FEMA

PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT
COOPERATING TECHNICAL PARTNERS
MAPPING ACTIVITY STATEMENT

Mapping Activity Statement No. 4

In accordance with the Cooperating Technical Partners (CTP) Partnership Agreement dated April 11, 2003 between Papio-Missouri River Natural Resources District (Papio-Missouri River NRD) and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement (MAS) No. 4 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. 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 effective Procedure Memoranda (PMs). The DFIRM and FIS report will be produced in the FEMA County-wide format. In addition, the Mapping Partners involved in this project will develop new and/or updated flood hazard data, as summarized in Table 1.1, Flooding Sources to be Studied.

The DFIRM and FIS report will be produced in the FEMA Countywide format in the North American Vertical Datum of 1988 (NAVD88). (Refer to PM 41 for exceptions.)

Table 1.1 - Flooding Source(s) to be Studied

Flooding Source	Reach Limits	Reach Length (Miles)	Detailed Riverine		Redelineation of SFHAs Using Effective Profiles and New Topography	Refine/ Establish Zone A
			Hydrology	Hydraulics		
Missouri River	From Burt/Washington county line to Washington/Douglas county line	42.2 miles	X	X		

This Flood Map Project will be completed by the following Mapping Partner(s):

- Papio-Missouri River NRD;
- CTP Study Contractor; and
- National Service Provider.

The Mapping Partner shall notify FEMA and/or its contractor by e-mail of all meetings with community officials at least two weeks prior to the meeting (with as much notice as possible). FEMA and/or its contractor may or may not attend the community meetings.

The activities for this Flood Map Project, including any required Quality Control (QC) reviews as outlined in Procedure Memorandum (PM) 42, and the Mapping Partners that will complete them are summarized in Table 1.2, Flood Mapping Project Activities. The sections of this MAS that follow the table below describe the specific mapping activities, responsible Mapping Partner(s), FEMA standards that must be met, and resultant map deliverables.

The Papio-Missouri River NRD is assigned the Floodplain Mapping Activity and will incorporate the approximate studies completed by the Nebraska Department of Natural Resources for the counties identified in Table 1.1.

For those counties that include the Missouri and/or Mississippi Rivers, Papio-Missouri River NRD will incorporate data developed from the USACE's Upper Mississippi River System Flow Frequency Study (UMRSFFS) and stored on the MIP. Refer to **Exhibit A** for a listing of counties that will include UMRSFSS-based data and **Exhibit B** for a listing of data. Papio-Missouri River NRD shall coordinate directly with the RMC to confirm what data is currently, or will be, available on the MIP.

Papio-Missouri River NRD is responsible for the implementation of a Quality Assurance plan for all assigned activities. The Papio-Missouri River NRD will submit a Summary Report that describes and provides the results of all automated or manual QA review steps. The report should include the process for all assigned activities.

The Regional Office has reviewed the counties for accredited levees on the Flood Insurance Rate Map. In coordination with the USACE, the Region has determined the PAL classification for each levee accredited on the FIRM. No accredited levees were determined for Washington County.

FEMA has developed tools to assist in the development of the flood hazard data studies and DFIRMs for the CTP to use. Use of the tools is optional. Training and access to the tools should be arranged through the Regional Management Center. The tools available at this time include WISE software and the DFIRM production tools, both available through the Mapping Information Platform (MIP).

Independent QC review activities will be performed by FEMA's contractor at the discretion of FEMA.

FEMA will provide download/upload capability for intermediate data submittals through the MIP. A metadata file complying with the FEMA NFIP Metadata Profile Specifications must accompany the uploaded digital data in order to facilitate proper cataloging of the data for search and retrieve capabilities within the MIP. The metadata profile should be obtained from FEMA or its contractor to assure compliance. FEMA has provided the Metadata Manager (MetaMan) Tool in the Citrix environment to convert the .txt metadata files to .xml format. In addition, MetaMan will check the metadata file according to the correct schema for the task for compliance with the FEMA NFIP Metadata Profile.

Table 1.2 Flood Mapping Project Activities

TASK ASSIGNMENTS

State	County	Partner Name	Partner Type	Scoping	Perform Field Survey	Develop Topographic Data	Perform Independent QA/QC of Topographic Data	Acquire Base Map	Perform Hydrologic Analyses	Perform Independent QA/QC of Hydrologic Analyses	Perform Hydraulic Analyses	Perform Independent QA/QC of Hydraulic Analyses	Perform Floodplain Mapping	Perform Independent QA/QC of Floodplain Mapping	Develop DFIRM Database	Quality Review (QR) 1 Auto Validation of Draft DFIRM Database	Produce Preliminary Map Products	Perform Independent QA/QC of Preliminary Map Product	QR2 Auto Validation of Preliminary Database	QR3 10% Visual Check	Distribute Preliminary Map Productds	Post Preliminary Processing	QR4 Validate BFE Notice and CEO Letters	QR5 Validate Final DFIRM Database and Map Panels	QR 6 Check LFD	QR 7 Valdiate MSC Deliverable Package
NE	Washington	P-MR NRD	CTP					X					X		X		X									
NE	Washington	Michael Baker Jr	NSP											X				X			X	X				
Washington County		NSP Core Task Order														X			X	X			X	X	X	X

FEMA has developed tools to assist in the development of the flood hazard data studies and DFIRMs for the CTP to use. Use of the tools is optional. Training and access to the tools should be arranged through the Regional Management Center. The tools available at this time include WISE software and the DFIRM production tools, both available through the Mapping Information Platform (MIP).

Independent QC review activities will be performed by FEMA's contractor at the discretion of FEMA.

FEMA will provide download/upload capability for intermediate data submittals through the MIP. A metadata file complying with the FEMA NFIP Metadata Profile Specifications must accompany the uploaded digital data in order to facilitate proper cataloging of the data for search and retrieve capabilities within the MIP. The metadata profile should be obtained from FEMA or its contractor to assure compliance. FEMA has provided the Metadata Manager (MetaMan) Tool in the Citrix environment to convert the .txt metadata files to .xml format. In addition, MetaMan will check the metadata file according to the correct schema for the task for compliance with the FEMA NFIP Metadata Profile.

Metadata files are to be included with each of the following four activities that must satisfy Data Capture Standards (DCS): Perform Field Survey, Develop Topographic Data, Develop Hydrologic Data, and Develop Hydraulic Data. In addition, a DCS QA report is required for all DCS tasks. FEMA has provided the DCS Validator Tool in WISE in the Citrix environment to generate the QA report, and must be used whether or not WISE was used to create the DCS data. The DCS QA report can be either passing or failing, but a failing report must be validated by the RMC for allowable errors. The task will advance in the MIP studies workflow as long as the report has been uploaded and named correctly.

Metadata files are also to be included with each of the following non-DCS activities: Acquire Base Map Data, Perform Floodplain Mapping, Develop DFIRM Database, Produce Preliminary Map Products, and Produce Map Products. The metadata profiles are available from FEMA. The FEMA NFIP Metadata Profiles follow the Federal Geographic Data Committee Content Standard for Digital Geospatial Metadata, but define some specific domains and business rules to make the metadata more useful to FEMA and its mapping partners. The metadata profile should be obtained from FEMA or its contractor to assure compliance.

DFIRM-related tasks require a passing QC Report from FEMA's National DFIRM database auto-validation tool for Quality Review (QR) #1, #2, and #5 as described in PM 42. Training materials for this step are available on the MIP at MIP User Care>Training Materials.

As each activity is completed, the data must be submitted to the via one of the methods described in the Data Submission Upload and Validation Quick Reference Guide (QRG) which is available on the MIP at MIP User Care>Guides & Documentation.

The Papio-Missouri River NRD assigned the activity will respond to any comments generated as a result of the mandatory quality control checks by the National Service Provider (NSP). The NSP QC process is nationally funded and required on each flood insurance study. The NSP QC process includes the following activities:

- **Validate Content Submission.** Validation of submitted data for Perform Field Survey, Develop Topographic Data, Develop Hydrologic Data, Develop Hydraulic Data, Acquire Base Map Data, Perform Floodplain Mapping, Develop DFIRM Database, and Produce Preliminary Map Products tasks (including verifying presence of all required deliverables per MAS/SOW.
- **QR #1.** Performed after the Develop DFIRM Database task.
- **QR #s 2 and 3.** Performed after the Produce Preliminary Map Products task.

- **QR #4.** Performed after the Create Base Flood Elevation (BFE) Notices step in the MIP workflow during Post Preliminary Processing.
- **QR #5.** Performed after the Produce Final Map Products task during Post Preliminary Processing.
- **QR #6.** Performed after the Prepare LFD Docket step in the MIP workflow during Post Preliminary Processing.
- **QR #7.** Performed after the Submit MSC Deliverable step in the MIP workflow during Post Preliminary Processing.

In cooperation with the FEMA Project Officer, a Project Management Team (PMT) will be established by the Papio-Missouri River NRD consisting of representatives from the Papio-Missouri River NRD, and it's CTP Study Contractor, FEMA's regional engineer, the Regional Management Center, and other appropriate parties. The PMT will be responsible for coordinating the activities identified in this MAS. The FEMA Region will be provided with documentation identifying the established PMT.

The MIP shall be updated for status reporting of each of the data development activities within the Manage Data Development task, not less than every thirty days, when the activity is complete, and include leverage data. Similarly, the Manage Preliminary Map Production and Manage Post Preliminary Processing tasks shall be updated monthly when the producer is performing work on a task in those modules. The "Manage" tasks will be open and accepting updates for up to 90 days after the completion of the last producer task in each module. The MIP shall also be populated with appropriate leverage information regarding who paid for the data provided and the amount of data used by the Flood Map Project.

Work completed as part of this MAS will be in accordance with the April 2003 *Guidelines and Specifications for Flood Hazard Mapping Partners (G&S)*. The G&S may be downloaded from the FEMA Flood Hazard Mapping website at http://www.fema.gov/plan/prevent/fhm/dl_cgs.shtm. Occasionally, the G&S are modified and revised by Procedure Memorandums. Procedure Memorandums 9-11, 13, 15, 17-20, 23, 24, 29, 31- 44 are incorporated into this MAS. When new Procedure Memorandums are released, the Mapping Partner will coordinate with the Regional Project Officer to determine impacts on work and schedule. http://www.fema.gov/plan/prevent/fhm/gs_memos.shtm

OUTREACH

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.

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 Management Team in responding to congressional inquiries.

The Papio-Missouri River NRD will work with the Regional Project Officer during the initiation of this activity to determine an Outreach Plan for implementation throughout the mapping project. The Regional Project Officer will have access to many outreach tools and materials developed for this process that can be utilized or customized. Volume 1 of the *Guidelines and Specifications for Flood Hazard Mapping Partners* provides specific outreach goals that may be considered.

The Papio-Missouri River NRD and it's Study Contractor shall attend a final meeting in Washington County following the issuance of the Preliminary FIRM and FIS.

Prior to the initiation of the project, the Papio-Missouri River NRD will notify the CEO of all incorporated communities and the county of the project scope and schedule. The notification letter shall also include the appointment of the Consultation Coordination Officer (CCO). The FEMA Project Officer will provide the name of the CCO. A hardcopy of the community notification shall be provided to the FEMA Project Officer for inclusion in the Docket File.

All communication with local governments will be done in accordance with 44 CFR Part 66.

Deliverables: Upon determination of an Outreach and Coordination Approach, the Papio-Missouri River NRD shall deliver the following to the FEMA Regional Project Officer:

- A report detailing outreach and coordination activities; and
- Hardcopy of the community notification.

Perform Field Survey – NOT APPLICABLE

Develop Topographic Data

For those counties that include the Missouri and/or Mississippi Rivers, Papio-Missouri River NRD will incorporate data developed from the USACE's Upper Mississippi River System Flow Frequency Study (UMRSFFS) and stored on the MIP. Refer to **Exhibit A** for a listing of counties that will include UMRSFSS-based data and **Exhibit B** for a listing of data. Papio-Missouri River NRD shall coordinate directly with the RMC to confirm what data is currently, or will be, available on the MIP.

No additional topographic data is to be obtained. Topographic data prepared for the UMRFFS Study for the Missouri River and the tag vector contours (TVC) for Washington County has been processed and satisfied FEMA's Data Capture Standards.

Perform Independent QC Review of Topographic Data – NOT APPLICABLE

Base Map Acquisition and Preparation

Responsible Mapping Partner: Papio-Missouri River NRD

Scope: Base Map Acquisition consists of obtaining the digital base map, with aerial photos (raster), for the project and as necessary, preparing the base map for use. Papio-Missouri River NRD shall provide the digital base map. The table below contains a summary of the base map selected for each county. The required activities are as follows:

- Obtain digital files (raster or vector) of the base map. In coordination with the partner who performed scoping, insure that the FEMA Geospatial Data Coordination Policy and Implementation Guide is followed.
- 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.
- Review and supplement the content of the acquired base map to comply with the requirements of the G&S.

- For the base map components that have a mandatory data structure, convert the base map data to the format required in the G&S.
- Certify that the digital data meets the minimum standards and specifications that FEMA requires for DFIRM production.

In addition, Papio-Missouri River NRD shall address all concerns or questions regarding the base map that are raised during the Independent QC review performed by National Service Provider, or during the NSP's Validate Content Submission Process.

Summary of Base Map

County	Description	Source
Washington	DOQQ	Nebraska Department of Natural Resources (NDNR), Mahendra Bansel (402) 471-3664
Washington	Corporate Boundaries	Contact communities for latest boundaries of: Arlington, Blair, Fort Calhoun, Kennard, Washington, and Washington County.
Washington	ETJ	Contact communities for latest boundaries of: Arlington, Blair, Fort Calhoun, Kennard, Washington, and Washington County.
Washington	Roads	Nebraska Department of Natural Resources, Mahendra Bansel (402) 471-3664

Standards: All Base Map Acquisition work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables: In accordance with the *Guidelines and Specifications for Flood Hazard Mapping Partners*, Papio-Missouri River NRD shall make the following products available to FEMA by uploading the digital data to the MIP so that National Service Provider can access it for an Independent QC. Additionally, the Technical Support Data Notebook format described in the *Guidelines and Specifications for Flood Hazard Mapping Partners* must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

- Written certification that the digital data meet the minimum standards and specifications;
- Documentation that FEMA can use the digital base map;
- Digital base map files that comply with the G&S requirements
- Digital versions of draft text for inclusion in the FIS report;
- A metadata file complying with the FEMA NFIP Metadata Profile Specifications; and
- Documentation of the Datum, if appropriate.

MIP workflow step equivalent: Acquire Base Map.

Concurrent steps: Validate Content Submission (NSP core Task Order), Perform Independent QC for Base Map (if funded by Region VII).

Perform Independent QC Review of Base Map – NOT APPLICABLE

Perform Hydrologic Analyses – NOT APPLICABLE

Perform Independent QC Review of Hydrologic Analyses – NOT APPLICABLE

Perform Hydraulic Analyses – NOT APPLICABLE

Perform Independent QC Review of Hydraulic Analyses – NOT APPLICABLE

Perform Floodplain Mapping

Responsible Mapping Partner: Papio-Missouri River NRD

For those counties that include the Missouri and/or Mississippi Rivers, Papio-Missouri River NRD will incorporate data developed from the USACE's Upper Mississippi River System Flow Frequency Study (UMRSFFS) and stored on the MIP. Refer to **Exhibit A** for a listing of counties that will include UMRSFSS-based data and **Exhibit B** for a listing of data. Papio-Missouri River NRD shall coordinate directly with the RMC to confirm what data is currently, or will be, available on the MIP.

Scope for Existing Data Studied Areas: Papio-Missouri River NRD shall incorporate the Approximate A Zone boundaries for all flooding sources not previously detailed studied and draining greater than 1 square mile, which was performed by Nebraska Department of Natural Resources as described in MAS No. 17 between Nebraska Department of Natural Resources and FEMA. Papio-Missouri River NRD will need to complete floodplain mapping activities. Papio-Missouri River NRD shall coordinate with FEMA to obtain the data. This data is available on the MIP.

Scope for Non-revised Areas: For all flooding sources except those segments for which updated flood data will be developed, Papio-Missouri River NRD shall convert the information shown on the effective FIRM and FBFM panels for all incorporated and unincorporated areas to digital format in conformance with FEMA DFIRM specifications. Papio-Missouri River NRD shall use the acquired base map for the conversion. Papio-Missouri River NRD shall not digitize the flood theme for those segments of flooding sources for which updated flood data will be developed.

Scope for Merging Revised and Non-Revised Information: Upon completion of the floodplain mapping activities for the revised and non-revised areas, Papio-Missouri River NRD shall merge the digital floodplain data into a single, updated DFIRM. This work is to include tie-in of flood hazard information for areas that were not studied as part of the Flood Map Project documented in this MAS. Papio-Missouri River NRD also shall tie in the revised and non-revised Flood Profiles, floodplain boundaries, and regulatory floodway boundaries with contiguous communities that were not studied as part of the Flood Map Project documented in this MAS. Papio-Missouri River NRD shall coordinate with FEMA and any additional Mapping Partners responsible for other components of Perform Floodplain Mapping, as necessary, to resolve any potential tie-in issues.

DFIRM Panel Summary

County Name	Number of DFIRM panels
Washington County	71

Papio-Missouri River NRD shall incorporate the results of all effective Letters of Map Change (LOMCs) within the revised areas as appropriate. Only those LOMCs visible at the published map scale shall be included.

Papio-Missouri River NRD shall address all concerns or questions regarding Floodplain Mapping that are raised by National Service Provider during the Independent QC review, or during the NSP's Validate Content Submission Process.

Papio-Missouri River NRD shall compare the effective FIRMs to the in-progress mapping to determine if any studies originally contained within a single jurisdiction will be plotted outside that jurisdiction's political boundaries when mapped in countywide format (this would include incorporating LOMRs). Papio-Missouri River NRD shall alert the Regional Office and the NSP using comments in the MIP about any instances where there is a BFE that needs to be published in the Federal Register and receive an appeal period. The communities that will have BFE changes, or will see the BFE for the first time, shall be listed in the Comments box on the Review screen in the Perform Floodplain Mapping task.

Standards: All Floodplain Mapping work shall be performed in accordance with the standards specified in Section 5 - Standards. Mapping quality standards must be consistent with Procedure Memorandum No. 38, dated October 17, 2007. Papio-Missouri River NRD will perform self-certification audits for the Floodplain Boundary Standards, as described in PM 38 and all subsequent revisions, for all flood hazard areas.

Deliverables: In accordance with the *Guidelines and Specifications for Flood Hazard Mapping Partners*, and upon completion of floodplain mapping for the counties identified in Table 1.1, Papio-Missouri River NRD shall make the following products available to FEMA by uploading the digital data to the MIP so that National Service Provider can access it for the Independent QC review. Additionally, the Technical Support Data Notebook format described in the *Guidelines and Specifications for Flood Hazard Mapping Partners* must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal. The mapping for the remaining flooding sources including any non-revised digital panels and all merged revised and non-revised floodplain mapping data is to be submitted for a final QC review at the completion of this activity.

- Digital work map showing the 1- and 0.2-percent-annual-chance floodplain boundary delineations, regulatory floodway boundary delineations, cross sections, BFEs, flood insurance risk zone designation labels, and all applicable base map features;
- Draft DFIRM database prepared in accordance with the requirements in G&S;
- DFIRM mapping files prepared in accordance with the requirements 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 preparation of the DFIRM as outlined in the approved QA/QC Plan;
- Any backup or supplemental information including supporting calculations and assumptions used in the mapping required for the Independent QC review of Hydrologic and /or Hydraulic Analyses and Floodplain Mapping;

- An explanation for the use of existing topography for the studied reaches, if appropriate.
- Written summary of the analysis methodologies;
- Digital versions of draft FIS report, Floodway Data Tables and updated profiles including all profiles and tables converted appropriate datum, as well as any other necessary items for the finalization of the preliminary FIS;
- Digital versions of input and output for any computer programs that were used;
- A metadata file complying with the FEMA NFIP Metadata Profile Specifications; and
- If automated GIS-based models are applied, all input data, output data, intermediate data processing products, and GIS data layers shall be submitted.

MIP workflow step equivalent: Perform Floodplain Mapping, Rework Data Development Task (if needed as a result of Independent QC).

Concurrent steps: Validate Content Submission (NSP core Task Order), Perform Independent QC for Floodplain Mapping (if funded by Region VII).

Perform Independent QC Review of Floodplain Mapping

Responsible Mapping Partner: National Service Provider

Scope: National Service Provider shall review the floodplain mapping submitted by Papio-Missouri River NRD under Perform Floodplain Mapping to ensure that the results of the analyses performed are accurately represented; the redelineation of existing data on new, updated topography is appropriate; and to ensure that the new DFIRM panels accurately represent the information shown on the effective FIRMs and FBFMs for the unrevised areas that are mapped. If National Service Provider utilizes a contractor to perform the QA, the contractor must be a different contractor than who performed the original floodplain mapping. 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 cross sections for proper location and orientation on the work map and agreement with the Floodway Data Table.
- Review the BFEs shown on the work map for proper location and agreement with the results of the hydraulic modeling.
- Review the regulatory floodway widths for agreement with the widths shown in the Floodway Data Table and the results of the hydraulic modeling.
- Review the floodplain boundaries for agreement with the flood elevations shown in the Floodway Data Table, 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 the data matches the Floodway Data Table.
- Review the floodplain boundaries as shown on the work maps to ensure the data matches the Flood Profiles.
- For non-revised floodplain areas, the 1- and 0.2-percent-annual-chance floodplain boundaries agree with the floodplain boundaries shown on the FIRM, the contour lines, other topographic information, and planimetric information shown on the DFIRM base.
- Road and floodplain relationships are maintained for all unrevised areas.
- Review the flood insurance risk zones as shown on the work maps to ensure the data are labeled properly.

- Review the DFIRM mapping files to ensure the data were prepared in accordance with the requirements in *Guidelines and Specifications for Flood Hazard Mapping Partners.*
- Review the metadata file to ensure the data includes all required information shown in the FEMA NFIP Metadata Profiles.

Standards: All Independent QC work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables: In accordance with the *Guidelines and Specifications for Flood Hazard Mapping Partners*, National Service Provider shall make the following products available to FEMA by uploading the digital data to MIP, through the Load Studies Data Artifacts portlet under the Data Upload tab under Tools & Links. Additionally, the Technical Support Data Notebook format described in the *Guidelines and Specifications for Flood Hazard Mapping Partners* must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

- A Summary Report that describes the findings of the QC review, noting any deficiencies in or agreeing with the mapping results;
- Recommendations to resolve any problems that are identified during the Independent QC review; and
- An annotated work map with all questions and/or concerns indicated, if necessary.

MIP workflow step equivalent: Perform Independent QC for Floodplain Mapping.

Concurrent steps: Perform Floodplain Mapping, Validate Content Submission (NSP core Task Order), Rework Data Development Task (if needed as a result of Independent QC).

Develop DFIRM Database

Responsible Mapping Partner: Papio-Missouri River NRD

Scope: Papio-Missouri River NRD shall prepare the database, produced during Perform Floodplain Mapping in accordance with the *Guides and Specifications for Flood Hazard Mapping Partners,* for upload to the MIP. Papio-Missouri River NRD shall coordinate with those Mapping Partners responsible for Floodplain Mapping, as necessary, to resolve any problems that are identified during development of the DFIRM Database. The primary purpose of this activity is to ensure that a quality DFIRM database is prepared earlier in the flood study process and well in advance of the Preliminary DFIRM Map Production and Distribution.

Standards: All DFIRM Database work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables: In accordance with the *Guidelines and Specifications for Flood Hazard Mapping Partners*, Papio-Missouri River NRD shall make the following products available to FEMA by uploading the digital data to the MIP. Additionally, the Technical Support Data Notebook format described in Appendix M of the *Guidelines and Specifications for Flood Hazard Mapping Partners* must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

- DFIRM database files prepared in accordance with the requirements in *Guidelines and Specifications for Flood Hazard Mapping Partners* and in the format(s) required for the NSP's Validate Content Submission Process; and

- A metadata file complying with the FEMA NFIP Metadata Profile Specifications.

MIP workflow step equivalent: Develop DFIRM Database, Rework Data Development Task (if needed as a result of Independent QC).

Concurrent steps: Perform Independent QC for DFIRM Database (if funded by Region VII), NSP QC Check of Draft DFIRM database (FAFS automated), Database, Validate Content Submission (NSP core Task Order).

NSP QC Check of Draft DFIRM database. The Papio-Missouri River NRD assigned the Develop DFIRM Database task must upload the draft DFIRM database (currently in .e00 format) and draft DFIRM metadata to FAFS through the MIP. The submission is automatically sent to FAFS for data auto-validation. The detailed logic description for the FAFS QC Pro Auto Screen is available from FEMA or its contractor.

Produce Preliminary Map Products

Responsible Mapping Partner: Papio-Missouri River NRD

Scope: Papio-Missouri River NRD shall apply the final FEMA DFIRM graphic and database specifications to the DFIRM files produced under Floodplain Mapping. This work shall include adding all required annotation, line pattern, area shading, and map collar information (e.g., map borders, title blocks, legends, notes to user). Papio-Missouri River NRD will be preparing the database for this project in the Standard format. The database shall be produced in accordance with the *Guides and Specifications for Flood Hazard Mapping Partners*. Papio-Missouri River NRD shall coordinate with those Mapping Partners responsible for the Perform Floodplain Mapping and Develop DFIRM Database tasks to resolve any problems that are identified during development of the Preliminary Map Products.

This task includes the creation of the countywide Flood Insurance Study (FIS) report. The FIS report will include the new study data and portions of the existing community based FIS reports as appropriate. The floodway data tables and profile sheets will be combined as needed to create a continuous table and profile for the subject streams. The elevations shown in the FIS shall be referenced to NAVD 1988 vertical datum.

Only accredited levees, or levees with a provisional accreditation, are to be depicted on the Floor Insurance Rate map. Other levees, including non-accredited levee shown on the effective FIRM, are not to be included.

Floodway Data Tables and Profile sheets for the Missouri River are available from Watershed Concepts. The Papio-Missouri River NRD shall incorporate this information into the countywide FIS as appropriate.

The Papio-Missouri River NRD shall prepare Preliminary SOMAs for all affected communities, if appropriate. The SOMA shall list pertinent information regarding LOMCs that will be affected by the issuance of the DFIRM (i.e., superseded, incorporated, revalidated).

Papio-Missouri River NRD shall address all concerns or questions regarding the Preliminary Map Products that are raised by National Service Provider during the Independent QC review, or during the NSP's Validate Content Submission Process.

When the Papio-Missouri River NRD is not responsible for Post-Preliminary Processing, and if they use a different GIS platform than the National Service Provider then the Papio-Missouri River NRD will have additional activities associated with Post-Preliminary Processing finalize the DFIRM and FIS report. These additional activities are described in the Post-Preliminary Processing activity.

Standards: All DFIRM Database, DFIRM Map, and FIS Report work shall be performed in accordance with the standards specified in Section 5 - Standards. All work must pass the automated and visual "National QA/QC" reviews prior to the distribution of the preliminary copies of the DFIRM and FIS report and the Preliminary SOMA.

Deliverables: In accordance with the *Guidelines and Specifications for Flood Hazard Mapping Partners*, Papio-Missouri River NRD shall make the following products available to FEMA by uploading the digital data to the MIP. Additionally, the Technical Support Data Notebook format described in the *Guidelines and Specifications for Flood Hazard Mapping Partners* must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

- DFIRM mapping and database files prepared in accordance with the requirements in *Guidelines and Specifications for Flood Hazard Mapping Partners* and in the format(s) required for the NSP QC Process;
- All Digital information used to compile and print panels which can include digital label and annotation files used to create labeling on panels (including all fonts and style files, if applicable) which can comprise cross sections, BFEs, flood insurance zone labels, and all applicable base map features;
- The Flood Insurance Study Report is prepared in the FEMA Countywide Format as documented in the *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;
- Draft Preliminary SOMA prepared using the SOMA Tool on the MIP;
- A metadata file complying with the FEMA NFIP Metadata Profile Specifications;
- 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 as outlined in approved QA/QC Plan; and
- Passing Quality Review report.

MIP workflow step equivalent: Produce Preliminary Map Products, Rework Data Development Task (if needed as a result of Independent QC).

Concurrent steps: Perform Independent QC for Preliminary Map Products (if funded by Region VII), NSP QC Check of Preliminary DFIRM database (FAFS automated) DFIRM and FIS (NSP visual), Validate Content Submission (NSP core Task Order).

NSP QC Check of Preliminary DFIRM and Flood Insurance Study Report (FIS): The Papio-Missouri River NRD assigned the Produce Preliminary Map Products task must upload the Preliminary DFIRM database (currently in .e00 format) and preliminary DFIRM metadata to FAFS through the MIP. The submission is automatically sent to FAFS for data auto-validation. The detailed logic description for the FAFS QC Pro Auto Screen is available from FEMA or its contractor. In addition, the Papio-Missouri River NRD must submit the preliminary DFIRM and FIS report to the Regional Management Center (RMC) prior to distribution. The amount of time necessary to complete the review will vary dependent upon study size. The RMC will review the DFIRM panels and the FIS report, and verify that the DFIRM database has passed the automated database check as indicated by a passing notification from HDM in the

MIP. The RMC will review a sample—roughly 10 percent—of DFIRM panels. In this review, the RMC will look for significant errors. The Papio-Missouri River NRD is responsible for checking all panels and correcting errors identified by the RMC. Any errors identified during this review must be corrected before the Preliminary DFIRM is distributed.

Independent QC Review of Preliminary Map Products

Responsible Mapping Partner: National Service Provider

Scope: Upon completion of the Produce Preliminary Map Products activity, Papio-Missouri River NRD shall review the DFIRM spatial database to determine if it meets current FEMA database specifications. In addition, National Service Provider shall review the DFIRM panels to ensure they meet current FEMA graphic specifications. National Service Provider shall coordinate with other Mapping Partners, as necessary, to resolve any problems identified during this QC review. In addition, National Service Provider shall perform a review of the FIS report including all data tables, Flood Profiles, and other components of the FIS report. If National Service Provider utilizes a contractor to perform the Independent QC, the contractor must be a different contractor than 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 ensure that the requirements below are met.

- All required DFIRM features are accurately and legibly labeled and follow the examples shown in the FEMA DFIRM specifications. This includes all flood insurance risk zones, BFEs, cross sections, studied streams, mapped political entities, pertinent notes, and all roads within and adjacent to the 1-percent-annual-chance floodplains.
- All DFIRM features are correctly symbolized with the appropriate symbol, line pattern, or area shading and follow the requirements in *Guidelines and Specifications for Flood Hazard Mapping Partners*.
- All map collar information is complete, correct, and follows the requirements specified in *Guidelines and Specifications for Flood Hazard Mapping Partners*.
- DFIRM mapping files are in a GIS file and database format as specified in FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners*, and conform to those specifications for content and attribution.
- DFIRM database files are in one of the database formats specified in FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners*, and conform to those specifications for content and attribution.
- The FIS report is prepared in the FEMA Countywide Format as documented in the *Guidelines and Specifications for Flood Hazard Mapping Partners*.
- Metadata files describing the DFIRM data include all required information shown in the FEMA NFIP Metadata Profile Specifications.

Standards: All DFIRM Database Development work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables: In accordance with the *Guidelines and Specifications for Flood Hazard Mapping Partners*, National Service Provider shall make the following products available to FEMA by uploading the digital data to the MIP, through the Load Studies Data Artifacts portlet under the Data Upload tab under Tools & Links. Additionally, the Technical Support Data Notebook format described in the *Guidelines and Specifications for Flood Hazard Mapping Partners* must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

- A Summary Report that describes the findings of the QA review noting any deficiencies in or agreeing with the mapping results and the results of all automated or manual QA steps taken during the Independent QC review;
- Recommendations to resolve any problems that are identified during the Independent QC review;
- An annotated copy of the DFIRM with all questions and/or concerns indicated, if necessary.

MIP workflow step equivalent: Perform Independent QA/QC of Preliminary Map Products.

Concurrent steps: Produce Preliminary Map Products, NSP QC Check of Preliminary DFIRM database (FAFS automated) DFIRM and FIS (NSP visual), Validate Content Submission (NSP core Task Order), Rework Data Development Task (if needed as a result of Independent QC).

Distribute Preliminary Map Products

Responsible Mapping Partners: National Service Provider

Scope: Distribute Preliminary Map Products consists of the printing and distribution of the Preliminary copies of the DFIRM and FIS report for community officials and the general public for review and comment. FEMA may audit or assist in these activities if deemed to be necessary by the Regional Project Officer. The activities to be performed are summarized below.

The National Service Provider shall notify the other Project team members when the Preliminary Date is determined for each county. The Consultation Coordination Officer shall be included in this notification. The notification should be made as soon as the date is determined, but not later than two weeks prior to the Preliminary FIRM date.

Preliminary Transmittal Letter Preparation: The National Service Provider shall prepare transmittal letters for the Preliminary copies of the DFIRM, FIS report and related enclosures to all affected communities, all other Project Team members, the State NFIP Coordinator, the FEMA Regional Office, and others as directed by FEMA. This letter may be prepared for FEMA only or for signature by FEMA and the National Service Provider. A template specific to Region VII is available from the Regional Management Center.

Preliminary FIRM and FIS Countywide Brochure: Region VII has developed a brochure that will be provided to each community with the Preliminary Transmittal Letter. The National Service Provider shall prepare the brochure for each county. The template is available from the Regional Management Center.

Distribution of Preliminary DFIRM and FIS Report: The National Service Provider shall distribute the Preliminary copies of the DFIRM and FIS report to all affected communities, all other Project Team members, the State NFIP Coordinator, the FEMA Regional Office, and others as directed by FEMA. Per Procedure Memorandum No. 38, dated October 17, 2007, FBS self-certification documentation must be submitted within 30 days of the issuance of the preliminary map products.

Standards: All Preliminary Map Products work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables: In accordance with the *Guidelines and Specifications for Flood Hazard Mapping Partners*, the National Service Provider shall make the following products available to FEMA. Additionally, the Technical Support Data Notebook format described in the *Guidelines and Specifications for Flood*

Hazard Mapping Partners must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

- Preliminary transmittal letters shall be prepared and transmitted. These letters and any additional letters requested by FEMA shall be prepared in accordance with the current version of the FEMA *Document Control Procedures Manual* and in conjunction with Guidance provided by the Region and/or its contractor.
- Preliminary copies of the DFIRM and FIS report, including all updated data tables and Flood Profiles shall be mailed to the Chief Executive Officer (CEO) and floodplain administrator of each affected community, all other Project Team members, the State NFIP Coordinator, the FEMA Regional Office, and others as directed by FEMA.
- Digital files in an Adobe pdf format of each panel and the FIS will be provided to the FEMA Regional Office with the preliminary distribution.
- Preliminary SOMAs, prepared in accordance with FEMA requirements, shall be provided as appropriate.
- Floodplain Boundary Standard (FBS) Self-Certification Documentation submitted to the RMC.
- A Summary Report that describes and provides the results of all automated or manual QA/QC review steps taken during the final preparation of the preliminary DFIRM shall be provided as outlined in the approved QA/QC Plan.

MIP workflow step equivalent: Distribute Preliminary Map Products, Verify Outreach Activities.

Concurrent steps: None

Post-Preliminary Processing

Responsible Mapping Partners: National Service Provider and FEMA

Scope: This activity consists of finalizing the DFIRM, SOMA, and FIS report after the Preliminary copies of the DFIRM and FIS report have been issued to community officials and the public for review and comment. The activities to be performed are summarized below and are subject to the mandatory quality control checks by the National Service Provider (NSP), also as described below.

When the Papio-Missouri River NRD does not use the DFIRM Tools and is not responsible for Post-Preliminary Processing, then the Papio-Missouri River NRD will have additional activities associated with Post-Preliminary Processing finalize the DFIRM and FIS report.

The Consultation Coordination Officer will prepare a report following the final coordination meeting. The CCO will forward the report to the National Service Provider

Initiation of Statutory 90-Day Appeal Period: When required, upon completion of a 30-day community comment period and/or final coordination meeting with the affected communities, National Service Provider shall arrange for and verify that the following activities are completed in accordance with the current version of the FEMA *Guidelines and Specifications for Flood Hazard Mapping Partners* and *Document Control Procedures Manual*:

- The National Service Provider shall prepare and distribute Proposed BFE determination letters to the CEOs and floodplain administrators of affected communities.
- The National Service Provider shall prepare legal notice of BFE changes and verify the notices are published in newspapers with local circulation in accordance with 44 CFR.