# FLOOD INSURANCE STUDY FEDERAL EMERGENCY MANAGEMENT AGENCY

# VOLUME 1 OF 1



# GREENE COUNTY, MISSISSIPPI

AND INCORPORATED AREAS

| COMMUNITY NAME                         | COMMUNITY NUMBER |
|--|------------------|
| GREENE COUNTY,<br>UNINCORPORATED AREAS | 280271           |
| LEAKESVILLE, TOWN OF                   | 280057           |
| McLAIN, TOWN OF                        | 280058           |



PRELIMINARY 6/28/2019

# EFFECTIVE:

FLOOD INSURANCE STUDY NUMBER 28041CV000B

Version Number 2.5.3.6

# TABLE OF CONTENTS

| SECT | ION 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  | 4         |
| SECT | ION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS                | 14        |
| 2.1  | Floodplain Boundaries                                       | 14        |
| 2.2  | Floodways   | 16        |
| 2.3  | Base Flood Elevations                                       | 17        |
| 2.4  | Non-Encroachment Zones                                      | 17        |
| 2.5  | Coastal Flood Hazard Areas                                  | 17        |
|      | 2.5.1 Water Elevations and the Elects of Waves              | 10        |
|      | 2.5.3 Coastal High Hazard Areas                             | 18        |
|      | 2.5.4 Limit of Moderate Wave Action                         | 18        |
|      |   |           |
| SECT | ION 3.0 – INSURANCE APPLICATIONS                            | 18        |
| 3.1  | National Flood Insurance Program Insurance Zones            | 18        |
| SECT | ION 4.0 – AREA STUDIED                                      | 19        |
| 4.1  | Basin Description   | 19        |
| 4.2  | Principal Flood Problems                                    | 19        |
| 4.3  | Non-Levee Flood Protection Measures                         | 20        |
| 4.4  | Levees  | 20        |
| SECT | ION 5.0 – ENGINEERING METHODS                               | 20        |
| 5.1  | Hydrologic Analyses   | 21        |
| 5.2  | Hydraulic Analyses  | 23        |
| 5.3  | Coastal Analyses  | 28        |
|      | 5.3.1 I otal Stillwater Elevations                          | 28        |
|      | 5.3.2 Waves<br>5.3.3 Coastal Fracion                        | 20<br>28  |
|      | 5.3.4 Wave Hazard Analyses                                  | 20        |
| 5.4  | Alluvial Fan Analyses                                       | 29        |
| OFOT |   |           |
| SECI | Vortical and Horizontal Control                             | <b>29</b> |
| 6.2  | Rase Man  | 29<br>20  |
| 6.3  | Floodplain and Floodway Delineation                         |           |
| 6.4  | Coastal Flood Hazard Mapping                                | 34        |
| 6.5  | FIRM Revisions  | 34        |
|      | 6.5.1 Letters of Map Amendment                              | 34        |
|      | 6.5.2 Letters of Map Revision Based on Fill                 | 35        |
|      |   |           |

| 6.5.3                                | Letters of Map Revision  | 35                    |
|--------------------------------------|--|-----------------------|
| 6.5.4                                | Physical Map Revisions   | 35                    |
| 6.5.5                                | Contracted Restudies   | 36                    |
| 6.5.6                                | Community Map History  | 36                    |
| SECTION 7.0<br>7.1 Contr<br>7.2 Comr | <b>D – CONTRACTED STUDIES AND COMMUNITY COORDINATION</b><br>acted Studies<br>nunity Meetings | <b>37</b><br>37<br>38 |
| SECTION 8.0                          | ) – ADDITIONAL INFORMATION   | 40                    |
| SECTION 9.0                          | ) – BIBLIOGRAPHY AND REFERENCES  | 42                    |

# <u>Figures</u>

<u>Page</u>

|  | 6  |
|--|----|
|  | 0  |
| Figure 2: FIRM Notes to Users  | 7  |
| Figure 3: Map Legend for FIRM  | 10 |
| Figure 4: Floodway Schematic   | 16 |
| Figure 5: Wave Runup Transect Schematic                                  | 18 |
| Figure 6: Coastal Transect Schematic                                     | 18 |
| Figure 7: Frequency Discharge-Drainage Area Curves                       | 23 |
| Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas | 28 |
| Figure 9: Transect Location Map  | 29 |

# Tables

# Page

| Table 1: Listing of NFIP Jurisdictions<br>Table 2: Flooding Sources Included in this FIS Report | 3<br>15 |
|---|---------|
| Table 3: Flood Zone Designations by Community   | 19      |
| Table 4: Basin Characteristics  | 19      |
| Table 5: Principal Flood Problems   | 20      |
| Table 6: Historic Flooding Elevations   | 20      |
| Table 7: Non-Levee Flood Protection Measures  | 20      |
| Table 8: Levees   | 20      |
| Table 9: Summary of Discharges  | 22      |
| Table 10: Summary of Non-Coastal Stillwater Elevations  | 23      |
| Table 11: Stream Gage Information used to Determine Discharges                                  | 23      |
| Table 12: Summary of Hydrologic and Hydraulic Analyses  | 25      |
| Table 13: Roughness Coefficients  | 28      |
| Table 14: Summary of Coastal Analyses   | 28      |
| Table 15: Tide Gage Analysis Specifics  | 28      |
| Table 16: Coastal Transect Parameters   | 28      |
| Table 17: Summary of Alluvial Fan Analyses  | 29      |

| Table 18: Results of Alluvial Fan Analyses                            | 29 |
|---|----|
| Table 19: Countywide Vertical Datum Conversion                        | 30 |
| Table 20: Stream-Based Vertical Datum Conversion                      | 30 |
| Table 21: Base Map Sources  | 30 |
| Table 22: Summary of Topographic Elevation Data used in Mapping       | 32 |
| Table 23: Floodway Data   | 33 |
| Table 24: Flood Hazard and Non-Encroachment Data for Selected Streams | 34 |
| Table 25: Summary of Coastal Transect Mapping Considerations          | 34 |
| Table 26: Incorporated Letters of Map Change                          | 35 |
| Table 27: Community Map History                                       | 37 |
| Table 28: Summary of Contracted Studies Included in this FIS Report   | 37 |
| Table 29: Community Meetings  | 39 |
| Table 30: Map Repositories  | 40 |
| Table 31: Additional Information                                      | 41 |
| Table 32: Bibliography and References                                 | 43 |

# Exhibits

| Panel   |
|---------|
| 01 P    |
| 02 P    |
| 03-04 P |
| 05-07 P |
| 08 P    |
| 09 P    |
|         |

# Published Separately

Flood Insurance Rate Map (FIRM)

# FLOOD INSURANCE STUDY REPORT GREENE COUNTY, MISSISSIPPI

# **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 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, *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 Greene County, Mississippi.

The jurisdictions that are included in this project area, along with the Community Identification Number (CID) for each community and the United States Geological Survey (USGS) 8-digit Hydrologic Unit Code (HUC-8) sub-basins affecting each, are shown in Table 1. The 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.

| CommunityCIDSub-<br>Basin(s)Located on FIRM<br>Panel(s)Location of Flood<br>Hazard Data28041C0025D28041C0025D28041C0050D28041C0075D28041C0090D28041C0125D28041C0125D28041C0150D28041C0175D28041C020DD28041C020DD28041C020DD28041C020DD28041C0210D28041C0215E28041C0220E28041C025DD28041C025DD28041C025DD28041C025DD28041C025DD28041C025DD28041C025DD28041C025DD28041C025DD28041C025DD28041C025DD28041C025DD28041C025DD  |                       |        | HUC-8   |                          | If Not Included,  |
|---|-----------------------|--------|---|--------------------------|-------------------|
| Community         CID         Basin(s)         Panel(s)         Hazard Data           28041C0025D         28041C0050D         28041C0050D         28041C0075D           28041C0090D         28041C0125D         28041C0125D         28041C0125D           28041C0125D         28041C0125D         28041C0125D         28041C0125D           28041C020DD         28041C020DD         28041C020DD         28041C020DD           28041C0210D         28041C0210D         28041C0215E         28041C0220E           28041C0250D         28041C0250D         28041C0250D         28041C0250D |                       |        | Sub-  | Located on FIRM          | Location of Flood |
| 28041C0025D<br>28041C0050D<br>28041C0090D<br>28041C0125D<br>28041C0150D<br>28041C0150D<br>28041C0200D<br>28041C0205D<br>28041C0205D<br>28041C0215E<br>28041C0220E<br>28041C025D   | Community             | CID    | Basin(s)  | Panel(s)                 | Hazard Data       |
| 28041C0050D<br>28041C0075D<br>28041C0125D<br>28041C0125D<br>28041C0150D<br>28041C0200D<br>28041C020D<br>28041C0205D<br>28041C0215E<br>28041C0215E<br>28041C0220E<br>28041C0250D   |                       |        |   | 28041C0025D              |                   |
| 28041C0075D<br>28041C0090D<br>28041C0125D<br>28041C0150D<br>28041C0175D<br>28041C0200D<br>28041C0205D<br>28041C0210D<br>28041C0215E<br>28041C0215E<br>28041C0250D<br>28041C0250D  |                       |        |   | 28041C0050D              |                   |
| 28041C0090D<br>28041C0125D<br>28041C0150D<br>28041C0175D<br>28041C0200D<br>28041C0205D<br>28041C0210D<br>28041C0215E<br>28041C0220E<br>28041C0250D<br>28041C0250D   |                       |        |   | 28041C0075D              |                   |
| 28041C0125D<br>28041C0150D<br>28041C0175D<br>28041C0200D<br>28041C0205D<br>28041C0210D<br>28041C0215E<br>28041C0215E<br>28041C0250D<br>28041C0250D  |                       |        |   | 28041C0090D              |                   |
| 28041C0150D<br>28041C0175D<br>28041C0200D<br>28041C0205D<br>28041C0210D<br>28041C0215E<br>28041C0220E<br>28041C0250D<br>28041C0250D   |                       |        |   | 28041C0125D              |                   |
| 28041C0175D<br>28041C0200D<br>28041C0205D<br>28041C0210D<br>28041C0215E<br>28041C0220E<br>28041C0250D<br>28041C0250D  |                       |        |   | 28041C0150D              |                   |
| 28041C0200D<br>28041C0205D<br>28041C0210D<br>28041C0215E<br>28041C0220E<br>28041C0250D<br>28041C0250D   |                       |        |   | 28041C0175D              |                   |
| 28041C0205D<br>28041C0210D<br>28041C0215E<br>28041C0220E<br>28041C0250D<br>28041C0255D  |                       |        |   | 28041C0200D              |                   |
| 28041C0210D<br>28041C0215E<br>28041C0220E<br>28041C0250D<br>28041C0255D   |                       |        |   | 28041C0205D              |                   |
| 28041C0215E<br>28041C0220E<br>28041C0250D<br>28041C0255D  |                       |        |   | 28041C0210D              |                   |
| 28041C0220E<br>28041C0250D<br>28041C0255D   |                       |        |   | 28041C0215E              |                   |
| 28041C0250D   |                       |        |   | 28041C0220E              |                   |
| 200/1002550   |                       |        |   | 28041C0250D              |                   |
| 2004100255D   |                       |        |   | 28041C0255D              |                   |
| 28041C0260D   |                       |        |   | 28041C0260D              |                   |
| 03170003, 28041C0262D   |                       |        | 03170003,<br>03170005,<br>03170006,<br>03170008 | 28041C0262D              |                   |
| Greene County, 03170005, 28041C0264D  | Greene County,        | 280271 |   | 28041C0264D              |                   |
| Unincorporated Areas 03170006, 28041C0265D <sup>1</sup>   | Unincorporated Areas  | 200211 |   | 28041C0265D <sup>1</sup> |                   |
| 03170008 28041C0266D  |                       |        |   | 28041C0266D              |                   |
| 28041C0268D   |                       |        |   | 28041C0268D              |                   |
| 28041C0270D   |                       |        |   | 28041C0270D              |                   |
| 28041C0300D   |                       |        |   | 28041C0300D              |                   |
| 28041C0302E   |                       |        |   | 28041C0302E              |                   |
| 28041C0304E   |                       |        |   | 28041C0304E              |                   |
| 28041C0310E   |                       |        |   | 28041C0310E              |                   |
| 28041C0315D   |                       |        |   | 28041C0315D              |                   |
| 28041C0320D   |                       |        |   | 28041C0320D              |                   |
| 28041C0350D   |                       |        |   | 28041C0350D              |                   |
| 28041C0375D   |                       |        |   | 28041C0375D              |                   |
| 28041C0400D   |                       |        |   | 28041C0400D              |                   |
| 28041C0425D   |                       |        |   | 28041C0425D              |                   |
| 28041C0450D   |                       |        |   | 28041C0450D              |                   |
| 28041C0475D   |                       |        |   | 28041C0475D              |                   |
| 28041C0500D   |                       |        |   | 28041C0500D              |                   |
| 28041C0262D   |                       |        |   | 28041C0262D              |                   |
| 28041C0264D   |                       | 0000   | 00470000  | 28041C0264D              |                   |
| Leakesville, I own of 280057 03170003 28041C0266D   | Leakesville, I own of | 280057 | 03170003  | 28041C0266D              |                   |
| 28041C0268D   |                       |        |   | 28041C0268D              |                   |

# Table 1: Listing of NFIP Jurisdictions

|                     |        | HUC-8                 |                 | If Not Included,                 |
|---------------------|--------|-----------------------|-----------------|----------------------------------|
|                     |        | Sub-                  | Located on FIRM | Location of Flood                |
| Community           | CID    | Basin(s)              | Panel(s)        | Hazard Data                      |
|                     |        |                       | 28041C0302E     |                                  |
| McLain, Town of     | 280058 | 03170005              | 28041C0304E     |                                  |
|                     |        |                       | 28041C0310E     |                                  |
| State Line, Town of | 280059 | 03170003,<br>03170008 | N/A             | Wayne County FIS<br>Report, 2011 |

<sup>1</sup> Panel 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-percent-annual-chance flood elevation is also referred to as the Base Flood Elevation (BFE)); delineations of the 1-percent-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 22, "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 Greene County became effective on January 6, 2012. Refer to Table 20 for information about subsequent revisions to the FIRMs.

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

| <u>Old Zone</u> | <u>New Zone</u> |
|-----------------|-----------------|
| A1 through A30  | AE              |
| В               | X (shaded)      |
| С               | X (unshaded)    |

• 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 www.fema.gov/online-tutorials.

The FIRM Index in Figure 1 shows the overall FIRM panel layout within Greene County, and also displays the panel number and effective date for each FIRM panel in the county. Other information shown on the FIRM Index includes community boundaries, flooding sources, watershed boundaries, and USGS HUC-8 codes.





Mississippi East, FIPS Zone 2301

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

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP INDEX

GREENE COUNTY, MISSISSIPPI and Incorporated Areas PANELS PRINTED:

0025, 0050, 0075, 0090, 0125, 0150, 0175, 0200, 0205, 0210, 0215, 0220, 0250, 0250, 0250, 0262, 0264, 0266, 0268, 0270, 0200, 0300, 0302, 0304, 0310, 0315, 0320, 0350, 0375, 0400, 0425, 0450, 0475, 0500





Each FIRM panel may contain specific notes to the user that provide additional information regarding the flood hazard data shown on that map. However, the FIRM panel does not contain enough space to show all the notes that may be relevant in helping to better understand the information on the panel. Figure 2 contains the full list of these notes.

# 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 Flood Map Service Center website at <u>msc.fema.gov</u>. 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 Flood 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 Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to Table 20 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.

<u>PRELIMINARY FIS REPORT</u>: 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 Non-Coastal 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.

<u>FLOODWAY INFORMATION</u>: 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.

<u>FLOOD CONTROL STRUCTURE INFORMATION</u>: 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

<u>PROJECTION INFORMATION</u>: The projection used in the preparation of the map was State Plane Transverse Mercator, Mississippi East FIPS Zone 2301. The horizontal datum was the North American Datum of 1983, GRS1980 spheroid. 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.

<u>ELEVATION DATUM</u>: 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 www.ngs.noaa.gov.

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 22 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on this FIRM was provided in digital format by the Federal Geographic Data Committee, Mississippi Automated Resource Information System, Mississippi Department of Transportation, National Resources Conservation Service State Offices, State of Mississippi, U.S Census Bureau, USDA Forest Service, U.S Environmental Protection Agency, and the U.S Geological Survey. Ortho imagery was produced by the State of Mississippi in 2017 and has a 1 – foot ground sample distance, for the following panels: 0215, 0220, 0302, 0304, and 0310. For information about base maps, refer to Section 6.2 "Base Maps" 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.

# NOTES FOR FIRM INDEX

<u>REVISIONS TO INDEX</u>: As new studies are performed and FIRM panels are updated within Greene County, Mississippi, 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 20 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 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 **TBD**.

# SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Greene County, Mississippi, effective **TBD**.

#### Figure 2. FIRM Notes to Users

<u>FLOOD RISK REPORT</u>: 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.

Each FIRM panel contains an abbreviated legend for the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Note that not all of these features may appear on the FIRM panels in Greene County.

### 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.
- 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.

# Figure 3: Map Legend for FIRM

|   | Regulatory Floodway determined in Zone AE.  |  |  |  |
|---|---|--|--|--|
| OTHER AREAS OF FLOOD HAZARD                   |   |  |  |  |
|   | Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.  |  |  |  |
|   | Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone. |  |  |  |
|   | Area with Reduced Flood Risk due to Levee: Areas where an accredited levee, dike, or other flood control structure has reduced the flood risk from the 1% annual chance flood.  |  |  |  |
|   | Area with Flood Risk due to Levee: Areas where a non-accredited levee dike, or other flood control structure is shown as providing protection to less than the 1% annual chance flood.  |  |  |  |
| OTHER AREAS                                   |   |  |  |  |
|   | Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate<br>zone that corresponds to unstudied areas where flood hazards are<br>undetermined, but possible.  |  |  |  |
| NO SCREEN                                     | Unshaded Zone X: Areas of minimal flood hazard.   |  |  |  |
| FLOOD HAZARD AND O                            | THER BOUNDARY LINES   |  |  |  |
| (ortho) (vector)                              | Flood Zone Boundary (white line on ortho-photography-based mapping;<br>gray line on vector-based mapping)   |  |  |  |
|   | Limit of Study  |  |  |  |
|   | Jurisdiction Boundary   |  |  |  |
| <b>_</b>                                      | Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet   |  |  |  |
| GENERAL STRUCTURES                            | 5   |  |  |  |
| Aqueduct<br>Channel<br>Culvert<br>Storm Sewer | Channel, Culvert, Aqueduct, or Storm Sewer  |  |  |  |
| Dam<br>Jetty<br>Weir                          | Dam, Jetty, Weir  |  |  |  |

|                                      | Levee, Dike, or Floodwall  |
|--------------------------------------|--|
| Bridge                               | Bridge   |
| REFERENCE MARKERS                    |  |
| 22.0<br>•                            | River mile Markers   |
| CROSS SECTION & TRAN                 | SECT INFORMATION   |
| ⟨ <b>B</b> ⟩ <u>20.2</u>             | Lettered Cross Section with Regulatory Water Surface Elevation (BFE)   |
| <u> </u>                             | Numbered Cross Section with Regulatory Water Surface Elevation (BFE)   |
| 17.5                                 | Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)   |
| 8                                    | 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. |
| ~~~~ 513 ~~~~                        | Base Flood Elevation Line  |
| ZONE AE<br>(EL 16)                   | Static Base Flood Elevation value (shown under zone label)   |
| ZONE AO<br>(DEPTH 2)                 | Zone designation with Depth  |
| ZONE AO<br>(DEPTH 2)<br>(VEL 15 FPS) | Zone designation with Depth and Velocity   |
| <b>BASE MAP FEATURES</b>             |  |
| Missouri Creek                       | River, Stream or Other Hydrographic Feature  |
| (234)                                | Interstate Highway   |
| 234                                  | U.S. Highway   |
| (234)                                | State Highway  |

# Figure 3: Map Legend for FIRM

# Figure 3: Map Legend for FIRM

| 234                                | County Highway  |
|------------------------------------|---|
| MAPLE LANE                         | 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  |
| <sup>42</sup> 76 <sup>000m</sup> 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-percent-annualchance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-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 Greene 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-percent-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 15), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1-percent and 0.2-percent-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-percent-annual-chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1-percent and 0.2percent-annual-chance floodplain boundaries are close together, only the 1-percentannual-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**Error! Reference source not found.** and Table 3 indicate the flood zone designations for each flooding source and each community within Greene County, respectively.

**Error! Reference source not found.**, "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 6. 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-percent-annual-chance floodplain corresponds to the SFHAs. The 0.2-percent-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.

| Flooding Source           | Community  | Downstream Limit  | Upstream Limit  | HUC-8 Sub-<br>Basin(s)             | Length (mi)<br>(streams or<br>coastlines) | Floodway<br>(Y/N) | Zone<br>shown on<br>FIRM | Date of<br>Analysis |
|---------------------------|--|---|---|------------------------------------|---|-------------------|--------------------------|---------------------|
| All Effective A<br>Zones  | Greene County,<br>Unincorporated Areas;<br>Leaksville, Town of;<br>McLain, Town of | Varies  | Varies  | 03170003,<br>03170005,<br>03170008 |   | Ν                 | A                        | 2010                |
| Blakely Creek             | Greene County,<br>Unincorporated Areas;<br>Leaksville, Town of                     | Confluence with<br>Chickasawhay River                     | Approximately 0.8<br>miles upstream of<br>Old Avera Road                      | 03170003                           | 2.1                                       | Ν                 | AE                       | 1987                |
| Chickasawhay River        | Greene County,<br>Unincorporated Areas;<br>Leaksville, Town of                     | Confluence with<br>Martin Creek                           | Approximately 0.9<br>miles upstream of<br>MS Highway 57                       | 03170003                           | 1.8                                       | Ν                 | AE                       | 1987                |
| Faulk Ditch               | Greene County,<br>Unincorporated Areas   | Approximately 0.5<br>miles downstream of<br>MS Highway 63 | Just downstream of<br>MS Highway 57   | 03170003                           | 2.9                                       | Y                 | AE                       | 1992                |
| Leaf River                | Greene County,<br>Unincorporated Areas;<br>McLain, Town of                         | Approximately 3.1<br>miles downstream of<br>US Highway 98 | Approximately 1.2<br>miles upstream of<br>Old Highway 24                      | 03170005                           | 7.1                                       | Ν                 | AE                       | 2019                |
| Martin Creek              | Greene County,<br>Unincorporated Areas;<br>Leaksville, Town of                     | Confluence with<br>Chickasawhay River                     | Approximately 3,145<br>feet upstream of<br>Lackey Street                      | 03170003                           | 1.8                                       | Ν                 | AE                       | 1987                |
| Martin Creek<br>Tributary | Leaksville, Town of  | Confluence with<br>Martin Creek                           | Approximately 0.5<br>miles upstream of the<br>confluence with<br>Martin Creek | 03170003                           | 0.5                                       | Ν                 | AE                       | 1987                |

# Table 2: Flooding Sources Included in 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-percent-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-percent-annual-chance flood. The floodway fringe is the area between the floodway and the 1-percent-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-percent-annual-chance flood 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. 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 16, "Floodway Data."

All floodways that were developed for this Flood Risk Project are shown on the FIRM using the symbology described in Each FIRM panel contains an abbreviated legend for the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Note that not all of these features may appear on the FIRM panels in Greene County. Figure 3. In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown 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 BFE is the elevation of the 1-percent-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.

BFEs are primarily intended for flood insurance rating purposes. 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. 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. For example, the user may use the FIRM to determine the stream station of a location of interest and then use the profile to determine the 1-percent-annual-chance elevation at that location. Because only selected cross sections may be shown on the FIRM for riverine areas, the profile should be used to obtain the flood elevation between mapped cross sections. Additionally, for riverine areas, whole-foot elevations shown on the FIRM may not exactly reflect the elevations derived from the hydraulic analyses; therefore, elevations obtained from the profile may more accurately reflect the results of the hydraulic analysis.

#### 2.4 Non-Encroachment Zones

This section is not applicable to this Flood Risk Project.

#### 2.5 Coastal Flood Hazard Areas

This section is not applicable to this Flood Risk Project.

# 2.5.1 Water Elevations and the Effects of Waves

This section is not applicable to this Flood Risk Project.

# Figure 5: Wave Runup Transect Schematic [Not Applicable to this Flood Risk Project]

# 2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

This section is not applicable to this Flood Risk Project.

### 2.5.3 Coastal High Hazard Areas

This section is not applicable to this Flood Risk Project.

# Figure 6: Coastal Transect Schematic [Not Applicable to this Flood Risk Project]

### 2.5.4 Limit of Moderate Wave Action

This section is not applicable to this Flood Risk 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 3Figure 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-percent-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-percent-annual-chance floodplain boundary corresponds to the boundary of areas of additional flood hazards.

Table 3 lists the flood insurance zones in Greene County.

| Community                           | Flood Zone(s) |
|-------------------------------------|---------------|
| Greene County, Unincorporated Areas | A, AE, X      |
| Leakesville, Town of                | A, AE, X      |
| McLain, Town of                     | A, AE, X      |

#### Table 3: Flood Zone Designations by Community

# SECTION 4.0 – AREA STUDIED

#### 4.1 Basin Description

Table 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.

| HUC-8 Sub-<br>Basin Name | HUC-8<br>Sub-Basin<br>Number | Primary<br>Flooding<br>Source | Description of Affected Area  | Drainage<br>Area<br>(square<br>miles) |
|--------------------------|------------------------------|-------------------------------|---|---------------------------------------|
| Escatawpa                | 03170008                     | Escatawpa<br>River            | Begins at the confluence with<br>Pascagoula River, extends north,<br>affecting one tenth of Greene<br>County.             | 1,044                                 |
| Lower<br>Chickasawhay    | 03170003                     | Chickasawhay<br>River         | Begins at the confluence with<br>Pascagoula River, extends north,<br>affecting more than half of Greene<br>County.        | 664                                   |
| Lower Leaf               | 03170005                     | Leaf River                    | Begins at the confluence with<br>Pascagoula River, extends<br>northwest, affecting the western<br>third of Greene County. | 1,825                                 |
| Pascagoula               | 03170006                     | Pascagoula<br>River           | Begins at the Gulf of Mexico,<br>extends northwest, affecting less<br>than 1 square mile of Greene<br>County.             | 610                                   |

 Table 4: Basin Characteristics

#### 4.2 Principal Flood Problems

Table contains a description of the principal flood problems that have been noted for Greene County by flooding source.

# **Table 5: Principal Flood Problems**

| Flooding<br>Source | Description of Flood Problems  |
|--------------------|--|
| Leaf River         | The Town of McLain in Greene County is largely burdened by the floodplain of the Leaf River. |

Table contains information about historic flood elevations in the communities within Greene County.

# Table 6: Historic Flooding Elevations[Not Applicable to this Flood Risk Project]

### 4.3 Non-Levee Flood Protection Measures

This section is not applicable to this Flood Risk Project.

# Table 7: Non-Levee Flood Protection Measures [Not Applicable to this Flood Risk Project]

#### 4.4 Levees

This section is not applicable to this Flood Risk Project.

#### Table 8: Levees

# [Not Applicable to this Flood Risk Project]

# **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-percent-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 one 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.

In addition to these flood events, the "1-percent-plus", or "1%+", annual chance flood elevation has been modeled and included on the flood profile for certain flooding sources in this FIS Report. While not used for regulatory or insurance purposes, this flood event has been calculated to help illustrate the variability range that exists between the regulatory 1-percent-annual-chance flood elevation and a 1-percent-annual-chance elevation that has taken into account an additional amount of uncertainty in the flood discharges (thus, the 1% "plus"). For flooding sources whose discharges were estimated using regression equations, the 1%+ flood elevations are derived by taking the 1-percent-annual-chance flood discharges and increasing the modeled discharges by a percentage equal to the average predictive error for the regression equation. For flooding sources with gage- or rainfall-runoff-based discharge estimates, the upper 84-percent confidence limit of the discharges is used to compute the 1%+ flood elevations.

#### 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 6. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table . Stream gage information is provided in Table 5.

|                        |   |                                    | Peak Discharge (cfs) |                     |                     |                     |                          |
|------------------------|---|------------------------------------|----------------------|---------------------|---------------------|---------------------|--------------------------|
| Flooding Source        | Location  | Drainage<br>Area (Square<br>Miles) | 10% Annual<br>Chance | 4% Annual<br>Chance | 2% Annual<br>Chance | 1% Annual<br>Chance | 0.2%<br>Annual<br>Chance |
| Blakely Creek          | At confluence with<br>Chickasawhay River                  | 3.66                               | 1,260                | *                   | 1,950               | 2,270               | 3,100                    |
| Blakely Creek          | At MS Highway 63  | 3.05                               | 1,230                | *                   | 1,870               | 2,180               | 3,000                    |
| Chickasawhay River     | At MS Highway 63  | 2,690                              | 43,200               | *                   | 70,100              | 84,300              | 120,000                  |
| Faulk Ditch            | At confluence with<br>Chickasawhay River                  | 11.8                               | 2,520                | *                   | 3,810               | 4,290               | 5,620                    |
| Faulk Ditch            | At MS Highway 63  | 11.3                               | 2,520                | *                   | 3,810               | 4,290               | 5,620                    |
| Leaf River             | Approximately 1.3 miles<br>downstream of US Highway<br>98 | 3,504                              | 72,644               | 91,956              | 107,065             | 123,074             | 162,098                  |
| Leaf River             | Approximately 1.7 miles upstream of US Highway 98         | 3,439                              | 71,864               | 90,962              | 105,901             | 121,759             | 160,349                  |
| Leaf River             | Approximately 1.2 miles<br>upstream of Old Highway 24     | 3,432                              | 71,786               | 90,867              | 105,788             | 121,636             | 160,182                  |
| Martin Creek           | At confluence with<br>Chickasawhay River                  | 4.00                               | 1,400                | *                   | 2,160               | 2,470               | 3,400                    |
| Martin Creek           | At Louisiana Avenue                                       | 3.77                               | 1,400                | *                   | 2,160               | 2,470               | 3,400                    |
| Martin Creek           | At Town of Leakesville<br>corporate limits                | 2.58                               | 1,000                | *                   | 1,530               | 1,760               | 2,400                    |
| Martin Creek Tributary | At confluence with Martin Creek                           | 0.94                               | 520                  | *                   | 760                 | 870                 | 1,150                    |
| Martin Creek Tributary | At MS Highway 57  | 0.70                               | 410                  | *                   | 590                 | 680                 | 900                      |

# Table 9: Summary of Discharges

\*Not calculated for this Flood Risk Project

Figure 7: Frequency Discharge-Drainage Area Curves

[Not Applicable to this Flood Risk Project]

# Table 10: Summary of Non-Coastal Stillwater Elevations[Not Applicable to this Flood Risk Project]

|                     |                    | Agency                    | Agency                                 |                           | Period of Record |            |
|---------------------|--------------------|---------------------------|--|---------------------------|------------------|------------|
| Flooding Source     | Gage<br>Identifier | that<br>Maintains<br>Gage | Site Name                              | Area<br>(Square<br>Miles) | From             | То         |
| Leaf River          | 02473000           | USGS                      | Leaf River at<br>Hattiesburg,<br>MS    | 1,748                     | 04/1900          | 06/24/2017 |
| Leaf River          | 02475000           | USGS                      | Leaf River<br>near McLain,<br>MS       | 3,495                     | 04/1900          | 06/24/2017 |
| Leaf River          | 02474560           | USGS                      | Leaf River<br>near New<br>Augusta, MS  | 2,542                     | 1900             | 06/25/2017 |
| Leaf River          | 02474740           | USGS                      | Leaf River at<br>Beaumont,<br>MS       | 3,011                     | 1900             | 04/04/1976 |
| Pascagoula<br>River | 02479000           | USGS                      | Pascagoula<br>River at<br>Merrill, MS  | 6590                      | 04/1900          | 06/24/2017 |
| Waterfall Branch    | 02475050           | USGS                      | Waterfall<br>Branch near<br>McLain, MS | 0.65                      | 04/12/1955       | 08/10/2017 |

# Table 11: Stream Gage Information used to Determine Discharges

# 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 in Table 16, "Floodway Data."

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 6. Roughness coefficients are provided in Table 7. 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.

| Flooding Source          | Study Limits<br>Downstream Limit         | Study Limits<br>Upstream Limit                              | Hydrologic<br>Model or<br>Method Used | Hydraulic<br>Model or<br>Method Used | Date<br>Analyses<br>Completed | Flood<br>Zone on<br>FIRM | Special Considerations  |
|--------------------------|--|---|---------------------------------------|--------------------------------------|-------------------------------|--------------------------|---|
| All Effective A<br>Zones | Varies                                   | Varies  | 1991 MS<br>Regression<br>Equations    | HEC-RAS<br>3.1.2                     | 06/2010                       | А                        |   |
| Blakely Creek            | Confluence with<br>Chickasawhay<br>River | Approximately<br>0.8 miles<br>upstream of Old<br>Avera Road | 1976 MS<br>Regression<br>Equations    | HEC-2                                | 03/1987                       | AE                       | Flood-frequency estimates of peak<br>discharges were computed using regression<br>equations developed by the USGS for<br>ungaged sites. The peak discharge for the<br>0.2-percent-annual-chance flood was<br>determined from regression equations<br>extending the log plot to a flood of 0.2-percent<br>probability. |

Table 12: Summary of Hydrologic and Hydraulic Analyses

| Flooding Source       | Study Limits<br>Downstream Limit                             | Study Limits<br>Upstream Limit                             | Hydrologic<br>Model or<br>Method Used            | Hydraulic<br>Model or<br>Method Used | Date<br>Analyses<br>Completed | Flood<br>Zone on<br>FIRM | Special Considerations   |
|-----------------------|--|--|--|--------------------------------------|-------------------------------|--------------------------|--|
| Chickasawhay<br>River | Confluence with<br>Martin Creek                              | Approximately<br>0.9 miles<br>upstream of MS<br>Highway 57 | Log Pearson<br>Type III<br>Frequency<br>Analysis | Gage<br>Analysis                     | 03/1987                       | AE                       | A gage station on the State Highway 57<br>brdige was the principal source of data used<br>to define the discharge-frequency relationship<br>and stage-discharge relationship for the river.<br>The stream gage has been operated<br>continuously by the U.S. Geological Survey<br>since 1938. Values of peak discharges for<br>floods of 10-, 2-, 1-, and 0.2-percent-annual-<br>chance recurrence intervals were determined<br>from a log-Pearson Type III distribution of<br>annual peak for data from 1938 to 1985.<br>Results of the analyses were coordinated with<br>the USGS and USACE.<br>Water-surface profiles for the Chickasawhay<br>River were determined by analyzing data from<br>the stream gage at the State Highway 63<br>bridge and water-surface profile information<br>furnished by the USGS. The stage-discharge<br>relationships for floods of 10-, 2-, 1-, and 0.2-<br>percent-annual-chance recurrence intervals<br>were determined using state-discharge<br>relationships established from gage data<br>recorded at State Highway 63 and projecting<br>these relationships upstream and<br>downstream of the highway based on water-<br>surface information furnished by the USGS. |
| Faulk Ditch           | Approximately<br>0.5 miles<br>downstream of<br>MS Highway 63 | Just downstream<br>of MS Highway<br>57                     | 1991 MS<br>Regression<br>Equations               | HEC-2                                | 02/1992                       | AE w/<br>Floodway        |  |

| Flooding Source           | Study Limits<br>Downstream Limit                          | Study Limits<br>Upstream Limit   | Hydrologic<br>Model or<br>Method Used | Hydraulic<br>Model or<br>Method Used | Date<br>Analyses<br>Completed | Flood<br>Zone on<br>FIRM | Special Considerations  |
|---------------------------|---|--|---------------------------------------|--------------------------------------|-------------------------------|--------------------------|---|
| Leaf River                | Approximately 3.1<br>miles downstream<br>of US Highway 98 | Approximately 1.2<br>miles upstream of<br>Old Highway 24                         | 1991 MS<br>Regression<br>Equations    | HEC-RAS<br>5.0.3                     | 01/24/201<br>9                | AE                       | The Leaf River discharges were determined<br>by using the latest flood frequency estimates<br>provided by USGS. To determine flood<br>frequency estimates between the gages for<br>each sub-basin, the preliminary flood<br>frequencies were determined by linear<br>interpolation.                                   |
| Martin Creek              | Confluence with<br>Chickasawhay<br>River                  | Approximately<br>3,145 feet<br>upstream of<br>Lackey Street                      | 1976 MS<br>Regression<br>Equations    | HEC-2                                | 03/1987                       | AE                       | Flood-frequency estimates of peak<br>discharges were computed using regression<br>equations developed by the USGS for<br>ungaged sites. The peak discharge for the<br>0.2-percent-annual-chance flood was<br>determined from regression equations<br>extending the log plot to a flood of 0.2-percent<br>probability. |
| Martin Creek<br>Tributary | Confluence with<br>Martin Creek                           | Approximately<br>0.5 miles<br>upstream of the<br>confluence with<br>Martin Creek | 1976 MS<br>Regression<br>Equations    | HEC-2                                | 03/1987                       | AE                       | Flood-frequency estimates of peak<br>discharges were computed using regression<br>equations developed by the USGS for<br>ungaged sites. The peak discharge for the<br>0.2-percent-annual-chance flood was<br>determined from regression equations<br>extending the log plot to a flood of 0.2-percent<br>probability. |

# Table 13: Roughness Coefficients

| Flooding Source    | Channel "n" | Overbank "n" |
|--------------------|-------------|--------------|
| Blakely Creek      | 0.055-0.080 | 0.120-0.200  |
| Chickasawhay River | 0.055-0.080 | 0.120-0.200  |
| Faulk Ditch        | 0.045-0.055 | 0.080-0.120  |
| Leaf River         | 0.040       | 0.013-0.120  |

# 5.3 Coastal Analyses

This section is not applicable to this Flood Risk Project.

# Table 14: Summary of Coastal Analyses[Not Applicable to this Flood Risk Project]

# 5.3.1 Total Stillwater Elevations

This section is not applicable to this Flood Risk Project.

# Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas [Not Applicable to this Flood Risk Project]

# Table 15: Tide Gage Analysis Specifics [Not Applicable to this Flood Risk Project]

# 5.3.2 Waves

This section is not applicable to this Flood Risk Project.

# 5.3.3 Coastal Erosion

This section is not applicable to this Flood Risk Project.

# 5.3.4 Wave Hazard Analyses

This section is not applicable to this Flood Risk Project.

# Table 16: Coastal Transect Parameters[Not Applicable to this Flood Risk Project]

# Figure 9: Transect Location Map [Not applicable to this Flood Risk Project]

# 5.4 Alluvial Fan Analyses

This section is not applicable to this Flood Risk Project.

# Table 17: Summary of Alluvial Fan Analyses [Not Applicable to this Flood Risk Project]

# Table 18: Results of Alluvial Fan Analyses[Not Applicable to this Flood Risk 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 <u>www.ngs.noaa.gov</u>.

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 visit the NGS website at <u>www.ngs.noaa.gov</u>.

The datum conversion locations and values that were calculated for Greene County are provided in Table .

| Quadrangle Name                                       | Quadrangle<br>Corner | Latitude | Longitude | Conversion from<br>NGVD29 to<br>NAVD88 (feet) |  |  |  |  |
|---|----------------------|----------|-----------|---|--|--|--|--|
| Average Conversion from NGVD29 to NAVD88 = +0.02 feet |                      |          |           |   |  |  |  |  |

#### Table 19: Countywide Vertical Datum Conversion

# Table 20: Stream-Based Vertical Datum Conversion

# [Not Applicable to this Flood Risk 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 Flood Risk Analysis and Mapping*, www.fema.gov/guidelines-and-standards-flood-risk-analysis-and-mapping.

Base map information shown on the FIRM was derived from the sources described in Table 14.

| Data Type  | Data Provider  | Data<br>Date | Data<br>Scale | Data Description                            |
|--|--|--------------|---------------|---|
| Digital Orthophoto                                       | State of<br>Mississippi  | 2017         | 1 foot<br>GSD | Color orthoimagery                          |
| HUC 8 Basins   | U.S. Geological<br>Survey and<br>National<br>Resources<br>Conservation<br>Service State<br>Offices | 2017         | 1:24,000      | USGS Watersheds delineated to a HUC 8 level |
| Political boundaries<br>Bureau,<br>Geography<br>Division |  | 2015         | 1:5,000       | County boundary                             |

#### Table 21: Base Map Sources

| Data Type                           | Data Provider  | Data<br>Date | Data<br>Scale | Data Description  |
|-------------------------------------|--|--------------|---------------|---|
| Political boundaries                | U.S. Department<br>of Commerce,<br>U.S. Census<br>Bureau,<br>Geography<br>Division   | 2010         | N/A           | Municipal boundaries  |
| Public Land Survey<br>System (PLSS) | Federal<br>Geographic Data<br>Committee,<br>Subcommittee for<br>Cadastral Data   | 2014         | 1:5,000       | PLSS data were digitized from USGS quadrangles  |
| Surface Water<br>Features           | U.S. Geological<br>Survey, U.S.<br>Environmental<br>Protection<br>Agency, USDA<br>Forest Service,<br>MARIS, and<br>other Federal,<br>State and local<br>Partners | 2008         | 1:24,000      | Waterbodies   |
| Surface Water<br>Features           | U.S. Geological<br>Survey  | 2012         | N/A           | Streams   |
| Transportation<br>Features          | Mississippi<br>Department of<br>Transportation   | 2018         | 1:5,000       | Local Roads were collected by<br>digitizing the linework from the<br>MDEM 2006 Imagery. State<br>maintained routes were aligned and<br>modified using the MDEM 2006<br>Imagery. |
| Transportation<br>Features          | U.S. Census<br>Bureau  | 2017         | 1:5,000       | Railroads   |

#### 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 15.

In cases where the 1-percent and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary has been shown.

Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

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 16, "Floodway Data."

|   |                    | Source for Topographic Elevation Data    |                         |                        |              |  |
|---|--------------------|--|-------------------------|------------------------|--------------|--|
| Community   | Flooding<br>Source | Description                              | Vertical<br>Accuracy    | Horizontal<br>Accuracy | Citation     |  |
| Greene County,<br>Unincorporated<br>Areas; McLain,<br>Town of | Leaf River         | Light Detection and Ranging data (LiDAR) | 0.090<br>meters         | 0.196 meters           | USGS<br>2016 |  |
| N/A   | N/A                | MS Statewide DTM                         | +/- 3.3<br>RMSE         | +/- 4 RMSE             | Fugro 2010   |  |
| N/A   | N/A                | National Elevation<br>Dataset            | N/A                     | N/A                    | USGS 2008    |  |
| N/A   | N/A                | Light Detection and Ranging data (LiDAR) | 0.185<br>meters<br>RMSE | N/A                    | Fugro 2006   |  |

Table 22: Summary of Topographic Elevation Data used in Mapping

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

| LOCAT  | ION  |  | FLOODWAY  |   | 1% ANNU                                       | AL CHANCE FLO<br>ELEVATION ( F   | <b>DOD WATER SU</b><br>EET NAVD88 <b>)</b>            | RFACE                                  |
|--|--|--|---|---|---|--|---|--|
| CROSS<br>SECTION   | DISTANCE <sup>1</sup>  | WIDTH<br>(FEET)                                    | SECTION<br>AREA<br>(SQ. FEET)   | MEAN<br>VELOCITY<br>(FEET/ SEC)               | REGULATORY                                    | WITHOUT<br>FLOODWAY  | WITH<br>FLOODWAY                                      | INCREASE                               |
| A<br>B<br>C<br>D<br>E<br>F<br>G<br><sup>1</sup> Feet above confl<br><sup>2</sup> Elevation compu | 5,840<br>6,427<br>7,810<br>9,400<br>10,490<br>14,100<br>19,900 | 244<br>206<br>529<br>286<br>838<br>852<br>206<br>× | 1,971<br>1,348<br>1,909<br>1,294<br>2,374<br>3,776<br>613<br>er<br>ackwater effects | 2.2<br>3.2<br>2.2<br>3.3<br>1.8<br>1.1<br>7.0 | 85.8<br>86.0<br>86.5<br>90.3<br>94.3<br>108.9 | 78.7 <sup>2</sup><br>79.7 <sup>2</sup><br>82.0 <sup>2</sup><br>86.5<br>90.3<br>94.3<br>108.9 | 79.7<br>80.6<br>83.0<br>87.5<br>91.3<br>95.3<br>109.8 | 1.0<br>0.9<br>1.0<br>1.0<br>1.0<br>0.9 |
| FEDERAL EN   |  | NAGEMENT   | AGENCY  |   | FI  |  |   |  |
| GREEN  | E COUNTY   | . MISSIS   | SIPPI   |   | FLOODWAY DATA                                 |  |   |  |

Table 23: Floodway Data

# Table 24: Flood Hazard and Non-Encroachment Data for Selected Streams[Not Applicable to this Flood Risk Project]

# 6.4 Coastal Flood Hazard Mapping

This section is not applicable to this Flood Risk Project.

# Table 25: Summary of Coastal Transect Mapping Considerations[Not Applicable to this Flood Risk 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 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 22, "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.

To obtain an application for a LOMA, visit <u>www.fema.gov/floodplain-management/letter-map-amendment-loma</u> 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 <u>www.fema.gov/online-tutorials</u>.

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 <u>www.fema.gov/floodplain-management/letter-map-amendment-loma</u> 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 <u>www.fema.gov/online-tutorials</u>.

# 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 <u>www.fema.gov/media-library/assets/documents/1343</u> 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 Greene County FIRM are listed in Table 19. Please note that this table only includes LOMCs that have been issued on the FIRM panels updated by this map revision. For all other areas within this county, users should be aware that revisions to the FIS Report made by prior LOMRs may not be reflected herein and users will need to continue to use the previously issued LOMRs to obtain the most current data.

# Table 26: Incorporated Letters of Map Change

# [Not Applicable to this Flood Risk Project]

# 6.5.4 Physical Map Revisions

A Physical Map Revisions (PMR) is 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 <u>www.fema.gov</u> 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 Greene County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBMs) and/or Flood Boundary and Floodway Maps (FBFMs) 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 20, "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 20 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 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.
- *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 PMRs 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 Greene County FIRMs in countywide format was 01/06/2012.

| Community Name                         | Initial<br>Identification<br>Date | Initial FHBM<br>Effective<br>Date | FHBM<br>Revision<br>Date(s) | Initial FIRM<br>Effective<br>Date | FIRM<br>Revision<br>Date(s)     |
|--|-----------------------------------|-----------------------------------|-----------------------------|-----------------------------------|---------------------------------|
| Greene County,<br>Unincorporated Areas | 07/22/1977                        | 07/22/1977                        | N/A                         | 09/18/1985                        | TBD<br>01/06/2012<br>05/02/1994 |
| Leakesville, Town of                   | 02/14/1975                        | 02/14/1975                        | N/A                         | 09/30/1988                        | <b>TBD</b><br>01/06/2012        |
| McLain, Town of                        | 01/04/1974                        | 01/04/1974                        | 01/16/1976                  | 12/01/1983                        | <b>TBD</b><br>01/06/2012        |

Table 27: Community Map History

# SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

# 7.1 Contracted Studies

Table 21 provides a summary of the contracted studies, by flooding source, that are included in this FIS Report.

| Table 28: Summary of Contracted Studies Included in this FIS | Report |
|--|--------|
|--|--------|

| Flooding<br>Source       | FIS Report<br>Dated | Contractor              | Number             | Work<br>Completed<br>Date | Affected<br>Communities   |
|--------------------------|---------------------|-------------------------|--------------------|---------------------------|---|
| All Effective A<br>Zones | 01/06/2012          | State of<br>Mississippi | EMA-2008-<br>CA-58 | June 2010                 | Greene County,<br>Unincorporated<br>Areas; Leaksville,<br>Town of; McLain,<br>Town of |

| Flooding<br>Source        | FIS Report<br>Dated | Contractor   | Number  | Work<br>Completed<br>Date | Affected<br>Communities   |
|---------------------------|---------------------|--|---|---------------------------|---|
| Blakely Creek             | 09/30/1988          | Neel-Shaffer,<br>Inc.  | EMW-86-C-<br>2246   | March 1987                | Greene County,<br>Unincorporated<br>Areas; Leaksville,<br>Town of |
| Chickasawhay<br>River     | 09/30/1988          | Neel-Shaffer,<br>Inc.  | EMW-86-C-<br>2246   | March 1987                | Greene County,<br>Unincorporated<br>Areas; Leaksville,<br>Town of |
| Faulk Ditch               | 05/02/1994          | U.S. Army<br>Corps of<br>Engineers<br>(USACE),<br>Mobile<br>District | IA-EMW-91-<br>3529, Task<br>Order No. 2-<br>MOB, Project<br>Order No. 3 | February<br>1992          | Greene County,<br>Unincorporated<br>Areas                         |
| Leaf River                | TBD                 | State of<br>Mississippi  | EMA-2014-<br>CA-00187-<br>S01   | January<br>2019           | Greene County,<br>Unincorporated<br>Areas; McLain, Town<br>of     |
| Martin Creek              | 09/30/1988          | Neel-Shaffer,<br>Inc.  | EMW-86-C-<br>2246   | March 1987                | Greene County,<br>Unincorporated<br>Areas; Leaksville,<br>Town of |
| Martin Creek<br>Tributary | 09/30/1988          | Neel-Shaffer,<br>Inc.  | EMW-86-C-<br>2246   | March 1987                | Leaksville, Town of   |

# 7.2 Community Meetings

The dates of the community meetings held for this Flood Risk Project and previous Flood Risk Projects are shown in Table . 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 29: Community Meetings

| Community            | FIS Report<br>Dated | Date of Meeting | Meeting Type         | Attended By  |
|----------------------|---------------------|-----------------|----------------------|--|
| Croope Coupty        |                     | 11/05/2015      | Discovery            | FEMA, Mississippi Department of Environmental Quality,<br>Mississippi Emergency Management Agency, and MGI   |
| Unincorporated Areas | TBD                 | 03/21/2019      | Flood Risk<br>Review | Mississippi Department of Environmental Quality,<br>Mississippi Emergency Management Agency, MGI, and<br>Greene County                               |
| Leakesville, Town of | 01/06/2012          | 09/17/2008      | Initial CCO          | FEMA, Mississippi Department of Environmental Quality,<br>Mississippi Emergency Management Agency, Greene<br>County, and the study contractor, AECOM |
|                      |                     | 09/22/2010      | PDCC                 | FEMA, Mississippi Department of Environmental Quality,<br>Mississippi Emergency Management Agency, Greene<br>County, and the study contractor, AECOM |
| McLain, Town of      | TBD                 | 11/05/2015      | Discovery            | FEMA, Mississippi Department of Environmental Quality,<br>Mississippi Emergency Management Agency, and MGI   |
|                      |                     | 03/21/2019      | Flood Risk<br>Review | Mississippi Department of Environmental Quality,<br>Mississippi Emergency Management Agency, and MGI   |

# **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 <u>www.fema.gov</u>.

The additional data that was used for this project includes the FIS Report and FIRM that were previously prepared for Greene County and Incorporated Areas, (FEMA 2012); Greene County (Unincorporated Areas), (FEMA 1994); and the Town of Leakesville, (FEMA 1988 Leakesville).

Table 22 is a list of the locations where FIRMs for Greene 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.

| Community                              | Address   | City        | State | Zip Code |
|--|---|-------------|-------|----------|
| Greene County,<br>Unincorporated Areas | Greene County Emergency<br>Management<br>401 McInnis Avenue | Leakesville | MS    | 39451    |
| Leakesville, Town of                   | , Town of 301 Lafayette Avenue                              |             | MS    | 39451    |
| McLain, Town of                        | Town Hall<br>106 South Church Street                        | McLain      | MS    | 39456    |

### Table 30: Map Repositories

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 23.

Table 23 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.

| FEMA and the NFIP                            |  |  |  |  |
|--|--|--|--|--|
| FEMA and FEMA<br>Engineering Library website | www.fema.gov/national-flood-insurance-program-flood-<br>hazard-mapping/engineering-library   |  |  |  |
| NFIP website                                 | www.fema.gov/national-flood-insurance-program  |  |  |  |
| NFHL Dataset                                 | msc.fema.gov   |  |  |  |
| FEMA Region IV                               | Federal Emergency Management Agency<br>3003 Chamblee Tucker Road<br>Atlanta, GA 30341<br>(770) 220-5200  |  |  |  |
|  | Other Federal Agencies   |  |  |  |
| USGS website                                 | www.usgs.gov   |  |  |  |
| Hydraulic Engineering Center website         | www.hec.usace.army.mil   |  |  |  |
|  | State Agencies and Organizations   |  |  |  |
| State NFIP Coordinator                       | Stacy D. Ricks, CFM<br>Mississippi Emergency Management Agency<br>P.O. Box 5644<br>Pearl, MS 39208<br>Phone: (601) 933-6605<br>Fax: (601) 933-6805<br>sricks@mema.ms.gov   |  |  |  |
| State GIS Coordinator                        | Position currently vacant<br>MFMMI Program Director<br>Administrator of the MS Coordinating Council for Remote<br>Sensing and Geographic Information Systems<br>P.O. Box 20307<br>Jackson, MS 39289-1307   |  |  |  |
| Statewide Regulatory<br>Coordinator          | Stephen D. Champlin, R.P.G.<br>Geospatial Resources Division/Flood Mapping<br>Office of Geology<br>Mississippi Department of Environmental Quality<br>P.O. Box 2279<br>Jackson, Mississippi 39225<br>Phone: (601) 961-5506<br>Stephen_Champlin@deq.state.ms.us |  |  |  |

# **Table 31: Additional Information**

# SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES

Table 24 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 32: | Bibliography | and | References |
|-----------|--------------|-----|------------|
|-----------|--------------|-----|------------|

| Citation<br>in this FIS     | Publisher/<br>Issuer                           | Publication Title, "Article,"<br>Volume, Number, etc.                             | Author/Editor | Place of<br>Publication | Publication Date/<br>Date of Issuance | Link  |
|-----------------------------|--|---|---------------|-------------------------|---------------------------------------|---|
| ESRI 2017                   | Environmental<br>Systems Research<br>Institute | ArcMap, Version 10.6.1  |               | Redlands, CA            | 2017                                  |   |
| FEMA<br>1983                | Federal<br>Emergency<br>Management<br>Agency   | Flood Insurance Study, Town<br>of McLain, Mississippi                             |               | Washington,<br>D.C.     | June 1, 1983                          | FEMA Flood Map<br>Service Center<br><u>https://msc.fema.gov</u> |
| FEMA<br>1988<br>George Co   | Federal<br>Emergency<br>Management<br>Agency   | Flood Insurance Study,<br>George County<br>(Unincorporated Areas),<br>Mississippi |               | Washington,<br>D.C.     | August 16, 1988                       | FEMA Flood Map<br>Service Center<br><u>https://msc.fema.gov</u> |
| FEMA<br>1988<br>Leakesville | Federal<br>Emergency<br>Management<br>Agency   | Flood Insurance Study, Town of Leakesville, Mississippi                           |               | Washington,<br>D.C.     | September 30,<br>1988                 | FEMA Flood Map<br>Service Center<br><u>https://msc.fema.gov</u> |
| FEMA<br>1988<br>Wayne Co    | Federal<br>Emergency<br>Management<br>Agency   | Flood Insurance Study,<br>Wayne County<br>(Unincorporated Areas),<br>Mississippi  |               | Washington,<br>D.C.     | August 16, 1988                       | FEMA Flood Map<br>Service Center<br><u>https://msc.fema.gov</u> |
| FEMA<br>1991                | Federal<br>Emergency<br>Management<br>Agency   | Flood Insurance Study, Perry<br>County (Unincorporated<br>Areas), Mississippi     |               | Washington,<br>D.C.     | July 2, 1991                          | FEMA Flood Map<br>Service Center<br><u>https://msc.fema.gov</u> |
| FEMA<br>1994                | Federal<br>Emergency<br>Management<br>Agency   | Flood Insurance Study,<br>Greene County<br>(Unincorporated Areas),<br>Mississippi |               | Washington,<br>D.C.     | May 2, 1994                           | FEMA Flood Map<br>Service Center<br><u>https://msc.fema.gov</u> |

| Citation<br>in this FIS | Publisher/<br>Issuer  | Publication Title, "Article,"<br>Volume, Number, etc.   | Author/Editor   | Place of<br>Publication | Publication Date/<br>Date of Issuance | Link  |
|-------------------------|---|---|---|-------------------------|---------------------------------------|---|
| FEMA<br>1998            | Federal<br>Emergency<br>Management<br>Agency                                    | Flood Insurance Study,<br>Mobile County, Alabama and<br>Incorporated Areas                            |   | Washington,<br>D.C.     | July 6, 1998                          | FEMA Flood Map<br>Service Center<br><u>https://msc.fema.gov</u> |
| FEMA<br>2012            | Federal<br>Emergency<br>Management<br>Agency                                    | Flood Insurance Study,<br>Greene County, Mississippi<br>and Incorporated Areas                        |   | Washington,<br>D.C.     | January 6, 2012                       | FEMA Flood Map<br>Service Center<br><u>https://msc.fema.gov</u> |
| FGDC<br>2014            | Federal<br>Geographic Data<br>Committee,<br>Subcommittee for<br>Cadastral Data  | PLSS First Division   |   |                         | September 24,<br>2014                 |   |
| Fugro 2006              | Fugro EarthData,<br>Inc.  | Camp Shelby, MS LiDAR   |   | Frederick, MD           | March 27, 2006                        |   |
| Fugro 2010              | Fugro EarthData,<br>Inc.  | Mississippi Statewide Digital<br>Terrain Model  |   | Frederick, MD           | August 2010                           |   |
| MARIS<br>2015           | U.S. Department of<br>Commerce, U.S.<br>Census Bureau,<br>Geography<br>Division | County Boundaries for<br>Mississippi  | Mississippi<br>Automated<br>Resource<br>Information<br>System | Jackson, MS             | May 20, 2015                          | MARIS<br>www.maris.state.ms.us                                  |
| MDOT<br>2018            | Mississippi<br>Department of<br>Transportation                                  | MDOT_CO_LRM   |   | Jackson, MS             | July 2018                             |   |
| SOM 2017                | State of Mississippi  | Greene_12-<br>inch_20X_mosaic.sid   | Surdex<br>Corporation   | Clinton, MS             | March 8, 2017                         |   |
| US Interior<br>1991     | U.S. Department of the Interior, Geological Survey                              | Water-Resources<br>Investigations Report 91-<br>0437: Flood Characteristics<br>of Mississippi Streams | M.N.<br>Landers,<br>K.V. Wilson,<br>Jr.                       | Jackson, MS             | 1991                                  |   |

| Citation<br>in this FIS | Publisher/<br>Issuer  | <i>Publication Title,</i> "Article,"<br>Volume, Number, etc.      | Author/Editor   | Place of<br>Publication | Publication Date/<br>Date of Issuance | Link  |
|-------------------------|---|---|---|-------------------------|---------------------------------------|---|
| USACE<br>1985           | U.S. Army Corps of<br>Engineers   | Computer Program<br>MECWRC, Flood Frequency<br>Analyses           |   |                         | June 1985                             |   |
| USACE<br>1991           | U.S. Army Corps of<br>Engineers,<br>Hydrologic<br>Engineering Center            | HEC-2 Water Surface<br>Profiles, Generalized<br>Computer Program  |   | Davis, CA               | February 1991                         |   |
| USACE<br>2004           | U.S. Army Corps of<br>Engineers,<br>Hydrologic<br>Engineering Center            | HEC-RAS River Analysis<br>System, Version 3.1.2                   |   | Davis, CA               | April 2004                            |   |
| USACE<br>2016           | U.S. Army Corps of<br>Engineers,<br>Hydrologic<br>Engineering Center            | HEC-RAS River Analysis<br>System, User's Manual,<br>Version 5.0.3 |   | Davis, CA               | September 2016                        |   |
| USCB<br>2000            | U.S. Census<br>Bureau   | U.S. Census 2000  |   |                         | June 2010                             | U.S. Census Bureau<br>http://quickfacts.census.g<br>ov/qfd/states/28/28041.ht<br>ml |
| USCB<br>2017            | U.S. Census<br>Bureau   | MS Active Railroads   | Mississippi<br>Automated<br>Resource<br>Information<br>System | Jackson, MS             | January 12, 2017                      | MARIS<br>www.maris.state.ms.us  |
| USDC<br>2010            | U.S. Department of<br>Commerce, U.S.<br>Census Bureau,<br>Geography<br>Division | MS Census Designated<br>Places 2010                               |   | Washington,<br>D.C.     | July 2010                             | U.S. Census Bureau<br>http://www.census.gov/g<br>eo/www/tiger                       |

| Citation<br>in this FIS         | Publisher/<br>Issuer  | Publication Title, "Article,"<br>Volume, Number, etc.  | Author/Editor               | Place of<br>Publication | Publication Date/<br>Date of Issuance | Link |
|---------------------------------|---|--|-----------------------------|-------------------------|---------------------------------------|------|
| USDI 1972                       | U.S. Department of the Interior, Geological Survey  | 7.5-Minute Series<br>Topographic Maps, Scale<br>1:24,000, Contour Interval 10<br>Feet: Leakesville, Mississippi    |                             |                         | 1972                                  |      |
| USDI 1976                       | U.S. Department of the Interior, Geological Survey  | Flood Frequency of<br>Mississippi Streams  | B.E. Colson,<br>J.W. Hudson |                         | 1976                                  |      |
| USDI 1981                       | U.S. Department of<br>the Interior,<br>Geological Survey,<br>Office of Water<br>Data Collection,<br>Interagency<br>Advisory<br>Committee on<br>Water Data | Guidelines for Determining<br>Flood Flow Frequency,<br>Bulletin 17B  |                             | Restin, VA              | Revised<br>September 1981             |      |
| USDI 1982                       | U.S. Department of the Interior, Geological Survey  | 7.5-Minute Series<br>Topographic Maps, Scale<br>1:24,000, Contour Interval 10<br>Feet: Rounsaville,<br>Mississippi |                             |                         | 1982                                  |      |
| USDI 1991                       | U.S. Department of the Interior, Geological Survey  | Flood Characteristics of<br>Mississippi Streams, Water-<br>Resources Investigations<br>Report 91-4037              |                             | Jackson, MS             | 1991                                  |      |
| USDI 1991<br>Flood<br>Frequency | U.S. Department of<br>the Interior,<br>Geological Survey  | Flood Frequency data on the<br>Chickasawhay River at<br>Leakesville, Mississippi                                   |                             |                         | 1991                                  |      |
| USDI 1991<br>Gage               | U.S. Department of<br>the Interior,<br>Geological Survey  | Stream Gage Records on the<br>Chickasawhay River at<br>Leakesville, Mississippi                                    |                             |                         | 1991                                  |      |

| Citation<br>in this FIS | Publisher/<br>Issuer  | <i>Publication Title,</i> "Article,"<br>Volume, Number, etc. | Author/Editor            | Place of<br>Publication | Publication Date/<br>Date of Issuance | Link   |
|-------------------------|---|--|--------------------------|-------------------------|---------------------------------------|--|
| USGS<br>2008            | U.S. Geological<br>Survey, U.S.<br>Environmental<br>Protection Agency,<br>USDA Forest<br>Service, MARIS,<br>and other Federal,<br>State and local<br>Partners | National Hydrography<br>Dataset                              |                          | Reston,<br>Virginia     | 2008                                  |  |
| USGS<br>2012            | U.S. Geological<br>Survey   | National Hydrography<br>Dataset - Hydrology                  |                          |                         | January 6, 2012                       |  |
| USGS<br>2016            | U.S. Geological<br>Survey   | 3DEP Camp Shelby   | Quantum<br>Spatial, Inc. | Lexington, KY           | November 14,<br>2016                  |  |
| USGS<br>2017            | U.S. Geological<br>Survey and<br>National<br>Resources<br>Conservation<br>Service State<br>Offices  | Watershed Boundary<br>Dataset - Hydrologic Unit              |                          |                         | September 21,<br>2017                 | USGS<br><u>ftp://ftp.ftw.nrcs.usda.gov</u><br><u>/wbd</u>  |
| USGS<br>2018            | U.S. Department of<br>the Interior, U.S.<br>Geological Survey   | NWIS Site Information for<br>USA: Site Inventory             |                          |                         | January 17, 2019                      | USGS National Water<br>Information System:<br>Mapper<br><u>https://maps.waterdata.u</u><br><u>sgs.gov/mapper</u> |













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