

FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 2



MACON- BIBB COUNTY, GEORGIA (ALL JURISDICTIONS)

COMMUNITY NAME	COMMUNITY NUMBER
MACON- BIBB COUNTY	130680



FEMA

PRELIMINARY

JUNE 30 2015

REVISED:

Month Day, Year

FLOOD INSURANCE STUDY NUMBER
13021CV001B

Version Number 2.3.3.2

TABLE OF CONTENTS

Volume 1

	<u>Page</u>
SECTION 1.0 – INTRODUCTION	1
1.1 The National Flood Insurance Program	1
1.2 Purpose of this Flood Insurance Study Report	2
1.3 Jurisdictions Included in the Flood Insurance Study Project	2
1.4 Considerations for using this Flood Insurance Study Report	5
SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS	15
2.1 Floodplain Boundaries	15
2.2 Floodways	16
2.3 Base Flood Elevations	24
2.4 Non-Encroachment Zones	24
2.5 Coastal Flood Hazard Areas	24
2.5.1 Water Elevations and the Effects of Waves	24
2.5.2 Floodplain Boundaries and BFEs for Coastal Areas	25
2.5.3 Coastal High Hazard Areas	25
2.5.4 Limit of Moderate Wave Action	25
SECTION 3.0 – INSURANCE APPLICATIONS	25
3.1 National Flood Insurance Program Insurance Zones	25
3.2 Coastal Barrier Resources System	25
SECTION 4.0 – AREA STUDIED	26
4.1 Basin Description	26
4.2 Principal Flood Problems	26
4.3 Non-Levee Flood Protection Measures	30
4.4 Levees	30
SECTION 5.0 – ENGINEERING METHODS	33
5.1 Hydrologic Analyses	33
5.2 Hydraulic Analyses	47
5.3 Coastal Analyses	55
5.3.1 Total Stillwater Elevations	55
5.3.2 Waves	55
5.3.3 Coastal Erosion	55
5.3.4 Wave Hazard Analyses	55
5.4 Alluvial Fan Analyses	55
SECTION 6.0 – MAPPING METHODS	56
6.1 Vertical and Horizontal Control	56
6.2 Base Map	56
6.3 Floodplain and Floodway Delineation	57
6.4 Coastal Flood Hazard Mapping	91
6.5 FIRM Revisions	91

6.5.1	Letters of Map Amendment	91
6.5.2	Letters of Map Revision Based on Fill	91
6.5.3	Letters of Map Revision	92
6.5.4	Physical Map Revisions	92
6.5.5	Contracted Restudies	93
6.5.6	Community Map History	93
SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION		94
7.1	Contracted Studies	94
7.2	Community Meetings	96
SECTION 8.0 – ADDITIONAL INFORMATION		98
SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES		99

Figures

	<u>Page</u>
Figure 1: FIRM Panel Index	7
Figure 2: FIRM Notes to Users	8
Figure 3: Map Legend for FIRM	11
Figure 4: Floodway Schematic	17
Figure 5: Wave Runup Transect Schematic	24
Figure 6: Coastal Transect Schematic	25
Figure 7: Frequency Discharge-Drainage Area Curves	46
Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas	55
Figure 9: Transect Location Map	55

Tables

	<u>Page</u>
Table 1: Listing of NFIP Jurisdictions	2
Table 2: Flooding Sources Included in this FIS Report	18
Table 3: Flood Zone Designations by Community	25
Table 4: Coastal Barrier Resources System Information	26
Table 5: Basin Characteristics	26
Table 6: Principal Flood Problems	26
Table 7: Historic Flooding Elevations	28
Table 8: Non-Levee Flood Protection Measures	30
Table 9: Levees	32
Table 10: Summary of Discharges	34
Table 11: Summary of Non-Coastal Stillwater Elevations	46
Table 12: Stream Gage Information used to Determine Discharges	47
Table 13: Summary of Hydrologic and Hydraulic Analyses	48
Table 14: Roughness Coefficients	54
Table 15: Summary of Coastal Analyses	55

Table 16: Tide Gage Analysis Specifics	55
Table 17: Coastal Transect Parameters	55
Table 18: Summary of Alluvial Fan Analyses	55
Table 19: Results of Alluvial Fan Analyses	55
Table 20: Countywide Vertical Datum Conversion	56
Table 21: Stream-by-Stream Vertical Datum Conversion	56
Table 22: Base Map Sources	57
Table 23: Summary of Topographic Elevation Data used in Mapping	58
Table 24: Floodway Data	59
Table 25: Flood Hazard and Non-Encroachment Data for Selected Streams	91
Table 26: Summary of Coastal Transect Mapping Considerations	91
Table 27: Incorporated Letters of Map Change	92
Table 28: Community Map History	94
Table 29: Summary of Contracted Studies Included in this FIS Report	94
Table 30: Community Meetings	97
Table 31: Map Repositories	98
Table 32: Additional Information	99
Table 33: Bibliography and References	100

Volume 2
Exhibits

Flood Profiles	<u>Panel</u>
Beaverdam Creek	01-02 P
Beaverdam Creek Tributary 2	03 P
Boggy Branch	04-06 P
Colaparchee Creek	07-08 P
Donnan Branch	09 P
Dry Bone Creek	10 P
Echeconnee Creek	11-17 P
Echeconnee Creek Tributary No. 1	18-20 P
Echeconnee Creek Tributary No. 1A	21 P
Hall Branch	22 P
Lake Tobesofkee Tributary	23-24 P
Langford Creek	25-26 P
Ocmulgee River (Riverward of Levee)	27-36 P
Ocmulgee River (Landward of Levee)	29A-31A P
Rocky Creek	37-51 P
Rocky Creek Tributary 2	52-53 P
Savage Creek	54-57 P
Savage Creek Tributary No. 1	58 P
Savage Creek Tributary No. 2	59 P
Savage Creek Tributary No. 3	60 P
Savage Creek Tributary No. 4	61 P
Savage Creek Tributary No. 5	62-63 P

Flood Profiles continued

	<u>Panel</u>
Stone Creek	64-66 P
Swift Creek	67-72 P
Tobesofkee Creek	73-76 P
Tobesofkee Creek Tributary No. 1	77-79 P
Walnut Creek	80-85 P
Wolf Creek	86-90 P

Published Separately

Flood Insurance Rate Map (FIRM)

FLOOD INSURANCE STUDY REPORT BIBB COUNTY, GEORGIA

SECTION 1.0 – INTRODUCTION

1.1 The National Flood Insurance Program

The National Flood Insurance Program (NFIP) is a voluntary Federal program that enables property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods.

For decades, the national response to flood disasters was generally limited to constructing flood-control works such as dams, levees, sea-walls, and the like, and providing disaster relief to flood victims. This approach did not reduce losses nor did it discourage unwise development. In some instances, it may have actually encouraged additional development. To compound the problem, the public generally could not buy flood coverage from insurance companies, and building techniques to reduce flood damage were often overlooked.

In the face of mounting flood losses and escalating costs of disaster relief to the general taxpayers, the U.S. Congress created the NFIP. The intent was to reduce future flood damage through community floodplain management ordinances, and provide protection for property owners against potential losses through an insurance mechanism that requires a premium to be paid for the protection.

The U.S. Congress established the NFIP on August 1, 1968, with the passage of the National Flood Insurance Act of 1968. The NFIP was broadened and modified with the passage of the Flood Disaster Protection Act of 1973 and other legislative measures. It was further modified by the National Flood Insurance Reform Act of 1994 and the Flood Insurance Reform Act of 2004. The NFIP is administered by the Federal Emergency Management Agency (FEMA), which is a component of the Department of Homeland Security (DHS).

Participation in the NFIP is based on an agreement between local communities and the Federal Government. If a community adopts and enforces floodplain management regulations to reduce future flood risks to new construction and substantially improved structures in Special Flood Hazard Areas (SFHAs), the Federal Government will make flood insurance available within the community as a financial protection against flood losses. The community's floodplain management regulations must meet or exceed criteria established in accordance with Title 44 Code of Federal Regulations (CFR) Part 60.3, *Criteria for land Management and Use*.

SFHAs are delineated on the community's Flood Insurance Rate Maps (FIRMs). Under the NFIP, buildings that were built before the flood hazard was identified on the community's FIRMs are generally referred to as "Pre-FIRM" buildings. When the NFIP was created, the U.S. Congress recognized that insurance for Pre-FIRM buildings would be prohibitively expensive if the premiums were not subsidized by the Federal Government. Congress also recognized that most of these floodprone buildings were built by individuals who did not have sufficient knowledge of the flood hazard to make informed decisions. The NFIP requires that full actuarial rates reflecting the complete flood risk be charged on all buildings constructed or substantially improved on or after

the effective date of the initial FIRM for the community or after December 31, 1974, whichever is later. These buildings are generally referred to as “Post-FIRM” buildings.

1.2 Purpose of this Flood Insurance Study Report

This Flood Insurance Study (FIS) report revises and updates information on the existence and severity of flood hazards for the study area. The studies described in this report developed flood hazard data that will be used to establish actuarial flood insurance rates and to assist communities in efforts to implement sound floodplain management.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive than the minimum Federal requirements. Contact your State NFIP Coordinator to ensure that any higher State standards are included in the community’s regulations.

1.3 Jurisdictions Included in the Flood Insurance Study Project

This FIS Report covers the entire geographic area of Macon - Bibb County, Georgia.

The jurisdictions that are included in this project area, along with the Community Identification Number (CID) for each community and the 8-digit Hydrologic Unit Codes (HUC-8) sub-basins affecting each, are shown in Table 1. The Flood Insurance Rate Map (FIRM) panel numbers that affect each community are listed. If the flood hazard data for the community is not included in this FIS Report, the location of that data is identified.

The location of flood hazard data for participating communities in multiple jurisdictions is also indicated in the table.

Jurisdictions that have no identified SFHAs as of the effective date of this study are indicated in the table. Changed conditions in these communities (such as urbanization or annexation) or the availability of new scientific or technical data about flood hazards could make it necessary to determine SFHAs in these jurisdictions in the future.

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Macon-Bibb County	130680	03070103	13021C0015G 13021C0020G 13021C0030G 13021C0038G 13021C0039G 13021C0040G 13021C0043G 13021C0044G	

Table 1: Listing of NFIP Jurisdictions continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Macon-Bibb County	130680	03070103	13021C0045G 13021C0063G 13021C0064G 13021C0075G ¹ 13021C0085G 13021C0095G 13021C0105G 13021C0110G 13021C0115G 13021C0120G 13021C0126G 13021C0127G 13021C0128G 13021C0129G 13021C0131G 13021C0132G 13021C0133G 13021C0134G 13021C0136G 13021C0137G 13021C0138G 13021C0139G 13021C0141G 13021C0142G 13021C0143G 13021C0144G 13021C0151G 13021C0152G 13021C0153G 13021C0154G 13021C0156G 13021C0160G 13021C0163G 13021C0165G 13021C0170G 13021C0180G 13021C0190G 13021C0205G	

Table 1: Listing of NFIP Jurisdictions continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Macon-Bibb County	130680	03070103	13021C0210G 13021C0230G 13021C0235G 13021C0240G 13021C0245G 13021C0255G 13021C0265G	

¹Panel Not Printed

1.4 Considerations for using this Flood Insurance Study Report

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

This section presents important considerations for using the information contained in this FIS Report and the FIRM, including changes in format and content. Figures 1, 2, and 3 present information that applies to using the FIRM with the FIS Report.

- Part or all of this FIS Report may be revised and republished at any time. In addition, part of this FIS Report may be revised by a Letter of Map Revision (LOMR), which does not involve republication or redistribution of the FIS Report. Refer to Section 6.5 of this FIS Report for information about the process to revise the FIS Report and/or FIRM.

It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 31, "Map Repositories," within this FIS Report.

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

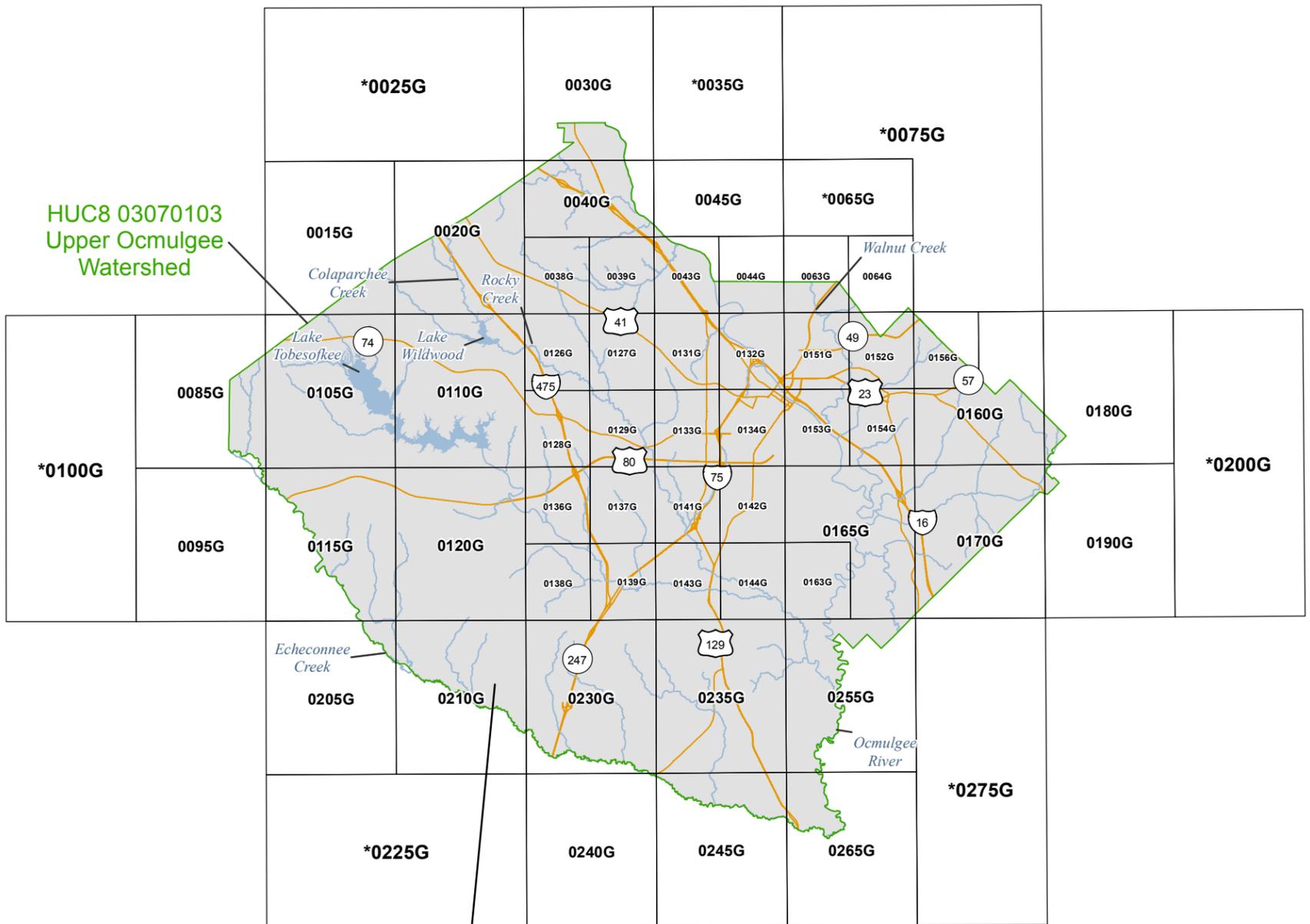
The initial Countywide FIS Report for Bibb County became effective on April 2, 2007. Refer to Table 28 for information about subsequent revisions to the FIRMs.

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

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

- Previous FIS Reports and FIRMs may have included levees that were accredited as reducing the risk associated with the 1% annual chance flood based on the information available and the mapping standards of the NFIP at that time. For FEMA to continue to accredit the identified levees, the levees must meet the criteria of the Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10), titled “Mapping of Areas Protected by Levee Systems.”
- Since the status of levees is subject to change at any time, the user should contact the appropriate agency for the latest information regarding levees presented in Table 9 of this FIS Report. For levees owned or operated by the U.S. Army Corps of Engineers (USACE), information may be obtained from the USACE national levee database. For all other levees, the user is encouraged to contact the appropriate local community.
- FEMA has developed a *Guide to Flood Maps* (FEMA 258) and online tutorials to assist users in accessing the information contained on the FIRM. These include how to read panels and step-by-step instructions to obtain specific information. To obtain this guide and other assistance in using the FIRM, visit the FEMA Web site at <http://www.fema.gov>.

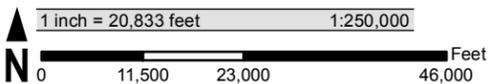
Figure 1: FIRM Panel Index



HUC8 03070103
Upper Ocmulgee
Watershed

**MACON - BIBB COUNTY
(ALL JURISDICTIONS)
130680**

ATTENTION: The corporate limits shown on this FIRM Index are based on the best information available at the time of publication. As such, they may be more current than those shown on FIRM panels issued before MONTH DAY, YEAR.



Map Projection:
Georgia State Plane Zone 1002;
North American Datum 1983

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTP://MSC.FEMA.GOV](http://MSC.FEMA.GOV)

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

*PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS



**NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP INDEX**

MACON - BIBB COUNTY, GEORGIA All Jurisdictions

PANELS PRINTED:

0015, 0020, 0030, 0038, 0039, 0040, 0043, 0044, 0045, 0063, 0064, 0085, 0095, 0105, 0110, 0115, 0120, 0126, 0127, 0128, 0129, 0131, 0132, 0134, 0136, 0137, 0138, 0139, 0141, 0142, 0143, 0144, 0151, 0152, 0153, 0154, 0156, 0160, 0163, 0165, 0170, 0180, 0190, 0205, 0210, 0230, 0235, 0240, 0245, 0255, 0265



FEMA

MAP NUMBER
13021CIND08

MAP REVISED

Figure 2: FIRM Notes to Users

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates, refer to Table 28 in this FIS Report.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

PRELIMINARY FIS REPORT: FEMA maintains information about map features, such as street locations and names, in or near designated flood hazard areas. Requests to revise information in or near designated flood hazard areas may be provided to FEMA during the community review period, at the final Consultation Coordination Officer's meeting, or during the statutory 90-day appeal period. Approved requests for changes will be shown on the final printed FIRM.

The map is for use in administering the NFIP. It may not identify all areas subject to flooding, particularly from local drainage sources of small size. Consult the community map repository to find updated or additional flood hazard information.

BASE FLOOD ELEVATIONS: For more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables within this FIS Report. Use the flood elevation data within the FIS Report in conjunction with the FIRM for construction and/or floodplain management.

FLOODWAY INFORMATION: Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the FIS Report for this jurisdiction.

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 4.3 "Non-Levee Flood Protection Measures" of this FIS Report for information on flood control structures for this jurisdiction.

Figure 2: FIRM Notes to Users

PROJECTION INFORMATION: The projection used in the preparation of the map was State Plane Traverse Mercator, Georgia West Zone. The horizontal datum was North American Datum 1983. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

ELEVATION DATUM: Flood elevations on the FIRM are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, 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*

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 31 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on this FIRM was provided in digital format by Bibb County. Ortho imagery was originally produced by Bibb County in 2013 and has a 0.5 meter ground resolution. For information about base maps, refer to Section 6.2 "Base Map" in this FIS Report.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map.

Corporate limits shown on the map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Figure 2: FIRM Notes to Users

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Bibb County, GA, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 28 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

ATTENTION: The corporate limits shown are based on the best information available at the time of publication. As such, they may be more current than those shown on FIRM panels issued before MONTH DAY, YEAR.

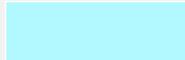
SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Macon – Bibb County, GA, effective TBD.

FLOOD RISK REPORT: A Flood Risk Report (FRR) may be available for many of the flooding sources and communities referenced in this FIS Report. The FRR is provided to increase public awareness of flood risk by helping communities identify the areas within their jurisdictions that have the greatest risks. Although non-regulatory, the information provided within the FRR can assist communities in assessing and evaluating mitigation opportunities to reduce these risks. It can also be used by communities developing or updating flood risk mitigation plans. These plans allow communities to identify and evaluate opportunities to reduce potential loss of life and property. However, the FRR is not intended to be the final authoritative source of all flood risk data for a project area; rather, it should be used with other data sources to paint a comprehensive picture of flood risk.

Figure 3: Map Legend for FIRM

SPECIAL FLOOD HAZARD AREAS: *The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.*



Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)

- Zone A The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
- Zone AE The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone, either at cross section locations or as static whole-foot elevations that apply throughout the zone.
- Zone AH The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
- Zone AO The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
- Zone AR The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- Zone A99 The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.
- Zone V The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.
- Zone VE Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.



Regulatory Floodway determined in Zone AE.

Figure 3: Map Legend for FIRM

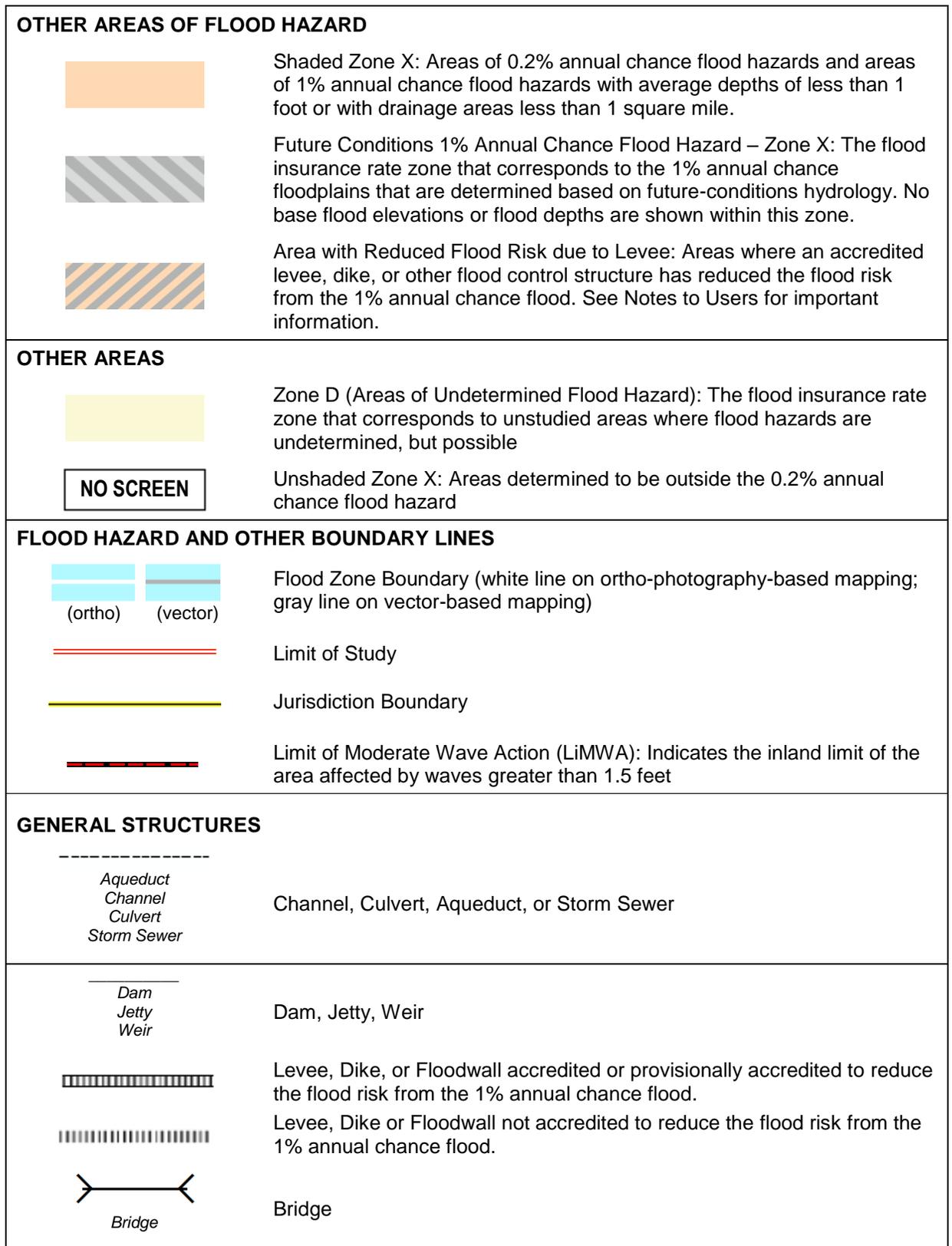


Figure 3: Map Legend for FIRM

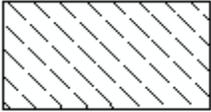
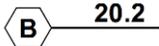
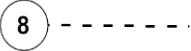
COASTAL BARRIER RESOURCES SYSTEM (CBRS) AND OTHERWISE PROTECTED AREAS (OPA): <i>CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas. See Notes to Users for important information.</i>	
 CBRS AREA 09/30/2009	Coastal Barrier Resources System Area: Labels are shown to clarify where this area shares a boundary with an incorporated area or overlaps with the floodway.
 OTHERWISE PROTECTED AREA 09/30/2009	Otherwise Protected Area
REFERENCE MARKERS	
	River mile Markers
CROSS SECTION & TRANSECT INFORMATION	
	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
	Coastal Transect
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.
	Base Flood Elevation Line (shown for flooding sources for which no cross sections or profile are available)
ZONE AE (EL 16)	Static Base Flood Elevation value (shown under zone label)
ZONE AO (DEPTH 2)	Zone designation with Depth
ZONE AO (DEPTH 2) (VEL 15 FPS)	Zone designation with Depth and Velocity

Figure 3: Map Legend for FIRM

BASE MAP FEATURES	
<u>Missouri Creek</u>	River, Stream or Other Hydrographic Feature
	Interstate Highway
	U.S. Highway
	State Highway
	County Highway
<u>MAPLE LANE</u>	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
 RAILROAD	Railroad
	Horizontal Reference Grid Line
	Horizontal Reference Grid Ticks
	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
⁴² 76 ^{000m} E	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16' 52.5"	Corner Coordinates (Latitude, Longitude)

SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS

2.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1% annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2% annual chance (500-year) flood is employed to indicate additional areas of flood hazard in the community.

Each flooding source included in the project scope has been studied and mapped using professional engineering and mapping methodologies that were agreed upon by FEMA and Bibb County as appropriate to the risk level. Flood risk is evaluated based on factors such as known flood hazards and projected impact on the built environment. Engineering analyses were performed for each studied flooding source to calculate its 1% annual chance flood elevations; elevations corresponding to other floods (e.g. 10-, 4-, 2-, 0.2-percent annual chance, etc.) may have also been computed for certain flooding sources. Engineering models and methods are described in detail in Section 5.0 of this FIS Report. The modeled elevations at cross sections were used to delineate the floodplain boundaries on the FIRM; between cross sections, the boundaries were interpolated using elevation data from various sources. More information on specific mapping methods is provided in Section 6.0 of this FIS Report.

Depending on the accuracy of available topographic data (Table 23), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1% and 0.2% annual chance floodplain boundaries, regulatory water surface elevations (BFEs), and/or a regulatory floodway. Similarly, other flooding sources may be mapped to show only the 1% annual chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1% and 0.2% annual chance floodplain boundaries are close together, only the 1% annual chance floodplain boundary is shown on the FIRM. Figure 3, “Map Legend for FIRM”, describes the flood zones that are used on the FIRMs to account for the varying levels of flood risk that exist along flooding sources within the project area. Table 2 and Table 3 indicate the flood zone designations for each flooding source and each community within Macon - Bibb County, GA, respectively.

Table 2, “Flooding Sources Included in this FIS Report,” lists each flooding source, including its study limits, affected communities, mapped zone on the FIRM, and the completion date of its engineering analysis from which the flood elevations on the FIRM and in the FIS Report were derived. Descriptions and dates for the latest hydrologic and hydraulic analyses of the flooding sources are shown in Table 13. Floodplain boundaries for these flooding sources are shown on the FIRM (published separately) using the symbology described in Figure 3. On the map, the 1% annual chance floodplain corresponds to the SFHAs. The 0.2% annual chance floodplain shows areas that, although out of the regulatory floodplain, are still subject to flood hazards.

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. The procedures to remove these areas from the SFHA are described in Section 6.5 of this FIS Report.

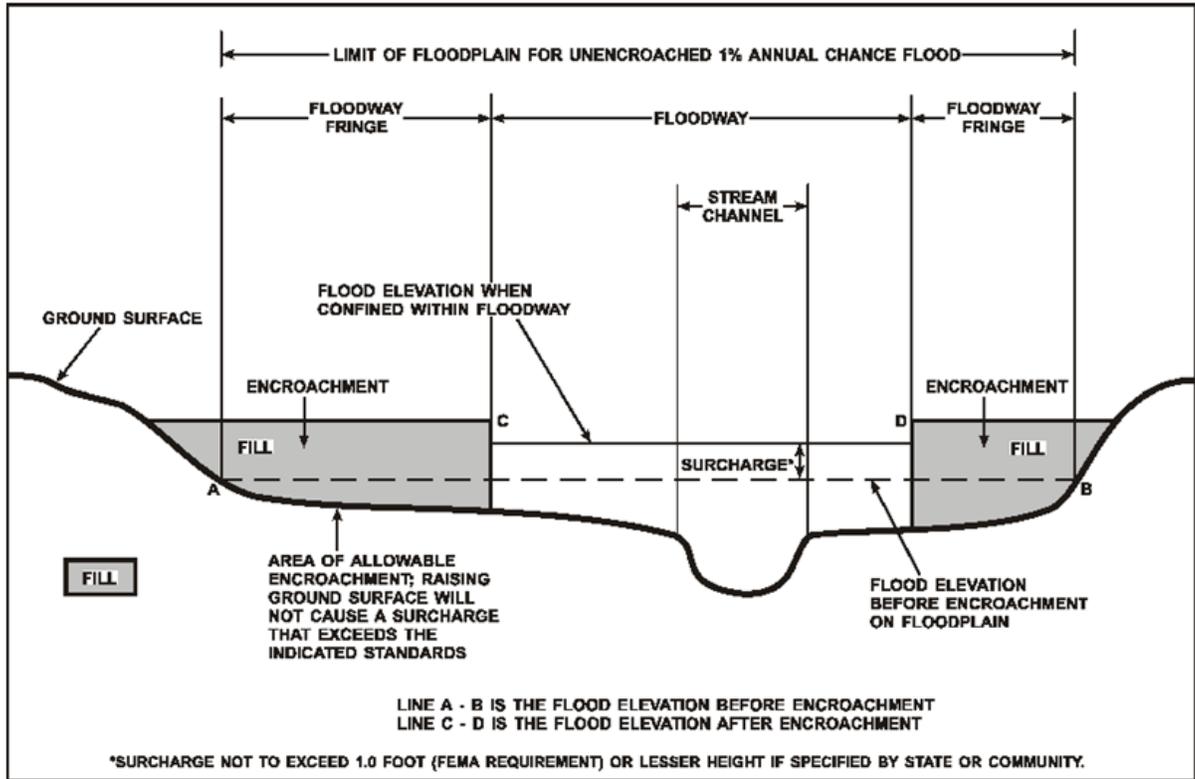
2.2 Floodways

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 balancing floodplain development against increasing flood hazard. With this approach, the area of the 1% annual chance floodplain on a river is divided into a floodway and a floodway fringe based on hydraulic modeling. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment in order to carry the 1% annual chance flood. The floodway fringe is the area between the floodway and the 1% annual chance floodplain boundaries where encroachment is permitted. The floodway must be wide enough so that the floodway fringe could be completely obstructed without increasing the water surface elevation of the 1% 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 4.

To participate in the NFIP, Federal regulations require communities to limit increases caused by encroachment to 1.0 foot, provided that hazardous velocities are not produced. Regulations for Georgia require communities in Macon - Bibb County to limit increases caused by encroachment to 1.0 foot and several communities have adopted additional restrictions. The floodways in this project are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway projects.

Figure 4: Floodway Schematic



Floodway widths presented in this FIS Report and on the FIRM were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. For certain stream segments, floodways were adjusted so that the amount of floodwaters conveyed on each side of the floodplain would be reduced equally. The results of the floodway computations have been tabulated for selected cross sections and are shown in Table 24, "Floodway Data."

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
All Zone A streams in HUC-8 03070103	Macon-Bibb County	Various	Various	03070103	90.98		N	A	2014
Beaverdam Creek	Macon-Bibb County	Approximately 1,900 feet upstream of Providence Boulevard	Monroe County boundary	03070103	0.07		N	A	2014
Beaverdam Creek	Macon-Bibb County	Confluence with Ocmulgee River	Approximately 1,900 feet upstream of Providence Boulevard	03070103	4.68		Y	AE	1977
Beaverdam Creek Tributary 2	Macon-Bibb County	Confluence with Beaverdam Creek	Approximately 1,750 feet upstream of New Forsyth Road	03070103	0.59		Y	AE	2014
Boggy Branch	Macon-Bibb County	Confluence with Ocmulgee River	Approximately 200 feet downstream of the confluence with Boggy Branch Tributary	03070103	3.53		Y	AE	2014
Boggy Branch	Macon-Bibb County	Approximately 200 feet downstream of the confluence with Boggy Branch Tributary	Jones County boundary	03070103	1.08		N	A	2014
Colaparchee Creek	Macon-Bibb County	Confluence with Rocky Creek	Monroe County boundary	03070103	3.99		Y	AE	1990

Table 2: Flooding Sources Included in this FIS Report continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Donnan Branch	Macon-Bibb County	Approximately 200 feet upstream of Donnan Road	Twiggs County boundary	03070103	0.54		N	A	2014
Donnan Branch	Macon-Bibb County	Confluence with Stone Creek	Approximately 200 feet upstream from Donnan Road	03070103	1.90		Y	AE	1977
Dry Bone Creek	Macon-Bibb County	Approximately 4,775 feet upstream of confluence of Walnut Creek	Jones County boundary	03070103	0.15		N	A	2014
Dry Bone Creek	Macon-Bibb County	Confluence with Walnut Creek	Approximately 4,775 feet upstream of confluence of Walnut Creek	03070103	0.90		Y	AE	1977
Echeconnee Creek	Macon-Bibb County	Approximately 40 feet upstream of Hartley Bridge Road	Crawford County boundary	03070103	14.09		N	A	2014
Echeconnee Creek	Macon-Bibb County	Confluence with Ocmulgee River	Approximately 5,350 feet upstream of the confluence of Ocmulgee River	03070103	1.01		N	A	2014
Echeconnee Creek	Macon-Bibb County	Approximately 5,350 feet upstream of the confluence of Ocmulgee River	Approximately 40 feet upstream of Hartley Bridge Road	03070103	17.07		Y	AE	1977
Echeconnee Creek Tributary No.1	Macon-Bibb County	Approximately 1,290 feet downstream of Houston Road	At Fountain Drive	03070103	2.17		N	A	2014

Table 2: Flooding Sources Included in this FIS Report continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Echeconnee Creek Tributary No.1	Macon-Bibb County	Confluence with Echeconnee Creek	Approximately 1,290 feet downstream of Houston Road	03070103	5.49		Y	AE	1977
Echeconnee Creek Tributary No.1A	Macon-Bibb County	Approximately 460 feet downstream of Liberty Church Road	Approximately 460 feet upstream of Jones Road	03070103	0.82		N	A	2014
Echeconnee Creek Tributary No.1A	Macon-Bibb County	Confluence with Echeconnee Creek Tributary No.1	Approximately 460 feet downstream of Liberty Church Road	03070103	0.23		Y	AE	1977
Hall Branch	Macon-Bibb County	Approximately 44 feet down stream of Jeffersonville Road	Approximately 3,660 feet upstream of Davis Road	03070103	1.08		N	A	2014
Hall Branch	Macon-Bibb County	Confluence with Stone Creek	Approximately 44 feet down stream of Jeffersonville Road	03070103	1.47		Y	AE	1977
Lake Tobesofkee Tributary	Macon-Bibb County	Approximately 4,230 feet upstream of Midway Road	Approximately 6,100 feet upstream of Midway Road	03070103	0.39		N	A	2014
Lake Tobesofkee Tributary	Macon-Bibb County	Confluence with Tobesofkee Creek	Approximately 4,230 feet upstream of Midway Road	03070103	4.16		Y	AE	1977
Langford Creek	Macon-Bibb County	Confluence with Ocmulgee River	Approximately 440 feet upstream of Forrest Hill Road	03070103	1.54		Y	AE	2014
Langford Creek	Macon-Bibb County	Approximately 440 feet upstream of Forrest Hill Road	Approximately 3,410 feet upstream of Wesleyan Drive	03070103	1.26		N	A	2014

Table 2: Flooding Sources Included in this FIS Report continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Ocmulgee River	Macon-Bibb County	Houston, Twiggs County boundary	At Southern Railroad	03070103	13.6		N	A	2014
Ocmulgee River	Macon-Bibb County	At Southern Railroad	Monroe and Jones County boundary	03070103	22.14		Y	AE	2014
Rocky Creek	Macon-Bibb County	Confluence with Tobesofkee Creek	Monroe County boundary	03070103	19.48		Y	AE	2014
Rocky Creek Tributary 2	Macon-Bibb County	Confluence with Rocky Creek	Approximately 1,400 feet upstream of I-75	03070103	1.80		Y	AE	2014
Rocky Creek Tributary 2	Macon-Bibb County	Approximately 1,400 feet upstream of I-75	Approximately 95 feet upstream of Anthony Road	03070103	1.04		N	A	2014
Savage Creek	Macon-Bibb County	Confluence with Ocmulgee River	Approximately 180 feet downstream of Brittany Downs	03070103	4.33		Y	AE	2014
Savage Creek	Macon-Bibb County	Approximately 180 feet downstream of Brittany Downs	Approximately 100 feet upstream of Billingswood Drive	03070103	0.53		N	A	2014
Savage Creek Tributary No. 1	Macon-Bibb County	Confluence with Savage Creek	Approximately 350 feet upstream of Elnora Drive	03070103	0.88		Y	AE	2014
Savage Creek Tributary No. 2	Macon-Bibb County	Confluence with Savage Creek	Approximately 3,700 feet upstream of Forest Hill Road	03070103	1.10		Y	AE	1977
Savage Creek Tributary No. 3	Macon-Bibb County	Confluence with Savage Creek	Approximately 480 feet upstream of South Beechwood Drive	03070103	0.61		Y	AE	2014

Table 2: Flooding Sources Included in this FIS Report continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Savage Creek Tributary No. 4	Macon-Bibb County	Confluence with Savage Creek	Approximately 330 feet upstream of Sprucewood Drive	03070103	0.88		Y	AE	2014
Savage Creek Tributary No. 5	Macon-Bibb County	Confluence with Savage Creek	Approximately 548 feet upstream of Kathryn Drive	03070103	1.06		Y	AE	2014
Stone Creek	Macon-Bibb County	Approximately 820 feet downstream of U.S. Highway 23	At I-16	03070103	0.70		N	A	2014
Stone Creek	Macon-Bibb County	At I-16	Approximately 1,500 feet upstream of Davis Road	03070103	6.30		Y	AE	1977
Swift Creek	Macon-Bibb County	Confluence with Ocmulgee River	Jones County boundary	03070103	6.17		Y	AE	2014
Tobesofkee Creek	Macon-Bibb County	Confluence with Ocmulgee River	Approximately 200 feet downstream of I-75	03070103	9.67		N	A	2014
Tobesofkee Creek	Macon-Bibb County	Approximately 1,015 feet downstream of Monroe County boundary	Monroe County boundary	03070103	0.19		N	A	2014
Tobesofkee Creek	Macon-Bibb County	Approximately 200 feet downstream of I-75	Approximately 1,015 feet downstream of Monroe County boundary	03070103	17.28		Y	AE	1977

Table 2: Flooding Sources Included in this FIS Report continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Tobesofkee Creek Tributary No. 1	Macon-Bibb County	Confluence with Tobesofkee Creek	Approximately 160 feet downstream of Eisenhower Parkway	03070103	2.55		Y	AE	2014
Tobesofkee Creek Tributary No. 1	Macon-Bibb County	Approximately 160 feet downstream of Eisenhower Parkway	Approximately 160 feet upstream of Columbus Road	03070103	0.70		N	A	2014
Walnut Creek	Macon-Bibb County	Confluence with Ocmulgee River	Approximately 380 feet downstream of Jones County boundary	03070103	6.24		Y	AE	2014
Walnut Creek	Macon-Bibb County	Approximately 380 feet downstream of Jones County boundary	Jones County boundary	03070103	0.07		N	A	2014
Wolf Creek	Macon-Bibb County	Confluence with Rocky Creek	Approximately 130 feet upstream of Bass Road	03070103	5.37		Y	AE	2014
Wolf Creek	Macon-Bibb County	Approximately 130 feet upstream of Bass Road	Approximately 480 feet upstream of Railroad	03070103	0.80		N	A	2014

All floodways that were developed for this FIS project are shown on the FIRM using the symbology described in Figure 3. In cases where the floodway and 1% annual chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown on the FIRM. For information about the delineation of floodways on the FIRM, refer to Section 6.3.

2.3 Base Flood Elevations

The hydraulic characteristics of flooding sources were analyzed to provide estimates of the elevations of floods of the selected recurrence intervals. The Base Flood Elevation (BFE) is the elevation of the 1% annual chance flood. These BFEs are most commonly rounded to the whole foot, as shown on the FIRM, but in certain circumstances or locations they may be rounded to 0.1 foot. Cross section lines shown on the FIRM may also be labeled with the BFE rounded to 0.1 foot. Whole-foot BFEs derived from engineering analyses that apply to coastal areas, areas of ponding, or other static areas with little elevation change may also be shown at selected intervals on the FIRM.

Cross sections with BFEs shown on the FIRM correspond to the cross sections shown in the Floodway Data table and Flood Profiles in this FIS Report. BFEs are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM.

2.4 Non-Encroachment Zones

Some States and communities use non-encroachment zones to manage floodplain development. While not a FEMA designated floodway, the non-encroachment zone represents that area around the stream that should be reserved to convey the 1% annual chance flood event.

Regulations for Georgia require communities in Macon - Bibb County to limit increases caused by encroachment to 1.0 foot and several communities have adopted additional restrictions for non-encroachment areas.

Non-encroachment determinations may be delineated where it is not possible to delineate floodways because specific channel profiles with bridge and culvert geometry were not developed. Any non-encroachment determinations for this FIS project have been tabulated for selected cross sections and are shown in Table 25, "Flood Hazard and Non-Encroachment Data for Selected Streams."

2.5 Coastal Flood Hazard Areas

This section is not applicable to this FIS project.

2.5.1 Water Elevations and the Effects of Waves

This section is not applicable to this FIS project.

Figure 5: Wave Runup Transect Schematic

[Not Applicable to this FIS project]

2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

This section is not applicable to this FIS project.

2.5.3 Coastal High Hazard Areas

This section is not applicable to this FIS project.

Figure 6: Coastal Transect Schematic

[Not Applicable to this FIS project]

2.5.4 Limit of Moderate Wave Action

This section is not applicable to this FIS project.

SECTION 3.0 – INSURANCE APPLICATIONS

3.1 National Flood Insurance Program Insurance Zones

For flood insurance applications, the FIRM designates flood insurance rate zones as described in Figure 3, “Map Legend for FIRM.” Flood insurance zone designations are assigned to flooding sources based on the results of the hydraulic or coastal analyses. Insurance agents use the zones shown on the FIRM and depths and base flood elevations in this FIS Report in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

The 1% annual chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (e.g. Zones A, AE, V, VE, etc.), and the 0.2% annual chance floodplain boundary corresponds to the boundary of areas of additional flood hazards.

Table 3 lists the flood insurance zones in the unincorporated and incorporated areas of Macon - Bibb County.

Table 3: Flood Zone Designations by Community

Community	Flood Zone(s)
Macon-Bibb County	A, AE, X

3.2 Coastal Barrier Resources System

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

Table 4: Coastal Barrier Resources System Information

[Not Applicable to this FIS project]

SECTION 4.0 – AREA STUDIED

4.1 Basin Description

Table 5 contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its drainage area.

Table 5: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Upper Ocmulgee River Watershed	03070103	Ocmulgee River	Entire county contained within watershed	2,980

4.2 Principal Flood Problems

Table 6 contains a description of the principal flood problems that have been noted for Macon - Bibb County by flooding source.

Table 6: Principal Flood Problems

Flooding Source	Description of Flood Problems
All sources	Several streams, including Beaverdam Creek, Ocmulgee River, Rocky Creek, Savage Creek, Tobesofkee Creek, Walnut Creek, and Wolf Creek are subject to flooding throughout the year. Most of the major flood problems existing in the community are in low-lying agricultural areas.
All sources	Historical records indicate flooding has been caused by tropical hurricanes from the Gulf of Mexico July 5-10, 1916; by frontal storm activity March 17-19, 1949, and February 18-25, 1961; by prolonged occurrences of low pressure areas November 26-28, 1948. Large floods have also occurred in January 1925, March 1948, and March 1971.
All sources	On December 24, 1997 rainfall amounts of 3 to 4 inches fell on saturated ground in central Georgia. Street flooding was common with some roads damaged and others closed. Runoff caused flooding along the Flint, Ocmulgee, and Oconee rivers in central Georgia. Residents along rivers evacuated their homes in some areas. Rivers continued above flood stage for several more days after the rains had ended. Monthly rainfall amounts totaled 8 to 10 inches across much of central Georgia. Estimated \$15K in property damage.

Table 6: Principal Flood Problems continued

Flooding Source	Description of Flood Problems
All sources	On February 2, 1998, rainfall amounts ranged from 2.5 to 4.5 inches over north and central Georgia from the 2nd through the 4th. With the ground saturated from previous similar events, runoff caused widespread flooding over much of central Georgia, especially along and near the Oconee and Ocmulgee river basins. Estimated \$20K in property damage.
All sources	On March 3, 1998, rainfall amounts from 4 to 8 inches fell over north and central Georgia from the 5th through the 8th. Flooding occurred mainly in low areas and near rivers and creeks from the runoff as it moved downstream. Numerous roads were closed and some were damaged. A dam in Lamar County broke. Homes and businesses sustained water damage in many counties. Families were evacuated in several counties. The governor of Georgia declared a state of emergency in a total of 72 counties in central and south parts of the state. Estimated \$10K in property damage.
All sources	On September 9, 2000, the Bibb County Emergency Management director reported minor flooding on U.S. Highway 41 in the south part of the City of Macon. Small streams in the area were out of their banks. Up to 2 feet of water were reported in a nursing home in the southeast part of the city. Radar rainfall estimates and surface observation reports indicated that 2 to 3 inches of rain fell in the area in a 1 to 2 hour period. Estimated \$5K in property damage.
All sources, Savage Creek	On July 13, 2003, the Bibb County Emergency Management director reported that extensive flooding had occurred in parts of the City of Macon. Several streets, roads, and railroad crossings were flooded with up to 1.5 feet of water over roads and into buildings in some areas. Riverside Drive was closed because of flooding from Savage Creek. The most extensive flooding reported was to a nursing home. Over 1.5 feet of water got into the nursing home causing significant inconvenience and damage. Estimated \$100K in property damage.
All sources	On July 30, 2005, the Macon Telegraph reported that slow moving and persistent thunderstorms dumped up to 3 inches of rain on saturated ground across the City of Macon and much of Bibb County. The heavy rain resulted in considerable flooding. At least 10 units of an apartment complex were flooded when water rushed down a hill caused by a dam break on a nearby pond. The water rose above the first level of the apartment and many residents had to be rescued from their apartments through the windows. Another home nearby was flooded with up to 18 inches of water in the basement after an area of water 40 feet wide rushed toward his home from the dam breakage. The flash flooding in the area also caused a number of sinkholes to develop. A police patrol car stalled in four-foot-deep water at one of the sinkhole incidents. Estimated \$500K in property damage.

Table 6: Principal Flood Problems continued

Flooding Source	Description of Flood Problems
All Sources	On April 2, 2009, the Bibb County Emergency Management director reported that around 100 homes in the City of Macon area experienced basement flooding as a result of several days of heavy rainfall. Parts of the county had a three-day rainfall total of 5 to 6 inches. This rain fell on saturated soils from prior weeks of above-normal rainfall. In addition, up to 20 roads had to be closed as a result of flooding or ponding of water. Minor flooding was also observed in fields and woodlands adjacent to creeks, streams, and rivers across the county. Flood damages were generally the result of basement flooding, with only minor road repair or debris removal required. Estimated \$30K in property damage.
All Sources, Savage Creek	On September 17, 2009, the Bibb County Emergency Management director reported flash flooding along Savage Creek at Matthews Drive in northwest City of Macon. Water was flowing over the bridge at this location. Several roads in the area became flooded and a number of vehicles were stranded in high water. Some rescues were required. The flash flood caused erosion and minor structural damage to roads and bridges. Estimated \$10K in property damage.

Table 7 contains information about historic flood elevations in the communities within Macon - Bibb County.

Table 7: Historic Flooding Elevations

Flooding Source	Location	Historic Peak (Feet NAVD88)	Peak Stream Flow (cfs)	Event Date	Approximate Recurrence Interval (years)	Source of Data
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	294.61	63,700	04/09/1936	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	295.51	73,400	03/22/1942	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	292.11	44,800	03/22/1943	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	292.81	50,200	03/20/1944	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	291.51	40,400	04/27/1945	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	293.71	57,600	01/08/1946	N/A	USGS

Table 7: Historic Flooding Elevations continued

Flooding Source	Location	Historic Peak (Feet NAVD88)	Peak Stream Flow (cfs)	Event Date	Approximate Recurrence Interval (years)	Source of Data
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	297.41	83,500	11/29/1948	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	293.31	46,800	03/05/1952	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	293.51	48,200	02/26/1961	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	294.14	52,600	04/08/1964	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	293.10	45,300	12/26/1964	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	292.45	40,800	02/14/1966	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	294.88	41,900	03/23/1970	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	298.86	58,600	03/04/1971	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	295.05	42,600	04/04/1975	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	294.90	42,000	03/18/1976	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	299.31	64,700	03/18/1990	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	296.08	46,300	11/27/1992	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	304.81	107,000	07/06/1994	N/A	USGS
Ocmulgee River	Station No. 02213000 at Macon, GA (Coliseum Drive)	297.31	65,600	03/09/1998	N/A	USGS

4.3 Non-Levee Flood Protection Measures

Table 8 contains information about non-levee flood protection measures within Macon - Bibb County such as dams, jetties, and or dikes. Levees are addressed in Section 4.4 of this FIS Report.

Table 8: Non-Levee Flood Protection Measures

Flooding Source	Structure Name	Type of Measure	Location	Description of Measure
Tobesofkee Creek	Lake Tobesofkee Dam	Dam	On Tobesofkee Creek	Constructed by the SCS. Does not provide protection against the 1% annual chance flood

4.4 Levees

For purposes of the NFIP, FEMA only recognizes levee systems that meet, and continue to meet, minimum design, operation, and maintenance standards that are consistent with comprehensive floodplain management criteria. The Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10) describes the information needed for FEMA to determine if a levee system reduces the risk from the 1% annual chance flood. This information must be supplied to FEMA by the community or other party when a flood risk study or restudy is conducted, when FIRMs are revised, or upon FEMA request. FEMA reviews the information for the purpose of establishing the appropriate FIRM flood zone.

Levee systems that are determined to reduce the risk from the 1% annual chance flood are accredited by FEMA. FEMA can also grant provisional accreditation to a levee system that was previously accredited on an effective FIRM and for which FEMA is awaiting data and/or documentation to demonstrate compliance with Section 65.10. These levee systems are referred to as Provisionally Accredited Levees, or PALs. Provisional accreditation provides communities and levee owners with a specified timeframe to obtain the necessary data to confirm the levee’s certification status. Accredited levee systems and PALs are shown on the FIRM using the symbology shown in Figure 3 and in Table 9. If the required information for a PAL is not submitted within the required timeframe, or if information indicates that a levee system no longer meets Section 65.10, FEMA will de-accredit the levee system and issue an effective FIRM showing the levee-impacted area as a SFHA.

FEMA coordinates its programs with USACE, who may inspect, maintain, and repair levee systems. The USACE has authority under Public Law 84-99 to supplement local efforts to repair flood control projects that are damaged by floods. Like FEMA, the USACE provides a program to allow public sponsors or operators to address levee system maintenance deficiencies. Failure to do so within the required timeframe results in the levee system being placed in an inactive status in the USACE Rehabilitation and Inspection Program. Levee systems in an inactive status are ineligible for rehabilitation assistance under Public Law 84-99.

FEMA coordinated with the USACE, the local communities, and other organizations to compile a list of levees that exist within Bibb County. Table 9, “Levees,” lists all accredited levees, PALs, and de-accredited levees shown on the FIRM for this FIS Report. Other categories of levees may also be included in the table. The Levee ID shown in this table may not match numbers based on

other identification systems that were listed in previous FIS Reports. Levees identified as PALs in the table are labeled on the FIRM to indicate their provisional status.

Please note that the information presented in Table 9 is subject to change at any time. For that reason, the latest information regarding any USACE structure presented in the table should be obtained by contacting USACE and accessing the USACE national levee database. For levees owned and/or operated by someone other than the USACE, contact the local community shown in Table 31.

Table 9: Levees

Community	Flooding Source	Levee Location	Levee Owner	USACE Levee	Levee ID	Covered Under PL84-99 Program?	FIRM Panel(s)	Levee Status
Macon-Bibb County	Ocmulgee River	Right Bank	Bibb County, GA	No	5405000002	No	13021C0153G 13021C0165G	Non-Accredited

SECTION 5.0 – ENGINEERING METHODS

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2% annual chance, respectively, of being equaled or exceeded during any year.

Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

The engineering analyses described here incorporate the results of previously issued Letters of Map Change (LOMCs) listed in Table 27, “Incorporated Letters of Map Change”, which include Letters of Map Revision (LOMRs). For more information about LOMRs, refer to Section 6.5, “FIRM Revisions.”

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. A summary of the hydrologic methods applied to develop the discharges used in the hydraulic analyses for each stream is provided in Table 13. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table 10. Frequency Discharge-Drainage Area Curves used to develop the hydrologic models may also be shown in Figure 7 for selected flooding sources. A summary of stillwater elevations developed for non-coastal flooding sources is provided in Table 11. (Coastal stillwater elevations are discussed in Section 5.3 and shown in Table 17.) Stream gage information is provided in Table 12.

Table 10: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Beaverdam Creek	At confluence with Ocmulgee River	13.8	2,100	*	3,340	3,850	5,270
Beaverdam Creek	At Wesleyan Drive	11.9	1,920	*	3,060	3,540	4,840
Beaverdam Creek	At Bass Road	9.5	1,680	*	2,680	3,110	4,260
Beaverdam Creek	At I-75/State Highway 401	5.4	1,200	*	1,920	2,240	3,100
Beaverdam Creek Tributary 2	At confluence with Beaverdam Creek	3.7	888	1,181	1,442	1,681	2,288
Boggy Branch	At confluence with Ocmulgee River	6.8	286	377	447	517	688
Boggy Branch	Approximately 950 feet upstream of Railroad	5.8	231	303	357	410	542
Boggy Branch	Approximately 2,351 feet downstream of Emery Highway	5.0	203	266	312	357	471
Boggy Branch	Approximately 906 feet upstream of Emery Highway	3.8	159	208	244	280	368
Boggy Branch	Approximately 820 feet downstream of Jeffersonville Road	3.3	143	187	220	252	331

*Not calculated for this FIS project

Table 10: Summary of Discharges continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Boggy Branch	Approximately 708 feet downstream of Masseyville Road	2.7	122	160	188	215	283
Boggy Branch	Approximately 591 feet upstream of Masseyville Road	2.3	110	144	169	194	255
Boggy Branch	Approximately 1,414 feet upstream of Masseyville Road	1.8	91	119	140	161	212
Colaparchee Creek	At Greentree Parkway	10.1	988	*	1,735	2,081	2,967
Colaparchee Creek	At Zebulon Road	9.5	959	*	1,676	2,008	2,852
Colaparchee Creek	Approximately 2,700 feet downstream of I-475/State Highway 408	7.5	745	*	1,318	1,573	2,268
Colaparchee Creek	At I-475/State Highway 408	6.3	639	*	1,131	1,363	1,969
Donnan Branch	At Davis Road	2.5	560	*	1,120	1,300	3,250
Dry Bone Creek	At confluence with Walnut Creek	10.6	2,750	*	4,200	5,000	17,00
Echeconnee Creek	At confluence with Ocmulgee River	255.0	9,480	*	14,570	16,450	21,840

*Not calculated for this FIS project

Table 10: Summary of Discharges continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Echeconnee Creek	At U.S. Highway 129/State Highway 247/Hawkinsville Road	251.6	9,480	*	14,590	16,460	21,860
Echeconnee Creek Tributary No. 1	At confluence with Echeconnee Creek	7.6	1,734	*	2,781	3,177	4,294
Echeconnee Creek Tributary No. 1	At Walden Road	5.0	715	*	1,126	1,276	1,702
Echeconnee Creek Tributary No. 1	At Norfolk Southern Railway	3.5	200	*	292	327	432
Echeconnee Creek Tributary No. 1A	At confluence with Echeconnee Creek Tributary No.1	1.0	471	*	751	859	1,168
Hall Branch	At Franklinton Road	2.7	590	*	1,190	1,390	3,400
Lake Tobesofkee Tributary	At the confluence with Tobesofkee Creek	4.7	1,120	*	1,790	2,090	2,890
Lake Tobesofkee Tributary	At Bonner Gilbert Road	3.1	860	*	1,390	1,630	*
Langford Creek	At confluence with Ocmulgee River	1.6	534	716	879	1,029	1,414

*Not calculated for this FIS project

Table 10: Summary of Discharges continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Langford Creek	Approximately 692 feet upstream of Arkwright Road	1.5	510	684	840	984	1,353
Langford Creek	Approximately 401 feet upstream of Riverside Drive	1.3	467	628	771	905	1,246
Langford Creek	Approximately 1,471 feet upstream of Riverside Drive	1.1	420	565	695	817	1,126
Ocmulgee River	At confluence with Tobesofkee Creek	2,416.6	53,150	65,323	74,543	83,513	104,898
Ocmulgee River	At confluence with Ocmulgee River Tributary 1	2,400.8	53,495	65,937	75,360	84,517	106,325
Ocmulgee River	At confluence with Stone Creek	2,372.2	54,128	67,069	76,871	86,376	108,974
Ocmulgee River	At confluence with Swift Creek	2,361.4	54,370	67,506	77,453	87,094	110,000
Ocmulgee River	At confluence with Ocmulgee River Tributary 2	2,359.1	54,424	67,601	77,581	87,251	110,225
Ocmulgee River	Approximately 292 feet upstream of confluence with Boggy Branch	2,345.0	54,744	68,178	78,353	88,203	111,586
Ocmulgee River	At confluence with Walnut Creek	2,251.7	56,974	72,237	83,816	94,967	121,314

Table 10: Summary of Discharges continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Ocmulgee River	At confluence with Vineville Branch	2,245.2	56,784	71,993	83,549	94,685	121,037
Ocmulgee River	At confluence with Bowman Branch	2,238.7	56,593	71,748	83,280	94,402	120,757
Ocmulgee River	At confluence with Town Creek	2,228.7	56,301	71,373	82,870	93,970	120,330
Ocmulgee River	Approximately 68 feet upstream of confluence with Savage Creek	2,222.1	56,108	71,126	82,599	93,684	120,047
Ocmulgee River	Approximately 107 feet upstream of confluence with Langford Creek	2,219.4	56,030	71,025	82,489	93,568	119,932
Ocmulgee River	At confluence with Beaverdam Creek	2,205.3	55,617	70,496	81,908	92,956	119,326
Ocmulgee River	Approximately 58 feet upstream of confluence with Ocmulgee River Tributary 3	2,203.2	55,554	70,414	81,819	92,862	119,232
Ocmulgee River	Approximately 4,830 feet downstream of Monroe County boundary	2,200.5	55,476	70,315	81,710	92,747	119,118
Rocky Creek	Approximately 180 feet upstream of U.S. Highway 41	48.2	3,457	4,485	5,399	6,208	8,240

Table 10: Summary of Discharges continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Rocky Creek	Approximately 1,000 feet upstream of I-75	42.5	3,457	4,485	5,399	6,208	8,240
Rocky Creek	Approximately 2,000 feet upstream of Williamson Road	40.1	3,457	4,485	5,399	6,208	8,240
Rocky Creek	Approximately 1,400 feet upstream of Mercer University Drive	38.5	3,457	4,485	5,399	6,208	8,240
Rocky Creek	At confluence with Rocky Creek Tributary 3	35.6	3,457	4,485	5,399	6,208	8,240
Rocky Creek	Approximately 1,800 feet downstream of Log Cabin Drive	34.8	3,457	4,485	5,399	6,208	8,240
Rocky Creek	At confluence with Wolf Creek	27.1	2,977	3,873	4,672	5,382	7,167
Rocky Creek	Approximately 950 feet upstream of confluence with Wolf Creek	26.4	2,977	3,873	4,672	5,382	7,167
Rocky Creek	Approximately 2,200 feet downstream of Grove Pine Drive	25.8	2,947	3,836	4,628	5,332	7,101
Rocky Creek	Approximately 800 feet upstream of Grove Pine Drive	25.5	2,927	3,810	4,597	5,296	7,055

Table 10: Summary of Discharges continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Rocky Creek	Approximately 4,450 feet upstream of Grove Pine Drive	24.4	2,861	3,726	4,497	5,183	6,907
Rocky Creek	Approximately 5,200 feet downstream of Tucker Road	24.1	2,835	3,693	4,458	5,138	6,849
Rocky Creek	Approximately 3,500 feet downstream of Tucker Road	22.9	2,750	3,585	4,328	4,990	6,655
Rocky Creek	Approximately 920 feet upstream of Tucker Road	22	2,681	3,496	4,222	4,870	6,497
Rocky Creek	Approximately 1,800 feet downstream of Greentree Parkway	20.1	2,535	3,308	3,998	4,613	6,161
Rocky Creek	At confluence with Colaparchee Creek	7.1	1,329	1,754	2,133	2,477	3,347
Rocky Creek	Approximately 300 feet upstream of Lamar Road	6.5	1,267	1,674	2,037	2,366	3,199
Rocky Creek	Approximately 2,500 feet upstream of Lamar Road	6.1	1,212	1,603	1,951	2,268	3,069
Rocky Creek	Approximately 5,800 feet upstream of Lamar Road	5.5	1,136	1,504	1,831	2,130	2,886

Table 10: Summary of Discharges continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Rocky Creek	Approximately 5,700 feet downstream of Barrington Hall Drive	5.2	1,097	1,453	1,770	2,059	2,791
Rocky Creek	Approximately 4,000 feet downstream of Barrington Hall Drive	4.8	1,051	1,394	1,698	1,977	2,682
Rocky Creek	Approximately 1,200 feet downstream of Barrington Hall Drive	4.0	942	1,252	1,527	1,779	2,419
Rocky Creek	Approximately 250 feet upstream of Barrington Hall Drive	3.8	913	1,213	1,481	1,726	2,347
Rocky Creek	Approximately 2,025 feet downstream of Zebulon Road	3.4	847	1,127	1,377	1,606	2,187
Rocky Creek Tributary 2	At confluence with Rocky Creek	4.1	1,193	1,516	1,750	1,988	2,543
Rocky Creek Tributary 2	Approximately 500 feet downstream of Rocky Road	2.5	889	1,130	1,305	1,482	1,892
Rocky Creek Tributary 2	Approximately 1,800 feet upstream of Pio Nono Avenue	2.0	785	997	1,151	1,306	1,665
Rocky Creek Tributary 2	Approximately 830 feet downstream of Newberg Avenue	1.7	715	909	1,049	1,191	1,517
Rocky Creek Tributary 2	Approximately 800 feet upstream of I-75	1.4	656	834	962	1,091	1,388

Table 10: Summary of Discharges continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Savage Creek	At confluence with Ocmulgee River	5.4	1,132	1,498	1,825	2,122	2,876
Savage Creek	Approximately 800 feet downstream of I-75	4.8	1,041	1,381	1,683	1,959	2,658
Savage Creek	At confluence with Savage Creek Tributary No.1	3.8	899	1,196	1,459	1,701	2,314
Savage Creek	At confluence with Savage Creek Tributary No.2	2.4	682	911	1,115	1,303	1,781
Savage Creek	At confluence with Savage Creek Tributary No.3	2.0	610	817	1,001	1,171	1,604
Savage Creek	At confluence with Savage Creek Tributary No.4	1.5	520	698	856	1,004	1,379
Savage Creek	At confluence with Savage Creek Tributary No.5	1.1	409	552	679	797	1,100
Savage Creek Tributary No. 1	At confluence with Savage Creek	0.6	373	479	557	635	813
Savage Creek Tributary No. 2	At confluence with Savage Creek	2.6	730	1,120	*	1,320	3,300
Savage Creek Tributary No. 3	At confluence with Savage Creek	0.2	139	191	238	282	397

*Not calculated for this FIS project

Table 10: Summary of Discharges continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Savage Creek Tributary No. 4	At confluence with Savage Creek	0.5	242	329	407	480	669
Savage Creek Tributary No. 5	At confluence with Savage Creek	0.3	177	243	301	356	499
Stone Creek	At Davis Road	4.5	820	*	1,650	1,920	4,800
Swift Creek	At confluence with Ocmulgee River	10.8	347	454	533	610	803
Swift Creek	Approximately 1,700 feet downstream of Riggins Mill Road	9.1	301	393	461	527	693
Swift Creek	Approximately 3,700 feet upstream of Riggins Mill Road	7.9	271	354	415	474	624
Swift Creek	Approximately 1,800 feet downstream of Jeffersonville Road	7.1	250	327	383	438	576
Swift Creek	Approximately 300 feet upstream of Jeffersonville Road	6.1	224	293	344	393	518
Swift Creek	Approximately 1,500 feet downstream of Irwinton Road	4.9	192	251	295	337	444
Swift Creek	Approximately 2,600 feet upstream of Irwinton Road	4.1	168	220	258	296	390

*Not calculated for this FIS project

Table 10: Summary of Discharges continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tobesofkee Creek	At I-75/State Highway 408	203.0	9,510	*	14,700	17,300	55,500
Tobesofkee Creek	At I-74/Thomaston Road	159.0	8,140	*	12,600	14,800	47,400
Tobesofkee Creek Tributary No. 1	At confluence with Tobesofkee Creek	3.5	1,032	1,332	1,554	1,781	2,312
Tobesofkee Creek Tributary No. 1	Approximately 3,700 feet downstream of I-475	3.2	979	1,262	1,471	1,685	2,183
Tobesofkee Creek Tributary No. 1	Approximately 1,700 feet downstream of I-475	2.9	930	1,198	1,395	1,597	2,066
Tobesofkee Creek Tributary No. 1	Approximately 1,500 feet upstream of I-475	2.4	839	1,079	1,254	1,433	1,848
Walnut Creek	At confluence with Ocmulgee River	93.1	6,118	7,939	9,337	10,735	13,969
Walnut Creek	Approximately 1,500 feet upstream of Jeffersonville Road	90.9	6,118	7,939	9,337	10,735	13,969
Walnut Creek	At confluence with Dry Bone Creek	78.9	6,118	7,939	9,337	10,735	13,969
Walnut Creek	Approximately 600 feet upstream of Old Clinton Road	77.5	6,118	7,939	9,337	10,735	13,969

*Not calculated for this FIS project

Table 10: Summary of Discharges continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Wolf Creek	At confluence with Rocky Creek	7.0	1,280	1,691	2,054	2,385	3,221
Wolf Creek	Approximately 750 feet downstream of North Mumford Road	6.3	1,237	1,636	1,990	2,312	3,128
Wolf Creek	Approximately 2,400 feet downstream of Ayers Road	4.5	1,009	1,339	1,632	1,901	2,581
Wolf Creek	Approximately 1,600 feet downstream of Tucker Road	4.0	943	1,252	1,528	1,780	2,419
Wolf Creek	Approximately 400 feet upstream of Tucker Road	3.5	862	1,147	1,401	1,634	2,224
Wolf Creek	Approximately 2,100 feet upstream of Tucker Road	3.2	820	1,092	1,334	1,557	2,121
Wolf Creek	Approximately 920 feet downstream of Zebulon Road	2.7	741	988	1,208	1,411	1,926
Wolf Creek	Approximately 1,160 feet upstream of Zebulon Road	2.5	695	928	1,135	1,327	1,813
Wolf Creek	Approximately 140 feet downstream of U.S. Highway 41	2.1	637	852	1,043	1,220	1,670

Table 10: Summary of Discharges continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Wolf Creek	Approximately 3,200 feet upstream of U.S. Highway 40	1.9	585	784	961	1,125	1,543
Wolf Creek	Approximately 3,500 feet downstream of Bass Road	1.4	487	654	804	942	1,296
Wolf Creek	Approximately 1,500 feet downstream of Bass Road	1.2	450	606	745	874	1,204
Wolf Creek	Approximately 500 feet downstream of Bass Road	1.0	406	548	674	792	1,093

Figure 7: Frequency Discharge-Drainage Area Curves

[Not Applicable to this FIS project]

Table 11: Summary of Non-Coastal Stillwater Elevations

Flooding Source	Location	Elevations (feet NAVD88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Lake Tobesofkee	Macon-Bibb County	306.6	*	363.6	364.6	366.6

*Not calculated for this FIS project

Table 12: Stream Gage Information used to Determine Discharges

Flooding Source	Gage Identifier	Agency that Maintains Gage	Site Name	Drainage Area (Square Miles)	Period of Record	
					From	To
Echeconnee Creek	02214000	USGS	Echeconnee Creek near Macon, GA	143	1938	1994
Ocmulgee River	02213000	USGS	Ocmulgee River at Macon, GA	2,240	1887	2012
Ocmulgee River	02213700	USGS	Ocmulgee River near Warner Robins, GA	2,690	1973	2001

5.2 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. Base flood elevations on the FIRM represent the elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations. These whole-foot elevations may not exactly reflect the elevations derived from the hydraulic analyses. 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. The hydraulic analyses for this FIS were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed on Table 24, "Floodway Data."

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 13. Roughness coefficients are provided in Table 14. Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

Table 13: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
All Zone A streams in HUC-8 03070103	Various	Various	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Beaverdam Creek	Confluence with Ocmulgee River	Approximately 1,900 feet upstream of Providence Boulevard	Regression Equation	WSPIN Computer Program	06/01/1977	AE	
Beaverdam Creek	Approximately 1,900 feet upstream of Providence Boulevard	Monroe County boundary	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Beaverdam Creek Tributary 2	Confluence with Beaverdam Creek	Approximately 1,750 feet upstream of New Forsyth Road	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Boggy Branch	Confluence with Ocmulgee River	Approximately 200 feet downstream of the confluence with Boggy Branch Tributary	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Boggy Branch	Approximately 200 feet downstream of the confluence with Boggy Branch Tributary	Jones County boundary	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Colaparchee Creek	Confluence with Rocky Creek	Monroe County boundary	HEC-1	HEC-2	02/01/1990	AE	

Table 13: Summary of Hydrologic and Hydraulic Analyses continued

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Donnan Branch	Twiggs County boundary	Approximately 200 feet upstream from Donnan Road	Regression Equation	WSPIN Computer Program	06/01/1977	AE	
Donnan Branch	Approximately 200 feet upstream of Donnan Road	Confluence with Stone Creek	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Dry Bone Creek	Confluence with Walnut Creek	Approximately 4,775 feet upstream of confluence of Walnut Creek	Regression Equation	WSPIN Computer Program	06/01/1977	AE	
Dry Bone Creek	Approximately 4,775 feet upstream of confluence of Walnut Creek	Jones County boundary	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Echeconnee Creek	Confluence with Ocmulgee River	Approximately 5,350 feet upstream of the confluence of Ocmulgee River	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Echeconnee Creek	Approximately 5,350 feet upstream of the confluence of Ocmulgee River	Approximately 40 feet upstream of Hartley Bridge Road	Regression Equation	WSPIN Computer Program	06/01/1977	AE	
Echeconnee Creek	Approximately 40 feet upstream of Hartley Bridge Road	Crawford County boundary	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Echeconnee Creek Tributary No. 1	Confluence with Echeconnee Creek	Approximately 1,290 feet downstream of Houston Road	Regression Equation	WSPIN Computer Program	06/01/1977	AE	

Table 13: Summary of Hydrologic and Hydraulic Analyses continued

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Echeconnee Creek Tributary No. 1	Approximately 1,290 feet downstream of Houston Road	At Fountain Drive	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Echeconnee Creek Tributary No. 1A	Confluence with Echeconnee Creek Tributary No. 1	Approximately 460 feet downstream of Liberty Church Road	Regression Equation	WSPIN Computer Program	06/01/1977	AE	
Echeconnee Creek Tributary No. 1A	Approximately 460 feet downstream of Liberty Church Road	Approximately 460 feet upstream of Jones Road	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Hall Branch	Confluence with Stone Creek	Approximately 44 feet down stream of Jeffersonville Road	Regression Equation	WSPIN Computer Program	06/01/1977	AE	
Hall Branch	Approximately 44 feet down stream of Jeffersonville Road	Approximately 3,660 feet upstream of Davis Road	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Lake Tobesofkee Tributary	Confluence with Tobesofkee Creek	Approximately 4,230 feet upstream of Midway Road	Regression Equation	WSPIN Computer Program	06/01/1977	AE	
Lake Tobesofkee Tributary	Approximately 4,230 feet upstream of Midway Road	Approximately 6,100 feet upstream of Midway Road	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Langford Creek	Confluence with Ocmulgee River	Approximately 440 feet upstream of Forrest Hill Road	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Langford Creek	Approximately 440 feet upstream of Forrest Hill Road	Approximately 3,410 feet upstream of Wesleyan Drive	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses continued

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Ocmulgee River	Houston, Twiggs County boundary	At Southern Railroad	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Ocmulgee River	At Southern Railroad	Monroe and Jones County boundary	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	Gages 022130000 and 02213700 were used in hydrologic analysis. With and without levee analyses were performed for the reach affected by the levee (Levee ID 5405000002).
Rocky Creek	Confluence with Tobesofkee Creek	Monroe County boundary	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Rocky Creek Tributary 2	Confluence with Rocky Creek	Approximately 1,400 feet upstream of I-75	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Rocky Creek Tributary 2	Approximately 1,400 feet upstream of I-75	Approximately 95 feet upstream of Anthony Road	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Savage Creek	Confluence with Ocmulgee River	Approximately 180 feet downstream of Brittany Downs	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Savage Creek	Approximately 180 feet downstream of Brittany Downs	Approximately 100 feet upstream of Billingswood Drive	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Savage Creek Tributary No. 1	Confluence with Savage Creek	Approximately 350 feet upstream of Elnora Drive	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Savage Creek Tributary No. 2	Confluence with Savage Creek	Approximately 3,700 feet upstream of Forest Hill Road	USACE, Flood Plain Information Reports	USACE, Flood Plain Information Reports	06/01/1977	AE	

Table 13: Summary of Hydrologic and Hydraulic Analyses continued

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Savage Creek Tributary No. 3	Confluence with Savage Creek	Approximately 480 feet upstream of South Beechwood Drive	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Savage Creek Tributary No. 4	Confluence with Savage Creek	Approximately 330 feet upstream of Sprucewood Drive	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Savage Creek Tributary No. 5	Confluence with Savage Creek	Approximately 548 feet upstream of Kathryn Drive	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Stone Creek	Approximately 820 feet downstream of U.S. Highway 23	At I-16	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Stone Creek	At I-16	Approximately 1,500 feet upstream of Davis Road	Regression Equation	WSPIN Computer Program	06/01/1977	AE	
Swift Creek	Confluence with Ocmulgee River	Jones County boundary	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Tobesofkee Creek	Confluence with Ocmulgee River	Approximately 200 feet downstream of I-75	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Tobesofkee Creek	Approximately 200 feet downstream of I-75	Approximately 1,015 feet downstream of Monroe County boundary	USACE, Flood Plain Information Reports	USACE, Flood Plain Information Reports	06/01/1977	AE	

Table 13: Summary of Hydrologic and Hydraulic Analyses continued

Flooding Source	Study Limits		Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
	Downstream Limit	Upstream Limit					
Tobesofkee Creek	Approximately 1,015 feet downstream of Monroe County boundary	Monroe County boundary	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Tobesofkee Creek Tributary No. 1	Confluence with Tobesofkee Creek	Approximately 160 feet downstream of Eisenhower Parkway	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Tobesofkee Creek Tributary No. 1	Approximately 160 feet downstream of Eisenhower Parkway	Approximately 160 feet upstream of Columbus Road	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Walnut Creek	Confluence with Ocmulgee River	Approximately 380 feet downstream of Jones County boundary	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	Gage 02213050 was used in hydrologic analysis.
Walnut Creek	Approximately 380 feet downstream of Jones County boundary	Jones County boundary	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	
Wolf Creek	Confluence with Rocky Creek	Approximately 130 feet upstream of Bass Road	Regression Equation	HEC-RAS 4.1.0	06/13/2014	AE	
Wolf Creek	Approximately 130 feet upstream of Bass Road	Approximately 480 feet upstream of Railroad	Regression Equation	HEC-RAS 4.1.0	06/13/2014	A	

Table 14: Roughness Coefficients

Flooding Source	Channel “n”	Overbank “n”
All Zone A streams in HUC-8 03070103	0.030-0.060	0.060-0.150
Beaverdam Creek	0.032-0.080	0.050-0.150
Beaverdam Creek Tributary 2	0.045	0.060-0.120
Boggy Branch	0.035-0.060	0.060-0.120
Colaparchee Creek	0.035-0.060	0.060-0.140
Donnan Branch	0.035-0.060	0.060-0.140
Dry Bone Creek	0.035-0.060	0.060-0.140
Echeconnee Creek	0.032-0.080	0.050-0.150
Echeconnee Creek Tributary No. 1	0.032-0.080	0.050-0.150
Echeconnee Creek Tributary No. 1A	0.032-0.080	0.050-0.150
Hall Branch	0.035-0.060	0.060-0.140
Lake Tobesofkee Tributary	0.035-0.060	0.060-0.150
Langford Creek	0.040-0.060	0.06-0.150
Ocmulgee River	0.030-0.040	0.060-0.120
Rocky Creek	0.030-0.050	0.060-0.120
Rocky Creek Tributary 2	0.045	0.060-0.120
Savage Creek	0.040-0.050	0.065-0.150
Savage Creek Tributary No. 1	0.045	0.060-0.120
Savage Creek Tributary No. 2	0.032-0.080	0.050-0.150
Savage Creek Tributary No. 3	0.030-0.045	0.100-0.120
Savage Creek Tributary No. 4	0.040-0.050	0.080-0.120
Savage Creek Tributary No. 5	0.030-0.050	0.080-0.120
Stone Creek	0.035-0.060	0.060-0.140
Swift Creek	0.030-0.050	0.060-0.120
Tobesofkee Creek	0.035-0.060	0.060-0.140
Tobesofkee Creek Tributary No. 1	0.040-0.050	0.060-0.150
Walnut Creek	0.040	0.060-0.120
Wolf Creek	0.030-0.045	0.060-0.150

5.3 Coastal Analyses

This section is not applicable to this FIS project.

Table 15: Summary of Coastal Analyses

[Not Applicable to this FIS project]

5.3.1 Total Stillwater Elevations

This section is not applicable to this FIS project.

Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas

[Not Applicable to this FIS project]

Table 16: Tide Gage Analysis Specifics

[Not Applicable to this FIS project]

5.3.2 Waves

This section is not applicable to this FIS project.

5.3.3 Coastal Erosion

This section is not applicable to this FIS project.

5.3.4 Wave Hazard Analyses

This section is not applicable to this FIS project.

Table 17: Coastal Transect Parameters

[Not Applicable to this FIS project]

Figure 9: Transect Location Map

[Not Applicable to this FIS project]

5.4 Alluvial Fan Analyses

This section is not applicable to this FIS project.

Table 18: Summary of Alluvial Fan Analyses

[Not Applicable to this FIS project]

Table 19: Results of Alluvial Fan Analyses

[Not Applicable to this FIS project]

SECTION 6.0 – MAPPING METHODS

6.1 Vertical and Horizontal Control

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 used for newly created or revised FIS Reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD29). With the completion of the North American Vertical Datum of 1988 (NAVD88), many FIS Reports and FIRMs are now prepared using NAVD88 as the referenced vertical datum.

Flood elevations shown in this FIS Report and on the FIRMs are referenced to NAVD88. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between NGVD29 and NAVD88 or other datum conversion, visit the National Geodetic Survey website at 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

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 FIRMs for this community. Interested individuals may contact FEMA to access these data.

To obtain current elevation, description, and/or location information for benchmarks in the area, please contact information services Branch of the NGS at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

The datum conversion locations and values that were calculated for Macon - Bibb County are provided in Table 20.

Table 20: Countywide Vertical Datum Conversion

[Not Applicable to this FIS project]

Table 21: Stream-by-Stream Vertical Datum Conversion

[Not Applicable to this FIS project]

6.2 Base Map

The FIRMs and FIS Report for this project have been produced in a digital format. The flood hazard information was converted to a Geographic Information System (GIS) format that meets FEMA's FIRM database specifications and geographic information standards. This information is

provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community. The FIRM Database includes most of the tabular information contained in the FIS Report in such a way that the data can be associated with pertinent spatial features. For example, the information contained in the Floodway Data table and Flood Profiles can be linked to the cross sections that are shown on the FIRMs. Additional information about the FIRM Database and its contents can be found in FEMA’s *Guidelines and Standards for Mapping Partners*, Appendix L.

Base map information shown on the FIRM was derived from the sources described in Table 22.

Table 22: Base Map Sources

Data Type	Data Provider	Data Date	Data Scale	Data Description
County Boundary	Georgia Department of Transportation	10/13/2000	N/A	S_Pol_Ar. County Boundary.
Digital Orthophoto	Bibb County	04/24/2013	N/A	S_Base_Index Orthophotography S_Base_Index table contains information about the raster data used as a base map for the study area.
Incorporated Community Boundaries	Bibb County	01/29/2013	N/A	S_Pol_Ar. Corporate Boundaries.
Transportation Features	Bibb County	01/29/2013	N/A	S_Trnsport_Ln. All roads and railroads within the study area.
Surface Water Features	Georgia Department of Transportation	04/12/2001	N/A	S_Wtr_Ar.

6.3 Floodplain and Floodway Delineation

The FIRM shows tints, screens, and symbols to indicate floodplains and floodways as well as the locations of selected cross sections used in the hydraulic analyses and floodway computations. For riverine flooding sources, the mapped floodplain boundaries shown on the FIRM have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in Table 23.

In cases where the 1% and 0.2% annual chance floodplain boundaries are close together, only the 1% 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.

The floodway widths 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. Table 2 indicates the flooding sources for which floodways have been determined. The results of the floodway computations for those flooding sources have been

tabulated for selected cross sections and are shown in Table 24, “Floodway Data.”

Table 23: Summary of Topographic Elevation Data used in Mapping

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Macon-Bibb County	All streams in HUC-8 03070103	LiDAR	N/A	2 ft	Atlanta Regional Commission (ARC) 2010

BFEs shown at cross sections on the FIRM represent the 1% annual chance water surface elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report.

Table 24: Floodway Data

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	1,410	73	573	6.7	325.3	301.6 ²	301.7	0.1
B	2,406	219	1,242	3.1	325.9	307.9 ³	307.9	0.0
C	3,895	68	699	5.5	325.9	310.0 ³	310.3	0.3
D	5,690	190	1,392	2.8	325.9	315.0 ³	315.1	0.1
E	6,300	87	854	4.5	325.9	315.5 ³	315.8	0.3
F	7,580	56	587	6.6	325.9	317.3 ³	318.0	0.7
G	9,161	48	557	6.4	325.9	323.8 ³	324.2	0.4
H	10,420	50	603	5.9	326.3	326.3	327.3	1.0
I	12,370	63	676	5.2	330.4	330.4	331.0	0.6
J	14,341	56	507	6.1	337.7	337.7	337.7	0.0
K	16,810	59	468	6.6	344.7	344.7	345.6	0.9
L	19,221	150	709	3.2	354.6	354.6	354.8	0.2
M	21,470	48	363	6.2	358.2	358.2	359.2	1.0
N	23,310	48	415	5.4	364.6	364.6	364.6	0.0

¹ Feet above confluence with Ocmulgee River

² Elevation computed without consideration of flooding controlled by Ocmulgee River

³ Elevation computed without consideration of backwater effects from Ocmulgee River

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

MACON – BIBB COUNTY, GA

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BEAVERDAM 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	443	33	308	5.5	342.3	342.3	342.4	0.1
B	1,475	69	251	6.7	345.8	345.8	345.8	0.0
C	2,875	220	681	2.5	351.9	351.9	352.7	0.8

¹ Feet above confluence with Beaverdam Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

MACON – BIBB COUNTY, GA

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BEAVERDAM CREEK 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	8,580	162	192	1.9	293.0	288.3 ²	288.9	0.6
B	9,580	32	107	3.3	293.0	290.9 ³	291.3	0.4
C	11,080	22	56	4.5	295.2	295.2	295.2	0.0
D	12,580	714	9,169	0.0	320.2	320.2	320.2	0.0
E	14,080	475	4,182	0.1	320.2	320.2	320.2	0.0
F	15,636	141	308	0.7	320.2	320.2	320.2	0.0
G	17,146	15	43	4.5	327.6	327.6	328.5	0.9
H	18,646	23	64	2.5	336.3	336.3	337.1	0.8

¹ Feet above confluence with Ocmulgee River

² Elevation computed without consideration of backwater effects from Ocmulgee River

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

MACON – BIBB COUNTY, GA

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BOGGY BRANCH

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	0	58	258	8.1	395.9	394.2 ²	395.2	1.0
B	424	120	356	5.8	398.9	398.9	399.0	0.1
C	556	120	581	3.6	400.4	400.4	400.9	0.5
D	2,550	46	347	6.0	404.1	404.1	405.0	0.9
E	4,155	58	372	5.4	407.3	407.3	407.6	0.3
F	6,735	50	319	6.3	416.9	416.9	416.9	0.0
G	9,450	50	340	4.0	422.9	422.9	423.3	0.4
H	10,975	50	353	3.9	425.2	425.2	425.5	0.3
I	11,388	52	229	5.9	429.3	429.3	429.3	0.0
J	12,515	36	184	7.4	431.6	431.6	431.7	0.1
K	12,984	35	173	7.9	435.8	435.8	435.8	0.0
L	13,150	50	320	4.3	439.2	439.2	439.2	0.0
M	14,120	42	133	10.3	443.9	443.9	443.9	0.0
N	14,320	50	175	7.8	464.3	464.3	465.1	0.8

¹ Feet above confluence with Lake Wildwood

² Elevation computed without consideration of backwater effects from Rocky Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: COLAPARCHEE 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	4,100	281	794	1.8	382.3	382.3	382.3	0.0
B	9,200	228	425	2.2	418.8	418.8	418.8	0.0
C	9,600	250	539	1.7	420.7	420.7	420.7	0.0

¹ Feet above confluence with Stone Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: DONNAN BRANCH

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	1,400	283	3,694	4.3	319.6	319.6	320.6	1.0

¹ Feet above confluence with Walnut Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

MACON – BIBB COUNTY, GA

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: DRY BONE CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH ² (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	6,000	1,469/353	8,812	2.3	262.5	262.5	263.5	1.0
B	10,220	1,342/1,309	10,998	1.5	263.6	263.6	264.6	1.0
C	14,350	900/408	5,908	2.8	265.6	265.6	266.1	0.5
D	15,790	1,650/1,402	12,003	1.4	267.4	267.4	268.0	0.6
E	17,920	1,950/1,714	15,386	1.1	268.2	268.2	268.8	0.6
F	21,060	2,416/1,256	14,012	1.2	269.1	269.1	269.8	0.7
G	23,830	1,903/486	11,999	1.4	271.0	271.0	271.6	0.6
H	26,360	1,350/502	9,546	1.7	272.6	272.6	273.1	0.5
I	33,210	1,500/540	11,176	1.5	276.4	276.4	277.4	1.0
J	37,150	2,111/742	18,110	0.9	277.8	277.8	278.7	0.9
K	40,530	1,171/833	7,971	2.1	279.2	279.2	280.1	0.9
L	43,000	1,006/876	6,708	2.5	283.3	283.3	283.5	0.2
M	45,200	1,824/1,451	13,582	1.2	284.8	284.8	285.5	0.7
N	48,000	650/622	2,666	6.2	286.5	286.5	287.0	0.5
O	56,000	1,188/1,173	9,780	1.9	288.7	288.7	289.7	1.0
P	62,390	1,087/653	8,988	2.0	291.1	291.1	292.1	1.0
Q	68,900	1,400/757	11,482	1.6	295.8	295.8	296.8	1.0
R	76,400	1,260/585	9,189	1.9	299.6	299.6	300.6	1.0
S	82,400	1,815/1,806	13,992	1.2	300.6	300.6	301.6	1.0
T	85,950	1,750/1,760	9,999	1.7	303.8	303.8	304.8	1.0
U	90,600	2,020/1,760	9,727	1.8	307.8	307.8	308.8	1.0

¹ Feet above confluence with Ocmulgee River

² Total width/width within county

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

MACON – BIBB COUNTY, GA

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: ECHECONNIE 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	3,570	450	1,913	1.7	282.4	282.4	283.2	0.8
B	3,964	145	451	7.1	282.9	282.9	283.7	0.8
C	4,410	245	1,080	2.8	288.4	288.4	288.5	0.1
D	5,285	155	892	3.4	292.2	292.2	292.7	0.5
E	5,850	97	607	4.9	293.2	293.2	293.7	0.2
F	7,320	246	1,631	1.8	296.3	296.3	296.7	0.4
G	8,865	64	327	9.2	299.1	299.1	299.5	0.4
H	10,775	365	2,037	1.5	306.9	306.9	307.8	0.9
I	11,260	180	1,391	2.2	307.5	307.5	308.4	0.9
J	12,520	155	714	4.2	309.6	309.6	310.1	0.5
K	13,365	170	1,024	1.6	311.3	311.3	312.2	0.9
L	14,370	249	1,373	1.7	315.5	315.5	315.9	0.4
M	15,827	150	548	2.3	316.5	316.5	317.3	0.8
N	16,390	723	2,691	0.1	319.5	319.5	320.3	0.8
O	17,720	130	491	0.7	321.0	321.0	321.2	0.2
P	18,520	40	48	6.8	322.8	322.8	322.8	0.0
Q	18,770	237	3,542	0.4	341.8	341.8	341.8	0.0
R	19,335	83	1,294	1.1	341.8	341.8	341.8	0.0
S	21,900	120	1,727	0.8	341.8	341.8	341.9	0.1
T	22,700	85	559	2.6	341.8	341.8	342.0	0.2
U	23,675	50	336	3.3	341.8	341.8	342.6	0.8
V	24,800	70	130	7.5	344.3	344.3	344.4	0.1
W	25,680	28	163	2.7	349.1	349.1	349.9	0.8
X	27,350	20	53	8.2	354.5	354.5	355.2	0.7

¹ Feet above confluence with Echeconnee Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: ECHECONNEE CREEK TRIBUTARY NO.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	268	86	310	2.8	347.0	347.0	347.6	0.6
B	608	14	68	12.5	348.5	348.5	348.6	0.1
C	658	77	241	3.6	351.5	351.5	351.5	0.0
D	788	24	147	5.8	351.6	351.6	351.6	0.0
E	1,288	17	91	9.5	355.4	355.4	355.5	0.1

¹ Feet above confluence with Echeconnee Creek Tributary No.1

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

MACON – BIBB COUNTY, GA

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: ECHECONNIE CREEK TRIBUTARY NO.1A

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	1,200	323	292	4.8	334.2	334.2	334.2	0.0
B	2,200	309	3,514	0.4	334.6	334.6	335.6	1.0
C	7,900	166	462	2.1	373.4	373.4	373.4	0.0

¹ Feet above confluence with Stone Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

MACON – BIBB COUNTY, GA

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: HALL BRANCH

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	2,000	67	397	5.3	364.6	363.5 ²	364.5	1.0
B	3,600	154	894	2.3	366.7	366.7	367.4	0.7
C	4,200	92	555	3.8	367.4	367.4	368.2	0.8
D	5,200	160	1,655	1.3	372.0	372.0	372.2	0.2
E	6,550	225	472	4.4	377.3	377.3	377.5	0.2
F	8,920	230	435	3.8	385.5	385.5	386.1	0.6
G	10,450	90	481	3.4	390.9	390.9	391.0	0.1
H	11,850	70	312	3.0	392.8	392.8	393.4	0.6
I	13,600	150	162	5.7	404.3	404.3	404.3	0.0
J	15,150	140	430	2.1	414.0	414.0	414.3	0.3
K	16,900	119	208	4.4	419.3	419.3	419.4	0.1
L	19,150	150	421	2.2	433.9	433.9	434.2	0.3

¹ Feet above confluence with Tobesofkee Creek/Lake Tobesofkee

² Elevation computed without consideration of backwater effects from Tobesofkee Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: LAKE TOBESOFKEE TRIBUTARY

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	2,083	26	129	7.6	318.0	318.0	318.5	0.5
B	3,444	42	167	5.9	329.8	329.8	329.8	0.0
C	5,003	19	112	7.3	338.0	338.0	338.4	0.4
D	6,443	19	99	8.2	349.2	349.2	350.1	0.9
E	6,909	20	129	6.3	353.5	353.5	354.1	0.6
F	8,113	47	105	7.8	362.6	362.6	362.6	0.0

¹ Feet above confluence with Ocmulgee River

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: LANGFORD 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	70,517	14,983	153,087	0.6	278.9	278.9	279.8	0.9
B	71,640	14,589	139,350	0.6	278.9	278.9	279.9	1.0
C	73,449	13,401	115,182	0.7	279.1	279.1	280.1	1.0
D	74,932	13,226	107,664	0.8	279.2	279.2	280.2	1.0
E	78,616	13,050	104,149	0.8	279.3	279.3	280.3	1.0
F	80,937	13,273	100,499	0.8	279.5	279.5	280.5	1.0
G	84,228	13,309	106,347	0.8	279.7	279.7	280.7	1.0
H	86,014	13,204	102,465	0.8	279.9	279.9	280.8	0.9
I	88,355	13,923	114,184	0.7	280.0	280.0	281.0	1.0
J	89,920	15,084	128,346	0.7	280.1	280.1	281.1	1.0
K	91,812	15,539	125,405	0.7	280.1	280.1	281.1	1.0
L	99,504	7,435	24,680	3.5	280.4	280.4	281.3	0.9
M	102,689	7,149	35,722	2.4	283.3	283.3	283.7	0.4
N	104,226	6,626	34,548	2.5	283.9	283.9	284.3	0.4
O	106,275	7,082	30,333	2.9	284.8	284.8	285.0	0.2
P	111,963	7,320	55,764	1.6	287.2	287.2	287.8	0.6
Q	114,344	6,144	48,763	1.8	287.9	287.9	288.5	0.6
R	116,206	4,584	37,863	2.3	288.8	288.8	289.4	0.6
S	118,206	4,623	39,488	2.2	290.2	290.2	290.7	0.5
T	124,206	1,706	17,518	5.4	295.0	295.0	295.7	0.7
U	125,206	1,272	12,252	7.8	295.9	295.9	296.4	0.5
V	126,967	339	7,499	12.7	299.0	299.0	299.4	0.4
W	128,508	614	12,440	7.6	303.2	303.2	303.4	0.2

¹ Feet above Bibb County Boundary

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: OCMULGEE RIVER (RIVERWARD OF LEVEE)

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
X	130,206	497	13,673	7.0	305.4	305.4	305.6	0.2
Y	131,706	463	13,513	7.0	307.2	307.2	307.7	0.5
Z	133,206	520	12,987	7.3	307.7	307.7	308.2	0.5
AA	135,424	915	23,695	4.0	309.5	309.5	310.1	0.6
AB	137,206	1,027	25,490	3.7	309.9	309.9	310.4	0.5
AC	138,706	1,080	24,282	3.9	310.2	310.2	310.8	0.6
AD	140,206	1,315	28,489	3.3	310.8	310.8	311.4	0.6
AE	141,706	1,274	24,334	3.9	311.1	311.1	311.8	0.7
AF	144,206	874	17,729	5.3	311.8	311.8	312.4	0.6
AG	145,706	562	15,324	6.2	312.1	312.1	312.8	0.7
AH	147,206	1,491	34,068	2.8	313.0	313.0	313.8	0.8
AI	148,706	1,073	21,943	4.3	313.2	313.2	314.0	0.8
AJ	150,206	708	20,358	4.6	313.7	313.7	314.5	0.8
AK	151,706	1,745	32,022	3.0	314.1	314.1	314.9	0.8
AL	153,206	1,299	28,965	3.3	314.3	314.3	315.2	0.9
AM	154,706	1,020	25,231	3.7	314.6	314.6	315.5	0.9
AN	156,206	1,098/232 ²	25,966	3.6	314.9	314.9	315.8	0.9
AO	157,706	917/587 ²	21,951	4.3	315.3	315.3	316.1	0.8
AP	159,206	1,170/996 ²	25,715	3.7	315.7	315.7	316.6	0.9
AQ	160,706	1,452/1,038 ²	31,153	3.0	316.2	316.2	317.1	0.9
AR	162,206	2,005/973 ²	40,609	2.3	316.7	316.7	317.6	0.9
AS	163,706	1,936/808 ²	38,766	2.4	316.9	316.9	317.8	0.9
AT	165,706	924/520 ²	20,963	4.5	317.3	317.3	318.2	0.9

¹ Feet above Bibb County Boundary

² Width/width within county boundary

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

MACON – BIBB COUNTY, GA

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: OCMULGEE RIVER (RIVERWARD OF LEVEE)

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH ² (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AU	167,206	703/241	16,969	5.5	317.4	317.4	318.3	0.9
AV	168,706	585/178	15,203	6.2	317.9	317.9	318.8	0.9
AW	170,706	486/223	14,956	6.3	319.9	319.9	320.6	0.7
AX	172,206	637/192	17,293	5.4	320.5	320.5	321.2	0.7
AY	173,706	1,010/216	25,516	3.6	321.0	321.0	321.8	0.8
AZ	175,206	849/186	19,102	4.9	321.2	321.2	321.9	0.7
BA	176,706	614/222	15,768	5.9	321.5	321.5	322.3	0.8
BB	178,206	1,087/141	16,407	5.7	321.8	321.8	322.6	0.8
BC	179,706	808/268	16,622	5.6	322.7	322.7	323.5	0.8
BD	181,206	687/404	14,172	6.6	323.4	323.4	324.2	0.8
BE	182,706	622/243	14,603	6.4	324.2	324.2	324.8	0.6
BF	184,206	720/174	12,824	7.2	324.8	324.8	325.6	0.8
BG	185,706	845/178	16,027	5.8	325.9	325.9	326.8	0.9
BH	187,424	778/248	14,837	6.3	326.6	326.6	327.5	0.9

¹ Feet above Bibb County Boundary

² Width/width within county boundary

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

MACON – BIBB COUNTY, GA

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: OCMULGEE RIVER (RIVERWARD OF LEVEE)

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
L	99,504	7,435	24,680	3.5	280.3	280.3	281.2	0.9
M	102,689	7,149	35,722	2.4	280.8	280.8	281.2	0.4
N	104,226	6,626	34,548	2.5	280.9	280.9	281.3	0.4
O	106,275	7,082	30,333	2.9	281.3	281.3	281.5	0.2
P	111,963	7,320	55,764	1.6	282.8	282.8	283.4	0.6
Q	114,344	6,144	48,763	1.8	283.9	283.9	284.5	0.6
R	116,206	4,584	37,863	2.3	284.9	284.9	285.5	0.6
S	118,206	4,623	39,488	2.2	286.4	286.4	286.9	0.5
T	124,206	1,706	17,518	5.4	293.0	293.0	293.7	0.7
U	125,206	1,272	12,252	7.8	294.3	294.3	294.8	0.5
V	126,967	339	7,499	12.7	297.9	297.9	298.3	0.4

¹ Feet above Bibb County Boundary

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: OCMULGEE RIVER (LANDWARD OF LEVEE)

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	13,249	1,191	6,647	0.9	283.6	283.6	284.3	0.7
B	15,000	1,545	8,503	0.7	283.9	283.9	284.6	0.7
C	16,570	815	4,270	1.5	284.2	284.2	285.1	0.9
D	18,037	692	3,446	1.8	285.4	285.4	286.3	0.9
E	19,439	607	2,856	2.2	287.2	287.2	288.1	0.9
F	21,337	472	2,765	2.2	291.2	291.2	291.6	0.4
G	23,226	679	4,741	1.3	294.6	294.6	294.7	0.1
H	25,590	1,633	8,574	0.7	294.8	294.8	295.1	0.3
I	26,968	1,229	4,736	1.3	295.3	295.3	295.9	0.6
J	28,536	1,102	4,565	1.4	297.4	297.4	298.2	0.8
K	30,263	1,036	4,501	1.4	300.0	300.0	300.9	0.9
L	32,782	1,245	7,928	0.8	307.2	307.2	308.2	1.0
M	34,536	750	1,872	3.3	309.8	309.8	310.5	0.7
N	36,034	119	1,211	5.1	314.9	314.9	315.9	1.0
O	37,465	71	742	8.4	319.6	319.6	319.6	0.0
P	38,902	82	1,248	5.0	326.6	326.6	326.8	0.2
Q	40,465	224	2,683	2.3	328.5	328.5	328.9	0.4
R	41,965	271	2,738	2.3	329.5	329.5	330.1	0.6
S	43,503	302	2,557	2.4	330.8	330.8	331.5	0.7
T	44,980	336	3,447	1.8	332.1	332.1	332.9	0.8
U	46,497	406	3,454	1.8	332.7	332.7	333.6	0.9
V	47,465	160	1,475	4.2	334.2	334.2	334.6	0.4
W	49,437	173	1,548	4.0	335.6	335.6	336.5	0.9

¹ Feet above confluence with Tobesofkee Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: ROCKY 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
X	50,872	307	2,528	2.5	337.8	337.8	338.6	0.8
Y	52,648	210	1,624	3.3	338.9	338.9	339.9	1.0
Z	53,965	143	1,308	4.1	341.1	341.1	342.0	0.9
AA	55,621	120	909	5.9	343.3	343.3	344.2	0.9
AB	57,286	65	480	11.1	347.8	347.8	347.9	0.1
AC	58,866	83	906	5.8	353.9	353.9	354.8	0.9
AD	60,465	612	4,660	1.1	356.4	356.4	357.3	0.9
AE	62,168	174	1,306	4.0	357.7	357.7	358.6	0.9
AF	63,965	163	1,518	3.4	360.9	360.9	361.7	0.8
AG	65,395	277	2,029	2.5	362.4	362.4	363.3	0.9
AH	66,893	532	2,634	1.9	363.9	363.9	364.8	0.9
AI	69,088	168	1,270	3.9	367.8	367.8	368.8	1.0
AJ	70,424	230	1,858	2.7	372.4	372.4	372.8	0.4
AK	71,639	365	2,267	2.2	373.2	373.2	373.8	0.6
AL	73,465	90	945	5.2	377.1	377.1	377.4	0.3
AM	75,034	388	2,883	1.7	378.5	378.5	379.1	0.6
AN	76,527	203	1,335	3.5	379.3	379.3	380.0	0.7
AO	77,822	66	462	10.0	380.7	380.7	381.5	0.8
AP	79,314	1,026	14,056	0.3	395.8	395.8	395.8	0.0
AQ	81,049	799	10,059	0.3	395.8	395.8	395.8	0.0
AR	82,314	572	7,354	0.3	395.8	395.8	395.8	0.0
AS	83,814	393	3,230	0.8	395.8	395.8	395.8	0.0
AT	85,193	275	1,617	1.5	405.5	405.5	405.8	0.3

¹ Feet above confluence with Tobesofkee Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: ROCKY 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
AU	86,683	106	504	4.7	407.1	407.1	407.8	0.7
AV	88,314	77	408	5.6	412.9	412.9	413.7	0.8
AW	89,814	84	379	6.0	417.3	417.3	418.0	0.7
AX	91,227	45	329	6.5	422.0	422.0	422.6	0.6
AY	92,686	154	766	2.8	434.6	434.6	435.5	0.9
AZ	94,214	190	766	2.7	438.7	438.7	439.6	0.9
BA	95,918	46	352	5.6	444.2	444.2	445.0	0.8
BB	97,307	61	253	7.8	451.6	451.6	452.2	0.6
BC	98,862	166	669	2.7	457.9	457.9	458.7	0.8
BD	99,982	50	419	4.1	463.3	463.3	464.3	1.0
BE	101,308	50	279	6.2	466.9	466.9	467.2	0.3
BF	102,531	49	343	4.7	470.3	470.3	471.1	0.8

¹ Feet above confluence with Tobesofkee Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: ROCKY 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	866	240	663	3.0	291.6	290.3 ²	291.3	1.0
B	2,346	58	319	4.7	296.3	296.3	296.9	0.6
C	4,046	39	186	8.0	302.3	302.3	302.3	0.0
D	5,526	37	171	7.6	311.1	311.1	311.2	0.1
E	7,038	48	189	6.3	321.2	321.2	321.3	0.1
F	8,425	87	390	3.1	331.9	331.9	331.9	0.0
G	9,566	31	175	6.2	340.2	340.2	340.2	0.0

¹ Feet above confluence with Rocky Creek

² Elevation computed without consideration of backwater effects from Rocky Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: ROCKY CREEK 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	3,467	170	794	2.7	317.0 ²	301.5	302.4	0.9
B	5,289	72	422	4.6	317.0 ²	307.1	307.5	0.4
C	7,062	61	286	5.9	317.0 ²	312.9	313.5	0.6
D	8,983	39	263	6.5	322.0	322.0	322.5	0.5
E	10,514	60	316	5.4	329.2	329.2	329.6	0.4
F	12,088	43	155	8.4	335.8	335.8	335.9	0.1
G	13,647	40	200	5.9	344.4	344.4	344.4	0.0
H	14,971	37	143	7.0	353.3	353.3	353.4	0.1
I	16,552	40	154	6.5	363.0	363.0	363.0	0.0
J	18,187	25	118	6.8	373.0	373.0	373.5	0.5
K	19,702	31	104	7.7	383.9	383.9	384.0	0.1
L	21,333	35	166	4.8	397.8	397.8	398.4	0.6
M	22,858	17	105	7.6	409.7	409.7	409.9	0.2

¹ Feet above confluence with Ocmulgee River

² Elevation computed without consideration of backwater effects from Ocmulgee River

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: SAVAGE 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	707	20	108	5.9	317.0 ²	313.5	314.0	0.5
B	2,465	16	75	8.4	325.3	325.3	325.4	0.1
C	3,904	98	163	3.9	351.7	351.7	352.6	0.9
D	4,655	95	283	2.2	354.2	354.2	355.2	1.0

¹ Feet above confluence with Savage Creek

² Backwater effects from the Ocmulgee River

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

MACON – BIBB COUNTY, GA

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: SAVAGE CREEK TRIBUTARY NO.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	745	233	663	1.7	340.1	340.1	340.1	0.0
B	1,545	281	3,416	0.2	363.6	363.6	363.6	0.0
C	3,395	26	83	5.7	377.6	377.6	377.6	0.0
D	5,045	65	100	3.4	398.7	398.7	398.7	0.0

¹ Feet above confluence with Savage Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: SAVAGE CREEK TRIBUTARY NO.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	308	16	53	5.3	346.8	346.8	347.4	0.6
B	1,678	436	3,400	0.1	373.1	373.1	373.1	0.0
C	3,237	14	39	7.3	393.8	393.8	393.8	0.0

¹ Feet above confluence with Savage Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

MACON – BIBB COUNTY, GA

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: SAVAGE CREEK TRIBUTARY NO.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	57	23	118	4.1	350.1	350.1	351.0	0.9
B	1,646	25	102	4.7	361.4	361.4	362.3	0.9
C	3,114	43	214	2.2	378.7	378.7	379.3	0.6
D	4,638	18	68	7.1	389.9	389.9	390.1	0.2

¹ Feet above confluence with Savage Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: SAVAGE CREEK TRIBUTARY NO.4

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	214	19	87	4.1	371.3	371.3	371.4	0.1
B	1,727	24	95	3.8	385.4	385.4	385.8	0.4
C	3,141	19	81	4.4	402.9	402.9	402.9	0.0
D	4,341	19	42	8.5	420.9	420.9	420.9	0.0
E	5,616	16	84	4.3	435.4	435.4	436.3	0.9

¹ Feet above confluence with Savage Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: SAVAGE CREEK TRIBUTARY NO.5

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	100	657	3,693	1.6	293.7	293.7	294.7	1.0
B	4,400	547	3,300	1.7	298.6	298.6	299.6	1.0
C	10,500	496	2,287	2.2	314.1	314.1	315.1	1.0
D	11,400	370	1,993	2.5	315.5	315.5	316.5	1.0
E	16,100	385	1,785	2.5	325.0	325.0	326.0	1.0
F	19,000	361	1,922	2.3	335.3	335.3	336.3	1.0
G	21,600	359	1,659	1.9	343.2	343.2	344.2	1.0
H	21,900	471	1,947	1.6	344.8	344.8	345.8	1.0
I	30,500	259	900	2.1	376.2	376.2	376.2	0.0
J	30,900	340	1,090	1.7	378.4	378.4	378.4	0.0

¹ Feet above Interstate Highway 16

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: STONE 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	4,410	299	773	0.8	280.5	280.5	281.3	0.8
B	5,857	148	251	2.4	283.2	283.2	284.1	0.9
C	7,401	404	1,645	0.4	288.9	288.9	289.8	0.9
D	8,944	141	482	1.3	291.7	291.7	292.0	0.3
E	10,533	139	342	1.8	294.4	294.4	295.2	0.8
F	11,949	78	282	2.2	300.9	300.9	301.9	1.0
G	13,533	383	3,585	0.2	309.1	309.1	309.1	0.0
H	15,258	125	130	4.7	310.0	310.0	310.1	0.1
I	16,879	48	123	4.3	315.3	315.3	316.2	0.9
J	18,535	299	487	1.1	320.0	320.0	320.0	0.0
K	19,887	156	295	1.8	323.0	323.0	323.9	0.9
L	21,586	69	157	3.0	328.7	328.7	329.5	0.8
M	23,035	57	194	2.3	330.6	330.6	331.4	0.8
N	24,270	33	156	2.8	333.2	333.2	333.7	0.5
O	25,844	221	2,609	0.2	345.5	345.5	345.7	0.2
P	27,424	140	1,123	0.4	345.5	345.5	345.7	0.2
Q	28,978	89	378	0.9	345.5	345.5	345.7	0.2
R	30,565	68	128	2.6	349.1	349.1	349.3	0.2
S	32,065	280	423	0.7	358.3	358.3	358.3	0.0

¹ Feet above confluence with Ocmulgee River

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: SWIFT 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	43,500	1,712	21,385	0.8	303.2	303.2	304.2	1.0
B	49,800	1,609	13,270	1.3	303.7	303.7	304.7	1.0
C	60,200	760	3,295	5.0	314.1	314.1	315.1	1.0
D	62,800	196	2,637	6.2	321.4	321.4	322.4	1.0
E	64,400	343	2,848	5.7	323.1	323.1	323.1	0.0
F	64,700	248	1,903	8.6	323.6	323.6	323.6	0.0
G	68,600	815	8,595	1.9	329.6	329.6	330.6	1.0
H	72,500	232	3,557	4.5	335.6	335.6	336.6	1.0
I	75,400	289	4,729	3.4	337.6	337.6	338.6	1.0
J	78,000	253	4,463	3.5	337.8	337.8	338.8	1.0
K	116,400	185	1,642	9.0	373.4	373.4	373.4	0.0
L	119,000	197	1,785	8.2	378.8	378.8	378.8	0.0
M	121,000	189	1,663	8.8	381.6	381.6	381.6	0.0

¹ Feet above confluence with Ocmulgee River

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: TOBESOFKEE 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	1,989	320	1,336	1.3	303.8	303.6 ²	304.4	0.8
B	3,602	222	943	1.9	306.0	306.0	306.9	0.9
C	4,989	185	724	2.3	310.1	310.1	310.8	0.7
D	6,565	102	475	3.4	315.9	315.9	316.7	0.8
E	7,639	127	467	3.4	319.6	319.6	320.2	0.6
F	9,236	270	1,525	1.1	328.0	328.0	328.1	0.1
G	10,530	211	628	2.3	331.2	331.2	332.1	0.9
H	12,096	47	260	5.5	337.8	337.8	338.5	0.7
I	13,456	57	212	6.8	352.1	352.1	352.1	0.0

¹ Feet above confluence with Tobesofkee Creek

² Elevation computed without consideration of backwater effects from Tobesofkee Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

MACON – BIBB COUNTY, GA

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: TOBESOFKEE CREEK TRIBUTARY NO.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	9,767	1,297	2,619	4.1	293.3	293.3	294.2	0.9
B	11,170	671	6,031	1.8	302.5	302.5	302.5	0.0
C	12,544	1,137	9,003	1.2	303.2	303.2	303.3	0.1
D	14,044	233	1,947	5.5	303.7	303.7	303.9	0.2
E	15,553	455	4,079	2.6	306.8	306.8	306.9	0.1
F	17,027	739	6,538	1.6	307.9	307.9	308.2	0.3
G	18,455	386	3,917	2.7	309.3	309.3	310.3	1.0
H	20,103	268	2,687	4.0	311.0	311.0	311.9	0.9
I	21,553	270	2,904	3.7	312.5	312.5	313.3	0.8
J	23,553	310	3,343	3.2	315.5	315.5	316.3	0.8
K	25,408	873	10,197	1.1	317.6	317.6	318.5	0.9
L	26,788	1,082	9,440	1.1	317.8	317.8	318.7	0.9
M	28,553	633	4,295	2.5	318.3	318.3	319.1	0.8
N	30,198	402	3,421	3.1	323.8	323.8	324.4	0.6
O	32,053	156	1,675	6.4	327.4	327.4	328.1	0.7
P	32,973	425	4,138	2.6	330.1	330.1	331.1	1.0

¹ Feet above confluence with Ocmulgee River

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: WALNUT 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	617	289	956	2.5	337.8	334.7 ²	335.6	0.9
B	2,000	56	347	6.9	338.5	338.5	339.0	0.5
C	3,319	140	557	4.2	342.3	342.3	342.9	0.6
D	4,964	39	370	6.2	347.3	347.3	348.1	0.8
E	6,651	102	588	3.9	352.7	352.7	353.4	0.7
F	8,212	198	932	2.0	357.7	357.7	358.6	0.9
G	10,000	95	377	5.0	363.5	363.5	364.2	0.7
H	11,453	42	320	5.6	368.7	368.7	369.7	1.0
I	13,166	49	295	6.0	376.1	376.1	376.7	0.6
J	14,500	35	191	8.5	381.4	381.4	382.1	0.7
K	15,976	76	227	6.9	389.0	389.0	389.3	0.3
L	17,461	27	183	8.5	397.3	397.3	398.0	0.7
M	19,064	40	242	5.8	404.2	404.2	404.9	0.7
N	20,531	43	278	5.1	410.0	410.0	410.7	0.7
O	22,073	19	128	9.5	415.6	415.6	416.3	0.7
P	23,531	28	186	6.1	422.6	422.6	422.9	0.3
Q	25,010	28	125	7.5	430.7	430.7	431.1	0.4
R	26,529	404	2,595	0.4	449.7	449.7	450.7	1.0
S	27,966	68	294	2.7	451.6	451.6	452.5	0.9

¹ Feet above confluence with Rocky Creek

² Elevation computed without consideration of backwater effects from Rocky Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY
MACON – BIBB COUNTY, GA
 (ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: WOLF CREEK

Table 25: Flood Hazard and Non-Encroachment Data for Selected Streams

[Not Applicable to this FIS project]

6.4 Coastal Flood Hazard Mapping

This section is not applicable to this FIS project.

Table 26: Summary of Coastal Transect Mapping Considerations

[Not Applicable to this FIS project]

6.5 FIRM Revisions

This FIS Report and the FIRM are based on the most up-to-date information available to FEMA at the time of its publication; however, flood hazard conditions change over time. Communities or private parties may request flood map revisions at any time. Certain types of requests require submission of supporting data. FEMA may also initiate a revision. Revisions to FIS projects may take several forms, including Letters of Map Amendment (LOMAs), Letters of Map Revision Based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs) (referred to collectively as Letters of Map Change (LOMCs)), Physical Map Revisions (PMRs), and FEMA-contracted restudies. These types of revisions are further described below. Some of these types of revisions do not result in the republishing of the FIS Report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood-hazard data (shown in Table 31, “Map Repositories”).

6.5.1 Letters of Map Amendment

A LOMA is an official revision by letter to an effective NFIP map. A LOMA results from an administrative process that involves the review of scientific or technical data submitted by the owner or lessee of property who believes the property has incorrectly been included in a designated SFHA. A LOMA amends the currently effective FEMA map and establishes that a specific property is not located in a SFHA. A LOMA cannot be issued for properties located on the PFD (primary frontal dune).

To obtain an application for a LOMA, visit <http://www.fema.gov> and download the form “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill”. Visit the “Flood Map-Related Fees” section to determine the cost, if any, of applying for a LOMA.

FEMA offers a tutorial on how to apply for a LOMA. The LOMA Tutorial Series can be accessed at http://www.fema.gov/plan/prevent/fhm/ot_lmreq.shtm.

For more information about how to apply for a LOMA, call the FEMA Map Information eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627).

6.5.2 Letters of Map Revision Based on Fill

A LOMR-F is an official revision by letter to an effective NFIP map. A LOMR-F states FEMA’s determination concerning whether a structure or parcel has been elevated on fill above the base flood elevation and is, therefore, excluded from the SFHA.

Information about obtaining an application for a LOMR-F can be obtained in the same manner as that for a LOMA, by visiting <http://www.fema.gov> for the “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill” or by calling the FEMA Map Information eXchange, toll free, at 1-877-FEMA MAP (1-877-336-2627). Fees for applying for a LOMR-F, if any, are listed in the “Flood Map-Related Fees” section.

A tutorial for LOMR-F is available at http://www.fema.gov/plan/prevent/fhm/ot_lmreq.shtm.

6.5.3 Letters of Map Revision

A LOMR is an official revision to the currently effective FEMA map. It is used to change flood zones, floodplain and floodway delineations, flood elevations and planimetric features. All requests for LOMRs should be made to FEMA through the chief executive officer of the community, since it is the community that must adopt any changes and revisions to the map. If the request for a LOMR is not submitted through the chief executive officer of the community, evidence must be submitted that the community has been notified of the request.

To obtain an application for a LOMR, visit <http://www.fema.gov> and download the form “MT-2 Application Forms and Instructions for Conditional Letters of Map Revision and Letters of Map Revision”. Visit the “Flood Map-Related Fees” section to determine the cost of applying for a LOMR. For more information about how to apply for a LOMR, call the FEMA Map Information eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627) to speak to a Map Specialist.

Previously issued mappable LOMCs (including LOMRs) that have been incorporated into the Macon - Bibb County FIRM are listed in Table 27.

Table 27: Incorporated Letters of Map Change

[Not Applicable to this FIS project]

6.5.4 Physical Map Revisions

PMRs are an official republication of a community’s NFIP map to effect changes to base flood elevations, floodplain boundary delineations, regulatory floodways and planimetric features. These changes typically occur as a result of structural works or improvements, annexations resulting in additional flood hazard areas or correction to base flood elevations or SFHAs.

The community’s chief executive officer must submit scientific and technical data to FEMA to support the request for a PMR. The data will be analyzed and the map will be revised if warranted. The community is provided with copies of the revised information and is afforded a review period. When the base flood elevations are changed, a 90-day appeal period is provided. A 6-month adoption period for formal approval of the revised map(s) is also provided.

For more information about the PMR process, please visit <http://www.fema.gov> and visit the “Flood Map Revision Processes” section.

6.5.5 Contracted Restudies

The NFIP provides for a periodic review and restudy of flood hazards within a given community. FEMA accomplishes this through a national watershed-based mapping needs assessment strategy, known as the Coordinated Needs Management Strategy (CNMS). The CNMS is used by FEMA to assign priorities and allocate funding for new flood hazard analyses used to update the FIS Report and FIRM. The goal of CNMS is to define the validity of the engineering study data within a mapped inventory. The CNMS is used to track the assessment process, document engineering gaps and their resolution, and aid in prioritization for using flood risk as a key factor for areas identified for flood map updates. Visit www.fema.gov to learn more about the CNMS or contact the FEMA Regional Office listed in Section 8 of this FIS Report.

6.5.6 Community Map History

The current FIRM presents flooding information for the entire geographic area of Bibb County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBM) and/or Flood Boundary and Floodway Maps (FBFM) may have been prepared for the incorporated communities and the unincorporated areas in the county that had identified SFHAs. Current and historical data relating to the maps prepared for the project area are presented in Table 28, “Community Map History.” A description of each of the column headings and the source of the date is also listed below.

- *Community Name* includes communities falling within the geographic area shown on the FIRM, including those that fall on the boundary line, nonparticipating communities, and communities with maps that have been rescinded. Communities with No Special Flood Hazards are indicated by a footnote. If all maps (FHBM, FBFM, and FIRM) were rescinded for a community, it is not listed in this table unless SFHAs have been identified in this community.
- *Initial Identification Date (First NFIP Map Published)* is the date of the first NFIP map that identified flood hazards in the community. If the FHBM has been converted to a FIRM, the initial FHBM date is shown. If the community has never been mapped, the upcoming effective date or “pending” (for Preliminary FIS Reports) is shown. If the community is listed in Table 28 but not identified on the map, the community is treated as if it were unmapped.
- *Initial FHBM Effective Date* is the effective date of the first Flood Hazard Boundary Map (FHBM). This date may be the same date as the Initial NFIP Map Date.
- *FHBM Revision Date(s)* is the date(s) that the FHBM was revised, if applicable.
- *Initial FIRM Effective Date* is the date of the first effective FIRM for the community. This is the first effective date that is shown on the FIRM panel.
- *FIRM Revision Date(s)* is the date(s) the FIRM was revised, if applicable. This is the revised date that is shown on the FIRM panel, if applicable. As countywide studies are completed or revised, each community listed should have its FIRM dates updated accordingly to reflect the date of the countywide study. Once the FIRMs exist in countywide format, as Physical Map Revisions (PMR) of FIRM panels within the county are completed, the FIRM Revision Dates in the table for each community affected by the PMR are updated with the date of the PMR, even if the PMR did not revise all the panels within that community.

The initial effective date for the Macon - Bibb County FIRMs in countywide format was 04/02/2007.

Table 28: Community Map History

Community Name	Initial Identification Date (First NFIP Map Published)	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Macon – Bibb County	05/24/1974	05/24/1974	04/08/1977	09/28/1979	TBD 04/02/2007 09/22/1999 02/19/1997 01/02/1992 08/02/1990 06/01/1984

SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

7.1 Contracted Studies

Table 29 provides a summary of the contracted studies, by flooding source, that are included in this FIS Report.

Table 29: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
All Zone A streams in HUC-8 03070103	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Beaverdam Creek	03/28/1979	U.S. Soil Conservation Service	Interagency Agreement No. IAA-H-8-77, Project OrderNo.4	June 1977	Macon – Bibb County
Beaverdam Creek Tributary 2	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Boggy Branch	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Colaparchee Creek	01/02/1992	USACE, Savannah District	N/A	February 1990	Macon – Bibb County

Table 29: Summary of Contracted Studies Included in this FIS Report continued

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Donnan Branch	03/28/1979	U.S. Soil Conservation Service	Interagency Agreement No. IAA-H-8-77, Project Order No.4	June 1977	Macon – Bibb County
Dry Bone Creek	03/28/1979	U.S. Soil Conservation Service	Interagency Agreement No. IAA-H-8-77, Project Order No.4	June 1977	Macon – Bibb County
Echeconnee Creek	03/28/1979	U.S. Soil Conservation Service	Interagency Agreement No. IAA-H-8-77, Project Order No.4	June 1977	Macon – Bibb County
Echeconnee Creek Tributary No. 1	03/28/1979	U.S. Soil Conservation Service	Interagency Agreement No. IAA-H-8-77, Project Order No.4	June 1977	Macon – Bibb County
Echeconnee Creek Tributary No. 1A	03/28/1979	U.S. Soil Conservation Service	Interagency Agreement No. IAA-H-8-77, Project Order No.4	June 1977	Macon – Bibb County
Hall Branch	03/28/1979	U.S. Soil Conservation Service	Interagency Agreement No. IAA-H-8-77, Project Order No.4	June 1977	Macon – Bibb County
Lake Tobesofkee Tributary	03/28/1979	U.S. Soil Conservation Service	Interagency Agreement No. IAA-H-8-77, Project Order No.4	June 1977	Macon – Bibb County
Langford Creek	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Ocmulgee River	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Rocky Creek	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Rocky Creek Tributary 2	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County

Table 29: Summary of Contracted Studies Included in this FIS Report continued

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Savage Creek	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Savage Creek Tributary No. 1	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Savage Creek Tributary No. 2	03/28/1979	U.S. Soil Conservation Service	Interagency Agreement No. IAA-H-8-77, Project Order No.4	June 1977	Macon – Bibb County
Savage Creek Tributary No. 3	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Savage Creek Tributary No. 4	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Savage Creek Tributary No. 5	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Stone Creek	03/28/1979	U.S. Soil Conservation Service	Interagency Agreement No. IAA-H-8-77, Project Order No.4	June 1977	Macon – Bibb County
Swift Creek	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Tobesofkee Creek	03/28/1979	U.S. Soil Conservation Service	Interagency Agreement No. IAA-H-8-77, Project Order No.4	June 1977	Macon – Bibb County
Tobesofkee Creek Tributary No. 1	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Walnut Creek	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County
Wolf Creek	TBD	AECOM	FY11.13	June 2014	Macon – Bibb County

7.2 Community Meetings

The dates of the community meetings held for this FIS project and any previous FIS projects are shown in Table 30. These meetings may have previously been referred to by a variety of names (Community Coordination Officer (CCO), Scoping, Discovery, etc.), but all meetings represent opportunities for FEMA, community officials, study contractors, and other invited guests to discuss the planning for and results of the project.

Table 30: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Macon – Bibb County	TBD	03/05/2013	Discovery	Georgia DNR, FEMA, GEMA, Dewberry, Atkins, Bender Consulting, and community officials
		TBD	Resilience	TBD
		TBD	CCO Open House	TBD
Macon – Bibb County	04/02/2007	10/20/2004	Initial CCO	FEMA, Georgia Department of Natural Resources, PBS&J, and the community officials
		03/02/2006	Final CCO	Bibb County, Georgia EPD, FEMA, and PBS&J
Macon – Bibb County	09/22/1999	09/10/1997	Initial CCO	FEMA, community officials, and study contractor
		N/A	Final CCO	N/A
Macon – Bibb County	01/02/1992	N/A	Initial CCO	N/A
		N/A	Final CCO	N/A
Macon – Bibb County	08/02/1990	01/01/1986	Initial CCO	FEMA, community officials, and study contractor
		05/15/1989	Final CCO	FEMA, community officials, and study contractor
Macon – Bibb County	12/01/1983 12/15/1983*	N/A	Initial CCO	N/A
		06/20/1983	Final CCO	FEMA, community officials, and study contractor
Macon – Bibb County	03/28/1979	N/A	Initial CCO	N/A
		03/17/1978	Final CCO	FEMA, community officials, and study contractor

*City of Macon FIS date

SECTION 8.0 – ADDITIONAL INFORMATION

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

Table 31 is a list of the locations where FIRMs for Bibb County can be viewed. Please note that the maps at these locations are for reference only and are not for distribution. Also, please note that only the maps for the community listed in the table are available at that particular repository. A user may need to visit another repository to view maps from an adjacent community.

Table 31: Map Repositories

Community	Address	City	State	Zip Code
Macon – Bibb County	Southern Trust Building 682 Cherry Street Suite 800, 8 th Floor	Macon	GA	31201

The National Flood Hazard Layer (NFHL) dataset is a compilation of effective FIRM databases and LOMCs. Together they create a GIS data layer for a State or Territory. The NFHL is updated as studies become effective and extracts are made available to the public monthly. NFHL data can be viewed or ordered from the website shown in Table 32.

Table 32 contains useful contact information regarding the FIS Report, the FIRM, and other relevant flood hazard and GIS data. In addition, information about the state NFIP Coordinator and GIS Coordinator is shown in this table. At the request of FEMA, each Governor has designated an agency of State or territorial government to coordinate that State's or territory's NFIP activities. These agencies often assist communities in developing and adopting necessary floodplain management measures. State GIS Coordinators are knowledgeable about the availability and location of state and local GIS data in their state.

Table 32: Additional Information

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	http://www.fema.gov
NFIP website	http://www.fema.gov/business/nfip
NFHL Dataset	http://msc.fema.gov
FEMA Region IV	Federal Emergency Management Agency, 3003 Chamblee Tucker Road, Atlanta, Georgia 30341 770-220-5200
Other Federal Agencies	
USGS website	http://www.usgs.gov
Hydraulic Engineering Center website	http://www.hec.usace.army.mil
State Agencies and Organizations	
State NFIP Coordinator	Mork Winn Interim Program Manager 4220 International Parkway, Suite 101 Atlanta, Georgia 30354 Phone: 404-362-2606 Mork.Winn@dnr.state.ga.us
State GIS Coordinator	Lisa Westin Senior GIS Specialist 60 Executive Park South, NE Atlanta, GA 30329 Phone: 404-679-3125 Lwestin@dca.state.ga.us
Statewide Regulatory Coordinator	Tom Shillock, CFM Georgia Statewide Regulatory Coordinator 4220 International Parkway, Suite 101 Atlanta, Georgia 30354 Phone: 404-675-1607 Tom.Shillock@dnr.state.ga.us

SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES

Table 33 includes sources used in the preparation of and cited in this FIS Report as well as additional studies that have been conducted in the study area.

Table 33: Bibliography and References

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
NOAA	National Climatic Data Center	Storm Events Database	National Climatic Data Center	Online		http://www.ncdc.noaa.gov/stormevents
USACE 2010	U.S. Army Corps of Engineers	<i>Hydrologic Engineering Center. (Revised January 2010), HEC-RAS River Analysis System, Version 4.1, Computer Software</i>	U. S. Army Corps of Engineers	Davis, CA	January 2010	
USACE 2008	U.S. Army Corps of Engineers	<i>HEC-RAS River Analysis System Version 4.0.0</i>	U. S. Army Corps of Engineers	Davis, CA	March 2008	
FEMA 1979	Federal Emergency Management Agency	<i>Flood Insurance Study, City of Macon (Bibb and Jones County) and Bibb County, Georgia</i>		Washington, D.C.	03/28/1979	FEMA Map Service Center http://msc.fema.gov
FEMA 1983	Federal Emergency Management Agency	<i>Flood Insurance Study, City of Macon (Bibb and Jones County) and Bibb County, Georgia</i>		Washington, D.C.	12/01/1983	FEMA Map Service Center http://msc.fema.gov
FEMA 1990	Federal Emergency Management Agency	<i>Flood Insurance Study, City of Macon (Bibb and Jones County) and Bibb County, Georgia</i>		Washington, D.C.	08/02/1990	FEMA Map Service Center http://msc.fema.gov
FEMA 1992	Federal Emergency Management Agency	<i>Flood Insurance Study, City of Macon (Bibb and Jones County) and Bibb County, Georgia</i>		Washington, D.C.	01/02/1992	FEMA Map Service Center http://msc.fema.gov

Table 33: Bibliography and References continued

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
FEMA 1999	Federal Emergency Management Agency	<i>Flood Insurance Study, City of Macon (Bibb and Jones County) and Bibb County, Georgia</i>		Washington, D.C.	09/22/1999	FEMA Map Service Center http://msc.fema.gov
FEMA 2000	Federal Emergency Management Agency	<i>Flood Insurance Study, City of Macon (Bibb and Jones County) and Bibb County, Georgia</i>		Washington, D.C.	09/08/2000	FEMA Map Service Center http://msc.fema.gov
FEMA 2007	Federal Emergency Management Agency	<i>Flood Insurance Study, Bibb County, Georgia and Incorporated Areas</i>		Washington, D.C.	04/02/2007	FEMA Map Service Center http://msc.fema.gov
US Geological Survey	U.S. Department of the Interior, Geological Survey	<i>Seamless Data Distribution System – 10 meter Digital Elevation Model</i>	US Geological Survey	Online	March 2009	http://seamless.usgs.gov/
US Geological Survey	U.S. Department of the Interior, Geological Survey	<i>Magnitude and Frequency of Rural Floods in the Southeastern United States, 2006: Volume 1, Georgia: U.S. Geological Survey Scientific Investigation Report 2009-5043</i>	Feaster, T.D., Gotvald, A.J., and Weaver, J.C.		2006	

Table 33: Bibliography and References continued

Citation in this FIS	Publisher/ Issuer	<i>Publication Title, "Article," Volume, Number, etc.</i>	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
US Geological Survey	U.S. Department of the Interior, Geological Survey	<i>Magnitude and Frequency of Floods for Urban and Small Rural Streams in Georgia, 2008: U.S. Geological Survey Scientific Investigation Report 2011-5042</i>	Gotvald, A.J., and Knaak, A.E.		2008	
Watershed Concepts 2008	Watershed Concepts, a Division of Hayes, Seay, Mattern & Mattern, Inc.	<i>Watershed Information System (WISE) Computer Software, Version 4.1.0</i>	Watershed Concepts		2008	
USACE 1971	U.S. Army Corps of Engineers	<i>Flood Plain Information, Savage Creek Tributary Nos. 1-5</i>	City of Macon-Bibb County, Georgia		June 1971	
US Geological Survey	U.S. Department of the Interior, Geological Survey	<i>Floods in Georgia, Magnitude and Frequency</i>	US Geological Survey		1962	
USACE	U.S. Army Corps of Engineers, Hydrologic Engineering Center	HEC-1 Water-Surface Profiles, Computer Program 823-X-L2610	U.S. Army Corps of Engineers	Davis, CA	January 1973	
USACE	U.S. Army Corps of Engineers, Hydrologic Engineering Center	HEC-2 Water-Surface Profiles, Generalized Computer Program	U.S. Army Corps of Engineers	Davis, CA	April 1984	

Table 33: Bibliography and References continued

Citation in this FIS	Publisher/ Issuer	<i>Publication Title, "Article," Volume, Number, etc.</i>	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
SCS 1977	U.S. Department of Agriculture, Soil Conservation Service	<i>WSPIN Computer Program , South Technical Service Center, Automatic Data Processing Unit</i>	Soil Conservation Service	Fort Worth, TX	1977	
US Geological Survey	U.S. Department of the Interior, Geological Survey	<i>Techniques for Estimating Magnitude and Frequency of Floods in Georgia, Water Resources Investigation 78-137</i>	US Geological Survey		October 1979	
US Geological Survey	U.S. Department of the Interior, Geological Survey	<i>Water-Supply Paper 2207, Flood Characteristics of Urban Watersheds in the United States, Techniques for Estimating Magnitude and Frequency of Urban Floods</i>	US Geological Survey		1983	
Hydro 1986	PBS&J, Inc	<i>Hydrology Study for Unincorporated City of Macon-Bibb County, Georgia</i>	PBS&J, Inc	Atlanta, GA	March 1986	
Topo 1990	Bibb County, Georgia	<i>Digital Topographic Data, Bibb County, Georgia, Contour Interval 4 feet</i>	Bibb County, GA		1990	

Table 33: Bibliography and References continued

Citation in this FIS	Publisher/ Issuer	Publication Title, "Article," Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
Topo1966	Alster and Associates, Inc	<i>Topographic Maps, City of Macon-Bibb County, Georgia, Scale 1:4,800 and 1:2,400, Contour Interval 5 feet</i>	Alster and Associates, Inc		1957, Revised 1966	
Topo 1986	Woolpert Consultants	<i>Topographic Maps, City of Macon-Bibb County, Georgia, Scale 1:4,800, Contour Interval 4 feet,</i>	Woolpert Consultants	Mobile, AL	1986	
Topo	U.S. Department of Interior, Geological Survey	<i>7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 10 Feet. Warner Robbins NE, 1973; Macon NW, 1973; Macon West, 1956, photorevised 1972; Macon East, 1956, photorevised 1972</i>		Washington, D.C.	Various	http://topomaps.usgs.gov
Topo 1997	Wolverton & Associates	<i>Topographic Work Maps, Scale 1:2,400, Contour, Interval 2 feet</i>	Wolverton & Associates		1997	