



**SEDA-Council of Governments, Lewisburg, PA
Cooperating Technical Partner
Mapping Activity Statement**

Agreement CTP2001-01 – Digital FIRM Preparation

In accordance with the Cooperating Technical Partner (CTP) Memorandum of Agreement dated August 8, 2001, between SEDA-Council of Governments (SEDA-COG), RR1, Box 372, Lewisburg, PA 17837 and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement CTP2000-01 is as follows:

- 1. Objective and Scope:** The objective of this Mapping Activity is the conversion of effective Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs) to a digital format that conforms to FEMA's Digital Flood Insurance Rate Map (DFIRM) specifications. This Mapping Activity covers the digitization of 341 FIRM and 341 FBFM panels for the following counties in Pennsylvania: Columbia, Montour, Northumberland, Snyder, and Union. Revisions to the FIRM and/or FBFM made through FEMA Letters of Map Change (LOMCs) issued since the initial publication of the Flood Insurance Study for each community will also be incorporated into the DFIRM.
- 2. Period of Performance:** The period of performance will be in accordance with Agreement Article II.
- 3. Funding/Cost-Sharing:** FEMA will provide \$412,000 for this effort. SEDA-COG and the above referenced Counties will provide an estimated \$10,000 in in-kind services.
- 4. Standards:** The following documents are relevant to the creation of DFIRMs and this Mapping Activity:
 - *Guidelines and Specifications for Study Contractors* (FEMA 37) available via the internet at http://www.fema.gov/mit/tsd/EN_req.htm.
 - *Guidelines and Specifications for Flood Map Production Coordination Contractors* (Draft February 17, 1999).
 - *Base Map Standards for DFIRMs* (FEMA). The minimum base map standards for DFIRMs include the following requirements for DFIRM base map data:
 - cover the community(s) or county(s) completely;
 - be distributable by FEMA to the public;

September 5, 2001

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WASHINGTON, DC 20543

- meet the minimum accuracy requirements outlined in the document; and
- include all required features.
- *DFIRM Graphic Specifications* (FEMA, Draft November 2000), and *Standard DFIRM Spatial Database Specifications* (FEMA, Draft May 2000).
- *Standards for Digital Orthophotos* (U.S. Geological Survey, National Mapping Program, December 1996).
- *Content Standards for Digital Geospatial Metadata* (Federal Geographic Data Committee, 1998).

5. Products: SEDA-COG shall make the following products available:

- Quarterly status reports that include the percentage of work completed for this Mapping Activity, major accomplishments made during the quarter, any major problems encountered, and the resolution of any major problems encountered.
- DFIRM mapping files in one of the GIS file formats specified in FEMA's *DFIRM Graphic Specifications*. These files should be provided on CD-ROM.
- DFIRM database files in one of the database formats specified in FEMA's *Standard DFIRM Spatial Database Specifications*. These files should also be provided on CD-ROM.
- Metadata files describing the DFIRM data. These files will include the required information and follow the examples shown in FEMA's *Standard DFIRM Spatial Database Specifications*.
- A complete set of plots of the DFIRM panels showing all detail at the scale(s) approved under the first milestone. Acceptable DFIRM scales are 1"=500', 1"=1000', and 1"=2000'. Plots should conform to FEMA's *DFIRM Graphic Specifications*.
- A Quality Assurance/Quality Control (QA/QC) report that includes a description and the results of all automated or manual quality assurance steps taken during the preparation of the DFIRMs.

6. Schedule and Milestones:

Milestone 1: Products for the first milestone to be provided to the FEMA Project Officer include:

- A description of the proposed DFIRM base map including digital base map information checklist (available in FEMA 37);
- A diagram showing the proposed DFIRM panel layout for the new panels that includes the community and/or county boundary(s) and scale of all panels;
- A copy of the current FIRM index; and
- QA/QC report.

Milestone 2: Final products to be provided to the FEMA Project Officer include:

- A set of digital files containing DFIRM data for one FIRM panel. The digital files will include the base map data as well as all FIRM information converted to DFIRM format.
- The mapping files will be accompanied by the appropriate DFIRM database tables described in FEMA's *Standard DFIRM Spatial Database Specifications*.
- Metadata files describing the DFIRM data.

- A plot of the DFIRM panel showing all detail at the scale approved under the first milestone. The plot should conform to the standards outlined in FEMA's *DFIRM Graphic Specifications*.
- QA/QC report.

Milestone 3 (Final Products): Final products to be provided to the FEMA Project Officer include:

- A set of digital files containing all DFIRM data for the entire community(s) and/or county(s) defined in Section 1 of this Mapping Activity. The digital files will include the base map data as well as all FIRM information converted to DFIRM format.
- The mapping files will be accompanied by the appropriate DFIRM database tables described in FEMA's *Standard DFIRM Spatial Database Specifications*.
- Metadata files describing the DFIRM data.
- A complete set of plots of the DFIRM panels showing all detail at the scale(s) approved under the first milestone. The plots should conform to the standards outlined in FEMA's *DFIRM Graphic Specifications*.
- QA/QC report.

7. Certification: The DFIRM metadata files will include a description of the horizontal and vertical accuracy of the DFIRM base map and floodplain information.

8. Technical Assistance and Resources: SEDA-COG may obtain copies of FEMA-issued Letters of Map Change (LOMCs), archived engineering back-up data, and data collected as part of the Mapping Needs Assessment Process from FEMA's Mapping Coordination Contractor (MCC). The MCC 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 Web site (www.fema.gov./mit/tsd/). Specific technical and programmatic support may be provided through FEMA's MCC; such assistance should be requested through the FEMA Project Officer specified in Section 12 of this Mapping Activity Statement and may include:

- Preparation of a DFIRM panel layout and panel grid in digital format;
- Sample DFIRM mapping and database files;
- Technical assistance in the form of training and technical guidance; and
- DFIRM production tools, software, cell libraries, automated QA/QC tools, etc., that FEMA has developed for its own use.

9. Contractors: SEDA-COG will contract with member counties to complete portions of work items. SEDA-COG will also contract with the U.S. Army Corps of Engineers, Philadelphia District, for the completion of all work within Montour County. Procurement of subcontractors using Federal funds provided as part of this Mapping Activity will comply with the requirements of 44 CFR 13.36.

10. Quality Assurance/Quality Control (QA/QC) Procedures: SEDA-COG will undertake internal QC reviews to ensure that the products described under Section 5 of this Mapping Activity Statement conform with the standards outlined under Section 4 of this Mapping Activity Statement. Additionally, an independent review for compliance with these standards will be undertaken by Dewberry & Davis, LLC. The procedures used for the

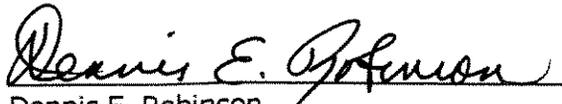
independent review may include a mixture of manual and automated QA/QC procedures and will concern the following:

- Complete data capture of all required DFIRM features will be assured.
- Data capture without distortion (other than that resulting from the addition of horizontal control and/or edgematching) will be assured.
- Topological fidelity of the DFIRM files will be assured. This includes assurance that the files contain no overshoots or dangles, gaps, node errors, label errors, or pseudo nodes and assurance that all area features are closed.
- FEMA's horizontal and vertical accuracy requirements for DFIRMs will be met.
- All problems with internal edgematching between panels will be resolved. If this Mapping Activity covers more than one community, any problems with edgematching between contiguous communities will also be resolved. This includes both "graphical" mismatches as well as mismatches in engineering data portrayed on the DFIRM (e.g., floodplain widths, base flood elevations, etc.).
- Complete data capture of all required DFIRM database features will be assured. In addition, logical data encoding checks should be performed to assure consistency within the DFIRM database. For example, feature attributes will fall within the specified range and domain for that feature type.
- Hardcopy DFIRM will be legible and plotted at the scale(s) agreed upon after the first milestone of this Mapping Activity.

11. Reporting: Reporting requirements will be in accordance with Agreement Articles V & VI.

12. Points of Contact: The FEMA Regional Project Officer is Erik Rourke, and the CTP Project Manager is Thomas P. Bresenhan or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities

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


Dennis E. Robinson
Executive Director
SEDA-Council of Governments
RR1, Box 372, Lewisburg, PA 17837

9/7/01
Date


Robert J. Gunter,
Division Director
Federal Insurance and Mitigation Division

9/19/01
Date

September 5, 2001

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