

# WALKER COUNTY, GEORGIA AND INCORPORATED AREAS

#### Community Name

CHICKAMAUGA, CITY OF LAFAYETTE, CITY OF LOOKOUT MOUNTAIN, CITY OF ROSSVILLE, CITY OF WALKER COUNTY (UNINCORPORATED AREAS)

#### Community Number



Effective: September 5, 2007



Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER 13295CV000A

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Initial Countywide FIS Effective Date: September 5, 2007

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#### FLOOD INSURANCE STUDY WALKER COUNTY, GEORGIA AND INCORPORATED AREAS

#### 1.0 INTRODUCTION

#### 1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and updates information on the existence and severity of flood hazards in the geographic area of Walker County, including the Cities of Chickamauga, Lafayette, Lookout Mountain and Rossville, and the unincorporated areas of Walker County (referred to collectively herein as Walker 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 efforts 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.

The City of Fort Oglethorpe is geographically located in Catoosa and Walker Counties. Since the majority of this community lies outside of Walker County, it has not been included in this report. The FIS report and Flood Insurance Rate Map (FIRM) for this community are printed separately.

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.

The Digital Flood Insurance Rate Map (DFIRM) and FIS report for this countywide study have been produced in digital format. Flood hazard information was converted to meet the Federal Emergency Management Agency (FEMA) DFIRM database specifications and Geographic Information System (GIS) format requirements. The flood hazard information was created and is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community.

#### 1.2 Authority and Acknowledgments

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

For the March 1979 FIS reports for the Cities of Chickamauga and Rossville and the September 28, 1979, FIS for the unincorporated areas of Walker County, the

hydrologic and hydraulic analyses were performed by the Tennessee Valley Authority (TVA) for the Federal Insurance Administration (FIA) under Interagency Agreement No. IAA-H-11-76, Project Order No. 5, amendments 1 and 2, and Interagency Agreement No. IAA-H-7-77, Project Order 1. The work, which was completed in October 1977, covered all significant flooding sources in Walker County (References 1 through 3).

The hydrologic and hydraulic analyses for the April 1977 FIS for the City of LaFayette (Reference 4) were performed by the U.S. Army Corps of Engineers (USACE), Mobile District, for the FIA, under Inter-Agency Agreement No. IAA-H-16-75, Projest Order No. 19. The work, which was completed in April 1977, covered all significant flooding sources affecting the City of LaFayette.

For the April 2, 1992, FIS for the unincorporated areas of Walker County (Reference 5), the hydraulic analyses were performed by the TVA for FEMA as part of the Limited Map Maintenance Program, under Interagency Agreement No. EMW-90-E-3288, Project Order No. TVA-90-1. FEMA reviewed and accepted these data for purposes of this revision.

For this countywide study, certain streams were redelineated by PBS&J for the Georgia Department of Natural Resources (DNR). The work was completed in May 2006.

For this countywide revision, the work done for the streams studied by limited detailed methods was performed by PBS&J, for the Georgia Department of Natural Resources (DNR) at the request of Walker County. The work was completed in May 2006.

Information on the authority and acknowledgements for each jurisdiction included in this countywide FIS report, as compiled from their previously printed FIS reports, are shown below:

<u>Community</u>	FIS Date	Initial Meeting	Final Meeting
Chickamauga, City of	March 1979	May 7, 1975	August 30, 1978
LaFayette, City of	April 1977	January 23, 1975 September 11, 1975	November 8, 1975
Rossville, City of	March 1979	May 7, 1975	August 31, 1978
Walker County (Unincorporated Areas)	September 1977 April 2, 1992	May 1975 *	August 31, 1978 *

\* Data not available

#### 1.3 Coordination

For this countywide FIS, a scoping meeting was held on October 19, 2004, and attended by representatives of FEMA, the Georgia DNR, the City of

Chickamauga, and Walker County. The purpose of this meeting was to discuss the scope of the FIS.

The results of the study were reviewed at the final meeting held on April 26, 2006, and attended by representatives of the City of Chickamauga, City of Lafayette, City of Rossville, Walker County, Georgia Department of Natural Resources, Georgia Environmental Protection Division, and PBS&J. All problems raised at that meeting have been addressed.

#### 2.0 AREA STUDIED

#### 2.1 Scope of Study

This FIS covers the geographic area of Walker County, Georgia, including the incorporated communities listed in Section 1.1.

Approximate analyses were used to study those areas having low development potential or minimal flood hazards. The scope and methods of study were proposed to and agreed upon by FEMA and Walker County.

For this revision, the FIS report and Flood Insurance Rate Map (FIRM) were converted to countywide format, and the flooding information for the entire county, including both incorporated and unincorporated areas, is shown. Also, the vertical datum was converted from the National Geodetic Vertical Datum of 1929 (NGVD29) to the North American Vertical Datum of 1988 (NAVD88). For this countywide study, the following streams were redelineated within the Limits of Detailed Study: Andrews Street Tributary, Carden Avenue Tributary, Chattanooga Creek, Chattooga Creek, Chattooga Creek Tributary, Coke Oven Branch, Coke Oven Branch Tributary No. 1, Coke Oven Branch Tributary No. 3, Crawfish Creek, Crawfish Spring Branch, Dry Creek Tributary No. 4 West, North Dry Creek Tributary No. 1, South Dry Creek Tributary No. 2, Spring Creek, Spring Creek Tributary No. 1, Spring Creek Tributary No. 2, Town Creek, Town Creek Tributary No. 1, Town Creek Tributary No. 2, Tributary to Chattanooga Creek, Unnamed Tributary to Unnamed Tributary to West Chickamauga Creek, Unnamed Tributary to West Chickamauga Creek, and Williams Street Tributary. The Lafayette Reservoir was redelineated using the Emergency Spillover Elevation provided by the City of Lafayette.

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 following table lists the flooding sources that have been studied by detailed methods and are included in this FIS report. Limits of detailed study are shown on the Flood Profiles (Exhibit 1).

#### Table 1 - Streams Studied by Detailed Methods

#### **Original Name** New Name Chattanooga Creek Chattooga Creek Chattooga Creek Tributary Coke Oven Branch Crawfish Creek **Crawfish Spring Branch** Dry Creek Dry Creek (LaFayette) Dry Creek No. 2 Ellis Branch Spring Creek Spring Creek Tributary No. 1 Spring Creek Tributary No. 2 **Town Creek** Town Creek Tributary No. 1 Town Creek Tributary No. 2 **Tributary Along Andrews Street** Andrews Street Tributary **Tributary Along Carden Avenue** Carden Avenue Tributary Tributary Along Williams Street Williams Street Tribtuary Tributary to Chattanooga Creek Tributary No. 1 North-Dry Creek North Dry Creek Tributary No. 1 Tributary No. 2 South-Dry Creek South Dry Creek Tributary No. 2 Tributary No. 4 West-Dry Creek Dry Creek Tributary No. 4 West Unnamed Tributary No. 1 to Coke Oven Branch Coke Oven Branch Tributary No. 3 Unnamed Tributary to Coke Oven Branch Coke Oven Branch Tributary No. 1 Unnamed Tributary to Unnamed Tributary to West Chickamauga Creek Unnamed Tributary to West Chickamauga Creek West Chickamauga Creek

The areas studied by limited detailed methods were selected with priority given to all known flood hazards and areas of projected development or proposed construction through May 2006. The streams studied by limited detailed methods are Unnamed Ditch tributary to Coke Oven Branch Tributary No. 1 and Unnamed Tributary to Coke Oven Branch Tributary No. 2.

#### 2.2 Community Description

Walker County is situated in northwest Georgia, bordering Hamilton County, Tennessee, and Chattanooga to the north. The 2000 population of Walker County was 61,053 (Reference 6).

Walker County has significant residential and commercial development outside

the incorporated areas including in the floodplains. Much of the county is comprised of agricultural areas.

Walker County's topographic features consist of high mountains capped by plateau land, with a series of level to greatly rolling narrow valleys alternating with steep broken and broad ridges. The surface drainage is divided between streams flowing south into the Coosa River and those flowing north to the Tennessee River (Reference 7). The valley to the east of Missionary Ridge is drained by West Chickamauga Creek and the narrow valley west of Missionary Ridge by Chattanooga Creek. Peavine and Middle and East Chickamauga Creeks drain along Walker County's northern boundary.

Walker County contains forests, partially urbanized areas, and agricultural areas. Half of the county is forested and contains a combination of both hardwood and softwood trees. The rest of the land is partially urbanized and agricultural with many pastures and grasslands located throughout the county.

Temperatures in the area range from a high of about 106 degrees Fahrenheit (°F) to a low of -10 °F. The average maximum and minimum temperatures in Walker County are 71.8 and 48.9 °F respectively. The average annual precipitation in Walker County is 54.07 inches (Reference 8).

#### 2.3 Principal Flood Problems

West Chickamauga and Chattanooga Creeks are the only detailed streams that have a flood history. West Chickamauga Creek heads in the southwest corner of the county and flows northwestward crossing the Walker-Catoosa County line just east of Chickamauga, Georgia. Flood marks on West Chickamauga Creek at mile 23.15 (Reference 9) indicate large floods occurring in 1867, 1886, 1920, 1942, and 1973.

Damage caused by the 1973 flood was centered in the vicinity of Chickamauga, Georgia, where two houses were flooded and several others were surrounded by water (Reference 10).

Chattanooga Creek originates on the eastern slope of Lookout Mountain in Walker County about 12 miles south of the Tennessee-Georgia line. It flows generally northward to the state line, then swings sharply eastward crossing the state line six times in one and one half miles. Backwater from major flooding on the Tennessee River extends up Chattanooga Creek for as much as 7 miles. The major sources of flooding above mile 7 occur most frequently in the winter and spring months. Prior to the establishment of a U.S. Geological Survey (USGS) stream gage at Flintstone, Georgia, in 1950, there was no formal information available on headwater flooding.

On Spring Creek, a number of small buildings, a shopping center, and a large industrial complex lying between Culberson and McLemore Street, have been most affected by flood damage. Zoned "General Industrial", this area consists of a flat to moderately sloping floodplain with a relatively high percent of impervious cover. Several of the buildings bordering on the floodway are constrictive to flood flows. The worst constrictive structure is located at E.T. Barwick Industries between West Main and McLemore Streets where Spring Creek flows through one of the buildings which enclose the channel for a length of 240 feet. Above the pumping station on Spring Creek, the overbanks are flat to moderately steep and covered with moderate brush and undergrowth.

The overbanks of Chattooga Creek and Town Creek are less industrialized, with flood damage reports limited to the golf course, an apartment development, and a few roads and bridges. Obstructions to the floodplain along these creeks are the Barwick-LaFayette Airport runway and the City of LaFayette's oxidation pond, neither of which seriously affect backwater upstream.

The remaining tributaries have experienced flooding which is attributed to rapid runoff from small watersheds. Channels with small cross sectional areas, inadequate culverts, which are improperly aligned, or partially full of loose debris and sediment, also contribute to flooding along these tributaries.

The most intense rainfall which occurred in LaFayette for which data is available resulted in the flood of September 10, 1969, when 6.63 inches fell in a 4-hour period with 12.63 inches accumulating during a 12-hour period, causing the flood of record on LaFayette streams and causing considerable damage. Other floods occurred on streams in the LaFayette area on March 4, 1966, and March 17, 1973.

2.4 Flood Protection Measures

The City of LaFayette and the Soil Conservation Service (SCS) built a flood control and water supply dam on Town Creek outside the corporate limits of LaFayette in the late 1970s.

There are no flood protection works in existence or planned for streams flowing through the City of Chickamauga. A dike was built around the sewage treatment plant but offers less than 1-percent-annual-chance flood protection from West Chickamauga Creek backwater.

There are no flood protection works of consequence in Rossville.

#### 3.0 ENGINEERING METHODS

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

#### 3.1 Hydrologic Analyses

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

Historical stream flow records were available for two stream gauging stations on Chattanooga and Chickamauga Creeks: The stream gauge on Chattanooga Creek near Flintstone, Georgia (USGS gauge number 03568500, period of record: 1951-1974); and the partial record gauge station on West Chickamauga Creek near Kensington, Georgia (USGS gauge number 03567200, period of record: 1952-1975). Discharge-frequency relationships were estimated using a statistical distribution of the annual flood peaks observed at the stream gauges. The procedure followed Bulletin 17 (Reference 11) including the regionalized skew, and an adjustment for historical flood peaks. The relationships are similar to those used in studies for Ringgold, Rossville, Chickamauga, Trenton and Catoosa County.

For Andrews Street Tributary, Carden Avenue Tributary, Coke Oven Branch, Coke Oven Branch Tributary No. 1, Coke Oven Branch Tributary No. 3, Crawfish Creek, Crawfish Spring Branch, Dry Creek, Dry Creek No. 4 West, Ellis Branch, North Dry Creek Tributary No. 1, South Dry Creek Tributary No. 2, Tributary to Chattanooga Creek, Unnamed Tributary to Unnamed Tributary to West Chickamauga Creek, Unnamed Tributary to West Chickamauga Creek, and Williams Street Tributary, the discharge-frequency relationship was defined by developing a regional relationship of peak discharge and drainage area from analysis of gaging stations on nearby streams with similar hydrologic characteristics.

The discharge-frequency relationships for Chattanooga and West Chickamauga

Creeks were compared to the 1962 regional relationships developed by the USGS (Reference 12) and found to be in agreement. The regional peak flow-frequency relationships for the remaining tributary watersheds were compared with those developed by the USGS in 1976 (Reference 13). The 1962 USGS regional relationships were found to be about 25 percent lower. The 1976 USGS regional relationships were developed from data collected over a larger geographic area and included data developed by extending recorded records by simulating runoff from rainfall. The regional peak discharge-drainage area relationships developed from stream gauging station data for streams in northwest Georgia were adopted.

The discharge-frequency relationship for the Town Creek Basin (including Chattooga Creek and Chattooga Creek Tributary) was developed from a rainfallrunoff simulation using the USACE HEC-1 Flood Hydrograph Package (Reference 14). Flood hydrographs resulting from the 10-, 2-, 1-, and 0.2percent-annual chance storms were developed. The model includes the effects of the SCS reservoir which controls runoff from 11.6 square miles or 67 percent of the Town Creek Watershed above its confluence with Spring Creek.

Discharges for Dry Creek No. 2, Spring Creek, Spring Creek Tributary No. 1, and Spring Creek Tributary No. 2 were determined from an analysis of flood-frequency relationships for urban streams as recommended by the USGS (Reference 15).

For this countywide study, a regional regression equation was used to compute the peak discharges for the 1-percent-annual-chance flood for Unnamed Ditch tributary to Coke Oven Branch Tributary No. 1 and Unnamed Tributary to Coke Oven Branch Tributary No. 2 (Reference 16).

The peak discharge-drainage area relationships for the selected recurrence intervals are presented in Table 2.

		ibic feet per second	econd)		
Flooding Source and Location	Drainage Area <u>(square miles)</u>	10-Percent- Annual-Chance	2-Percent- <u>Annual-Chance</u>	1-Percent- <u>Annual-Chance</u>	0.2-Percent- Annual-Chance
ANDREWS STREET TRIBUTARY At confluence with Tributary to Chattanooga Creek	0.10	180	260	290	360
CARDEN AVENUE TRIBUTARY At confluence with Tributary to Chattooga Creek	0.10	218	310	335	400

#### Table 2 - Summary of Discharges

		(k			
Flooding Source and Location	Drainage Area <u>(square miles)</u>	10-Percent- Annual-Chance	2-Percent- Annual-Chance	1-Percent- Annual-Chance	0.2-Percent- Annual-Chance
CHATTANOOGA CREEK At mile 5.5 At mile 7.8 At mile 11.4 At mile 12.4 At mile 15.5	62.8 54.1 47.7 22.3 15.9	6,200 5,700 5,200 2,750 2,200	8,300 7,500 6,900 4,100 3,300	10,300 9,300 8,400 5,100 4,100	11,600 10,400 9,700 5,900 4,700
CHATTOOGA CREEK See Figure 1A					
CHATTOOGA CREEK TRIBUTARY See Figure 1A					
COKE OVEN BRANCH					
At mile 0.1	9.43	2,740	3,860	4,290	5,460
Just downstream of the confluence of Crawfish Spring Branch	7.36	2,590	3,700	4,120	5,290
Just upstream of the confluence of Coke Oven Branch Tributary No. 1	4.72	1,910	2,780	3,080	3,940
Just upstream of the confluence of Coke Oven Branch Tributary No. 2	4.02	1,810	2,560	2,810	3,610
At mile 2.14	3.73	1.670	2.430	2.690	3.480
At mile 3.18	2.46	1,300	1,830	2,040	2,630
At mile 4.18	1.13	880	1,230	1,380	1,760
COKE OVEN BRANCH					
TRIBUTARY NO. 1					
At mile 0.29	1.64	640	960	1,100	1,550
At mile 1.24	1.29	540	820	970	1,300
COKE OVEN BRANCH					
TRIBUTARY NO. 3	0.40	105	000	000	000
Street	0.16	125	200	230	330
CRAWFISH CREEK					
At mile 0.05	7.59	1,880	2,700	3,200	4,300
At mile 1.25	6.77	1,700	2,500	2,900	4,000
At mile 3.22	4.97	1,400	2,100	2,350	3,300
CRAWFISH SPRING BRANCH At confluence with Coke					
Oven Branch	0.93	///	1,080	1,210	1,560
At Cross Section C	0.77	570	830	900	1,340
At Cross Section E	0.06	115	180	190	250
DRY CREEK					
At Glentana Street	5.22	1,860	2,670	3,130	4,200
At mile 2.0	3.24	1,000	1,550	1,750	2,450
At mile 2.79	1.94	/20	1,100	1,270	1,700

## Table 2 - Summary of Discharges (Continued)

	Peak Discharges (cubic feet per second)					
Flooding Source and Location	Drainage Area <u>(square miles)</u>	10-Percent- Annual-Chance	2-Percent- Annual-Chance	1-Percent- Annual-Chance	0.2-Percent- Annual-Chance	
DRY CREEK NO. 2 See Figure 1A						
DRY CREEK TRIBUTARY NO. 4 WEST						
Approximately 500 feet downstream of Ellis road	0.23	160	250	300	420	
ELLIS BRANCH At mile 0.10	1.16	500	760	900	1,240	
NORTH DRY CREEK TRIBUTARY NO. 1 At confluence with Dry Creek Tributary No. 4 West	0.12	230	335	365	450	
SOUTH DRY CREEK TRIBUTARY NO. 2 At confluence with Dry Creek	0.93	840	1,140	1,280	1,640	
Approximately 150 feet downstream of McFarland Avenue	0.50	450	640	715	960	
SPRING CREEK See Figure 1B						
SPRING CREEK TRIBUTARY NO. 1 See Figure 1B						
SPRING CREEK TRIBUTARY NO. 2 See Figure 1B						
TOWN CREEK See Figure 1A						
TOWN CREEK TRIBUTARY NO. 1 See Figure 1C						
TOWN CREEK TRIBUTARY NO. 2 See Figure 1C						
TRIBUTARY TO CHATTANOOGA CREEK At Williams Street	1.00	1,050	1,410	1,560	1,920	
UNNAMED TRIBUTARY TO UNNAMED TRIBUTARY TO WEST CHICKAMAUGA CREEK	1 70	020	1 9 4 9	1 540	2.000	
At mile 3.26	1.22	930 750	1,080	1,230	2,000 1,610	

## Table 2 - Summary of Discharges (Continued)

	Peak Discharges (cubic feet per second)				
Flooding Source and Location	Drainage Area (square miles)	10-Percent- Annual-Chance	2-Percent- Annual-Chance	1-Percent- Annual-Chance	0.2-Percent- Annual-Chance
UNNAMED TRIBUTARY TO WEST CHICKAMAUGA CREEK					
At mile 1.68	1.59	620	950	1,100	1,500
At mile 2.62	1.16	500	760	900	1,240
WEST CHICKAMAUGA CREEK					
At mile 23.6	110.0	10,998	16,309	19,434	26,245
At mile 24.8	99.4	10,500	15,500	18,500	25,000
WILLIAMS STREET TRIBUTARY At confluence with Tributary to					
Chattanooga Creek	0.26	450	600	660	810
At Walnut Street	0.14	255	350	400	490

#### Table 2 - Summary of Discharges (Continued)

#### 3.2 Hydraulic Analyses

Stream cross sections for the hydraulic analyses were field surveyed at bridges and other strategic locations and supplemented with valley cross sections taken by photogrammetric methods at sufficiently close intervals to accurately compute water surface elevations (WSELs).

Cross sections previously used in the Chattanooga Creek analyses were modified and supplemented to reflect modifications to the stream channel and overbanks, channel improvements, and bridge modifications. Data used to modify the cross sections were field surveyed.

The 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 is computed (Section 4.2), selected cross section locations are also shown on the FIRM.

WSELs of floods for the selected recurrence intervals, for all streams studied in detail, were computed using the USACE HEC-2 computer program (Reference 17).

For Chattanooga Creek, from the downstream county boundary to Nickajack Road, the revised hydraulic analysis was performed using the HEC-2 stepbackwater computer program (Reference 18). Starting WSELS were taken from the FIS for the City of Chattanooga, Hamilton County, Tennessee (Reference 19).

The downstream segment of Chattanooga Creek, near the confluence with the Tennessee River, is subject to two types of flooding: flooding from the headwaters of Chattanooga Creek, and backwater flooding from the Tennessee River. Therefore, the flood profiles for Chattanooga Creek should be based on the combined probabilities of both types of flooding. The probability of flooding above a certain elevation on Chattanooga Creek was calculated as the sum of that probability and the probability of the same elevation being exceeded on the Tennessee River, minus the product of those probabilities. This combined probability method is based on the assumption that the flood events on Chattanooga Creek and the Tennessee River are independent, but not mutually exclusive.

Independence is assumed because flooding on a large river usually results from a storm that is centered outside the tributary drainage area and that generally does not produce significant flooding on the tributary. Similarly, flooding on the tributary usually results from a storm that is centered over the tributary drainage area and does not generally produce significant flooding on the large river. However, floods, not necessarily of the same frequency, can occur on both the tributary and the large river as the result of the same storm. Therefore, the flood events are not mutually exclusive.

The method described produces profiles that are higher than flat profiles representing backwater from the large river and lower than those that would result from an analysis in which concurrent floods of equal frequency are assumed to occur on both sources of flooding.

Starting WSELs for flood-frequency profiles on West Chickamauga Creek were taken from rating curves at miles 5.50 and 2.91 respectively based on flood profile computations for Hamilton County, Tennessee (Reference 20). Starting WSELs for the Andrews Street Tributary, Carden Avenue Tributary, Chattooga Creek, Chattooga Creek Tributary, Coke Oven Branch, Coke Oven Branch Tributary No. 1, Coke Oven Branch Tributary No. 3, Crawfish Creek, Crawfish Spring Branch, Dry Creek, Dry Creek No. 2, Ellis Branch, North Dry Creek Tributary No. 1, South Dry Creek Tributary No. 2, Tributary to Chattanooga Creek, Unnamed Tributary to Unnamed Tributary to West Chickamauga Creek, Unnamed Tributary to West Chickamauga Creek and Williams Street Tributary were obtained by slope-area calculations using the USACE HEC-2 program.

For streams studied by Limited Detailed methods, normal depth was used for starting water surface elevations. The City of Chickamauga provided survey information for these streams and HEC-RAS 3.1.3 was used to estimate 1-percent-annual chance flood profile.

Starting WSELs for Dry Creek Tributary No. 4 West, Spring Creek, Spring Creek Tributary No. 1, Spring Creek Tributary No. 2, Town Creek, Town Creek Tributary No. 1, and Town Creek Tributary No. 2, were computed using known WSELs.

No detailed studies were made for several smaller streams in Walker County, Georgia, because of the lack of current or planned development along these streams. The 1-percent-annual-chance flood for these streams was approximated using cross sections obtained by photogrammetric methods and slope-area computations using the HEC-2 program.

For Chattanooga Creek, roughness coefficients (Manning's "n") were taken from the previously effective FIS and modified to reflect changes in the stream reaches.

Channel roughness factors (Manning's "n") for these computations were determined on the basis of field inspection of channel and flood plain areas, on previous studies by the TVA, and computed coefficients based on known flood profiles.

The Manning's "n" values for all detailed studied streams are listed in Table 3.

Table 3 - Manning's "n" Values

Stream	<u>Channel "n"</u>	<u>Overbank "n"</u>
Andrews Street Tributary	0.030-0.035	0.035-0.060
Carden Avenue Tributary	0.035-0.040	0.050-0.120
Chattanooga Creek	0.040-0.060	0.080-0.200
Chattooga Creek	0.035-0.070	0.100-0.120
Chattooga Creek Tributary	0.040-0.065	0.080-0.120
Coke Oven Branch	0.045-0.050	0.060-0.150
Coke Oven Branch Tributary No. 1	0.035-0.050	0.060-0.150
Coke Oven Branch Tributary No. 3	0.060	0.005-0.070
Crawfish Creek	0.040-0.050	0.070-0.120
Crawfish Spring Branch	0.040	0.085-0.150
Dry Creek	0.035-0.045	0.060-0.150
Dry Creek No. 2	0.043-0.050	0.070-0.150
Dry Creek Tributary No. 4 West	0.030-0.060	0.060-0.150
Ellis Branch	0.040-0.050	0.070-0.150
North Dry Creek Tributary No. 1	0.045-0.055	0.080-0.150
South Dry Creek Tributary No. 2	0.040-0.055	0.060-0.150
Spring Creek	0.035-0.045	0.060-0.125
Spring Creek Tributary No. 1	0.035-0.045	0.060-0.125
Spring Creek Tributary No. 2	0.035-0.045	0.060-0.125
Town Creek	0.035-0.045	0.060-0.125
Town Creek Tributary No. 1	0.035-0.045	0.060-0.125
Town Creek Tributary No. 2	0.035-0.045	0.060-0.125
Tributary to Chattanooga Creek	0.035-0.050	0.040-0.120
Unnamed Tributary to Unnamed Tributary to West Chickamauga Creek	0.040	0.060-0.150
Unnamed Tributary to West Chickamauga Creek	0.040	0.040-0.150
West Chickamauga Creek	0.012-0.035	0.019-0.150
Williams Street Tributary	0.030-0.045	0.060-0.150

The flood elevations in Walker County are considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

3.3 Vertical Datum

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

All flood elevations shown in this FIS report and on the FIRM are referenced to NAVD88. Structure and ground elevations in the community must, therefore, be referenced to NAVD88. It is important to note that adjacent communities may be referenced to NGVD29. This may result in differences in Base Flood Elevations (BFEs) across the corporate limits between the communities. The average conversion factor that was used to convert the data in this FIS report to NAVD88 was calculated using the National Geodetic Survey's VERTCON online utility (Reference 21). The data points used to determine the conversion are listed in Table 4.

Quad Name	Corner	Corner Latitude Longitude		<b>Conversion</b>
			-	From NGVD 29 to
				<u>NAVD 88</u>
Hooker	NE	85.376	35.001	-0.075
Fort Oglethorpe	NE	85.251	35.001	-0.039
Hooker	SE	85.376	34.876	-0.016
Fort Oglethorpe	SE	85.251	34.876	-0.036
Durham	SW	85.502	34.751	-0.033
Durham	SE	85.376	34.751	-0.003
Kensington	SE	85.251	34.751	0.016
Nickjack Gap	SE	85.124	34.751	0.066
Cedar Grove	SW	85.501	34.626	0.138
Cedar Grove	SE	85.376	34.626	0.066
Estelle	SE	85.251	34.626	0.075
Catlett	SE	85.124	34.621	0.092
			AVERAGE	+0.02

Table 4 -	Vertical	Datum	Conv	ersion

For more information on NAVD88, see the FEMA publication entitled Converting the National Flood Insurance Program to the North American Vertical Datum of 1988 (FEMA, June 1992), or contact the Vertical Network Branch, National Geodetic Survey, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, Silver Spring, Maryland 20910 (Internet address http://www.ngs.noaa.gov).

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

#### 4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. Therefore, each FIS provides 1-percent-annual-chance (100-year) flood elevations and delineations of the 1- and 0.2-percent-annual-chance (500-year) floodplain boundaries and 1-percent-annual-chance floodway to assist communities in developing floodplain management measures. This information is presented on the FIRM and in many components of the FIS report, including Flood Profiles and the Floodway Data Table. Users should reference the data presented in the FIS report as well as additional information that may be available at the local map repository before making flood elevation and/or floodplain boundary determinations.

#### 4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percentannual-chance flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance flood is employed to indicate additional areas of flood risk in the community. For each stream studied by detailed methods that has not been redelineated, the 1- and 0.2-percent-annualchance floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:6,000, with a contour interval of 20 feet (Reference 22).

For the April 2, 1992, revision, a portion of Chattanooga Creek was redelineated using topographic maps at a scale of 1:24,000, with a contour interval of five meters (16.4 feet) (Reference 23).

The floodplain boundaries for the following streams were redelineated using digital topographic data with a contour interval of 2 feet (Reference 24): Andrews Street Tributary, Carden Avenue Tributary, Chattanooga Creek, Chattooga Creek, Chattooga Creek Tributary, Coke Oven Branch, Coke Oven Branch Tributary No. 1, Coke Oven Branch Tributary No. 3, Crawfish Creek, Crawfish Spring Branch, Dry Creek Tributary No. 4 West, North Dry Creek Tributary No. 1, South Dry

Creek Tributary No. 2, Spring Creek, Spring Creek Tributary No. 1, Spring Creek Tributary No. 2, Town Creek, Town Creek Tributary No. 1, Town Creek Tributary No. 2, Tributary to Chattanooga Creek, Unnamed Tributary to Unnamed Tributary to West Chickamauga Creek, Unnamed Tributary to West Chickamauga Creek, and Williams Street Tributary. The Lafayette Reservoir was redelineated using the Emergency Spillover Elevation provided by the City of Lafayette.

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

For the streams studied by approximate methods, only the 1-percent-annualchance floodplain boundary is shown on the FIRM (Exhibit 2).

#### 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 NFIP, 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 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this FIS report and on the FIRM 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 have been tabulated for selected cross sections (Table 5, "Floodway Data"). In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown.

BLE5	WALKEF AND INCOF	R COUNT	Y, GA AREAS		ANDREWS STREET TRIBUTARY						
ΔT	FEDERAL EMERGE		MENT AGENCY			FLOC	DWAY D	ATA			
	<sup>1</sup> Feet above confluence w	 <i>v</i> ith Tributary to	Chattanooga	Creek							
	В	1,003	40	50	2.2	698.1	698.1	698.6	0.5		
	TRIBUTARY A	792	115	905	0.1	697.6	697.6	698.5	0.9		
-	ANDREWS STREET			FEET)	SECOND)	(FEET NAVD)	(FEET NAVD)	(FEET NAVD)			
	CROSS SECTION	DISTANCE <sup>1</sup>		SECTION AREA (SOLIABE	MEAN VELOCITY (EEET PER		WITHOUT FLOODWAY	WITH FLOODWAY			
	FLOODING SOL	JRCE		FLOODWAY	,	1-PE	RCENT-ANNUA WATER SURFA	L-CHANCE-FLO	OD		

FLOODING SOL	JRCE		FLOODWAY		1-PE	RCENT-ANNUA	L-CHANCE-FLO	OD		
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)		
CARDEN AVENUE TRIBUTARY A B	1,108	30 20	65 15	3.1 7 2	658.4 665 9	656.8 <sup>2</sup> 665 9	657.8 665 9	1.0		
	1,7 12		10		000.0	000.0	000.0	0.0		
1=										
<sup>2</sup> Elevation computed with	nout considerat	ion of backwat	Creek er effects from	Chattanooga C	reek					
				FLOODWAY DATA						
	WALKER COUNTY, GA AND INCORPORATED AREAS			CARDEN AVENUE TRIBUTARY						

:LOOD DN	L-CHANCE-FLO CE ELEVATION		FLOODWAY		RCE	FLOODING SOU		
Y INCREASE )) (FEET)	WITH FLOODWAY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	REGULATORY (FEET NAVD)	MEAN VELOCITY (FEET PER SECOND)	SECTION AREA (SQUARE FEET)	WIDTH (FEET)	DISTANCE <sup>1</sup>	CROSS SECTION
								CHATTANOOGA CREEK
0.9	660.8	659.9 <sup>3</sup>	660.4	0.9	10,304	930/148 <sup>2</sup>	36,432	А
0.8	661.2	660.4 <sup>3</sup>	660.7	2.1	4,558	405/239 <sup>2</sup>	37,910	В
0.9	664.1	663.2 <sup>3</sup>	663.4	1.8	5,132	470	42,662	С
1.0	665.1	664.1 <sup>3</sup>	664.3	0.9	10,271	980	45,725	D
1.0	665.4	664.4 <sup>3</sup>	664.5	0.9	10,049	1,200	47,731	Е
0.9	666.6	665.7 <sup>3</sup>	665.8	1.0	8,315	1,200	51,850	F
0.9	668.1	667.2	667.2	1.0	8,303	1,200	55,229	G
0.9	670.5	669.6	669.6	5.4	1,578	195	57,182	Н
0.9	672.5	671.6	671.6	1.0	8,684	1,240	59,770	Ι
1.0	673.1	672.1	672.1	1.3	5,176	810	63,149	J
0.8	674.2	673.4	673.4	4.7	1,390	195	64,152	К
0.6	675.9	675.3	675.3	1.5	3,845	600	66,053	L
0.3	678.5	678.2	678.2	1.4	3,601	560	67,742	М
0.7	679.9	679.2	679.2	1.8	2,589	520	69,696	Ν
0.9	683.5	682.6	682.6	2.1	2,283	800	71,702	0
0.8	686.0	685.2	685.2	1.3	3,590	620	73,603	Р
0.0	690.4	690.4	690.4	8.6	534	70	74,712	Q
0.9	694.2	693.3	693.3	1.7	2,657	350	76,454	R
0.8	695.9	695.1	695.1	3.0	1,447	350	78,989	S
1.0	701.1	700.1	700.1	2.5	1,621	380	81,682	Т
	690.4 694.2 695.9 701.1	690.4 693.3 695.1 700.1	690.4 693.3 695.1 700.1	8.6 1.7 3.0 2.5	534 2,657 1,447 1,621	70 350 350 380	74,712 76,454 78,989 81,682	R S T

<sup>1</sup> Feet above mouth

TABLE

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<sup>2</sup> Total width/width within Walker County <sup>3</sup> Elevation computed without considering the effective joint probability determination

FEDERAL EMERGENCY MANAGEMENT AGENCY

# **FLOODWAY DATA**

WALKER COUNTY, GA AND INCORPORATED AREAS

## **CHATTANOOGA CREEK**

	FLOODING SOL	JRCE		FLOODWAY		1-PE	RCENT-ANNUA WATER SURFA	AL-CHANCE-FLC CE ELEVATION	OD		
	CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)		
	CHATTOOGA CREEK TRIBUTARY A B C D E	199 620 997 1,750 2,705	209 245 57 25 24	329 1,137 171 89 67	1.6 0.4 2.9 5.5 5.6	768.4 772.9 772.9 778.1 785.4	768.4 772.9 772.9 778.1 785.4	769.4 773.9 773.8 779.1 786.0	1.0 1.0 0.9 1.0 0.6		
	<sup>1</sup> Feet above confluence w	vith Chattooga	Creek								
TAE	FEDERAL EMERGE	NCY MANAGEN	MENT AGENCY		FLOODWAY DATA						
SLE 5	AND INCORPORATED AREAS				Cł	IATTOOG/	A CREEK	TRIBUTAF	RΥ		

FLOODING SOL	JRCE		FLOODWAY		1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION				
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)	
COKE OVEN BRANCH									
А	317	200	2,282	1.9	727.6	722.5 <sup>2</sup>	723.5	1.0	
В	2,851	205	2,264	1.8	727.6	724.8 <sup>2</sup>	725.7	0.9	
С	3,643	750	6,650	0.6	727.6	725.1 <sup>2</sup>	726.0	0.9	
D	6,758	240	1,445	2.1	733.3	733.3	733.3	0.0	
E	7,392	210	1,075	2.7	733.8	733.8	734.5	0.7	
F	8,606	282	1,220	2.3	737.7	737.7	738.4	0.7	
G	9,821	190	620	4.5	743.1	743.1	743.9	0.8	
Н	11,088	145	535	5.2	752.0	752.0	752.3	0.3	
Ι	11,352	232	850	3.2	754.4	754.4	755.3	0.9	
J	12,038	305	1,250	1.9	759.7	759.7	760.7	1.0	
K	12,989	95	430	5.4	764.9	764.9	765.3	0.4	
L	14,150	190	700	3.3	779.2	779.2	779.8	0.6	
Μ	15,101	160	600	3.6	786.0	786.0	787.0	1.0	
Ν	16,051	145	660	3.1	800.4	800.4	801.0	0.6	
0	16,790	130	400	5.1	809.9	809.9	809.9	0.0	
Р	17,846	140	520	3.1	822.6	822.6	823.0	0.4	
Q	18,322	70	370	4.3	829.7	829.7	830.7	1.0	
R	18,850	110	440	3.5	844.3	844.3	845.2	0.9	
S	19,378	95	250	6.2	850.1	850.1	850.3	0.2	
Т	20,222	60	390	3.9	869.1	869.1	869.7	0.6	
U	20,486	80	380	2.9	870.8	870.8	871.1	0.3	

<sup>1</sup> Feet above confluence with West Chickamauga Creek <sup>2</sup> Elevation computed without consideration of backwater effects from West Chickamauga Creek

FEDERAL EMERGENCY MANAGEMENT AGENCY

# **FLOODWAY DATA**

WALKER COUNTY, GA AND INCORPORATED AREAS

TABLE

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## **COKE OVEN BRANCH**

FLOODING SOU	IRCE		FLOODWAY		1-PE	RCENT-ANNUA WATER SURFA	L-CHANCE-FLO CE ELEVATION	OD		
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)		
COKE OVEN BRANCH TRIBUTARY NO. 1										
A	1.584	170	550	2.0	727.8	721.1 <sup>2</sup>	722.0	0.9		
В	3,062	120	580	1.8	727.8	726.3 <sup>2</sup>	727.0	0.7		
С	4,488	100	640	1.6	734.0	734.0	735.0	1.0		
D	5,280	170	930	1.1	742.4	742.4	743.3	0.9		
E	5,438	170	890	1.1	742.7	742.7	743.5	0.8		
F	6,547	40	120	8.3	753.2	753.2	753.2	0.0		
1										
<sup>2</sup> Elevation computed with	vith Coke Over out considerati	Branch on of backwat	er effects from	Coke Oven Bra	anch					
FEDERAL EMERGE	NCY MANAGEN			FLOODWAY DATA						
AND INCOR	PORATED	AREAS		COKE	OVEN BR	ANCH TR	IBUTARY	NO. 1		

ſ	FLOODING SOU	IRCE		FLOODWAY		1-PE	RCENT-ANNUA	L-CHANCE-FLO	OD		
	CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)		
	COKE OVEN BRANCH TRIBUTARY NO. 2 A	422	80	185	2.2	744.2	744.2	745.2	1.0		
	COKE OVEN BRANCH TRIBUTARY NO. 3 A	686	60	150	1.5	756.5	756.5	757.5	1.0		
L	<sup>1</sup> Feet above confluence w	ith Coke Oven	Branch								
TΔ					FLOODWAY DATA						
BIF 4	AND INCOR		I, GA AREAS		COKE OVEN BRANCH TRIBUTARY NO. 2 – COKE OVEN BRANCH TRIBUTARY NO. 3						

FLOODING SOU	JRCE	FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
CRAWFISH CREEK								
А	792	75	440	7.3	732.4	725.3 <sup>2</sup>	726.0	0.7
В	3,168	110	700	4.4	736.0	736.0	737.0	1.0
С	6,072	260	1,160	2.5	745.8	745.8	746.8	1.0
D	9,504	145	860	3.2	757.2	757.2	757.9	0.7
E	12,830	200	1,040	2.5	766.5	766.5	767.3	0.8
F	15,998	150	850	2.8	775.7	775.7	776.6	0.9
G	17,001	50	240	10.0	778.2	778.2	778.2	0.0
Feet above confluence	with West Chick	kamauga Cree						

FEDERAL EMERGENCY MANAGEMENT AGENCY

# **FLOODWAY DATA**

WALKER COUNTY, GA AND INCORPORATED AREAS

TABLE

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# **CRAWFISH CREEK**

	FLOODING SOL	JRCE		FLOODWAY	,	1-PE	RCENT-ANNUA WATER SURFA	L-CHANCE-FLO CE ELEVATION	OD	
	CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)	
	CRAWFISH SPRING BRANCH									
	А	317	260	1,330	0.9	727.6	718.0 <sup>2</sup>	719.0	1.0	
	В	2,059	230	1,025	1.1	727.6	718.3 <sup>2</sup>	719.2	0.9	
	С	3,432	135	1,155	0.8	727.6	718.4 <sup>2</sup>	719.3	0.9	
	D	4,752	270	2,460	0.2	727.6	718.4 <sup>2</sup>	719.3	0.9	
	E	5,544	70	395	0.5	727.6	718.4 <sup>2</sup>	719.3	0.9	
1	Feet above confluence w Elevation computed with	<i>i</i> ith Coke Oven out considerati	Branch on of backwate	er effects from	West Chickama	auga Creek				
ιT	FEDERAL EMERGE	NCY MANAGEN	MENT AGENCY		FLOODWAY DATA					
	WALKER COUNTY, GA AND INCORPORATED AREAS				CRAWFISH SPRING BRANCH					

FLOODING SOL	JRCE		FLOODWAY		1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
DRY CREEK								
А	475	600	2,200	1.7	659.6	652.3 <sup>3</sup>	653.3	1.0
В	1,584	600	1,920	1.9	659.6	654.1 <sup>3</sup>	655.0	0.9
С	2,270	500	2,740	1.1	659.6	659.1 <sup>3</sup>	659.4	0.3
D	3,379	650	1,215	2.4	659.6	659.5 <sup>3</sup>	660.0	0.5
Е	4,224	730	1,440	1.6	661.9	661.9	662.2	0.3
F	5,386	680	2,335	1.0	670.2	670.2	670.7	0.5
G	6,125	780	3,475	0.7	670.4	970.4	670.9	0.5
Н	6,494	1,050	2,850	0.8	670.6	670.6	671.1	0.5
I	6,970	150	325	6.5	671.5	671.5	671.8	0.3
J	7,762	110	470	4.0	675.4	675.4	675.7	0.3
К	8,184	150	620	3.0	678.3	678.3	679.3	1.0
L	10,032	36	180	9.9	683.7	683.7	684.5	0.8
Μ	12,250	50	310	5.0	696.3	696.3	696.5	0.2
Ν	14,731	40	140	9.1	704.7	704.7	705.2	0.5
0	17,213	150	330	3.4	718.8	718.8	719.8	1.0
Р	17,635	90	350	3.1	720.3	720.3	721.3	1.0
Q	18,691	40	115	8.9	724.3	724.3	724.4	0.1
R	20,486	50	185	4.0	737.6	737.6	738.5	0.9

TABLE

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<sup>1</sup> Feet above confluence with Chattanooga Creek <sup>2</sup> Elevation computed without consideration of backwater effects from Chattanooga Creek

FEDERAL EMERGENCY MANAGEMENT AGENCY

# **FLOODWAY DATA**

WALKER COUNTY, GA AND INCORPORATED AREAS

# **DRY CREEK**

Γ		IBCE				1-PE	RCENT-ANNUA	L-CHANCE-FLO	OD			
	T LOODING SOC	MOL		LOODWAT			WATER SURFA	CE ELEVATION				
	CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)			
	DRY CREEK NO. 2 A	10,706	220	*	*	805.4	805.4	806.4	1.0			
	Data not available		<b>x</b>									
+	FEDERAL EMERGE					FLOODWAY DATA						
	WALKER COUNTY, GA AND INCORPORATED AREAS				DRY CREEK NO. 2							

			Y, GA	GA FLOODWAY DATA					
	<sup>1</sup> Feet above confluence v	with Chattanoo	ga Creek						
L									
	C	4,541	40	430	1.9	707.0	707.0	707.7	0.8
	A	1,320	100	540	1.6	686.3	686.3	686.7	0.4
	CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	AREA (SQUARE FEET)	VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
	FLOODING SOL	JRCE		FLOODWAY	MEAN		WATER SURFA	CE ELEVATION	

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FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD				
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)	
NORTH DRY CREEK TRIBUTARY NO. 1 A B C D E	264 581 950 1,267 1,584	70 45 35 50 30	100 155 120 210 60	3.7 2.4 3.1 1.7 6.1	663.7 670.4 675.3 676.0 678.1	663.7 670.4 675.3 676.0 678.1	664.7 671.3 675.8 676.7 678.2	1.0 0.9 0.5 0.7 0.1	
<sup>1</sup> Feet above confluence with Dry Creek Tributary No. 4 West FEDERAL EMERGENCY MANAGEMENT AGENCY WALKER COUNTY, GA AND INCORPORATED AREAS				NOR	FLOC	DWAY D	OATA BUTARY N	IO. 1	

	FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SUBFACE FLEVATION					
CF	ROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)		
SOL TR	JTH DRY CREEK NBUTARY NO. 2 A B C	634 1,478 2 270	60 50 40	230 25 160	1.9 11.8 1.4	671.1 676.2 688.6	671.1 676.2 688.6	671.9 676.2 689.2	0.8 0.0 0.6		
	D	2,587	20	15	7.6	690.3	690.3	690.3	0.0		
<sup>1</sup> Feet	above confluence w	rith Drv Creek	Tributary No. 4	West							
					FLOODWAY DATA						
בי ח ח	AND INCORPORATED AREAS				SOUTH DRY CREEK TRIBUTARY NO. 2						

AND INCORPORATED AREAS				SPRING CREEK						
				FLOODWAY DATA						
Feet above confluence w	ith Chattooga (	Creek	I	1						
0	13,863	19	38	8.1	838.4	838.4	838.4	0.0		
N	13,445	22	44	7.9	835.2	835.2	835.2	0.0		
Μ	12,403	27	98	4.5	824.1	824.1	824.7	0.6		
L	10,303	24	66	9.5	809.4	809.4	809.4	0.0		
К	8,541	166	784	1.0	801.1	801.1	802.1	1.0		
J	8,369	26	80	10.0	797.5	797.5	797.5	0.0		
I	5,356	115	677	1.8	790.6	790.6	791.6	1.0		
Н	4,805	107	354	3.6	788.3	788.3	789.3	1.0		
G	4,455	69	256	5.4	786.5	786.5	787.5	1.0		
F	4,351	45	192	7.3	785.7	785.7	786.2	0.5		
Е	3,289	37	291	4.8	783.0	783.0	783.0	0.0		
D	2,969	99	549	2.9	781.5	781.5	782.2	0.7		
С	1,794	134	773	2.0	777.8	777.8	778.8	1.0		
В	1,606	82	403	4.4	774.2	774.2	775.0	0.8		
A	500	78	524	3.4	772.6	772.6	773.6	1.0		
		(1 221)	FEET)	SECOND)		(FEET NAVD)	(FEET NAVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SOLIABE	MEAN VELOCITY (FEET PEB		WITHOUT FLOODWAY	WITH FLOODWAY			
FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION					
AND INCOP	PORATED	r, GA AREAS		SP	RING CRE	EK TRIBU	JTARY NO	. 1		
---------------------------------	-----------------------	-----------------	-------------------------------------	--	---------------------------	------------------------------------	---------------------------------	--------------------		
			,		FLOC	DWAY D	ΑΤΑ			
Feet above confluence w	rith Spring Cree	ek								
I	3,870	0	33	7.1	814.8	814.8	815.8	1.0		
Н	3,290	11	46	6.1	806.4	806.4	807.4	1.0		
G	2,475 2,985	56	224	1.3	803.2	793.∠ 803.2	804.2	1.0		
E	2,035	2/ 17	98	4.2	790.1	790.1	/91.1	1.0		
D	1,668	49	162	2.9	786.0	786.0	787.0	1.0		
С	1,340	14	70	6.7	782.8	782.8	783.8	1.0		
В	960	50	154	3.0	778.3	778.3	779.2	0.9		
Α	597	171	214	2.2	774.8	774.8	775.8	1.0		
SPRING CREEK TRIBUTARY NO. 1										
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASI (FEET)		
FLOODING SOL	IRCE		FLOODWAY	,	1-PE	RCENT-ANNUA WATER SURFA	AL-CHANCE-FLC CE ELEVATION	OD		

	FLOODING SOL	JRCE		FLOODWAY	,	1-PE	RCENT-ANNUA WATER SURFA	L-CHANCE-FLC CE ELEVATION	OD		
-	CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)		
	SPRING CREEK TRIBUTARY NO. 2 A B	383 1,111	5 88	26 207	11.3 1.4	791.9 797.4	791.9 797.4	791.9 798.4	0.0 1.0		
	C D	1,241 1,641	133 47	233 64	1.1 3.9	798.7 800.3	798.7 800.3	799.7 800.3	1.0 0.0		
	<sup>1</sup> Feet above confluence v	vith Spring Cree	ek								
	FEDERAL EMERGE	ENCY MANAGEN	MENT AGENCY		FLOODWAY DATA						
	AND INCOF	PORATED	AREAS		SP	RING CRE	EK TRIBU		. 2		

ſ	FLOODING SOL	JRCE		FLOODWAY	,	1-PE	RCENT-ANNUA		OD		
-	CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)		
-	TOWN CREEK			,	,						
	А	2,826	112	348	3.8	776.0	776.0	777.0	1.0		
	В	5,765	242	898	1.5	779.9	779.9	780.9	1.0		
	С	6,102	205	707	1.9	780.4	780.4	781.4	1.0		
	D	7,147	38	244	5.4	781.9	781.9	782.8	0.9		
	E	10.117	119	430	2.1	787.4	787.4	788.4	1.0		
	F	11.697	36	212	4.3	789.5	789.5	790.4	0.9		
	G	13,967	36	214	4.2	794.6	794.6	795.6	1.0		
	<sup>1</sup> Feet above confluence v	vith Chattooga (	Creek								
TΔF					FLOODWAY DATA						
ק ד ק	AND INCORPORATED AREAS				TOWN CREEK						

	FLOODING SOL	JRCE		FLOODWAY	/	1-PE			OD		
-	CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WATER SURFA WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)		
	TOWN CREEK TRIBUTARY NO. 1 A B	1,325 2,478	21 39	49 130	4.3 0.6	790.9 812.6	790.9 812.6	791.9 813.6	1.0 1.0		
	<sup>1</sup> Feet above confluence with Town Creek										
T NE					FLOODWAY DATA						
ת ח		PORATED	AREAS		Т	OWN CREE	EK TRIBU	FARY NO.	1		

	FLOODING SOL	JRCE		FLOODW	AY	1-PE	ERCENT-ANNUA WATER SURFA	AL-CHANCE-FLC CE ELEVATION	OD
	CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARI FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
	TOWN CREEK TRIBUTARY NO. 2								
	A B C D	805 968 1,111 2,392	36 25 25 20	99 126 75 42	6.7 5.3 8.9 8.2	789.6 791.2 792.4 800.3	789.6 791.2 792.4 800.3	790.6 792.2 792.6 800.3	1.0 1.0 0.2 0.0
	F	4,322 4,439	93	510	0.7	814.9 817.7	814.9 817.7	818.7	1.0
-	Feet above confluence w	vith Town Creel	<						
						FLOC	DWAY D	ΑΤΑ	
? 1 1	AND INCOP	PORATED	T, GA AREAS		T	OWN CREE	EK TRIBU	TARY NO.	2

	FLOODING SOL	JRCE		FLOODWAY		1-PE	RCENT-ANNUA WATER SURFA	L-CHANCE-FLO CE ELEVATION	OD		
	CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)		
	TRIBUTARY TO CHATTANOOGA CREEK										
	А	2,112	130	690	2.3	659.0	659.0	659.8	0.8		
	В	2,640	150	505	3.1	663.6	663.6	664.5	0.9		
	C	3,696	130	495	2.4	669.6	669.6	670.5	0.9		
	D	4,118	30	100	11.6	673.6	673.6	673.6	0.0		
	E	4,699	100	365	3.1	685.0	685.0	685.1	0.1		
	F	4,805	300	540	2.1	685.0	685.0	685.5	0.5		
	G	6,653	180	340	2.3	715.8	715.8	716.4	0.6		
1	Feet above confluence w	vith Chattanoog	a Creek								
T	FEDERAL EMERGENCY MANAGEMENT AGENCY										
	WALKEF AND INCOF	R COUNT	Y, GA AREAS		TRIBUTARY TO CHATTANOOGA CREEK						

C

FLOODING SOL	IRCE		FLOODWA	Y	1-PE	RCENT-ANNUA WATER SURFA	L-CHANCE-FLO CE ELEVATION	OD
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
UNNAMED TRIBUTARY TO UNNAMED TRIBUTARY TO WEST CHICKAMAUGA CREEK A B C D	12,672 14,045 15,418 17,213	40 110 190 237	280 450 480 480	5.4 3.2 2.8 2.6	794.8 802.1 813.0 829.1	794.8 802.1 813.0 829.1	795.7 803.1 813.8 830.0	0.9 1.0 0.8 0.9
FEDERAL EMERGE	NCY MANAGEN	IENT AGENCY			FLOC	DWAY D	ΑΤΑ	
WALKEF AND INCOF	WALKER COUNTY, GA AND INCORPORATED AREAS				RIBUTARY WEST CHIC	( TO UNN CKAMAUG	AMED TRI GA CREEK	BUTARY T

C

	FLOODING SOL	IRCE		FLOODWAY	,	1-PE	ERCENT-ANNUA WATER SURFA	L-CHANCE-FLC	OD		
	CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)		
	UNNAMED TRIBUTARY TO WEST CHICKAMAUGA CREEK A B C D E F G H	8,870 10,560 11,405 12,355 12,672 13,939 14,942 16,157	100 250 40 100 170 80 37 40	355 960 105 690 570 350 105 120	3.1 1.1 9.3 1.4 1.7 2.5 8.0 6.4	725.5 734.5 740.7 749.7 750.3 766.1 772.0 787.9	725.5 734.5 740.7 749.7 750.3 766.1 772.0 787.9	726.4 735.5 740.7 750.7 751.2 766.8 772.0 788.5	0.9 1.0 0.0 1.0 0.9 0.7 0.0 0.6		
AL	FEDERAL EMERGE				FLOODWAY DATA						
BLE 5	WALKEF AND INCOF		Y, GA AREAS		N N	UNNAME WEST CHIC	D TRIBUT CKAMAUC	ARY TO	<u> </u>		

WALKEF AND INCOR	COUNT PORATED	Y, GA AREAS		WEST CHICKAMAUGA CREEK						
FEDERAL EMERGE	NCY MANAGEM	IENT AGENCY		FLOODWAY DATA						
<sup>1</sup> Feet above mouth <sup>2</sup> Portion of this stream alo	ng cross sectio	n is outside o	f county bound	lary				<u> </u>		
L	131,261	450	3,815	4.8	732.8	732.8	733.3	0.5		
K	128,885	450	5,225	3.6	732.2	732.2	732.7	0.5		
J	125,770	300	4,570	4.2	731.2	731.2	731.5	0.3		
I	124,819	400	5,180	3.8	730.9	730.9	731.2	0.3		
H	122.074	150	2.575	7.7	728.9	728.9	729.2	0.3		
G	119 170	270	3,075	6.1	726.4	726.4	726.4	0.7		
F	114,946	495	5,430 3,875	3.9 5 4	720.3	720.3	721.1	0.8		
E	113,414	710 580 <sup>2</sup>	5,505	3.8	/19.6	719.6	720.4	0.8		
C	109,402	650 710	4,765	3.4	716.5	716.5	717.3	0.8		
В	108,874	690	6,285	3.3	716.5	716.5	717.3	0.8		
A	106,022	590 <sup>2</sup>	6,415	3.3	716.0	716.0	717.0	1.0		
WEST CHICKAMAUGA										
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)		
FLOODING SOU	RCE		FLOODWAY			WATER SURFA	CE ELEVATION			

	WALKEF AND INCOR		Y, GA AREAS		FLOODWAY DATA							
Έ				er effects from	Tributary to Ch	attanooga Creek						
<sup>1</sup> F	eet above confluence w	ith Tributary to	Chattanooga	Creek		<u>                                     </u>						
	L	4,699	20	25	5.4	/44.5	/44.5	/44.5	0.0			
	K	4,330	90	50	3.3	724.0	724.0	724.9	0.9			
	J	3,379	50	280	0.9	704.8	704.8	704.8	0.0			
	I	3,326	70	130	2.0	697.5	697.5	697.5	0.0			
	Н	3,115	40	115	2.4	694.3	694.3	695.2	0.9			
	G	2,534	50	190	1.7	684.8	684.8	685.8	1.0			
	F	1,742	80	120	3.4	675.3	675.3	676.0	0.5			
	E	1,207 1,426	100	170	2.9	671.5	671.3 671.5	672.4	0.3 N Q			
		898	90 150	200 160	2.0 2.0	669.7	669.7 671.2	670.3 671.6	0.6			
	В	686	100	145	3.9	668.9	668.2 <sup>2</sup>	668.4	0.2			
	A	158	90	215	3.0	668.9	666.3 <sup>2</sup>	667.1	0.8			
	WILLIAMS STREET TRIBUTARY						2					
	CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)			
		IIOL		TLOODWAT			WATER SURFA	CE ELEVATION				

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 WSEL of the 1-percent-annual-chance flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 2.



Figure 2 - Floodway Schematic

### 5.0 **INSURANCE APPLICATIONS**

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

Zone A

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

#### Zone AE

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

Zone X

Zone X is the flood insurance risk zone that corresponds to areas outside the 0.2-percentannual-chance floodplain, areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by levees. No BFEs or base flood 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 risk zones as described in Section 5.0 and, in the 1-percent-annual-chance floodplains that were studied by detailed methods, shows selected whole-foot BFEs or average depths. Insurance agents use the zones and BFEs in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

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

The countywide FIRM presents flooding information for the entire geographic area of Walker County. Previously, FIRMs were prepared for each incorporated community and the unincorporated areas of the County identified as flood-prone. This countywide FIRM also includes flood-hazard information that was presented separately on Flood Boundary and Floodway Maps, where applicable. Historical data relating to the maps prepared for each community are presented in Table 6, "Community Map History".

### 7.0 OTHER STUDIES

This report either supersedes or is compatible with all previous studies on streams studied in this report and should be considered authoritative for purposes of the NFIP.

TABLE	FEDERAL EMERGENCY MAN WALKER COU AND INCORPORAT	AGEMENT AGENCY NTY, GA FED AREAS	COMMUNITY MAP HISTORY					
					September 5, 2007			
	Walker County (Unincorporated Areas)	March 3, 1978	None	September 28, 1979	October 8, 1982 April 2, 1992 September 5, 2007			
	Rossville, City of	March 22, 1974	July 23, 1976	September 28, 1979	September 5, 2007			
	Lookout Mountain. City of	September 10, 1976	None	September 10, 1976	September 5, 2007			
	Lafayette, City of	May 17, 1974	August 22, 1975	February 15, 1978	March 1, 1984			
	Chickamauga, City of	March 22, 1974	April 30, 1976	September 5, 1979	March 18, 1983 September 5, 2007			
	COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISION DATE	FIRM EFFECTIVE DATE	FIRM REVISION DATE			

# 8.0 LOCATION OF DATA

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

## 9.0 <u>BIBLIOGRAPHY AND REFERENCES</u>

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