



**Harris County Flood Control District
Harris County, Texas
Cooperating Technical Partners
Mapping Activity Statement**

Mapping Activity Statement No.4 – Digital Base Map Sharing

In accordance with the Cooperating Technical Partners (CTP) Memorandum of Agreement dated July 31, 2000, between Harris County Flood Control District (HCFCDD), Harris County, Texas, and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement No. 4 is as follows:

- 1. Objective and Scope:** The objective of this Mapping Activity is the sharing of locally prepared digital base map data for use in preparing Digital Flood Insurance Rate Maps (DFIRMs). The digital base map data will meet FEMA's base map standards, be provided in a format compatible with FEMA's DFIRM specifications, and be available for distribution to the public.

FEMA's base map standards include standards for planimetric information in vector format, as well as provision for raster data such as digital orthophotos. FEMA encourages communities that have not already developed digital base map data to consider partnering with the U.S. Geological Survey or other entities for the development of Digital Orthophoto Quarter Quadrangles.

This Mapping Activity is for the sharing of digital base map data for all communities within Harris County (35 incorporated cities and the unincorporated areas of Harris County).

- 2. Period of Performance:** This Mapping Activity will begin on September 4, 2001, and will be completed no later than January 31, 2003. This Mapping Activity may be terminated at the option of FEMA or HCFCDD in accordance with the provisions of the July 31, 2000, CTP Memorandum of Agreement.

3. Funding/Cost-Sharing:

- 4. Standards:** The following documents are relevant to the creation of DFIRMs and this Mapping Activity:

- *Flood Insurance Study Guidelines and Specifications for Study Contractors (FEMA 37)* available via the Internet at http://www.fema.gov/mit/tsd/EN_reg.htm.
- *Base Map Standards for DFIRMs (FEMA)*. The minimum base map standards include the following requirements for DFIRM base map data:
 - Cover the community(s) or county(s) completely;
 - Be distributable by FEMA to the public;
 - Meet the minimum accuracy requirements outlined in the document; and
 - Include all required features.

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- *Digital Flood Insurance Rate Map (DFIRM) Specifications* (Draft DFIRM Graphic Specifications, FEMA, November 2000, and Draft Standard DFIRM Spatial Database Specifications, FEMA, 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:** HCFCF shall make the following products available to the FEMA Regional Project Officer:
- Digital base map files in one of the Geographic Information System file formats specified in *Base Map Standards for DFIRMs*.
 - Database files for the layers included in the digital base map in one of the database formats specified in *Digital Flood Insurance Rate Map Specifications*. These files should be provided on CD-ROM.
 - A completed checklist provided by FEMA (template to be developed). This checklist will contain basic information about the base map data.
 - Metadata files describing the digital base map data. These files will include the required information and follow the examples shown in *Digital Flood Insurance Rate Map (DFIRM) Specifications*.
 - Certifications that the base map data meet FEMA's minimum standards and specifications, and that FEMA has permission to distribute the data to the public with its DFIRM data.
- 6. Schedule and Milestones:** Final products will be provided to the FEMA Regional Project Manager in accordance with the Project Master Schedule .
- 7. Certification:** The digital base map data will be accompanied by certification that the digital base map data meet FEMA's minimum standards and specifications. In addition, the metadata files will include a description of the horizontal and vertical accuracy of the digital base map information.
- 8. Technical Assistance and Resources:** General technical and programmatic information can be downloaded from the FEMA Flood Hazard Mapping Website (www.fema.gov/mit/tsd). Specific technical and programmatic support may be provided by the FEMA Flood Map Production Coordination Contractor (MCC); such assistance should be requested through the FEMA Regional Program Manager specified in Section 12 of this Mapping Activity Statement and may include:
- Preparation of a DFIRM panel layout and panel grid in digital format;
 - Provision of sample DFIRM mapping and database files;
 - Provision of technical assistance in the form of training and technical guidance; and
 - Provision of DFIRM production tools, software, cell libraries, automated QA/QC tools, etc., that FEMA has developed for its own use.
- 9. Contractors:** Brown & Gay Engineers, Inc. Procurement of subcontractors using Federal funds provided as part of this Mapping Activity will comply with the requirements of 44 CFR 13.36.

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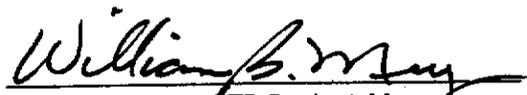
10. Quality Assurance/Quality Control (QA/QC) Procedures: HCFCD will undertake internal QA/QC reviews to ensure that the products described under Section 5 of this Mapping Activity Statement conform with the standards cited under Section 4 of this Mapping Activity Statement. Additionally, an independent review for compliance with these standards will be undertaken by HCFCD. Examples of recommended QA/QC review items include the following:

- Complete data capture of base map features.
- Horizontal and vertical accuracy.
- Topological fidelity of vector files. This includes reviews for overshoots or dangles, gaps, node errors, label errors, pseudo nodes, and closed area features.
- Edgematching.
- Complete data capture of all appropriate spatial database attributes. Logical data encoding checks should be performed to ensure consistency within the base map database.

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

12. Points of Contact: The FEMA Regional Program Manager is Jack Quarles, P.E. and the CTP Project Manager is William Meyer or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. If it is necessary, the assistance of the FEMA MCC should be requested through the FEMA Regional Program Manager, Jack Quarles.

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



William Meyer, CTP Project Manager
Harris County Flood Control District
Harris County, TX

9.10.01

Date



Jack Quarles, P.E.
Region 6 CTP Program Manager
Federal Emergency Management Agency

9-14-01

Date