

FLOOD INSURANCE STUDY

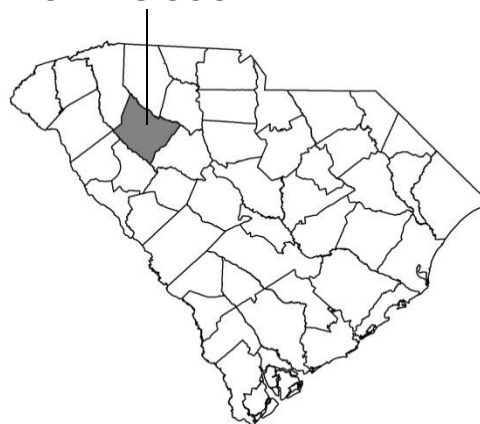


LAURENS COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS

Community Name	Community Number
CLINTON, CITY OF	450123
CROSS HILL, TOWN OF*	450124
GRAY COURT, TOWN OF	450210
LAURENS, CITY OF	450125
LAURENS COUNTY (UNINCORPORATED AREAS)	450122
WATERLOO, TOWN OF*	455430

* No Special Flood Hazard Areas Identified

LAURENS COUNTY



REVISED:
JUNE 20, 2019



Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
45059CV000B

**NOTICE TO
FLOOD INSURANCE STUDY USERS**

Communities participating in the National Flood Insurance Program (NFIP) have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the Community Map Repository. Please contact the Community Map Repository for any additional data.

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of the FIS Report at any time. In addition, FEMA may revise part of the FIS Report by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS Report. Therefore, users should consult with community officials and check the Community Map Repository to obtain the most current FIS Report components.

Initial Countywide FIS Effective Date: August 16, 2012

Revised Countywide FIS Dates: June 20, 2019

TABLE OF CONTENTS

	<u>Page</u>
1.0 <u>INTRODUCTION</u>	1
1.1 Purpose of Study.....	1
1.2 Authority and Acknowledgments	1
1.3 Coordination.....	3
2.0 <u>AREA STUDIED</u>	4
2.1 Scope of Study.....	4
2.2 Community Description.....	10
2.3 Principal Flood Problems.....	11
2.4 Flood Protection Measures	12
3.0 <u>ENGINEERING METHODS</u>	13
3.1 Hydrologic Analyses.....	13
3.1.1 Methods for Flooding Sources with New or Revised Analyses in Current Study	13
3.1.2 Methods for Flooding Sources Incorporated from Previous Studies	14
3.2 Hydraulic Analyses.....	18
3.2.1 Methods for Flooding Sources with New or Revised Analyses in Current Study	19
3.2.2 Methods for Flooding Sources Incorporated from Previous Studies	20
3.3 Vertical Datum	21
4.0 <u>FLOODPLAIN MANAGEMENT APPLICATIONS</u>	22
4.1 Floodplain Boundaries	22
4.2 Floodways.....	23
5.0 <u>INSURANCE APPLICATIONS</u>	55
6.0 <u>FLOOD INSURANCE RATE MAP</u>	56
7.0 <u>OTHER STUDIES</u>	56
8.0 <u>LOCATION OF DATA</u>	58
9.0 <u>BIBLIOGRAPHY AND REFERENCES</u>	58

TABLE OF CONTENTS – continued

Page

FIGURES

Figure 1: Floodway Schematic	25
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TABLES

Table 1: Flooding Sources Studied by Detailed Methods.....	5
Table 2: Flooding Sources Studied by Limited Detailed Methods.....	6
Table 3: Flooding Sources Studied by Approximate Methods.....	8
Table 4: Summary of Discharges.....	15
Table 5: Summary of Stillwater Elevations.....	18
Table 6: Summary of Roughness Coefficients	19
Table 7: Floodway Data	26
Table 8: Flood Hazard Data for Selected Streams.....	37
Table 9: Community Map History	57

EXHIBITS

Exhibit 1 - Flood Profiles	<u>Panels</u>
Burnt Mill Creek	01P-02P
Cane Creek	03P-04P
Little River	05P-10P
Little River Tributary 1	11P-12P
Little River Tributary 2	13P-15P
Little River Tributary 3	16P-17P
Rabon Creek	18P-19P
Reedy Fork Creek	20P-23P
Reedy Fork Creek Tributary 1	24P
Reedy River	25P-29P
Saluda River (Lake Greenwood)	30P-38P
Scout Branch	39P-40P
Exhibit 2 - Flood Insurance Rate Map Index	
Flood Insurance Rate Map	

FLOOD INSURANCE STUDY

LAURENS COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This countywide Flood Insurance Study (FIS) revises and updates the previous countywide FIS/Flood Insurance Rate Map (FIRM) for the geographic area of Laurens County, South Carolina, including the Towns of Cross Hill, Gray Court, and Waterloo; the Cities of Clinton, and Laurens; and the unincorporated areas of Laurens County (hereinafter referred to collectively as Laurens County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates and to assist the community in its effort to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program (NFIP) are set forth in the Code of Federal regulations at 44 CFR, 60.3.

Please note that on the effective date of this study, the Towns of Cross Hill, and Waterloo have no identified Special Flood Hazard Areas (SFHA). This does not preclude future determinations of SFHAs that could be necessitated by changed conditions affecting the community (i.e., annexation of new lands) or the availability of new scientific or technical data about flood hazards.

The Town of Fountain Inn is geographically located in Laurens, and Greenville Counties. The Town of Fountain Inn is not included in the Laurens County study and is shown on the FIRM panels as Area Not Included. The Town of Fountain Inn is included in its entirety in the Greenville County FIS report.

The Town of Ware Shoals is geographically located in Laurens, Abbeville, and Greenwood Counties. The Town of Ware Shoals is not included in the Laurens County study and is shown on the FIRM panels as Area Not Included. The Town of Ware Shoals is included in its entirety in the Greenwood County FIS report.

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

1.2 Authority and Acknowledgments

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

For the June 20, 2019 countywide FIS, new hydrologic and hydraulic analyses were prepared by AECOM for the Federal Emergency Management Agency (FEMA) as Cooperating Technical Partner (CTP) with South Carolina Department of Natural Resources (SCDNR) under Agreement No. EWA-2014-CA-00256 under Mapping Activity Statement (MAS) FY14.24. These analyses were performed using data submitted by Greenwood County Planning Director on November 7, 2013. This revised study was completed in May 2016.

For the original August 16, 2012, countywide FIS, the new hydrologic and hydraulic analyses for all areas of Laurens County were prepared by Watershed Concepts for FEMA as the State of South Carolina Cooperating Technical Partner (CTP) under FEMA CTP Grant Numbers EMA-2007-CA-5773 and EMA-2008-CA-5885, under the South Carolina Flood Map Modernization (SC MapMod) Initiative Project Number P24-N085-MJ. That study was completed in September 2009.

Flood hazard information for a segment of the Saluda River was taken from a limited detailed analysis for a study done in preparation for the Greenwood County, South Carolina and Unincorporated Areas FIS (Reference 1).

The original August 16, 2012, countywide FIS was prepared to include incorporated communities within Laurens County in a countywide FIS. Information on the authority and acknowledgments for each jurisdiction was compiled from their previously printed FIS reports, and is shown below.

Laurens, City of:

The hydrologic and hydraulic analyses for the FIS report dated May 2, 1983, were prepared by the U.S. Army Corps of Engineers (USACE), Charleston District, (the study contractor), for FEMA, under Inter-Agency Agreement (IAA) No. H-9-79, Project Order No. 29. Landmark Engineering Company, Inc. performed mapping and control, and Moorman and Little Inc., Engineers and Surveyors performed cross-section field surveys, under supervision of the USACE.

Laurens County
(Unincorporated Areas):

The hydrologic and hydraulic analyses for the FIS report dated December 15, 1990, were prepared by Black & Veatch, Inc. (the study contractor), for FEMA, under Contract No. EMW-86-C-2255. That study was completed in October 1987. Flooding

information for Burnt Mill Creek, Tributary LR-1, Tributary LR-3, and Scout Branch was taken from a study done in preparation for the City of Laurens FIS report dated May 2, 1983.

The authority and acknowledgements for the Towns of Cross Hill, Gray Court, and Waterloo, and the City of Clinton were not summarized above because these communities did not have previously printed FIS reports.

Base map information shown on the FIRM for Laurens County was provided in digital format by Laurens County, South Carolina, and the U.S. Census Bureau.

The coordinate system used for producing this FIRM is NAD 1983 HARN State Plane South Carolina FIPS 3900. Corner coordinates shown on the FIRM are in latitude and longitude referenced to the NAD 1983 HARN State Plane South Carolina FIPS 3900, Lambert Conformal Conic projection, with geographic NAD 1983 HARN, Spheroid GRS 1980. Differences in the datum and spheroid used in the production of FIRMs for adjacent counties may result in slight positional differences in map features at the county boundaries. These differences do not affect the accuracy of information shown on the FIRM.

1.3 Coordination

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

For the June 20, 2019 countywide FIS, an initial CCO (Scoping) meeting was held on November 5, 2015, and attended by representatives of AECOM (the study contractor), FEMA, the City of Laurens, Laurens County, and the State NFIP Coordinator. A PDCC meeting was held on November 16, 2017 to review the results of the study. The meeting was attended by AECOM, FEMA, and Laurens County representatives.

For the original August 16, 2012, countywide FIS, an initial CCO (Scoping) meeting was held on May 2, 2008, and attended by representatives of Watershed Concepts (the study contractor), the City of Laurens, Laurens County, and the South Carolina Department of Natural Resources (SCDNR). A PDCC meeting was held on May 23, 2011 to review the results of the study. The meeting was attended by AECOM (formerly Watershed Concepts) (the study contractor), FEMA, Laurens County, and SCDNR.

For the December 15, 1990, Laurens County Unincorporated Areas FIS, an initial CCO meeting was held on January 31, 1987, and attended by representatives of Black & Veatch, Inc. (the study contractor), FEMA, and Laurens County. Coordination with county officials, regional, State, and Federal agencies produced a variety of information pertaining to floodplain regulations, available community maps, flood history, and other hydrologic data. A final CCO meeting was held on January 25, 1990 to review the results of the study. The meeting was attended by Black & Veatch, Inc. (the study contractor), FEMA, and Laurens County.

For the May 2, 1983, City of Laurens FIS, an initial CCO meeting was held in November 1978, and attended by representatives of USACE (the study contractor), FEMA, and the City of Laurens. Various local, State, and Federal agencies were contacted to obtain existing data and previously published flood hazard information. Results of the hydrologic analyses were coordinated with the U.S. Soil Conservation Service (SCS). The SCS has since been formally renamed the Natural Resources Conservation Service (NRCS). A final CCO meeting was held on December 1, 1982 to review the results of the study. The meeting was attended by USACE (the study contractor), FEMA, and the City of Laurens.

2.0 AREA STUDIED

2.1 Scope of Study

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

For the June 20, 2019 countywide FIS, portions of Cane Creek, Rabon Creek, Reedy River, and Saluda River, including Lake Greenwood, were modified for inclusion in this FIS. A total of 31.4 stream miles were modified using detailed methods.

The areas studied by detailed methods were selected with priority given to all known flood hazards and areas of projected development or proposed construction. The flooding sources studied by detailed methods are presented in Table 1, "Flooding Sources Studied by Detailed Methods".

Table 1: Flooding Sources Studied by Detailed Methods

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Burnt Mill Creek (1982)	Approximately 850 feet downstream of Powers Road	Approximately 550 feet upstream of Pinehaven Street	1.9
Cane Creek (2016) ¹	Confluence with Saluda River (Lake Greenwood)	Approximately 70 feet downstream of Railroad	1.3
Little River	Approximately 1,000 feet downstream of State Highway 127	Approximately 1.1 miles upstream of Ghost Creek Road	6.7
Little River Tributary 1	Confluence with Little River	At Fleming Street	1.6
Little River Tributary 2	Confluence with Little River	At Academy Street	0.9
Little River Tributary 3	Confluence with Little River	Approximately 900 feet downstream of Ranch Road	1.0
Rabon Creek ¹	Confluence with Reedy River	Approximately 1.8 miles upstream of Todd Quarter Road	2.0
Reedy Fork Creek (2009)	Confluence with Little River	Approximately 740 feet downstream of Anderson Drive	1.3
Reedy Fork Creek (1987)	Approximately 740 feet downstream of Anderson Drive	Approximately 0.5 miles upstream of Boyd Road	4.1
Reedy Fork Creek Tributary 1	Confluence with Reedy Fork Creek	Approximately 150 feet upstream of Overbrook Drive	0.4
Reedy River ¹	Confluence with Saluda River (Lake Greenwood)	Approximately 2.1 miles upstream of confluence of Rabon Creek	6.0

Table 1: Flooding Sources Studied by Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Saluda River (Lake Greenwood) ¹	At the Laurens– Greenwood– Newberry County Boundary	Approximately 4.6 miles downstream of U.S. Highway 25	19.0
Scout Branch (1982)	Confluence with Burnt Mill Creek	Approximately 290 feet upstream of Pamela Lane	1.3

¹ Flooding information incorporated as part of the current study update

For the June 20, 2019 countywide FIS, no new streams were studied by limited detailed methods. All the flooding sources listed in Table 2, therefore, represent streams whose analyses were performed as part of a previous study.

The areas studied by limited detailed methods were selected for areas having low to moderate flood hazards or development potential. The flooding sources studied by limited detailed methods are presented in Table 2, “Flooding Sources Studied by Limited Detailed Methods”.

Table 2: Flooding Sources Studied by Limited Detailed Methods

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Beards Creek	Confluence with Duncan Creek	Approximately 480 feet upstream of Brook Road	5.9
Burnt Mill Creek (2009)	Confluence with Little River	Approximately 850 feet downstream of Powers Road	4.4
Burnt Mill Creek Tributary 5	Confluence with Burnt Mill Creek	Approximately 1.9 miles upstream of Roper Road	2.7
Burnt Mill Creek Tributary 9	Confluence with Burnt Mill Creek	Approximately 1.4 miles upstream of West Sullivan Road	3.8

Table 2: Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Burnt Mill Creek Tributary 9.2.2	Confluence with Burnt Mill Creek Tributary 9	Approximately 1.0 miles upstream of confluence with Burnt Mill Creek Tributary 9	1.0
Burnt Mill Creek Tributary 16	Confluence with Burnt Mill Creek	Approximately 1.0 miles upstream of confluence with Burnt Mill Creek	1.0
Burnt Mill Creek Tributary 21	Confluence with Burnt Mill Creek	Approximately 0.3 miles upstream of Bill Road	1.0
Bush River	At State Highway 560	Approximately 2.0 miles upstream of State Highway 72	11.7
Cane Creek (2009)	Approximately 70 feet downstream of Railroad	Approximately 4.1 miles upstream of Harris Springs Road	10.1
Little River	Approximately 1,100 feet upstream of Holmes Bridge Road	Approximately 1,000 feet downstream of State Highway 127	4.8
Little River Tributary 25	Confluence with Little River	Approximately 1.0 miles upstream of confluence with Little River	1.0
Little River Tributary 28	Confluence with Little River	Approximately 0.8 miles upstream of confluence with Little River	0.8
Little River Tributary 31	Confluence with Little River	Approximately 0.8 miles upstream of E. Jerry Road	1.4
Little River Tributary 37	Confluence with Little River	Approximately 0.25 miles upstream of Miller Street	0.9

Table 2: Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Saluda River	Approximately 3.9 miles downstream of U.S. Highway 25	Approximately 240 feet upstream of the Laurens–Abbeville–Greenwood County Boundary (U.S. Highway 25 Business)	6.6
Scout Branch (2009)	Approximately 290 feet upstream of Pamela Lane	Approximately 670 feet upstream of Dutch Head Drive	0.5
Shell Creek	Confluence with Bush River	Approximately 1,050 feet upstream of Springdale Drive	4.6
South Durbin Creek	Approximately 0.3 miles downstream of Boyd Street	Approximately 0.5 miles upstream of Boyd Street	0.7

For the June 20, 2019 countywide FIS, no new streams were studied by approximate methods. All the flooding sources listed in Table 3, therefore, represent streams whose analyses were performed as part of a previous study.

Approximate analyses were used to study those areas having minimal flood hazards or a low development potential. The flooding sources studied by approximate methods are presented in Table 3, “Flooding Sources Studied by Approximate Methods”.

Table 3: Flooding Sources Studied by Approximate Methods

Flooding Source	Length (miles)
Beaver Dam Creek	11.2
Beaver Dam Creek (Minor Tributaries)	0.6
Duncan Creek	23.9
Duncan Creek (Minor Tributaries)	27.3
Durbin Creek	9.7
Durbin Creek (Minor Tributaries)	15.7

Table 3: Flooding Sources Studied by Approximate Methods – continued

Flooding Source	Length (miles)
Enoree River	51.9
Enoree River (Minor Tributaries)	4.1
Indian Creek	5.6
Indian Creek (Minor Tributaries)	2.7
Little River	12.9
Little River (Minor Tributaries)	54.3
North Rabon Creek	13.8
North Rabon Creek (Minor Tributaries)	13.2
Rabon Creek	11.3
Rabon Creek (Minor Tributaries)	13.4
South Rabon Creek	14.4
South Rabon Creek (Minor Tributaries)	2.9
Reedy River	21.3
Reedy River (Minor Tributaries)	22.5
Saluda River	8.3
Saluda River (Minor Tributaries)	6.0
Warrior Creek	13.9
Warrior Creek (Minor Tributaries)	11.6

Numerous tributaries of previous studies have had stream names revised for better conformity throughout the county. These changes include the following:

Flooding Source	Flooding Source
<u>Effective Name</u>	<u>New Name</u>
Tributary LR-1	Little River Tributary 1
Tributary LR-2	Little River Tributary 2
Tributary LR-3	Little River Tributary 3
Tributary RF-1	Reedy Fork Creek Tributary 1

2.2 Community Description

Laurens County is located in the northwest-central region of South Carolina, approximately 62 miles northwest of the City of Columbia. It is bordered by Spartanburg County, to the north, Greenville County to the northwest, Abbeville and Anderson Counties to the west, Greenwood County to the south, Newberry County to the southeast, and Union County to the northeast. The county encompasses an area of 724 square miles which includes 9 square miles of water. According to U.S. Census Bureau figures the population has decreased from 69,567 in 2000 to 66,537 in 2010, a 4.4% decrease (Reference 2).

The topographic features and hydrologic characteristics of the study area are typical of the Piedmont physiographic region of North and South Carolina.

Soils in Laurens County are generally well-drained to moderately well-drained in upland areas, and moderately well-drained to somewhat poorly-drained in low areas and depression around streams. In creek bottoms, soils generally consist of alluvial sands and silts blanketed with finer (clay) soils with local deposits of sands and gravels.

The climate of northwest-central South Carolina is temperate. The average annual temperature for the City of Laurens is approximately 60.8 degrees Fahrenheit (°F). The lowest monthly average is 40.6 °F in January and the highest is 80.2 °F in July. The average annual precipitation at the City of Laurens is 45.55 inches. The precipitation is fairly evenly distributed throughout the year, with the highest monthly average at 4.64 inches in March, and has highest seasonal measurements recorded in the winter, during the months of December, January, and February (Reference 3).

The northeastern boundary of Laurens County is formed by the Enoree River.

Beaver Dam and Warrior Creeks are significant tributaries to the Enoree River with headwaters in the Town of Gray Court, and flow easterly to their confluences.

Duncan Creek is a major tributary to the Enoree River with headwaters near the City of Laurens, and flows easterly to its confluence outside the county.

Durbin Creek is also a major tributary to the Enoree River with headwaters in Greenville County, and flows easterly through the northern portion of Laurens County.

The southwestern boundary of Laurens County is formed by the Saluda River, which is impounded to form the feature of Lake Greenwood.

Bush River is a tributary to the Saluda River with headwaters in the City of Clinton, and flows southeasterly to its confluence outside the county. Shell Creek is a tributary to Bush River with headwaters in the City of Clinton, and flows southerly to its confluence.

Little River is a significant tributary to the Saluda River with headwaters near the City of Laurens, and flows southeasterly through the city to its confluence outside the county. Burnt Mill Creek is a tributary to Little River with headwaters in the City of Laurens, and flows southeasterly to its confluence. Reedy Fork Creek is a tributary to Little River with headwaters near the City of Laurens, and flows southeasterly through the city to its confluence.

Reedy River is another major tributary to the Saluda River, which flows southeasterly through the western portion of Laurens County.

2.3 Principal Flood Problems

The history of rainfall events in South Carolina indicate that large storms can occur at any time of year. Large frontal storms usually happen during the winter or spring. Summer storms generally consist of thunderstorms, which have high rainfall intensities and are scattered over small areas. In addition, South Carolina is vulnerable to tropical storm (hurricane) activities, usually during the fall season.

Significant floods in the distant past that have affected Laurens County, mainly in the City of Laurens, happened in 1928, 1929, 1959, 1964, 1973, and 1976. During the September 1929 storm event, the greatest 24-hour rainfall of 10.72 inches was recorded.

The September 1973 flood event caused the greatest damage due to increased development in the floodplain, with 7.1 inches of rainfall recorded over a 17-hour period. Rainfall began about 4:00 p.m. on September 13, and Little River and Reedy Fork Creek overflowed their banks around 9:00 a.m. the next day. The swiftly flowing waters inundated the Laurens Plaza Shopping Center to a depth of seven feet in the parking area and five feet inside several stores. The flood reached a crest about 11:00 a.m. on September 14, 1973. Damages occurred at the commercial shopping center as well as public and residential property. Numerous infrastructure problems also occurred, mainly, electric service and transportation disruption, wastewater or raw sewage overflow, and water supply pollution.

More recent floods have occurred, again mainly affecting the City of Laurens, in 1998, 2000, 2001, 2003, 2004, and 2005. The April 17, 1998 flooding along the Little River was at the highest level since the flood control project of the 1970s, requiring evacuations and bridge and road closures. The June 20, 2000 event involved severe urban flooding and flash flood conditions. In mid-June 2001,

flooding increased to standing water in streets, with cars stalled on U.S. 76. In February, March, and April 2003, streets were flooded. An intense tropical storm on September 27, 2004 caused countywide flooding, with up to a foot and a half of water accumulating in low places on I-385. In October 2005, damages were estimated a 4.7 million dollars, mainly flooded roads (Reference 4).

Flooding was also reported in the Town of Gray Court in 1995, 1997, 2003, 2004, and 2005, and in the area of the Town of Fountain Inn near Durbin Creek in 2002, 2003, 2004, and 2005. Flooding which occurred on August 27, 1995 reportedly caused approximately \$200,000 in damage in the Towns of Fountain Inn and Gray Court, \$500,000 in damage in Woodruff, and two million dollars in damages in the county. North Rabon Creek flooded several homes on July 23, 1997. In 2003, and again in 2004, I-385 was flooded west of the City of Laurens. A September 27, 2004 storm created flooding that required evacuation of homes in the Town of Fountain Inn (Reference 4).

A flood on June 20, 2000 caused flooding of stores in the City of Clinton and roads near Joanna. On March 3, 2003 the Bush River near Joanna and Indian Creek were reported to be out of their banks. The Towns of Cross Hill and Waterloo experienced floods in 2003, 2004, and 2005 in which creeks were flooded and bridges were under water. In 1997, and 1998 the Reedy River was out of its banks due to flooding (Reference 4).

2.4 Flood Protection Measures

The City of Laurens has developed an action plan for implementation during floods and other crises situations. During past floods this plan has been effective for security and protection of lives, but it does little to reduce floodwater damage to property because there is not enough warning time.

Sponsored by the City of Laurens, Laurens County, and the State of South Carolina, the NRCS (formerly SCS) investigated the flood situation and developed a “*Watershed Plan*” for the city (Reference 5). The plan, which included channel improvements to Little River and Reedy Fork Creek, was designed to reduce flooding and flood damages in the Harper Street bridge area.

A plan consisting of a series of retention ponds was proposed for Warrior Creek (Reference 6).

Lake Rabon is a reservoir created by a dam on Rabon Creek approximately 0.6 miles upstream of State Highway 252. The Laurens County Water & Sewer Commission (LCWSC) oversees Lake Rabon. Although mainly constructed for water supply and recreational purposes, Lake Rabon can have a significant impact on flood risk easement (Reference 7, 8 & 9).

Floods in the study area may be affected by operation of a reservoir on the Saluda River. Lake Greenwood is formed by Buzzards Roost Dam, which was completed in 1940, and is owned by Greenwood County. The dam and powerhouse were operated, under lease, by Duke Energy from 1966 to 2006. Santee Cooper is the current operator of the transmission lines, dam and powerhouse. Lake Greenwood, located at river mile 60 has a surface area of approximately 11,400 acres at full pool elevation of 440 feet mean sea level (Reference 10 & 11).

The reservoir was initially constructed for hydroelectric power generation and is subject to regulations prescribed by the Federal Energy Regulatory Commission (FERC). This dam is currently operated to produce hydroelectric power.

The National Weather Service (NWS) maintains a forecast center at Columbia Metropolitan Airport to furnish forecasts for key points in the region. The forecast information is made available to all interested parties by the quickest means possible.

3.0 ENGINEERING METHODS

For the flooding sources studied by limited detailed and detailed methods 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 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-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 1-percent-annual-chance flood in any 50-year period is approximately 40 percent (4 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

3.1.1 Methods for Flooding Sources with New or Revised Analyses in Current Study

For this revision of the countywide FIS, hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source studied by detailed methods affecting the community. A summary of peak discharge-drainage area relationships for streams studied by detailed methods is shown in Table 4, "Summary of Discharges".

The hydrologic analyses for Saluda River (Lake Greenwood) were performed using the USACE Hydrologic Engineering Center – Flood Hydrograph Package (HEC-1) rainfall-runoff and routing model (Reference 12 & 13).

3.1.2 Methods for Flooding Sources Incorporated from Previous Studies

This section describes the methodology used in previous studies of flooding sources incorporated into this FIS that were not revised for this countywide study.

For the original August 16, 2012, countywide study, hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source studied affecting the community. Peak discharges were determined using United States Geological Survey (USGS) rural regression equations for South Carolina, described in USGS Scientific Investigations Report (SIR) 2009-5156, and the “*Alternate Urban*” equations in SIR 2004-5030 (Reference 14 & 15).

For the December 15, 1990, Laurens County, Unincorporated Areas study, hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source affecting the community. Peak discharges were determined using gaging station data and USGS regression equations for South Carolina, described in USGS Water-Resources Investigations Report (WRIR) 82-1 (Reference 16). The report does not determine a regression equation for the 0.2-percent-annual-chance flood discharge, thus it was determined through graphical extrapolation.

For the May 2, 1983, City of Laurens study, hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source studied affecting the community. For Little River, and Reedy Fork Creek, hydrological analyses were based on regional flood frequency information from gage records on similar streams in the same physiographical region, because none were available for the flooding sources themselves, and rainfall-runoff modeling techniques. The analyses were based on methods presented in Statistical Methods in Hydrology (Reference 17), and USACE Engineering Manual (EM) 1110-2-1405, Flood Hydrograph Analyses and Computations (Reference 18). Results of the two methods were reviewed and a composite of the results were used in determining the final discharge-frequency relationships. For Burnt Mill Creek, Scout Branch, and the four unnamed tributaries designated as Tributary LR-1, Tributary LR-2, Tributary LR-3, and Tributary RF-1, discharge-frequency relationships were computed using methods prescribed in USGS Open-File Report (OFR) 72-304 (Reference 19), which is a log-Pearson Type III analysis that established regression equations.

Table 4: Summary of Discharges

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
BURNT MILL CREEK						
Immediately upstream of State Route 127	4.90	2,140	*	3,180	3,580	4,990
Immediately upstream of U.S. Highway 221	3.50	1,960	*	2,890	3,250	4,430
CANE CREEK						
At confluence with Saluda River (Lake Greenwood)	32.5	750	*	1,480	1,900	2,610
LITTLE RIVER						
Approximately 1,000 feet downstream of State Highway 27	30.4	3,274	*	5,130	5,901	7,851
Approximately 1,640 feet upstream of State Highway 27	30.1	3,254	*	5,100	5,866	7,806
Immediately downstream of confluence of Little River Tributary 27	26.3	2,989	*	4,696	5,405	7,204
Approximately 940 feet downstream of Main Street	25.9	2,966	*	4,661	5,366	7,152
Immediately downstream of confluence of Reedy Fork Creek	24.7	2,882	*	4,532	5,219	6,959
Immediately upstream of Bolt Drive	14.7	2,089	*	3,315	3,829	5,135
Approximately 0.9 miles upstream of Bolt Drive	13.5	1,982	*	3,149	3,640	4,886
Approximately 0.2 miles downstream of Ranch Road	13.1	1,946	*	3,094	3,576	4,803
Approximately 440 feet upstream of Ranch Road	12.0	1,847	*	2,940	3,401	4,571
Approximately 0.6 miles upstream of Ranch Road	10.1	1,654	*	2,642	3,059	4,120
Approximately 0.7 miles upstream of Ranch Road	9.9	1,640	*	2,620	3,033	4,086
Approximately 1,430 feet downstream of Ghost Creek Road	7.9	1,430	*	2,293	2,658	3,589
Approximately 1,160 feet upstream of Ghost Creek Road	5.8	1,174	*	1,892	2,198	2,979

* Data Not Available

Table 4: Summary of Discharges – continued

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
LITTLE RIVER (continued)						
Approximately 0.7 miles upstream of Ghost Creek Road	5.6	1,149	*	1,854	2,154	2,920
Approximately 1.0 miles upstream of Ghost Creek Road	3.9	916	*	1,486	1,731	2,356
LITTLE RIVER TRIBUTARY 1						
At confluence with Little River	3.5	1,730	*	2,630	2,990	4,180
At Fleming Street	1.2	870	*	1,410	1,650	2,330
LITTLE RIVER TRIBUTARY 2						
At confluence with Little River	0.6	730	*	1,170	1,370	1,860
LITTLE RIVER TRIBUTARY 3						
At confluence with Little River	1.0	930	*	1,470	1,710	2,340
RABON CREEK						
At confluence with Reedy River	127	3,020	*	5,810	7,520	10,600
REEDY FORK CREEK						
At confluence with Little River	9.1	1,551	*	2,481	2,875	3,876
Immediately downstream of Church Street	9.0	1,541	*	2,466	2,857	3,853
Approximately 420 feet upstream of Railroad	8.7	1,510	*	2,418	2,802	3,780
At Anderson Drive	8.4	1,479	*	2,369	2,746	3,706
Approximately 700 feet upstream of Anderson Drive	7.87	1,318	*	2,120	2,496	3,400
Immediately upstream of Wheelon Road	5.64	1,065	*	1,724	2,037	2,850
Approximately 0.4 miles upstream of Wheelon Road	4.68	945	*	1,536	1,818	2,500
Approximately 1.6 miles upstream of Wheelon Road	1.79	511	*	847	1,011	1,450
REEDY FORK CREEK TRIBUTARY 1						
At confluence with Reedy Fork Creek	0.5	640	*	1,030	1,210	1,630

* Data Not Available

Table 4: Summary of Discharges – continued

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (Cubic Feet per Second)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
REEDY RIVER						
At confluence with Saluda River (Lake Greenwood)	402	10,450	*	12,950	27,380	36,460
Immediately upstream of confluence of Rabon Creek	260	7,700	*	7,160	19,870	26,640
SALUDA RIVER (LAKE GREENWOOD)						
Immediately downstream of Buzzards Roost Dam	1,167	33,150	*	52,970	76,830	98,870
Immediately upstream of Buzzards Roost Dam	1,167	32,000	*	51,820	75,880	98,870
Immediately upstream of confluence of Cane Creek	1,093	27,430	*	41,630	62,970	80,810
Immediately upstream of confluence of Reedy River	674	16,130	*	28,700	35,600	44,780
SCOUT BRANCH						
At confluence with Burnt Mill Creek	1.0	810	*	1,320	1,550	2,160

* Data Not Available

Flooding sources with stillwater elevations established are displayed in Table 5, “Summary of Stillwater Elevations”.

Table 5: Summary of Stillwater Elevations

Flooding Source and Location	Elevation (feet NAVD88)				
	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
SALUDA RIVER Lake Greenwood	439.6	*	440.0	440.4	444.9

* Data Not Available

3.2 Hydraulic Analyses

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

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

Roughness coefficients (Manning’s “n”) were chosen by engineering judgement and based on field observations of the stream channel and overbank floodplain areas. Table 6, “Summary of Roughness Coefficients” contains the channel and overbank “n” values for the streams studied by detailed and limited detailed methods.

Table 6: Summary of Roughness Coefficients

Flooding Source	Manning's 'n' Channel	Manning's 'n' Overbank
Burnt Mill Creek (2009)	0.030-0.090	0.040-0.120
Cane Creek (2016)	0.030-0.045	0.080
Little River	0.045	0.020-0.150
Little River Tributary 1	0.030-0.090	0.040-0.120
Little River Tributary 2	0.030-0.090	0.040-0.120
Little River Tributary 3	0.030-0.090	0.040-0.120
Rabon Creek	0.030-0.079	0.080
Reedy Fork Creek (2009)	0.040-0.060	0.020-0.130
Reedy Fork Creek Tributary 1	0.040-0.060	0.080-0.130
Reedy River	0.060-0.076	0.034-0.080
Saluda River	0.040-0.045	0.035-0.140
Saluda River (Lake Greenwood)	0.028-0.070	0.038-0.120
Scout Branch (2009)	0.030-0.090	0.040-0.120

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

3.2.1 Methods for Flooding Sources with New or Revised Analyses in Current Study

Analyses of the hydraulic characteristics of flooding from the sources studied by detailed methods were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

Water-surface elevations (WSELs) for the 10-, 2-, 1-, and 0.2-percent-annual-chance exceedance discharges for each flooding source studied by detailed methods were computed using the USACE Hydrologic Engineering Center – River Analysis System (HEC-RAS) version 4.1 step-backwater computer program (Reference 20).

Hydraulic characteristics for the HEC-RAS model were developed for Cane Creek, Rabon Creek, Reedy River, and Saluda River (Lake Greenwood) with modification only to HEC-RAS model cross-section placements, and computer program version (Reference 12 & 13).

3.2.2 Methods for Flooding Sources Incorporated from Previous Studies

This section describes the methodology used in previous studies of flooding sources incorporated into this FIS that were not revised for this countywide study.

For the original August 16, 2012, countywide study, analyses of the hydraulic characteristics of flooding for each flooding source studied affecting the community were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. WSELs for the 10-, 2-, 1-, and 0.2-percent-annual-chance exceedance discharges for each flooding source studied by detailed methods, and WSELs for the 1-percent-annual-chance exceedance discharges for each flooding source studied by limited detailed and approximate methods were computed using the HEC-RAS version 3.1.3 step-backwater computer program (Reference 21). Starting water-surface elevations were set to normal depth using starting slopes calculated from channel elevation values taken from LiDAR data, or, where applicable, from existing effective flood elevations.

For the December 15, 1990, Laurens County, Unincorporated Areas study, analyses of the hydraulic characteristics of flooding for each flooding source studied affecting the community were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. WSELs of floods of the selected recurrence intervals for each flooding source studied by detailed methods, Little River, and Reedy Fork Creek, were computed using the USACE HEC-2 step-backwater computer program (Reference 22). Flood hazards for each flooding source studied by approximate methods were determined by using WRIR 79-69, A Technique for Estimating Heights Reached by the 100-Year Flood on Unregulated, Nontidal Streams in North Carolina, (Reference 23), which computes flood heights by adding a vertical distance to the median stream elevation. The vertical distance is determined by equations based on the physiographic province in which the stream is located, and the drainage area. The method assumes that the contours on the topographic map are exact and that the contour lines cross the stream at approximately the elevation of median stream flow.

For the May 2, 1983, City of Laurens study, analyses of the hydraulic characteristics of flooding for each flooding source studied affecting the community were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. WSELs of floods of the selected recurrence intervals for each flooding source studied affecting the communities were computed using the USACE HEC-2 step-backwater computer program (Reference 24). Starting water-surface elevations were computed using the slope/area method. Cross-section data for streams were obtained by photogrammetric methods. Structural geometry of the bridges and culverts were obtained by field surveys. The acceptability of assumed hydraulic factors,

surveyed cross-sections, and hydraulic structural data was checked by computations which duplicated historic flood data.

3.3 Vertical Datum

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

All flood elevations shown in this FIS report and on the FIRM are referenced to NAVD88. Structure and ground elevations in the community must, therefore, be referenced to NAVD88. In the original August 16, 2012, countywide study, redelineated elevations from prior FIS reports were subjected to a vertical datum shift of -0.453 feet from NGVD29 to NAVD88 for Laurens County. It is important to note that adjacent communities may be referenced to NGVD29. This may result in differences in base flood elevations (BFEs) across the corporate limits between the communities.

For more information regarding conversion between NGVD29 and NAVD88, see the FEMA publication entitled Converting the National Flood Insurance Program to the North American Vertical Datum of 1988, (Reference 25) visit the National Geodetic Survey website at <http://www.ngs.noaa.gov>, or contact the National Geodetic Survey at the following address:

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

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

Bench marks catalogued 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/election well (e.g., concrete bridge abutment)
- Stability C: Monuments which may be affected by surface ground movements (e.g., concrete monument below frost line)
- Stability D: Mark of questionable or unknown vertical stability (e.g., concrete monument above frost line, or steel witness post)

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

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

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

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. To assist in this endeavor, each FIS provides 1-percent-annual-chance floodplain data, which may include a combination of the following: 10-, 4-, 2-, 1-, and 0.2-percent-annual-chance flood elevations; delineations of the 1- and 0.2-percent-annual-chance floodplains; and a 1-percent-annual-chance floodway. This information is presented on the FIRM and in many components of the FIS, including Flood Profiles, Floodway Data Tables, and Summary of Stillwater Elevation Tables. Users should reference the data presented in the FIS report as well as additional information that may be available at the local community map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance flood has been adopted by FEMA as the base flood, also called the Special Flood Hazard Area (SFHA), for floodplain management purposes.

The 0.2-percent-annual-chance flood is employed to indicate additional areas of flood risk in the community.

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

For the June 20, 2019 countywide FIS, the 1- and 0.2-percent-annual-chance floodplain boundaries have been delineated using the flood elevations determined at each cross-section. Between cross-sections, the boundaries were interpolated from flood elevations determined at each cross-section using LiDAR data at a scale of 1 meter with contour interval of 2 feet (Reference 26).

For flooding sources in the City of Laurens, the boundaries between cross-sections were interpolated using topographic maps at a scale of 1 inch = 500 feet with contour intervals of 2 feet (Reference 27). For all other flooding sources, the boundaries between cross-sections were interpolated using topographic maps at a scale of 1:24,000 with contour intervals of 10 feet (Reference 28)

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent-annual-chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 1-percent-annual-chance flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as a minimum standard that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed for certain stream segments on the basis of equal-conveyance reduction from each side of the

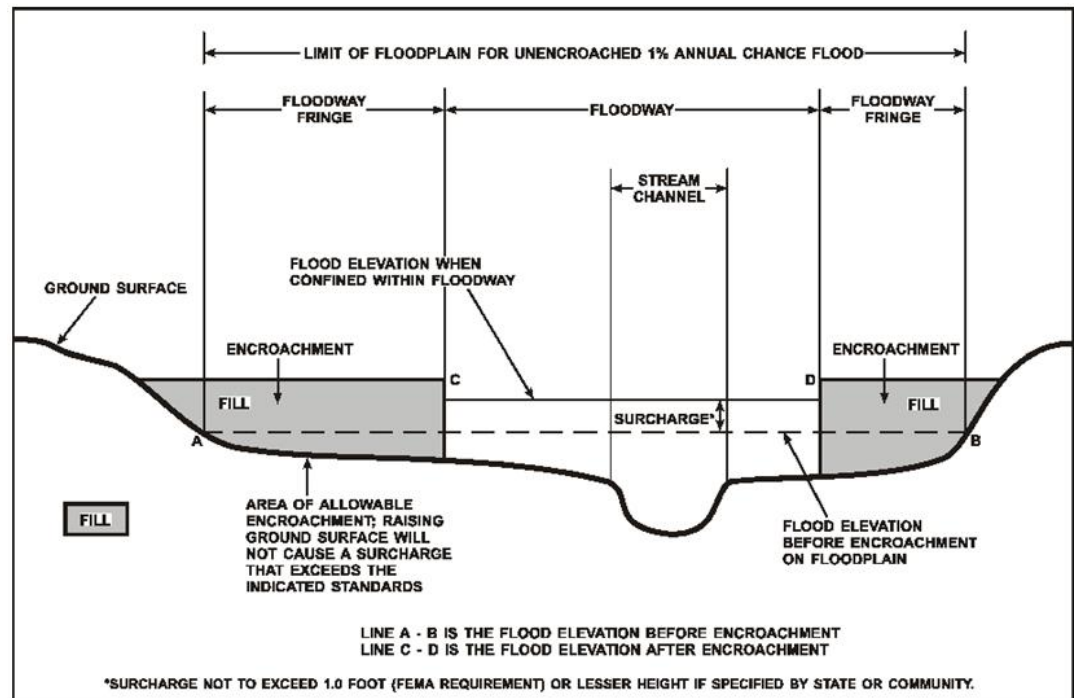
floodplain. Floodway widths were computed at cross-sections. Between cross-sections, the floodway boundaries were interpolated. The results of the floodway computations for detailed studied stream are tabulated for selected cross-sections in Table 7, "Floodway Data". The computed floodway is shown on the FIRM (Exhibit 2). In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either too close together or collinear, only the floodway boundary is shown. Similarly, for limited detailed studied streams, BFE computations have been compiled in Table 8, "Flood Hazard Data for Selected Streams".

Near the confluences of streams studied in detail, floodway computations were made without regard to flood elevations on the receiving water body. Therefore, "Without Floodway" elevations presented in Table 7, for certain downstream cross-sections of selected streams are lower than the regulatory flood elevations in that area, which must take into account the 1-percent-annual-chance flooding due to backwater from other sources.

Encroachment into areas subject to inundation by floodwaters having hazardous velocities aggravates the risk of flood damage, and heightens potential flood hazards by further increasing velocities. To reduce the risk of property damage in areas where the stream velocities are high, the community may wish to restrict development in areas outside the floodway. A listing of stream velocities at selected cross-sections is provided in Table 7.

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

Figure 1: Floodway Schematic



LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	23,900	125	956	3.9	562.4	562.4	563.2	0.8
B	25,200	141	2,115	2.5	573.8	573.8	574.7	0.9
C	26,530	259	2,771	1.8	574.0	574.0	575.0	1.0
D	28,400	262	1,945	2.6	577.5	577.5	578.5	1.0
E	29,000	360	3,713	1.4	582.5	582.5	583.4	0.9
F	30,150	126	960	5.2	584.1	584.1	585.0	0.9
G	31,650	267	1,716	2.6	587.2	587.2	588.2	1.0
H	32,200	105	690	3.6	590.0	590.0	591.0	1.0

¹ Feet above confluence with Little River

TABLE 7	FEDERAL EMERGENCY MANAGEMENT AGENCY LAURENS COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS	FLOODWAY DATA
		BURNT MILL CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	95,869	273	1,577	3.7	536.7	536.7	537.3	0.6
B	96,146	172	1,336	4.4	537.4	537.4	538.1	0.7
C	96,373	295	2,176	2.7	538.2	538.2	539.0	0.8
D	97,234	360	2,964	2.0	540.6	540.6	541.2	0.6
E	97,588	238	1,902	3.1	540.8	540.8	541.4	0.6
F	97,815	502	4,091	1.7	541.3	541.3	542.0	0.7
G	98,280	224	1,757	3.3	541.6	541.6	542.2	0.6
H	98,500	223	1,653	3.6	542.0	542.0	542.6	0.6
I	99,000	166	1,451	3.7	543.0	543.0	543.7	0.7
J	99,500	219	1,903	2.8	544.0	544.0	544.8	0.8
K	99,794	183	1,319	4.1	544.4	544.4	545.2	0.8
L	100,002	638	5,939	1.3	545.1	545.1	546.0	0.9
M	100,292	545	4,776	1.1	545.2	545.2	546.1	0.9
N	100,500	475	3,731	1.4	545.3	545.3	546.1	0.8
O	101,378	108	949	5.7	546.7	546.7	547.1	0.4
P	101,614	184	1,682	3.2	547.5	547.5	548.2	0.7
Q	102,043	446	3,816	1.4	548.1	548.1	548.9	0.8
R	102,422	496	4,462	1.2	548.2	548.2	549.0	0.8
S	102,729	647	5,447	1.0	548.3	548.3	549.1	0.8
T	103,077	747	5,198	1.0	548.4	548.4	549.2	0.8
U	103,488	574	3,655	1.5	548.7	548.7	549.4	0.7
V	104,000	171	1,177	4.6	548.9	548.9	549.6	0.7
W	104,500	203	1,361	3.9	550.5	550.5	550.9	0.3
X	105,000	203	1,533	3.4	551.4	551.4	551.9	0.4

¹ Feet above confluence with Saluda River

TABLE 7	FEDERAL EMERGENCY MANAGEMENT AGENCY LAURENS COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS	FLOODWAY DATA
		LITTLE RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Y	105,290	68	726	7.2	551.6	551.6	552.0	0.4
Z	105,652	105	1,112	4.7	553.2	553.2	553.8	0.6
AA	106,002	510	3,973	1.3	553.9	553.9	554.6	0.7
AB	106,701	240	1,830	2.9	555.4	555.4	555.4	0.0
AC	106,963	220	1,949	2.7	555.6	555.6	555.6	0.0
AD	107,500	170	1,393	3.8	556.0	556.0	556.0	0.0
AE	109,000	105	860	4.5	559.0	559.0	559.0	0.0
AF	109,607	42	391	9.8	560.1	560.1	560.1	0.0
AG	109,832	109	855	4.5	561.9	561.9	562.3	0.4
AH	110,500	478	5,128	0.7	563.1	563.1	563.4	0.3
AI	111,140	933	9,873	0.4	563.2	563.2	563.4	0.3
AJ	111,500	766	7,695	0.5	563.2	563.2	563.5	0.3
AK	112,000	706	6,524	0.6	563.2	563.2	563.5	0.3
AL	112,304	672	5,689	0.6	563.2	563.2	563.5	0.3
AM	112,680	536	3,539	1.0	563.3	563.3	563.6	0.3
AN	113,000	283	1,683	2.2	563.4	563.4	563.7	0.3
AO	113,557	155	1,078	3.4	564.0	564.0	564.4	0.4
AP	114,000	352	2,190	1.7	564.8	564.8	565.3	0.5
AQ	114,568	430	2,489	1.5	565.3	565.3	565.8	0.5
AR	114,842	358	1,809	2.0	565.6	565.6	566.1	0.5
AS	115,500	496	2,878	1.2	566.5	566.5	567.0	0.5
AT	116,091	570	3,023	1.2	567.0	567.0	567.5	0.5
AU	116,394	595	2,853	1.3	567.3	567.3	567.8	0.5
AV	116,870	506	2,161	1.6	568.0	568.0	568.4	0.4

¹ Feet above confluence with Saluda River

TABLE 7	FEDERAL EMERGENCY MANAGEMENT AGENCY LAURENS COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS	FLOODWAY DATA
		LITTLE RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AW	117,071	441	1,840	1.9	568.4	568.4	568.8	0.4
AX	117,880	469	2,540	1.3	571.8	571.8	572.1	0.3
AY	118,000	500	2,635	1.3	571.8	571.8	572.2	0.3
AZ	118,455	449	2,049	1.5	572.1	572.1	572.5	0.4
BA	118,866	307	1,315	2.3	572.5	572.5	573.0	0.5
BB	119,452	297	1,335	2.3	573.5	573.5	574.1	0.6
BC	120,000	316	1,294	2.4	574.4	574.4	575.1	0.7
BD	120,633	144	720	4.3	575.5	575.5	576.3	0.7
BE	121,068	232	1,151	2.6	576.6	576.6	577.5	0.9
BF	121,500	170	668	4.0	577.2	577.2	578.1	0.8
BG	122,000	198	753	3.5	578.5	578.5	579.5	1.0
BH	122,629	152	734	3.6	580.3	580.3	581.2	0.9
BI	123,191	156	729	3.6	581.7	581.7	582.6	0.9
BJ	123,429	248	951	2.8	582.2	582.2	583.1	0.9
BK	123,908	110	479	5.6	583.4	583.4	584.2	0.8
BL	124,521	308	1,246	1.8	585.2	585.2	586.2	1.0
BM	125,000	178	594	3.7	585.8	585.8	586.7	0.9
BN	125,160	161	677	3.3	586.6	586.6	587.2	0.7
BO	125,681	550	2,643	0.8	589.9	589.9	590.3	0.4
BP	126,084	362	1,543	1.4	590.0	590.0	590.4	0.4
BQ	126,500	423	1,092	2.0	590.3	590.3	590.7	0.4
BR	126,979	220	630	3.4	591.5	591.5	592.5	1.0
BS	127,500	244	858	2.5	594.5	594.5	594.6	0.1
BT	128,000	172	533	4.0	595.4	595.4	595.7	0.3

¹ Feet above confluence with Saluda River

TABLE 7	FEDERAL EMERGENCY MANAGEMENT AGENCY LAURENS COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS	FLOODWAY DATA
		LITTLE RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BU	128,467	57	372	5.8	596.4	596.4	597.0	0.6
BV	128,820	49	385	5.6	597.5	597.5	597.9	0.4
BW	129,352	54	332	5.2	598.7	598.7	599.0	0.3
BX	129,711	215	1,345	1.3	603.9	603.9	604.1	0.2
BY	130,000	154	867	2.0	604.0	604.0	604.2	0.2
BZ	130,460	146	446	3.9	604.4	604.4	604.7	0.3
CA	131,000	47	258	6.7	606.2	606.2	607.1	0.9

¹ Feet above confluence with Saluda River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY
LAURENS COUNTY, SOUTH CAROLINA
AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,100	425	1,670	3.1	542.1	541.3 ²	542.2	0.9
B	2,100	226	924	4.5	545.1	545.1	546.1	1.0
C	3,130	146	795	5.5	551.6	551.6	552.5	0.9
D	3,900	292	1,299	2.8	554.0	554.0	554.9	0.9
E	4,300	436	1,746	2.9	554.8	554.8	555.6	0.8
F	5,300	200	2,090	1.3	564.4	564.4	565.4	1.0
G	6,300	135	960	2.9	565.2	565.2	566.2	1.0
H	7,300	195	1,400	1.6	571.6	571.6	572.1	0.5

¹ Feet above confluence with Little River

² Elevation computed without consideration of backwater effects from Little River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY
LAURENS COUNTY, SOUTH CAROLINA
AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE RIVER TRIBUTARY 1

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	150	120	410	3.3	551.2	546.2 ²	547.2	1.0
B	500	100	510	2.7	551.2	550.4 ²	551.3	0.9
C	950	80	285	4.8	555.1	555.1	555.1	0.0
D	1,620	90	265	5.2	565.0	565.0	565.4	0.4
E	2,450	100	1,340	1.0	586.7	586.7	587.5	0.8
F	3,090	110	695	1.5	586.7	586.7	587.6	0.9
G	4,000	100	1,050	1.0	603.0	603.0	603.9	0.9
H	4,800	75	420	2.4	603.8	603.8	604.7	0.9

¹ Feet above confluence with Little River

² Elevation computed without consideration of backwater effects from Little River

TABLE 7	FEDERAL EMERGENCY MANAGEMENT AGENCY LAURENS COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS	FLOODWAY DATA
		LITTLE RIVER TRIBUTARY 2

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,330	100	420	4.1	563.2	560.5 ²	561.5	1.0
B	1,850	130	470	3.6	563.2	562.5 ²	563.5	1.0
C	2,500	100	325	5.3	567.1	567.1	567.8	0.7
D	3,320	140	685	2.5	573.8	573.8	574.7	0.9
E	4,060	60	215	8.0	580.7	580.7	581.2	0.5
F	5,000	140	732	3.9	589.2	589.2	590.1	0.9

¹ Feet above confluence with Little River

² Elevation computed without consideration of backwater effects from Little River

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY
LAURENS COUNTY, SOUTH CAROLINA
AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE RIVER TRIBUTARY 3

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	939	49	476	6.0	558.4	558.4	558.6	1.2
B	1,418	72	634	4.5	559.4	559.4	559.6	0.2
C	2,169	149	1,082	2.6	561.3	561.3	561.8	0.5
D	3,568	52	412	6.9	562.3	562.3	563.0	0.7
E	4,301	150	1,087	2.6	564.5	564.5	565.1	0.6
F	5,265	110	448	6.3	565.3	565.3	565.6	0.3
G	6,276	491	1,477	1.9	568.9	568.9	569.5	0.6
H	6,735	265	1,352	2.0	570.4	570.4	571.4	1.0
I	7,650	275	2,400	1.8	576.8	576.8	577.3	0.5
J	8,850	145	970	4.5	578.8	578.8	579.7	0.9
K	10,490	265	1,700	2.6	582.3	582.3	583.3	1.0
L ²	—	—	—	—	—	—	—	—
M ²	—	—	—	—	—	—	—	—
N ²	—	—	—	—	—	—	—	—
O ²	—	—	—	—	—	—	—	—
P ²	—	—	—	—	—	—	—	—
Q ²	—	—	—	—	—	—	—	—
R ²	—	—	—	—	—	—	—	—

¹ Feet above confluence with Little River

² No floodway shown on map

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY
LAURENS COUNTY, SOUTH CAROLINA
AND INCORPORATED AREAS

FLOODWAY DATA

REEDY FORK CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	350	75	350	3.5	572.1	572.1	573.1	1.0
B	700	75	390	3.1	576.7	576.7	577.0	0.3
C	1,200	75	450	2.7	582.1	582.1	582.5	0.4
D	1,980	75	260	4.7	587.9	587.9	588.8	0.9

¹ Feet above confluence with Reedy Fork Creek

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY
LAURENS COUNTY, SOUTH CAROLINA
AND INCORPORATED AREAS

FLOODWAY DATA

REEDY FORK CREEK TRIBUTARY 1

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	500	162	599	3.9	589.8	587.1 ²	588.1	1.0
B	1,000	97	485	4.7	590.0	590.0	590.8	0.8
C	2,300	90	335	4.6	598.6	598.6	599.5	0.9
D	3,100	100	480	3.2	603.4	603.4	604.4	1.0
E	4,100	40	150	6.3	607.4	607.4	608.3	0.9
F	4,600	50	250	3.8	612.8	612.8	613.3	0.5
G	5,800	100	180	5.3	621.8	621.8	622.7	0.9
H	6,700	70	135	7.0	630.9	630.9	631.5	0.6

¹ Feet above confluence with Burnt Mill Creek

² Elevation computed without consideration of backwater effects from Burnt Mill Creek

TABLE 7	FEDERAL EMERGENCY MANAGEMENT AGENCY LAURENS COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS	FLOODWAY DATA
		SCOUT BRANCH

Table 8: Flood Hazard Data for Selected Streams

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Beards Creek	001	82	3,312	447.0 ⁴
	003	278	3,312	448.6
	004	403	3,312	450.1
	005	517	3,312	450.3
	012	1,248	3,312	450.9
	015	1,531	3,312	451.2
	020	2,038	3,312	452.2
	027	2,723	3,261	454.2
	033	3,279	3,177	455.8
	036	3,616	3,177	456.5
	039	3,943	3,177	457.3
	045	4,468	3,177	458.4
	050	4,977	3,177	459.8
	055	5,470	3,177	461.9
	060	5,976	3,106	462.9
	066	6,558	3,106	464.2
	071	7,115	3,106	465.6
	076	7,577	3,106	467.7
	081	8,118	3,106	469.3
	086	8,644	3,016	471.5
	092	9,177	3,016	472.5
	097	9,715	3,016	473.1
	102	10,168	3,016	474.7
	106	10,560	3,016	480.4
	112	11,217	3,016	481.1
	114	11,448	3,016	484.4
	115	11,539	3,016	484.5
	117	11,736	3,016	486.3
	122	12,216	2,778	486.6
	127	12,718	2,778	486.7
	133	13,262	2,723	486.9
	137	13,730	2,723	487.3
	143	14,264	2,723	488.3
	146	14,568	2,723	491.0
	148	14,785	2,723	518.1
	152	15,236	2,723	518.1
	158	15,779	2,391	518.1
	162	16,192	2,391	518.1
	167	16,746	2,391	518.1
	172	17,213	2,391	518.1
	176	17,631	2,391	518.1
	181	18,131	2,391	518.1

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Beards Creek (continued)	188	18,791	2,391	518.1
	190	19,023	2,391	518.1
	196	19,632	2,391	518.1
	201	20,131	2,134	518.1
	206	20,631	2,001	518.1
	211	21,132	2,001	518.1
	216	21,631	1,772	518.2
	221	22,132	1,772	518.3
	226	22,631	1,772	518.6
	231	23,131	1,576	519.5
	236	23,630	1,576	520.9
	242	24,150	1,576	522.3
	244	24,421	1,576	523.5
	246	24,603	1,576	524.9
	252	25,243	1,268	526.7
	254	25,396	1,268	549.9
	256	25,623	1,268	549.9
	259	25,906	1,268	549.9
	264	26,431	1,268	549.9
	269	26,918	1,268	549.9
	274	27,418	1,130	549.9
	280	28,020	971	549.9
	284	28,417	971	549.9
	289	28,915	971	550.0
	294	29,413	971	550.2
	300	30,013	971	551.4
	304	30,437	971	554.8
	306	30,609	760	564.2
	310	30,998	760	564.2
Burnt Mill Creek	006	623	3,952	500.8 ⁴
	012	1,184	3,952	500.8 ⁴
	017	1,692	3,952	500.8 ⁴
	021	2,119	3,952	500.8 ⁴
	026	2,622	3,952	502.3
	032	3,220	3,952	503.7
	038	3,761	3,952	504.4
	043	4,290	3,952	505.3
	049	4,912	3,901	507.8
	051	5,051	3,901	508.7
	055	5,481	3,901	509.1
	061	6,067	3,901	510.1
	066	6,626	3,901	510.9

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Burnt Mill Creek (continued)	071	7,134	3,714	512.9
	079	7,871	3,304	515.0
	083	8,267	3,304	515.7
	086	8,635	3,304	516.6
	091	9,100	3,304	517.3
	097	9,673	3,304	518.7
	101	10,060	3,253	519.8
	102	10,209	3,253	521.5
	108	10,758	3,253	522.7
	112	11,237	3,253	523.1
	118	11,775	3,253	523.8
	123	12,269	3,253	525.4
	127	12,746	3,253	527.7
	132	13,214	3,253	529.8
	138	13,763	2,397	530.6
	142	14,232	2,397	531.2
	147	14,707	2,397	531.8
	152	15,202	2,397	532.3
	157	15,679	2,397	533.8
	162	16,175	2,321	534.8
	166	16,623	2,321	536.2
	171	17,061	2,321	537.3
	174	17,413	2,321	537.9
	179	17,897	2,321	539.2
	183	18,296	2,321	542.1
	187	18,725	2,321	543.4
	192	19,215	2,208	544.3
	197	19,707	2,208	545.4
	201	20,099	2,208	546.5
	204	20,435	2,208	547.7
	209	20,930	2,208	551.4
	212	21,220	2,002	552.4
	214	21,366	2,002	554.1
	218	21,844	2,002	554.6
	224	22,444	2,002	556.3
	227	22,680	2,002	557.4
	230	23,026	2,002	558.4
Burnt Mill Creek Tributary 5	007	704	1,321	513.6 ⁴
	012	1,194	1,321	513.6 ⁴
	015	1,508	1,321	513.9
	020	1,971	1,321	516.7
	024	2,394	1,321	518.0

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Burnt Mill Creek Tributary 5 (continued)	029	2,883	1,321	521.0
	033	3,289	1,321	523.2
	037	3,749	1,321	525.0
	043	4,313	1,162	527.6
	044	4,391	1,162	529.0
	046	4,648	1,162	530.1
	051	5,139	1,060	532.0
	056	5,560	1,060	533.8
	059	5,943	1,060	535.7
	065	6,511	1,060	540.6
	070	6,999	1,060	541.9
	074	7,409	1,060	543.4
	080	7,972	1,060	546.5
	085	8,471	1,060	548.7
	090	8,982	862	551.4
	095	9,494	862	554.2
	100	9,951	862	556.5
	105	10,469	862	559.1
	110	10,957	862	562.2
	114	11,410	862	566.6
	119	11,936	675	572.2
	124	12,398	675	575.2
	125	12,523	675	576.5
	128	12,814	675	580.1
	133	13,308	675	586.5
	138	13,774	675	590.3
	143	14,302	675	596.1
Burnt Mill Creek Tributary 9	002	209	1,732	529.5 ⁴
	004	446	1,732	529.9
	009	895	1,732	532.2
	013	1,342	1,732	533.5
	018	1,785	1,732	534.7
	022	2,249	1,732	535.7
	027	2,723	1,732	537.6
	032	3,182	1,694	539.2
	037	3,686	1,694	540.8
	042	4,215	1,694	542.2
	047	4,662	1,694	544.9
	051	5,118	1,694	546.0
	056	5,577	1,694	548.6
	060	6,038	1,694	550.9

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Burnt Mill Creek Tributary 9 (continued)	065	6,534	1,694	552.0
	070	6,994	1,566	554.3
	075	7,479	1,566	555.0
	079	7,938	1,566	557.9
	084	8,411	1,566	558.9
	089	8,909	1,566	561.0
	094	9,384	1,566	562.7
	099	9,866	1,185	564.4
	103	10,344	1,185	565.0
	108	10,822	1,185	568.9
	113	11,313	1,114	571.5
	118	11,810	1,114	573.6
	122	12,204	1,114	578.6
	123	12,310	1,114	579.3
	128	12,803	1,114	581.0
	129	12,890	1,114	582.1
	133	13,256	845	583.9
	138	13,784	845	586.3
	142	14,231	845	589.5
	147	14,700	517	590.6
	152	15,191	517	591.7
	157	15,677	517	596.7
	162	16,243	517	600.3
	166	16,648	517	604.7
	171	17,123	517	607.0
	177	17,716	517	616.9
	180	17,997	517	618.8
	186	18,572	517	620.6
	190	18,995	517	623.6
	191	19,062	517	623.9
	193	19,282	517	626.7
	195	19,519	517	630.6
	200	20,013	517	636.6
Burnt Mill Creek Tributary 9.2.2	000	33	563	582.1 ⁴
	001	89	563	582.1 ⁴
	001	120	563	582.1
	003	320	563	583.0
	005	521	563	585.1
	010	1,029	563	587.8
	013	1,342	522	591.5
	015	1,499	522	593.0

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Burnt Mill Creek Tributary 9.2.2 (continued)	020	1,976	522	596.2
	025	2,462	477	598.8
	030	2,974	477	602.5
	034	3,445	477	607.4
	037	3,732	477	610.2
	040	4,004	477	613.8
	043	4,255	477	616.4
	045	4,475	477	618.4
	049	4,877	477	624.6
	049	4,919	477	632.1
	051	5,119	477	632.2
	053	5,322	477	632.3
Burnt Mill Creek Tributary 16	003	328	363	582.5 ⁴
	005	510	363	582.5 ⁴
	006	633	363	584.1
	010	966	363	588.1
	014	1,404	363	592.0
	019	1,877	363	596.0
	022	2,176	363	601.7
	023	2,306	321	603.6
	024	2,371	321	604.0
	025	2,513	321	605.0
	027	2,722	321	607.9
	029	2,862	321	609.7
	034	3,359	321	615.6
	038	3,835	237	620.1
	040	3,993	237	622.1
	042	4,224	237	625.6
	043	4,323	237	627.3
	044	4,424	237	629.3
	045	4,539	237	632.4
	047	4,668	237	635.5
	048	4,778	237	638.5
	049	4,865	237	639.9
	050	4,966	237	641.8
	051	5,098	237	643.4
	052	5,207	237	645.0
	053	5,347	237	649.1
	055	5,493	237	657.5

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Burnt Mill Creek Tributary 21	005	494	714	585.7 ⁴
	010	976	714	585.7 ⁴
	014	1,444	714	589.0
	019	1,919	615	592.4
	024	2,408	615	596.4
	029	2,893	583	598.9
	034	3,373	583	603.2
	037	3,655	508	606.8
	037	3,748	508	612.3
	040	3,965	508	612.4
	043	4,310	508	612.5
	047	4,723	508	613.6
	052	5,219	462	619.7
	054	5,441	462	620.3
Bush River	1535	153,503	5,243	508.5
	1539	153,908	5,243	509.1
	1545	154,456	5,243	509.3
	1550	154,996	5,243	509.4
	1556	155,592	5,209	509.5
	1561	156,090	5,163	509.6
	1567	156,690	5,163	509.7
	1572	157,190	5,163	509.9
	1578	157,839	5,050	510.3
	1583	158,279	5,050	510.6
	1588	158,830	5,050	511.8
	1594	159,439	5,026	512.1
	1600	159,956	5,026	512.4
	1606	160,601	4,924	513.0
	1611	161,050	4,924	513.4
	1614	161,385	4,924	514.0
	1619	161,908	4,862	514.5
	1627	162,651	4,862	515.3
	1633	163,293	4,862	516.2
	1637	163,719	4,862	516.9
	1642	164,223	4,862	517.5
	1646	164,629	4,813	518.2
	1652	165,151	4,813	518.7
	1655	165,452	4,813	518.9
	1659	165,941	4,813	519.2
	1663	166,292	4,813	519.6
	1668	166,815	4,813	520.4
	1672	167,245	4,766	521.5

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Bush River (continued)	1677	167,717	4,588	522.5
	1680	168,007	4,562	522.8
	1687	168,721	4,562	523.4
	1691	169,125	4,523	523.7
	1696	169,578	4,523	524.1
	1700	169,979	4,523	525.0
	1706	170,625	4,473	526.3
	1711	171,064	4,473	526.9
	1720	171,988	4,391	528.3
	1725	172,534	4,391	529.4
	1729	172,903	4,391	529.9
	1734	173,397	4,369	530.6
	1740	173,992	4,326	532.6
	1744	174,352	4,307	533.4
	1752	175,181	4,307	533.9
	1759	175,888	4,160	534.1
	1762	176,183	4,160	535.5
	1768	176,773	4,160	536.1
	1774	177,369	4,096	536.4
	1779	177,908	4,093	537.7
	1780	178,025	4,093	539.8
	1786	178,567	4,093	540.4
	1789	178,875	4,093	540.5
	1792	179,213	4,093	540.6
	1801	180,072	4,093	541.1
	1805	180,548	4,093	541.2
	1812	181,178	2,776	541.4
	1815	181,547	2,776	541.5
	1820	182,048	2,776	541.8
	1829	182,863	2,776	542.5
	1831	183,149	2,776	543.5
	1835	183,502	2,776	544.7
	1839	183,902	2,776	545.5
	1844	184,443	2,625	546.2
	1853	185,289	2,625	547.6
	1855	185,536	2,625	547.9
	1860	186,034	2,549	548.7
	1865	186,522	2,549	550.0
	1870	187,012	2,549	550.7
	1875	187,509	2,549	551.6
	1879	187,918	2,549	552.9
	1883	188,318	2,492	554.8

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Bush River (continued)	1889	188,910	2,492	555.4
	1895	189,499	2,447	557.2
	1899	189,867	2,447	557.9
	1905	190,452	2,447	558.4
	1909	190,878	2,447	558.7
	1914	191,376	2,447	559.2
	1919	191,906	2,447	559.6
	1925	192,476	2,320	561.1
	1928	192,785	2,320	561.8
	1932	193,196	2,260	562.5
	1934	193,364	2,260	562.7
	1939	193,947	2,168	564.3
	1940	194,044	2,168	569.9
	1944	194,351	2,168	570.0
	1948	194,789	2,168	570.0
	1953	195,282	2,168	570.1
	1957	195,679	2,168	570.3
	1963	196,270	2,168	570.6
	1970	196,963	2,168	571.3
	1973	197,264	2,168	571.8
	1977	197,718	2,168	572.5
	1983	198,255	1,982	573.6
	1987	198,670	1,982	574.2
	1993	199,307	1,848	576.3
	1997	199,739	1,848	577.5
	2003	200,310	1,749	579.7
	2007	200,728	1,749	580.5
	2011	201,124	1,749	580.9
	2017	201,726	1,580	581.9
	2023	202,331	1,580	583.2
	2027	202,725	1,580	583.6
	2032	203,220	1,580	584.4
	2037	203,711	1,580	585.5
	2040	203,956	1,538	586.3
	2041	204,122	1,538	589.7
	2047	204,746	1,455	590.0
	2052	205,204	1,455	590.4
	2057	205,694	1,455	591.2
	2061	206,113	1,455	593.0
	2067	206,703	1,307	595.2
	2072	207,202	1,307	596.9
	2077	207,700	1,307	598.9

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Bush River (continued)	2084	208,391	1,028	600.1
	2085	208,512	1,028	600.8
	2092	209,169	1,028	601.0
	2097	209,695	1,028	601.5
	2102	210,192	1,028	602.7
	2106	210,604	938	604.9
	2111	211,136	938	606.8
	2117	211,745	728	609.4
	2121	212,089	650	611.3
	2126	212,637	537	615.0
	2129	212,872	537	616.5
	2134	213,436	537	619.7
	2140	214,002	409	624.2
	2142	214,221	409	627.2
	2144	214,416	409	628.8
	2146	214,566	409	628.9
Cane Creek	067	6,651	5,816	440.4 ⁴
	070	7,017	5,816	440.4 ⁴
	073	7,258	5,816	446.5
	085	8,524	5,816	446.8
	088	8,826	5,816	446.8
	095	9,500	5,816	446.8
	100	10,001	5,816	446.8
	105	10,502	5,816	446.8
	107	10,721	5,816	446.8
	116	11,563	5,147	446.8
	120	12,001	5,147	446.8
	125	12,502	5,147	446.8
	129	12,949	5,147	446.8
	133	13,296	5,147	446.8
	136	13,628	5,147	446.8
	140	14,003	5,147	446.8
	146	14,620	5,147	446.8
	151	15,107	5,147	446.9
	156	15,567	5,147	446.9
	162	16,164	5,022	446.9
	164	16,415	5,022	446.9
	168	16,828	5,022	446.9
	174	17,365	5,022	446.9
	179	17,856	5,022	446.9
	185	18,457	5,022	446.9
	185	18,543	5,022	447.0

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Cane Creek (continued)	185	18,549	5,022	447.0
	186	18,638	5,022	447.2
	194	19,358	5,022	447.5
	198	19,836	5,022	447.8
	204	20,386	4,914	448.1
	208	20,781	4,914	448.1
	215	21,472	4,914	448.7
	220	21,983	4,914	449.1
	223	22,297	4,914	449.5
	229	22,885	4,914	450.2
	234	23,353	4,914	450.9
	237	23,703	4,914	451.2
	243	24,316	4,914	451.9
	249	24,885	4,914	452.4
	258	25,774	4,783	452.6
	261	26,079	4,783	452.6
	265	26,523	4,783	453.5
	269	26,850	4,783	454.5
	272	27,201	4,491	455.1
	276	27,623	4,491	456.8
	281	28,060	4,491	457.9
	282	28,238	4,491	458.3
	288	28,782	4,491	459.4
	294	29,412	4,491	459.8
	298	29,799	4,491	460.3
	301	30,130	4,491	460.6
	306	30,601	4,491	461.8
	309	30,886	4,491	462.3
	315	31,546	4,491	462.5
	319	31,885	4,604	462.5
	323	32,305	4,223	463.1
	326	32,627	4,223	464.0
	329	32,882	4,223	464.3
	334	33,386	4,223	465.6
	339	33,885	4,223	466.3
	344	34,408	4,223	467.6
	347	34,695	4,112	468.1
	353	35,256	4,112	469.1
	359	35,886	4,112	470.0
	365	36,470	4,112	471.0
	367	36,734	4,112	471.4
	371	37,146	4,112	472.2

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Cane Creek (continued)	380	37,985	4,112	473.8
	387	38,695	3,758	476.1
	388	38,767	3,758	476.2
	391	39,070	3,758	476.5
	394	39,429	3,758	477.0
	399	39,946	3,758	477.6
	402	40,220	3,758	478.2
	404	40,409	3,758	478.6
	407	40,747	3,758	478.9
	410	40,987	3,317	479.7
	413	41,260	3,317	480.2
	415	41,477	3,317	480.6
	419	41,889	3,317	481.8
	423	42,337	3,317	482.9
	427	42,720	3,317	483.8
	435	43,486	3,317	484.9
	439	43,886	3,317	485.9
	442	44,169	3,317	486.9
	447	44,686	3,317	487.8
	451	45,110	3,317	488.9
	453	45,341	3,317	490.1
	457	45,739	3,317	491.0
	462	46,248	3,135	492.3
	466	46,587	3,135	493.4
	470	47,002	3,135	493.9
	475	47,467	3,135	494.5
	480	47,978	2,427	495.5
	486	48,596	2,427	496.3
	489	48,886	2,427	496.8
	493	49,303	2,427	497.3
	499	49,888	2,427	498.7
	504	50,388	2,427	499.2
	509	50,887	2,427	500.6
	515	51,459	2,427	502.7
	518	51,791	2,427	503.1
	521	52,063	2,427	503.7
	525	52,520	2,427	505.3
	529	52,916	2,274	506.4
	532	53,208	2,274	507.2
	538	53,835	2,274	508.6
	543	54,341	2,274	510.6
	549	54,885	2,274	512.2

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Cane Creek (continued)	552	55,157	2,274	512.8
	555	55,473	2,169	514.4
	559	55,887	2,169	515.1
	564	56,398	2,169	516.2
	569	56,888	1,954	518.0
	574	57,387	1,954	518.8
	577	57,729	1,954	519.4
	584	58,409	1,694	520.9
	589	58,887	1,694	522.1
	591	59,104	1,694	524.1
	594	59,412	1,219	525.4
	600	59,959	1,219	526.7
	604	60,387	1,219	528.6
Little River	706	70,564	8,697	496.2
	718	71,815	8,697	500.0
	725	72,500	7,219	501.6
	731	73,128	7,219	502.0
	735	73,504	7,219	502.2
	741	74,107	7,219	502.7
	747	74,690	7,219	503.2
	753	75,330	7,219	504.4
	757	75,693	7,219	506.3
	760	76,000	7,219	507.5
	765	76,498	7,219	507.9
	770	77,002	7,219	508.0
	775	77,500	7,219	508.1
	780	78,000	7,219	508.2
	787	78,706	6,955	508.2
	792	79,175	6,955	510.4
	794	79,377	6,955	510.9
	798	79,838	6,955	511.5
	808	80,774	6,955	513.1
	812	81,181	6,955	514.6
	818	81,766	6,955	517.7
	821	82,113	6,955	519.0
	825	82,540	6,736	519.9
	828	82,786	6,736	520.0
	836	83,594	6,736	520.2
	840	84,000	6,736	520.4
	843	84,324	6,736	520.6
	847	84,719	6,736	521.8
	851	85,071	6,736	523.3

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Little River (continued)	853	85,309	6,736	524.3
	857	85,678	6,736	524.9
	860	86,000	6,736	525.7
	864	86,434	6,736	526.0
	872	87,173	6,736	527.9
	874	87,396	6,736	528.2
	876	87,555	6,736	529.6
	876	87,641	6,736	530.0
	881	88,119	6,055	530.3
	885	88,500	6,055	530.4
	889	88,921	6,055	530.4
	894	89,427	6,055	530.7
	900	90,034	6,055	530.9
	906	90,556	6,055	531.4
	909	90,864	6,055	531.8
	915	91,500	6,055	532.3
	918	91,801	6,055	532.5
	925	92,500	6,055	533.0
	928	92,836	6,055	533.4
	935	93,500	6,055	534.0
	938	93,842	6,055	534.2
	941	94,116	6,055	534.5
	953	95,299	6,055	535.5
	959	95,869	6,055	536.7
Little River Tributary 25	011	1,141	930	508.2 ⁴
	016	1,607	930	512.2
	021	2,100	930	515.7
	026	2,579	930	517.7
	031	3,080	765	520.0
	036	3,580	765	522.8
	041	4,080	765	526.4
	046	4,580	765	528.7
	051	5,080	765	532.6
	055	5,465	765	537.4
Little River Tributary 28	010	1,000	1,023	519.3 ⁴
	015	1,500	1,023	519.3 ⁴
	020	2,000	1,023	522.1
	025	2,500	1,023	524.2
	027	2,659	960	524.9
	027	2,746	960	528.6
	030	3,000	960	528.7

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Little River Tributary 28 (continued)	035	3,500	960	528.8
	040	3,962	960	536.9
	044	4,406	960	540.4
Little River Tributary 31	005	500	2,098	530.1 ⁴
	010	1,000	2,098	530.1 ⁴
	015	1,500	2,098	530.1 ⁴
	020	2,000	2,098	530.1 ⁴
	025	2,500	2,098	530.1 ⁴
	030	3,000	2,098	531.0
	032	3,205	2,098	531.7
	033	3,325	2,098	534.1
	035	3,500	2,098	534.2
	040	4,034	2,098	534.7
	045	4,500	1,897	535.8
	050	5,000	1,897	537.5
	055	5,500	1,897	538.1
	060	6,000	1,897	540.9
	065	6,500	1,897	542.8
	070	7,000	1,897	545.0
	075	7,500	1,897	546.6
Little River Tributary 37	001	106	374	544.4 ⁴
	005	500	374	544.4 ⁴
	008	770	374	544.4 ⁴
	010	1,000	374	544.4 ⁴
	011	1,114	374	544.4 ⁴
	013	1,311	374	545.7
	015	1,500	374	547.2
	016	1,631	374	548.7
	018	1,792	374	550.3
	019	1,937	374	551.6
	020	2,000	374	552.4
	022	2,154	374	553.7
	023	2,257	374	555.5
	024	2,382	374	556.4
	025	2,500	374	557.0
	025	2,543	258	558.9
	027	2,716	258	560.2
	029	2,882	258	579.4
	030	3,021	258	579.4
	031	3,105	258	579.4

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Little River Tributary 37 (continued)	033	3,277 ²	258	584.1
	034	3,408 ²	258	595.0
	035	3,475 ²	258	595.0
	035	3,539 ²	258	595.0
	036	3,617 ²	258	595.0
	037	3,726 ²	258	605.5
	037	3,737 ²	258	605.5
	039	3,881 ²	258	607.0
	041	4,145 ²	258	607.0
	042	4,213 ²	258	607.0
	043	4,280 ²	258	607.0
	044	4,354 ²	258	607.0
	044	4,429 ²	258	607.0
	045	4,500 ²	258	607.0
	046	4,583 ²	258	607.0
	047	4,692 ²	258	607.0
	049	4,859 ²	258	607.0
	049	4,906 ²	258	607.3
	050	4,978 ²	258	609.0
	1424	142,406 ³	26,094	448.3
Saluda River	1430	143,027 ³	26,094	448.7
	1437	143,688 ³	26,094	449.0
	1443	144,293 ³	26,094	449.8
	1448	144,840 ³	26,094	450.0
	1455	145,548 ³	26,094	450.5
	1461	146,105 ³	26,094	450.9
	1467	146,731 ³	26,094	451.3
	1474	147,414 ³	26,094	452.1
	1480	148,042 ³	26,094	452.7
	1491	149,081 ³	26,094	453.3
	1499	149,896 ³	26,094	453.7
	1507	150,657 ³	26,094	454.1
	1518	151,826 ³	26,094	454.7
	1529	152,855 ³	26,094	455.3
	1536	153,648 ³	25,955	455.8
	1543	154,334 ³	25,955	456.1
	1553	155,342 ³	25,955	456.6
	1562	156,179 ³	25,955	457.1
	1570	157,024 ³	25,955	457.5
	1577	157,683 ³	25,955	457.9
	1584	158,360 ³	25,955	458.3
	1590	159,022 ³	25,955	458.5

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Saluda River (continued)	1598	159,792 ³	25,955	459.0
	1603	160,277 ³	25,955	459.2
	1608	160,768 ³	25,955	459.6
	1613	161,277 ³	25,955	459.9
	1619	161,888 ³	25,955	460.2
	1625	162,496 ³	25,955	461.0
	1630	163,003 ³	25,883	461.2
	1632	163,212 ³	25,883	461.7
	1635	163,478 ³	25,883	461.9
	1640	163,953 ³	25,883	462.2
	1645	164,470 ³	25,883	462.4
	1651	165,083 ³	25,883	463.3
	1657	165,701 ³	25,883	463.4
	1662	166,242 ³	25,883	463.5
	1667	166,744 ³	25,883	463.9
	1672	167,228 ³	25,883	464.0
	1681	168,088 ³	25,883	464.8
	1749	174,917 ³	25,820	530.0
	1752	175,216 ³	25,820	530.0
	1758	175,822 ³	25,820	530.1
	1763	176,341 ³	25,820	530.2
	1767	176,728 ³	25,820	530.5
	1770	177,047 ³	25,820	530.9
	1771	177,143 ³	25,820	530.9
	1773	177,323 ³	25,820	530.9
Scout Branch	073	7,295 ²	416	641.0
	077	7,659 ²	416	641.1
	079	7,852 ²	416	641.3
	081	8,131 ²	416	645.9
	084	8,356 ²	416	648.6
	086	8,631 ²	416	651.3
	089	8,850 ²	416	654.0
	091	9,096 ²	257	657.1
	094	9,350 ²	257	659.3
	094	9,427 ²	257	669.4
	096	9,588 ²	257	669.4
	099	9,858 ²	257	669.4
	099	9,934 ²	257	669.4
	101	10,056 ²	257	670.4

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Shell Creek	013	1,330	2,366	541.2 ⁴
	018	1,786	2,366	541.2 ⁴
	024	2,439	2,366	542.5
	030	3,009	2,366	543.5
	034	3,426	2,366	544.2
	039	3,915	2,366	545.1
	047	4,692	2,229	546.3
	053	5,305	2,229	547.5
	059	5,871	2,229	549.2
	065	6,493	2,159	550.9
	070	6,992	2,159	551.7
	075	7,490	1,990	552.6
	080	7,985	1,990	554.1
	083	8,312	1,990	555.0
	091	9,102	1,990	556.5
	095	9,476	1,990	557.0
	101	10,100	1,990	558.0
	105	10,467	1,990	559.2
	110	10,963	1,864	561.7
	115	11,469	1,864	563.5
	120	11,971	1,864	564.3
	123	12,328	1,864	564.6
	130	12,959	1,670	565.4
	135	13,453	1,670	566.7
	140	13,953	1,670	568.5
	145	14,454	1,670	572.2
	150	14,951	1,670	573.5
	154	15,398	1,607	573.9
	155	15,477	1,607	576.0
	160	15,950	1,607	576.5
	164	16,446	1,551	576.6
	169	16,861	1,336	576.6
	170	16,958	1,336	578.8
	174	17,445	1,336	579.8
	179	17,859	1,336	580.3
	185	18,517	899	580.9
	189	18,941	899	581.2
	195	19,480	864	584.1
	200	20,013	864	586.3
	201	20,122	864	588.4
	204	20,443	864	590.0
	207	20,657	784	590.1
	207	20,726	784	593.8

Table 8: Flood Hazard Data for Selected Streams – continued

Flooding Source ¹	Cross Section	Stream Station ²	1% Annual Chance Flood Discharge (cfs)	1% Annual Chance Water Surface Elevation (feet NAVD88)
Shell Creek (continued)	210	20,986	784	593.8
	214	21,419	784	593.9
	219	21,919	784	595.8
	224	22,410	784	598.8
	229	22,928	680	600.8
	231	23,081	680	604.7
	234	23,407	680	605.4
	239	23,907	602	606.2
	241	24,056	602	606.5
South Durbin Creek	437	43,740	657	742.8
	442	44,192	584	747.4

¹ This table reflects all modeled cross-sections; some cross-sections shown in this table may not appear on the map

² Feet above mouth

³ Feet above Greenwood-Newberry-Saluda County Boundary (Saluda River)

³ Elevation includes backwater effects

5.0 INSURANCE APPLICATIONS

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

Zone A

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

Zone AE

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

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 0.2-percent-annual-chance floodplain, areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1.0 foot, areas of 1-percent-annual-chance flooding where the contributing

drainage area is less than 1.0 square mile, and areas protected from the 1-percent-annual-chance flood by levees. No BFEs or depths are shown within this zone.

6.0 FLOOD INSURANCE RATE MAP

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

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

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

The countywide FIRM presents flooding information for the entire geographic area of Laurens County. Previously, FIRM panels were prepared for each identified flood-prone incorporated community and the unincorporated areas of the county. This countywide FIRM also includes flood hazard information that was presented separately on Flood Boundary and Floodway Maps (FBFMs), where applicable. Historical data relating to the maps prepared for each community are presented in Table 9, “Community Map History”.

7.0 OTHER STUDIES

FIS reports have been prepared for Abbeville County, South Carolina, and Incorporated Areas, Anderson County, South Carolina, and Incorporated Areas, Greenville County, South Carolina, and Incorporated Areas, Greenwood County, and Incorporated Areas, Newberry County, South Carolina, and Incorporated Areas, Spartanburg County, South Carolina, and Incorporated Areas, and Union County, South Carolina, and Incorporated Areas (Reference 29, 30, 31, 32, 33, 34 & 35).

A study is in progress for Greenville County, South Carolina, and Incorporated Areas, Spartanburg County, South Carolina, and Incorporated Areas, and Union County, South Carolina, and Incorporated Areas (Reference 36, 37 & 38). Those reports are in agreement with this study.

Because it is based on more up-to-date analyses, this FIS supersedes the previously printed countywide FIS for Laurens County, South Carolina, and Incorporated Areas (Reference 39), or is compatible with all previous studies published on streams studied in this report and should be considered authoritative for the purposes of the NFIP.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Clinton, City of	June 7, 1974	June 18, 1976	December 16, 1977	August 16, 2012
Cross Hill, Town of ^{1, 2}	August 16, 2012	—	August 16, 2012	June 20, 2019
Gray Court, Town of ²	August 16, 2012	—	August 16, 2012	—
Laurens, City of	June 7, 1974	July 30, 1976	November 2, 1983	August 16, 2012
Laurens County (Unincorporated Areas)	November 25, 1977	—	December 15, 1990	August 16, 2012 June 20, 2019
Waterloo, Town of ^{1, 2}	August 16, 2012	—	August 16, 2012	June 20, 2019

¹ No Special Flood Hazard Areas Identified

² This community did not have a FIRM prior to the first countywide FIRM for Laurens County

TABLE 9

FEDERAL EMERGENCY MANAGEMENT AGENCY

**LAURENS COUNTY, SC
AND INCORPORATED AREAS**

COMMUNITY MAP HISTORY

8.0 LOCATION OF DATA

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

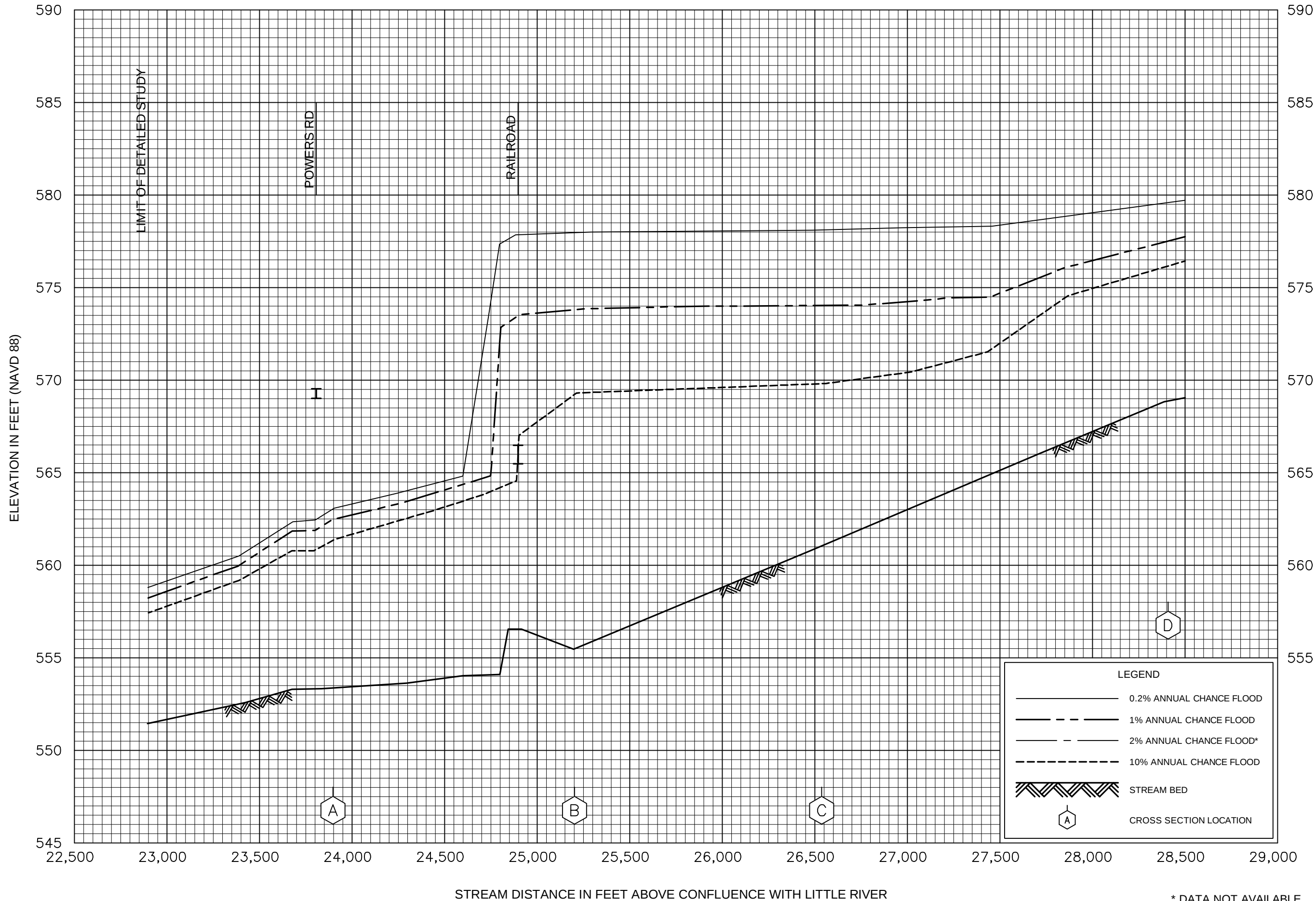
9.0 BIBLIOGRAPHY AND REFERENCES

1. Federal Emergency Management Agency, Flood Insurance Study, Greenwood County, South Carolina, and Incorporated Areas, Washington, D.C., May 3, 2011.
2. U.S. Department of Commerce, Bureau of the Census, 2010 Census Population and Housing Data, Washington, D.C., 2011.
3. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Centers of Environmental Information, 1981-2010 U.S. Climate Normals, Asheville, North Carolina, July 1, 2011.
4. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Centers of Environmental Information, Storm Data and Unusual Weather Phenomena with Late Reports and Corrections, various volumes, various dates, Asheville, North Carolina.
5. U.S. Department of Agriculture, Soil Conservation Service, Watershed Work Plan, Little River Watershed, Laurens County, South Carolina, Washington D.C., May 1981.
6. U.S. Department of Agriculture, Soil Conservation Service, Watershed Work Plan, Beaverdam-Warrior Creeks Watershed, Laurens County, South Carolina, Washington D.C., May 1969.
7. U.S. Department of Agriculture, Soil Conservation Service, Watershed Work Plan, Rabon Creek Watershed, Greenville and Laurens Counties, South Carolina, Washington D.C., November 1974, Addendum, November 1974, Addendum, May 1975.
8. U.S. Department of Agriculture, Soil Conservation Service, Environmental Statement, Rabon Creek Watershed Project, Greenville and Laurens Counties, South Carolina, Washington D.C., November 1974, Addendum, May 1975.
9. South Carolina Department of Health and Environmental Control, Watershed Report: 03050109-05 (Rabon Creek), Clemson University, <https://www.scdhec.gov/HomeAndEnvironment/Docs/03050109-05.pdf>, [Online, Accessed August 1, 2016].
10. Greenwood County Council, Plan Lake Greenwood (Lake Greenwood Master Plan November 2015), prepared by Orion Planning Group, November 2015.
11. Greenwood County Council, Plan Lake Greenwood (Community Profile June 2015), prepared by Orion Planning Group, June 2015.

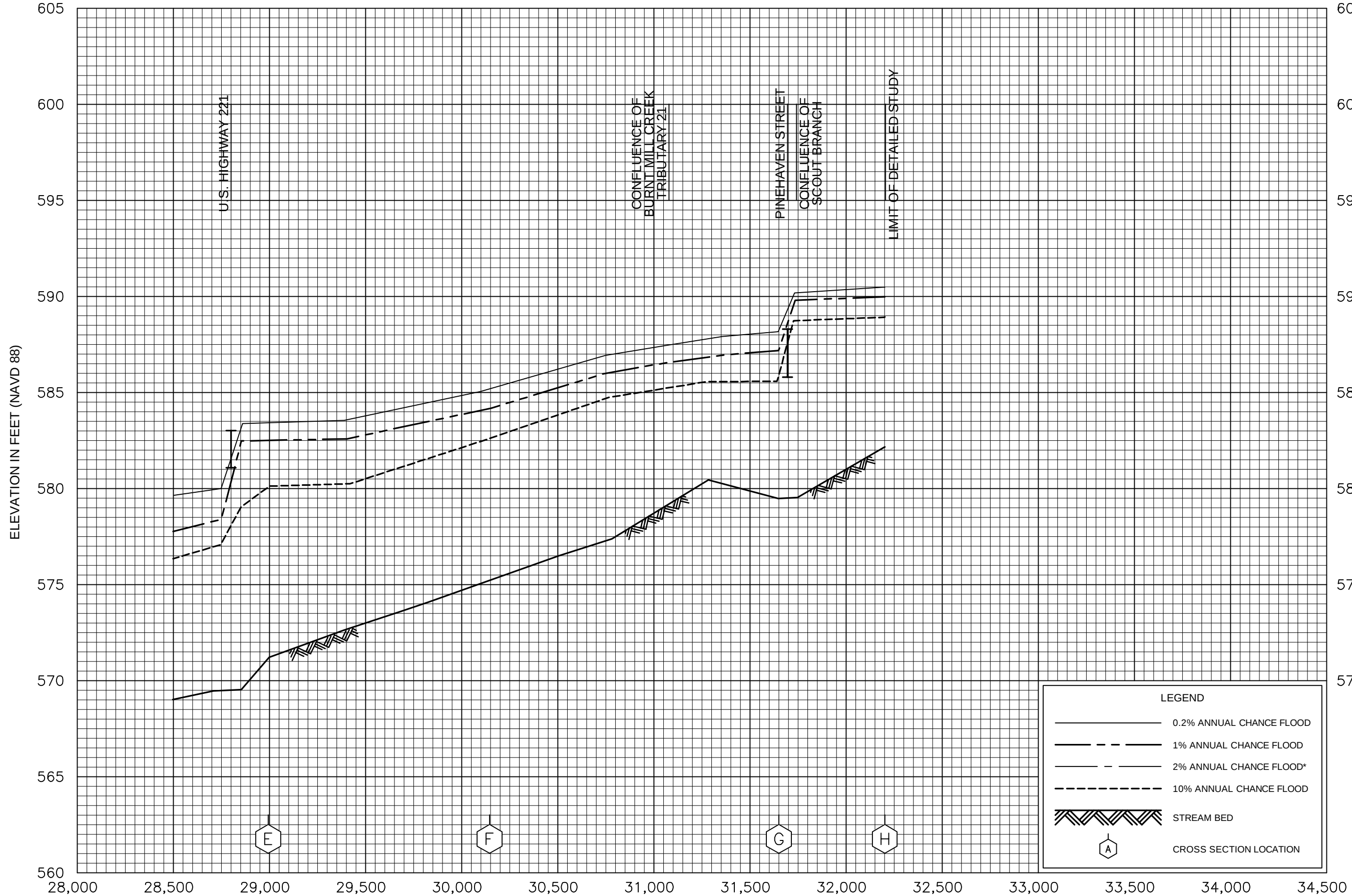
12. Federal Emergency Management Agency, National Flood Insurance Program (NFIP) 316-PMR Determination Letter, 13-04-0286P-450122, Laurens County, South Carolina, Columbia, SC, November 7, 2013.
13. HDR Engineering, Inc. of the Carolinas, Lake Greenwood Letter of Map Revision Narrative, Saluda River, Greenwood County, South Carolina, Prepared for Greenwood County, City of Greenwood, South Carolina, July 23, 2012.
14. U.S. Department of the Interior, U.S. Geological Survey, Scientific Investigations Report (SIR) 2009-5156, Magnitude and Frequency of Rural Floods in the Southeastern United States, 2006: Volume 3, South Carolina, Toby D Feaster, Anthony J. Gotvald, and J. Curtis Weaver, Reston, Virginia, 2009.
15. U.S. Department of the Interior, U.S. Geological Survey, Scientific Investigations Report (SIR) 2004-5030, Estimating the Magnitude and Frequency of Floods in Small Urban Streams in South Carolina, 2001, Toby D. Feaster and Wladimir B. Guimaraes, Reston, Virginia, 2004.
16. U.S. Department of the Interior, U.S. Geological Survey, Water-Resources Investigations Report (WRIR) 82-1, Techniques for Estimating Magnitude and Frequency of Floods in South Carolina, B.H. Whetstone, 1982.
17. U.S. Department of the Army, Corps of Engineers, Sacramento District, Statistical Methods in Hydrology, Leo R. Beard, Sacramento, California, January 1962.
18. U.S. Department of the Army, Corps of Engineers, Engineering Manual (EM) 1110-2-1405, Flood Hydrograph Analyses and Computations, Washington D.C. August 31, 1959.
19. U.S. Department of the Interior, U.S. Geological Survey, Open-File Report (OFR) 72-304, Effects of Urban Development on Floods in the Piedmont Province of North Carolina, Arthur L. Putnam, Raleigh, NC, 1972.
20. U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, River Analysis System, HEC-RAS, Version 4.1, Generalized Computer Program, Davis, California, May 2010.
21. U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, River Analysis System, HEC-RAS, Version 3.1.3, Generalized Computer Program, Davis, California, May 2005.
22. U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water Surface Profiles, Generalized Computer Program, Davis, California, April, 1984.
23. U.S. Department of the Interior, U.S. Geological Survey, Water-Resources Investigations Report (WRIR) 79-69, A Technique for Estimating Heights Reached by the 100-Year Flood on Unregulated, Nontidal Streams in North Carolina, R.W. Coble, 1979.
24. U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water Surface Profiles, Generalized Computer Program, Davis, California, October, 1973.

25. Federal Emergency Management Agency, Converting the National Flood Insurance Program to the North American Vertical Datum of 1988 – Guidelines for Community Officials, Engineers, and Surveyors, FIA-20, 03-0170, June 1992.
26. Fugro EarthData, Inc. South Carolina 16-County LiDAR – Greenwood County, Scale 2 Meter, Contour Interval 2 Feet, November 24, 2008.
27. Landmark Engineering Company, City of Laurens Topographic Maps 1980, Scale 1 inch = 500 feet, Contour Interval 2 feet, Charleston, SC.
28. U.S. Department of the Interior, U.S. Geological Survey, 7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 10 Feet: Clinton, 1971; Laurens South, 1971; Ora 1969.
29. Federal Emergency Management Agency, Flood Insurance Study, Abbeville County, South Carolina, and Incorporated Areas, Washington, D.C., August 16, 2018.
30. Federal Emergency Management Agency, Flood Insurance Study, Anderson County, South Carolina, and Incorporated Areas, Washington, D.C., December 21, 2017.
31. Federal Emergency Management Agency, Flood Insurance Study, Greenville County, South Carolina, and Incorporated Areas, Washington, D.C., January 18, 2019.
32. Federal Emergency Management Agency, Flood Insurance Study, Greenwood County, South Carolina, and Incorporated Areas, Washington, D.C., June 20, 2019.
33. Federal Emergency Management Agency, Flood Insurance Study, Newberry County, South Carolina, and Incorporated Areas, Washington, D.C., June 20, 2019.
34. Federal Emergency Management Agency, Flood Insurance Study, Spartanburg County, South Carolina, and Incorporated Areas, Washington, D.C., January 6, 2011.
35. Federal Emergency Management Agency, Flood Insurance Study, Union County, South Carolina, and Incorporated Areas, Washington, D.C., August 2, 2011.
36. Federal Emergency Management Agency, Flood Insurance Study (Preliminary), Greenville County, South Carolina, and Incorporated Areas, Washington, D.C., August 31, 2018.
37. Federal Emergency Management Agency, Flood Insurance Study (Preliminary), Spartanburg County, South Carolina, and Incorporated Areas, Washington, D.C., August 31, 2018.
38. Federal Emergency Management Agency, Flood Insurance Study (Preliminary), Union County, South Carolina, and Incorporated Areas, Washington, D.C., August 31, 2018.

39. Federal Emergency Management Agency, Flood Insurance Study, Laurens County, South Carolina, and Incorporated Areas, Washington, D.C., August 16, 2012.



* DATA NOT AVAILABLE



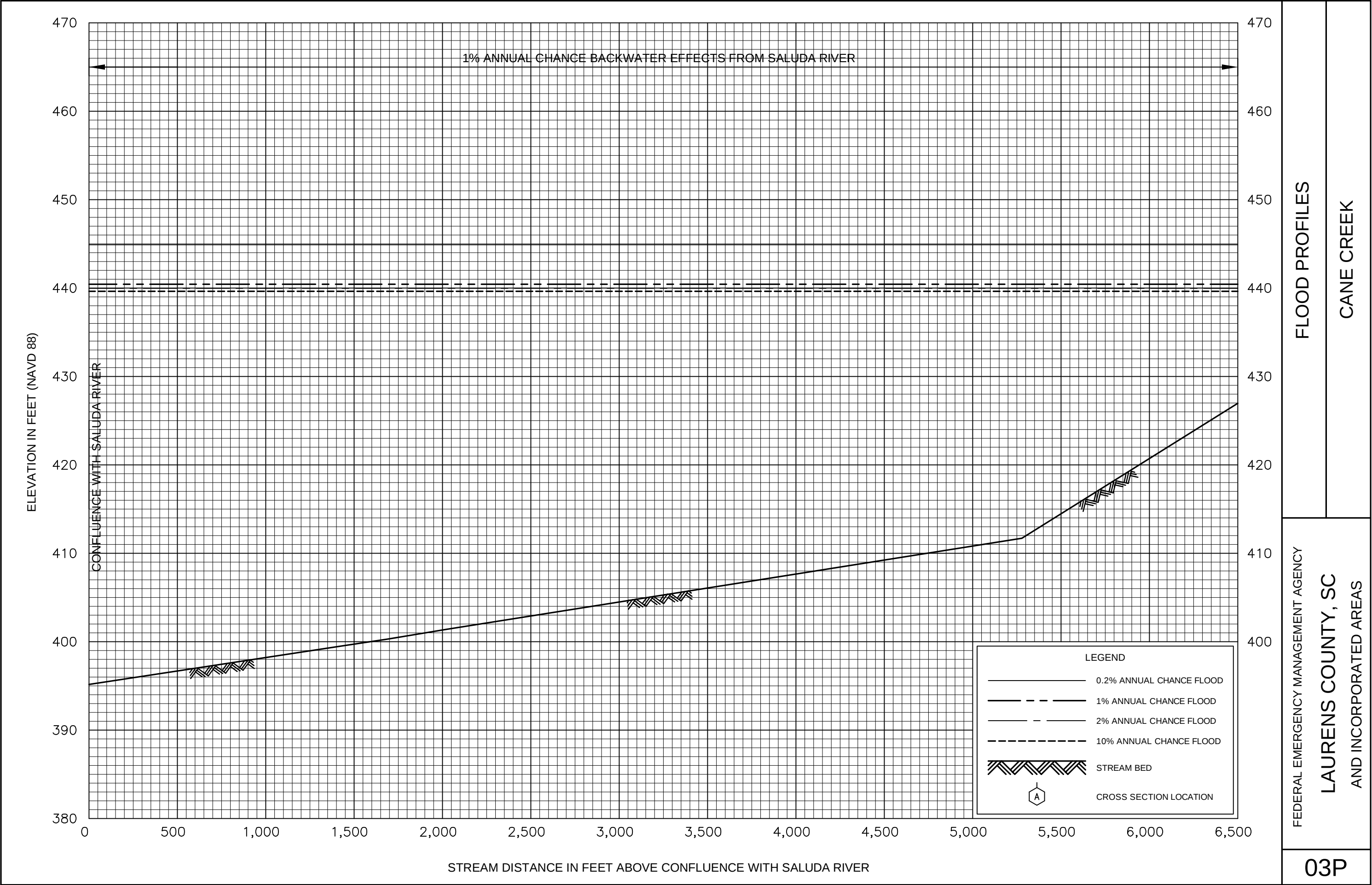
STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH LITTLE RIVER

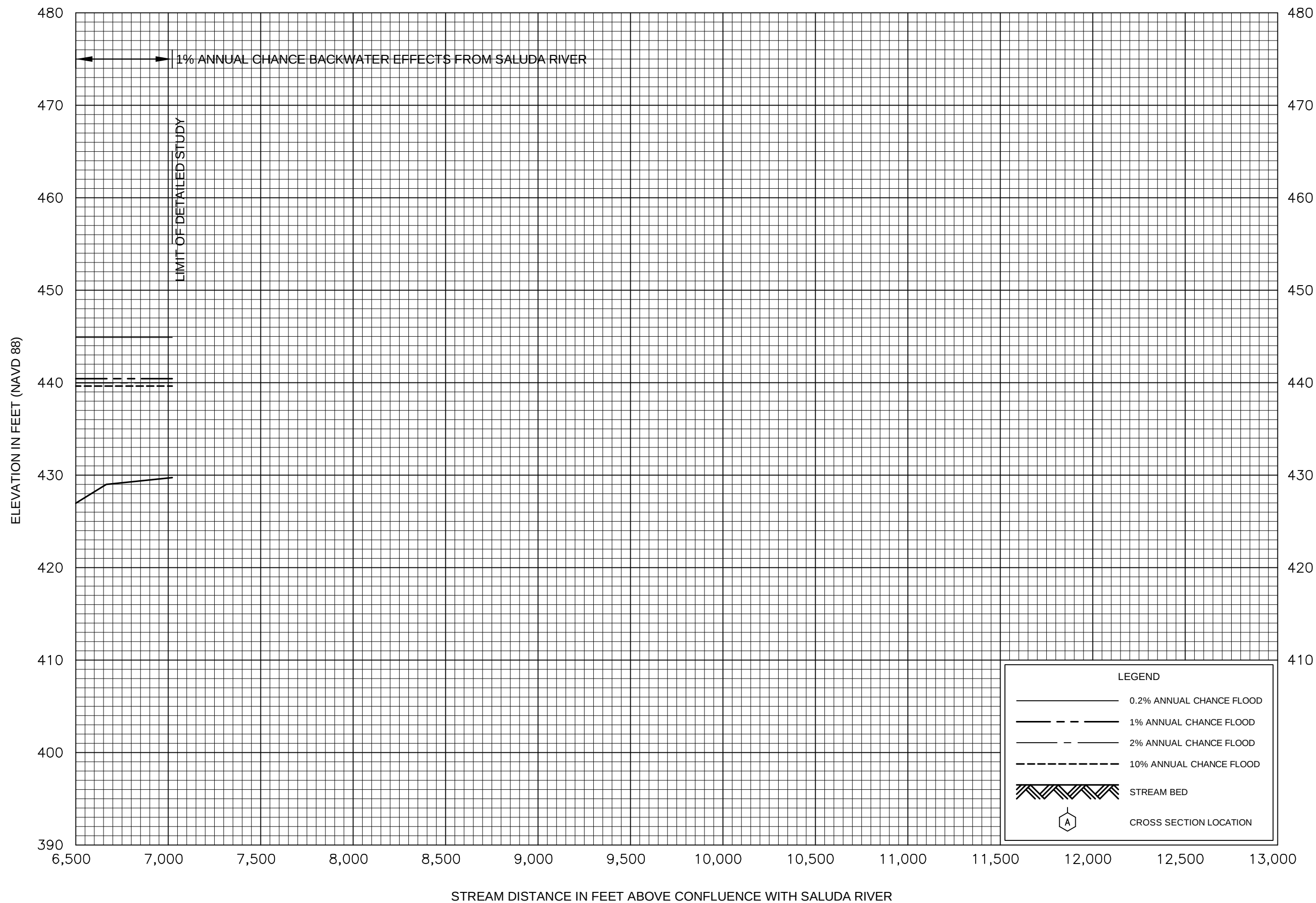
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FLOOD PROFILES
BURNT MILL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
LAURENS COUNTY, SC
AND INCORPORATED AREAS

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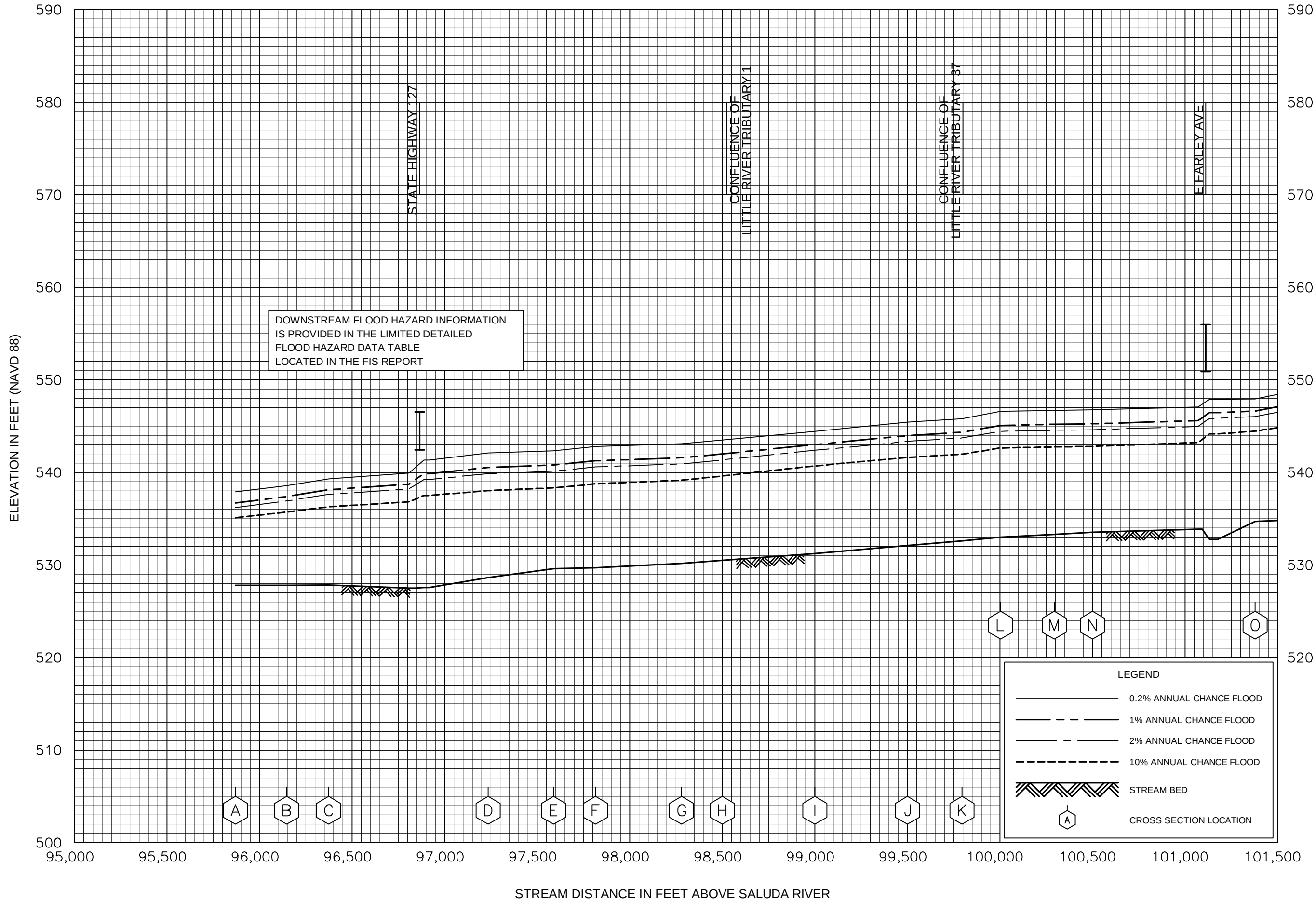
FLOOD PROFILES

CANE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAURENS COUNTY, SC
AND INCORPORATED AREAS

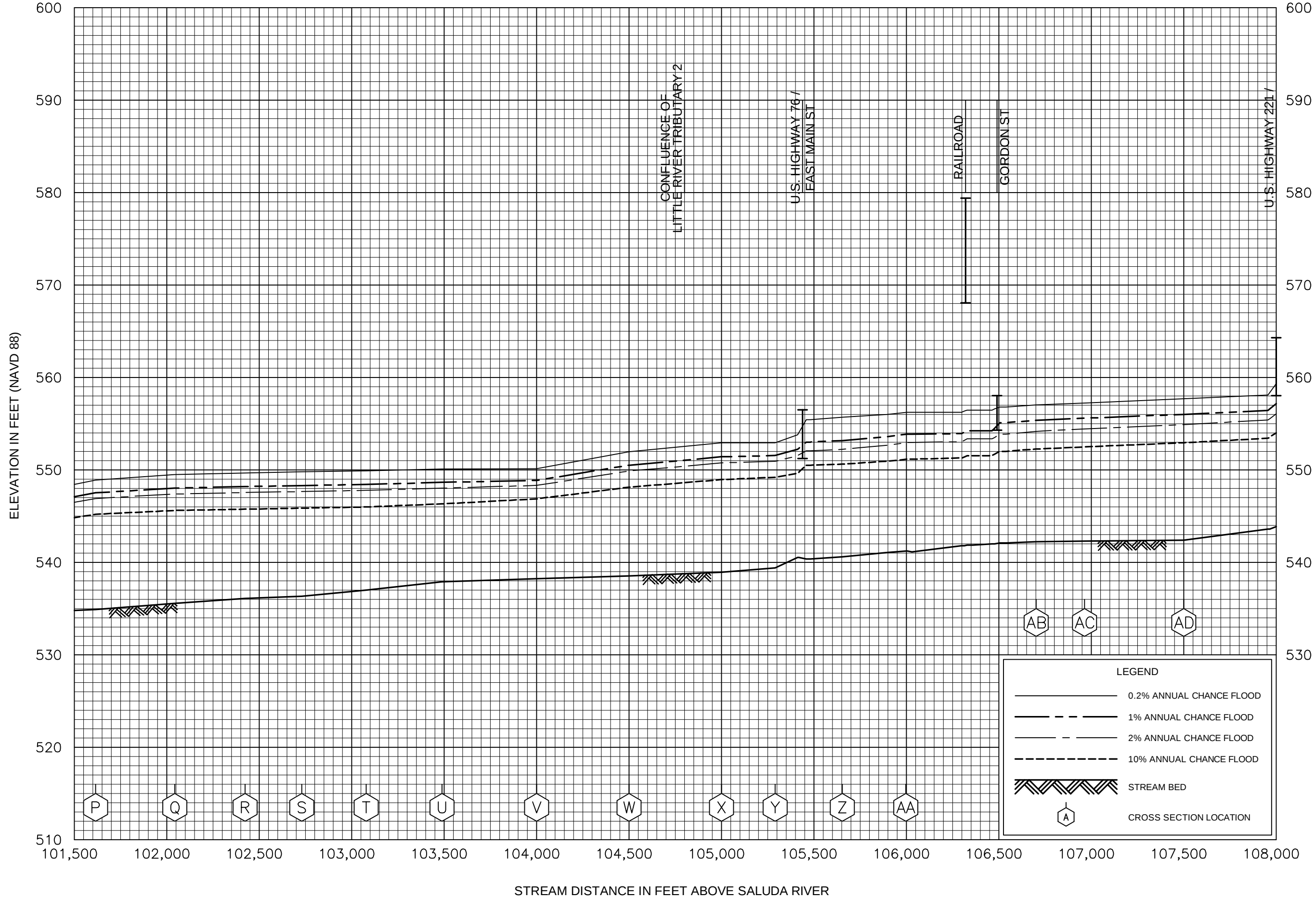
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FLOOD PROFILES

LITTLE RIVER

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LAURENS COUNTY, SC
AND INCORPORATED AREAS

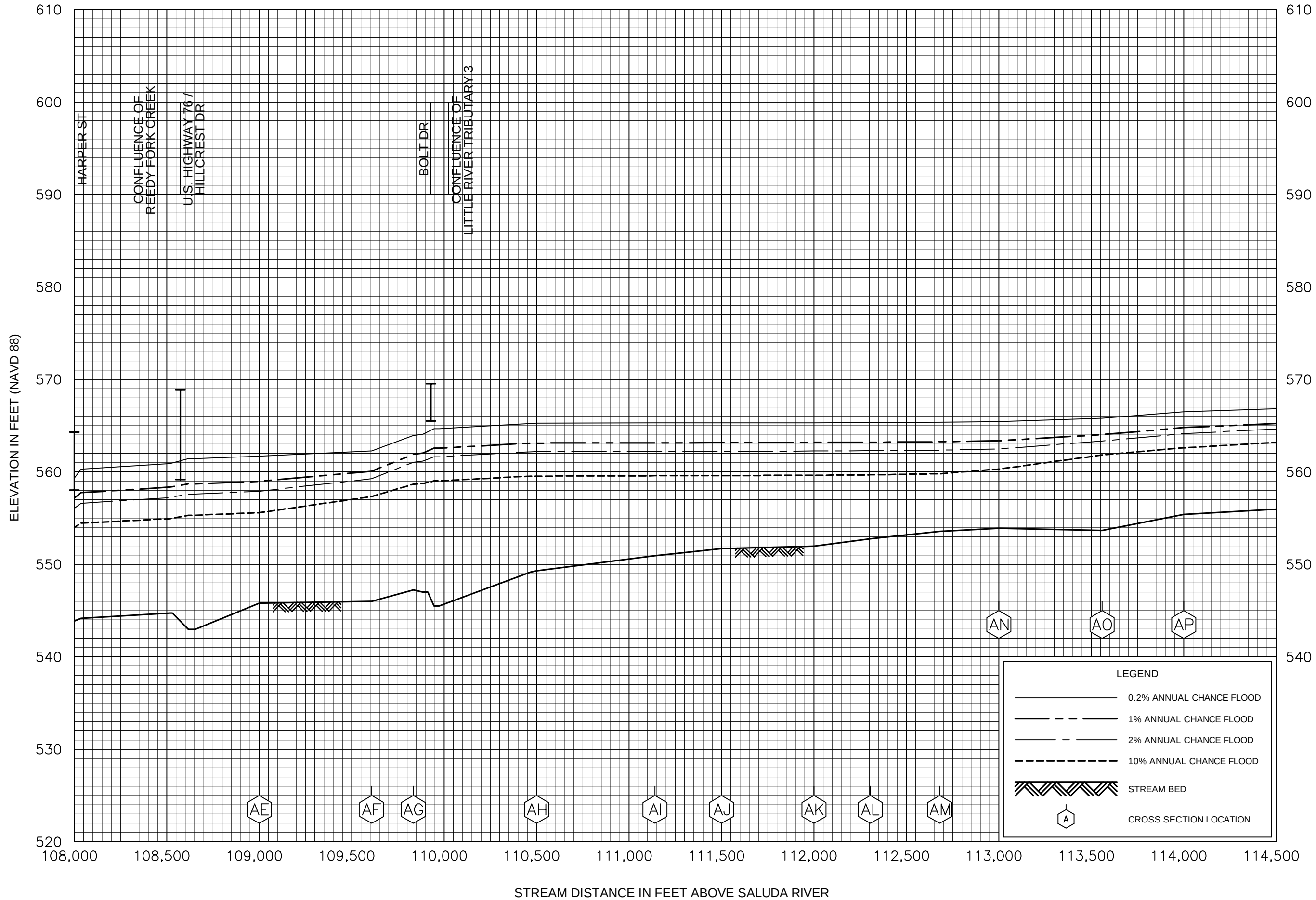


FLOOD PROFILES

LITTLE RIVER

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LAURENS COUNTY, SC
AND INCORPORATED AREAS

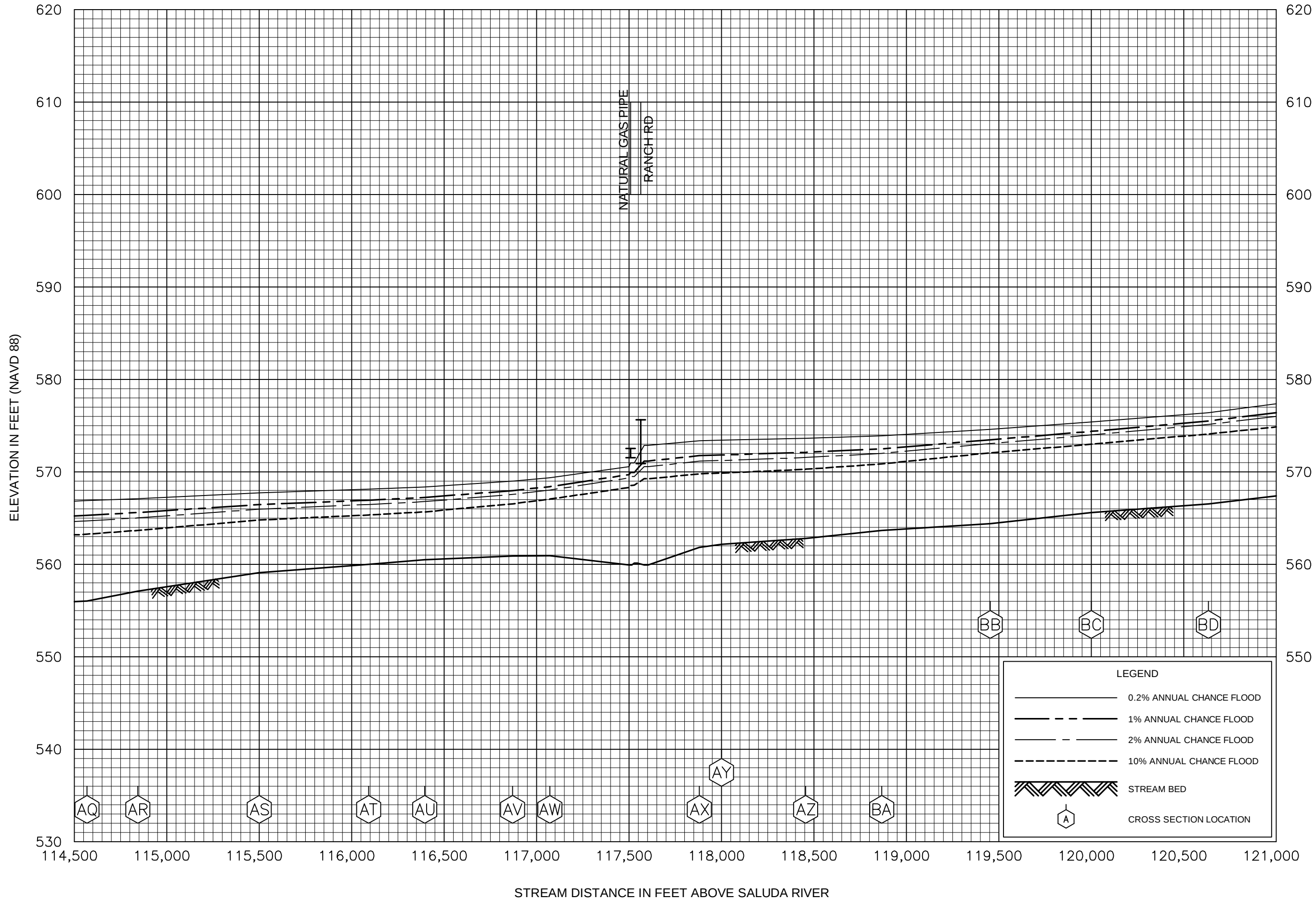


FLOOD PROFILES

LITTLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAURENS COUNTY, SC
AND INCORPORATED AREAS

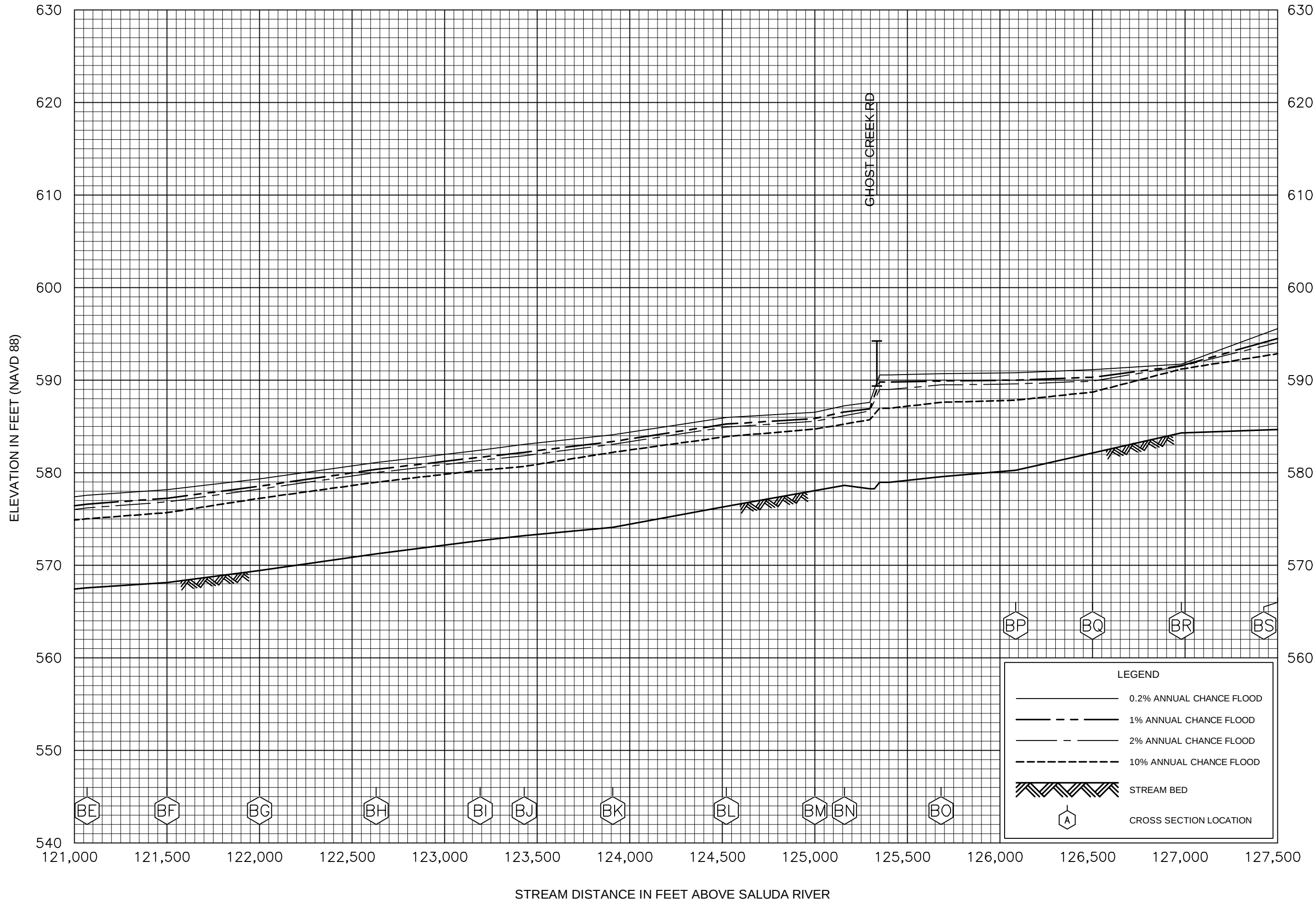


FLOOD PROFILES

LITTLE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAURENS COUNTY, SC
AND INCORPORATED AREAS



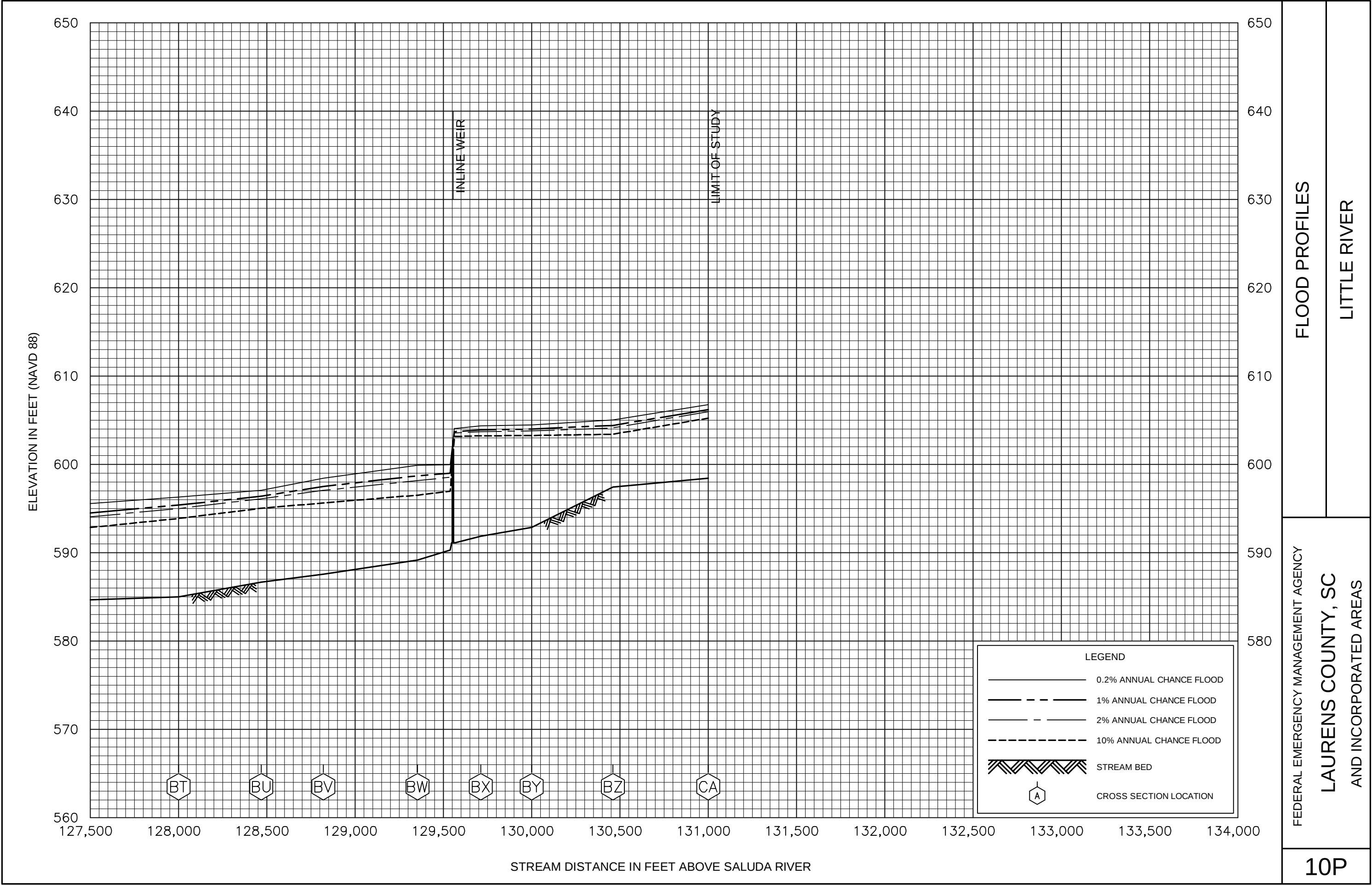
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LITTLE RIVER

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LAURENS COUNTY, SC
AND INCORPORATED AREAS

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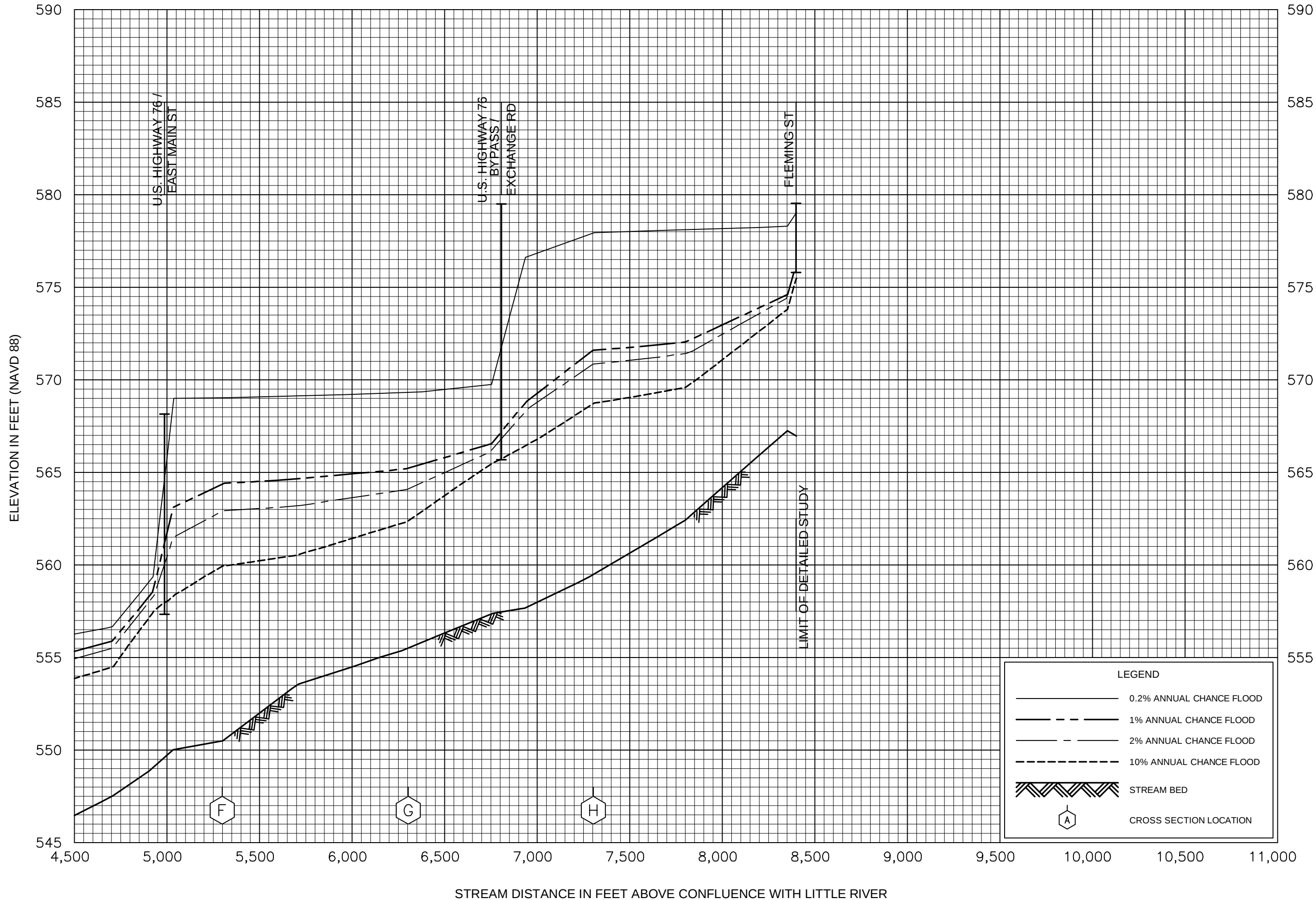
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LITTLE RIVER

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LAURENS COUNTY, SC
AND INCORPORATED AREAS

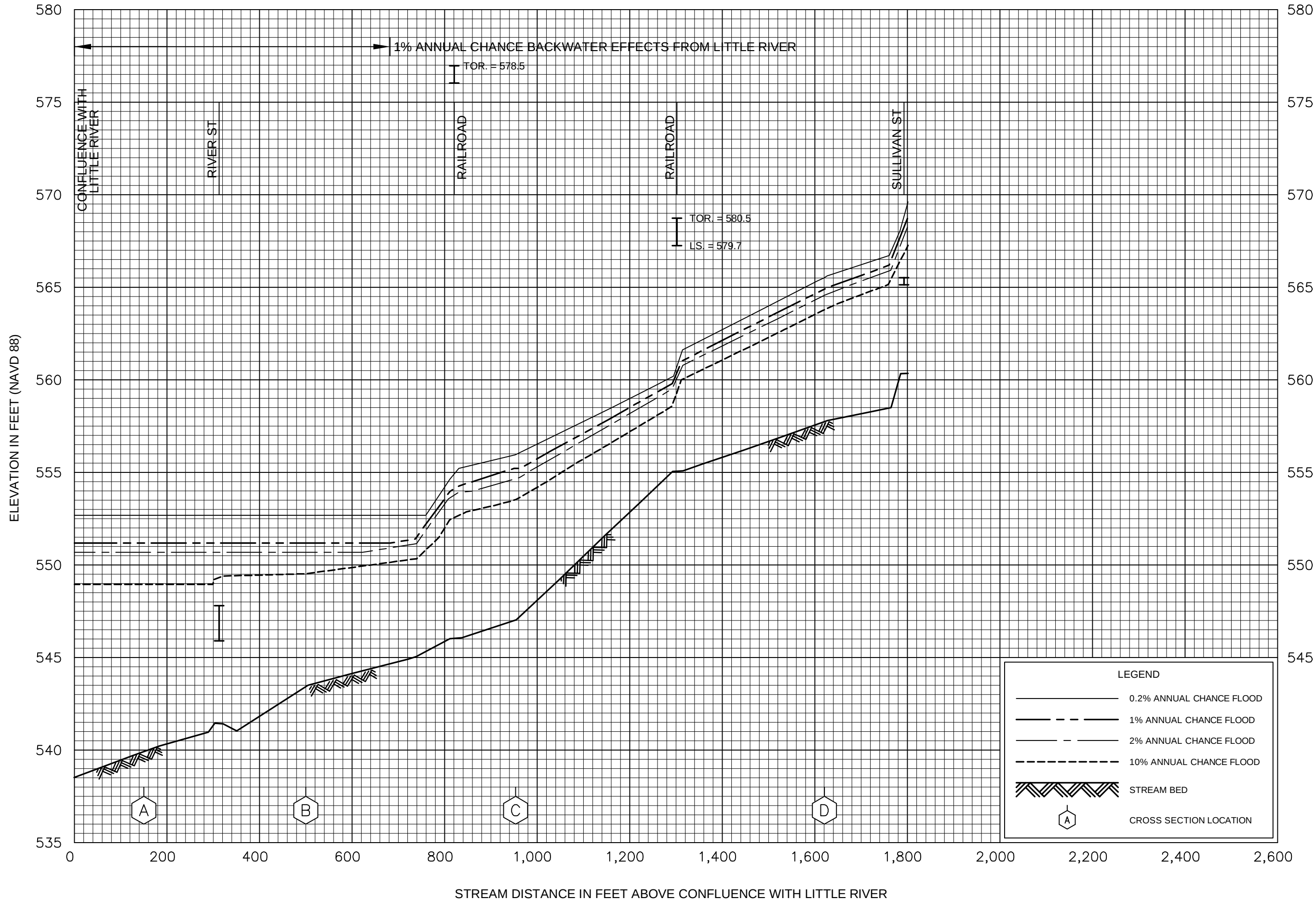
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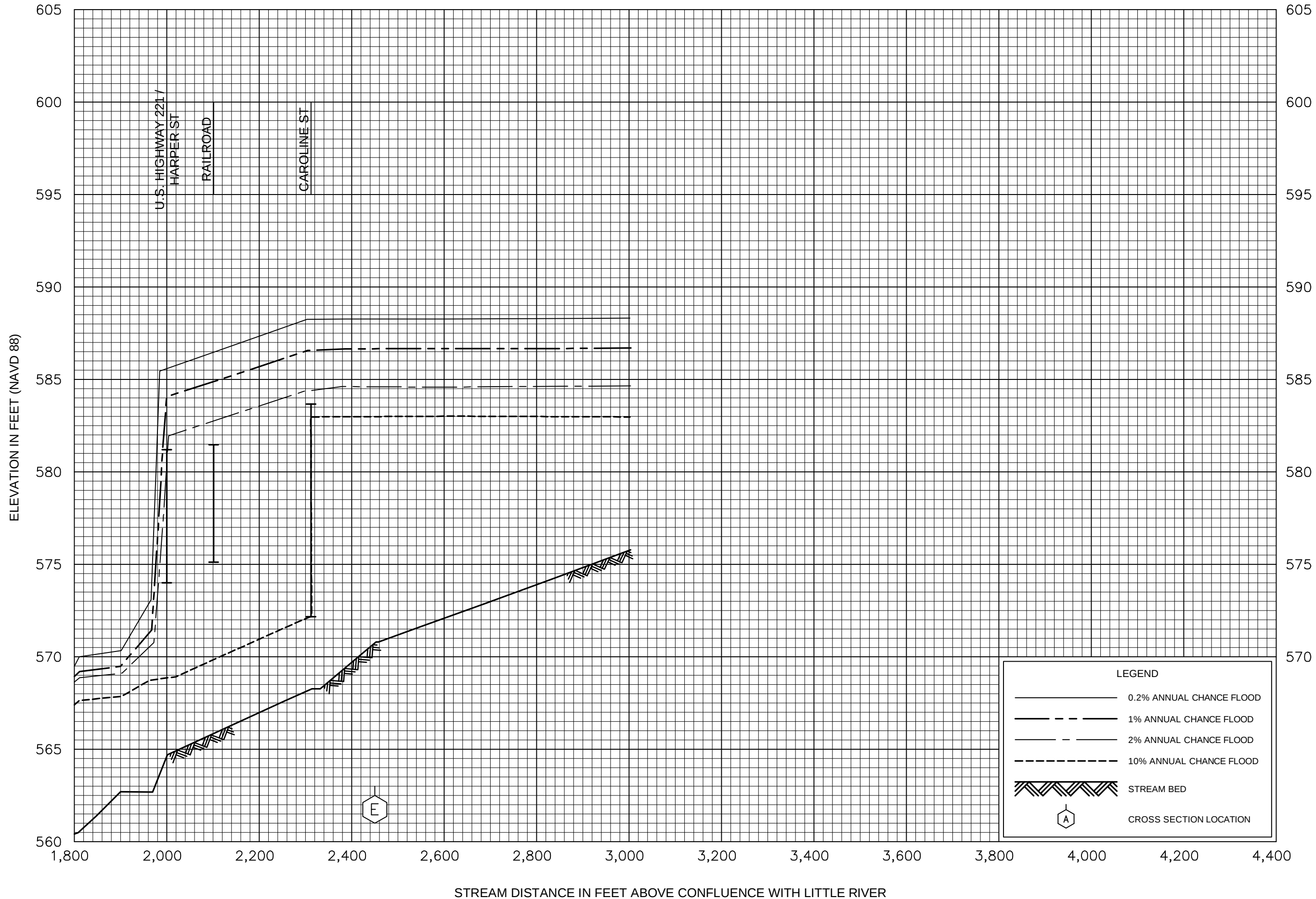


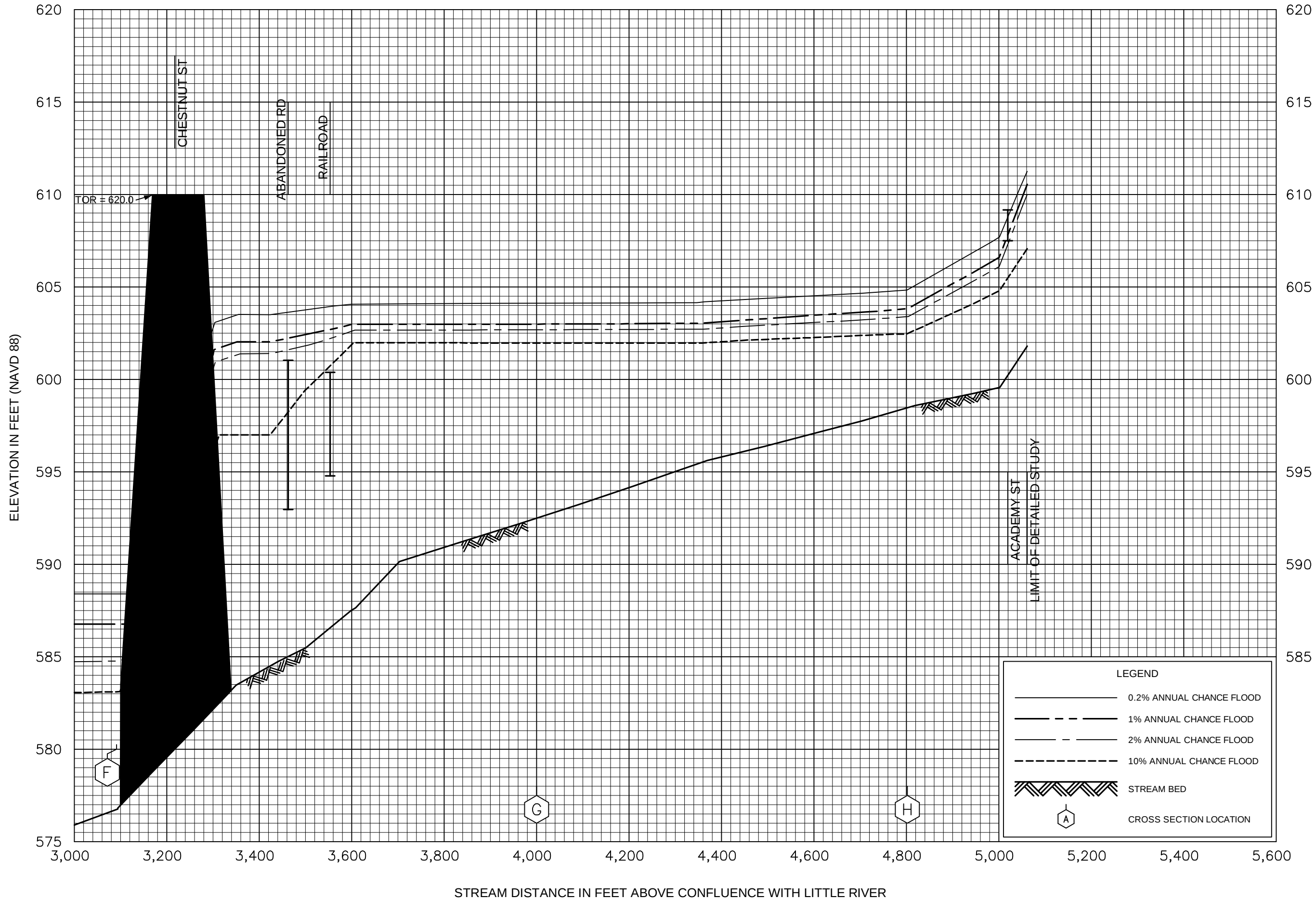
FEDERAL EMERGENCY MANAGEMENT AGENCY
LAURENS COUNTY, SC
AND INCORPORATED AREAS

FLOOD PROFILES

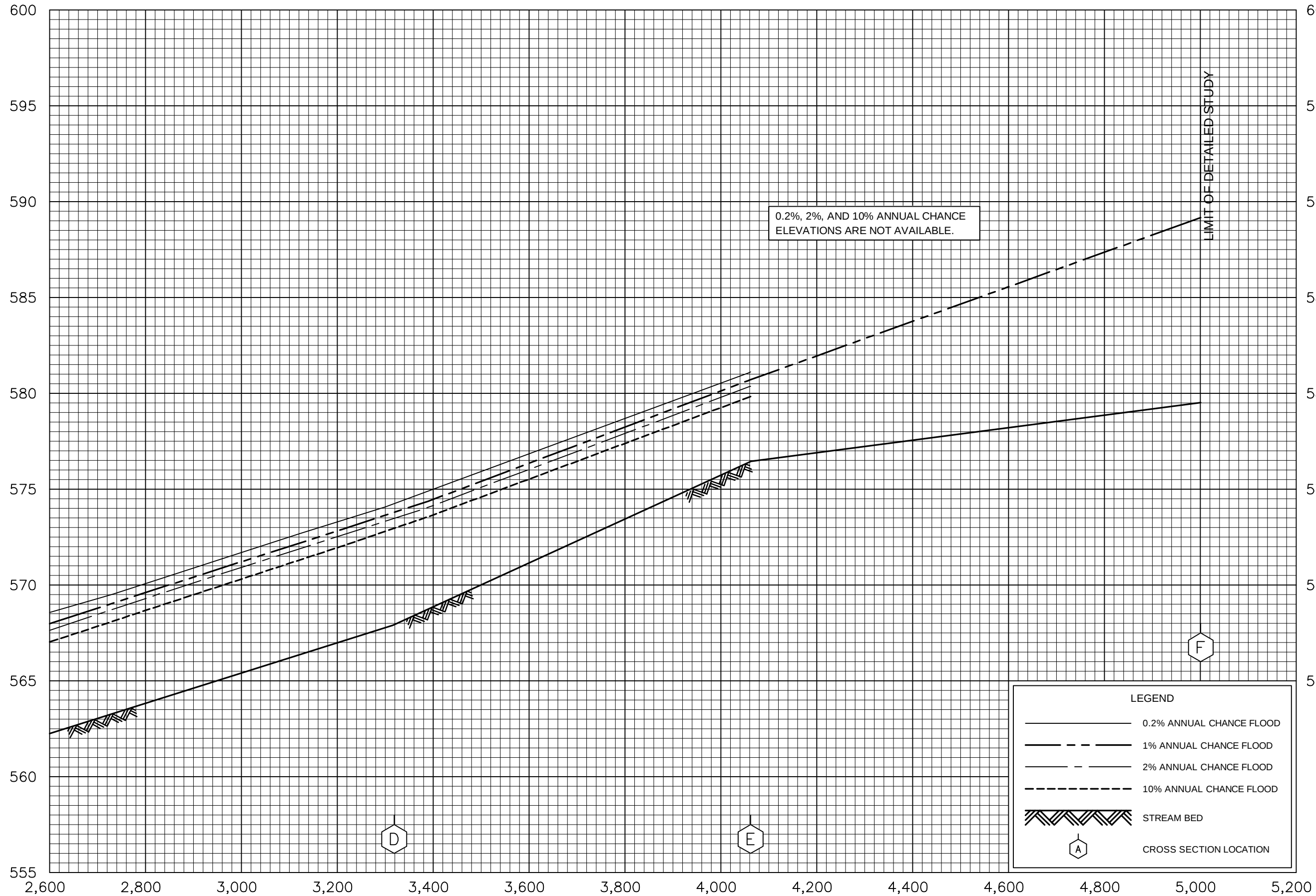
LITTLE RIVER TRIBUTARY 1







ELEVATION IN FEET (NAVD 88)



STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH LITTLE RIVER

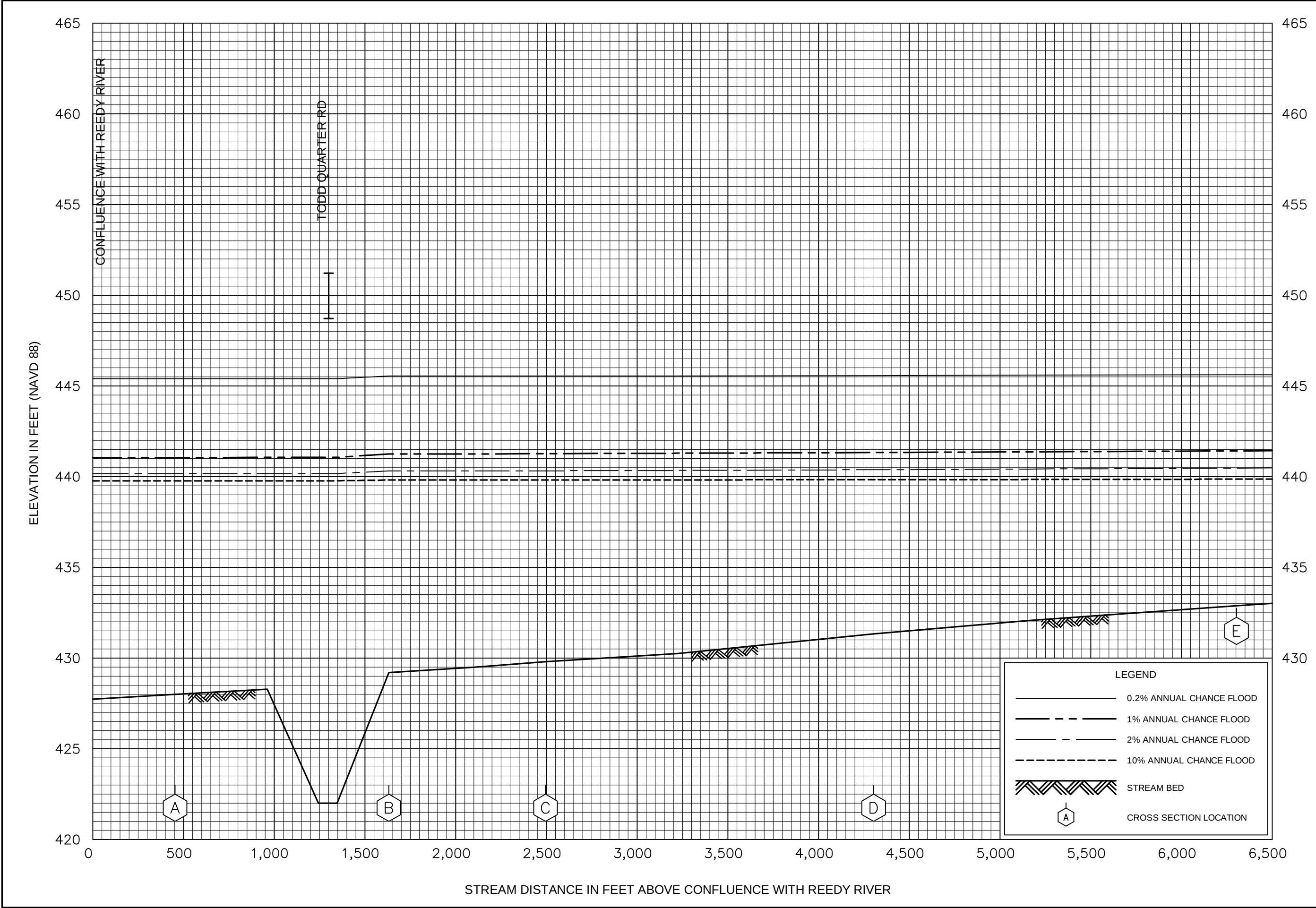
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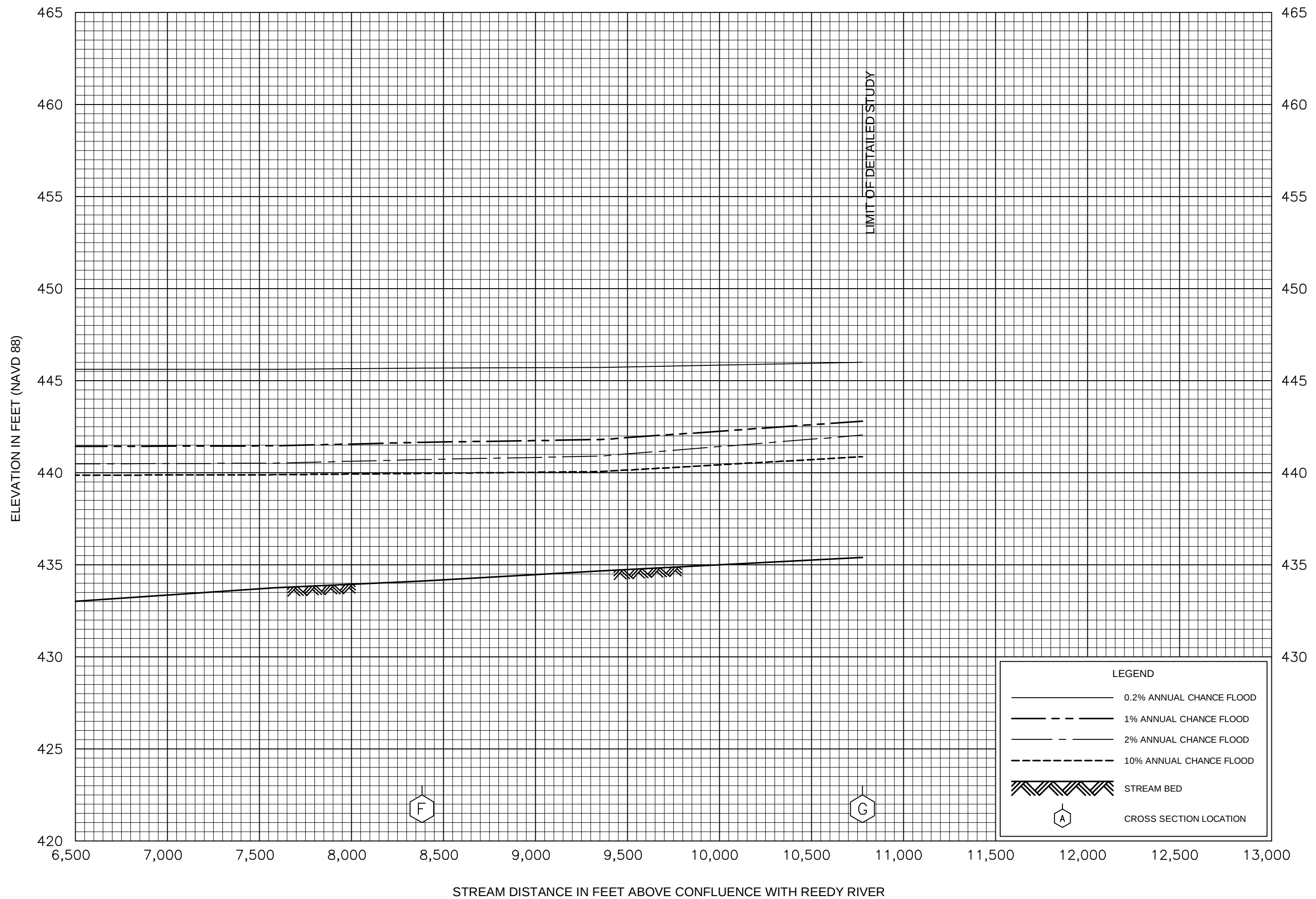
LAURENS COUNTY, SC
AND INCORPORATED AREAS

FLOOD PROFILES

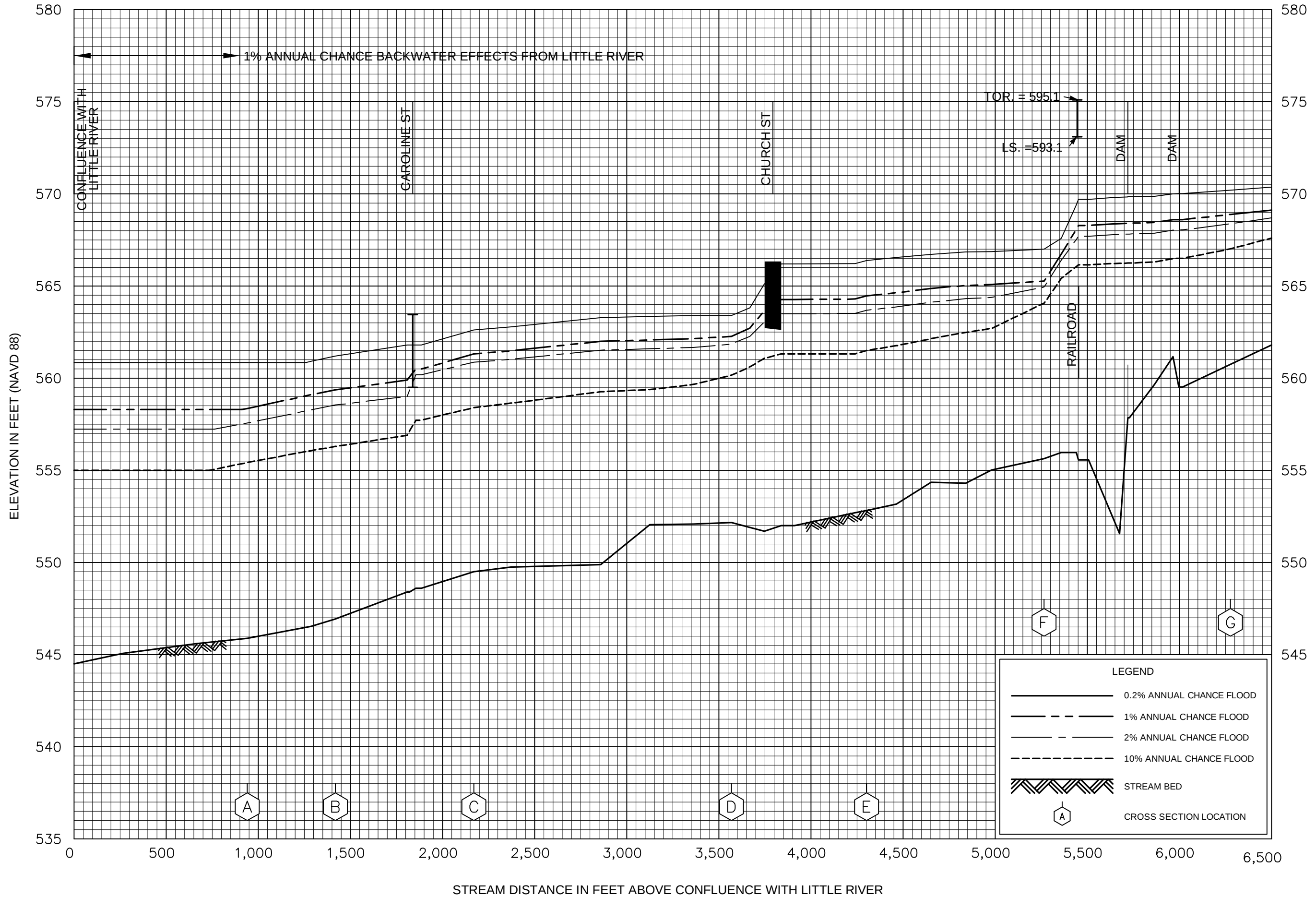
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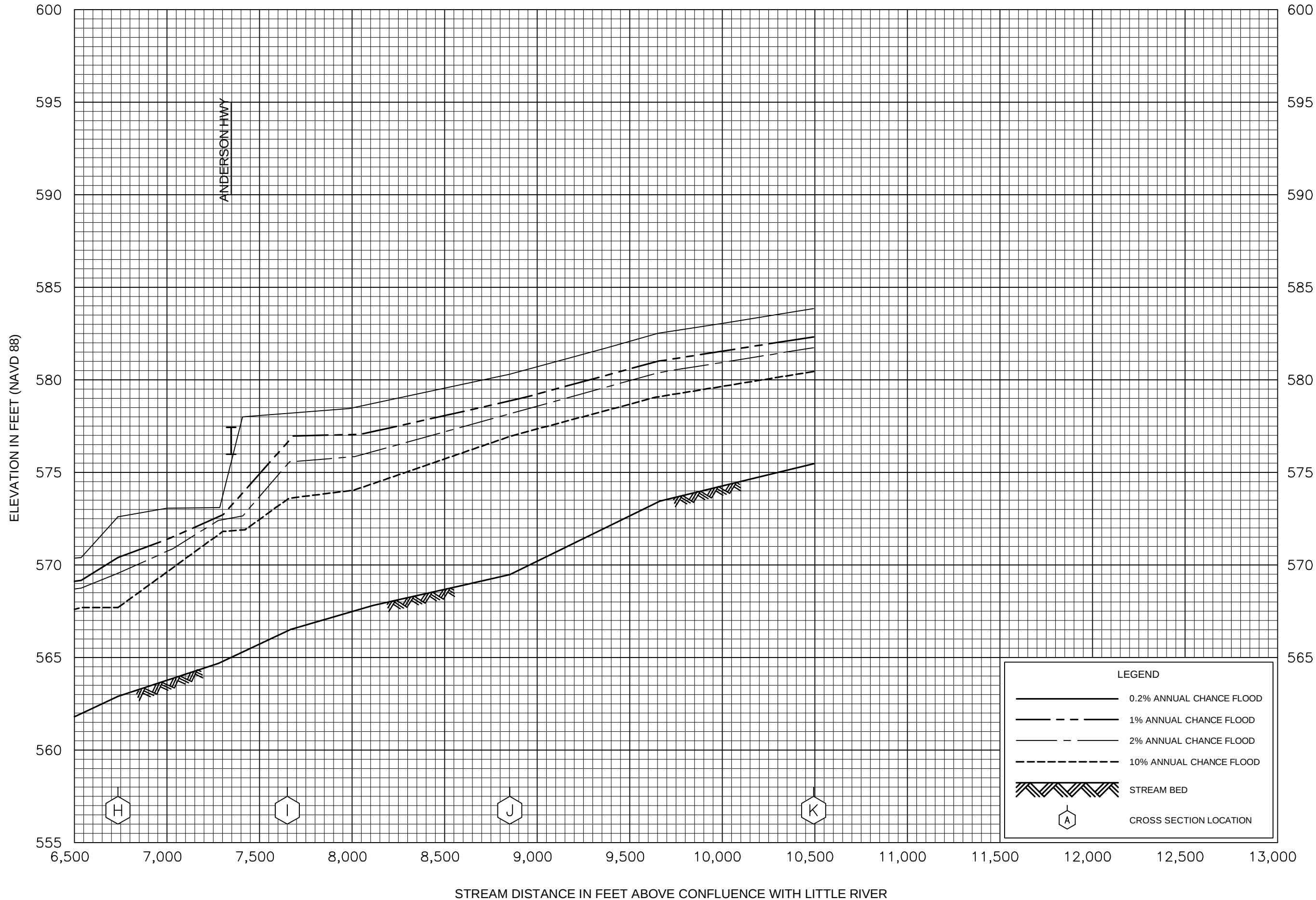
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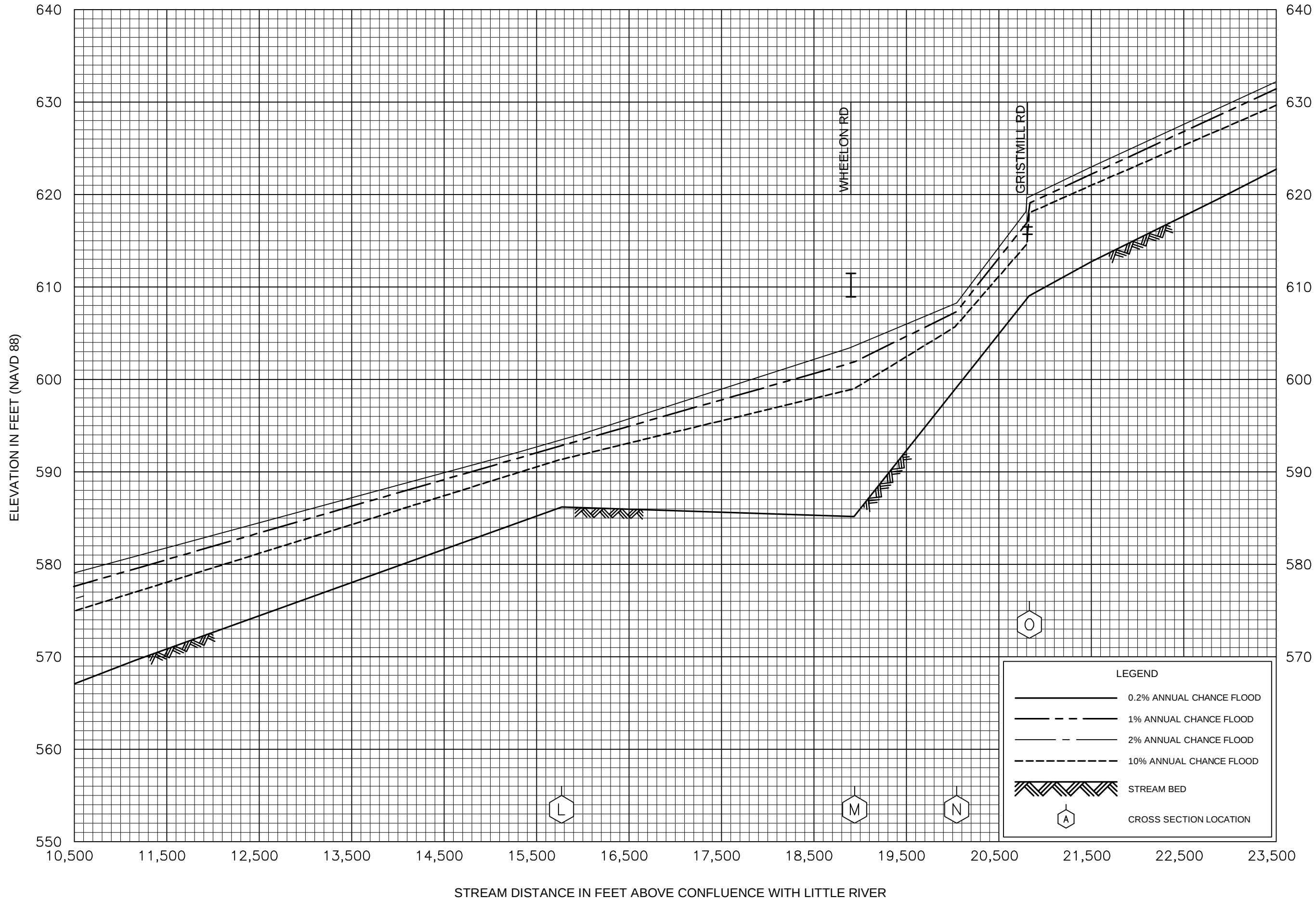


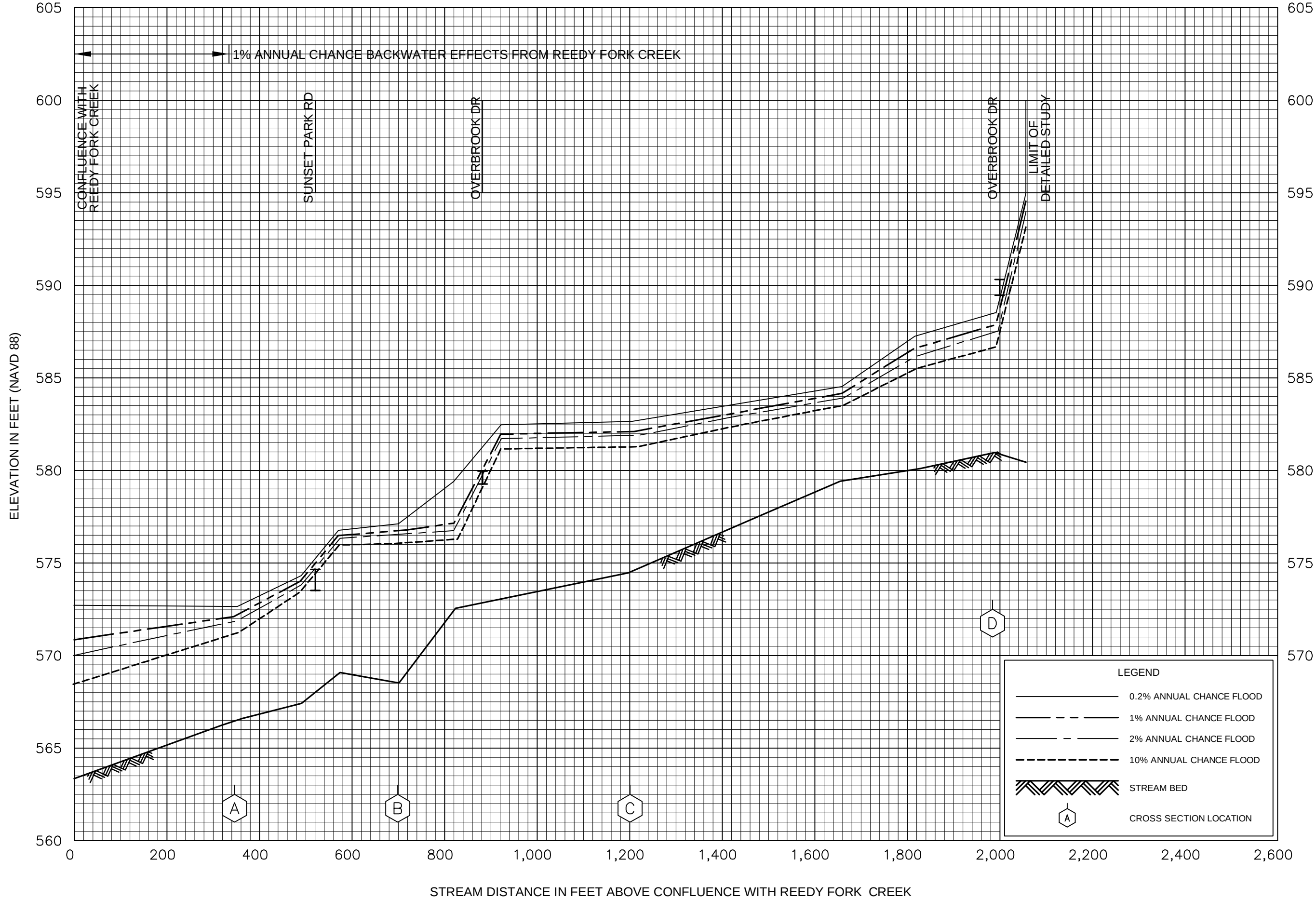


19P	FEDERAL EMERGENCY MANAGEMENT AGENCY LAURENS COUNTY, SC AND INCORPORATED AREAS	FLOOD PROFILES
		RABON CREEK







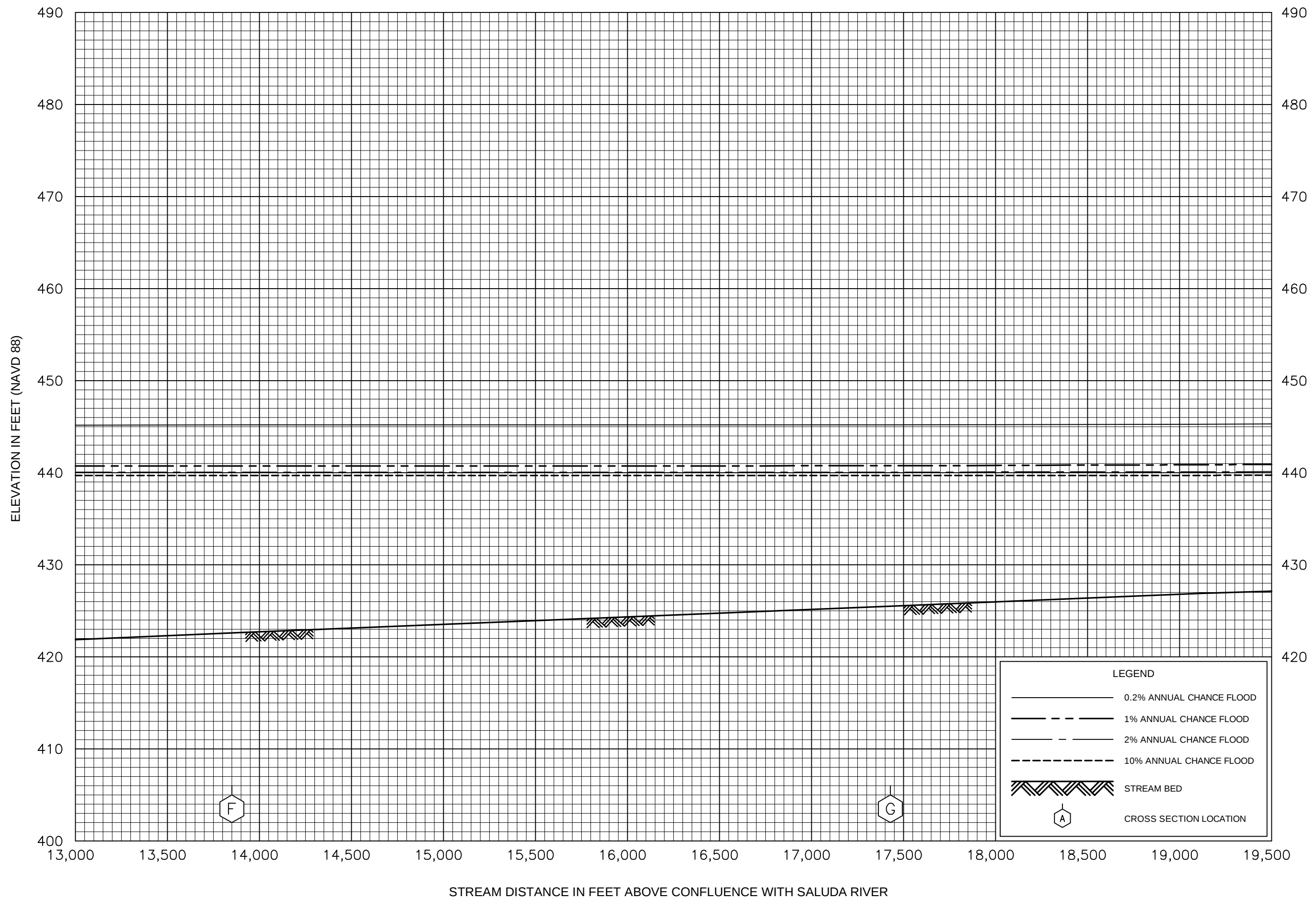


FLOOD PROFILES

REEDY FORK CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAURENS COUNTY, SC
AND INCORPORATED AREAS



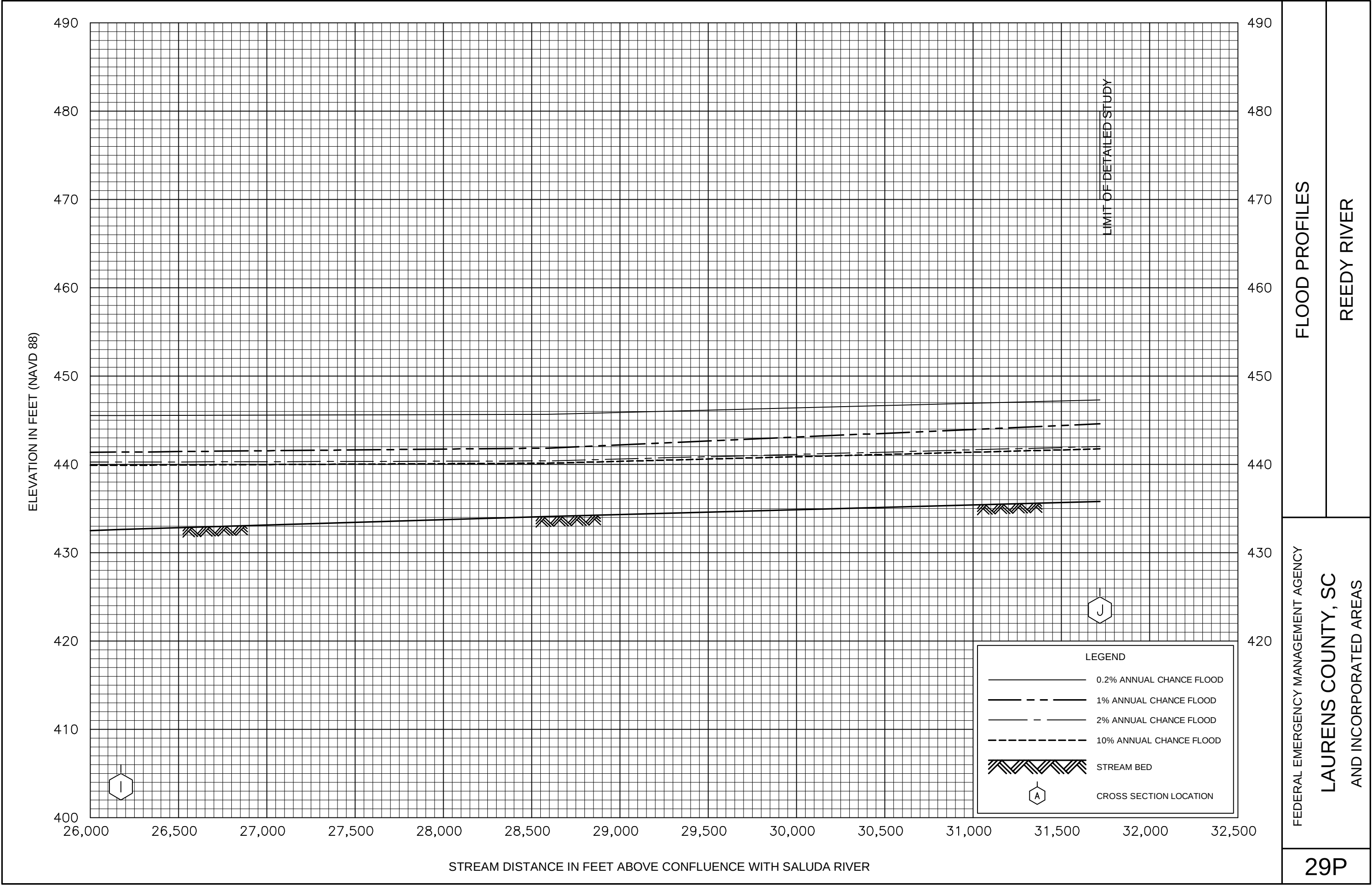
FLOOD PROFILES

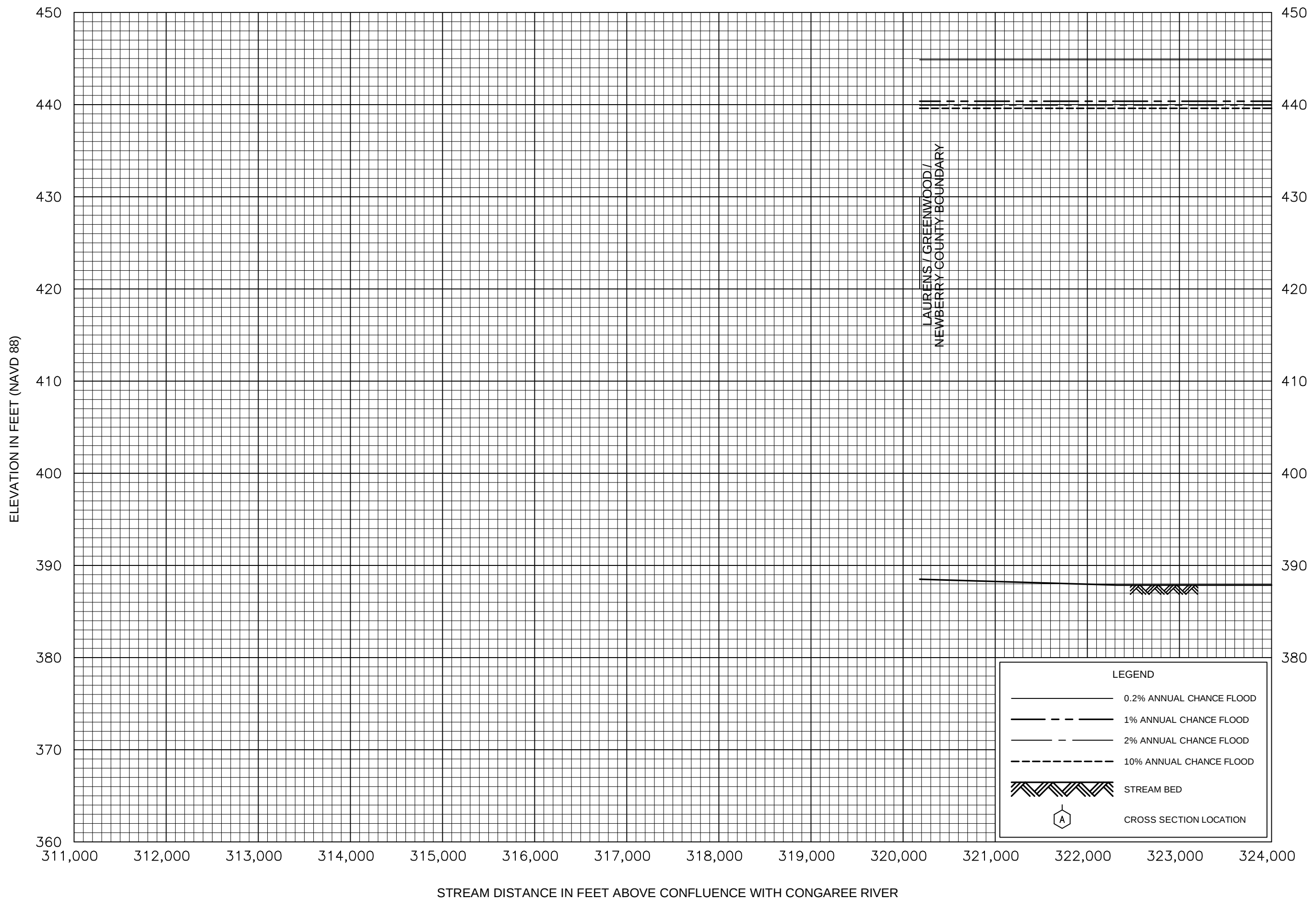
REEDY RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAURENS COUNTY, SC
AND INCORPORATED AREAS

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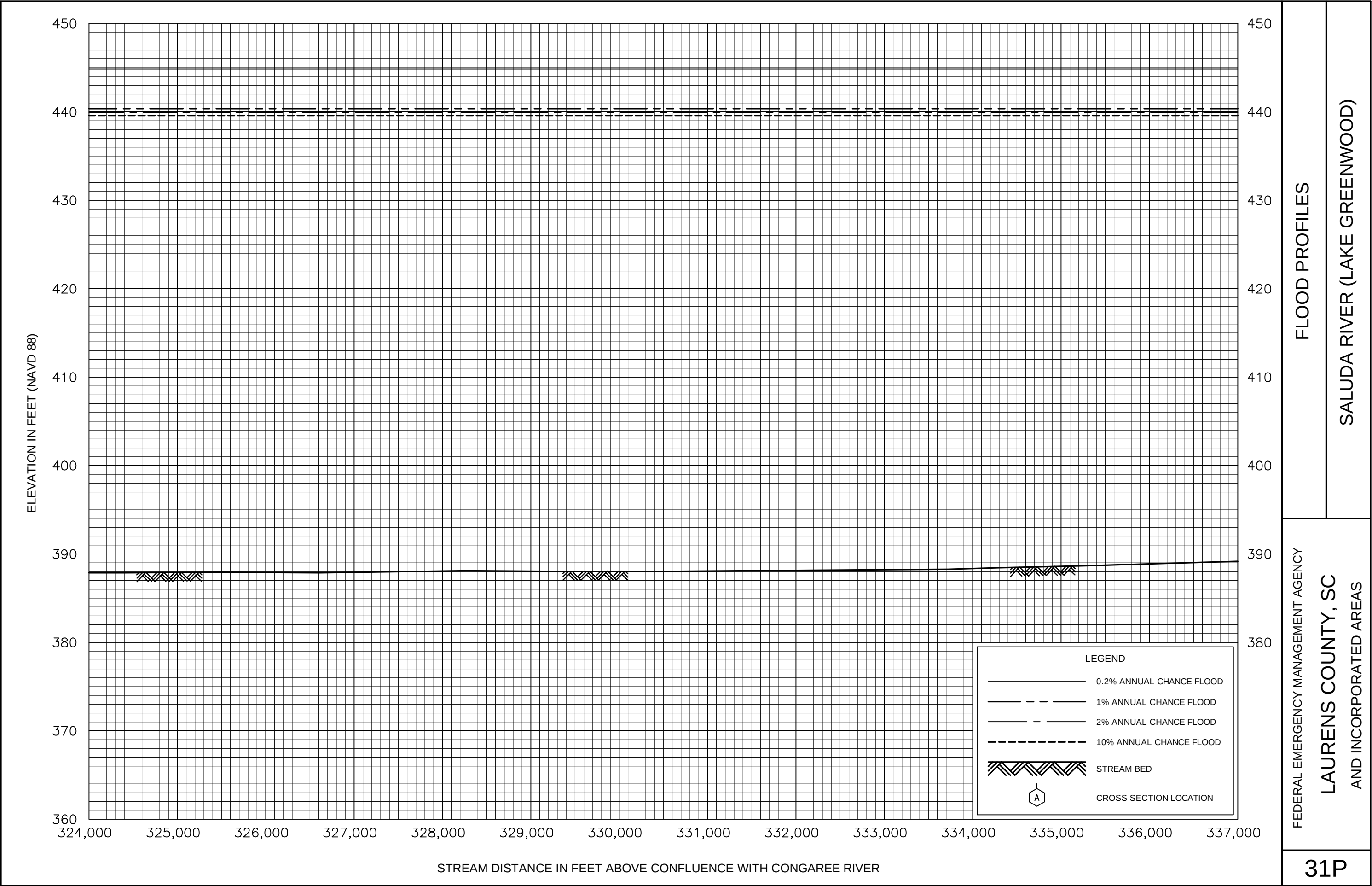
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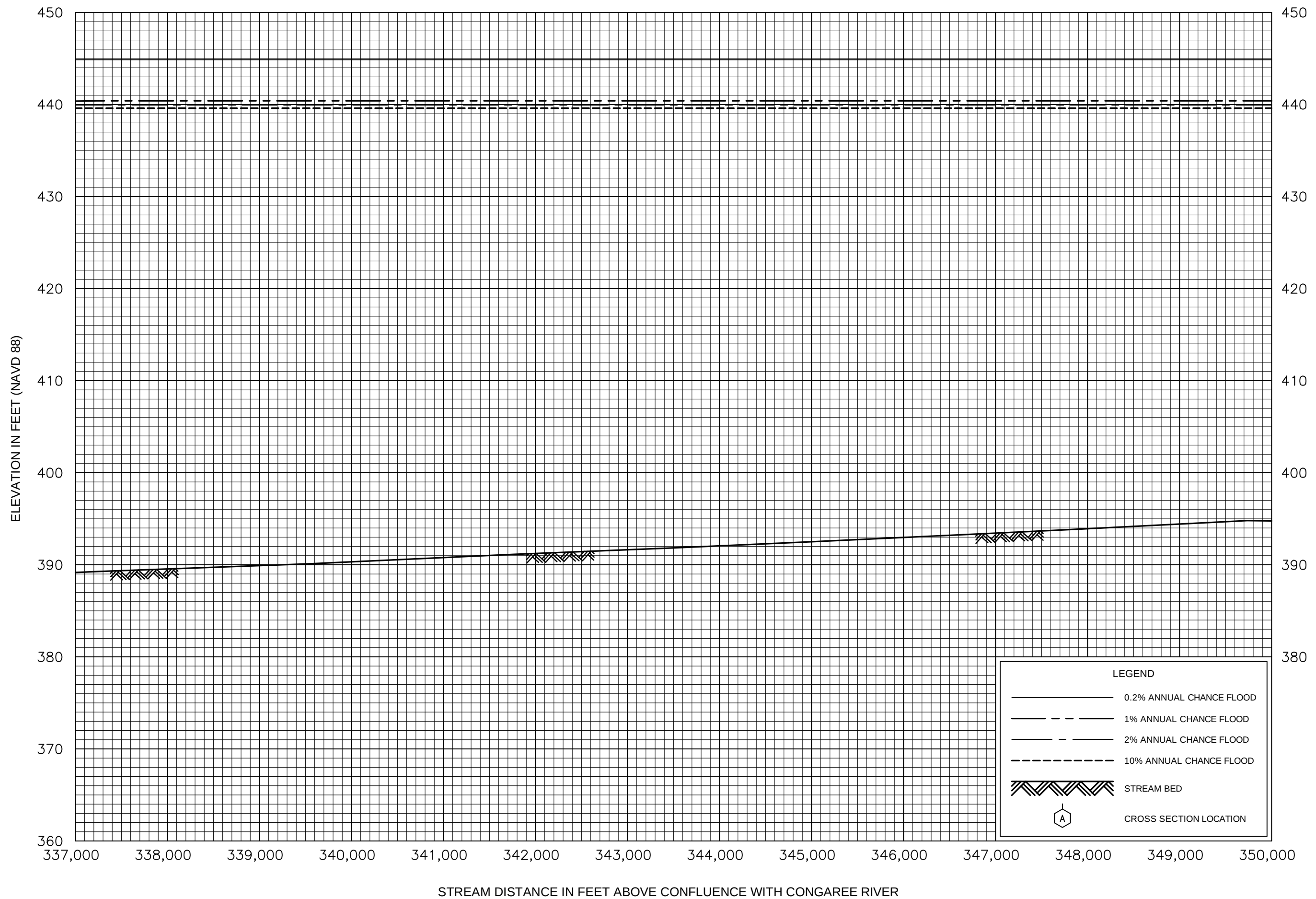
LAURENS COUNTY, SC
AND INCORPORATED AREAS

FLOOD PROFILES

SALUDA RIVER (LAKE GREENWOOD)

30P





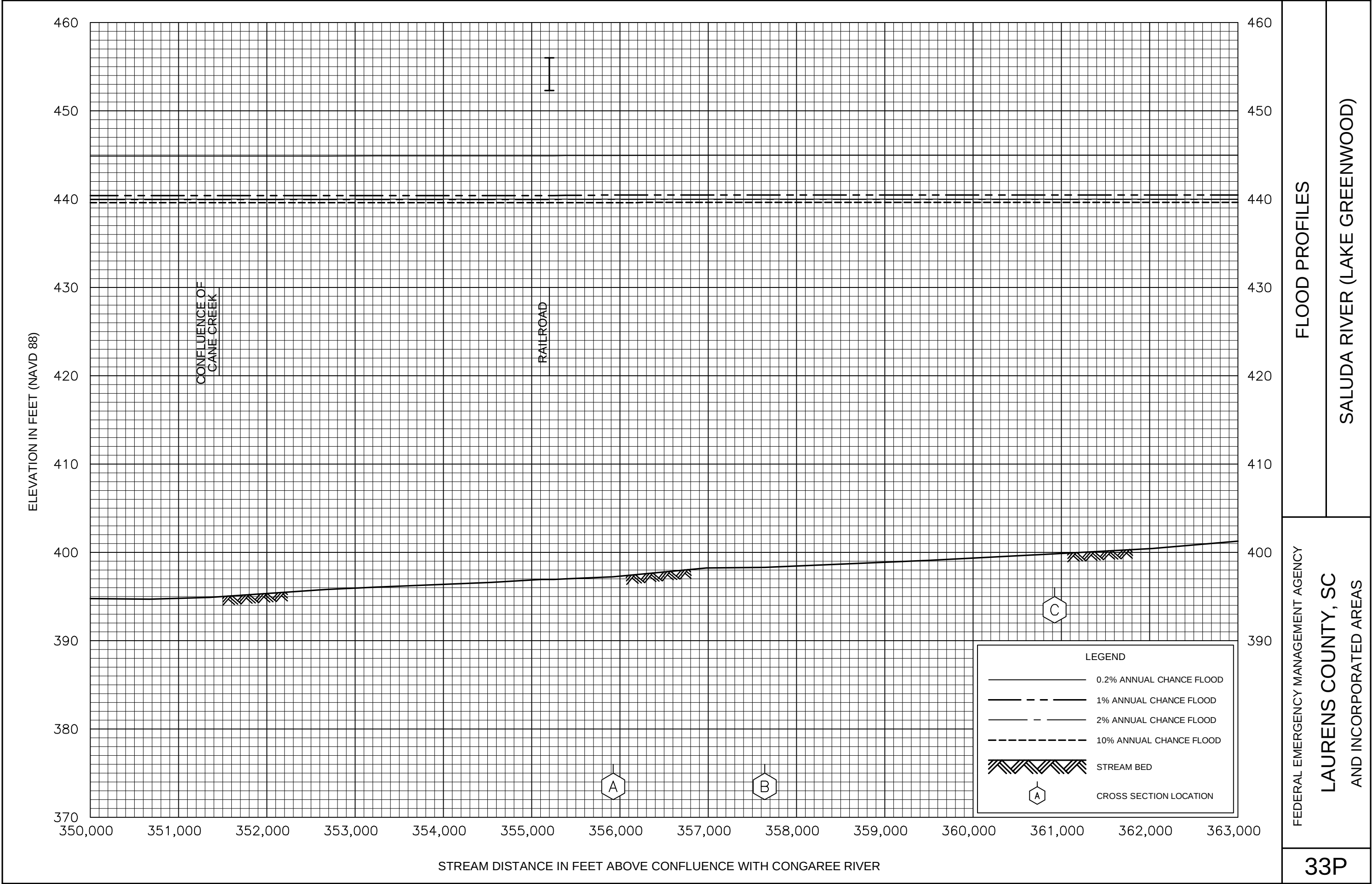
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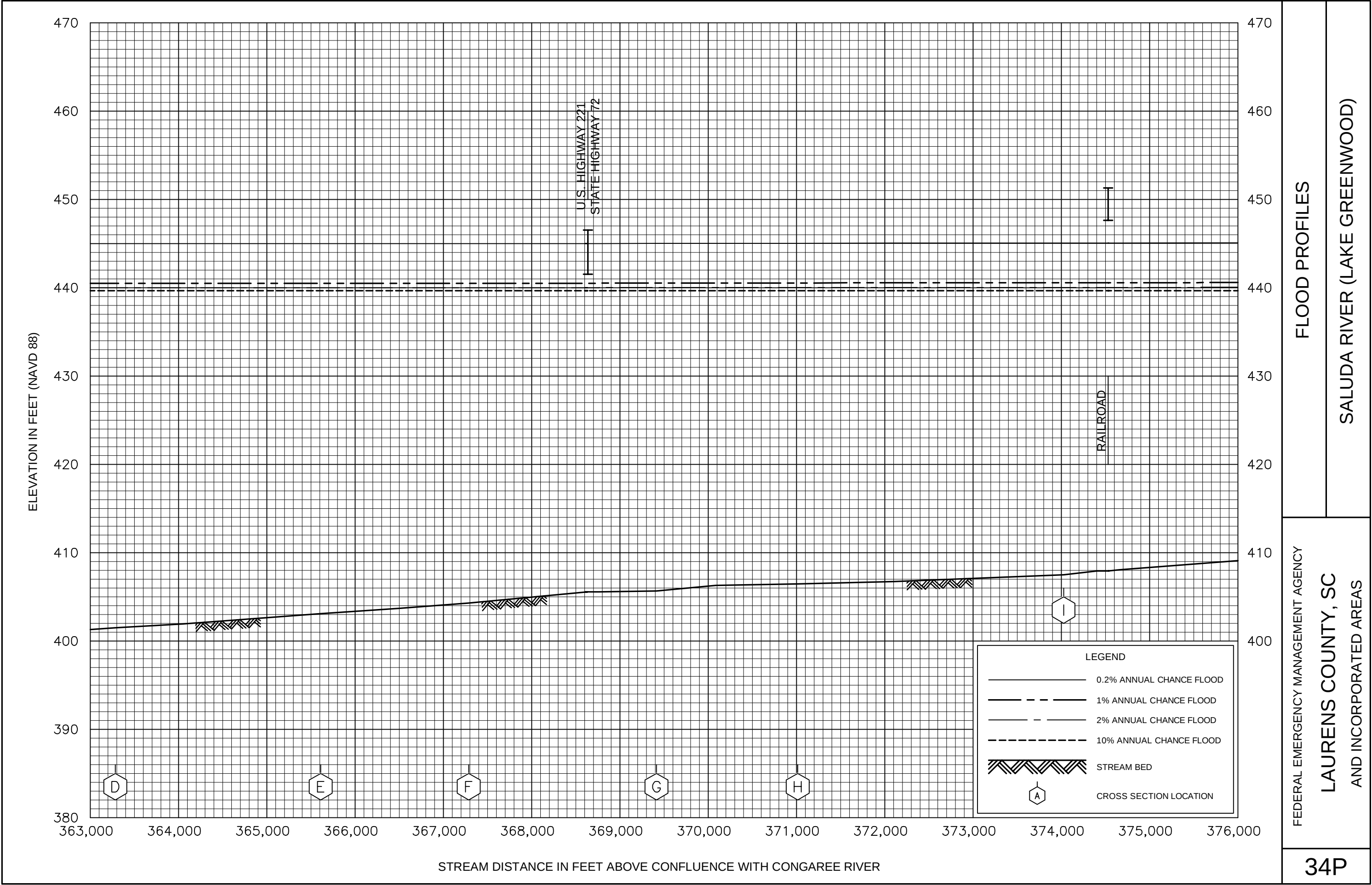
LAURENS COUNTY, SC
AND INCORPORATED AREAS

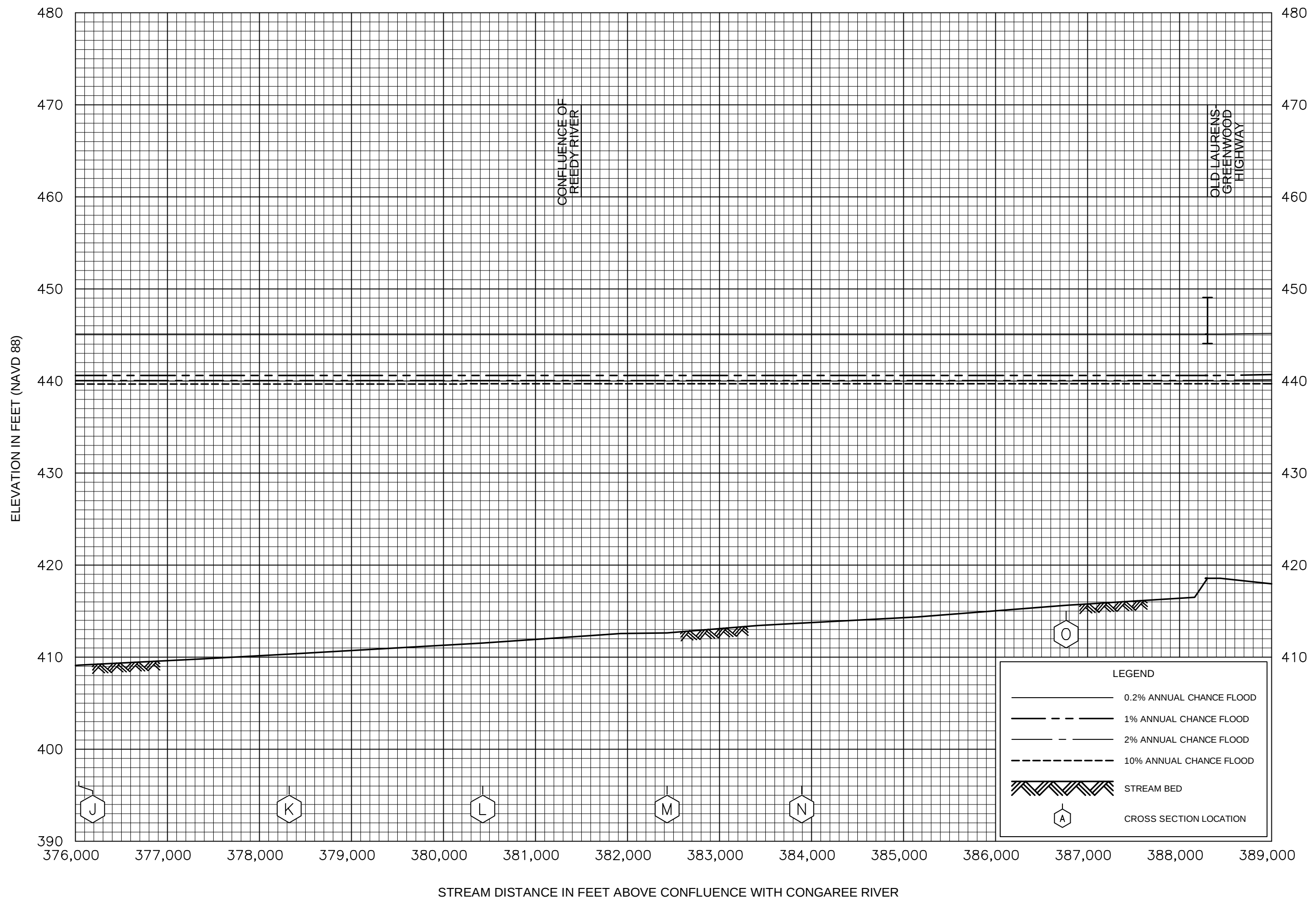
FLOOD PROFILES

SALUDA RIVER (LAKE GREENWOOD)

32P







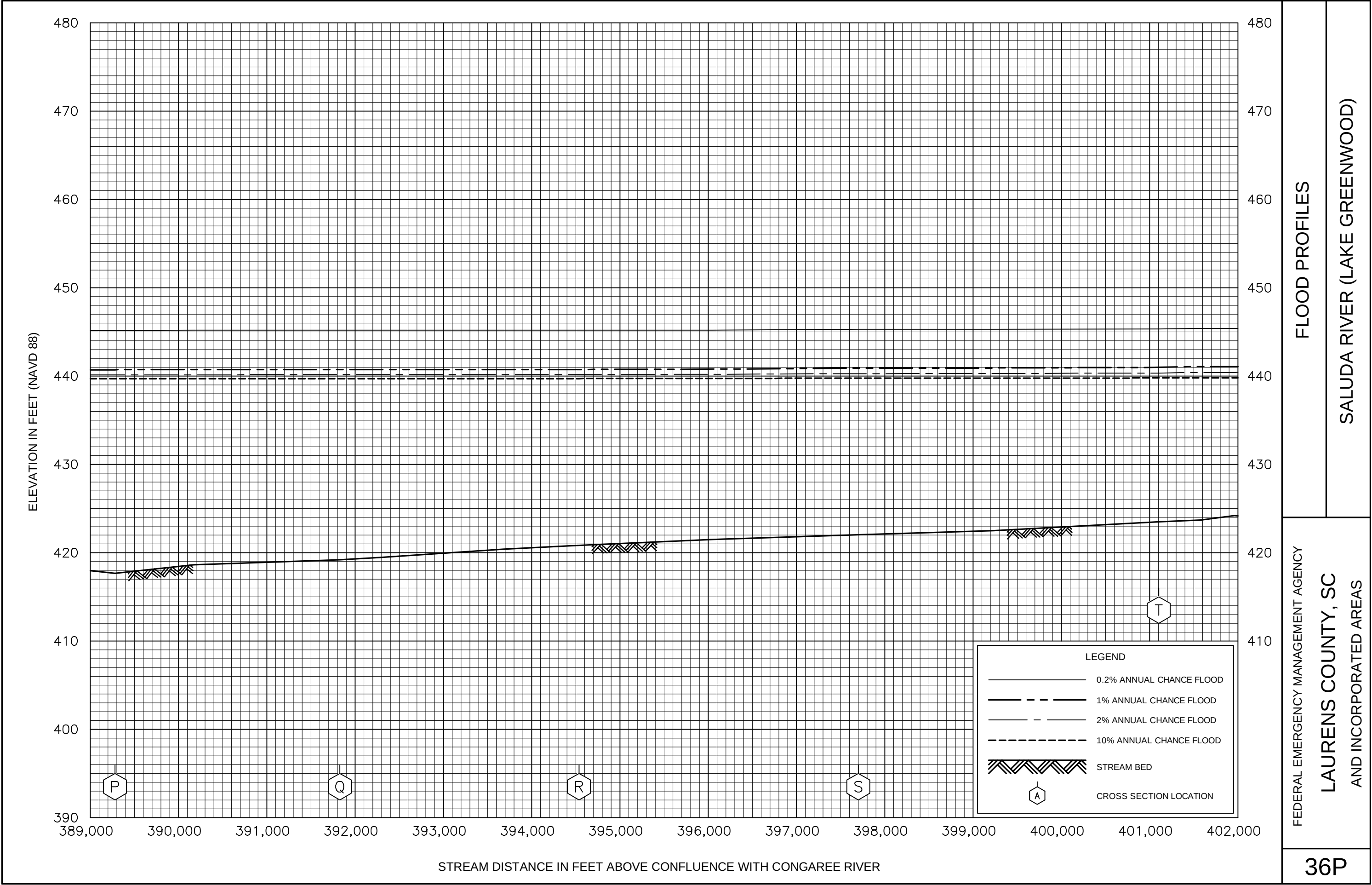
FEDERAL EMERGENCY MANAGEMENT AGENCY

LAURENS COUNTY, SC
AND INCORPORATED AREAS

FLOOD PROFILES

SALUDA RIVER (LAKE GREENWOOD)

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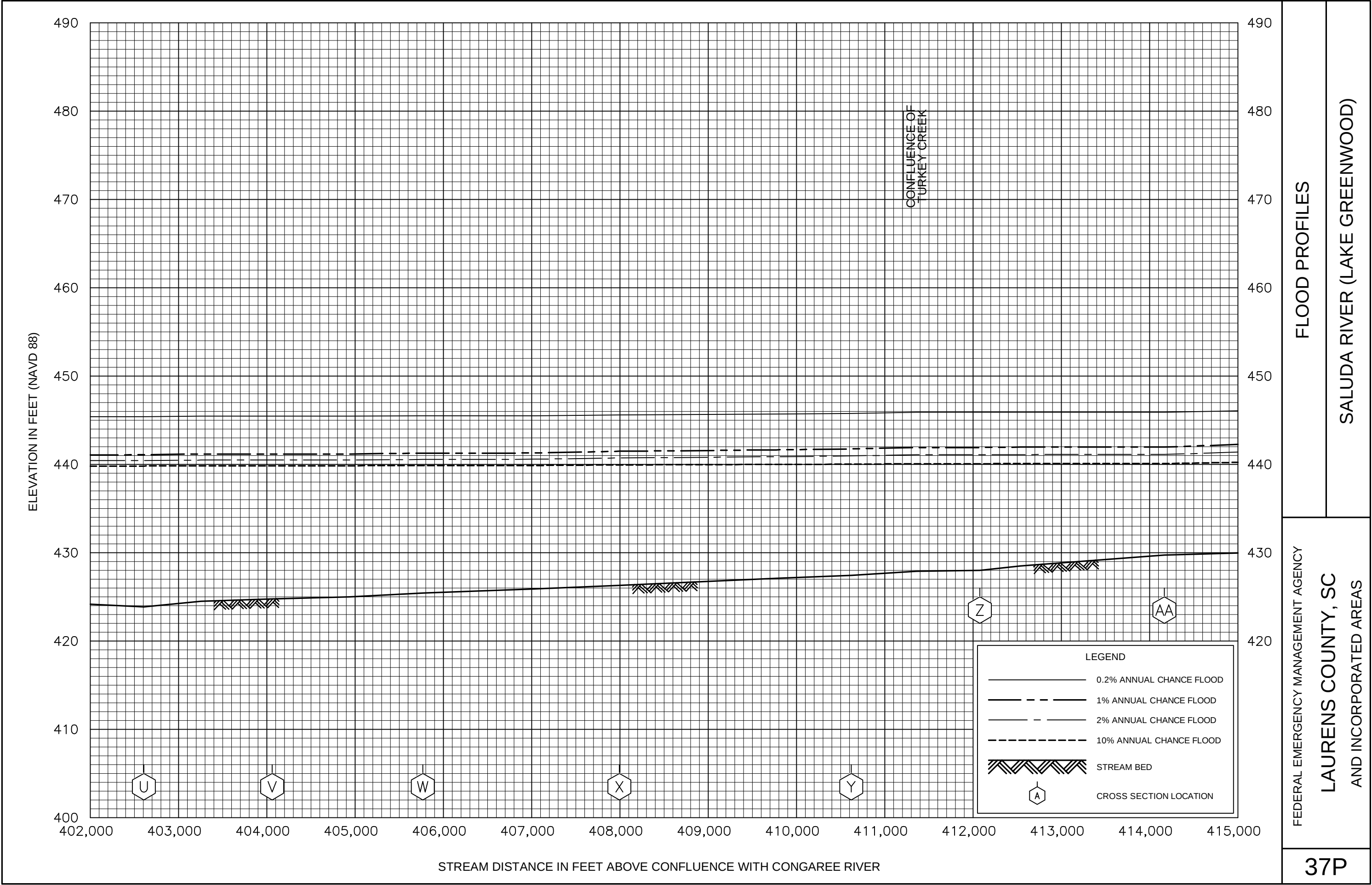
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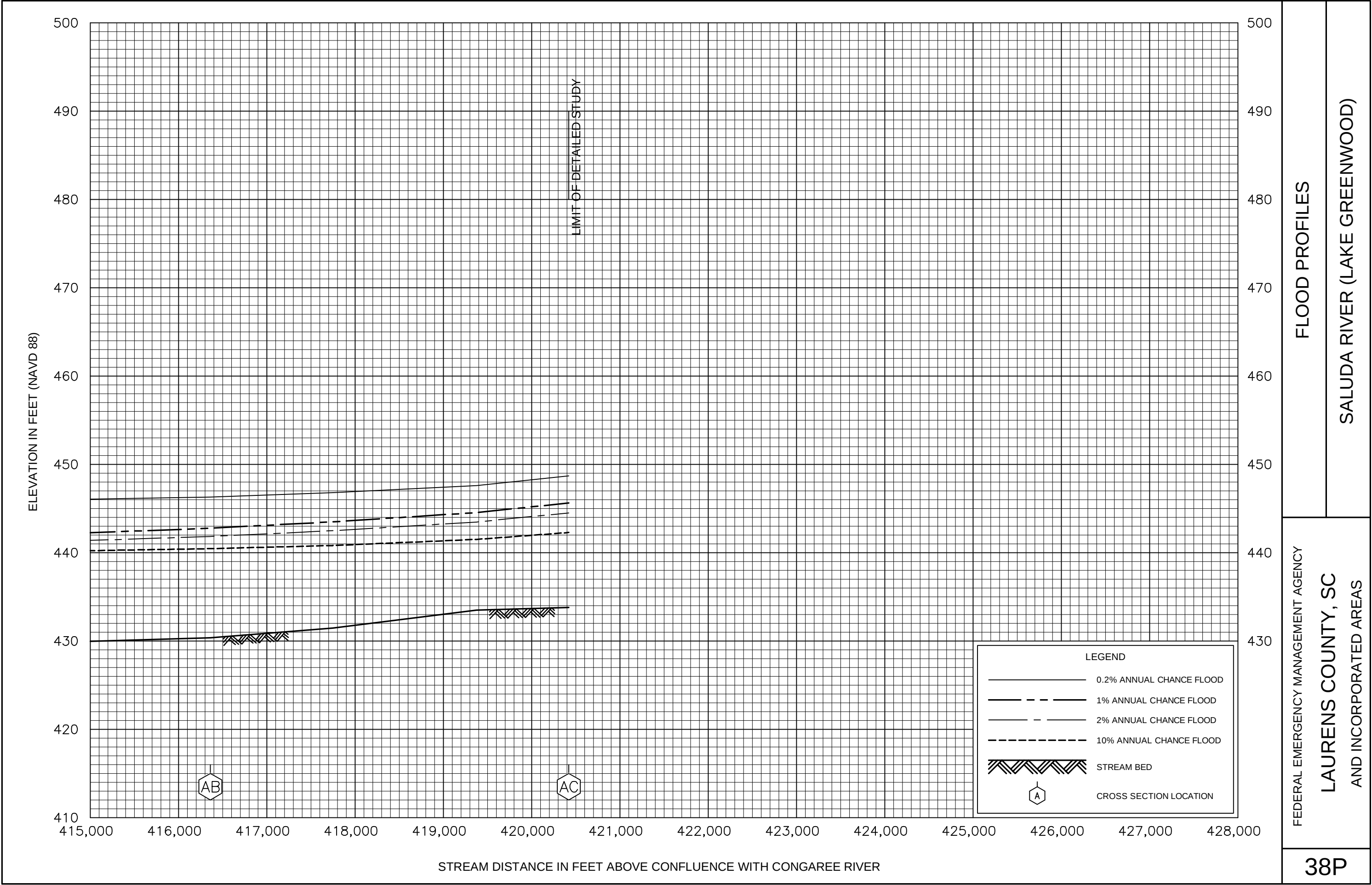
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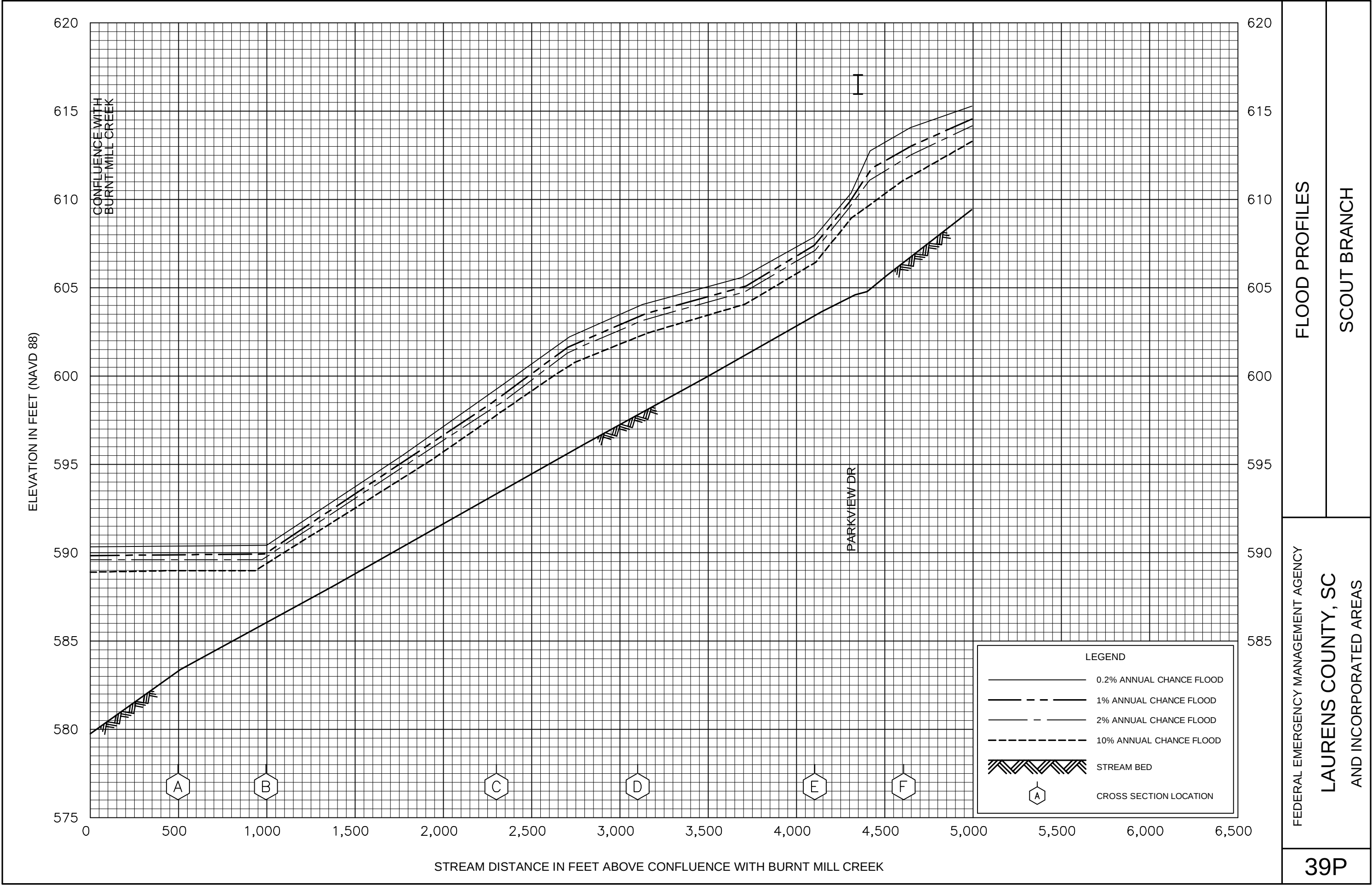
FEDERAL EMERGENCY MANAGEMENT AGENCY

LAURENS COUNTY, SC

AND INCORPORATED AREAS







FLOOD PROFILES

SCOUT BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAURENS COUNTY, SC
AND INCORPORATED AREAS

39P

