9	251 / 141
140	14,000	2,091	45.1	233 / 122
145	14,500	2,091	45.4	206 / 227
150	15,000	1,958	45.6	257 / 251
155	15,500	1,958	45.8	171 / 186
160	16,000	1,958	46.1	244 / 57
165	16,500	1,958	46.5	292 / 30
170	17,000	1,958	46.8	197 / 25
175	17,500	1,958	47.3	121 / 167
180	18,000	1,958	47.6	162 / 193
185	18,500	1,958	48.0	125 / 208
190	19,000	1,958	48.4	79 / 306
195	19,500	1,958	48.6	135 / 464
200	20,000	1,293	48.8	353 / 68
207	20,657	1,293	49.0	465 / 47
215	21,456	1,293	49.4	174 / 122
220	22,046	1,293	49.9	67 / 215
227	22,651	1,293	50.5	109 / 182
233	23,291	1,293	50.9	20 / 376
250	25,014	1,211	53.3	281 / 260
260	26,028	1,211	53.6	80 / 731
Deep Bottom Branch				
009	899	1,094	29.0[1]	120 / 15
013	1,314	1,094	29.0[1]	100 / 20
022	2,187	1,094	29.0[1]	120 / 60
030	2,976	1,094	29.0[1]	52 / 115
035	3,523	1,015	29.0[1]	80 / 80
042	4,166	1,015	29.0[1]	60 / 180
058	5,829	366	32.6	5 / 7
065	6,518	337	34.7	5 / 8
080	7,989	337	36.9	7 / 9
085	8,500	337	42.0	5 / 9
090	9,000	337	43.7	5 / 7
095	9,500	337	45.4	6 / 7
101	10,132	337	47.6	5 / 5
105	10,500	337	49.0	17 / 8
111	11,119	337	50.2	9 / 8
115	11,500	337	50.9	42 / 7
120	12,000	337	51.2	20 / 7
125	12,500	337	52.3	5 / 6
130	13,000	337	53.4	40 / 4

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
135	13,500	337	53.6	14 / 50
Flat Swamp				
007	716	1,280	44.3[1]	34 / 185
013	1,276	1,280	44.3[1]	133 / 146
020	1,992	1,280	44.5	203 / 219
040	3,958	1,105	46.2	900 / 38
044	4,427	1,105	46.3	753 / 99
050	4,958	1,105	46.6	8 / 455
062	6,191	1,105	48.6	88 / 278
071	7,137	753	48.7	203 / 382
077	7,722	753	48.9	8 / 139
085	8,500	478	49.6	24 / 564
090	9,000	478	49.8	169 / 116
095	9,500	478	50.1	285 / 270
Flat Swamp Tributary				
006	587	554	48.6[1]	107 / 98
012	1,218	554	48.6[1]	130 / 89
Goshen Branch				
004	418	807	14.6[2]	169 / 30
013	1,338	807	14.7[2]	166 / 135
021	2,093	807	14.8[2]	114 / 15
026	2,557	807	14.8[2]	180 / 43
029	2,931	807	14.8[2]	174 / 45
033	3,279	807	14.8[2]	86 / 56
039	3,903	807	14.8[1]	21 / 149
046	4,629	807	14.8[1]	7 / 111
053	5,300	698	14.8[1]	52 / 104
059	5,942	698	14.8[1]	95 / 5
065	6,500	698	14.8[1]	18 / 117
070	7,000	698	15.2	52 / 10
075	7,500	698	17.6	110 / 5
080	8,000	698	19.9	33 / 6
085	8,500	698	22.0	63 / 34
095	9,506	533	23.0	39 / 104
Grape Branch				
006	623	1,037	62.2[1]	73 / 72
010	1,000	1,037	62.2[1]	100 / 44
015	1,500	1,037	62.2[1]	116 / 64
030	3,000	1,037	62.6	366 / 38
035	3,500	1,037	63.0	168 / 65
042	4,168	1,037	63.8	205 / 118
045	4,541	1,037	64.2	51 / 195
054	5,373	782	65.6	101 / 66
060	6,000	782	66.8	168 / 38
065	6,500	782	67.9	54 / 110
070	7,000	782	68.8	136 / 41

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
075	7,500	782	69.3	21 / 123
079	7,903	782	69.7	130 / 30
085	8,500	782	70.7	147 / 19
090	9,000	782	71.6	11 / 157
095	9,500	782	72.7	93 / 76
Grape Branch Tributary				
004	403	543	64.4[1]	104 / 116
009	882	543	65.7	20 / 106
012	1,176	543	66.8	151 / 15
Heath Mill Run				
010	1,000	1,097	32.0	10 / 92
015	1,467	1,097	33.3	10 / 63
025	2,471	1,097	39.3	108 / 90
028	2,815	1,097	39.3	141 / 108
035	3,500	1,097	39.4	72 / 148
040	3,975	1,097	39.5	22 / 183
045	4,522	1,097	39.7	15 / 169
050	5,000	1,097	40.0	105 / 91
055	5,549	1,097	40.3	154 / 10
061	6,127	1,097	40.8	170 / 26
066	6,584	1,097	41.4	109 / 81
071	7,089	1,097	42.3	24 / 86
075	7,545	1,097	43.6	17 / 179
085	8,519	1,007	48.5	98 / 98
090	9,000	1,007	48.7	5 / 200
095	9,500	1,007	49.1	156 / 8
098	9,815	1,007	49.5	85 / 69
104	10,425	918	50.1	41 / 88
110	11,017	918	50.7	83 / 39
117	11,673	870	51.4	31 / 53
Hollis Branch				
042	4,244	624	34.1	12 / 278
051	5,116	624	35.3	19 / 265
062	6,203	624	35.6	588 / 12
Holston Creek				
105	10,506	2,600	11.4	288 / 45
110	11,007	2,600	11.7	113 / 198
116	11,571	2,460	12.0	231 / 179
121	12,104	2,460	12.2	282 / 74
127	12,726	2,310	12.6	26 / 301
133	13,266	2,310	13.0	12 / 230
138	13,766	2,310	13.4	43 / 337
143	14,266	2,310	13.8	90 / 209
148	14,839	2,310	14.3	36 / 231
152	15,165	2,310	14.6	14 / 300
157	15,669	2,310	15.1	35 / 208

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
163	16,251	2,310	15.8	172 / 116
168	16,782	2,310	16.4	130 / 191
172	17,195	2,310	16.8	109 / 186
177	17,686	2,310	17.4	185 / 177
182	18,186	2,310	18.0	113 / 295
187	18,686	2,220	18.6	336 / 28
192	19,195	2,220	19.5	174 / 117
197	19,685	2,220	20.3	147 / 130
202	20,185	2,220	21.0	206 / 125
231	23,131	1,730	22.7	31 / 254
Hunters Creek				
227	22,720	4,800	11.3	384 / 119
234	23,445	4,800	11.7	266 / 92
243	24,308	4,800	12.5	122 / 291
249	24,854	4,800	12.8	213 / 289
254	25,371	4,720	13.1	424 / 131
259	25,902	4,720	13.3	242 / 632
270	26,990	4,620	13.5	1,094 / 67
279	27,948	4,620	13.8	350 / 460
285	28,473	4,620	14.2	284 / 194
294	29,364	4,620	14.8	598 / 138
302	30,229	4,620	15.3	168 / 216
308	30,752	4,570	15.6	209 / 301
313	31,316	4,570	15.9	162 / 408
323	32,280	4,470	16.3	164 / 342
329	32,950	4,470	16.8	380 / 31
333	33,315	4,430	17.0	211 / 376
340	33,956	4,430	17.3	187 / 416
344	34,425	4,430	17.6	394 / 26
349	34,903	4,430	17.8	388 / 275
353	35,300	4,430	17.9	80 / 430
356	35,620	4,430	18.0	205 / 392
359	35,903	4,430	18.1	210 / 401
365	36,498	4,430	18.4	181 / 348
369	36,922	4,430	18.6	237 / 420
373	37,349	4,430	18.8	426 / 169
378	37,798	4,430	19.0	320 / 200
382	38,216	4,430	19.3	332 / 386
386	38,645	4,340	19.5	515 / 248
394	39,355	4,340	19.8	212 / 303
400	39,967	4,240	20.2	253 / 243
407	40,738	4,240	20.6	387 / 320
413	41,271	4,240	20.8	353 / 382
420	42,026	4,240	21.1	334 / 247
427	42,742	4,240	21.4	328 / 268

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
434	43,437	4,200	21.7	286 / 506
441	44,088	4,200	21.9	322 / 356
447	44,673	4,200	22.2	261 / 296
454	45,430	4,200	22.5	274 / 444
460	45,968	4,200	22.8	208 / 301
467	46,668	3,500	23.3	353 / 224
472	47,173	3,500	23.7	416 / 152
478	47,846	3,500	24.5	424 / 64
484	48,385	3,500	25.3	303 / 173
490	48,993	3,440	26.2	233 / 307
499	49,893	3,440	27.1	199 / 193
506	50,563	3,440	27.6	116 / 389
510	51,026	3,440	27.9	196 / 271
517	51,660	3,440	28.4	100 / 273
523	52,327	3,110	29.2	126 / 297
587	58,693	2,210	34.7	187 / 1,633
594	59,413	2,210	35.0	250 / 350
603	60,288	2,210	35.6	634 / 507
611	61,117	2,130	36.6	350 / 200
620	62,004	2,130	37.3	750 / 550
627	62,750	2,130	38.2	200 / 350
635	63,477	2,130	38.8	592 / 593
Island Branch Swamp				
005	481	468	26.8[1]	5 / 162
013	1,284	468	26.8[1]	60 / 37
018	1,750	468	26.8[1]	9 / 66
022	2,234	468	26.8[1]	68 / 40
030	2,963	468	26.8[1]	10 / 50
038	3,777	468	26.8[1]	31 / 12
046	4,584	468	29.8	10 / 49
Island Creek				
110	11,018	1,814	9.4	65 / 35
116	11,634	1,814	9.9	241 / 26
124	12,413	1,814	10.2	14 / 70
131	13,097	1,814	11.0	69 / 130
142	14,195	1,814	11.6	60 / 15
150	15,000	1,814	12.5	58 / 21
157	15,673	1,814	13.0	134 / 21
163	16,270	1,814	13.4	171 / 11
170	17,000	1,814	13.8	60 / 12
176	17,641	1,814	14.4	97 / 39
188	18,756	1,814	15.2	151 / 17
194	19,362	1,814	15.5	45 / 40
194	19,412	1,814	16.0	45 / 40
204	20,364	1,597	16.8	154 / 69

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
210	21,000	1,597	16.9	40 / 86
215	21,500	1,597	17.2	62 / 89
220	22,000	1,597	17.4	107 / 97
225	22,465	1,597	17.6	9 / 192
231	23,107	1,597	17.9	133 / 61
236	23,588	1,597	18.2	38 / 121
240	24,000	1,597	18.5	78 / 130
244	24,408	1,597	18.6	40 / 185
251	25,063	1,597	18.9	47 / 71
255	25,500	1,597	19.4	112 / 100
260	26,000	1,597	19.6	187 / 39
Joshua Creek				
001	134	2,394	57.7[1]	31 / 168
007	747	2,394	57.7[1]	220 / 80
013	1,343	2,394	57.7[1]	124 / 309
019	1,940	2,394	57.7[1]	72 / 560
025	2,500	2,394	57.7[1]	54 / 290
030	3,000	2,394	57.7[1]	106 / 289
035	3,500	2,394	57.7[1]	83 / 157
041	4,069	2,394	57.7[1]	105 / 507
050	5,000	2,249	57.7[1]	50 / 456
055	5,500	2,249	57.7[1]	191 / 160
060	6,000	2,249	57.8	608 / 100
064	6,393	2,249	58.1	620 / 40
070	7,000	2,249	58.5	505 / 80
075	7,500	2,249	58.8	255 / 355
077	7,732	2,229	58.8	676 / 71
085	8,500	2,229	59.0	449 / 52
090	9,000	2,229	59.3	86 / 278
095	9,500	2,229	59.8	150 / 110
100	10,000	2,229	60.2	141 / 300
105	10,500	2,229	60.4	391 / 344
109	10,933	2,229	60.5	391 / 201
115	11,500	1,932	60.7	235 / 116
120	12,000	1,932	60.9	191 / 322
125	12,458	1,932	61.1	40 / 400
130	13,000	1,932	61.3	324 / 357
139	13,942	1,932	63.6	403 / 213
150	14,964	1,741	63.8	91 / 349
155	15,500	1,741	64.0	196 / 113
160	16,000	1,741	64.2	30 / 430
166	16,597	1,741	64.5	121 / 357
171	17,075	1,741	64.7	307 / 153
Jumping Creek				
014	1,438	1,500	20.9[1]	300 / 250

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
025	2,500	1,435	20.9[1]	150 / 540
031	3,119	1,435	20.9[1]	283 / 128
040	4,000	1,435	20.9[1]	291 / 15
045	4,500	1,435	20.9[1]	177 / 245
051	5,091	1,435	20.9[1]	10 / 319
059	5,857	1,435	20.9[1]	25 / 88
065	6,550	1,435	20.9[1]	75 / 119
078	7,803	1,435	20.9[1]	434 / 18
084	8,443	1,435	20.9[1]	271 / 12
091	9,102	1,435	20.9[1]	307 / 101
096	9,649	1,435	20.9[1]	132 / 247
100	10,000	1,338	20.9[1]	120 / 387
105	10,500	1,338	20.9[1]	120 / 176
110	11,000	1,338	20.9[1]	22 / 262
116	11,556	1,338	20.9[1]	12 / 136
121	12,055	1,338	20.9[1]	168 / 16
126	12,584	1,338	20.9[1]	202 / 10
132	13,221	1,338	20.9[1]	104 / 89
137	13,745	1,338	20.9[1]	83 / 123
153	15,272	1,338	24.6	271 / 40
160	16,000	1,338	24.7	244 / 22
168	16,753	1,217	25.1	206 / 153
171	17,086	1,217	25.3	49 / 118
176	17,551	1,217	26.2	74 / 111
180	18,000	1,217	27.0	37 / 117
185	18,500	1,217	27.8	131 / 18
192	19,166	1,217	28.6	85 / 106
196	19,612	1,217	29.1	69 / 121
200	20,027	1,217	29.6	49 / 177
205	20,546	1,217	30.1	167 / 90
211	21,130	1,217	31.0	193 / 22
218	21,838	1,217	32.1	186 / 69
Little Chinquapin Branch				
005	500	1,489	36.2[1]	50 / 130
019	1,876	1,489	36.2[1]	90 / 70
025	2,500	1,489	36.2[1]	337 / 170
029	2,876	1,489	36.2[1]	73 / 157
035	3,500	1,489	36.2[1]	210 / 186
044	4,350	1,401	36.2[1]	25 / 240
050	5,000	1,401	36.2[1]	173 / 36
055	5,500	1,401	36.2[1]	121 / 165
059	5,920	1,401	36.2[1]	135 / 121
064	6,436	1,401	36.8	233 / 76
070	7,000	1,297	37.6	46 / 210
075	7,500	1,297	38.4	30 / 120

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
080	8,000	1,297	39.0	41 / 275
095	9,500	1,297	40.2	25 / 320
100	10,000	1,035	40.6	25 / 380
105	10,500	1,035	40.8	40 / 180
110	11,000	1,035	41.4	106 / 17
115	11,500	1,035	42.1	31 / 118
120	12,000	1,035	42.6	28 / 36
125	12,500	1,035	43.3	147 / 25
140	14,000	979	45.8	40 / 200
145	14,500	979	46.1	27 / 180
150	14,956	979	46.5	33 / 180
155	15,500	979	47.2	20 / 128
160	16,000	979	48.2	145 / 50
165	16,500	979	48.8	145 / 50
Little Hell Creek				
015	1,504	1,513	15.3[1]	780 / 30
025	2,500	1,513	15.3[1]	691 / 158
029	2,897	1,513	15.3[1]	658 / 156
035	3,500	1,513	15.3[1]	407 / 48
040	4,000	1,513	15.3[1]	421 / 290
044	4,445	1,513	15.3[1]	403 / 111
049	4,933	1,513	15.3[1]	879 / 45
055	5,500	1,513	15.3[1]	561 / 41
060	6,000	1,513	15.3[1]	655 / 43
065	6,500	1,513	15.3[1]	195 / 150
070	7,000	1,513	15.3[1]	278 / 215
075	7,500	1,513	15.3[1]	89 / 101
080	8,000	1,513	15.3[1]	190 / 41
085	8,500	1,513	15.3[1]	200 / 86
090	9,000	1,513	15.3[1]	200 / 85
095	9,500	1,513	15.3[1]	100 / 100
101	10,083	1,513	15.3[1]	100 / 15
105	10,455	1,513	15.3[1]	100 / 75
110	11,000	1,513	15.3[1]	350 / 20
115	11,500	1,513	15.3[1]	420 / 15
120	11,994	1,513	15.3[1]	686 / 42
125	12,500	1,513	15.3[1]	512 / 221
130	13,000	1,513	15.3[1]	161 / 226
134	13,388	1,366	15.3[1]	220 / 457
142	14,248	1,366	15.3[1]	268 / 849
146	14,646	1,366	15.3[1]	331 / 603
150	15,023	1,366	15.3[1]	198 / 394
156	15,559	1,366	15.3[1]	165 / 104
161	16,078	1,366	15.3[1]	139 / 94
164	16,447	1,366	15.3[1]	147 / 118

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
170	17,000	1,366	15.3[1]	124 / 116
174	17,428	1,366	15.3[1]	131 / 104
179	17,922	1,366	15.3[1]	79 / 60
184	18,384	1,366	15.3[1]	121 / 26
196	19,615	1,366	17.0	70 / 79
201	20,064	1,366	17.1	194 / 77
205	20,460	1,366	17.2	161 / 63
210	21,002	1,248	17.5	52 / 188
215	21,500	1,248	17.8	103 / 116
221	22,117	1,248	18.3	62 / 88
230	23,000	1,128	19.4	7 / 232
237	23,712	1,128	20.0	162 / 7
242	24,174	1,128	20.4	111 / 72
245	24,500	1,128	20.7	52 / 139
252	25,247	1,042	21.7	20 / 130
256	25,616	1,042	22.8	89 / 61
261	26,107	1,042	24.2	75 / 53
265	26,500	1,042	24.9	178 / 18
271	27,144	1,042	25.8	121 / 29
275	27,500	1,042	26.5	25 / 82
280	28,000	926	27.4	82 / 57
285	28,500	926	28.1	73 / 70
Long Branch				
012	1,161	915	18.2[1]	190 / 10
025	2,532	915	18.2[1]	105 / 85
031	3,052	915	18.2[1]	90 / 90
035	3,500	915	18.2[1]	80 / 100
041	4,054	915	18.2[1]	9 / 110
046	4,632	915	18.2[1]	15 / 190
052	5,179	824	18.2[1]	140 / 50
060	5,954	824	18.2[1]	20 / 80
065	6,500	805	18.2[1]	86 / 79
070	7,000	805	18.2[1]	10 / 98
073	7,263	805	18.2[1]	14 / 137
079	7,873	784	18.2[1]	70 / 90
081	8,131	784	18.2[1]	5 / 270
092	9,167	771	19.8	100 / 50
100	10,000	771	20.3	4 / 142
106	10,618	357	21.0	5 / 53
110	11,000	357	21.6	5 / 29
115	11,500	357	24.8	9 / 7
121	12,117	357	28.6	4 / 40
130	13,041	357	33.8	20 / 40
Mill Branch				
005	500	768	40.4[1]	32 / 78

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
012	1,178	768	40.4[1]	57 / 35
014	1,432	768	40.4[1]	10 / 92
020	1,971	768	40.4[1]	66 / 63
024	2,442	768	40.4[1]	127 / 61
040	4,000	520	40.4[1]	94 / 43
045	4,500	520	40.4[1]	168 / 27
050	5,042	421	40.4[1]	57 / 52
054	5,372	421	40.4[1]	45 / 41
061	6,129	421	40.4[1]	15 / 17
065	6,500	421	42.1	33 / 8
070	7,000	421	43.9	15 / 26
Mill Creek				
071	7,091	3,270	13.8[1]	42 / 66
075	7,500	3,244	13.8[1]	97 / 46
080	7,997	3,244	13.8[1]	64 / 92
092	9,237	3,244	13.8[1]	159 / 490
099	9,850	3,244	13.8[1]	528 / 535
106	10,561	3,244	13.8[1]	595 / 336
110	11,000	3,244	13.8[1]	464 / 521
115	11,500	3,171	13.8[1]	308 / 323
123	12,317	3,171	13.8[1]	510 / 302
131	13,053	3,171	13.8[1]	595 / 203
139	13,906	3,171	13.8[1]	642 / 339
145	14,500	3,171	13.8[1]	317 / 422
153	15,279	3,171	13.8[1]	513 / 353
160	16,000	3,171	13.8[1]	411 / 430
171	17,123	2,606	13.8[1]	103 / 280
175	17,517	2,606	13.8[1]	93 / 504
183	18,310	2,606	13.8[1]	139 / 442
190	19,022	2,583	13.8[1]	48 / 486
196	19,623	2,583	13.8[1]	225 / 30
207	20,713	2,583	13.8[1]	34 / 223
218	21,756	2,583	13.8[1]	770 / 103
226	22,602	2,583	13.8[1]	241 / 342
233	23,339	2,583	13.8[1]	291 / 30
243	24,322	2,583	13.9	233 / 133
252	25,190	2,417	14.1	622 / 40
261	26,052	2,417	14.3	355 / 103
268	26,836	2,417	14.7	334 / 159
278	27,763	2,417	15.0	192 / 408
290	28,967	2,319	15.6	177 / 257
298	29,808	2,319	16.3	16 / 115
308	30,806	2,319	17.6	235 / 22
314	31,435	2,319	18.0	109 / 279
321	32,149	2,319	18.4	40 / 90

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
329	32,902	2,319	19.5	159 / 46
338	33,784	2,319	20.1	31 / 223
350	34,974	2,319	20.6	83 / 323
366	36,623	2,285	21.6	40 / 257
371	37,123	2,285	22.0	152 / 198
378	37,839	2,285	22.4	121 / 271
388	38,777	2,285	22.8	269 / 105
396	39,623	2,285	23.1	204 / 251
402	40,197	2,285	23.3	152 / 274
407	40,727	2,285	23.4	386 / 50
416	41,609	2,057	23.7	431 / 170
426	42,623	2,057	23.9	370 / 316
431	43,123	991	23.9	493 / 200
437	43,716	991	24.0	229 / 67
444	44,398	991	24.3	88 / 143
463	46,345	991	25.9	185 / 13
471	47,123	991	27.4	151 / 25
478	47,786	991	28.6	61 / 103
484	48,399	991	29.2	80 / 115
491	49,123	991	29.9	61 / 164
502	50,245	843	31.2	87 / 60
511	51,123	665	32.2	66 / 195
516	51,623	665	32.8	80 / 268
521	52,123	665	33.4	80 / 380
527	52,700	665	34.0	80 / 370
532	53,220	665	34.7	464 / 100
536	53,623	665	35.2	150 / 404
541	54,123	665	35.7	361 / 165
546	54,623	665	36.2	400 / 318
551	55,123	665	36.3	648 / 311
556	55,623	665	36.4	488 / 474
561	56,123	665	36.5	500 / 200
566	56,623	665	36.6	393 / 150
572	57,188	479	36.8	700 / 100
577	57,722	479	36.8	850 / 50
Mill Creek Tributary 1				
005	522	1,476	13.8[1]	107 / 321
011	1,095	1,476	13.8[1]	30 / 300
015	1,452	1,476	13.8[1]	100 / 200
020	2,000	1,476	13.8[1]	50 / 30
031	3,116	1,476	15.4	35 / 100
041	4,107	1,426	16.2	135 / 180
045	4,500	1,426	16.5	162 / 27
056	5,636	965	18.4	30 / 27
061	6,112	965	19.7	116 / 51

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
067	6,707	965	20.6	132 / 51
071	7,081	965	21.5	31 / 28
078	7,763	965	23.5	105 / 18
Mill Run				
004	410	1,665	15.6[1]	220 / 90
010	1,000	1,665	15.6[1]	220 / 50
016	1,582	1,665	15.6[1]	20 / 180
030	3,000	1,547	15.6[1]	80 / 80
038	3,787	1,547	15.6[1]	144 / 105
044	4,419	1,547	15.6[1]	195 / 25
049	4,925	1,547	15.6[1]	194 / 51
055	5,500	1,547	15.6[1]	188 / 97
066	6,566	1,160	15.6[1]	130 / 29
071	7,128	1,160	15.6[1]	15 / 140
075	7,500	1,160	15.6[1]	107 / 69
080	8,000	1,160	15.6[1]	139 / 85
085	8,500	1,160	16.1	108 / 7
090	9,000	1,160	17.2	79 / 115
095	9,500	1,160	17.8	85 / 80
101	10,087	1,160	18.7	15 / 130
107	10,665	1,160	19.6	105 / 115
115	11,455	853	20.7	139 / 68
121	12,122	853	22.0	102 / 15
126	12,569	853	23.9	72 / 15
130	13,000	853	25.4	60 / 20
136	13,564	816	26.8	138 / 15
139	13,915	816	27.5	153 / 15
Musselshell Creek				
005	500	2,091	26.0[1]	42 / 40
010	1,040	2,091	26.0[1]	25 / 20
018	1,772	2,091	26.0[1]	18 / 25
021	2,092	2,091	26.0[1]	17 / 20
026	2,589	2,091	26.0[1]	16 / 18
029	2,879	2,091	26.0[1]	14 / 18
039	3,893	2,091	26.0[1]	160 / 100
045	4,450	2,091	26.0[1]	40 / 200
050	5,000	2,048	26.0[1]	80 / 80
055	5,548	2,048	26.0[1]	70 / 85
060	5,962	2,048	26.0[1]	75 / 85
066	6,571	2,048	26.0[1]	150 / 95
078	7,791	2,048	26.0[1]	150 / 210
086	8,555	2,048	26.0[1]	175 / 75
090	9,046	2,048	26.0[1]	170 / 50
095	9,539	2,048	26.0[1]	115 / 46
100	10,000	2,048	26.0[1]	100 / 125

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
108	10,786	1,969	26.0[1]	50 / 150
111	11,125	1,969	26.0[1]	100 / 60
117	11,659	1,969	26.0[1]	145 / 100
121	12,059	1,969	26.0[1]	140 / 140
125	12,494	1,969	26.6	170 / 160
129	12,873	1,969	27.0	126 / 155
135	13,500	1,969	27.8	120 / 250
149	14,942	1,894	32.3	100 / 160
156	15,563	1,894	32.4	120 / 120
160	16,000	1,894	32.4	200 / 220
165	16,547	1,894	32.5	180 / 230
174	17,443	1,894	32.7	190 / 220
180	17,967	1,894	32.8	180 / 240
186	18,636	1,894	33.1	350 / 130
192	19,207	1,690	33.2	150 / 190
197	19,739	1,690	33.6	120 / 140
207	20,731	1,690	35.6	125 / 150
215	21,458	1,282	35.9	125 / 155
221	22,092	1,282	36.2	80 / 120
225	22,500	1,282	36.6	80 / 50
230	23,000	1,282	37.2	70 / 80
235	23,500	1,282	37.8	100 / 70
243	24,330	1,282	40.2	60 / 140
250	25,000	1,282	40.9	40 / 50
256	25,553	1,282	41.9	60 / 30
260	26,000	1,205	42.8	30 / 30
Pocoson Branch				
005	500	720	33.4[1]	145 / 52
010	1,000	720	33.4[1]	162 / 18
015	1,500	720	33.4[1]	74 / 24
020	2,000	720	33.4[1]	42 / 35
025	2,500	720	33.4[1]	6 / 108
030	3,000	720	33.4[1]	59 / 49
035	3,500	720	33.4[1]	13 / 81
040	4,000	720	33.4[1]	21 / 41
045	4,500	691	33.4[1]	27 / 33
050	5,000	691	33.8	28 / 14
065	6,500	691	36.5	24 / 6
070	7,000	691	38.8	20 / 6
075	7,474	691	40.0	15 / 91
082	8,204	691	41.1	13 / 25
085	8,500	691	42.2	12 / 29
090	9,000	691	43.4	10 / 43
095	9,500	691	44.5	10 / 37
100	10,000	691	45.6	57 / 12

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
105	10,500	691	46.3	44 / 30
117	11,659	691	48.3	16 / 32
123	12,277	471	50.1	13 / 17
Poplar Branch				
005	500	572	32.9[1]	25 / 85
010	1,000	572	32.9[1]	20 / 70
015	1,500	572	32.9[1]	60 / 25
020	2,000	572	32.9[1]	36 / 13
025	2,500	572	32.9[1]	41 / 10
030	3,000	514	33.2	9 / 66
045	4,500	297	36.2	100 / 10
050	4,992	297	36.3	20 / 13
055	5,500	297	38.9	10 / 20
060	6,000	297	40.0	17 / 12
065	6,500	297	41.7	17 / 15
070	7,000	297	43.3	20 / 40
075	7,500	252	44.4	20 / 50
080	8,000	252	45.3	15 / 15
085	8,500	252	46.6	21 / 79
090	9,000	252	47.4	18 / 75
Raccoon Creek				
054	5,429	870	9.7[1]	136 / 94
059	5,902	870	9.7[1]	102 / 106
060	5,967	870	10.0	135 / 54
065	6,500	870	10.1	140 / 305
070	7,000	870	10.1	417 / 115
074	7,437	753	10.2	152 / 29
081	8,074	753	10.4	81 / 92
088	8,789	753	10.8	49 / 154
094	9,377	534	11.4	47 / 51
100	10,000	534	14.0	31 / 64
105	10,500	534	15.4	63 / 15
110	11,048	500	17.0	26 / 98
115	11,500	500	18.4	82 / 10
120	12,020	500	20.6	20 / 72
Rattlesnake Branch				
006	623	1,807	42.7[1]	40 / 235
011	1,054	1,807	42.9	25 / 180
015	1,500	1,807	43.6	55 / 190
019	1,938	1,807	44.0	50 / 340
024	2,380	1,807	44.2	162 / 218
034	3,396	1,118	44.7	53 / 301
037	3,728	1,118	44.9	218 / 71
043	4,253	1,118	45.2	123 / 114
048	4,843	1,118	45.6	175 / 49
056	5,591	1,118	46.5	100 / 44

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
060	6,000	1,118	47.0	191 / 26
070	6,999	1,118	48.4	120 / 71
077	7,658	1,004	49.0	143 / 29
082	8,150	1,004	49.5	104 / 85
087	8,696	1,004	49.9	146 / 54
Resolution Branch				
007	663	963	26.8[1]	145 / 15
011	1,130	963	26.8[1]	109 / 40
015	1,500	963	26.8[1]	15 / 133
019	1,912	963	26.8[1]	97 / 69
024	2,359	963	26.8[1]	17 / 66
030	3,000	709	26.8[1]	43 / 48
037	3,686	709	26.8[1]	16 / 36
043	4,291	709	26.8[1]	16 / 23
053	5,337	682	26.8[1]	27 / 211
059	5,921	438	26.8[1]	37 / 6
065	6,550	438	28.3	6 / 6
070	7,036	438	31.7	6 / 6
075	7,500	438	33.6	9 / 6
080	8,000	438	35.5	9 / 6
085	8,500	438	39.9	5 / 6
090	9,000	438	42.4	20 / 20
095	9,500	438	44.6	20 / 20
Southwest Creek Tributary				
016	1,572	1,060	34.1[1]	122 / 106
025	2,512	1,060	34.1[1]	107 / 85
033	3,291	1,060	34.2	88 / 157
040	3,951	1,060	35.5	66 / 123
047	4,747	1,060	37.2	109 / 71
053	5,264	1,060	38.0	58 / 80
053	5,342	1,060	40.5	58 / 80
061	6,130	1,060	40.8	70 / 128
Tracey Swamp				
166	16,559	1,187	44.0	145 / 132
172	17,173	1,187	44.4	25 / 23
172	17,204	1,173	45.0	25 / 23
177	17,732	1,173	45.6	200 / 200
181	18,054	1,173	45.6	24 / 24
182	18,190	1,163	46.4	24 / 24
187	18,691	1,136	46.7	150 / 200
197	19,681	1,111	46.8	225 / 600
218	21,846	899	47.3	136 / 498
224	22,436	899	47.6	130 / 410
231	23,064	836	48.0	109 / 14
237	23,709	836	48.7	175 / 28
245	24,512	461	49.1	194 / 14

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
252	25,154	461	49.8	14 / 55
261	26,083	296	51.8	14 / 35
267	26,668	296	52.9	14 / 48
267	26,740	296	53.1	14 / 31
271	27,097	296	53.9	14 / 14
Tracey Swamp Tributary				
005	475	554	46.9[1]	55 / 95
009	923	554	47.1[1]	12 / 258
013	1,286	554	47.1[1]	28 / 266
022	2,171	360	47.1[1]	150 / 146
030	2,951	360	47.1[1]	14 / 301
034	3,412	360	47.2	14 / 337
041	4,116	333	47.8	15 / 180
046	4,597	333	48.7	27 / 82
056	5,582	272	53.2	22 / 23
Trent River				
1004	100,378	12,978	14.8	410 / 1,878
1010	101,021	12,953	14.8	454 / 128
1020	102,021	12,953	14.8	707 / 786
1030	103,021	12,953	14.8	492 / 405
1044	104,429	12,953	14.8	300 / 916
1060	106,021	12,953	14.9	422 / 271
1070	107,021	12,953	15.0	353 / 115
1080	108,021	12,944	15.1	848 / 802
1098	109,800	12,944	15.2	147 / 2,574
1118	111,846	12,756	15.3	150 / 4,412
1129	112,907	12,756	15.3	134 / 3,350
1170	117,024	12,756	15.4	1,015 / 518
1180	118,021	12,756	15.5	763 / 115
1190	119,021	12,756	15.6	736 / 75
1200	120,021	12,548	15.7	678 / 217
1210	121,021	12,548	15.8	642 / 237
1220	122,021	12,548	15.9	100 / 896
1230	123,021	12,548	16.0	457 / 115
1240	124,021	12,522	16.2	137 / 517
1250	125,021	12,522	16.3	108 / 485
1260	126,021	12,522	16.4	350 / 157
1270	127,021	12,522	16.6	615 / 115
1279	127,880	12,522	16.7	400 / 73
1293	129,324	12,522	17.0	86 / 423
1300	129,989	12,522	17.1	112 / 580
1330	133,021	12,472	17.4	713 / 115
1340	134,021	12,472	17.6	788 / 75
1350	135,021	12,472	17.7	414 / 344
1360	136,021	12,472	17.9	520 / 680

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
1364	136,437	12,472	17.9	581 / 959
1380	138,021	12,472	18.1	132 / 1,175
1390	139,021	12,385	18.3	227 / 1,736
1400	139,976	12,385	18.4	553 / 72
1420	142,021	12,385	18.7	248 / 435
1430	143,021	12,385	18.8	656 / 107
1450	145,021	12,228	19.0	1,994 / 323
1460	146,021	12,228	19.1	2,179 / 111
1469	146,918	12,228	19.1	2,293 / 406
1480	148,021	12,228	19.1	2,826 / 71
1500	150,021	12,194	19.2	1,359 / 1,767
1530	153,021	12,154	19.2	1,469 / 713
1540	154,021	12,154	19.3	148 / 1,100
1557	155,721	12,154	19.3	1,021 / 397
1570	157,021	12,154	19.4	1,350 / 455
1590	159,021	12,105	19.5	2,674 / 282
1600	160,021	12,105	19.5	2,695 / 180
1620	162,021	12,105	19.5	2,353 / 286
1637	163,706	12,105	19.6	1,897 / 573
1649	164,914	12,105	19.6	1,050 / 410
1670	167,021	11,928	19.7	800 / 600
1680	168,021	11,928	19.8	483 / 397
1690	169,019	11,928	20.0	772 / 69
1701	170,082	11,928	20.1	477 / 247
1710	171,021	11,928	20.2	745 / 479
1730	173,021	11,844	20.5	232 / 366
1740	174,021	11,844	20.7	120 / 950
1750	175,021	11,844	20.8	168 / 574
1760	176,021	11,838	20.9	883 / 529
1770	177,021	11,838	20.9	1,710 / 69
1783	178,258	11,838	21.0	1,619 / 69
1811	181,128	11,838	21.2	1,376 / 327
1828	182,783	11,838	21.2	600 / 810
1840	184,021	11,784	21.4	906 / 150
1850	185,021	11,784	21.5	136 / 608
1860	186,021	11,784	21.7	150 / 323
1880	188,008	11,784	22.0	154 / 172
1890	189,021	11,784	22.2	840 / 68
1900	190,021	11,784	22.3	320 / 115
1910	191,021	11,784	22.5	550 / 68
1915	191,510	11,784	22.6	584 / 83
2057	205,701	11,784	26.0	581 / 393
2063	206,308	10,803	26.0	106 / 413
2070	207,021	10,803	26.1	236 / 125
2080	208,021	10,803	26.3	85 / 576

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
2094	209,403	10,803	26.4	299 / 633
2110	211,021	10,803	26.5	345 / 157
2119	211,943	10,803	26.5	62 / 495
2130	213,021	10,803	26.6	62 / 415
2150	215,021	10,803	26.7	1,066 / 2,742
2170	217,021	10,803	26.7	1,150 / 1,355
2190	218,974	10,803	26.7	498 / 1,220
2201	220,071	10,803	26.8	421 / 924
2210	221,021	10,663	26.8	457 / 148
2220	222,021	10,663	26.9	204 / 454
2230	223,021	10,663	27.1	284 / 492
2240	224,021	10,663	27.2	75 / 700
2256	225,552	10,663	27.4	663 / 151
2280	228,021	10,663	27.6	151 / 1,606
2298	229,821	10,663	27.8	563 / 85
2310	231,021	10,663	27.9	396 / 124
2327	232,686	10,663	28.0	1,382 / 302
2350	235,025	10,616	28.1	1,444 / 391
2390	239,021	10,616	28.2	1,173 / 288
2406	240,620	10,616	28.2	925 / 627
2421	242,062	10,616	28.3	468 / 240
2430	243,021	10,616	28.4	1,243 / 180
2453	245,314	10,616	28.6	636 / 1,167
2470	247,002	9,333	28.6	348 / 839
2480	248,021	9,333	28.7	90 / 321
2497	249,675	9,333	28.9	644 / 53
2510	251,021	9,333	29.0	53 / 878
2520	252,021	9,333	29.2	157 / 2,395
2530	253,021	9,333	29.3	53 / 2,450
2540	254,021	9,303	29.3	650 / 1,574
2560	256,021	9,303	29.6	85 / 810
2570	257,021	9,303	29.8	850 / 730
2580	258,021	9,303	29.9	380 / 100
2602	260,172	9,303	30.3	380 / 650
2619	261,859	8,762	30.5	50 / 450
2631	263,076	8,762	30.7	555 / 90
2640	264,021	8,762	30.8	584 / 50
2650	265,021	8,748	31.0	271 / 347
2660	266,021	8,748	31.1	396 / 1,036
2670	267,021	8,748	31.2	50 / 461
2688	268,842	8,748	31.4	80 / 1,339
2700	270,021	8,748	31.5	80 / 1,699
2710	271,021	8,748	31.5	915 / 975
2720	272,021	8,748	31.6	1,382 / 1,275
2730	272,986	8,748	31.6	2,028 / 120

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
2745	274,452	8,748	31.7	1,890 / 50
2765	276,473	8,748	31.8	50 / 962
2777	277,658	8,748	31.9	344 / 360
2789	278,908	8,748	32.1	50 / 959
2809	280,909	8,720	32.2	49 / 1,659
2820	281,975	8,720	32.2	49 / 2,713
2830	283,021	8,720	32.3	185 / 2,981
2840	284,021	8,720	32.8	500 / 300
2854	285,384	8,720	32.8	1,400 / 130
2860	286,021	8,702	32.8	1,500 / 400
2869	286,881	8,702	32.9	2,857 / 131
2880	288,021	8,640	32.9	2,506 / 65
2890	289,021	8,640	33.0	2,071 / 216
2899	289,928	8,640	33.0	889 / 90
2920	292,021	8,620	33.2	49 / 641
2935	293,478	8,620	33.3	706 / 1,533
2950	295,021	8,620	33.4	2,162 / 1,090
2960	296,021	8,538	33.4	1,977 / 379
2970	297,021	8,538	33.5	2,248 / 399
2980	298,021	8,538	33.6	1,400 / 969
3001	300,131	8,538	33.7	2,501 / 90
3012	301,188	8,538	33.8	2,557 / 115
3028	302,792	8,520	33.9	1,600 / 775
3046	304,576	8,520	34.0	588 / 1,403
3060	306,021	8,520	34.2	537 / 1,094
3070	307,021	8,520	34.4	1,041 / 145
3080	308,021	8,520	34.6	793 / 364
3090	309,021	8,520	34.8	518 / 1,242
3100	310,021	8,491	34.9	64 / 1,209
3110	311,021	8,491	35.0	994 / 1,115
3120	312,021	8,491	35.2	434 / 125
3130	313,021	8,491	35.5	1,580 / 140
3145	314,510	8,491	35.8	890 / 440
3162	316,151	8,238	36.3	885 / 1,200
3185	318,456	8,238	36.7	580 / 720
3200	320,021	8,206	37.2	1,123 / 90
3210	321,021	8,206	37.4	60 / 75
3220	322,021	8,206	38.0	120 / 160
3229	322,936	8,206	38.4	94 / 143
3246	324,616	8,206	38.8	912 / 948
3268	326,792	8,185	39.1	626 / 374
3280	328,021	8,185	39.4	1,319 / 47
3292	329,240	8,185	39.6	362 / 90
3300	330,021	8,185	39.8	2,205 / 154
3330	333,021	8,048	40.1	1,868 / 736

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
3340	334,021	8,048	40.2	1,801 / 568
3359	335,862	8,048	40.4	2,710 / 745
3370	336,986	7,956	40.5	2,446 / 531
3383	338,298	7,956	40.6	2,168 / 987
3398	339,757	7,956	40.8	3,074 / 391
3425	342,464	7,940	41.0	88 / 1,995
3440	344,021	7,940	41.4	382 / 1,145
3456	345,631	7,940	41.8	45 / 2,389
3471	347,079	7,940	42.3	100 / 837
3480	348,021	7,940	42.6	215 / 2,687
3489	348,924	7,940	42.8	215 / 2,120
3511	351,061	7,366	43.1	536 / 2,460
3529	352,873	7,366	43.2	1,052 / 1,889
3552	355,185	7,366	43.4	1,253 / 848
3565	356,462	7,366	43.6	1,816 / 681
3581	358,071	7,197	43.9	800 / 1,225
3590	359,021	7,197	44.0	800 / 700
3600	360,021	7,197	44.4	450 / 600
3611	361,108	7,071	44.8	2,000 / 90
3622	362,209	7,071	45.4	2,450 / 115
3637	363,733	7,071	45.9	259 / 41
3650	365,027	7,071	46.3	1,000 / 86
3660	366,021	7,071	46.6	1,000 / 50
3670	367,021	7,023	46.9	3,131 / 112
3692	369,155	7,023	47.3	1,400 / 350
3700	370,037	7,023	47.4	1,450 / 350
3710	371,021	6,990	47.6	2,500 / 41
3720	372,021	6,990	47.6	1,855 / 41
3743	374,278	6,990	47.7	2,183 / 83
3754	375,405	6,990	47.8	3,521 / 519
3766	376,566	6,744	48.0	2,070 / 937
3783	378,338	6,690	48.1	701 / 1,608
3801	380,129	6,690	48.3	830 / 1,963
3818	381,807	6,690	48.4	465 / 3,163
3835	383,497	6,690	48.6	139 / 3,678
3850	384,989	6,690	48.7	139 / 3,729
3870	387,021	6,574	49.2	188 / 1,363
3880	388,021	6,574	49.5	352 / 1,301
3889	388,941	6,574	49.9	1,167 / 246
3903	390,282	6,475	50.2	151 / 1,633
3920	392,021	6,475	50.6	1,874 / 174
3930	393,021	6,475	50.9	1,806 / 119
3943	394,287	4,249	51.2	977 / 235
3956	395,595	4,249	51.5	450 / 900
3970	397,021	4,203	51.8	365 / 100

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
3985	398,466	4,203	52.4	388 / 231
3998	399,812	4,203	52.8	271 / 150
4021	402,056	4,203	54.1	90 / 145
4030	403,021	4,155	54.7	1,000 / 180
4038	403,790	4,155	55.0	60 / 230
4056	405,591	4,155	56.6	144 / 200
4070	407,021	4,155	57.1	350 / 200
4085	408,478	4,155	57.7	120 / 300
4100	410,021	3,120	58.0	2,000 / 400
4113	411,338	3,120	58.2	1,500 / 100
4127	412,691	3,120	58.4	1,120 / 300
4140	414,021	3,084	58.6	900 / 1,200
4155	415,489	3,025	59.0	750 / 560
4170	417,021	3,084	59.8	700 / 450
4200	420,021	3,025	61.7	672 / 171
4211	421,100	2,991	62.0	893 / 142
4218	421,823	2,991	62.2	988 / 20
4234	423,414	2,991	62.7	1,000 / 150
Tributary to Mill Creek Tributary 1				
005	513	800	19.1	79 / 67
010	1,000	800	20.1	96 / 7
016	1,574	800	21.2	42 / 19
020	2,000	800	21.8	57 / 38
025	2,500	800	22.3	97 / 20
030	3,000	800	22.9	39 / 24
035	3,500	800	24.3	29 / 21
040	3,969	760	25.8	28 / 37
045	4,500	760	27.0	32 / 13
Tuckahoe Creek				
005	500	4,482	52.2[1]	498 / 889
010	1,002	4,482	52.2[1]	549 / 325
015	1,500	4,482	52.2[1]	794 / 110
020	1,986	4,482	52.2[1]	691 / 129
025	2,500	4,482	52.2[1]	120 / 177
030	3,000	4,482	52.2[1]	802 / 269
037	3,730	4,466	52.2[1]	737 / 31
045	4,502	4,466	52.6	400 / 88
050	5,000	4,466	52.7	804 / 74
055	5,500	4,466	52.8	568 / 208
060	6,000	4,466	52.9	143 / 53
073	7,256	4,466	53.2	1,195 / 31
080	8,047	4,466	53.4	1,368 / 84
085	8,469	4,466	53.5	97 / 675
091	9,088	4,466	53.6	877 / 57
099	9,878	4,466	53.7	165 / 559

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
105	10,500	4,466	53.8	394 / 541
110	11,000	4,466	53.9	100 / 706
115	11,452	4,309	53.9	260 / 854
120	12,000	4,309	54.0	144 / 394
125	12,549	4,309	54.2	75 / 177
130	12,962	4,309	54.4	321 / 115
135	13,498	4,309	54.7	800 / 70
138	13,834	4,309	54.8	700 / 70
145	14,494	4,228	55.0	700 / 75
150	15,000	4,228	55.2	700 / 157
155	15,500	4,228	55.4	700 / 80
160	16,000	4,228	55.5	178 / 50
165	16,500	4,228	55.8	369 / 62
170	17,000	4,228	56.0	304 / 50
175	17,500	4,228	56.3	612 / 192
180	18,000	4,228	56.4	308 / 400
185	18,500	4,228	56.5	562 / 500
190	19,000	3,918	56.6	364 / 725
195	19,520	3,918	56.6	700 / 1,000
203	20,274	3,918	56.7	500 / 1,750
209	20,904	3,918	56.8	1,400 / 1,285
212	21,211	3,918	56.8	1,500 / 898
219	21,942	3,918	56.9	800 / 900
228	22,828	756	57.0	350 / 800
235	23,500	756	57.0	400 / 80
240	24,000	756	57.2	135 / 35
245	24,500	756	57.3	110 / 130
250	25,000	756	57.4	139 / 124
255	25,500	756	57.6	101 / 92
271	27,052	756	58.6	40 / 130
275	27,500	756	59.2	30 / 180
Tuckahoe Swamp				
007	743	3,782	57.0[1]	385 / 55
014	1,437	3,782	57.0[1]	700 / 146
020	2,021	3,782	57.0[1]	510 / 370
025	2,524	3,782	57.0[1]	241 / 568
035	3,483	3,782	57.0[1]	67 / 737
046	4,631	3,462	57.2	600 / 80
053	5,343	3,462	57.6	510 / 129
060	6,000	3,462	58.1	90 / 200
065	6,500	3,462	58.6	90 / 300
070	7,000	3,462	58.8	310 / 80
075	7,500	3,450	59.2	310 / 60
080	8,000	3,450	59.7	430 / 57
085	8,500	3,450	59.9	282 / 500

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
090	9,024	3,450	60.0	60 / 1,040
095	9,500	3,450	60.1	375 / 1,095
101	10,065	3,450	60.2	490 / 785
107	10,660	3,450	60.3	295 / 628
110	11,000	3,450	60.4	48 / 799
115	11,500	3,450	60.6	74 / 735
125	12,500	3,450	61.2	118 / 321
132	13,155	3,450	61.9	61 / 367
145	14,521	3,149	62.7	574 / 77
160	16,000	3,096	64.3	200 / 200
165	16,500	3,096	64.5	567 / 178
171	17,114	3,096	64.7	288 / 439
175	17,500	3,096	64.8	367 / 496
180	18,000	3,096	64.9	309 / 337
185	18,500	3,020	65.1	326 / 246
190	19,000	3,020	65.4	308 / 46
195	19,500	3,020	66.0	171 / 132
200	20,000	3,020	66.6	474 / 316
205	20,500	3,020	66.7	100 / 403
210	21,000	3,020	67.1	74 / 539
215	21,500	3,020	67.4	210 / 309
220	22,000	3,020	67.8	269 / 224
225	22,500	3,020	68.2	527 / 84
230	23,000	3,020	68.5	383 / 205
241	24,052	3,020	69.1	845 / 29
251	25,100	3,020	69.5	718 / 256
265	26,473	3,020	70.1	235 / 656
275	27,500	3,020	70.7	100 / 900
295	29,500	2,777	73.1	500 / 200
300	30,041	2,777	73.2	451 / 319
305	30,500	2,777	73.4	227 / 287
310	31,000	2,777	73.6	590 / 141
315	31,500	2,777	73.8	740 / 100
319	31,918	2,777	74.0	464 / 101
325	32,500	2,777	74.1	297 / 478
330	33,000	2,777	74.2	648 / 336
335	33,500	2,710	74.3	600 / 300
345	34,500	2,710	74.5	403 / 174
350	35,000	2,710	74.7	367 / 160
355	35,500	2,710	74.9	305 / 185
361	36,057	2,710	75.2	191 / 442
365	36,500	2,710	75.4	323 / 253
370	37,000	2,710	75.6	265 / 216
375	37,500	2,710	75.8	134 / 379
380	38,000	2,710	76.1	589 / 185

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
385	38,500	2,710	76.3	390 / 150
390	38,980	2,710	77.0	256 / 300
395	39,500	2,710	77.5	144 / 388
400	40,000	2,710	77.9	146 / 600
405	40,500	2,710	78.2	127 / 604
410	41,000	2,710	78.4	214 / 381
414	41,446	2,710	78.6	356 / 288
420	42,000	2,710	79.0	186 / 258
425	42,500	2,710	79.4	550 / 50
430	43,000	2,710	79.7	429 / 121
435	43,500	2,710	80.0	294 / 181
440	44,000	2,710	80.3	334 / 183
445	44,500	2,710	80.5	70 / 550
450	45,000	2,710	80.8	110 / 450
Vine Swamp				
002	224	2,192	49.2	620 / 85
008	770	2,192	49.5	51 / 181
011	1,148	2,192	50.1	125 / 100
017	1,740	2,192	50.6	190 / 484
030	2,995	2,192	53.4	80 / 180
037	3,668	2,152	53.4	209 / 362
042	4,224	2,152	53.6	72 / 244
047	4,711	2,152	53.8	184 / 245
052	5,224	2,152	54.1	40 / 340
057	5,724	2,152	54.3	149 / 223
062	6,224	2,152	54.5	370 / 194
069	6,885	2,152	54.8	295 / 248
074	7,352	2,152	55.0	519 / 232
077	7,724	2,152	55.0	40 / 50
085	8,474	2,152	55.8	228 / 124
092	9,179	1,692	56.0	380 / 109
097	9,697	1,692	56.1	229 / 34
102	10,197	1,692	56.3	234 / 36
White Oak River				
802	80,196	8,400	11.3	34 / 1,108
814	81,356	8,010	11.5	3,245 / 425
825	82,535	8,010	11.7	2,256 / 33
841	84,117	8,010	11.8	2,711 / 834
874	87,382	7,920	12.0	1,005 / 2,021
893	89,319	7,920	12.2	113 / 1,651
903	90,343	7,920	12.5	171 / 1,587
917	91,714	7,920	13.0	82 / 382
927	92,739	7,920	14.3	456 / 347
941	94,098	7,920	14.7	392 / 232
955	95,485	7,800	15.0	1,252 / 33

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
969	96,949	7,800	15.2	1,218 / 33
978	97,824	7,800	15.9	145 / 33
991	99,093	7,800	17.0	777 / 33
1002	100,189	7,800	17.3	45 / 832
1005	100,515	7,800	17.0	55 / 54
1006	100,565	7,800	19.1	55 / 54
1011	101,119	7,800	20.5	820 / 408
1025	102,471	7,610	20.6	845 / 1,246
1037	103,739	7,520	20.6	371 / 1,831
1048	104,830	7,520	20.8	121 / 2,775
1061	106,132	7,520	20.9	414 / 1,720
1071	107,146	7,520	21.0	444 / 1,753
1083	108,291	7,450	21.1	1,085 / 1,054
1098	109,773	7,450	21.2	184 / 1,181
1112	111,244	7,390	21.6	32 / 906
1124	112,383	7,380	21.9	1,125 / 679
1149	114,867	7,310	22.4	906 / 546
1171	117,053	7,310	23.4	1,489 / 32
1179	117,912	7,310	23.8	837 / 32
1193	119,328	7,310	24.6	104 / 1,306
1204	120,402	6,890	25.1	183 / 677
1210	121,010	6,890	25.5	450 / 450
1211	121,055	6,890	26.7	450 / 450
1220	121,993	6,890	26.8	1,086 / 1,727
1238	123,796	6,880	27.0	631 / 1,657
1246	124,645	6,880	27.1	31 / 1,736
1259	125,919	6,880	27.3	255 / 2,211
1274	127,405	6,670	27.4	714 / 2,368
1283	128,334	6,670	27.5	724 / 2,372
1294	129,404	6,670	27.5	703 / 3,199
1310	130,962	6,500	27.8	251 / 1,598
1321	132,097	6,500	28.3	719 / 886
1332	133,206	6,500	28.6	955 / 1,963
1344	134,392	6,500	28.8	1,499 / 1,579
1355	135,484	6,130	29.0	466 / 1,127
1366	136,623	6,070	29.6	184 / 1,355
1377	137,658	6,030	30.1	161 / 912
1385	138,522	6,030	30.7	86 / 1,148
1396	139,575	6,030	31.3	27 / 2,226
1405	140,518	6,030	31.4	473 / 1,912
1419	141,874	6,030	31.6	1,095 / 738
1430	142,997	5,490	31.7	1,689 / 474
1442	144,206	5,490	31.8	1,106 / 1,129
1454	145,422	5,490	32.0	1,845 / 687
1465	146,504	5,410	32.1	1,689 / 791

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
1476	147,563	5,320	32.3	1,302 / 391
1486	148,602	5,320	32.6	803 / 1,285
1498	149,829	5,180	33.0	72 / 1,569
1515	151,471	4,280	33.3	689 / 1,097
1528	152,845	4,280	33.6	400 / 1,864
1540	154,020	4,280	33.9	416 / 968
1550	155,028	4,280	34.5	60 / 60
1551	155,078	4,280	35.7	60 / 60
1556	155,562	4,280	36.6	737 / 630
1567	156,694	4,280	36.8	642 / 410
1578	157,810	4,280	36.9	1,654 / 52
1592	159,193	4,280	37.0	1,356 / 228
1612	161,228	4,280	37.2	1,163 / 856
1628	162,841	4,280	37.3	1,111 / 858
1641	164,065	4,280	37.4	877 / 1,161
1657	165,695	4,280	37.5	1,718 / 327
1669	166,916	2,590	37.7	990 / 433
1687	168,653	2,590	38.1	443 / 223
1698	169,822	2,590	39.0	266 / 395
1711	171,112	2,480	40.3	338 / 184
1723	172,295	2,480	41.6	294 / 296
1733	173,328	2,480	42.9	272 / 290
1745	174,496	2,480	44.3	244 / 258
1756	175,586	1,990	45.3	301 / 130
1772	177,234	1,990	46.8	217 / 201
1786	178,604	1,990	48.3	129 / 427
1797	179,713	1,530	49.1	388 / 483
1809	180,856	1,530	49.6	506 / 334
White Oak River Tributary 1				
007	671	779	14.8[1]	86 / 73
009	918	779	14.8[1]	18 / 31
014	1,419	779	15.6	3 / 5
019	1,897	779	21.1	10 / 21
026	2,637	585	22.3	28 / 14
031	3,122	585	22.9	39 / 6
036	3,623	585	23.8	16 / 30
041	4,128	585	25.2	11 / 29
046	4,621	585	27.6	6 / 40
051	5,089	585	29.6	37 / 5
051	5,149	585	34.0	37 / 5
057	5,671	585	34.2	66 / 57
062	6,220	585	34.6	196 / 2
067	6,675	585	35.0	224 / 2
070	7,046	585	35.5	198 / 19
White Oak River Tributary 2				

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
001	133	373	21.5[1]	10 / 28
004	362	373	22.5	18 / 15
008	785	373	27.2	8 / 15
013	1,288	373	29.5	10 / 10
020	2,015	373	30.9	4 / 91
033	3,265	373	32.3	13 / 4
038	3,804	373	34.0	4 / 159
042	4,210	373	34.4	240 / 4
048	4,828	373	34.9	338 / 44
053	5,265	373	35.2	407 / 4

[1]Elevation includes backwater effects

[2]Elevation includes flooding controlled by Trent River

5.3 Coastal Analyses

For the areas of Jones County that are impacted by coastal flooding processes, coastal flood hazard analyses were performed to provide estimates of coastal BFEs. Coastal BFEs reflect the increase in water levels during a flood event due to extreme tides and storm surge as well as overland wave effects.

The following subsections provide summaries of how each coastal process was considered for the FIS Report. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation. Table 15 summarizes the methods and/or models used for each of the coastal analyses. Refer to Section 2.5.1 for descriptions of the terms used in this section.

Table 18P, “Summary of Coastal Analyses - Preliminary: Revised or Newly Studied”

Table 18P - Summary of Coastal Analyses - Preliminary: Revised or Newly Studied

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis Was Completed	Study Type
Atlantic Ocean	Entire Onslow County shoreline along Atlantic Ocean	End of coastal influence up New River	*	CHAMP / RUNUP 2.0 (2007)	12/9/2013	DETAILED STUDY
Atlantic Ocean	Entire Onslow County shoreline along Atlantic Ocean	End of coastal influence up New River	*	ADCIRC	1/22/2013	DETAILED STUDY
Atlantic Ocean	Entire Onslow County shoreline along Atlantic Ocean	End of coastal influence up New River	*	CHAMP 2.0	12/9/2013	DETAILED STUDY
Atlantic Ocean	Entire Onslow County shoreline along Atlantic Ocean	End of coastal influence up New River	*	WHAFIS 4.0	12/9/2013	DETAILED STUDY
Atlantic Ocean	Entire Onslow County shoreline along Atlantic Ocean	End of coastal influence up New River	*	Removal/ Retreat	12/9/2013	DETAILED STUDY
Neuse River	The confluences of South River and Neuse River	Approximately 1.1 miles upstream of the confluence with Swift Creek	*	ADCIRC	1/22/2013	DETAILED STUDY
Neuse River	The confluences of South River and Neuse River	Approximately 1.1 miles upstream of the confluence with Swift Creek	*	CHAMP / RUNUP 2.0 (2007)	1/24/2014	DETAILED STUDY
Neuse River	The confluences of South River and Neuse River	Approximately 1.1 miles upstream of the confluence with Swift Creek	*	WHAFIS 4.0	1/24/2014	DETAILED STUDY
Neuse River	The confluences of South River and Neuse River	Approximately 1.1 miles upstream of the confluence with Swift Creek	*	CHAMP 2.0	1/24/2014	DETAILED STUDY

Table 18, “Summary of Coastal Analyses”

Table 18 - Summary of Coastal Analyses

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis Was Completed
Atlantic Ocean	Entire Onslow County shoreline along Atlantic Ocean	End of coastal influence up New River	*	CHAMP / RUNUP 2.0 (2007)	12/9/2013
Atlantic Ocean	Entire Onslow County shoreline along Atlantic Ocean	End of coastal influence up New River	*	ADCIRC	1/22/2013
Atlantic Ocean	Entire Onslow County shoreline along Atlantic Ocean	End of coastal influence up New River	*	CHAMP 2.0	12/9/2013
Atlantic Ocean	Entire Onslow County shoreline along Atlantic Ocean	End of coastal influence up New River	*	WHAFIS 4.0	12/9/2013
Atlantic Ocean	Entire Onslow County shoreline along Atlantic Ocean	End of coastal influence up New River	*	Removal/ Retreat	12/9/2013
Neuse River	The confluences of South River and Neuse River	Approximately 1.1 miles upstream of the confluence with Swift Creek	*	ADCIRC	1/22/2013
Neuse River	The confluences of South River and Neuse River	Approximately 1.1 miles upstream of the confluence with Swift Creek	*	CHAMP / RUNUP 2.0 (2007)	1/24/2014
Neuse River	The confluences of South River and Neuse River	Approximately 1.1 miles upstream of the confluence with Swift Creek	*	WHAFIS 4.0	1/24/2014
Neuse River	The confluences of South River and Neuse River	Approximately 1.1 miles upstream of the confluence with Swift Creek	*	CHAMP 2.0	1/24/2014

5.3.1 Total Stillwater Elevations

The total stillwater elevations (stillwater including storm surge plus wave setup) for the 1% annual chance flood were determined for areas subject to coastal flooding. The models and methods that were used to determine storm surge and wave setup are listed in Table 15. The stillwater elevation that was used for each transect in coastal analyses is shown in Table 20, “Coastal Transect Parameters.”

Astronomical Tide
Astronomical tidal statistics were generated directly from local tidal constituents by sampling the predicted tide at random times throughout the tidal epoch.

Storm Surge Statistics
Storm surge is modeled based on characteristics of actual storms responsible for significant coastal flooding. The characteristics of these storms are typically determined by statistical study of the regional historical record of storms or by statistical study of tidal gages.

When historic records are used to calculate storm surge, characteristics such as the strength, size, track, etc., of storms are identified by site. Storm data was used in conjunction with numerical hydrodynamic models to determine the corresponding storm surge levels. An extreme value analysis was performed on the storm surge modeling results to determine a stillwater elevation for the 1% annual chance event.

Tidal gages can be used instead of historic records of storms when the available tidal gage record for the area represents both the astronomical tide component and the storm surge component. Table 16 provides the gage name, managing agency, gage type, gage identifier, start date, end date, and statistical methodology applied to each gage used to determine the stillwater elevations. For areas between gages, peak stillwater elevations for selected recurrence intervals were estimated by combining interpolation between gages and observed high water marks during major storms. A regionalized statistical approach was applied to the gage data so that stillwater elevations in areas between gages could be identified.

Table 19, “Tide Gage Analysis Specifics” is not applicable in Jones County.

Combined Riverine and Tidal Effects
Riverine and surge rates for the lower reaches of the Inundation River were combined by developing curves for rate of occurrence vs. flood level for each flood source.

Wave Setup Analysis

Wave setup was computed during the storm surge modeling through the methods and models listed in Table 15 and included in the frequency analysis for the determination of the total stillwater elevations. The oscillating component of wave setup, dynamic wave setup, was calculated for areas subject to wave runup hazards.

5.3.2 Waves

A coastal wave model (Coastal State University 2007) was used to calculate the nearshore wave fields required for the addition of wave setup effects. Three nested grids were used to obtain sufficient nearshore resolution to represent the radiation stress gradients required as ADCIRC inputs. Radiation stress fields output from the inner grids are used by ADCIRC to estimate the contribution of breaking waves (wave setup effects) to the total stillwater elevation.

5.3.3 Coastal Erosion

A single storm episode can cause extensive erosion in coastal areas. Storm-induced erosion was evaluated to determine the modification to existing topography that is expected to be associated with flooding events. Erosion was evaluated using the methods listed in Table 15. The post-event eroded profile was used for the subsequent transect-based onshore wave hazard analyses.

5.3.4 Wave Hazard Analyses

Overland wave hazards were evaluated to determine the combined effects of ground elevation, vegetation, and physical features on overland wave propagation and wave runup. These analyses were performed at representative transects along all shorelines for which waves were expected to be present during the floods of the selected recurrence intervals. The results of these analyses were used to determine elevations for the 1% annual chance flood.

Transect locations were chosen with consideration given to the physical land characteristics as well as development type and density so that they would closely represent conditions in their locality. Additional consideration was given to changes in the total stillwater elevation. Transects were spaced close together in areas of complex topography and dense development or where total stillwater elevations varied. In areas having more uniform characteristics, transects were spaced at larger intervals. Transects shown in Figure 9, “Transect Location Map,” are also depicted on the FIRM. Table 17 provides the location, stillwater elevations, and starting wave conditions for each transect evaluated for overland wave hazards. In this table, “starting” indicates the parameter value at the beginning of the transect.

Wave Height Analysis

Wave height analyses were performed to determine wave heights and corresponding wave crest elevations for the areas inundated by coastal flooding and subject to overland wave propagation hazards. Refer to Figure 6 for a schematic of a coastal transect evaluated for overland wave propagation hazards.

Wave heights and wave crest elevations were modeled using the methods and models listed in Table 18, “Summary of Coastal Analyses”.

Wave Runup Analysis

Wave runup analyses were performed to determine the height and extent of runup beyond the limit of stillwater inundation for the 1% annual chance flood. Wave runup elevations were modeled using the methods and models listed in Table 15.

Table 20, “Coastal Transect Parameters”

Table 20: Coastal Transect Parameters

Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
	Significant Wave Height Hs (ft)	Peak Wave Period Tp (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	.2% Annual Chance
Atlantic Ocean		**From Entire Onslow County shoreline along Atlantic Ocean**			**To End of coastal influence on New River**		
Neuse River		**From The confluences of South River and Neuse River**			**To Approximately 1.1 miles upstream of the confluence with Swift Creek**		
62	2.9	2.9	*	*	*	8.4	10.4

Table 20: Coastal Transect Parameters

Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
	Significant Wave Height Hs (ft)	Peak Wave Period Tp (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	.2% Annual Chance
			*	*	*	8.4 - 9.0	10.4 - 11.0

6.0 Mapping Methods

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. With the finalization of the North American Vertical Datum of 1988 (NAVD 88), all North Carolina FISs have been prepared using NAVD 88 as the referenced vertical datum.

All flood elevations shown on the FIRM for Jones 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 in neighboring states may be referenced to NGVD 29. This may result in BFE differences across political boundaries between the communities.

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 Jones County is # 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 21, “Datum Conversion Locations and Values,” is shown below.

Table 21, “Datum Conversion Locations and Values.”

Table 21 - Datum Conversion Locations and Values

Latitude	Longitude	Conversion from NGVD29 to NAVD88 (feet)
35.13	-77.37	-1.16
35.00	-77.13	-1.05
34.87	-77.12	-1.05
35.12	-77.50	-1.15
35.00	-77.62	-1.07
35.00	-77.50	-1.09
35.00	-77.38	-1.08
35.00	-77.25	-1.05
Average conversion in Jones County from NGVD 29 to NAVD 88 = -1.09 feet		

The vertical datum conversion factor for all flooding sources which run along a county boundary are in accordance with the conversion factor used in those contiguous counties.

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/or Water-surface elevation rasters 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 Jones 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)

Monuments with a Stability D classification may be used as Elevation Reference Marks (ERMs) when a Stability C or better monument is not an option. These ERMs must be approved by NCGS and can be set and used as elevation bench marks to establish vertical control and produce NC DFIRMs. Including such ERMs will greatly augment North Carolina's useable vertical control network.

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/cgi-bin/datasheet.prl, 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 20910-32822
(301) 713-3242

Information regarding the NCGS or State contractor bench marks can be obtained through the NCGS website at www.ncgs.state.nc.us, or by phone at (919) 733-3836.

It is important to note that temporary vertical monuments, sometimes called Elevation Reference Marks, are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, interested individuals may contact FEMA to access this information.

Horizontal Datum and Control

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

6.2 Base Map

The FIRMs and FIS Report for this project have been produced in a digital format. The flood hazard information was converted to a Geographic Information System (GIS) format that meets FEMA’s FIRM database specifications and geographic information standards. This information is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community. The FIRM Database includes most of the tabular information contained in the FIS Report in such a way that the data can be associated with pertinent spatial features.

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

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

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

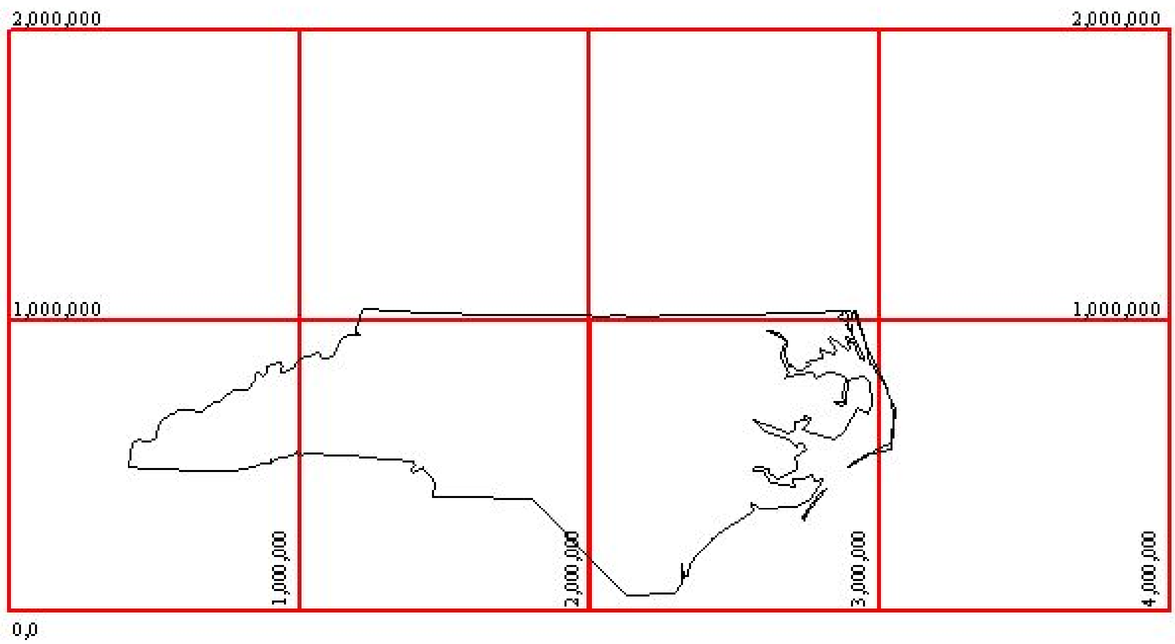

Figure 3 - North Carolina's State Plane Coordinate System

6.3 Floodplain and Floodway Delineation

Floodplain Boundaries

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 (insert date from basin plan and update for map maintenance, if necessary) flying season.

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

For coastal floodplains, after analyzing wave heights along each transect, wave elevations were interpolated between transects. Various source data were used in the interpolation, including topographic data described above. Controlling features affecting the elevations were identified and considered in relation to their positions at particular transect and their variation between transects. •

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

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation			
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	Without Floodway	With Floodway	Increase
Crooked Run								
045	4,486	178	1,090	2.9	24.3[1]	15.9	16.7	0.8
050	5,044	187	1,028	3.1	24.3[1]	16.8	17.6	0.9
073	7,284	211	1,785	1.7	25.6	25.6	26.0	0.4
096	9,581	407	2,124	1.5	26.4	26.4	27.0	0.6
111	11,061	380	2,777	1.1	27.0	27.0	27.8	0.8
115	11,509	280	2,098	1.5	27.1	27.1	28.0	1.0
120	12,036	241	1,913	1.6	27.5	27.5	28.4	0.9
132	13,173	168	1,694	1.8	28.3	28.3	29.2	0.9
138	13,772	270	2,266	1.4	28.6	28.6	29.6	1.0
146	14,622	533	4,707	0.7	28.9	28.9	29.9	1.0
152	15,192	638	4,939	0.6	29.0	29.0	30.0	1.0
157	15,704	522	4,058	0.8	29.1	29.1	30.1	1.0
164	16,434	331	2,730	1.1	29.4	29.4	30.4	1.0
170	17,027	435	2,531	1.2	29.7	29.7	30.7	1.0
177	17,670	130	1,104	2.8	30.4	30.4	31.4	1.0
Deep Gully								
036	3,630	70	278	3.4	9.8	9.8	10.1	0.3
042	4,204	70	340	2.8	11.3	11.3	11.4	0.2
045	4,511	75	418	2.0	11.7	11.7	12.0	0.3
052	5,224	75	289	2.9	12.3	12.3	12.8	0.5
058	5,757	70	260	3.2	13.1	13.1	14.1	1.0
065	6,455	45	201	4.1	15.6	15.6	16.3	0.7
066	6,614	33	189	4.4	16.1	16.1	16.8	0.8
068	6,843	37	271	3.1	17.1	17.1	17.7	0.6
070	6,954	47	215	3.9	17.4	17.4	17.9	0.4
071	7,103	64	349	2.4	17.7	17.7	18.3	0.6
Raccoon Creek								
003	265	250	1,365	0.7	9.7[1]	4.5	5.5	1.0
005	454	230	1,057	0.9	9.7[1]	4.6	5.6	1.0
010	1,029	335	1,901	0.5	9.7[1]	4.7	5.6	1.0
017	1,697	400	1,480	0.7	9.7[1]	4.7	5.7	1.0
027	2,689	320	1,589	0.6	9.7[1]	4.8	5.8	1.0
032	3,229	220	945	1.0	9.7[1]	4.9	5.8	1.0
035	3,467	255	1,354	0.7	9.7[1]	5.0	5.9	0.9
039	3,942	255	1,361	0.7	9.7[1]	5.0	6.0	1.0
045	4,486	255	1,035	0.9	9.7[1]	5.1	6.1	1.0
050	5,009	225	1,046	0.9	9.7[1]	5.3	6.2	1.0
054	5,385	220	1,044	0.9	9.7[1]	5.4	6.4	1.0
056	5,611	230	902	1.0	9.7[1]	5.5	6.5	1.0
Reedy Branch								
084	8,427	83	354	3.3	9.3	9.3	8.6	-0.7
086	8,560	90	425	2.8	9.6	9.6	9.0	-0.5

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation			
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	Without Floodway	With Floodway	Increase
087	8,664	100	504	2.3	9.6	9.6	9.2	-0.4
088	8,781	112	506	2.3	9.6	9.6	9.4	-0.2
089	8,948	112	549	2.1	9.7	9.7	9.7	-0.1
091	9,094	109	458	2.6	9.8	9.8	9.9	0.1
092	9,221	112	417	2.8	9.9	9.9	10.1	0.2
094	9,397	115	527	2.2	10.1	10.1	10.5	0.4
096	9,552	125	549	2.1	10.2	10.2	10.8	0.5
097	9,674	133	685	1.7	10.3	10.3	10.9	0.6
098	9,817	140	712	1.6	10.4	10.4	11.0	0.6
100	10,019	128	679	1.7	10.4	10.4	11.1	0.7
104	10,361	125	662	1.4	10.6	10.6	11.4	0.7
108	10,813	125	577	1.6	10.9	10.9	11.6	0.8
114	11,392	130	539	1.7	11.4	11.4	12.2	0.9
120	12,036	130	533	1.7	12.2	12.2	13.2	0.9
Reedy Branch 1								
011	1,077	630	1,775	0.8	47.8[1]	41.2	42.2	1.0
019	1,867	415	1,074	1.3	47.8[1]	41.7	42.7	1.0
023	2,287	249	691	2.0	47.8[1]	42.5	43.4	1.0
028	2,846	250	559	2.3	47.8[1]	44.1	45.0	0.9
034	3,435	85	567	2.3	48.1	48.1	48.4	0.3
041	4,079	150	911	1.4	48.1	48.1	48.8	0.7
044	4,390	220	1,238	1.1	48.1	48.1	49.0	0.8
049	4,921	240	1,184	1.1	48.2	48.2	49.1	0.9
054	5,438	245	913	1.1	48.4	48.4	49.4	1.0
059	5,946	245	894	1.1	48.8	48.8	49.7	0.9
063	6,291	210	787	1.3	49.0	49.0	49.9	0.9
067	6,699	175	716	1.4	49.3	49.3	50.3	0.9
070	6,985	153	651	1.6	49.6	49.6	50.5	0.9
076	7,575	143	379	2.7	50.7	50.7	51.5	0.8
079	7,913	140	538	1.9	51.5	51.5	52.2	0.8
082	8,215	130	442	2.0	51.9	51.9	52.6	0.7
086	8,641	123	479	1.9	52.6	52.6	53.2	0.6
089	8,927	135	254	3.6	53.0	53.0	53.6	0.6
093	9,323	110	396	2.3	54.5	54.5	55.4	0.9
098	9,779	110	292	3.1	55.9	55.9	56.7	0.8
102	10,203	137	525	1.6	56.8	56.8	57.8	1.0
105	10,496	150	594	1.4	57.1	57.1	58.1	1.0
107	10,723	150	549	1.5	57.4	57.4	58.3	1.0
Scott Creek								
002	155	45	160	4.4	9.2[1]	2.0	2.0	0.0
003	303	50	232	3.0	9.2[1]	2.1	2.1	0.0
006	625	90	449	1.4	9.2[1]	2.3	2.3	0.0
008	834	87	406	1.6	9.2[1]	2.4	2.4	0.0
011	1,145	140	675	1.0	9.2[1]	2.5	2.5	0.0
016	1,583	90	346	1.9	9.2[1]	2.6	2.6	0.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation			
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	Without Floodway	With Floodway	Increase
021	2,143	80	276	2.4	9.2[1]	3.1	3.1	0.0
024	2,388	90	333	2.0	9.2[1]	3.4	3.4	0.0
025	2,540	90	342	1.9	9.2[1]	3.6	3.6	0.0
030	3,048	100	438	1.5	9.2[1]	3.9	3.9	0.0
036	3,575	100	389	1.7	9.2[1]	4.1	4.1	0.0
041	4,087	95	352	1.8	9.2[1]	4.6	4.6	0.0
044	4,362	95	342	1.9	9.2[1]	4.9	4.9	0.0
046	4,614	43	198	3.3	9.2[1]	5.3	5.3	0.0
048	4,754	55	159	4.1	9.2[1]	5.9	5.9	0.0
051	5,062	75	302	2.2	9.2[1]	6.6	6.6	0.0
055	5,470	105	380	1.7	9.2[1]	7.0	7.0	0.0
057	5,657	127	509	1.3	9.2[1]	7.1	7.1	0.0
059	5,871	85	330	2.0	9.2[1]	7.2	7.2	0.0
060	6,016	80	281	2.3	9.2[1]	7.5	7.5	0.0
064	6,414	91	356	1.8	9.2[1]	8.0	8.0	0.0
067	6,680	94	325	2.0	9.2[1]	8.3	8.3	0.0
070	7,040	66	280	2.3	9.2[1]	8.7	8.7	0.0
074	7,418	63	222	2.9	9.3	9.3	9.3	0.0
076	7,641	63	233	2.8	9.8	9.8	9.8	0.0
078	7,844	64	235	2.8	10.4	10.4	10.4	0.0
080	7,993	85	324	2.0	10.7	10.7	10.7	0.0
Trent River								
608	60,777	340	4,606	3.1	9.1	9.1	8.3	-0.8
610	61,010	365	5,186	2.7	9.1	9.1	8.4	-0.8
615	61,478	270	4,207	3.4	9.2	9.2	8.4	-0.8
618	61,783	278	5,038	2.8	9.2	9.2	8.6	-0.6
624	62,396	291	4,878	2.9	9.2	9.2	8.7	-0.6
636	63,641	345	5,334	2.6	9.3	9.3	8.9	-0.4
644	64,377	361	6,049	2.3	9.4	9.4	9.0	-0.3
658	65,770	431	6,627	2.1	9.5	9.5	9.2	-0.2
664	66,380	464	6,330	2.2	9.5	9.5	9.3	-0.2
671	67,052	430	5,913	2.4	9.6	9.6	9.5	-0.1
675	67,502	390	5,493	2.6	9.6	9.6	9.6	-0.1
683	68,339	365	5,626	2.5	9.7	9.7	9.8	0.0
692	69,178	510	6,941	2.0	9.8	9.8	9.9	0.1
696	69,608	475	6,573	2.1	9.8	9.8	10.0	0.2
703	70,307	513	8,386	1.7	9.9	9.9	10.1	0.2
734	73,381	513	8,386	1.7	9.9	9.9	10.1	0.2
749	74,915	1,319	14,097	1.0	10.0	10.0	10.3	0.3
767	76,666	823	9,700	1.4	10.3	10.3	10.7	0.4
791	79,148	801	9,415	1.5	10.9	10.9	11.5	0.6
803	80,311	632	8,140	1.7	11.2	11.2	11.9	0.7
813	81,258	217	3,648	3.8	11.5	11.5	12.2	0.7
822	82,184	1,049	11,049	1.3	11.9	11.9	12.6	0.7
829	82,889	878	11,869	1.2	12.0	12.0	12.7	0.7

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation			
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	Without Floodway	With Floodway	Increase
838	83,779	1,205	15,897	0.9	12.1	12.1	12.8	0.8
843	84,346	1,158	9,752	1.4	12.1	12.1	12.8	0.8
852	85,182	1,096	13,046	1.1	12.3	12.3	13.0	0.8
864	86,440	723	10,336	1.3	12.4	12.4	13.2	0.8
874	87,366	857	11,913	1.2	12.6	12.6	13.4	0.8
882	88,222	820	11,778	1.2	12.7	12.7	13.5	0.8
895	89,535	250	4,757	2.9	12.8	12.8	13.7	0.8
907	90,714	304	5,775	2.4	13.2	13.2	14.0	0.9
912	91,220	375	6,330	2.2	13.3	13.3	14.2	0.9
920	91,992	677	9,843	1.4	13.5	13.5	14.4	0.9
929	92,867	932	10,597	1.3	13.6	13.6	14.5	0.9
942	94,244	491	7,799	1.7	13.8	13.8	14.7	0.9
950	95,004	381	6,707	1.9	14.1	14.1	14.9	0.9
958	95,835	460	7,915	1.6	14.2	14.2	15.1	0.9
967	96,674	810	11,680	1.1	14.4	14.4	15.3	0.9
977	97,681	730	10,390	1.2	14.6	14.6	15.4	0.9
985	98,531	1,423	17,344	0.8	14.7	14.7	15.6	0.9
997	99,666	1,754	16,736	0.8	14.8	14.8	15.6	0.9
1915	191,514	600	6,586	1.8	23.3	23.3	24.3	1.0
1918	191,847	590	5,478	2.1	23.4	23.4	24.4	1.0
1933	193,308	660	7,072	1.6	24.0	24.0	25.0	1.0
1940	194,048	560	7,469	1.6	24.1	24.1	25.1	1.0
1953	195,258	957	9,563	1.2	24.3	24.3	25.3	1.0
1964	196,374	947	10,430	1.0	24.5	24.5	25.5	1.0
1987	198,662	891	11,744	0.9	25.1	25.1	26.0	1.0
2000	199,952	773	9,388	1.2	25.2	25.2	26.2	1.0
2007	200,688	777	10,038	1.1	25.3	25.3	26.3	1.0
2014	201,395	633	11,930	0.9	25.4	25.4	26.4	1.0
2019	201,942	400	5,566	2.0	25.4	25.4	26.4	1.0
2027	202,685	294	5,599	2.0	25.6	25.6	26.5	1.0
2035	203,502	600	6,718	1.6	25.7	25.7	26.7	0.9
2044	204,375	1,110	18,436	0.6	25.9	25.9	26.8	0.9
2049	204,914	1,235	16,401	0.7	26.0	26.0	26.9	0.9
2057	205,701	1,750	19,690	0.6	26.0	26.0	27.0	1.0

[1]**Elevation includes backwater effects**

6.4 Coastal Flood Hazard Mapping

Flood insurance zones and BFEs including the wave effects were identified on each transect based on the results from the onshore wave hazard analyses. Between transects, elevations were interpolated using topographic maps, land-use and land-cover data, and knowledge of coastal flood processes to determine the aerial extent of flooding. Sources for topographic data are shown in Table 23.

Zone VE is subdivided into elevation zones and BFEs are provided on the FIRM.

The limit of Zone VE shown on the FIRM is defined as the farthest inland extent of any of these criteria (determined for the 1% annual chance flood condition):

- *The primary frontal dune* zone is defined in 44 CFR Section 59.1 of the NFIP regulations. The primary frontal dune represents a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes that occur immediately landward and adjacent to the beach. The primary frontal dune zone is subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune zone occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.

- *The wave runup zone* occurs where the (eroded) ground profile is 3.0 feet or more below the 2-percent wave runup elevation.

- *The wave overtopping splash zone* is the area landward of the crest of an overtopped barrier, in cases where the potential 2-percent wave runup exceeds the barrier crest elevation by 3.0 feet or more.

- *The breaking wave height zone* occurs where 3-foot or greater wave heights could occur (this is the area where the wave crest profile is 2.1 feet or more above the total stillwater elevation).

- *The high-velocity flow zone* is landward of the overtopping splash zone (or area on a sloping beach or other shore type), where the product of depth of flow times the flow velocity squared (hv2) is greater than or equal to 200 ft3/sec2. This zone may only be used on the Pacific Coast.

The SFHA boundary indicates the limit of SFHAs shown on the FIRM as either “V” zones or “A” zones.

Table 23: Summary of Coastal Transect Mapping Considerations

Source	Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
			Zone Designation and BFE (ft NAVD 88)	Zone Designation and BFE (ft NAVD 88)		
Neuse River	62	*	*	AE 4 VE 0-5	WHAFIS	SWEL

A LiMWA boundary has also been added in coastal areas subject to wave action for use by local communities in safe rebuilding practices. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. In areas where the Zone VE designation is based on the presence of a primary frontal dune the LiMWA was not delineated.

7.0 Revising the FIS

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

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

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

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

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

The issuance of a LOMA or LOMR-F ends the property owner's obligation to purchase flood insurance as a condition of Federal or federally backed financing. However, the property owner's mortgage company maintains the prerogative to require flood insurance as a condition of providing financing. Before attempting to obtain a LOMA or LOMR-F, property owners are advised to consult their mortgage companies regarding this policy. Even if the mortgage company indicates that it will require flood insurance if a LOMA or LOMR-F is issued, it may be advantageous for property owners to request a LOMA or LOMR-F because flood insurance premiums are lower for properties removed from the SFHA than for properties that remain within the SFHA.

For additional information regarding LOMAs, LOMR-Fs, conditional LOMR-Fs, or current application fees, please call the FEMA Map Information eXchange (FMIX) 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 and the NCFMP reviews 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 Information eXchange (FMIX) toll-free information line at 1-877-FEMA MAP (1-877-336-2627), 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 FIS Reports. For map maintenance restudies within the state of North Carolina, scoping will be performed by county approximately 2.5-3.5 years after the previous effective date. Scoping will focus on streams with restudy needs within those previously effective counties rather than on full countywide restudies. A restudy refers specifically to updating or reevaluating engineering analyses that were performed for a flood mapping project that directly impact BFEs and/or flood hazard boundary extents or analysis of previously unstudied flood prone areas. Restudy project evaluation triggers and prioritization values are an essential component of the map maintenance program. For more information regarding NCFMP-contracted restudies, please contact the NCFMP at 919-715-5711 or at www.ncfloodmaps.com. For more information regarding FEMA-contracted restudies, please contact the FEMA Map Information eXchange (FMIX) 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 Jones 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 7/2/2004 North Carolina Statewide FIRM, which includes Jones County, are presented in Table 24, “Map Revision History.”

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

Table 24 - Map Revision History

Community	Initial Identification Date	Initial FIRM Effective Date	FIS Revision Date
JONES COUNTY	6/2/1978	8/16/1988	04/16/2013
TOWN OF MAYSVILLE	7/2/2004	7/2/2004	04/16/2013
TOWN OF POLLOCKSVILLE	3/15/1974	9/4/1986	04/16/2013
TOWN OF TRENTON	3/1/1974	9/1/1987	04/16/2013

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 the previous countywide FIS for the geographic area of Jones County and Incorporated Areas. Table 25, “Authority and Acknowledgments,” includes information for the previous countywide FIS and for this revision. This table also includes information for the single-jurisdiction FISs published for each community included in this countywide FIS (if available) as compiled from their previously printed FIS Reports

Table 25 — Authority and Acknowledgments

Community	FIS Dated	Study Contracted By	Data Source	Contract or IAA Number	Work Completed In
JONES COUNTY	7/2/2004	NCFMP	NCFMP	286-000022	8/7/2014
JONES COUNTY	7/2/2004	NCFMP	NCFMP	19-000017	8/8/8888

Table 25 — Authority and Acknowledgments

Community	FIS Dated	Study Contracted By	Data Source	Contract or IAA Number	Work Completed In
TOWN OF MAYSVILLE	7/2/2004	NCFMP	NCFMP	286-000022	8/7/2014
TOWN OF MAYSVILLE	7/2/2004	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF POLLOCKSVILLE	7/2/2004	NCFMP	NCFMP	286-000022	8/7/2014
TOWN OF POLLOCKSVILLE	7/2/2004	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF TRENTON	7/2/2004	NCFMP	NCFMP	286-000022	8/7/2014
TOWN OF TRENTON	7/2/2004	NCFMP	NCFMP	19-000017	8/8/8888

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 for the initial statewide mapping for Jones County were produced by NCFMP under contract with the State of North Carolina and issued on effective 6/30/2016. For this revision, the hydrologic and hydraulic analyses and the FIRM panels were produced by NCFMP, under contract with the State of North Carolina.

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

The dates of the initial and final CCO meetings held for Jones County and Incorporated Areas were compiled from the previous countywide FIS Report and are shown in Table 26, "Consultation Coordination Officer's Meetings

Table 26 — Consultation Coordination Officer's Meetings

Community	For FIS Dated	Initial CCO Date	Attended By	Final CCO Date	Attended By
JONES COUNTY	8/16/1988	8/8/0888	NP	8/11/1987	Caldwell County and Incorporated Areas
JONES COUNTY	8/16/1988	8/8/0888	NP	8/11/1987	Representatives of Caldwell County, FEMA, and Hayes, Seay, Mattern, and Mattern
JONES COUNTY	8/16/1988	8/8/0888	NP	9/16/1987	Representatives of the community and FEMA
JONES COUNTY	8/16/1988	8/8/0888	NP	9/22/1987	Representatives of the community, the USGS, and FEMA

For each FIS produced during the initial phase of statewide, an Initial Scoping Meeting was held with representatives from FEMA, the county, the incorporated communities, and the State of North Carolina. A Final Scoping meeting was held to review the Draft Basin Plan and finalize the streams to be studied by detailed methods. This information was then used to create the Final Basin Plan.

For map maintenance revisions, only one scoping meeting was held to identify the streams to be newly studied by detailed methods, redelineated, or to be studied by limited detailed methods. This information was then used to create the Map Maintenance Plan.

The historical dates of the Initial and Final Scoping Meetings held during the first round of statewide mapping for Jones County are shown in Table 28, "Scoping Meetings." Meetings held for the map maintenance revision are also included below for Jones County.

Table 28 — Scoping Meetings

Community	Riverbasin	Initial Scoping Date	Attended By	Final Scoping Date	Attended By
JONES COUNTY	NEUSE	10/24/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton	12/19/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton

Table 28 — Scoping Meetings

Community	Riverbasin	Initial Scoping Date	Attended By	Final Scoping Date	Attended By
JONES COUNTY	NEUSE	10/24/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton	4/23/2001	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton
JONES COUNTY	WHITE OAK	10/24/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton	12/19/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton
JONES COUNTY	WHITE OAK	10/24/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton	4/23/2001	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton
TOWN OF MAYSVILLE	NEUSE	10/24/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton	12/19/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton
TOWN OF MAYSVILLE	NEUSE	10/24/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton	4/23/2001	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton
TOWN OF MAYSVILLE	WHITE OAK	10/24/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton	12/19/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton
TOWN OF MAYSVILLE	WHITE OAK	10/24/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton	4/23/2001	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton
TOWN OF POLLOCKSVILLE	NEUSE	10/24/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton	4/23/2001	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton
TOWN OF TRENTON	NEUSE	10/24/2000	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton	4/23/2001	Representatives of the State, FEMA, Dewberry, Jones County, Maysville, Pollocksville, and Trenton

Table 30, “Preliminary and Public Participation Meetings” is not applicable in Jones County.

9.0 Guide to Additional Information

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

The Map Repositories table below lists locations where FIRMs for Jones County can be viewed. Please note that the maps at these locations are for reference only and are not for distribution. Also, please note that only the maps for the community listed in the table are available at that particular repository. A user may need to visit another repository to view maps from an adjacent community.

Table 27 — Map Repositories

Community	Address	City	State	Zip Code
Town of Maysville	Town of Maysville Office of the Public Works Direc, 404 Main Street	Maysville	NC	28555
Town of Pollocksville	Pollocksville Town Hall, 103 Main Street	Pollocksville	NC	28573
Town of Trenton	Trenton Township Hall, 119 Jones Street	Trenton	NC	28585
Jones County	Jones County Government Office, 418 Highway 58 North	Trenton	NC	28585

9.1 Additional Information

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 29, “Additional Information” is not applicable in Jones County.

10.0 Appendix

10.1 Bibliography

All bibliography and reference information associated within this Flood Insurance Study are maintained and accessible within the geodatabase structure and associated metadata. Users requiring more specific information should contact the North Carolina Floodplain Mapping Program (NCFMP) at www.ncfloodmaps.com under the Contacts menu