



FEMA

**RAMSEY COUNTY
COOPERATING TECHNICAL PARTNERS
MAPPING ACTIVITY STATEMENT**

Mapping Activity Statement No. 2005-01– Digital Flood Insurance Rate Map Production and Development of Updated Flood Data

In accordance with the Cooperating Technical Partners (CTP) Partnership Agreement dated February 5, 2005 between State of Minnesota and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement (MAS) No. 2005-01 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 Ramsey County. The DFIRM and FIS report will be produced in the FEMA Countywide Format. The product will be in NAVD88.

Existing GIS data and study needs for the community will be researched, obtained, organized and provided in accordance with Activity 1. Scoping will be necessary to determine the final scope of work for this project.

In addition the Mapping Partners involved in this project will develop new and/or updated flood hazard data, as summarized in the table 1-1.

Table 1-1

Flooding Source	Reach Limits	Reach Length	Detailed Riverine		Detailed Coastal					Limited Detail Study	Redelineation of SFHAs Using Effective Profiles	Refine/Establish Zone A
			Hydrology	Hydraulics	Stillwater	Set up	Wave Height	Wave Runup	Erosion			
Bald Eagle Lake										X	X	
Beaver Lake										X	X	
Birch Lake										X	X	
Gervais Lake										X	X	

Goose Lake									X	X	
Kahlman Lake									X	X	
Keller Lake									X	X	
Lake Johanna									X	X	
Lake Jones									X	X	
Lake Josephine									X	X	
Lake Owasso									X	X	
Lake Phalen									X	X	
LittleLake Johanna									X	X	
Long Lake									X	X	
Marsden Lake									X	X	
McCarron's Lake									X	X	
Otter Lake									X	X	
Pike Lake									X	X	
Poplar Lake									X	X	
Priebe Lake									X	X	
Round Lake									X	X	
Rush Lake									X	X	
Savage Lake									X	X	
Spring Lake									X	X	
Twin Lake									X	X	

Valentine Lake									X	X	
WhiteBear Lake									X	X	

This Flood Map Project will be completed by the following

- State Of Minnesota;
- A FEMA Study Contractor (SC) for this Flood Map Project; and
- Michael Baker Inc

The CTP shall notify FEMA and the NSP by e-mail of all meetings with community officials at least one week prior to the meeting (with as much notice as possible). FEMA and/or the NSP may or may not attend the community meetings

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 1-2 below. The sections of this MAS that follow the table below describe the specific activities, responsible Mapping Partner(s), FEMA standards that must be met, and resultant map components.

Table 1-2

Activities	CTP	FEMA
Activity 1 – Scoping	X	
Activity 2 - Outreach	X	X
Activity 4 – Topographic Data Development	X	
Activity 5 – Independent QA/QC Review of Topographic Data		X
Activity 10A – Floodplain Mapping (Redelineation Using Effective Flood Profiles and Updated Topographic Data)	X	
Activity 10B – Floodplain Mapping (Refinement or Creation of Zone A)	X	
Activity 11 – Independent QA/QC Review of Floodplain Mapping (Revised Areas)		X
Activity 16 – Post-Preliminary Processing		X

FEMA has developed tools to assist in the development of the flood hazard data studies and the Digital Flood Insurance Rate Maps (DFIRM's) if the CTP wishes to use them. FEMA will, through the NSP, provide all CTPs access to and training in these tools. The tools available at this time include WISE

software and the DFIRM production tools. The use of these tools will improve the Map Modernization and efficiency of all mapping partners.

The Data Capture Standard submittals will be required at the following study milestones:

- Project Scoping (as specified)
- Terrain Data Processing Completed
- Limited Detail Analysis Completed

QA/QC review activities may be performed by the NSP at the discretion of FEMA. Please note the NSP will also be performing periodic audits and overall study/project management to ensure study quality.

FEMA will be providing download/upload capability for intermediate data submittals through the Management Information Portal (MIP). Data submittals uploaded via the MIP, will include the same data required prior to the existence of the MIP.

Activity 1 – Scoping

Responsible Mapping Partner: Minnesota Department of Natural Resources (DNR Waters)

Scope: This task involves collecting data from a variety of sources including community surveys, other Federal and State Agencies, NFIP State Coordinators, Community Assistance Visits (CAV's) and FEMA archives. DNR Waters will collect the data from the above sources except from the FEMA Archives. The NSP will collect the data from the FEMA Archives and send it to DNR Waters. DNR Waters will evaluate the effective FIS report and FIRM maps to see if it needs to be updated. Lists of mapping needs will be obtained from the MNUSS database, community surveys and CAV's if available.

Data collection will include obtaining the best available base map materials (corporate limits, roads, orthophotos, etc) along with stream centerline files. The acquired data will be imported into the scoping tool and used during the Scoping Task. In the Scoping Tool all streams should have unique names, the limits of the effective FEMA studies should be identified, LOMC areas should be identified, and community requests should be identified. This task also includes populating the streamlines with existing pipeline and scoped studies currently underway.

In cooperation with the FEMA Region, a Project Management Team will be established consisting of the State of Minnesota Department of Natural Resources, FEMA's regional engineer, Ramsey County, and other appropriate officials. The Project Management Team will be responsible for coordinating the activities of this project and completing all tasks identified in this Statement of Work.

Preliminary Research Activities can be separated into two categories—researching effective information and researching available data for the Flood Map Project. The following tasks shall be completed to research effective information: inventory the DNR Waters files for effective FIRM panels, FRFM panels, FIS reports, and other flood hazard data or existing study data; summarize the information in the MNUSS database; summarize contiguous community agreement checks; review CAV and CAC files; and develop a “scoping map” and an overview of the results of the research. The NSP shall provide a list of data in the FEMA library archive for these communities. DNR Waters will

compare this list with the inventory of data from DNR Waters files. The NSP shall provide copies of all information in the FEMA archive library that isn't in the DNR Waters files.

DNR Waters will co-ordinate, set-up, and hold the Scoping Meeting. This includes identifying a time, place, and all participants. The purpose of this meeting is to present the current information to the local officials (state, county and municipal) and coordinate on prioritization and identification of study areas. State of Minnesota shall be responsible for compiling the necessary information for the meeting. These items may include: FIS and FIRM for affected communities; USGS quads for the study area; best available community base map(s); effective FIRM summary; Scoping Map; Scoping Meeting Agenda/Minutes form; Aerial photos/topographic mapping if available; existing drainage studies or other H&H data; Community master plan(s)/Drainage Master Plan(s); Zoning Maps; Street Maps; As-built plans; and Floodplain Ordinance(s). FEMA's contractor will be responsible for the Available Data Inventory.

The project management team shall review the initial mapping needs list, review the research findings, and make selections of proposed methods for obtaining/producing flood data. Any additions or changes to the needs list shall be discussed with all members. All needs shall also be prioritized. In general, highest priority shall be given to the following areas: areas of dense existing or anticipated development; areas that were studied by approximate methods and unmapped areas, especially those with development pressure; areas where the community has experienced flooding outside mapped floodplains, with severe damage to buildings and/or infrastructure; areas where mapped flood hazards do not match those shown on contiguous FIRM's (unless those FIRM's are not considered to be accurate); and areas where flood data (BFE's, floodplains, and regulatory floodways) are likely to be changed by a restudy.

Based on the discussion of mapping needs, the Minnesota Department of Natural Resources Floodplain Mapping Engineer and the FEMA Project Officer will finalize the areas to be included in the project (based on recommendations provided by the Project Team). Areas to be studied by detailed and approximate methods shall be identified. The following issues will be discussed and refined: Review and Refinement of Flood Hazard Identification Methodologies, Review of Proposed Paneling Scheme, Review and Refinement of Base and Topographic Map Source, and Finalization of Map Production and Database Options.

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

Deliverables:

- The Final Scoping Report with all of the components as laid out in the attached "Partner Flood Map Modernization Program Scoping Report" template in Appendix A will be delivered in accordance with the schedule outlined in Section 6 for this Activity to the Regional Project Officer for approval.
- QA/QC Plan for the review of the mapping project outlined in this MAS. This will include the checklists developed for that review.

Activity 2 – Outreach

Responsible Mapping Partner: Minnesota Department of Natural Resources and FEMA's SC

Scope: The outreach activities for a Flood Map Project can best be understood as a process that begins during the Project Scoping phase and continues through the Map Production and Post-preliminary phases. A regulatory overview of required activities is followed by a description of tools that can be used in working with stakeholders to keep them informed and to solicit their input.

The overarching goal for conducting outreach is to create a climate of understanding and ownership of the mapping process at the State and local levels. Well-planned outreach activities can reduce political stress, confrontation in the media, and public controversy, which can arise from lack of information, misunderstanding, or misinformation. These outreach activities also can assist FEMA and other members of the Project Team in responding to congressional inquiries.

DNR Waters will work with the Regional Office during the initiation of this activity to determine an Outreach Plan for implementation throughout the Mapping Project. The Regional Office will have access to many outreach tools that have been developed for this process that can be utilized or customized for your use.

All communication with local governments will be done in accordance with Title 44 Code of Federal Regulations Part 66.

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

Deliverables: Upon determination of an Outreach and Coordination Approach the Minnesota Department of Natural Resources shall deliver the following to the FEMA Regional Project Officer in accordance with the schedule outlined in Section 6 for this Activity:

- A report detailing outreach and coordination activities
- Backup or supplemental information used in writing this report
- At the completion of the DFIRM process, DNR Waters will submit a summary of outreach activities and any changes made in the outreach approach based on the actual implementation

Activity 4 - Topographic Data Development

Responsible Mapping Partner: Ramsey County and Minnesota Department of Natural Resources

Scope: Ramsey County shall provide to the Minnesota Department of Natural Resources the topographic data the county has available and what accuracy and currency the data meets. The Minnesota Department of Natural Resources shall use the best available topographic data meeting FEMA standards or as directed by the Regional Project Officer.

Standards: All work under Activity 4 shall be performed in accordance with the standards specified in Section 5.

Deliverables: Upon completion of topographic data processing for Ramsey County, Minnesota Department of Natural Resources shall upload the digital data to the MIP or submit by using other

digital media, so that FEMA can access it for an independent QA/QC review under Activity 5 in accordance with the schedule outlined in Section 6 for this Activity.

In accordance with the TSDN format described in described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners*, Minnesota Department of Natural Resources shall also make the following products available to FEMA by submitting it to the FEMA Regional Office via the digital media identified in the paragraph above, if the MIP is unavailable. This submittal will occur in accordance with the schedule outlined in Section 6 for this Activity.

- Digital topographic maps;
- Report summarizing methodology and results;
- Mass points and breaklines data;
- Digital work maps with contours;
- Metadata compliant with Federal Geographic Data Committee standards.

Activity 5 - Independent QA/QC Review of Topographic Data

Responsible Mapping Partner: FEMA

Scope: FEMA shall review the mapping data generated by Ramsey County and the Minnesota Department of Natural Resources under Activity 4 to ensure that these data are consistent with FEMA standards and standard engineering practice and are sufficient to prepare the DFIRM. If FEMA utilizes a contractor to perform the QA/QC, the contractor shall not be the same one who performed the original analyses. FEMA may audit or assist in these activities if deemed to be necessary by the Regional Project Officer.

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

Deliverables: In accordance with the TSDN format described in described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners*,

- A Summary Report that describes the findings of the independent QA/QC review; and
- Recommendations to resolve any problems that are identified during the independent QA/QC review.
- If the data changed during the QA/QC process, then the updated deliverables from Activity 4 will be resubmitted at this time.

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

Activity 10B - Floodplain Mapping (Refinement or Creation of Zone A)

Responsible Mapping Partner: DNR Waters

Scope: DNR Waters shall delineate the 1-percent-annual-chance floodplain boundaries for the flooding sources listed earlier in this MAS or in the Scoping Report. DNR Waters shall use existing topographic data or the topographic data acquired under Activity 4 to delineate the floodplain boundaries on a digital work map. In addition, DNR Waters shall address concerns or questions regarding Activity 10B that are raised by FEMA during the independent QA/QC review under Activity 11.

DNR Waters may expand on the approaches for analyzing Zone A areas outlined in *Guidelines and Specifications for Flood Hazard Mapping Partners* and in FEMA 265, *Managing Floodplain Development in Approximate Zone A Areas* (April 1995), and/or develop new approaches. Such approaches must be coordinated with the FEMA Regional Project Officer identified in Section 12 of this MAS before analysis and mapping begin.

Standards: All work under Activity 10B shall be performed in accordance with the standards specified in Section 5.

Deliverables for Activities 10B: Upon completion of floodplain mapping for the lakes identified in table 1-1 DNR Waters shall upload the digital data to the MIP or submit by using other digital media, so that FEMA can access it for the independent QA/QC review under Activity 11. The mapping for the remaining flooding sources is to be submitted for a final QA/QC review at the completion of this activity.

In accordance with the TSDN format described in described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners*, DNR Waters shall make the following products available to by submitting it to the FEMA Regional Office via the digital media identified in the paragraph above, if the MIP is unavailable. This submittal will occur in accordance with the schedule outlined in Section 6 for this Activity. Where paper documentation is required by State Law for Professional certifications, you may submit the paper in addition to a scanned version of the paper for the digital record.

- Digital work maps showing the 1-percent-annual-chance floodplain boundary delineations, 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*;
- A Summary Report that describes and provides the results of all automated or manual QA/QC review steps taken during the floodplain mapping tasks;
- Any backup or supplemental information used in the mapping required for the independent QA/QC review outlined under Activity 9; and
- An explanation for the use of existing topography for the studied reaches, if appropriate.
- Digital work maps showing the 1-percent-annual-chance floodplain boundary delineations, flood insurance risk zone labels, and all applicable base map features;

- Written summary of the analysis methodologies;
- Any backup or supplemental information, including supporting calculations and assumptions for any computed 1-percent-annual-chance water-surface elevations used in the mapping required for the independent QA/QC review under Activity 11;
- Digital versions of input and output for any computer programs that were used;
- NSP Format Mapping Database or Data Delivery consistent with the NSP Data Capture Standards –Appendix N of the Guidelines and Specifications for Flood Mapping Partners
- If automated GIS-based models are applied, all input data, output data, intermediate data processing products, and GIS data layers shall be submitted.

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

Activity 11 - Independent QA/QC Review of Floodplain Mapping (Revised Areas)

Responsible Mapping Partner: FEMA/NSP

Scope: FEMA shall review the floodplain mapping submitted by DNR Waters under Activities 10, 10A, and 10B to ensure that the results of the analyses performed are accurately represented. If FEMA utilizes a contractor to perform the QA/QC, the contractor shall not be the same one who performed the original analyses. FEMA may audit or assist in these activities if deemed to be necessary by the Regional Project Officer. This work shall include, at a minimum, the activities listed below.

- Review the BFE's shown on the work map for proper location and agreement with the results of the hydraulic modeling.
- Review the floodplain boundaries for agreement with the flood elevations shown in the supporting documentation for hydraulic analysis and the contour lines and other topographic information shown on the work maps.
- Review the floodplain widths at cross sections as shown on the work maps to ensure they match the Floodway Data Table.
- Review the floodplain boundaries as shown on the work maps to ensure they match the Flood Profiles.
- Review the flood insurance risk zones as shown on the work maps to ensure they are labeled properly.
- Review the DFIRM mapping files to ensure they were prepared in accordance with the requirements in *Guidelines and Specifications for Flood Hazard Mapping Partners*.
- Review the metadata files to ensure they include all required information shown in *Guidelines and Specifications for Flood Hazard Mapping Partners*.

Standards: All work under Activity 11 shall be performed in accordance with the standards specified in Section 5.

Deliverables: In accordance with the TSDN format described in described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners*, The NSP shall make the following

products available to FEMA by uploading the digital data to MIP or submitting it to the FEMA Regional Office if the MIP is unavailable. This submittal will occur in accordance with the schedule outlined in Section 6 for this Activity.

- A Summary Report that describes the findings of the QA/QC review, noting any deficiencies in or agreeing with the mapping results;
- Recommendations to resolve any problems that are identified during the independent QA/QC review; and
- An annotated work map with all questions and/or concerns indicated, if necessary.
- If the data changed during the QA/QC process, then the updated deliverables from Activity 10, 10A and 10B will be resubmitted at this time.

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

SECTION 2—TECHNICAL AND ADMINISTRATIVE SUPPORT DATA SUBMITTAL

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 Mapping Activity Statement 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	3	4	5	6, 6 A	7, 7 A	8	9	10, 10 A, 10 B	11	12	13, 13A	14, 14A	15	16
General Documentation																
Special Problem Reports	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Telephone Conversation Reports	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Meeting Minutes/Reports	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
General Correspondence	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Engineering Analyses																
Hydrologic Analyses			X			X	X	X	X	X	X					
Hydraulic Analyses			X			X	X	X	X	X	X					
Key to Cross-Section Labeling			X			X	X	X	X	X	X					
Key to Transect Labeling			X			X	X	X	X	X	X					
Draft FIS Report						X	X	X	X							
Mapping Information	X	X		X	X					X	X	X	X	X	X	X
Miscellaneous Reference Information	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

SECTION 3—PERIOD OF PERFORMANCE

The mapping activities outlined in this MAS will begin on July 15, 2005 and will be completed no later than July 31, 2006. The mapping activities may be terminated at the option of FEMA or DNR Waters in accordance with the provisions of the Partnership Agreement dated February 5, 2005. If these Mapping Activities are terminated; the remaining funds from uncompleted activities, provided by FEMA for this Mapping Activity Statement, will be returned to FEMA.

SECTION 4—FUNDING/LEVERAGE

to DNR Waters for the completion of this Flood Map Project. DNR Waters shall provide additional resources required to complete the assigned activities for this Flood Map Project. During the scoping process, additional needs may be identified. Activities associated with any additional needs would be performed based on availability of additional funds. Detailed leverage information will be determined during the detailed scoping process and reported back to FEMA at that time.

Additional work needed to complete project		% of Project	Managed by	FEMA Contribution	CTP Contribution	% Leverage	Total Project Cost
Activity 1	Scoping	2%	DNR				
Activity 2	Outreach	2%	DNR				
Activity 4	Topographic Data Development	33%	DNR				
Activity 5	Independent QA/QC Review of Topographic Data	2%	DNR				
Activity 10A	Floodplain Mapping (Redelineation Using Effective Flood Profiles and Updated Topographic Data)	19%	DNR				
Activity 10B	Floodplain Mapping (Refinement or Creation of Zone A)	38%	DNR				
Activity 11	Independent QA/QC Review of Floodplain Mapping (Revised Areas)	4%	FEMA				

FEMA funds identified above are available to be used for the following activities*:

Activities	FUNDABLE?
Activity 1 – Scoping	Yes, up to 10% of total cost
Activity 2 - Outreach	Yes, up to 10% of total cost

Activities	FUNDABLE?
Activity 4 – Topographic Data Development	No, unless approval given during scoping phase by Regional PO
Activity 5 – Independent QA/QC Review of Topographic Data	No, unless approval given during scoping phase by Regional PO
Activity 10B – Floodplain Mapping (Refinement or Creation of Zone A)	Yes
Activity 11 – Independent QA/QC Review of Floodplain Mapping (Revised Areas)	Yes

*This table is for information purposes only

SECTION 5—STANDARDS

The standards relevant to this Mapping Activity Statement 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 are 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.

Table 5-1. Applicable Standards for Project Activities

Applicable Standards	Activities																
	1	2	3	4	5	6, 6A	7, 7A	8	9	10, 10A, 10B	11	12	13, 13A	14, 14A	15	16	
<i>Guidelines and Specifications for Flood Hazard Mapping Partners</i> , April 2003	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
American Congress on Surveying and Mapping Procedures	X			X	X	X											
Global Positioning System (GPS) Surveys: National Geodetic Survey (NGS-510), "Guidelines for Establishing GPS-Derived Ellipsoid Heights," November 1997	X																
Engineer Manual 1110-1-1000, <i>Photogrammetric Mapping</i> (USACE), July 1, 2002	X			X	X	X											
Engineer Manual 1110-2-1003, <i>Hydrographic Surveys</i> (USACE), January 1, 2002	X			X													
"Numerical Models	X					X	X	X	X								

Accepted by FEMA for NFIP Usage," Updated April 2003																		
Content Standard for Digital Geospatial Metadata (Federal Geographic Data Committee), 1998	X	X			X	X				X	X	X	X	X	X	X	X	X
Document Control Procedures Manual, December 2000	X	X														X	X	
44 Code of Federal Regulations Part 66 and 67		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	Scoping	Appendix I, Scoping Report document attached in Appendix A to this Mapping Activity Statement
2	Outreach	44 Code of Federal Regulations Part 66 and 67
3	Field Surveys and Reconnaissance	Volume 1, Section 1.4 (specifically Subsection 1.4.2.1) Appendix A, Sections A.4, A.5, A.6, A.7, and A.8 Appendix F, Section F.3 Appendices B, C, and M
4	Topographic Data Development	Volume 1, Section 1.4 (specifically Subsection 1.4.2.1) Appendix A, Sections A.2, A.3, A.7, and A.8 Appendix M
5	Independent QA/QC Review of Topographic Data	Volume 1, Section 1.4 (specifically Subsections 1.4.1 and 1.4.2.1) Appendix A, Sections A.2, A.3, A.7 (specifically Subsection A.7.5), and A.8 (specifically Subsection A.8.6) Appendix M
6	Hydrologic Analyses	Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.4) Appendix A, Section A.4 Appendix C, Sections C.1 and C.7 Appendices E, F, G, H, M, and N
6A	Coastal Hazard Analyses	Volume 1, Section 1.4 (specifically Subsection 1.4.2.2) Appendix A, Section A.4 Appendices B, D, M, and N

7	Independent QA/QC Review of Hydrologic Analyses	Volume 1, Section 1.4 (specifically Subsection 1.4.1) Appendix A, Section A.4 Appendix C, Section C.2 Appendices E, F, G, H, and M
7A	Independent QA/QC Review of Coastal Hazard Analyses	Volume 1, Section 1.4 (specifically Subsection 1.4.1) Appendix A, Section A.4 Appendices B, D, and M
8	Hydraulic Analyses	Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.4) Appendix A, Section A.4 (specifically Subsection A.4.7) Appendix C, Sections C.3 and C.7 Appendices B, E, F, G, H, M and N
9	Independent QA/QC Review of Hydraulic Analyses	Volume 1, Section 1.4 (specifically Subsection 1.4.1) Appendix A, Section A.4 (specifically Subsection A.4.7) Appendix C, Section C.5 Appendices B, E, F, G, H, and M
10	Floodplain Mapping (Detailed Riverine or Coastal Analysis)	Volume 1, Section 1.4 (specifically Subsection 1.4.2.3) Appendix C, Sections C. 4 and C.6 Appendix D, Sections D.2 (specifically Subsection D.2.7) and D.3 (specifically Subsection D.3.7) Appendices E, F, G, H, K, L, M, and N
10A	Floodplain Mapping (Redelineation Using Effective Flood Profiles and Updated Topographic Data)	Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.3) Appendix C, Section C.6 (specifically Subsection C.6.1.3) Appendices K, L, M, and N
10B	Floodplain Mapping (Refinement or Creation of Zone A)	Volume 1, Section 1.4 (specifically Subsection 1.4.2.3) Appendix C, Sections C.4 and C.6 Appendices K, L, M, and N
11	Independent QA/QC Review of Floodplain Mapping (Revised Areas)	Volume 1, Section 1.4 (specifically Subsections 1.4.1 and 1.4.2.3) Appendix C, Sections C.4 and C.6 Appendix D, Sections D.2 (specifically Subsection D.2.7) and D.3 (specifically Subsection D.3.7) Appendices E, F, G, H, K, L, and M
12	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)
13	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, M, and N
13A	Independent QA/QC Review of 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
14	DFIRM Production (Merging Revised and Non-Revised Areas)	Volume 1, Section 1.4 (specifically Subsections 1.4.2.3 and 1.4.3.3) Appendices K, L, M, and N
14A	DFIRM Production (Application of FEMA Graphics and Database Specifications)	Volume 1, Section 1.4 (specifically Subsections 1.4.2.3, 1.4.3.3, 1.4.3.9, and 1.4.3.10) Appendices K, L, M, and N
14B	Independent QA/QC Review of DFIRM Product Meeting FEMA Graphics and Database Specifications	Volume 1, Section 1.4 (specifically Subsections 1.4.2.3, 1.4.3.3, 1.4.3.9, and 1.4.3.10) Appendices K, L, and M
15	Preliminary DFIRM and FIS Report Distribution	Volume 1, Sections 1.4 (specifically Subsections 1.4.2 and 1.4.3) and 1.5 (specifically Subsection 1.5.1) Appendices J, K, L, and M
16	Post-Preliminary Processing	Volume 1, Section 1.5 (specifically Subsection 1.5.2) Appendices J, K, L, and M

SECTION 6—SCHEDULE

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

Activities	RESPONSIBLE PARTNER(S)	DATE DUE
Activity 1 – Scoping	DNR Waters	9/30/05
Activity 2 - Outreach	DNR Waters/FEMA	7/31/06
Activity 4 – Topographic Data Development	Mn DNR	11/30/05
Activity 5 – Independent QA/QC Review of Topographic Data	FEMA	2/28/06
Activity 10 – Floodplain Mapping (Detailed Riverine or Coastal Analysis)		
Activity 10A – Floodplain Mapping (Redelineation Using Effective Flood Profiles and Updated Topographic Data)		
Activity 10B – Floodplain Mapping (Refinement or Creation of Zone A)	DNR Waters	6/15/06
Activity 11 – Independent QA/QC Review of Floodplain Mapping (Revised Areas)		7/31/06

SECTION 7—CERTIFICATIONS

Activity 6 (Hydrologic Analyses), Activity 8 (Hydraulic Analyses), Activity 10 (Floodplain Mapping– Detailed Riverine or Coastal Analysis), Activity 10A (Floodplain Mapping {Redelineation Using Effective Flood Profiles and Updated Topographic Data}), and Activity 10B (Floodplain Mapping {Refinement or Creation of Zone A})

- A Registered Professional Engineer shall certify hydrologic and hydraulic analyses and data in accordance with 44 CFR 65.6(f).
- A Registered Professional Engineer or Licensed Land Surveyor shall certify topographic information in accordance with 44 CFR 65.5(c).
- Any levee systems to be accredited will be certified in accordance with 44 CFR 65.10(e).

Activity 10 (Floodplain Mapping– Detailed Riverine or Coastal Analysis), Activity 10A (Floodplain Mapping {Redelineation Using Effective Flood Profiles and Updated Topographic Data}), and Activity 10B (Floodplain Mapping {Refinement or Creation of Zone A}), Activity 11 (Independent QA/QC Review of Floodplain Mapping {Revised Areas}), Activity 13 (DFIRM

Production {Non-Revised Areas}), Activity 14 (DFIRM Production {Merging Revised and Non-Revised Information}), and Activity 14A (DFIRM Production {Application of FEMA Graphics and Database Specifications})

The DFIRM metadata files shall include a description of the horizontal and vertical accuracy of the DFIRM base map and floodplain information.

Certifications must be made at the time the intermediate data is submitted. For example, if hydrologic data is submitted, certification will be required at the time it 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 Mapping Needs Assessment Process from the NSP, who may be contacted through your Regional Project Officer.

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/fhm/>). Specific technical and programmatic support may be provided through the NSP; such assistance should be requested through the FEMA Project Officer specified in Section 12 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

DNR Waters does not intend to use the services of a contractor for the Flood Map Project documented in this Mapping Activity Statement. DNR Waters shall ensure that the procurement for all contractors, if any are 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_04/44cfr13_04.html.

SECTION 10—REPORTING

FINANCIAL REPORTING:

Because funding has been provided to DNR Waters by FEMA, financial reporting requirements for DNR Waters will be in accordance with Cooperative Agreement Articles V and VI.

DNR Waters 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 Mapping Activity Statement.

STATUS REPORTING:

Status reports will be submitted on a quarterly basis in accordance with the financial reporting submittals. At a minimum these reports will include a summary of the work as outlined in the Cooperative Technical Partner (CTP)/Map Modernization Project Quarterly Report located in Appendix B of this Mapping Activity Statement. The Project Officer, as needed, may request additional information on status.

DNR Waters may meet with the NSP and/or FEMA more frequently (up to bi-weekly if needed) to review the progress of the project in addition to the quarterly financial and status submittals.

Where specific actions are funded by FEMA, the reporting requirements will be in accordance with the FEMA Cooperative Agreement. DNR Waters shall work with the FEMA Project Officer to establish an acceptable protocol for reporting of project information at the beginning of each project. DNR Waters will update the Multi-Hazard Information Platform (MIP) on a monthly basis. If the MIP is not available, the information shall be submitted to the Regional Management Center (RMC). If this report proves to be sufficient, the Assistance Officer may waive the written reports thereafter (reference 44 CFR Part 13.40, *Monitoring and Reporting Program Performance*). However, this shall not affect the financial reporting requirements (reference 44 CFR Part 13.41, *Financial Reporting*). The PO shall ensure that key DNR Waters staff have been provided access and passwords to the MIP. The PO will also provide project-naming conventions for the MIP.

Section 11—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 shall include:

- Meetings, teleconferences, and videoconfernces with FEMA and other Project Team members will be held monthly;
- Telephone conversations with FEMA and other Project Team members on a scheduled basis monthly and an ad hoc basis, as required;
- Updates to the MIP, 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 Section 10; and
- E-mail, facsimile transmissions, and letters, as required.

SECTION 12—POINTS OF CONTACT

The points of contact for this Flood Map Project are Lee Traeger, the FEMA Regional Project Officer; Suzanne Jiwani, the Project Manager for DNR Waters; or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, the any additional assistance of FEMA should be requested through the FEMA Regional Project Officer.

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

Suzanne Jiwani
Suzanne Jiwani, PE
Project Manager
Minnesota Dept of Natural Resources

10-25-05
Date

for *Natalie Schwartz*
Terry Reuss Fell, Branch Chief
Hazard and Risk Assessment, Region 5
Federal Emergency Management Agency

10-13-05
Date

Ogbazghi Siuam
Ogbazghi Siuam, PE
Supervisor Floodplain Management Program
NFIP State Coordinator

10-24-05
Date

Appendix A – Project Scoping Template

Appendix B – CTP Quarterly Report