



**State of Alabama  
Cooperating Technical Partners  
Mapping Activity Statement  
For Cullman and Randolph Counties**

**Statement No. 4 – Digital Flood Insurance Rate Map (DFIRM) Production and Development of Updated Flood Data**

In accordance with the Cooperating Technical Partners (CTP) Memorandum of Agreement dated September 30, 2002, between the State of Alabama and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement No. 4 is as follows:

- 1. Statement Objective:** The objective of this Mapping Activity for the State of Alabama is to complete the Post-Preliminary Processing and finalize the revised DFIRM for Cullman and Randolph Counties. The FIS and DFIRM will be produced in countywide DFIRM format.

This project will be completed by the Mapping Partners listed below:

- 1) State of Alabama Office of Water Resources (OWR)
- 2) FEMA
- 3) Local Governments and Communities

The activities, and who will complete them, are summarized in the table below. The following sections describe the specific mapping activities associated with this mapping project. Each activity description identifies the responsible Mapping Partners, the Standards that must be met, and resultant map component.

| Activity   | OWR | FEMA | Other |
|--|-----|------|-------|
| Activity 1A – Scoping  |     |      |       |
| Activity 1B – Outreach   |     |      |       |
| Activity 1C – Field Surveys and Reconnaissance   |     |      |       |
| Activity 2 – Topographic Data Procurement  |     |      |       |
| Activity 3 – Independent QA/QC of Topographic Data   |     |      |       |
| Activity 4 – Hydrologic Analyses   |     |      |       |
| Activity 4A – Coastal Hazard Analysis  |     |      |       |
| Activity 5 – Independent QA/QC of Hydrologic Analyses  |     |      |       |
| Activity 5A – Independent QA/QC of Coastal Hazard Analysis                                     |     |      |       |
| Activity 6 – Hydraulic Analyses  |     |      |       |
| Activity 7 – Independent QA/QC of Hydraulic Analyses   |     |      |       |
| Activity 8 – Floodplain Mapping (Detailed Riverine and Redelineation Using Effective Profiles) |     |      |       |

| <b>Activity</b>  | <b>OWR</b> | <b>FEMA</b> | <b>Other</b> |
|--|------------|-------------|--------------|
| Activity 9– Independent QA/QC of Floodplain Mapping                      |            |             |              |
| Activity 10 – Base Map Acquisition and Preparation                       |            |             |              |
| Activity 11 – DFIRM Production (Non-Revised Areas)                       |            |             |              |
| Activity 11A – Independent QA/QC of DFIRM Production (Non-Revised Areas) |            |             |              |
| Activity 12 – Merging of Revised and Non-Revised Information             |            |             |              |
| Activity 12A – Application of DFIRM Graphic Specifications               |            |             |              |
| Activity 12B – Independent QA/QC of DFIRM Graphics                       |            |             |              |
| Activity 13 – Preparation and Issuance of Preliminary FIS and FIRM       |            |             |              |
| Activity 14 – Post-Preliminary Processing                                | X          | X           |              |

**Activity 1A – Scoping**

Responsible Entity: N/A

**Activity 1B – Outreach**

Responsible Entity: N/A

**Activity 1C – Field Surveys and Reconnaissance**

Responsible Entity: N/A

**Activity 2 - Topographic Data Procurement**

Responsible Entity: N/A

**Activity 3 - Independent QA/QC of Topographic Data**

Responsible Entity: N/A

**Activity 4 – Hydrologic Analysis**

Responsible Entity: N/A

**Activity 4A – Coastal Hazard Analyses**

Responsible Entity: N/A

**Activity 5 - Independent QA/QC Review of Hydrologic Analyses**

Responsible Entity: N/A

**Activity 5A – Independent QA/QC of Coastal Hazard Analyses**

Responsible Entity: N/A

**Activity 6 – Hydraulic Analyses**

Responsible Entity: N/A

**Activity 7 - Independent QA/QC Review of Hydraulic Analyses**

Responsible Entity: N/A

**Activity 8 – Floodplain Mapping (Detailed Riverine and Redelineation Using Effective Profiles and Updated Topographic Data)**

Responsible Entity: N/A

**Activity 9 - Independent QA/QC Review of Floodplain Mapping**

Responsible Entity: N/A

**Activity 10 - Base Map Acquisition and Preparation**

Responsible Entity: N/A

**Activity 11 – DFIRM Production (Non-Revised Areas)**

Responsible Entity: N/A

**Activity 11A – Independent QA/QC of DFIRM Production (Non-Revised Areas)**

Responsible Entity: N/A

**Activity 12 – Merging of Effective and Revised Information**

Responsible Entity: N/A

**Activity 12A – Application of DFIRM Graphic Specifications**

Responsible Entity: N/A

**Activity 12B - Independent QA/QC Review of DFIRM Graphics**

Responsible Entity: N/A

**Activity 13 – Preparation and Issuance of Preliminary FIS and FIRM**

Responsible Entity: N/A

**Activity 14 - Post-Preliminary Processing**

Responsible Entity: OWR and FEMA

**Scope:** This Activity consists of finalizing the DFIRM and FIS report after the preliminary FIS and DFIRM have been issued for public review and comment. The activities to be performed include:

- **Participating in Public Meetings:** When OWR holds public meetings to present and discuss the results of this Flood Map Project, FEMA may attend the meetings and assist OWR in the presentation as required.
- **Resolving Appeals and Protests:** Appeals and protests received during the 90-day appeal period will be reviewed and resolved prior to finalizing the FIRMs and FIS report. OWR will provide support to FEMA in resolving appeals and protests. Activities may include, but not limited to, attending community meetings and assisting FEMA in addressing any issues that may arise in resolving appeals and protests from affected communities. For a typical appeal and protest, the following activities will be conducted: initial processing of the appeal/protest, performing a technical review of the appeal/protest, preparing letters to request additional data, performing revised analyses, and preparing a proposed resolution for FEMA's review. FEMA and OWR will mail all associated correspondence upon authorization by FEMA.
- **Special Correspondence:** Comments received within the 90-day appeal period (referred to as "special correspondence") will be reviewed, and responses will be drafted by OWR for FEMA's review. OWR will also mail the final correspondence upon authorization by FEMA.
- **Revise DFIRMs and FIS Report:** If necessary, FEMA and OWR will work with those parties responsible for preparing the DFIRM to prepare revised preliminary copies of the DFIRMs and FIS report, including all data tables and flood profiles. OWR will mail all revised preliminary copies of DFIRMs and associated correspondence upon authorization by FEMA.
- **Letter of Final Determination:** FEMA will work with OWR to establish an effective date for the DFIRM and FIS report. Unless otherwise instructed by FEMA, OWR will prepare a Letter of Final Determination (LFD) for FEMA review and signature and prepare a final notice for publication in the *Federal Register*, will mail the LFD with appropriate enclosures and coordinate publication of the final notice in the *Federal Register*.
- **GPO Processing:** OWR will prepare final copies of the DFIRM and FIS report, and provide them to FEMA. This will include preparing camera-ready film negatives of the DFIRM and paper copies of the FIS report, including flood profiles; preparing appropriate paperwork to be included with DFIRM and FIS report materials, including the transmittal letter to the community CEO, the print processing worksheet, the Printing Requisition Form, and the Community Map Action Form; and delivering the final materials and paperwork to FEMA in the format prescribed by FEMA.
- **Archiving Data:** OWR will package the backup data and correspondence for this Flood Map Project and transmit it to the Engineering Study Data Package Facility. In addition, OWR will maintain and archive all the technical data for at least 3 years.

**Standards:** All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

**Products:** In accordance with the TSDN format described in Section 2, OWR shall make the following products available to FEMA as required:

- DFIRM database development;
- Draft LFD and associated backup data and information for FEMA review;
- Draft Special Correspondence and backup data and information for FEMA review;
- Appeal and Protest resolution letters, and all backup data and information for FEMA review;
- One set of DFIRM negatives and paper FIS reports, including all updated data tables and flood profiles;
- Paperwork required for printing of DFIRM panels and FIS report;
- Complete DFIRM spatial database; and
- Completed and organized Engineering Study Data Packages.

2. **Technical and Administrative Support Data Submittal:** The Project Team members for this project that have responsibilities for activities included in this Mapping Activity Statement shall comply with the following data submittal requirements:

- All supporting documentation for the activities in this Mapping Activity Statement shall be submitted in accordance with Appendix M, Section M.2.1 of FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners*, available at FEMA's website at [www.fema.gov/fhm/gs\\_main.htm](http://www.fema.gov/fhm/gs_main.htm). The following table indicates the sections of the TSDN that apply to each activity.

**TSDN—Applicable Sections**

| Section of TSDN  | Activities |   |   |   |   |   |   |      |    |    |                |    |    |
|--|------------|---|---|---|---|---|---|------|----|----|----------------|----|----|
|  | 1          | 2 | 3 | 4 | 5 | 6 | 7 | 8, 9 | 10 | 11 | 14, 15, and 16 | 17 | 18 |
| <b>General Documentation</b>                               |            |   |   |   |   |   |   |      |    |    |                |    |    |
| Special Problem Reports                                    | 4          | 4 | 4 | 4 | 4 | 4 | 4 | 4    | 4  | 4  | 4              | 4  | 4  |
| Telephone Conversation Reports                             | 4          | 4 | 4 | 4 | 4 | 4 | 4 | 4    | 4  | 4  | 4              | 4  | 4  |
| Meeting Minutes/Reports                                    | 4          | 4 | 4 | 4 | 4 | 4 | 4 | 4    | 4  | 4  | 4              | 4  | 4  |
| General Correspondence                                     | 4          | 4 | 4 | 4 | 4 | 4 | 4 | 4    | 4  | 4  | 4              | 4  | 4  |
| <b>Engineering Analyses</b>                                |            |   |   |   |   |   |   |      |    |    |                |    |    |
| Hydrologic and Hydraulic Analyses                          | 4          | 4 |   | 4 | 4 | 4 | 4 |      |    |    |                |    |    |
| Key to Cross-section Labeling and Key to Transect Labeling | 4          | 4 |   |   |   | 4 | 4 | 4    | 4  |    |                |    |    |
| <b>Draft FIS Report</b>                                    |            |   |   | 4 |   | 4 |   |      |    |    |                | 4  | 4  |
| <b>Mapping Information</b>                                 |            | 4 |   |   |   |   |   | 4    | 4  | 4  | 4              | 4  | 4  |
| <b>Miscellaneous Reference Materials</b>                   | 4          | 4 | 4 | 4 | 4 | 4 | 4 | 4    | 4  | 4  | 4              | 4  | 4  |

- If any issues arise that could affect the completion of an activity within the proposed scope or budget, the party responsible for that activity must complete a Special Problem Report (SPR) as soon as possible after the issue is identified and submitted to FEMA. The SPR should describe the issue and propose possible resolutions.

Additionally, OWR and FEMA will be responsible for collecting and maintaining a set of products for all Activities and shall compile a comprehensive TSDN for the entire project.

**3. Period of Performance:** The mapping activities outlined in this Mapping Activity Statement will be completed within 12 months from notice to proceed not to extend beyond September 30, 2005. The period of performance will be in accordance with Cooperative Agreement Article II.

**4. Funding/Cost-Sharing:**

The parties hereby recognize and agree that FEMA and OWR funding of this Mapping Activity Statement will be over Fiscal Year 2003, and is conditioned upon the inclusion, funding, and approval of the Mapping Activity Statement in their annual budgets. FEMA has approved Seventy Thousand, Four Hundred Forty Nine dollars (\$70,449) in Fiscal Year 2003 for the Mapping Activity Statement.

5. **Standards:** Table 5-1 indicates the standards and documentation relevant to this Mapping Activity Statement. Table 5-2 shows the applicable sections of FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners* for each activity.

**Table 5-1 Applicable Standards per Activity**

| Applicable Standards   | Activities |   |   |       |       |   |   |           |   |    |         |              |    |    |
|--|------------|---|---|-------|-------|---|---|-----------|---|----|---------|--------------|----|----|
|  | 1          | 2 | 3 | 4, 4A | 5, 5A | 6 | 7 | 8, 8A, 8B | 9 | 10 | 11, 11A | 12, 12A, 12B | 13 | 14 |
| Guidelines and Specifications for Flood Hazard Mapping Partners  |            |   |   |       |       |   |   |           |   |    |         |              |    | 4  |
| American Congress on Surveying and Mapping (ACSM) procedures   |            |   |   |       |       |   |   |           |   |    |         |              |    |    |
| Global Positioning System (GPS) Surveys: National Geodetic Survey (NGS-58), "Guidelines for Establishing GPS-Derived Ellipsoid Heights," November 1997 |            |   |   |       |       |   |   |           |   |    |         |              |    |    |
| EM 1000-1-1000, "Photogrammetric Mapping," March 31, 1993  |            |   |   |       |       |   |   |           |   |    |         |              |    |    |
| EM 1110-2-1003, "Hydrographic Surveys," October 31, 1994   |            |   |   |       |       |   |   |           |   |    |         |              |    |    |
| Numerical Models Accepted by FEMA for NFIP Usage, January 11, 2002   |            |   |   |       |       |   |   |           |   |    |         |              |    |    |
| Content Standards for Digital Geospatial Metadata (Federal Geographic Data Committee, 1998)  |            |   |   |       |       |   |   |           |   |    |         |              |    | 4  |
| Document Control Procedures Manual dated October 1993.   |            |   |   |       |       |   |   |           |   |    |         |              |    | 4  |

**Table 5-2. Mapping Activities and Applicable Sections of Guidelines and Specifications for Flood Hazard Mapping Partners.**

| Activity   | Applicable Volume, Section/Subsection, and Appendix of Guidelines and Specifications   |
|--|--|
| Activity 1A – Scoping                                      | Volume 1, Section 1.3<br>Appendix A, Sections A.5, A.6, A.7, and A.8<br>Appendices B, C, and M   |
| Activity 1B – Education and Outreach                       | Volume 1, Section 1.3 (specifically Subsection 1.3.4)<br>Appendix A, Sections A.5, A.6, A.7, and A.8<br>Appendices B, C, and M   |
| Activity 1C – Field Surveys and Reconnaissance             | Volume 1, Sections 1.2, 1.3, 1.4 (specifically Subsection 1.4.2.1)<br>Appendix A, Sections A.5, A.6, A.7, and A.8<br>Appendices B, C, and M  |
| Activity 2 – Topographic Data Development                  | Volume 1, Section 1.4 (specifically Subsection 1.4.2.1)<br>Appendix A, Sections A.2 and A.3<br>Appendix M  |
| Activity 3 – Independent QA/QC of Topographic Data         | Volume 1, Section 1.4 (specifically Subsections 1.4.1 and 1.4.2.1)<br>Appendix A, Sections A.2, A.3, A.7 (specifically Subsection A.7.5), and A.8<br>(specifically Subsection A.8.6)<br>Appendix M     |
| Activity 4 – Hydrology                                     | Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.4)<br>Appendix C, Sections C.1 and C.7<br>Appendices E, F, G, H, and M   |
| Activity 4A – Coastal Hazard Analyses                      | Volume 1, Section 1.4 (specifically Subsection 1.4.2.2)<br>Appendix A, Section A.4<br>Appendices B, D, and M   |
| Activity 5 – Independent QA/QC of Hydrology                | Volume 1, Section 1.4 (specifically Subsection 1.4.1)<br>Appendix C, Section C.2<br>Appendices E, F, G, H, and M   |
| Activity 5A – Independent QA/QC of Coastal Hazard Analyses | Volume 1, Section 1.4 (specifically Subsection 1.4.1)<br>Appendix A, Section A.4<br>Appendices B, D, H, and M  |
| Activity 6 – Hydraulics                                    | Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.4)<br>Appendix A, Section A.4 (specifically Subsection A.4.7)<br>Appendix C, Sections C.3 and C.7<br>Appendices B, E, F, G, H, and M |

| Activity   | Applicable Volume, Section/Subsection, and Appendix of Guidelines and Specifications   |
|--|--|
| Activity 7 – Independent QA/QC of Hydraulics   | Volume 1, Section 1.4 (specifically Subsection 1.4.1)<br>Appendix A, Section A.4 (specifically Subsection A.4.7)<br>Appendix C, Section C.5<br>Appendices B, E, F, G, H, and M |
| Activity 8 – Floodplain Mapping (Detailed Riverine or Coastal Analysis and Redelineation Using Effective Profiles) | Volume 1, Section 1.4 (specifically Subsection 1.4.2.2 and 1.4.2.3)<br>Appendix C, Sections C. 4 and C.6<br>Appendices K, L, and M   |
| Activity 9 – Independent QA/QC of Floodplain Mapping   | Volume 1, Section 1.4 (specifically Subsections 1.4.1 and 1.4.2.3)<br>Appendix C, Sections C.4 and C.6<br>Appendices D, K, L, and M  |
| Activity 10 – Base Map Acquisition and Preparation   | Volume 1, Sections 1.3 (specifically Subsection 1.3.1.8) and 1.4 (specifically Subsection 1.4.3)<br>Appendices A and B   |
| Activity 11 – DFIRM Production (Non-Revised Areas)   | Volume 1, Section 1.4 (specifically Subsections 1.4.2.3 and 1.4.3.2)<br>Appendices K, L, and M   |
| Activity 11A – Independent QA/QC of DFIRM Production (Non-Revised Areas)   | Volume 1, Section 1.4 (specifically Subsection 1.4.3)<br>Appendices K, L, and M  |
| Activity 12 – Merge Effective and Revised Information  | Volume 1, Section 1.4 (specifically Subsections 1.4.2.3 and 1.4.3.3)<br>Appendices K and L   |
| Activity 12A – Apply DFIRM Graphic Specifications  | Volume 1, Section 1.4 (specifically Subsection 1.4.3)<br>Appendices K and L  |
| Activity 12B – Independent QA/QC of DFIRM Graphics   | Volume 1, Section 1.4 (specifically Subsection 1.4.3)<br>Appendices K, L, and M  |
| Activity 13 – Issue Preliminary FIS and FIRM   | Volume 1, Sections 1.4 (specifically Subsections 1.4.2 and 1.4.3) and 1.5 (specifically Subsection 1.5.1)<br>Appendices J, K, L, and M   |
| Activity 14 – Post-Preliminary Processing  | Volume 1, Section 1.5<br>Appendices J, K, L, and M   |

**6. Schedule and Milestones:**

The submittals from each activity that are due on the dates indicated are the products that were listed in the individual Activity details.

| ACTIVITY   | RESPONSIBLE ENTITY | DAYS FROM NOTICE TO PROCEED |
|--|--------------------|-----------------------------|
| Activity 1A – Scoping  |                    |                             |
| Activity 1B – Outreach   |                    |                             |
| Activity 1C – Field Surveys and Reconnaissance   |                    |                             |
| Activity 2 – Topographic Data Procurement  |                    |                             |
| Activity 3 – Independent QA/QC of Topographic Data   |                    |                             |
| Activity 4 – Hydrology   |                    |                             |
| Activity 4A – Coastal Hazard Analyses  |                    |                             |
| Activity 5 – Independent QA/QC of Hydrology  |                    |                             |
| Activity 5A – Independent QA/QC of Coastal Hazard Analyses                                     |                    |                             |
| Activity 6 – Hydraulics  |                    |                             |
| Activity 7 – Independent QA/QC of Hydraulics   |                    |                             |
| Activity 8 – Floodplain Mapping (Detailed Riverine and Redelineation Using Effective Profiles) |                    |                             |
| Activity 9 – Independent QA/QC of Floodplain Mapping   |                    |                             |
| Activity 10 – Base Map Acquisition and Preparation   |                    |                             |
| Activity 11 – DFIRM Production (Non-Revised Areas)   |                    |                             |
| Activity 11A – Independent QA/QC of DFIRM Production (Non-Revised Areas)                       |                    |                             |
| Activity 12 – Merge Effective and Revised Information  |                    |                             |
| Activity 12A – Apply DFIRM Graphic Specifications  |                    |                             |
| Activity 12B – Independent QA/QC of DFIRM Graphics   |                    |                             |
| Activity 13 – Issue Preliminary FIS and FIRM   |                    |                             |
| Activity 14 – Post-Preliminary Processing  | OWR and FEMA       | 360                         |

**7. Certification:** The following certifications apply to this Mapping Activity Statement (as appropriate):  
N/A

**8. Technical Assistance and Resources:** OWR may obtain copies of FEMA-issued LOMCs, archived engineering backup data, and data collected as part of the Mapping Needs Assessment Process for Cullman and Randolph Counties from FEMA. To obtain this data, FEMA may be contacted at 1-877 FEMA MAP (1-877-336-2627). General technical and programmatic information, such as FEMA 265, the Quick-2 computer program, and the MT-2 forms, can be downloaded from FEMA's Flood Hazard Mapping website ([www.fema.gov/fhm](http://www.fema.gov/fhm)). Specific technical and programmatic support may be provided through FEMA; such assistance should be requested through the FEMA Regional Project Officer.

OWR may also consult with the FEMA Regional Project Officer to request support in the areas of selection of data sources, digital data accuracy standards, assessment of vertical data accuracy, data collection methods or sub-contractors, and GIS-based engineering and modeling training.

**9. Contractors:** OWR will ensure that procurement of subcontractors as part of this Mapping Activity Statement complies with the requirements of 44 CFR 13.36. OWR has enlisted the help of Malcolm Pirnie, Inc. and Dewberry and Davis, LLC.

**Financial Reporting:** Financial reporting requirements will be in accordance with Cooperative Agreement Articles V & VI.

**Status Reporting:** Status reports will be submitted on a quarterly basis from the Notice to Proceed. At a minimum these reports will include a summary of the work that was completed during the quarter and a comparison for the % work completed to the % of funds expended. Additional information on status may be requested by the Project Officer as needed. Status reports will be submitted on a quarterly basis in accordance with the Financial reporting submittals.

**10. Points of Contact:** The FEMA Regional Project Officer is Laura Algeo, and the CTP Project Manager is Diana McLemore, or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, any additional assistance from FEMA should be requested through the FEMA Regional Project Officer.

Each party has caused this Mapping Activity Statement to be executed by its duly authorized representative.

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Trey Glenn, P.E., Director  
Alabama Office of Water Resources

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Date

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Laura Algeo, P.E.  
FEMA Regional Project Officer  
Federal Emergency Management Agency

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Date



**State of Alabama  
Cooperating Technical Partners  
Mapping Activity Statement  
For Cullman and Randolph Counties**

**Statement No. 4 – Digital Flood Insurance Rate Map (DFIRM) Production and Development of Updated Flood Data**

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| Activity 1B – Outreach   |     |      |       |
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| Activity 4A – Coastal Hazard Analysis  |     |      |       |
| Activity 5 – Independent QA/QC of Hydrologic Analyses  |     |      |       |
| Activity 5A – Independent QA/QC of Coastal Hazard Analysis                                     |     |      |       |
| Activity 6 – Hydraulic Analyses  |     |      |       |
| Activity 7 – Independent QA/QC of Hydraulic Analyses   |     |      |       |
| Activity 8 – Floodplain Mapping (Detailed Riverine and Redelineation Using Effective Profiles) |     |      |       |

| <b>Activity</b>  | <b>OWR</b> | <b>FEMA</b> | <b>Other</b> |
|--|------------|-------------|--------------|
| Activity 9– Independent QA/QC of Floodplain Mapping                      |            |             |              |
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| Activity 14 – Post-Preliminary Processing                                | X          | X           |              |

**Activity 1A – Scoping**

Responsible Entity: N/A

**Activity 1B – Outreach**

Responsible Entity: N/A

**Activity 1C – Field Surveys and Reconnaissance**

Responsible Entity: N/A

**Activity 2 - Topographic Data Procurement**

Responsible Entity: N/A

**Activity 3 - Independent QA/QC of Topographic Data**

Responsible Entity: N/A

**Activity 4 – Hydrologic Analysis**

Responsible Entity: N/A

**Activity 4A – Coastal Hazard Analyses**

Responsible Entity: N/A

**Activity 5 - Independent QA/QC Review of Hydrologic Analyses**

Responsible Entity: N/A

**Activity 5A – Independent QA/QC of Coastal Hazard Analyses**

Responsible Entity: N/A

**Activity 6 – Hydraulic Analyses**

Responsible Entity: N/A

**Activity 7 - Independent QA/QC Review of Hydraulic Analyses**

Responsible Entity: N/A

**Activity 8 – Floodplain Mapping (Detailed Riverine and Redelineation Using Effective Profiles and Updated Topographic Data)**

Responsible Entity: N/A

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Responsible Entity: N/A

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Responsible Entity: N/A

**Activity 11A – Independent QA/QC of DFIRM Production (Non-Revised Areas)**

Responsible Entity: N/A

**Activity 12 – Merging of Effective and Revised Information**

Responsible Entity: N/A

**Activity 12A – Application of DFIRM Graphic Specifications**

Responsible Entity: N/A

**Activity 12B - Independent QA/QC Review of DFIRM Graphics**

Responsible Entity: N/A

**Activity 13 – Preparation and Issuance of Preliminary FIS and FIRM**

Responsible Entity: N/A

**Activity 14 - Post-Preliminary Processing**

Responsible Entity: OWR and FEMA

**Scope:** This Activity consists of finalizing the DFIRM and FIS report after the preliminary FIS and DFIRM have been issued for public review and comment. The activities to be performed include:

- *Participating in Public Meetings:* When OWR holds public meetings to present and discuss the results of this Flood Map Project, FEMA may attend the meetings and assist OWR in the presentation as required.
- *Resolving Appeals and Protests:* Appeals and protests received during the 90-day appeal period will be reviewed and resolved prior to finalizing the FIRM and FIS report. OWR will provide support to FEMA in resolving appeals and protests. Activities may include, but not limited to, attending community meetings and assisting FEMA in addressing any issues that may arise in resolving appeals and protests from affected communities. For a typical appeal and protest, the following activities will be conducted: initial processing of the appeal/protest, performing a technical review of the appeal/protest, preparing letters to request additional data, performing revised analyses, and preparing a proposed resolution for FEMA's review. FEMA and OWR will mail all associated correspondence upon authorization by FEMA.
- *Special Correspondence:* Comments received within the 90-day appeal period (referred to as "special correspondence") will be reviewed, and responses will be drafted by OWR for FEMA's review. OWR will also mail the final correspondence upon authorization by FEMA.
- *Revise DFIRMs and FIS Report:* If necessary, FEMA and OWR will work with those parties responsible for preparing the DFIRM to prepare revised preliminary copies of the DFIRMs and FIS report, including all data tables and flood profiles. OWR will mail all revised preliminary copies of DFIRMs and associated correspondence upon authorization by FEMA.
- *Letter of Final Determination:* FEMA will work with OWR to establish an effective date for the DFIRM and FIS report. Unless otherwise instructed by FEMA, OWR will prepare a Letter of Final Determination (LFD) for FEMA review and signature and prepare a final notice for publication in the *Federal Register*, will mail the LFD with appropriate enclosures and coordinate publication of the final notice in the *Federal Register*.
- *GPO Processing:* OWR will prepare final copies of the DFIRM and FIS report, and provide them to FEMA. This will include preparing camera-ready film negatives of the DFIRM and paper copies of the FIS report, including flood profiles; preparing appropriate paperwork to be included with DFIRM and FIS report materials, including the transmittal letter to the community CEO, the print processing worksheet, the Printing Requisition Form, and the Community Map Action Form; and delivering the final materials and paperwork to FEMA in the format prescribed by FEMA.
- *Archiving Data:* OWR will package the backup data and correspondence for this Flood Map Project and transmit it to the Engineering Study Data Package Facility. In addition, OWR will maintain and archive all the technical data for at least 3 years.

**Standards:** All work conducted under this Activity shall conform to the standards specified for this Activity in Section 5 of this Mapping Activity Statement.

**Products:** In accordance with the TSDN format described in Section 2, OWR shall make the following products available to FEMA as required:

- DFIRM database development;
- Draft LFD and associated backup data and information for FEMA review;
- Draft Special Correspondence and backup data and information for FEMA review;
- Appeal and Protest resolution letters, and all backup data and information for FEMA review;
- One set of DFIRM negatives and paper FIS reports, including all updated data tables and flood profiles;
- Paperwork required for printing of DFIRM panels and FIS report;
- Complete DFIRM spatial database; and
- Completed and organized Engineering Study Data Packages.

2. **Technical and Administrative Support Data Submittal:** The Project Team members for this project that have responsibilities for activities included in this Mapping Activity Statement shall comply with the following data submittal requirements:

- All supporting documentation for the activities in this Mapping Activity Statement shall be submitted in accordance with Appendix M, Section M.2.1 of FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners*, available at FEMA's website at [www.fema.gov/fhm/gs\\_main.htm](http://www.fema.gov/fhm/gs_main.htm). The following table indicates the sections of the TSDN that apply to each activity.

**TSDN—Applicable Sections**

| Section of TSDN  | Activities |   |   |   |   |   |   |      |    |    |                |    |    |
|--|------------|---|---|---|---|---|---|------|----|----|----------------|----|----|
|  | 1          | 2 | 3 | 4 | 5 | 6 | 7 | 8, 9 | 10 | 11 | 14, 15, and 16 | 17 | 18 |
| <b>General Documentation</b>                               |            |   |   |   |   |   |   |      |    |    |                |    |    |
| Special Problem Reports                                    | 4          | 4 | 4 | 4 | 4 | 4 | 4 | 4    | 4  | 4  | 4              | 4  | 4  |
| Telephone Conversation Reports                             | 4          | 4 | 4 | 4 | 4 | 4 | 4 | 4    | 4  | 4  | 4              | 4  | 4  |
| Meeting Minutes/Reports                                    | 4          | 4 | 4 | 4 | 4 | 4 | 4 | 4    | 4  | 4  | 4              | 4  | 4  |
| General Correspondence                                     | 4          | 4 | 4 | 4 | 4 | 4 | 4 | 4    | 4  | 4  | 4              | 4  | 4  |
| <b>Engineering Analyses</b>                                |            |   |   |   |   |   |   |      |    |    |                |    |    |
| Hydrologic and Hydraulic Analyses                          | 4          | 4 |   | 4 | 4 | 4 | 4 |      |    |    |                |    |    |
| Key to Cross-section Labeling and Key to Transect Labeling | 4          | 4 |   |   |   | 4 | 4 | 4    | 4  |    |                |    |    |
| <b>Draft FIS Report</b>                                    |            |   |   | 4 |   | 4 |   |      |    |    |                | 4  | 4  |
| <b>Mapping Information</b>                                 |            | 4 |   |   |   |   |   | 4    | 4  | 4  | 4              | 4  | 4  |
| <b>Miscellaneous Reference Materials</b>                   | 4          | 4 | 4 | 4 | 4 | 4 | 4 | 4    | 4  | 4  | 4              | 4  | 4  |

- If any issues arise that could affect the completion of an activity within the proposed scope or budget, the party responsible for that activity must complete a Special Problem Report (SPR) as soon as possible after the issue is identified and submitted to FEMA. The SPR should describe the issue and propose possible resolutions.

Additionally, OWR and FEMA will be responsible for collecting and maintaining a set of products for all Activities and shall compile a comprehensive TSDN for the entire project.

**3. Period of Performance:** The mapping activities outlined in this Mapping Activity Statement will be completed within 12 months from notice to proceed not to extend beyond September 30, 2005. The period of performance will be in accordance with Cooperative Agreement Article II.

**4. Funding/Cost-Sharing:**

The parties hereby recognize and agree that FEMA and OWR funding of this Mapping Activity Statement will be over Fiscal Year 2003, and is conditioned upon the inclusion, funding, and approval of the

5. **Standards:** Table 5-1 indicates the standards and documentation relevant to this Mapping Activity Statement. Table 5-2 shows the applicable sections of FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners* for each activity.

**Table 5-1 Applicable Standards per Activity**

| Applicable Standards   | Activities |   |   |       |       |   |   |           |   |    |         |              |    |    |
|--|------------|---|---|-------|-------|---|---|-----------|---|----|---------|--------------|----|----|
|  | 1          | 2 | 3 | 4, 4A | 5, 5A | 6 | 7 | 8, 8A, 8B | 9 | 10 | 11, 11A | 12, 12A, 12B | 13 | 14 |
| Guidelines and Specifications for Flood Hazard Mapping Partners  |            |   |   |       |       |   |   |           |   |    |         |              |    | 4  |
| American Congress on Surveying and Mapping (ACSM) procedures   |            |   |   |       |       |   |   |           |   |    |         |              |    |    |
| Global Positioning System (GPS) Surveys: National Geodetic Survey (NGS-58), "Guidelines for Establishing GPS-Derived Ellipsoid Heights," November 1997 |            |   |   |       |       |   |   |           |   |    |         |              |    |    |
| EM 1000-1-1000, "Photogrammetric Mapping," March 31, 1993  |            |   |   |       |       |   |   |           |   |    |         |              |    |    |
| EM 1110-2-1003, "Hydrographic Surveys," October 31, 1994   |            |   |   |       |       |   |   |           |   |    |         |              |    |    |
| Numerical Models Accepted by FEMA for NFIP Usage, January 11, 2002   |            |   |   |       |       |   |   |           |   |    |         |              |    |    |
| Content Standards for Digital Geospatial Metadata (Federal Geographic Data Committee, 1998)  |            |   |   |       |       |   |   |           |   |    |         |              |    | 4  |
| Document Control Procedures Manual dated October 1993.   |            |   |   |       |       |   |   |           |   |    |         |              |    | 4  |

**Table 5-2. Mapping Activities and Applicable Sections of Guidelines and Specifications for Flood Hazard Mapping Partners.**

| Activity   | Applicable Volume, Section/Subsection, and Appendix of Guidelines and Specifications   |
|--|--|
| Activity 1A – Scoping                                      | Volume 1, Section 1.3<br>Appendix A, Sections A.5, A.6, A.7, and A.8<br>Appendices B, C, and M   |
| Activity 1B – Education and Outreach                       | Volume 1, Section 1.3 (specifically Subsection 1.3.4)<br>Appendix A, Sections A.5, A.6, A.7, and A.8<br>Appendices B, C, and M   |
| Activity 1C – Field Surveys and Reconnaissance             | Volume 1, Sections 1.2, 1.3, 1.4 (specifically Subsection 1.4.2.1)<br>Appendix A, Sections A.5, A.6, A.7, and A.8<br>Appendices B, C, and M  |
| Activity 2 – Topographic Data Development                  | Volume 1, Section 1.4 (specifically Subsection 1.4.2.1)<br>Appendix A, Sections A.2 and A.3<br>Appendix M  |
| Activity 3 – Independent QA/QC of Topographic Data         | Volume 1, Section 1.4 (specifically Subsections 1.4.1 and 1.4.2.1)<br>Appendix A, Sections A.2, A.3, A.7 (specifically Subsection A.7.5), and A.8 (specifically Subsection A.8.6)<br>Appendix M        |
| Activity 4 – Hydrology                                     | Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.4)<br>Appendix C, Sections C.1 and C.7<br>Appendices E, F, G, H, and M   |
| Activity 4A – Coastal Hazard Analyses                      | Volume 1, Section 1.4 (specifically Subsection 1.4.2.2)<br>Appendix A, Section A.4<br>Appendices B, D, and M   |
| Activity 5 – Independent QA/QC of Hydrology                | Volume 1, Section 1.4 (specifically Subsection 1.4.1)<br>Appendix C, Section C.2<br>Appendices E, F, G, H, and M   |
| Activity 5A – Independent QA/QC of Coastal Hazard Analyses | Volume 1, Section 1.4 (specifically Subsection 1.4.1)<br>Appendix A, Section A.4<br>Appendices B, D, H, and M  |
| Activity 6 – Hydraulics                                    | Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.4)<br>Appendix A, Section A.4 (specifically Subsection A.4.7)<br>Appendix C, Sections C.3 and C.7<br>Appendices B, E, F, G, H, and M |

| Activity   | Applicable Volume, Section/Subsection, and Appendix of Guidelines and Specifications   |
|--|--|
| Activity 7 – Independent QA/QC of Hydraulics   | Volume 1, Section 1.4 (specifically Subsection 1.4.1)<br>Appendix A, Section A.4 (specifically Subsection A.4.7)<br>Appendix C, Section C.5<br>Appendices B, E, F, G, H, and M |
| Activity 8 – Floodplain Mapping (Detailed Riverine or Coastal Analysis and Redelineation Using Effective Profiles) | Volume 1, Section 1.4 (specifically Subsection 1.4.2.2 and 1.4.2.3)<br>Appendix C, Sections C. 4 and C.6<br>Appendices K, L, and M   |
| Activity 9 – Independent QA/QC of Floodplain Mapping   | Volume 1, Section 1.4 (specifically Subsections 1.4.1 and 1.4.2.3)<br>Appendix C, Sections C.4 and C.6<br>Appendices D, K, L, and M  |
| Activity 10 – Base Map Acquisition and Preparation   | Volume 1, Sections 1.3 (specifically Subsection 1.3.1.8) and 1.4 (specifically Subsection 1.4.3)<br>Appendices A and B   |
| Activity 11 – DFIRM Production (Non-Revised Areas)   | Volume 1, Section 1.4 (specifically Subsections 1.4.2.3 and 1.4.3.2)<br>Appendices K, L, and M   |
| Activity 11A – Independent QA/QC of DFIRM Production (Non-Revised Areas)   | Volume 1, Section 1.4 (specifically Subsection 1.4.3)<br>Appendices K, L, and M  |
| Activity 12 – Merge Effective and Revised Information  | Volume 1, Section 1.4 (specifically Subsections 1.4.2.3 and 1.4.3.3)<br>Appendices K and L   |
| Activity 12A – Apply DFIRM Graphic Specifications  | Volume 1, Section 1.4 (specifically Subsection 1.4.3)<br>Appendices K and L  |
| Activity 12B – Independent QA/QC of DFIRM Graphics   | Volume 1, Section 1.4 (specifically Subsection 1.4.3)<br>Appendices K, L, and M  |
| Activity 13 – Issue Preliminary FIS and FIRM   | Volume 1, Sections 1.4 (specifically Subsections 1.4.2 and 1.4.3) and 1.5 (specifically Subsection 1.5.1)<br>Appendices J, K, L, and M   |
| Activity 14 – Post-Preliminary Processing  | Volume 1, Section 1.5<br>Appendices J, K, L, and M   |

**6. Schedule and Milestones:**

The submittals from each activity that are due on the dates indicated are the products that were listed in the individual Activity details.

| ACTIVITY   | RESPONSIBLE ENTITY | DAYS FROM NOTICE TO PROCEED |
|--|--------------------|-----------------------------|
| Activity 1A – Scoping  |                    |                             |
| Activity 1B – Outreach   |                    |                             |
| Activity 1C – Field Surveys and Reconnaissance   |                    |                             |
| Activity 2 – Topographic Data Procurement  |                    |                             |
| Activity 3 – Independent QA/QC of Topographic Data   |                    |                             |
| Activity 4 – Hydrology   |                    |                             |
| Activity 4A – Coastal Hazard Analyses  |                    |                             |
| Activity 5 – Independent QA/QC of Hydrology  |                    |                             |
| Activity 5A – Independent QA/QC of Coastal Hazard Analyses                                     |                    |                             |
| Activity 6 – Hydraulics  |                    |                             |
| Activity 7 – Independent QA/QC of Hydraulics   |                    |                             |
| Activity 8 – Floodplain Mapping (Detailed Riverine and Redelineation Using Effective Profiles) |                    |                             |
| Activity 9 – Independent QA/QC of Floodplain Mapping   |                    |                             |
| Activity 10 – Base Map Acquisition and Preparation   |                    |                             |
| Activity 11 – DFIRM Production (Non-Revised Areas)   |                    |                             |
| Activity 11A – Independent QA/QC of DFIRM Production (Non-Revised Areas)                       |                    |                             |
| Activity 12 – Merge Effective and Revised Information  |                    |                             |
| Activity 12A – Apply DFIRM Graphic Specifications  |                    |                             |
| Activity 12B – Independent QA/QC of DFIRM Graphics   |                    |                             |
| Activity 13 – Issue Preliminary FIS and FIRM   |                    |                             |
| Activity 14 – Post-Preliminary Processing  | OWR and FEMA       | 360                         |

**7. Certification:** The following certifications apply to this Mapping Activity Statement (as appropriate):  
N/A

**8. Technical Assistance and Resources:** OWR may obtain copies of FEMA-issued LOMCs, archived engineering backup data, and data collected as part of the Mapping Needs Assessment Process for Cullman and Randolph Counties from FEMA. To obtain this data, FEMA may be contacted at 1-877 FEMA MAP (1-877-336-2627). General technical and programmatic information, such as FEMA 265, the Quick-2 computer program, and the MT-2 forms, can be downloaded from FEMA's Flood Hazard Mapping website ([www.fema.gov/fhm](http://www.fema.gov/fhm)). Specific technical and programmatic support may be provided through FEMA; such assistance should be requested through the FEMA Regional Project Officer.

OWR may also consult with the FEMA Regional Project Officer to request support in the areas of selection of data sources, digital data accuracy standards, assessment of vertical data accuracy, data collection methods or sub-contractors, and GIS-based engineering and modeling training.

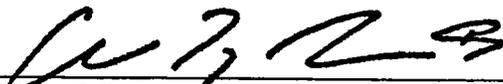
**9. Contractors:** OWR will ensure that procurement of subcontractors as part of this Mapping Activity Statement complies with the requirements of 44 CFR 13.36. OWR has enlisted the help of Malcolm Pirnie, Inc. and Dewberry and Davis, LLC.

**Financial Reporting:** Financial reporting requirements will be in accordance with Cooperative Agreement Articles V & VI.

**Status Reporting:** Status reports will be submitted on a quarterly basis from the Notice to Proceed. At a minimum these reports will include a summary of the work that was completed during the quarter and a comparison for the % work completed to the % of funds expended. Additional information on status may be requested by the Project Officer as needed. Status reports will be submitted on a quarterly basis in accordance with the Financial reporting submittals.

**10. Points of Contact:** The FEMA Regional Project Officer is Laura Algeo, and the CTP Project Manager is Diana McLemore, or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, any additional assistance from FEMA should be requested through the FEMA Regional Project Officer.

Each party has caused this Mapping Activity Statement to be executed by its duly authorized representative.



Trey Glenn, P.E., Director  
Alabama Office of Water Resources

9/11/03  
Date



Laura Algeo, P.E.  
FEMA Regional Project Officer  
Federal Emergency Management Agency

9/12/03  
Date