



FEMA

**SOUTH CAROLINA
DEPARTMENT OF NATURAL RESOURCES
COOPERATING TECHNICAL PARTNERS
PROGRAM MANAGEMENT MAPPING ACTIVITY
STATEMENT**

EARLY DEMONSTRATION MAS No. FY10.18

In accordance with the Cooperating Technical Partners (CTP) Partnership Agreement dated September 20, 1999 between South Carolina Department of Natural Resources (SCDNR) and the Federal Emergency Management Agency (FEMA), Program Management Mapping Activity Statement (PM MAS) No. FY10.18 is as follows:

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*Partner contribution from AMEC and assumes one mile of study for each dam - H&H cost from the blue book for 3 miles of study and floodplain mapping for 3 miles of study from the blue book.5

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SECTION 1—OBJECTIVE AND SCOPE

The objective of the Early Demonstration Project for Greenville County, SC documented in this MAS is to recognize activities undertaken by CTPs as part of Risk MAP. For projects initiated in FY2009 or before, additional resources are being made available to demonstrate proof of concepts related to the Flood Risk Products and Datasets, community engagement, and a newer concept being referred to as Discovery. Early demonstration project funding could also be used by Cooperating Technical Partners (CTPs), to build a plan to increase their capability to successfully deliver Risk MAP. The desired outcomes and criteria for each of these areas are laid out below. Lessons learned from the early demonstrations will be applied to updating guidance, further refinement of concepts and products, and realizing production efficiencies and innovations. All processes and deliverables shall be completed in accordance to the Federal Emergency Management Agency's (FEMA's) *Guidelines and Specifications for Flood Hazard Mapping Partners (G&S)* and appropriate Procedure Memoranda (PMs). These documents can be found on FEMA's website at http://www.fema.gov/plan/prevent/fhm/gs_main.shtm and http://www.fema.gov/plan/prevent/fhm/gs_memos.shtm.

This Early Demonstration will be completed by the following Mapping Partners:

- SCDNR
- AECOM (Mapping Contractor)

Desired Outcomes

Among the desired outcomes from these initiatives:

1. Regions have an enriched understanding of the Risk MAP vision and experience in delivering Risk MAP products and concepts.
2. Projects demonstrate progress towards achieving the Risk MAP goals, specifically goals 2, 3 and 5 as outlined in the Risk MAP Multi-Year Plan.
3. Validation that new/enhanced Risk MAP products demonstrate increased value through Risk MAP to State, local, and tribal stakeholders or insight as to which products require refinement and whether or not new products are necessary to achieve Risk MAP goals.
4. The costs for developing and delivering the products to State, local, and tribal stakeholders are better understood.
5. A refined process for developing and delivering the products that accounts for new activities, eliminates unnecessary steps, demonstrates efficiencies and standardizes best practices from across the Regions is created.
6. Regions understand how products can be applied to projects underway.
7. Regions understand what is needed to appropriately set up efforts for production planning and scoping and support HQ development of guidance on the Discovery process.

Activities that can be accomplished under this Early Demonstration Project MAS are as follows:

- Flood Risk Datasets
- Discovery
- Risk MAP Communications
- CTP Capability Building

See Memo dated June 23, 2010 and attached for additional details on implementation of these Activities.

Project Title and Description

Responsible Mapping Partner: SCDNR

Scope: Develop Flood Risk Datasets and Products for Select Flooding Sources in Greenville County, SC

This Early Demonstration Project will be focused primarily around the enhanced level (detail) study reaches of the riverine flooding source in Greenville County, SC shown below in Table 1.1.

Table 1.1 Flooding Sources Receiving Flood Risk Datasets

| Flooding Source | Mileage |
|------------------------|----------------|
| Reedy River | 22.9 |
| Brushy Creek | 4.7 |
| East Laurel Creek | 2.4 |
| Laurel Creek | 3.8 |
| Langston Creek | 3.8 |
| Little Creek | 3.0 |
| Long Branch | 3.1 |
| Total | 43.7 |

Some of the Flood Risk Datasets will only be provided for this flooding source. Although there are new Zone A studies and redelineation efforts being performed on other flooding sources within the county, these streams will not receive depth grids or refined risk assessments as part of this Early Demonstration Project. Certain datasets and products, however, such as the Changes Since Last FIRM, Flood Risk Report, and Flood Risk Map will be produced and provided at a countywide scale.

As a general note, if formal guidance regarding dataset format, attribution, and storage is available at the time of production, that guidance will be followed as part of the data development process. Otherwise, SCDNR and its contractor will make every attempt to format the data as closely as possible to any draft guidance that may exist at the time of production.

Changes Since Last FIRM: Greenville County's current effective DFIRMs are dated December 2, 2004 and are supported by a compliant DFIRM database. The Changes Since Last FIRM dataset will be produced and provided at the countywide level. If adequate parcel and/or structure data exists and is available for use, the affected structure count will be stored as an attribute within the appropriate GIS features of this dataset.

Flood Depth and Analysis Grids: Hydrology for the 10-, 50-, 100- and 500-year discharges using USGS gage analysis and HEC-HMS will be established as part of the Flood Insurance Study. The 25-year discharge will be determined using gage analysis and HEC-HMS. The hydraulic models have been QC'd to ensure the models are compliant with FEMA study standards for inclusion in the restudy. The new LiDAR data will be used to provide 2' contour equivalent terrain data. The specific flood depth and analysis grids delivered within the Flood Risk Database for those flooding sources listed in Table 1.1 will include:

- Flood Depth Grids for the 10%, 4%, 2%, 1%, and 0.2% annual chance floods (Base)
- Percent Annual Chance and Percent Chance over a 30-yr Period Grids (Base)
- Velocity Grids for the 1% annual chance flood (Enhanced)
- Water surface elevation change grid for the 1% annual chance flood (Enhanced)

Flood Risk Assessment:

Refined risk assessments for the stream in Table 1.1 will be performed in HAZUS using the updated depth grids. The community will be contacted to determine if any non-HAZUS risk assessment results or methodologies are available for incorporation, or if improved building inventory information is available that may be used.

Flood Risk Report: A Flood Risk Report will be developed for the county. This report will include a Flood Risk Map that depicts county and community boundaries in relation to areas of risk within the watershed. For the stream shown in Table 1.1, the refined flood risk assessment loss estimates will be used for the purposes of reporting the results in the Report and on the Map. Outside of this area, the 2010 HAZUS AAL results will be used.

Flood Risk Database: All flood risk data produced as part of this project will be developed and stored in the Flood Risk Database, in accordance with the most current guidance available at the time of production.

Project Meetings: South Carolina Department of Natural Resources (SCDNR) along with FEMA Region 4 and RSC4 will attend the CCO meeting to support this effort. At the CCO meeting the team will present the revised DFIRM panels, FIS data, and Risk MAP non-regulatory products to stakeholders. An open house meeting for the public will also be a part of the project meetings. Feedback collected at that meeting will be summarized and included within the Early Demonstration Project feedback forms.

Risk MAP Communication: Additional outreach will occur following the community engagement approach identified by Risk MAP. Activities to outreach materials, training materials, communication of at-risk assets, identification of risk hot spots where the risk is most severe, information on how to leverage information in the Flood Risk Database for additional analysis and flood risk mitigation incentives such as CRS credits.

Standards: All processes and deliverables shall be completed in accordance to the Federal Emergency Management Agency's (FEMA's) Guidelines and Specifications for Flood Hazard Mapping Partners (G&S) and appropriate Procedure Memoranda (PMs).

Deliverables: The SCDNR and its Mapping Contractors shall deliver the following to the FEMA Regional Project Officer in accordance with the schedule outlined in Section 4-- Schedule.

- Changes Since Last FIRM for project area (Streams identified in Table 1.1 only)
- Flood Depth and Analysis Grids for flooding source listed in Table 1.1
- Flood Risk Assessment for flooding source listed in Table 1.1
- Flood Risk Report for project area
- Flood Risk Database for project area
- Presentation of Flood Risk Dataset and Product results at the CCO meeting
- Risk MAP Communication activities and materials

SECTION 2—PERIOD OF PERFORMANCE

The activities outlined in this MAS will be completed as specified in the Agreement Articles of the Cooperative Agreement. The Mapping Activities may be terminated at the option of FEMA or SCDNR in accordance with the provisions of the Partnership Agreement dated September 20, 1999. If these mapping activities are terminated, all products produced to date must be returned and the remaining funds from uncompleted activities, provided by FEMA for this MAS, will be returned to FEMA. Deliverables for these Early Demonstration Projects will be delivered no later than February 28, 2011.

SECTION 3—FUNDING/LEVERAGE

FEMA is providing funding, in the amount of _____), to SCDNR for the completion of this Early Demonstration Activity. SCDNR shall provide any additional resources required to complete the assigned activities for this Program Management Activity. The leverage listed below is based on blue book values or actual costs where Blue Book values don't exist. The current Blue Book is dated January 2009 and can be downloaded from FEMA's Information Resource Library at <http://www.fema.gov/library/viewRecord.do?id=2473>.

Table 3.1 Contribution and Leverage

| Project Task | FEMA Contribution | Partner Contribution* | % Partner Leverage of Total Project Cost | Total Project Cost |
|--|-------------------|-----------------------|--|--------------------|
| Greenville County, SC Risk MAP Early Demonstration Project | | | | |
| TOTAL FUNDING AMOUNTS | | | | |

*Partner contribution from AMEC and assumes one mile of study for each dam - H&H cost from the blue book for 3 miles of study and floodplain mapping for 3 miles of study from the blue book.

SECTION 4—STANDARDS

Mapping partners working on a Early Demonstration Project are responsible for complying with all related PMs published by FEMA as of the date of this agreement. Relevant standards can be found in the G&S and PMs, FEMA's Federal Regulation 44 CFR and the appropriate year CTP Guidance. CTPs should also coordinate with their Regional office to determine additional standards that should be met.

G&S may be downloaded from the FEMA Flood Hazard Mapping website at http://www.fema.gov/plan/prevent/fhm/dl_cgs.shtm.

SECTION 5—SCHEDULE

The activities documented in this MAS shall be completed in accordance with Table 5.1 but not to extend beyond February 28, 2011. A mid-term progress report will be due by November 30, 2010. If changes to

this schedule are required, the responsible Mapping Partner shall coordinate with FEMA and the other Mapping Partners in a timely manner. Please also identify to whom the products associated with each task are to be submitted to (i.e. the MIP, FEMA Regional Office, etc.).

Table 5.1 Project Activities Schedule

| Activities | Responsible Partner(s) | Cost | Delivery Date |
|-------------------------------|-------------------------------|-------------|----------------------|
| Changes since last FIRM | SCDNR | | 1/31/11 |
| Flood Depth and Analysis Grid | SCDNR | | 11/30/11 |
| Flood Risk Assessment | SCDNR | | 1/31/11 |
| Flood Risk Report and Map | SCDNR | | 2/28/2011 |
| Flood Risk Database | SCDNR | | 01/31/11 |
| Project Meeting | FEMA/ SCDNR | | 2/28/2011 |
| Risk MAP Communications | FEMA/SCDNR | | 2/28/2011 |
| TOTAL COST | | | |

SECTION 6—CONTRACTORS

SCDNR intends to use the services of AECOM as a contractor for this Early Demonstration Project. SCDNR shall ensure that the procurement for all contractors used for this Early Implementation Project complies with the requirements of 44 CFR 13.36.

SECTION 7—REPORTING

Financial Reporting: Because funding has been provided to SCDNR by FEMA, financial reporting requirements for SCDNR will be in accordance with Cooperative Agreement Articles. SCDNR shall also refer to 44 CFR 13.41.

SCDNR shall provide financial reports to the FEMA Regional Project Officer and Assistance Officer in accordance with the terms of the signed Cooperative Agreement for this MAS.

Status Reporting: Status reports will be submitted on a quarterly basis in accordance with the financial reporting submittals. SCDNR shall refer to 44 CFR 13.4 to obtain minimum requirements for status reporting. The Project Officer, as needed, may request additional information on status.

SCDNR may meet with FEMA and/or its contractor up to bi-weekly, or more frequently if needed, to review the progress of the project in addition to the quarterly financial and status submittals. These meetings will alternate between FEMA's Regional Office, the SCDNR office, and conference calls, as necessary.

Earned Value Data Entry:

As there are no tasks within the Mapping Information Platform (MIP) Workflow associated with Early Demonstration Project, the MIP cannot be used to set baselines and track progress against these baselines. However, the FEMA Regional office and the CTP should set a cost and schedule baseline at the

beginning of the project and review it quarterly when assessing the status of the project. The Project Officer may request additional information regarding status on an ad-hoc basis.

SECTION 8—PROJECT COORDINATION

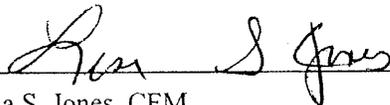
Throughout the project, all members of the PMT will coordinate, as necessary, to ensure the products meet the technical and format specifications required and contain accurate, up-to-date information. Coordination activities shall include:

- Meetings, teleconferences, and video conferences with FEMA and other PMT members monthly or as needed;
- Telephone conversations with FEMA and other PMT members on a scheduled basis monthly and an ad hoc basis, as required;
- E-mail, facsimile transmissions, and letters, as required.

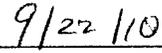
SECTION 9—POINTS OF CONTACT

The points of contact for this Early Demonstration Project are Kristen Martinenza, P.E., CFM, the FEMA Regional Project Officer; Lisa Jones, the Project Manager for SCDNR; or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, any additional FEMA assistance should be requested through the FEMA Regional Project Officer.

Each party has caused this MAS to be executed by its duly authorized representative.



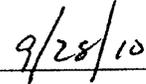
Lisa S. Jones, CFM
Risk Map Program Manager
South Carolina DNR



Date



Kristen Martinenza, P.E., CFM
Regional Project Officer
Federal Emergency Management Agency, Region IV



Date

