



**Vermont Center for Geographic Information, Inc.
COOPERATING TECHNICAL PARTNERS
MAPPING ACTIVITY STATEMENT**

**Mapping Activity Statement No. 1– Digital Flood Insurance Rate Map
Production and Development of Updated Flood Data**

In accordance with the Cooperating Technical Partners (CTP) Partnership Agreement dated June 29, 2005 between the **Vermont Center for Geographic Information, Inc. (VCGI)** and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement (MAS) No. 1 is as follows.

Section 1: Objective and Scope

The objective of the Flood Map Project documented in this MAS is to develop a Digital Flood Insurance Rate Map (DFIRM) and Flood Insurance Study (FIS) report for **Washington County, Vermont**. The DFIRM and FIS report will be produced in the FEMA Countywide Format.

The following will complete this Flood Map Project:

- **Vermont Center for Geographic Information, Inc.**

The activities for this Flood Map Project, including required Quality Assurance/Quality Control (QA/QC) reviews, and the Mapping Partners that will complete them are summarized in the Table below. All activities that are to be accomplished by **VCGI** or contractors to **VCGI** including contractors that may be selected after the project startup, are included in the “CTP” column. The sections of this MAS that follow Table 1-1 describe the specific activities, responsible Mapping Partner(s), FEMA standards that must be met, and resultant map components.

Summary of Project Activities and Assignments

Activities	CTP
Activity 1: Base Map Acquisition	VCGI
Activity 2: DFIRM Production (Non-Revised Areas)	VCGI

FEMA has developed tools to assist in the development of the flood hazard data studies and the Digital Flood Insurance Rate Maps (DFIRMs). FEMA will, through the NSP, provide all CTPs access to and training in these tools. The use of these tools will assist in the Map Modernization effort and the efficiency of mapping partners.

If the CTP chooses not to use these production tools, then the CTP will be required to submit project data at major milestones in each Mapping Project in accordance with data capture standards. Submitting data in these standards will aid in more efficient quality control reviews, data storage, archiving, and for future study updates.

Activity 1- Base Map Acquisition

Responsible Mapping Partner: Vermont Center for Geographic Information

Scope: VCGI shall provide the digital base map, orthophotos and orthoderived hydrography for the project. The required activities are as follows:

- Obtain digital files (raster or vector) of the base map.
- Secure necessary permissions from the map source to allow FEMA's use and distribution of hardcopy and digital map products using the digital base map, free of charge.
- Certify that the digital data meets the minimum standards and specifications that FEMA requires for DFIRM production.
- Populate the DFIRM database with the information required by FEMA.

Standards: All work under Activity 1 shall be performed in accordance with the standards specified in Section 5 of this MAS.

Deliverables: In accordance with the TSDN format described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners* the VCGI shall make the following products available to FEMA:

- Written certification that the digital data meet FEMA's minimum standards and specifications; and
- Documentation that FEMA can use the digital orthophotos base map and derived hydrography.
- (Note that a base map checklist may be used to certify that the digital data meet the minimum standards and specifications and there is documentation that the digital base map may be used by FEMA

Appendix M may be downloaded from the FEMA Flood Hazard Mapping Web site at http://www.fema.gov/pdf/fhm/frm_gsam.pdf.

Activity 2 – DFIRM Production (Non-Revised Areas)

Responsible Mapping Partner: Vermont Center for Geographic Information, Inc.

Scope: For all flooding sources except those segments for which updated flood data will be developed under other Activities, VCGI shall convert the information shown on the effective FIRM and Flood Boundary Floodway Map (FBFM) panels for all incorporated and unincorporated areas of **Washington County** to digital format in conformance with FEMA DFIRM specifications. VCGI shall use the orthophoto base map acquired under Activity 1 for the conversion.

VCGI is proposing two options for this mapping activity. If FEMA is going to require H&H on only Priority Level 1 streams in Washington County as identified in the state's scoping document then Option 1 covers the costs associated with performing non-revised area DFIRM production over the remaining areas of the county. If FEMA is going to require H&H on both Priority Level 1 and 2 streams in the county then Option 2 covers the costs associated with performing non-revised area DFIRM production over the remaining areas of the county.

Under proposed Option 1 VCGI shall digitize 80 full FIRM panels and associated FBFM panels as well as 30 partial FIRM panels and their associated FBFM panels. Under proposed Option 2 VCGI shall digitize 70 full FIRM panels with the associated FBFM panels and 40 partial FIRM panels with their associated FBFM panels. For either option selected by FEMA, VCGI shall also incorporate the results of all LOMCs issued by FEMA since the date of the current effective FIRM for each affected community for all panels that are updated.

VCGI shall not update or digitize any of the flood related themes for those segments of flooding sources for which updated flood data will be developed. Rather, VCGI shall leave these as “holes” in the digital flood theme that will be filled in simultaneously or subsequently by FEMA and FEMA Subcontractors/partners.

At the appropriate time, FEMA may elect to forgo the Independent Quality Assurance of this activity, which would leave the VCGI solely responsible for ensuring the accuracy of its work under this Activity. If FEMA chooses to go forward with an Independent Quality Assurance of this activity, VCGI shall address all comments and questions regarding the independent QA/QC review.

Standards: All work under Activity 2 shall be performed in accordance with the standards specified in Section 5 of this MAS.

Deliverables: In accordance with the TSDN format described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners*, VCGI shall make the following products available to FEMA:

- Digital work maps showing the 1- and 0.2-percent-annual-chance floodplain boundary delineations, regulatory floodway boundary delineations, cross sections, BFEs, flood insurance risk zone labels, and all applicable base map features;
- DFIRM mapping files, prepared in accordance with the requirements in *Guidelines and Specifications for Flood Hazard Mapping Partners*;
- Metadata files describing the DFIRM data, including all required information shown in *Guidelines and Specifications for Flood Hazard Mapping Partners*;
- Complete set of plots of DFIRM panels showing all detailed flood hazard information at a suitable scale; and
- A Summary Report that describes and provides the results of all automated or manual QA/QC review steps taken during the preparation of the DFIRM, including a check that the road and floodplain relationship is maintained for all non-revised areas.

SECTION 2—TECHNICAL AND ADMINISTRATIVE SUPPORT DATA SUBMITTALS AND SPECIAL PROBLEM REPORTS

The Project Team members for this Flood Map Project that have responsibilities for activities included in this MAS shall comply with the data submittal requirements summarized below.

All supporting documentation for the activities in this MAS shall be submitted in the TSDN format in accordance with Appendix M of the FEMA *Guidelines and Specifications for Flood Hazard Mapping Partners*, dated April 2003. Appendix M is available for viewing or download on the FEMA Web site at http://www.fema.gov/pdf/fhm/frm_gsam.pdf. Table 2-1 indicates the sections of the TSDN that apply to each mapping activity.

If any issues arise that could affect the completion of an activity within the proposed scope or budget, the responsible Mapping Partner shall complete a Special Problem Report (SPR) as soon as possible after the issue is identified and submitted to FEMA. The SPR is to describe the issue and propose possible resolutions. (For additional information on SPRs, refer to Appendix M, Subsection M.2.1.1 of *Guidelines and Specifications for Flood Hazard Mapping Partners*.)

Table 2-1. Mapping Activities and Applicable TSDN Sections

TSDN Section	Mapping Activities	
	1	2
General Documentation		
Special Problem Reports	X	X
Telephone Conversation Reports	X	X
Meeting Minutes/Reports	X	X
General Correspondence	X	X
Mapping Information	X	X
Miscellaneous Reference Information	X	X

Section 3—Period of Performance

The mapping activities documented in this MAS will begin on July 1, 2005, and will be completed no later than June 30, 2006. The mapping activities may be terminated at the option of FEMA or VCGI in accordance with the provisions of the Partnership Agreement dated _____.

Section 4—Funding/Cost-Sharing

FEMA is providing funding, in the amount of \$ _____ (Option 1) or \$ _____ (Option 2) to VCGI for the completion of the Flood Map Project documented in this MAS. VCGI shall provide additional resources valued at \$ _____ (Option 1) or \$ _____ (Option 2) as required to complete the assigned activities for this Washington County Flood Map Project.

VCGI is providing in-kind matching resources through the provision of orthophotography and matching feature data over the entire Washington County area. The estimated value used for these provided resources is derived from FEMA's "Blue Book", Estimating the Value of Partner Contributions to Flood Mapping Projects.

Section 5—Standards

The standards relevant to this MAS are provided in Tables 5-1 and 5-2. Information on the correct volume, appendix, section, or subsection of the FEMA *Guidelines and Specifications for Flood Hazard Mapping Partners* to be referenced for each mapping activity is summarized in Table 5-2. These Guidelines are available for viewing or download from the FEMA Flood Hazard Mapping Web site at http://www.fema.gov/fhm/dl_cgs.shtm.

In addition, Data Capture Standards referenced in the previous sections are to be applied to the project for the data formats to be submitted to FEMA.

Table 5-1. Applicable Standards for Project Activities

Applicable Standards	Activities	
	1	2
<i>Guidelines and Specifications for Flood Hazard Mapping Partners</i> , April 2003	X	X
<i>Content Standard for Digital Geospatial Metadata</i> (Federal Geographic Data Committee), 1998	X	X

Table 5-2. Project Activities and Applicable Portions of FEMA Guidelines and Specifications

Activity Number	Activity Description	Applicable Volume, Section/Subsection, and Appendix
1	Base Map Acquisition and Preparation	Volume 1, Section 1.3 (specifically Subsection 1.3.1.8) and 1.4 (specifically Subsections 1.4.3.1 and 1.4.3.2)
		Appendix A, Section A.1 (specifically Subsection A.1.1)
2	DFIRM Production (Non-Revised Areas)	Volume 1, Section 1.4 (specifically Subsections 1.4.2.2, 1.4.2.3, and 1.4.3.2)
		Appendices K, L, and M

Section 6—Schedule

The activities documented in this MAS shall be completed in accordance with the project schedule shown in Table 6-1. If changes to this schedule are required, the responsible Mapping Partner shall coordinate with FEMA and the other Mapping Partners in a timely manner.

Table 6-1. Project Schedule

ACTIVITIES	RESPONSIBLE PARTNER(S)	DATE DUE
Activity 1 Base Map Acquisition	VCGI	January 15, 2006
Activity 2— DFIRM Production (Non-Revised Areas)	VCGI	June 30, 2006

Section 7—Certifications

DFIRM base map and floodplain information.

Activity 1 (Base Map Acquisition and Preparation)

- A community official or responsible party shall provide written certification that the digital data meet FEMA minimum standards and specifications.
- The responsible Mapping Partner shall provide documentation that the digital base map can be used by FEMA. Please note that uploading base map data to the MIP does not constitute agreement that the digital base map can be used by FEMA. Documentation that the digital base map can be used by FEMA will still be required.

Certifications must be made at the time the intermediate data is submitted.

Section 8—Technical Assistance and Resources

Project Team members may obtain copies of FEMA-issued LOMCs, archived engineering backup data, and data collected as part of the FEMA Mapping Needs Assessment Process from the NSP.

General technical and programmatic information, such as FEMA 265 and the Quick-2 computer program, can be downloaded from the FEMA Web site (<http://www.fema.gov/fhmv/>). Specific technical and programmatic support may be provided through the NSP; such assistance should be requested through the FEMA Project Officer specified in Section 11 of this MAS.

Project Team members also may 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 subcontractors, and GIS-based engineering and modeling training.

Section 9—Contractors

VCGI does not intend to use the services of a contractor for the Flood Map Project documented in this MAS. If a contractor is used at a future date VCGI shall ensure that the procurement for all contractors used for this Flood Map Project complies with the requirements of 44 CFR 13.36.

Part 13 may be downloaded in PDF or text format from the U.S. Government Printing Office Web site at http://www.access.gpo.gov/nara/cfr/waisidx_02/44cfr13_02.html.

Section 10—Financial Reporting

Because funding is being provided to VCGI by FEMA for the Flood Map Project documented in this MAS, financial reporting requirements for VCGI will be in accordance with Cooperative Agreement Articles V and VI.

Section 11—Points of Contact

The points of contact for this Flood Map Project are **G. Fred Vanderschmidt**, the FEMA Regional Project Officer; **Mike Brouillette**, the Project Manager for VCGI; or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, the assistance of the NSP should be requested through the FEMA Project Officer, **G. Fred Vanderschmidt**.

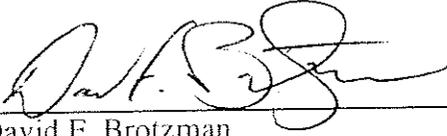
In addition, the NSP is required to coordinate project issues with the responsible Mapping Partner that created the MAS deliverable or portions of the MAS deliverable product and will document all such coordination activities with the CTP and FEMA.

Section 12—Project Coordination

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

- Meetings, teleconferences, and videoconferences with FEMA and other Project Team members;
- Telephone conversations with FEMA and other Project Team members on a scheduled basis to be determined or an ad hoc basis, as required;
- Updates to the MIP, MNUSS database, and other FEMA status information systems in accordance with requirements in Volumes 1 and 3 of *Guidelines and Specifications for Flood Hazard Mapping Partners*; and
- E-mail, facsimile transmissions, and letters, as required.

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



David F. Brotzman
Executive Director
Vermont Center for Geographic Information, Inc.

7-6-05

Date

G. Fred Vanderschmidt
Regional Project Officer
Federal Emergency Management Agency, Region I

Date

Project Officer
Federal Emergency Management Agency

Date

National Service Provider

Date