

Guidelines and Specifications for Flood Map Production Coordination Contractors

**Table of Contents,
Sections 1 through 10**



Federal Emergency Management Agency

500 C Street, SW. • Washington, DC 20472

www.fema.gov

Table of Contents

Introduction	1
Purpose and Scope	1
Organization of Document	3
General Performance Requirements	4
Planned Updates.....	5
Section 1 Studies, Restudies, And Special Conversions	1-1
1.1 Products/Processes	1-1
1.1.1 FEMA-Contracted Studies and Restudies.....	1-1
1.1.2 Existing Data Studies and Restudies	1-1
1.1.3 Limited Map Maintenance Program Projects	1-1
1.1.4 Special Conversions	1-2
1.1.5 Countywide Format.....	1-2
1.2 Restudy Processing Procedures.....	1-3
1.2.1 Pre-Time and Cost Meeting Support	1-3
1.2.2 Initiation Of Processing	1-4
1.2.3 Technical Reviews.....	1-7
1.2.4 Preliminary Map Preparation	1-18
1.2.5 Preliminary Report Preparation	1-18
1.2.6 Revised Preliminary Map and Report Preparation	1-18
1.2.7 Summary Of Map Action Preparation.....	1-19
1.2.8 Final Reproduction Material Preparation	1-21
1.3 Special Conversion Processing Procedures.....	1-23
1.3.1 Non-Floodprone Conversions.....	1-24
1.3.2 Minimal Conversions.....	1-24
1.4 Program Implementation and Community Compliance Support.....	1-27
1.4.1 Standard Processing Procedures and Schedules	1-27
1.4.2 Accelerated Processing Procedures and Schedules.....	1-29
1.4.3 Document Control Procedures	1-30
1.4.4 Coordination.....	1-31
Section 2 Conditional and Final Revisions and Amendments.....	2-1
2.1 Products/Processes	2-1
2.1.1 Final Map Revisions By Letter	2-1
2.1.2 Physical Map Revisions	2-2
2.1.3 Conditional Map Revisions.....	2-4
2.1.4 Map Amendments by Letter	2-4
2.1.5 Conditional Map Amendments	2-5
2.1.6 Revalidation Letters	2-5
2.1.7 Letters Of Determination Review	2-5
2.1.8 Annexation Requests.....	2-6

2.2	Processing Procedures for Map Revisions	2-9
2.2.1	Procedures for Map Revisions Based on Conditions Other than Fill	2-9
2.2.2	Procedures for Map Revisions Based on Fill	2-23
2.3	Processing Procedures for Conditional Map Revisions	2-25
2.3.1	Conditional Letters of Map Revision	2-25
2.3.2	Conditional Letters of Map Revision Based on Fill	2-25
2.4	Processing Procedures for Conditional and Final Letters of Map Amendment	2-26
2.4.1	Receipt and Acknowledgment	2-26
2.4.2	Technical Review	2-26
2.4.3	Letter Preparation	2-27
2.4.4	Coordination and Documentation Activities.....	2-28
2.5	Processing Procedures for Revalidations	2-28
2.6	Processing Procedures for Annexation Requests	2-30
2.7	Processing Procedures for Letter of Determination Review Requests	2-31
2.7.1	General Background	2-31
2.7.2	Processing Fees.....	2-31
2.7.3	Initial Review and Processing Requirements	2-31
2.7.4	Final Review and Processing Requirements	2-32
2.8	Program Implementation.....	2-32
2.8.1	Documentation Control Procedures.....	2-32
2.8.2	Standard Processing	2-33
2.9	Fee-Collection System Responsibilities	2-33
2.9.1	Background	2-33
2.9.2	Coordination Responsibilities	2-34
2.9.3	Fee Exemptions.....	2-34
Section 3	Program Support, Reporting, and Storage.....	3-1
Section 4	Technical and Program Development and Implementation Assistance.	4-1
4.1	Technical Development.....	4-1
4.1.1	Preparation of Guidelines, Specifications, and Procedures Manuals	4-1
4.1.2	Development of Improved Procedures and Methodologies	4-2
4.1.3	Development of Improved Report and Map Products	4-2
4.1.4	Provision of Briefings and Other Guidance Documents.....	4-2
4.1.5	Review and Revision of Hydrologic and Hydraulic Data and Related Mapping	4-2
4.1.6	Congressional Responses	4-2
4.1.7	Informational Responses to Constituents	4-3
4.1.8	Map Assistance Center Support	4-4
4.1.9	Web Support.....	4-4
4.1.10	LOMC Subscription Service Support	4-5
4.1.11	Map Distribution Service Support	4-5
4.1.12	Five-Year Map Update Support	4-6
4.2	Appeal and Protest Processing Assistance	4-6
4.3	Program Development and Implementation Assistance.....	4-7
4.4	Support for Cooperating Technical Community Program	4-7

4.4.1	Digital Base Map Data Sharing Agreements	4-8
4.4.2	Q3 Flood Data Preparation and Maintenance Agreements	4-8
4.4.3	Hydraulic and Hydrologic Data Development and Mapping Agreements	4-9
4.4.4	Digital Flood Insurance Rate Map Preparation and Maintenance Agreements.....	4-10
4.4.5	Hydraulic and Hydrologic Review Agreements.....	4-10
4.4.6	Risk Assessment Agreements	4-11
4.4.7	Support for Training Workshops for FEMA Contractors and Constituents .	4-11
4.4.8	Support for Map Modernization Program.....	4-12
Section 5	Engineering Study Data Package	5-1
5.1	Background.....	5-1
5.2	Description of the Archiving Operation.....	5-1
5.3	Letter of Map Change Publication.....	5-2
5.4	Data Archiving Requirements	5-2
Section 6	Q3 Flood Data, Digital Flood Insurance Rate Map, and Geographic Information Systems Services.....	6-1
6.1	Introduction.....	6-1
6.2	Q3 Flood Data.....	6-1
6.2.1	Q3 Flood Data Contents.....	6-1
6.2.2	Q3 Flood Data Applications	6-2
6.2.3	Q3 Flood Data Formats.....	6-3
6.2.4	Q3 Flood Data Projections	6-3
6.2.5	Q3 Flood Data File Naming.....	6-3
6.3	DFIRM Production Procedures.....	6-3
6.3.1	Identification of Counties	6-5
6.3.2	Collection Of Source Materials.....	6-5
6.3.3	Digital Base Map	6-5
6.3.4	Digital Restudy or Revision Materials.....	6-7
6.3.5	Horizontal Control	6-8
6.3.6	Data Capture Scale	6-11
6.3.7	DFIRM Continuity	6-11
6.3.8	Digital Data Capture	6-11
6.3.9	Multiple-County Communities.....	6-13
6.3.10	DFIRM Graphics Specifications	6-13
6.3.11	Panelization of DFIRMs.....	6-14
6.3.12	DFIRM Border Format	6-14
6.3.13	Non-Countywide DFIRMs	6-15
6.3.14	Custom DFIRM Map Products.....	6-15
6.3.15	DFIRM Indexes	6-15
6.3.16	DFIRM Distribution and Reproduction Materials	6-16
6.3.17	Archiving	6-17
6.3.18	File Documentation.....	6-17
6.4	DFIRM-DLG Production Procedures	6-18
6.5	Digital Attachment to Letters of Map Revision	6-18

6.6	New DFIRM Products.....	6-19
6.6.1	Draft Base Map Standards For New DFIRMS.....	6-19
6.7	Geographic Information Systems Services.....	6-22
Section 7	Erosion Studies	7-1
Section 8	Processing of Map Revisions Under the Coastal Barrier Legislation	8-1
8.1	Overview.....	8-1
8.2	CBRS Classifications.....	8-2
8.3	Flood Insurance Prohibitions.....	8-2
8.4	Types of CBRS FIRM Revisions.....	8-2
8.5	Historical Dates of the Coastal Barrier Resources System	8-3
8.6	CBRS Database Control	8-4
8.7	Work to be Performed in a CBRS FIRM Revision	8-6
8.8	Source Materials.....	8-6
8.9	Coastal Barrier Mapping Specifications.....	8-6
8.9.1	Coastal Barrier Resources System Boundaries.....	8-6
8.9.2	FIRM Index	8-8
8.9.3	Reason for Revision Notes in FIRM Legend.....	8-8
8.9.4	Map Screens	8-9
8.9.5	Map Notes	8-10
8.10	Other Miscellaneous Improvements	8-13
8.10.1	Letters of Map Revision	8-13
8.10.2	FIS Report.....	8-13
8.10.3	Community Notification	8-13
8.10.4	U.S. Fish and Wildlife Service Review Comments	8-13
8.10.5	Coastal Barrier Unit Numbers	8-13
Section 9	Hazard Identification and Mapping	9-1
Section 10	Risk Assessment Activities.....	10-1

Figures

Figure 2-1	Standard Map Revision Procedures Flowchart	2-3
Figure 2-2	Decision-Making Procedure for Annexations: Participating Community	2-7
Figure 2-3	Decision-Making Procedure for Annexations: Nonparticipating Community.....	2-8
Figure 6-1	DFIRM Flowchart	6-4
Figure 6-2	FEMA Digital Base Map Information Checklist.....	6-24
Figure 8-1	Coastal Barrier Revision Notes Matrix	8-9

Appendix A	List of Acronyms.....	A-1
-------------------	------------------------------	------------

Appendix B	Specifications for Preparing Maps and Graphics.....	B-1
-------------------	--	------------

B.1	Map Content and Specifications.....	B-2
B.1.1	Flood Insurance Rate Map	B-2

B.1.2	Map Content and Graphics.....	B-2
B.1.3	Base Map.....	B-2
B.1.4	Map Scale.....	B-4
B.2	Mapping Formats.....	B-5
B.2.1	Manual.....	B-5
B.2.2	Digital.....	B-5
B.2.3	Single Jurisdiction	B-5
B.2.4	Countywide.....	B-6
B.2.5	Standard Format (FIRM/FBFM)	B-8
B.2.6	Map Initiatives	B-8
B.2.7	Partial Map Initiatives	B-9
B.2.8	FIRM/FIS Combination.....	B-9
B.3	Map Index	B-9
B.3.1	Map Initiatives Index.....	B-9
B.3.2	Countywide FIRM Index.....	B-11
B.3.3	Flood Boundary and Floodway Map Index	B-12
B.4	Flood Hazard Data	B-13
B.4.1	Floodplain and Floodway Boundaries	B-13
B.4.2	Base Flood Elevations	B-13
B.4.3	Elevation Reference Marks and Descriptions	B-15
B.4.4	Cross Section Lines.....	B-16
B.5	Graphic Specifications for FIRMs and Map Indices.....	B-16
B.5.1	Type Font Specifications	B-17
B.5.2	Lineweight Specifications.....	B-29
B.5.3	Map Index Scale Layouts	B-39
B.5.4	Map Frame Specifications	B-41
B.5.5	Sample FIRM Title Blocks and Legends.....	B-44
B.5.6	Letters of Map Revision Specifications.....	B-64
B.5.7	Sample 8.5 x 11 FIRM Index	B-68
B.5.8	Sample Countywide Format FIRM	B-68a
B.5.9	Sample FIRM/FIS Combination	B-68b
B.5.10	Sample Countywide FIRM Index	B-68c
B.5.11	Sample Partial Map Initiatives FBFM Index	B-68d
B.6	Map Notes.....	B-69
B.6.1	Standard Map Notes for the Body of the FIRM.....	B-69
B.6.2	Standard Notes for Other Map Components.....	B-72
B.6.3	Map Notes for Use in the Title Block and Legend of the FIRM.....	B-74
B.6.4	Standard Map Notes for Use on the FIRM and FBFM Index	B-78
B.6.5	Standard Map Notes for CBRS Revisions	B-81
B.7	Letter of Map Revision (LOMR)	B-81
B.8	Flood Insurance Study Report Text Graphics and Specifications	B-82
B.8.1	Flood Insurance Study Report Text.....	B-82
B.9	Deliverables to the Map Service Center.....	B-114
	Appendix C Preparation of Reports	C-1
C.1	Text Format.....	C-1

C.1.1	Revised Reports	C-2
C.1.2	Reformatted Reports	C-3
C.2	Graphics	C-4
C.2.1	Cover	C-4
C.2.2	Vicinity Map	C-5
C.2.3	Transect Location Map	C-5
C.2.4	Flood Photographs	C-5
C.2.5	Floodway Schematic and Other Figures.....	C-5
C.2.6	Tables	C-5
C.2.7	Flood Profiles.....	C-6
C.2.8	Tables, Figures, and Profiles in Countywide Format	C-8
C.3	Volume Printing	C-8
C.4	Sample Report.....	C-8
Appendix D Converting to the North American Vertical Datum of 1988		D-1
Appendix E Technical Support Data Notebook		E-1
E.1	Background.....	E-1
E.2	Study Contractor-Generated Support Data	E-1
E.2.1	General Documentation.....	E-2
E.2.2	Engineering Analyses	E-3
E.2.3	Key to Cross-Section Labeling and Key to Transect Labeling.....	E-3
E.2.4	Draft Flood Insurance Study Report.....	E-4
E.2.5	E.2.5 Mapping Information	E-4
E.2.6	Miscellaneous Reference Materials	E-4
E.3	FMPCC-Generated Support Data	E-5
Appendix F Procedures for Storing Map Revision Data		F-1
F.1	Requester-Generated Support Data.....	F-1
F.2	FMPCC-Generated Support Data	F-1
F.2.1	Review Processing Phase	F-2
F.2.2	Post-Review Processing Phase	F-5
Appendix G Coastal Flooding Methodologies		G-1
G.1	General Methodology	G-1
G.2	References	G-1
Appendix H Review of Intermediate Data Submissions From Study Contractors for Alluvial Fan Flooding Sources		H-1
H-1	General Guidance	H-1
H-2	Interim Reviews of Study Contractor Submissions	H-1
Appendix I Requirements for Ice-Jam Flooding Analysis		F-1
I.1	Introduction.....	I-1
I.2	Types of Ice Jams	I-1
I.3	Reconnaissance.....	I-2
I.4	Analyses	I-2

I.4.1	Direct Approach.....	I-3
I.4.2	Indirect Approach	I-6
I.5	Presentation of Results	I-10
I.5.1	FIS Report.....	I-10
I.5.2	Maps.....	I-10
References	Ref-1

Introduction

Purpose and Scope

These *Guidelines and Specifications for Flood Map Production Coordination Contractors* (hereinafter referred to as “these Guidelines”) define the technical requirements, coordination and documentation activities, and product specifications for the following Technical Evaluation Contractor (FMPCC) functions in support of the Federal Emergency Management Agency (FEMA) and the National Flood Insurance Program (NFIP):

1. Assisting in the coordination and scoping of FEMA-contracted studies and restudies and processing initial or revised reports for communities entering or remaining in the Regular Phase of the NFIP. First-time studies are referred to as Flood Insurance Studies (FISs). Restudies are referred to as Flood Insurance Restudies or Limited Map Maintenance Program projects.
2. Reviewing the results of studies and restudies completed by FEMA Study Contractors (SCs).
3. Converting non-floodprone and minimally floodprone communities to the Regular Phase of the NFIP using Special Conversion Procedures. Under Special Conversion Procedures, these communities are converted without a detailed engineering study being performed.
4. Processing requests for conditional or final revisions to FIS reports and Flood Insurance Rate Maps (FIRMs) and, in many cases, Flood Boundary and Floodway Maps (FBFMs). Final revisions are accomplished through the Physical Map Revision or Letter of Map Revision (LOMR) processes.
5. Processing requests for conditional or final determinations regarding the relation of property (legally defined parcel(s) of land or structure(s)) that has been elevated by the placement of fill within the Special Flood Hazard Area (SFHA). These determinations are accomplished through the Conditional Letter of Map Revision Based on Fill and Letter of Map Revision Based on Fill (LOMR-F) processes.
6. Processing requests for conditional or final determinations regarding the relation of property to the SFHA shown on an effective FIRM. These determinations are accomplished through the Conditional Letter of Map Amendment and Letter of Map Amendment (LOMA) processes.
7. Identifying Letters of Map Change (LOMCs) (LOMRs, LOMR-Fs, and LOMAs) that are superseded when a revised FIRM becomes effective and issuing revalidation (LOMC-VALID) letters to revise/amend the newly effective FIRM.
8. Processing community requests for map updates to reflect recent annexations.

9. Processing requests for FEMA review of determinations made by lending institutions regarding whether buildings or manufactured homes are located in identified SFHAs. These requests are processed under Letter of Determination Review (LODR) procedures.
10. Providing program support, reporting, and storage services related to Items 1 through 9 above and to FEMA requirements regarding the management of specialized databases and maintenance of archival data.
11. Responding to requests from FEMA and its constituents for archived data, including requests submitted to FEMA under the Freedom of Information Act.
12. Providing final materials (camera-ready composite negatives or digital files) for FIRMs and FBFMs, as required by the Map Service Center, to replace missing or damaged artwork or files needed to fill map reprint requests.
13. Administering FEMA's fee-charge system for requests for conditional and final map changes and requests for technical and administrative support data.
14. Reviewing technical data submitted in support of appeals and protests and preparing resolution letters in accordance with Part 67 of the NFIP regulations.
15. Preparing guidelines and specifications and other guidance documents.
16. Developing improved procedures, methodologies, and products related to Items 1 through 9 above.
17. Responding in writing to inquiries from the U.S. Congress about mapping-related matters.
18. Responding in writing, by telephone, or by e-mail transmission to inquiries from various FEMA constituents about general and specific NFIP matters.
19. Staffing the FEMA Map Assistance Center, a toll-free hotline, and providing training for dedicated staff.
20. Providing support for the development and maintenance of the NFIP mapping portion of FEMA's web site on the Internet.
21. Attending, or providing logistical support for, FEMA technical and programmatic meetings on NFIP matters.
22. Providing briefing and guidance documents related to NFIP matters.
23. Supporting FEMA in the development and implementation of training programs for SCs and NFIP constituents.
24. Providing technical and administrative support to FEMA in the implementation of its Cooperating Technical Community Program.
25. Providing community officials and other local entities with technical assistance on hydrology, hydraulics, digital mapping, and programmatic issues.

26. Participating in Work Groups and providing technical, administrative, and logistical support to FEMA in its implementation of its Map Modernization Program.
27. Operating the FEMA Engineering Study Data Package Facility.
28. Developing and providing digital mapping products and services using Geographic Information System Technology.
29. Performing riverine and coastal erosion studies.
30. Processing map revisions under the Coastal Barrier legislation.
31. Providing hazard identification and mapping services.
32. Providing risk assessment activities.

Organization of Document

Following this introductory section, these Guidelines consist of 10 sections, 9 appendixes, and a list of references. A brief description of each section and appendix follows.

- Section 1 describes the FMPCC responsibilities for assisting in the coordination and scoping of FEMA-contracted studies and restudies; reviewing work completed by SCs; and processing FIS reports, FIRMs, and FBFMs. It also describes FMPCC responsibilities for processing special conversions.
- Section 2 describes FMPCC responsibilities for processing conditional and final map revision requests, conditional and final map amendment requests, revalidation letters, informational letters, annexation requests, and LODR requests.
- Section 3 describes FMPCC responsibilities for program coordination, reporting, storage, and the FEMA fee-charge system.
- Section 4 describes the various FMPCC responsibilities for program support and development.
- Section 5 describes the operation of FEMA's Engineering Study Data Package Facility and production requirements for CD-ROMs in support of FEMA's LOMC Distribution Service.
- Section 6 outlines the FMPCC responsibilities for the provision of digital mapping products and services.
- Section 7 describes the FMPCC responsibilities for the performance of erosion studies.
- Section 8 outlines the FMPCC responsibilities for the processing of map revisions under the Coastal Barrier legislation.

- Section 9 describes FMPCC responsibilities for providing hazard identification and mapping services.
- Section 10 describes FMPCC responsibilities for performing risk assessment activities.
- Appendix A provides a list of acronyms used in these Guidelines and commonly used in the NFIP.
- Appendixes B and C present the requirements, including graphic standards, for preparing FIRMs, FBFMs, and FIS reports in a standard format for printing by the U.S. Government Printing Office.
- Appendix D provides procedures for converting elevations from the National Vertical Datum of 1929 to the North American Vertical Datum of 1988.
- Appendix E describes in detail all aspects of the Technical Support Data Notebook.
- Appendix F outlines procedures for FMPCC storage of map revision data.
- Appendix G provides a listing of the various documents and computer programs published and used by FEMA for coastal analyses.
- Appendix H provides information on FMPCC responsibilities for the review of studies performed using alluvial fan flooding analysis methodologies.
- Appendix I provides information on ice-jam analysis methodologies.

General Performance Requirements

Although they are printed separately, these Guidelines are considered to be a part of the FMPCC Contract Statement of Work (SOW). Performance in accordance with these Guidelines is required, unless otherwise specified in the Contract SOW.

The FMPCC shall provide all data and other materials necessary to prepare, process, and revise FIS reports, maps and related documents according to the requirements of these Guidelines. Specific performance requirements, especially with respect to deliverable items, are detailed in the Contract SOW.

In the event of an inconsistency between the provisions of these Guidelines and the Contract SOW, the inconsistency shall be resolved in the order of priority shown below. However, in most cases, resolution of the inconsistency shall be initiated through consultation with the FEMA Project Officer (PO) or the Contracting Officer (CO).

1. Contract schedule
2. Special terms and conditions of the contract
3. Contract general provisions

4. Other provisions of the contract, whether incorporated by reference or otherwise
5. These Guidelines

The PO shall ensure that the technical requirements of the contract are achieved. To accomplish this, the PO shall provide technical direction, monitor the progress of the FMPCC work, and evaluate FMPCC performance. The PO may issue written or verbal instructions to expand on the details of the Contract SOW or these Guidelines. The PO also shall make recommendations to the CO whenever the Contract SOW, period of performance, or other technical provisions of the contract should be amended to accomplish the objectives of the contract. The PO shall not direct the FMPCC to undertake any activity that will affect the price, period of performance, scope, or administrative provisions of the contract. If required, these activities shall be authorized by the CO at the recommendation of the PO.

In the event of an inconsistency between the provisions of these Guidelines and any FEMA operating policies or procedures, the inconsistency will be resolved in the priority order shown below.

1. Statutes governing the NFIP
2. NFIP regulations
3. Issuances of memorandums of policy or procedure, criteria, or guidelines that post-date these Guidelines
4. Written guidance provided by the PO
5. These Guidelines

Planned Updates

These Guidelines have been revised to include new FMPCC responsibilities resulting from changes in FEMA operating procedures that have occurred since the previous guidelines were published in December 1993. These Guidelines will be updated periodically, as appropriate, to reflect changes in FEMA policies and operating procedures.

These Guidelines will be treated as a “living” document that will be updated whenever FEMA determines changes to the product and processing requirements documented herein are appropriate. Such changes may be frequent as FEMA proceeds with its Map Modernization Initiatives. Therefore, the FMPCC should be involved in, and familiar with, the Map Modernization Plan and the initiatives discussed in that document.

FEMA HQ staff will notify all FEMA and FMPCC offices when changes are made and will maintain these Guidelines in an electronic (PDF) format for timely and cost-efficient distribution via posting on the FEMA Internet website.

Section 1

Studies, Restudies, and Special Conversions

1.1 Products/Processes

1.1.1 FEMA-Contracted Studies and Restudies

An initial study, termed a Flood Insurance Study (FIS), is performed for a community that does not have an effective Flood Insurance Rate Map (FIRM). A restudy, referred to as a Flood Insurance Restudy (RFIS), is performed for a community that already has an effective FIRM (and, in some cases, Flood Boundary and Floodway Map (FBFM)). Study Contractors (SCs) under contract to the Federal Emergency Management Agency (FEMA) usually perform FISs and RFISs; however, FISs and RFISs may also be performed by communities under the Cooperating Technical Community (CTC) program. The discussion in this section of these Guidelines has been limited to FISs and RFISs completed by SCs.

The SCs submit the results of the FIS or RFIS to FEMA in the form of a draft report, Technical backup data, and work maps. These materials, which are usually prepared in some combination of hardcopy and digital formats, are provided to the Flood Map Production Coordination Contractor (FMPCC) for review and preparation of an initial or revised FIS report, FIRM, and FBFM (if appropriate).

1.1.2 Existing Data Studies and Restudies

The FMPCC prepares Existing Data Studies (XDSs) and Existing Data Restudies (RXDSs) for FEMA using previously developed flood hazard information. This flood hazard information may be contained in Flood Hazard Analyses Reports (FHARs) and Floodplain Information reports (FPIs); other engineering reports prepared by Federal, State, or local agencies; or FIS reports, FIRMs, and FBFMs issued by FEMA for adjacent communities (especially previously unincorporated areas of a county).

1.1.3 Limited Map Maintenance Program Projects

FEMA uses the Limited Map Maintenance Program (LMMP) to perform limited-scope studies and restudies. Generally, an LMMP project will involve a single community and one watercourse. The data submitted by the SC for an LMMP project are similar in format and level of detail to those submitted for an FIS/RFIS and, therefore, shall be processed by the FMPCC in the same manner as an FIS/RFIS.

1.1.4 Special Conversions

The conversion of a newly identified community to the Regular Phase of the National Flood Insurance Program (NFIP) is usually accomplished through the publication of a FIRM for the community; however, through Special Conversion procedures, FEMA may convert a community without preparing a FIRM with detailed flood risk zones. Under these procedures, a community is converted, based on the recommendation of the FEMA Regional Office (RO), through either non-floodprone or minimal conversion procedures.

1.1.5 Countywide Format

Since the inception of the NFIP, studies and restudies have been produced on an individual-community basis. While studies and restudies have continued to be prepared on that basis, FEMA identified the advantages of an alternative format in 1986 and formulated an alternative mapping format. Under its Countywide Format, FEMA compiles flood hazard information for an entire county (both unincorporated and incorporated areas) and produces one FIS report and FIRM. The Countywide Format has recently become the preferred mapping approach.

Factors that are presently considered by the Project Officer (PO) or his/her designee and FMPCC in deciding whether the Countywide Format is to be used include:

1. Number of “active” communities in the county
2. Number of communities affected by the study or restudy
3. Scales of the effective NFIP maps
4. Format of the effective FIS reports and maps
5. Volume of revision activity
6. Potential development within identified Special Flood Hazard Area (SFHAs)
7. Expressed interest of county/community officials
8. Availability of digital product(s) that can be used to produce a FIRM

Additional guidance regarding the use of the Countywide Format is provided below.

- When a FMPCC is preparing a study, restudy, or map revision for a county that is a good candidate for the Countywide Format in the future, but the Countywide Format cannot be justified at the time, the FMPCC should prepare the study, restudy, or map revision in a manner that will facilitate using the Countywide Format in the future. For example, if the revision affects an incorporated community requiring major remapping of floodprone areas, the mapping could be accomplished consistent with a countywide panel layout. To prepare further for eventual countywide mapping, all areas of the panels outside the incorporated community yet within the geographic limits of the county should be considered for mapping, subject to approval by the PO or his/her designee. Both planimetric and flood hazard information should be shown. Panels prepared in this manner would be processed under community-based procedures.
- When a study, restudy, or map revision for the unincorporated areas of a county is to include a major drainage basin, it may be appropriate to convert to the Countywide Format to

facilitate incorporation of the study, restudy, or map revision information into the FIS reports and maps for the affected incorporated communities.

- The Countywide Format has been designated for conversion of manually produced FIRMs to a digital format or Digital FIRM (DFIRM). The procedures and specifications for preparation of DFIRMs are presented in Section 6 and Appendix B.

The FMPCC shall use the Countywide Format only with the approval of the PO or his/her designee and concurrence of the FEMA RO.

1.2 Restudy Processing Procedures

Because most communities already have effective FIRMs, most FMPCC work will involve the review of restudies (i.e., RFISs, LMMPs, RXDSs). Therefore, all study and restudy work will be referred to collectively as restudies throughout the rest of this section.

1.2.1 Pre-Time and Cost Meeting Support

To assist FEMA in developing accurate scopes of work at the Time and Cost (T&C) meeting for a study or restudy, the FMPCCs shall review archived materials, contact potential data sources, and prepare scope packages for the SCs and other selected specialty contractors, when requested. These packages shall be coordinated with FEMA RO and Headquarters (HQ) staff to ensure concurrence before the T&C Meeting. At the request of the FEMA RO and direction of the PO or his/her designee, the FMPCC may attend T&C meetings to facilitate coordination and may also coordinate directly with the community to obtain local information.

The categories of information and materials that may be requested by the PO or his/her designee are listed below.

Base Mapping Package

1. Availability of digital base map, including detailed metadata
2. Availability of aerial photography
3. Availability of satellite and other remotely sensed imagery
4. Availability of applicable topographic information and suggested datum
5. technical guidance (i.e., area to be covered, map format, scale, panel layout)

Study/Restudy Scope Package

1. Effective hydrologic and hydraulic models and other backup data (hard copy and digital)
2. Scanned images of base panels (Raster FIRM or DFIRM)
3. Text and profiles from effective FIS report (hard copy and digital)
4. Topography (if not already completed by the FMPCC or topographic mapping specialist contracted previously by FEMA)

5. Information submitted to FEMA under 5-Year Map Update Process and other Future Revision File information
6. Previously completed Letters of Map Change (LOMCs) and backup data used in making determinations
7. Contiguous community information
8. Q3 Flood Data Product file
9. Population, damage, repetitive loss, and policy data files
10. Technical Support Data Notebook (TSDN) in electronic format
11. Software for performing study/restudy (e.g., flood delineation package, raster vector editing and FIRM map production package, CHECK2, data archive system, HEC-2 or HEC-RAS)
12. Technical guidance (e.g., hydrologic and hydraulic analysis methods to be used, special flooding situations, adjacent matching studies/maps, high-water marks and other historical information, elevation reference marks, previous appeals and other sensitive issues)

FMPCC Work Order Package

1. Proposed format for new map and report
2. Distribution format/approach
3. Map layout
4. Digital standards for final product
5. Documentation for base mapping decision
6. Processing guidance (e.g., special coordination activities, community compliance, special flooding situations, adjacent studies/maps, previous appeals)
7. Information on community ordinances and other sensitive issues

1.2.2 Initiation Of Processing

Materials prepared by the SC will be provided directly to the FMPCC or provided to the FMPCC by the FEMA PO. These materials may be provided by U.S. Mail, by Express Mail Service, or by Internet or other electronic means. Materials submitted at the Final Technical Review stage for FMPCC processing of the Preliminary report and map will be in the TSDN format. (Refer to Appendix E of these Guidelines.)

The FMPCC shall review all materials received against the items listed on the transmittal submitted by the SC. If the submitted materials do not agree with the transmittal or the materials are unsuitable for review for any other reason, the FMPCC shall contact the SC immediately and consult with FEMA RO staff and the PO or his/her designee as appropriate before proceeding with any review.

Coordination between the FMPCC and the SC, any specialty subcontractors, and FEMA RO and HQ staff is essential. Coordination with the community also may be required.

1.2.2.1 Flood Insurance Restudies

The SC shall submit the following materials, at a minimum, at the final Technical review stage:

- Base Map Materials (Digital and Hardcopy)
 - Community base map with current corporate limits
 - Small-scale map showing corporate boundaries (and extraterritorial jurisdiction (ETJ) limits) and areas of detailed and approximate study as specified in the SC contract
- Work Maps (Digital and Hardcopy)
 - Topographic information
 - 100- and 500-year floodplain and 100-year regulatory floodway boundaries as specified in the SC contract
 - Cross-section location and numbering
 - Stream miles
 - Base flood elevation (BFE) values
 - Datum information
- FIS Report Data (Digital and Hardcopy)
 - Narrative
 - Summary of Stillwater Elevations Table (for coastal restudies only)
 - Summary of Discharges Table
 - Floodway Data Table
 - Photographs (if available)
 - Transect Descriptions Table (for coastal studies and restudies only)
 - Transect Data Table (for coastal restudies only)
 - Transect Location Map (for coastal restudies only)
 - Coastal Storm Parameter Data Table (for coastal restudies only)
- ERM Descriptions
- Alluvial fan documentation (including sediment assumptions and calculations, field mapping, notes, photos, etc.)
- Summary input and output for hydrologic and hydraulic computations (10-, 50-, 100-, and 500-year floods)
- Key to cross-section labeling
- Flood Profiles for 10-, 50-, 100-, and 500-year floods, as specified in the SC contract
- Coastal study documentation (including the key to transect labeling)
- Wave height, storm surge, and wave runup modeling

The FMPPC shall also obtain any additional information needed to prepare the publication base map. This information may include U.S. Geological Survey (USGS) topographic maps; FIRM artwork; and community maps showing current corporate limits, streets, and street names.

1.2.2.2 Existing Data Studies and Restudies

After coordination with FEMA HQ and RO staff, the FMPCC shall obtain all supplemental data necessary to process an XDS or RXDS. These data usually include NFIP information (e.g., FIS reports, FIRMs, Technical data used in the preparation of map revisions and amendments) and published flood reports, such as FPIs and FHARs. This information may be available for the community for which the XDS/RXDS is being prepared or for adjacent communities.

The FMPCC shall obtain any additional information needed to prepare the publication base map. This information may include USGS topographic maps; FIRM artwork; and community maps showing current corporate limits, streets, and street names.

1.2.2.3 Base Map Preparation Procedures

Under the Map Modernization Program, FEMA is developing procedures that may result in the SC preparing the base map in final form or preparing the FIRM in a digital format. Until those procedures are complete, the FMPCC shall follow the procedures discussed below in preparing the base map and FIRM.

The FMPCC shall review the material from the SC to determine the source of the base map necessary to process the restudy. The base map usually is the base used to prepare the effective FIRM. If an existing base is chosen, the FMPCC shall ensure that it is updated by reviewing it to verify that all streets and roads within or adjacent to the SFHA are shown and that the corporate limits are current. The FMPCC shall also coordinate with the community to ensure the base map meets FEMA accuracy, currency, and distribution criteria and standards.

If an existing base map from the community nonexistent or otherwise not available (e.g., licensing restrictions) or is not suitable, the FMPCC may use a USGS 7.5-minute series topographic quadrangle map or Digital Orthophoto Quadrangle (DOQ) as a source map. If the community has a base map that meets FEMA accuracy, currency, and distribution criteria and standards, the community base map may also be used. Larger scale strip mapping produced by the SC shall be spliced into other available base mapping in order to use the best available mapping. (See Appendix B for additional guidelines for base map preparation.)

The FMPCC shall ensure the map scale selected for the base map will clearly and accurately portray the detailed- and/or approximate-study areas in the community. For detailed-study areas, the map scale will generally range from 1 inch = 400 feet to 1 inch = 1,000 feet. For approximate-study areas, a scale of 1 inch = 2,000 feet may be used. In addition, a scale of 1 inch = 2,000 feet is acceptable (contingent on PO approval) for areas that display extremely wide floodplains and that have been submitted by the SC on 1:24,000-scale USGS quadrangle base maps. The FMPCC shall identify and lay out the FIRM panels for the entire community and designate any panels that are not printed appropriately.

The FMPCC shall recommend to the PO whether a change from the Standard to the Map Initiatives Format is cost-effective. If the Countywide Format is to be used, the Map Initiatives

Format should generally be used; however, the FMPCC must evaluate each study/restudy individually, and the PO or his/her designee shall make the final decision on the format.

1.2.3 Technical Reviews

The type and level of review to be performed by the FMPCC for a particular restudy shall be determined at the time the restudy is initiated through upfront coordination and consultation with the SC, FEMA RO staff, and the PO or his/her designee. The FMPCC may be asked to perform interim reviews at certain completion stages, to perform a review of a completed SC draft, or some combination thereof. Both review processes are discussed below.

1.2.3.1 Interim Reviews

When requested to do so, the FMPCC shall perform Technical reviews of interim SC submittals. The type of information to be reviewed, the schedule for these reviews, and the deliverables for these submittals shall be agreed to at the outset of the restudy. This approach will allow FEMA, SC, and FMPCC staff to identify problems early in the process. This should result in more efficient processing once the final SC submittals are delivered. As with reviews of complete SC submittals, the FMPCC shall coordinate closely with the SC, FEMA RO, and FEMA HQ. The FMPCC also shall document problems appropriately via correspondence or e-mail or facsimile transmissions.

1.2.3.2 Final Reviews

If a complete review is required, the FMPCC shall review the SC draft FIS report and work maps to ensure that they are technically accurate; internally consistent; compatible with the latest versions of NFIP reports and maps for adjacent communities; and adequate for preparing a new or revised FIS report, FIRM and, in some instances, FBFM. The purposes of this review shall be to:

- Judge the reasonableness of the hydrologic methodology,
- Examine the hydraulic analyses in more depth, and
- Ensure that the assumptions and judgments made by the SC are reasonable and adequately documented.

For final reviews following interim submittals, the FMPCC shall review the new materials provided by the SC and verify that all previous concerns about interim submittals have been addressed fully by the SC.

SCs are required to complete and submit certification forms as part of the deliverable items. These forms shall be used by the FMPCC during the review process to identify inconsistencies and discrepancies and judge reasonableness.

During the review, the FMPCC shall communicate with FEMA RO staff, the PO and his/her designee, the State, the community, and the SC as needed to resolve technical problems and request additional information, when necessary. All communications with the SC and FEMA,

including telephone conversations, shall be documented in writing and maintained by the FMPCC. When appropriate, significant changes agreed to during the processing of the restudy may be documented in written review comments, which shall be sent to the FEMA RO and SC (and others, if appropriate) when the Preliminary copies of the FIS report, FIRM, and FBFM (if appropriate) are distributed.

A modified technical review may be performed by the FMPCC for XDSs and RXDSs, as directed by the PO or his/her designee.

1.2.3.3 Hydrologic Analyses

The FMPCC shall determine whether the results of the hydrologic analyses performed by the SC are reasonable and in keeping with Chapter 4 of *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference 1). The level of effort required by the FMPCC may be affected by whether the analyses were performed by a new or relatively inexperienced private-sector SC; by an experienced private-sector SC; or by a Federal Contractor, such as the U.S. Army Corps of Engineers (USACE) or Natural Resources Conservation Service (NRCS).

The FMPCC's determination of reasonableness shall be based on a review of the information presented on the certification forms, if completed. For restudies in which the certification forms were not completed, the FMPCC shall perform a cursory review of the hydrologic analyses for reasonableness based on engineering judgment. All assumptions and final results should be adequately described in the FIS report. Specific requirements for the review of hydrologic analyses and information are provided in the subsections that follow. The FMPCC shall review the information presented on the certification forms to determine, to the extent possible, if the specific requirements have been met.

1.2.3.3.1 Restudies

The Regional Project Officer (RPO) is the FEMA RO staff member who is responsible for reviewing the hydrologic analyses performed by the SC; therefore, unless requested to do so by the RPO and PO, the FMPCC shall not review the same material. However, the FMPCC shall verify that the methodology is adequately described in the FIS report, and that the effects of local conditions and any unique factors have been considered and are adequately documented. The FMPCC shall verify that the discharge values have been used consistently, within the limitations of the methodologies employed, throughout the RFIS. The FMPCC shall also verify that discharge values have been used properly in the hydraulic analyses, and that the hydraulic model agrees with assumptions made concerning tributary contributions to mainstream flows. In addition, the FMPCC shall verify that the assumptions on which the hydrologic analyses are based and the results of the analyses are consistent with the assumptions and results of the hydrologic analyses performed for restudies and map revisions for adjacent communities. The FMPCC shall resolve identified discrepancies through consultation with FEMA PO and HQ staff. The FMPCC shall review the SC hydrologic computations to investigate and resolve specific problems; however, this additional review shall be approved by the PO or his/her designee.

1.2.3.3.2 Existing Data Studies and Restudies

The FMPCC engineering review of XDSs and RXDSs shall be a cursory overview, concentrating on verifying the general validity of the information supplied and identifying any obvious hydrologic discrepancies or anomalies. The FMPCC shall perform the same level of review for reasonableness, for consistency with the flow values used for other flooding sources within the community (if applicable), and for proper application of the hydraulic analyses as required for review of restudies. The review shall include a check to ensure that floodflows match at contiguous community boundaries. The FMPCC shall resolve identified discrepancies through consultation with FEMA PO and HQ staff. The FMPCC shall include a description of the methodology used in the FIS report, based on the information presented in the source report.

If no hydrologic support information is supplied, the only review the FMPCC shall perform is a check of contiguous boundary matching conditions. No support data shall be requested from the sponsoring agency unless a serious technical deficiency is identified and the PO or his/her designee approves the request.

In some coastal areas, Federal or State agencies may have performed studies to determine flood levels for purposes other than the NFIP. The FMPCC, at the direction of the PO or his/her designee, shall examine the results of these studies for accuracy and applicability. The FMPCC shall also determine what aspects of coastal flooding have not been addressed. The FMPCC shall notify the PO or his/her designee of these aspects and, at the approval of the PO or his/her designee, shall perform the appropriate analysis (such as wave height and wave runoff). The FMPCC shall then process the resulting study/restudy as an XDS/RXDS, as previously discussed in this section.

1.2.3.4 Hydraulic Analyses

The FMPCC shall determine whether all hydraulic analytical methods are acceptable, whether they have been implemented properly, and whether the results of the analyses are accurately presented in the draft FIS report and on the work maps. These determinations shall be based on a review of the information presented on the certification forms, if completed. The FMPCC shall review the information presented on the certification forms to determine, to the extent possible, if the specific requirements discussed below have been met.

1.2.3.4.1 Restudies

The FMPCC shall verify that the hydraulic analytical methods are adequately described in the SC draft report. SC methodologies must conform to standard engineering practices and be appropriate for conditions in the areas studied. Step-backwater computer programs (e.g., HEC-2, HEC-RAS, E-431, J 635, WSP-2, WSPRO) are to be used for the analysis of most riverine flooding sources. Hand computations and special computer programs may be used for the analysis of other types of flooding (e.g., sheetflow, alluvial fan, lacustrine, ponding, coastal (tidal surge, wave height, wave runoff)). Hand calculations may also be used for analyses of culverts and pipes. Situations where nonstandard modeling procedures exist should be identified. In such cases, the FMPCC shall ensure that the nonstandard procedure was approved by the RPO, was documented by the SC, and is included in the RFIS report.

Normally, the information that should be provided in the description of the methodology includes the names of any computer models used; the sources of cross-section and/or transect data, roughness coefficients, starting water-surface elevations (WSELs), and other parameters; and references for any publications from which data were taken. In addition, the SC should provide descriptions of any unusual situations and the effects of local conditions and flood-control structures.

For restudies with completed certification forms, the FMPCC shall verify that the hydraulic analyses have been performed properly and that the results are reasonable, based on a review of the information presented on the forms. For restudies without completed certification forms, the FMPCC shall verify that the information presented in the SC draft report, on the work maps, and in the hydraulic computations is consistent according to the specifications listed below. The FMPCC shall also determine whether appropriate procedures have been used to analyze unique and unusual situations (e.g., ice jams, channel breakouts, storage reaches, split-flow conditions). In addition, the FMPCC shall ensure that the SC has adequately evaluated the effects of any known flood-control structures on flooding within the community.

For coastal restudies employing storm-surge-plus-wave-height analyses, the FMPCC shall verify the following:

- Transects were correctly located and oriented.
- Reasonable wind direction and velocities were estimated.
- Proper stillwater elevations were used. Historical records of past hurricanes were included during the evaluation to determine the stillwater depth, if applicable.
- Analyses adequately considered land cover and topographic features in the coastal floodplain.

For coastal restudies in which comprehensive wave setup and runup models have been employed, the FMPCC shall verify the following:

- Analyses considered all types of wave-generating forces expected to occur in the area in question, including winter storm swell, winter storm wind waves, hurricane swells and waves, and tsunami.
- An appropriate storm-induced erosion assessment was performed.
- Storm surge has been adequately considered.
- Underwater and offshore bathymetry is evaluated appropriately.
- A sound, defensible basis exists for the estimated frequencies of events.
- The results of the model are reasonable.

For riverine restudies, the following specifications shall apply:

- **Cross-Section Stationing**—The distances between cross sections shown on the computer printouts must agree with those shown on the Floodway Data Table. The distances between cross sections shown on the Flood Profiles must agree with those shown on the Floodway Data Table within a maximum tolerance of 5 percent of the profile scale. Distances measured on the work maps between cross sections, and between cross sections and physical features,

must agree with those shown on the Flood Profiles within a maximum tolerance of 10 percent of the map scale.

- **BFEs**—The BFEs shown on the computer printouts must agree with those shown on the Floodway Data Table. The BFEs shown on the Flood Profiles must agree with those shown on the Floodway Data Table within a maximum tolerance of 0.5 foot or 5 percent of the profile vertical scale, whichever is less. The BFE at a given location on the FIRM must agree with the elevation shown on the Flood Profiles within a maximum tolerance of 0.5 foot.
- **Floodway Widths**—The floodway widths shown in the computer model must agree with those shown on the Floodway Data Table. Floodway widths measured on the work maps must agree with those shown on the Floodway Data Table within a maximum tolerance of 5 percent of the map scale.
- **Floodplain Boundaries**—For streams studied by detailed methods, the floodplain boundaries shown on the work maps must be consistent with the flood elevations shown on the Flood Profiles and the contour lines and other topographic information shown on the work maps. Approximate floodplain boundaries must also be consistent with the contour lines and other topographic information shown on the work maps.

For alluvial fan studies, the following specifications shall apply:

- **Sediment Transport and Yield**—Transport and yield calculations and assumptions must be submitted.
- **Detailed Description of Approach**—A detailed description of the approach (method) used to delineate the fan hazard must be included. This may include geologic, geometric, sediment transport, and engineering information (qualitative and quantitative) and assumptions made.
- **Depths and Velocities of Flooding**—The depths and velocities of flooding shown on the SC topographic work map must agree with those in the computer model or other supporting calculations.
- **Floodplain Boundaries**—The SFHA boundaries shall be delineated on the work map, and they must be consistent with the topographic information shown on the work map. Additionally, geologic and engineering field information as well as photo locators should be shown.

For lacustrine restudies, the following specifications shall apply:

- **BFEs**—The BFEs shown on the work maps must agree with those shown on the Summary of Elevations Table, rounded to the nearest whole foot.
- **Floodplain Boundaries**—For flooding sources studied by detailed methods, the floodplain boundaries shown on the work maps must be consistent with the flood elevations shown on the Summary of Elevations Table and the contour lines and other topographic information shown on the work maps. Approximate floodplain boundaries must also be consistent with the contour lines and other topographic information shown on the work maps.

For coastal restudies in which wave heights are computed, the following specifications apply:

- **Stillwater and Wave Height Elevations**—The stillwater and wave height elevations shown in the computations, computer model, and data tables must agree.

- **BFEs**—The BFEs shown in the transect calculations must agree with those shown on the data tables. The BFEs shown on the work maps may be an average of those shown in the transect calculations.
- **Zone V Widths**—The Zone V widths shown on the work maps must agree with those shown in the transect calculations within a maximum tolerance of 5 percent of the map scale. The primary frontal dune should be included with the Zone V.

For coastal restudies in which wave setup and/or runup are computed, the following specifications apply:

- **Setup and Runup Elevations**—The setup and/or runup elevations shown in the computations must agree with those shown in the data tables. The setup and runup elevations shown on the work maps must agree with those shown in the computations and data tables, rounded to the nearest whole foot. Stillwater elevations should be shown where coastal and riverine flooding studied by detailed methods join.
- **Zone Designations**—The criteria for Zone V or VE designation are (1) the inland limits of the primary frontal dune, (2) the location where the 3-foot wave height occurs, and (3) the point where the eroded ground elevation is 3 feet below the maximum wave runup elevation.
- **Floodplain Boundaries**—For flooding sources studied by detailed methods, the floodplain boundaries shown on the work maps must be consistent with the flood elevations shown on the Summary of Stillwater Elevations Table and the contour lines and other topographic information shown on the work maps. Approximate floodplain boundaries must also be consistent with the contour lines and other topographic information shown on the work maps.

In addition to verifying internal consistency, the FMPCC shall also verify that the hydraulic results agree with those depicted in the reports and on the FIRMs for adjacent communities. In general, there should be no discontinuities in flood elevations greater than 0.5 foot between adjacent communities.

1.2.3.4.2 Existing Data Studies and Restudies

The engineering review shall be a cursory overview that concentrates on verifying the general validity of the submitted information and identifying any obvious hydraulic discrepancies or anomalies. The FMPCC shall perform the same level of review for consistency of data as required for restudies without certification forms. The FMPCC review shall include a check of matching conditions (profiles and floodplain boundary delineations) at contiguous community boundaries.

If no backup hydraulic data are available, the FMPCC shall only check contiguous boundary matching conditions and use the data as approximate flooding information.

Procedures for the incorporation of hydraulic data into XDSs/RXDSs as they affect coastal areas shall be the same as those described earlier for restudies.

1.2.3.5 Flood Risk Zones

The FMPCC shall verify that the flood risk zones shown on the work maps or final maps are consistent with those shown in the FIS reports and on the FIRMs for adjacent communities. Because FIS reports and FIRMs prepared in the Map Initiatives Format will present Zones AE, VE, and X, rather than Zones A#, V#, B, and C (as shown in some effective FIS reports and FIRMS), the flood risk zone designations for adjacent communities may not match.

1.2.3.6 Elevation Reference Mark Descriptions and Locations

The FMPCC shall verify that the ERM descriptions provided by the SC are adequate to allow the ERM to be located and that the ERMs are accurately located on the work maps or final maps. When required, the FMPCC shall prepare the ERM descriptions to conform to the format given in Appendix B.

1.2.3.7 Levees

1.2.3.7.1 Review Responsibilities

As part of the technical review, the FMPCC shall verify that the SC has properly analyzed all levees and structures intended to serve as levees for their effect on the base flood.

In reviewing the SC analysis of levees, the FMPCC shall ensure that the analysis was performed by the SC, in accordance with the requirements outlined in Chapter 7 of *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference 1) and in conformance with Section 65.10 of the NFIP regulations. The FMPCC shall inventory the levees in accordance with a FEMA memorandum entitled “Levee Inventory,” dated December 24, 1984.

FEMA will not consider privately owned, operated, or maintained levee systems as providing protection from the base flood unless local ordinances or State statutes mandate operation and maintenance. Levee systems for which a community, State, or Federal agency has responsibility for operation and maintenance will be considered by FEMA if they meet, and continue to meet, minimum design, operation, and maintenance standards. These standards must be consistent with the level of protection sought through the comprehensive floodplain management criteria established in Section 60.3 of the NFIP regulations.

The FMPCC shall determine that all minimum design criteria requirements have been met before any levee system receives recognition on the NFIP map as providing base flood protection. Any deviations or exceptions must be documented fully, and a technical basis for exceptions must be provided. The FMPCC review for FEMA shall be for the sole purpose of establishing appropriate flood risk zone determinations for the FIRM, and does not constitute a determination as to how a structure or system will perform during a flood event.

The minimum design requirements for both riverine and coastal levees that must be met, and therefore must be reviewed by the FMPCC, fall into the following categories: freeboard, closures, embankment protection, embankment and foundation stability, settlement, interior drainage, and

other design criteria (as required by FEMA). The FMPCC shall review the detailed engineering analyses to be performed under each category to ensure that they comply with Paragraph 65.10(b) of the NFIP regulations. The level of effort to be expended by the FMPCC in reviewing levee structural design criteria shall be decided by the PO or his/her designee on a community-by-community basis.

For a levee to be recognized on the FIRM as providing base flood protection, the operation plans must comply with FEMA regulations as outlined in Paragraph 65.10(c) of the NFIP regulations. When required, the FMPCC shall review the plans to ensure compliance with FEMA regulations, particularly in the areas of closures and interior drainage systems.

The final criterion for levee certification is a functional maintenance plan that complies with Paragraph 65.10(d) of the NFIP regulations. The FMPCC shall review the plans to ensure that, at a minimum, they specify the maintenance activities to be performed, the frequency of performance, and the person(s) by name or title responsible for the performance.

It should be noted, however, that FEMA will accept certification from another Federal agency that an existing levee system is designed and constructed to provide base flood protection in lieu of the requirements outlined in Paragraphs 65.10(b)(1) through (b)(7) of the NFIP regulations. In addition, under certain circumstances, FEMA may also grant exceptions to the above requirements or approve alternative analysis techniques on a case-by-case basis.

1.2.3.7.2 Levee Inventory

For each recognized levee, the FMPCC shall prepare a Levee Inventory Data Entry Form, as discussed in detail in Subsection 3.2.3 of these Guidelines.

1.2.3.8 Alluvial Fan Studies/Restudies

For restudies involving areas subject to alluvial fan flooding, the FMPCC shall be aware of the methodologies available (e.g., FEMA FAN computer program, two-dimensional modeling, National Research Council (NRC) field-based geomorphic engineering methods) to establish various parameters, such as the depth, velocity, and extent of the base flood. Because alluvial fan flooding may be characterized by high-velocity floodflows, active processes of erosion, sediment transportation and deposition, and unpredictable flow paths, the analysis of alluvial fan flooding is based on a variety of hydraulic and geomorphic parameters and assumptions. The FMPCC shall assess the reasonableness of the assumptions based on the existing conditions in the study area, which must be fully documented by the SC.

In accordance with current FEMA policy and *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference 1), the SC shall make an intermediate submittal to FEMA. The submitted materials will vary with the complexity and scope of the restudy. Because of the complexity of an alluvial fan flood hazard, coordination between the FMPCC and the SC, FEMA RO staff, and the PO and his/her designee will be critical. When the PO or his/her designee directs the FMPCC to review an alluvial fan analysis, the procedure in Appendix H shall be followed.

1.2.3.9 Coastal Studies/Restudies

For coastal studies/restudies that involve analyses of storm surge, erosion, wave runup, and wave action, the FMPCC shall be aware of the variety of analytical methodologies used to establish BFEs and to determine the extent of flooding. Some of the procedures address specific types of storms and coastal phenomena; therefore, the methodologies employed may vary, depending on a particular coastline. The FMPCC shall contact the SC to discuss the scope of work under which the coastal analysis was performed. A list of references identifying the various documents and computer programs published and used by FEMA is provided in Appendix G.

In accordance with current FEMA policy and the *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference 1), the SC shall make an intermediate submittal for the RFIS. The submitted materials will vary with the complexity and scope of the study/restudy. A list of some of the materials required for an intermediate submittal is provided in Reference 1.

The various mathematical computer models used to determine the stillwater flood level (SWFL) along a coastline resulting from storm surge are complex. The production runs of these models can require considerable time and expense. The purpose of the intermediate submittal is to allow a technical review of the parameters and data used to construct the model before the production runs are made.

The intermediate submittal is to contain an engineering report that outlines the scope of the work contracted to the SC. The report is to also identify the area to be studied, the level of effort required, the physical storm parameters that were/were not included, and the amount of new information (e.g., maps, beach profiles, aerial surveys) that will be generated.

The report also is to identify all sources of information (existing or generated by the SC) that were used in the study/restudy. The SC is to list the computer programs used to construct the mathematical model. Any revisions, additions, or deletions to the coding are to be identified and explained. The SC must keep a full account of calibration runs and document any major difficulties, assumptions, and decisions made. The FMPCC shall review this information and determine whether these decisions and assumptions were made using sound engineering judgment.

The FMPCC shall examine the calibration runs to determine whether the available information and computer programs were used properly and adequately. The FMPCC shall examine the program input to determine whether all geographical features that may have an effect on the SWFL were incorporated into the model. The FMPCC shall also determine whether all subprograms and subroutines available to the SC were used properly and effectively.

In the intermediate report, the SC is to present the correlation of the calibration and verification run to available historical levels and identify the storm of record and its approximate recurrence interval. SWFL data of the selected storms are to be provided and referenced. The SC is also to identify and attempt to explain any differences and discrepancies that exist between the calibration runs and historical storms. The FMPCC shall review these items and provide detailed written responses by letter to the SC. The FMPCC shall explain each item of concern and offer technical

assistance or guidance. The FMPCC shall determine if sufficient transects have been identified in the study area to adequately represent flood conditions. Following these modifications, the SC shall submit a final calibration run review prior to performance of the production runs.

When the production runs have been made, the SC shall incorporate those results into the transects to determine the effects of waves along the coast. The SC shall explain the number, location, and placement of transects used in the wave height and/or wave runup analysis. If such an analysis has not been performed, the SC is to explain why that decision was made (e.g., study scope, lack of data). The SC shall identify the maps used to represent the coast and explain what factors were considered that could cause changes in the shoreline during the storm, such as erosion. This may be done through either an analytical or historical method. A wave height and/or runup analysis is to be performed on the eroded or post-storm beach profile.

In areas identified as influenced by vegetation (e.g. trees, shrubs, mangrove, marsh grass), the SC is to incorporate the characteristics of this vegetation and any applicable buildings or structures into the wave height and runup analysis. The FMPCC shall review the submitted vegetation parameters for reasonableness and to ensure that the information has been adequately incorporated into the wave height and/or runup analysis. The FMPCC also shall require the SC to address all of the appropriate items listed in the USACE report entitled *Criteria for Evaluating Coastal Flood Protection Structures* (see Appendix G) before a structure can be credited with providing base flood protection on the FIRM. The FMPCC shall review the work maps submitted by the SC for quality.

The FMPCC shall verify that the placement of flood risk zones identified on the maps agrees with the transect information provided. All flood risk zones and elevations are to be shown, except where impractical because of scale limitations. In cases where several flood risk zones or BFEs must be grouped together, the weighted-average elevation shall be shown on the FIRM. The Zone VE/AE boundary shall always be shown and must agree with the analytical information provided, except in situations where FEMA regulations require that the boundary be located at the landward extent of the primary frontal dune.

Flood risk zones shown on the maps shall be plotted from geographical features that are resistant to change (e.g., roads, railroads). The shoreline shown on the FIRM shall be the pre-storm or most up-to-date highwater shoreline, as determined from the best available topographic data. The FMPCC shall obtain this through the SC or a reputable agency. The flood risk zones shall be placed and identified on the post-storm profile. The FMPCC shall verify that erosion along the shoreline was evaluated according to the most up-to-date engineering methods or as specified by the PO in the study/restudy scope. The FMPCC shall refer to *Guidelines and Specifications for Wave Elevation Determination and V Zone Mapping* (see Appendix G) for additional guidance.

The FMPCC shall review the Summary of Stillwater Elevations Table for technical accuracy. Elevations shown in this table are to represent the flooding trends along the coast and shall, at a minimum, contain the highest and lowest SWFL within the community.

The FMPCC shall review the Transect Data Table for technical accuracy. All transects used in the analysis shall be listed in the table.

The FMPCC shall prepare a Transect Location Map that will adequately represent the location of the transects used in the study. The FMPCC shall review the Transect Descriptions Table to ensure that the reach of shoreline, as identified in the table, adequately describes the corresponding reach shown on the map.

In some areas along the coast, sufficient information in terms of length of statistical record may exist to perform a recurrence interval analysis. In these instances, the FMPCC shall review the statistical information available to ensure that no discrepancies exist and that the data record is continuous. The FMPCC shall examine the statistical method used for applicability and technical accuracy. If the amount of tide gage information is determined to be adequate and accurate, SWFLs for the 10-, 50-, 100-, and 500-year recurrence intervals will be determined. The SC shall then incorporate these values into the study/restudy area and follow the previously discussed procedures. The FMPCC shall review this information as previously indicated.

1.2.3.10 Digital Data Format

For restudies submitted by SCs in digital format, the FMPCC shall verify that the submittal conforms to the format provided in Appendix 7 of *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference I). The FMPCC shall review the data to ensure the data capture is complete and accurate, the data are segregated by level or attribute as outlined in the specifications, and the files are adequate for use in producing new FIRMs and DFIRMs.

1.2.3.11 Technical Revisions of Draft Reports and Maps

The FMPCC shall routinely revise the SC draft report and maps as needed to eliminate minor errors found during the technical review. In special cases, the PO or his/her designee shall direct the FMPCC to undertake major work to revise SC materials that are unacceptable for processing or to evaluate and incorporate the effects of technical data that were not considered by the SC during the preparation of the draft report and maps. These data could include new information that may have become available after completion of the SC analyses, information contained in FMPCC files for map revisions and amendments, information in community annual reports, or data from other studies and restudies. These data may supplement or supersede the SC work. In such cases, the FMPCC may be required to perform independent hydrologic and hydraulic analyses and to redelineate floodplain and floodway boundaries. The FMPCC shall coordinate with the SC, FEMA RO staff, and the PO or his/her designee as necessary to resolve any problems discovered during the technical review and ensure all work performed by the FMPCC is coordinated with the SC and FEMA RO staff.

1.2.4 Preliminary Map Preparation

The FMPCC shall prepare the Preliminary FIRM, or verify that the SC has prepared the Preliminary FIRM, in one of three publication formats: Standard, Map Initiatives, or countywide. The publication format should be decided at the beginning of the restudy process. The FIRM shall be prepared in accordance with the specifications outlined in Appendix B. When required, the FMPCC shall draft the FIRM in final form and distribute Preliminary copies to community

officials, State Coordinators, and others as appropriate. For FIRMs prepared in the Countywide Format, complete sets of panels shall be distributed to county, State, and Federal agencies, as well as other interested agencies. However, each incorporated community shall receive only the Map Indexes and those FIRM panels containing information for that particular community.

1.2.5 Preliminary Report Preparation

The FMPCC shall revise the SC draft report, including the data tables, flood profiles, and photographs or other illustrations, to incorporate corrections resulting from the technical review. All such corrections shall be coordinated with the SC, FEMA RO staff, and the PO or his/her designee. When required, the FMPCC shall prepare the report in final form in accordance with the report requirements and format specifications provided in Appendix C. The FMPCC shall prepare and distribute Preliminary copies and, if necessary, Revised Preliminary and Proof copies of the FIS report. For reports prepared in the Countywide Format, each incorporated community and the county shall receive copies of the entire FIS report at each of the processing stages.

1.2.6 Revised Preliminary Map and Report Preparation

The FMPCC shall make minor revisions to the Preliminary report and maps as necessary, in response to review comments from the community, State, SC, and FEMA. In some cases, the PO or his/her designee may direct the FMPCC to undertake major revision work involving new technical data or extensive changes in the corporate limits of the community. The FMPCC shall coordinate with the community, State Coordinator, SC, and FEMA ROs, as necessary.

Generally, the FMPCC shall incorporate any minor revisions warranted by comments on the Preliminary FIS report and FIRM at the time the final reproduction materials are prepared. However, any revisions involving changes to BFEs, additional SFHAs, or extensive changes to floodplain boundaries shall be made before the 90-day appeal period is initiated, if directed to do so by the PO. In such cases, the FMPCC shall, at the direction of the PO, prepare and distribute Revised Preliminary copies of the FIS report and FIRM. These copies shall be sent to the community with the official notification of the start of the 90-day appeal period.

1.2.6.1 Study Contractor Revisions

The FMPCC shall review any comments submitted by the SC concerning the Preliminary FIS report and maps, and shall determine whether any revisions are required. SC comments usually concern the technical, editorial, and format changes made by the FMPCC to the SC draft report and maps; however, they may also include recommended revisions based on the effects of information obtained by the SC after the draft report and work maps were submitted to FEMA. The FMPCC shall make minor revisions, as necessary, but shall not undertake major revision work without the approval of the PO or his/her designee.

1.2.6.2 Community Revisions

The FMPCC shall review any comments reported by the RO staff in the minutes of the final Consultation Coordination Officer (CCO) meeting and determine whether any revisions to the Preliminary FIS report and maps are required. The meeting minutes may include comments made by officials and residents of the community, representatives of State and local floodplain management agencies, and RO staff members. These comments may concern technical issues involving flood discharge values, flood elevations, floodplain and floodway boundaries, or base map information (e.g., corporate limits, road locations, road names), or information presented in the RFIS report. The FMPCC shall make minor revisions, as necessary, but shall not undertake major revision work without prior approval of the PO or his/her designee.

1.2.7 Summary Of Map Action Preparation

To assist communities in maintaining the NFIP maps, particularly the FIRM, the FMPCC shall prepare summaries of the LOMAs, LOMR-Fs, and LOMRs that will be superseded when the revised FIRM panels become effective. FEMA provides these Summaries of Map Actions (SOMAs) to the communities at significant milestones during the processing of physical map updates (i.e., RFISs, Physical Map Revisions (PMRs), LMMPs) to make the affected communities aware of the effect the revised FIRM panels will have on previously issued LOMCs.

To ensure the modifications made by LOMCs are included in a physical map update, the FMPCC shall perform searches for LOMC determinations at four stages: (1) before the Preliminary copies of the affected FIRM panel(s) are prepared and sent to the community for review and comment; (2) before Revised Preliminary copies of the affected FIRM panel(s) are prepared and sent to the community for review and comment; (3) before the final flood elevation determination (FFED) letter is sent to the community; and (4) before the effective date of the revised FIRM panels.

At each stage, the FMPCC shall sort the LOMCs into the following categories:

- **Category 1** includes those Letters of Map Amendment (LOMAs), Letters of Map Revision (LOMRs), and Letters of Map Revision Based on Fill (LOMR-Fs) whose results have been shown on the revised FIRM panel(s).
- **Category 2** includes those LOMCs whose results could not be mapped and shown on the revised FIRM panel(s) because of scale limitations or because the affected areas were determined to be outside the SFHA as shown on the effective FIRM. These LOMCs are automatically revalidated after the revised FIRM panel(s) become(s) effective.
- **Category 3** includes those LOMCs whose results have not been, and will not be, reflected on the revised FIRM panel(s) because the flood hazard information on which the original determinations were based is being superseded by new flood hazard information.
- **Category 4** includes those LOMCs that will be revalidated through a single letter that reaffirms the validity of a previously issued LOMC. Therefore, LOMCs that were previously issued for multiple lots or structures where the determination for one or more of the lots or structures has changed cannot be revalidated through this administrative process.

For Category 4 LOMCs, the FMPCC shall review the data submitted in support of the original LOMA, LOMR-F, or LOMR request and issue a new determination for the subject properties after the FIRM effective date. If conditions have changed since the original LOMA, LOMR-F, or LOMR was issued, and additional data and fees are required in order to issue a new determination, the FMPCC will not revalidate or reissue the LOMA, LOMR-F, or LOMR.

FMPCC activities in preparing and distributing SOMAs are discussed in detail in Subsections 1.2.7.1 and 1.2.7.2.

1.2.7.1 Pre-Preliminary Activities

During the preparation of the Preliminary copies of the FIRM (and FBFM, if required), the activities below shall be completed. Additional information on SOMA production procedures is provided in Section 10 of *Document Control Procedures Manual* (Reference 2).

1. The FMPCC shall produce a Preliminary SOMA, which is the product of database management software that searches the records in the Community Information System (CIS) to identify LOMCs completed or pending for the community.
2. The FMPCC shall review the in-house LOMC case files, other community-based files, hard copies of LOMCs completed by the ROs, and case files for LOMCs completed by the ROs to ensure all affected LOMCs are identified and listed on the SOMA. LOMCs that have already been superseded by a previous map (i.e., its determination date is prior to the current effective FIRM date) will not be investigated for inclusion on the SOMA.
3. The FMPCC shall review each identified LOMC to determine if it has been affected by new flood hazard information and if it can be incorporated into the FIRM. Those LOMCs that are unaffected by the new flood hazard information and can be reflected on the FIRM are listed in Category 1 of the SOMA. Those LOMCs that cannot be reflected on the FIRM but are unaffected by the updated flood hazard information are listed in Category 2 of the SOMA.
4. For the remaining LOMCs, the FMPCC shall review the case files to determine if the LOMC can be revalidated. To determine this, the FMPCC shall perform the following activities: (1) locate the LOMC site on the Preliminary FIRM; (2) determine the BFE for the site; and (3) compare the Lowest Adjacent Grade (LAG), Lowest Finished Floor Elevation (LFFE) if applicable of the structure(s), or the lowest ground elevation of undeveloped lot(s) to the proposed BFE at the site.
5. If the LAG(s), LFFE(s), or lowest ground elevation at the site is above the proposed BFE, the FMPCC shall include the LOMC in Category 2 of the SOMA and it will be eligible for revalidation. LOMCs issued for properties with a LAG(s), LFFE(s), or lowest ground elevations below the BFE will be superseded and, therefore, will be included in Category 3 of the SOMA. As noted above, LOMCs are revalidated by a single letter, the LOMC-Valid letter; therefore, LOMCs issued for multiple structures or lots where the determinations for the lots/structures are no longer as they were determined in the original LOMC will be included in Category 4 of the SOMA.
6. The FMPCC shall send the SOMA to the Chief Executive Officer (CEO) of the community, RO, and State Coordinator with the transmittal letter that accompanies the Preliminary copies

of the revised map panel(s). (The preliminary transmittal letter shall be prepared by the FMPCC.)

7. If no LOMCs have been issued since the affected map panel(s) became effective, the FMPCC shall include an explanatory paragraph in the transmittal letter to the community to acknowledge this fact, and no SOMA shall be sent to the CEO.

1.2.7.2 Post-Preliminary Activities

After mailing the Preliminary to the community, the FMPCC shall complete the activities below, as required.

1. When Revised Preliminary copies are prepared and submitted to the community for review, usually subsequent to the final CCO meeting, the FMPCC shall generate a SOMA and conduct a review similar to that conducted before the Preliminary copies were issued.
2. When required, the FMPCC shall revise the Preliminary SOMA and submit it to FEMA for review with a special transmittal letter to the community. (The special transmittal letter shall be prepared by the FMPCC.)
3. The FMPCC shall mail the revised SOMA to the CEO, RO, and State Coordinator with the special transmittal letter.
4. Approximately 2 weeks before the FFED date, the FMPCC shall generate and review the Final SOMA. The Final SOMA shall include all LOMCs included in the Preliminary SOMA and all LOMCs issued since the Preliminary or Revised Preliminary copies of the FIRM were distributed.
5. The FMPCC shall mail the Final SOMA to the CEO of the community, RO, and State Coordinator with the FFED letter.
6. If no LOMCs have been issued for the affected map panel(s), the FMPCC shall include an explanatory paragraph in the FFED letter to acknowledge this fact, and no SOMA shall be sent to the CEO.

1.2.8 Final Reproduction Material Preparation

As part of the FEMA Map Modernization Plan, specifications for the delivery of final digital materials are being developed. Until the final specifications are available and the appropriate procedures are operational, the FMPCC shall follow the procedures documented below.

The FMPCC shall prepare final (camera-ready) reproduction materials for printing by the U.S. Government Printing Office (GPO). The specifications for hard copy materials are provided in Appendix B.

For a restudy processed under standard conversion procedures, the FMPCC shall deliver the final reproduction materials to FEMA staff at the Map Service Center (MSC) 2 months after the date of the FFED letter, or 4 months before the effective date of the FIRM. If delays in delivering the final reproduction materials beyond this date are necessitated by technical revisions to the restudy, the FMPCC shall coordinate with the MSC as well as the PO or his/her designee.

For accelerated processing, the delivery schedule may be adjusted. (Refer to Subsection 1.3.2 of these Guidelines for details.)

The specific requirements for materials to be delivered to GPO are provided in Subsections 1.2.8.1, 1.2.8.2, and 1.2.8.3.

1.2.8.1 Map Preparation

The FMPCC shall adhere to the procedures provided below in preparing hardcopy map indexes and panels for printing.

- Map panels shall be rolled and sealed in brown packaging paper.
- Map indexes prepared in the Z-fold format shall be packaged by themselves.
- All other panels shall be separated according to type (FIRM, DFIRM, or FBFM) and frame size (A, B, C, D, and E); however, no more than 16 panels shall be included in any rolled package.
- Each package shall be clearly labeled to indicate: (1) the name of the community, (2) the type of map, (3) the specific panel(s) included, (4) the effective date of the map(s), and (5) the control number from the printing requisition form. (See Subsection 1.2.8.3.)
- A blueprint copy of FIRM panels, rolled in packaging paper as one set and labeled, shall be provided.

1.2.8.2 Report Preparation

The FMPCC shall adhere to the procedures provided below in preparing FIS reports for printing.

- The FIS report shall be put together in final form, with appropriate graphics and profiles in place, and placed in an envelope. The envelope shall be marked to indicate the name of the community and the effective date of the report.
- The FMPCC shall number the pages of the report with the first page following the cover, "Notice to Flood Insurance Study Users," being page 1.
- The pages shall be numbered consecutively (1, 2, 3) with certain exceptions. No material shall be printed on the back of the "Notice to Flood Insurance Study Users" page; therefore, this page shall be numbered "1/2 blank." No material shall be printed on the back of the page preceding any graphics vicinity map, transect location map, etc., prepared in 11" × 17" format. If this page has an odd number, such as 5, it would be numbered "5/6 blank." Finally, no material shall be printed on the page immediately preceding the first profile panel. Once again, if this page number is odd, the page would be marked "page no./page no. blank."
- The flood profiles shall always be given two page numbers, starting with an odd number. For example if the last text page number is 0, Panel 01P would be marked "51/52 blank."

The FMPCC shall provide the camera-ready originals only; no copy of the revised FIS report is required.

1.2.8.3 Paperwork Preparation

The FMPCC shall prepare the paperwork summarized below to accompany the camera-ready report and maps.

- **Transmittal to Community CEO**—One letter (179 letter for initial FIS reports and maps or 179RS letter for revised FIS reports and maps) shall accompany the material for each community. For studies/restudies prepared in the Countywide Format, one letter shall be prepared for each community.
- **Print Processing Worksheet**—Although it may include several pages, only one worksheet is prepared for each community (including those prepared in Countywide Format).
- **Printing Requisition Form**—One requisition form each is prepared for the FIS report, the FIRM Map Index, the individual rolls of FIRM panels, the FBFM Map Index (as applicable), and the individual rolls of FBFM panels (as applicable).
- **Community Map Action (CMA) Form**—Two copies of the CMA form are to accompany each study/restudy; however, several communities may be shown on one CMA form, provided that the FIRMs have the same effective date. (Note: The CMA forms are to be prepared and submitted for review to the MSC approximately 2 months before the other above-mentioned materials.)

The FMPCC shall place the paperwork in the envelope with the camera-ready report materials.

1.3 Special Conversion Processing Procedures

Under standard conversion procedures, a newly identified community or a community that previously participated in the Emergency Phase of the NFIP enters the Regular Phase of the NFIP based on the results of the detailed analyses performed as part of a study; however, through the Special Conversion process, FEMA may also convert a community for which no engineering study has been performed. Under this process, a community is converted, at the recommendation of the RO, through one of the following procedures:

- Non-floodprone conversion
- Minimal conversion by letter
- Minimal conversion by map

The FEMA RO staff initiates the special conversion process by submitting a Special Conversion Recommendation Report (SCRR) to FEMA HQ. The SCRR is then forwarded to the FMPCC for review. For all Special Conversion procedures, the FMPCC shall perform the coordination and documentation activities required to convert the community to the Regular Phase of the NFIP, in accordance with the detailed procedures documented in Section 6 of *Document Control Procedures Manual* (Reference 2).

1.3.1 Non-Floodprone Conversions

Non-floodprone communities are those communities that are determined not to be subject to inundation by the base flood. The administrative guidelines employed for determining whether a community is designated as non-floodprone are that all of its SFHAs are less than 200 feet wide and all drain less than 1 square mile, or physiographic features that preclude floodplain development exist in the community. If the floodprone areas in a community do not fit at least one of these guidelines, the community shall not, under any circumstances, be designated as non-floodprone. Non-floodprone communities are converted to the Regular Phase of the NFIP by letter only. No FIRM is issued, and any existing Flood Hazard Boundary Map (FHBM) is rescinded. The entire community is designated as Zone C or Zone X (unshaded).

Upon receipt of the SCRR from FEMA HQ, the FMPCC shall ensure that at least one of the criteria for non-floodprone conversions are met. If these criteria are not met, the FMPCC shall inform FEMA HQ so that the RO may be provided with an opportunity to submit additional justification for its recommendation.

Once a community has been approved for a non-floodprone conversion, the FMPCC shall prepare the necessary correspondence to effect the conversion. Depending on the community's status in the NFIP, the FMPCC shall prepare one of three non-floodprone conversion letters. The FMPCC shall distribute copies of the letters and prepare a CMA list for each community. Distribution shall occur 2 weeks prior to the effective date determined by the FMPCC and noted on the CMA list.

1.3.2 Minimal Conversions

Minimally floodprone communities are those communities subject to inundation by the base flood, but for which existing conditions indicate that the area is unlikely to be developed in the foreseeable future. The criteria used by RO staff to evaluate a community's development potential are as follows:

- Floodplains are publicly owned and designed for open space or preservation.
- Zoning laws, sanitary codes, subdivision regulations, shore land regulations, or community regulations effectively prohibit floodplain development.
- Surrounding land use or topography effectively limits the development potential.
- Population is decreasing or stable, and there is no foreseeable pressure for floodplain development.
- Floodplains are remote and uninhabited, and future development is unlikely.

Other indicators may be used in addition to these criteria to assess the development potential. One important indicator is the size of the undeveloped floodplain relative to the size of the entire community. The larger the proportion, the more the floodplain is likely to be subject to pressure for development.

Minimal conversions can be accomplished in two ways, by map or by letter, depending on whether revisions to the existing FHBM are required. For communities for which no FHBM has been published (i.e., newly identified communities), the FMPCC shall follow the procedures detailed in Section 6 of *Document Control Procedures Manual* (Reference 2).

The length of the entire minimal conversion process and the FMPCC processing times for minimal conversions are discussed in the subsections that follow. The length of the entire minimal conversion process depends on the conversion method used (map or letter) and on whether the community to be converted is compliant with the NFIP requirements concerning community floodplain management ordinances set forth in Sections 60.2 through 60.6 of the NFIP regulations. In general, the conversion process for compliant communities is shorter, because non-compliant communities must be allowed 6 months to enact the required ordinances before the conversion can become effective.

1.3.2.1 Minimal Conversions by Map

If the SFHA shown on the existing FHBM for a community must be revised, the community is converted to the Regular Phase of the NFIP with a FIRM that is an updated version of the FHBM. The following categories of FIRMs may be printed, depending on the flooding situation in the community:

- The FIRM shows all SFHAs as Zone A.
- The FIRM Index notes that all areas in the community are Zone D (used in cases where the FIRM is the community's initial map and all areas are considered remote and uninhabited).
- The FIRM (one or more panels printed) shows Zones A and C (or Zone X (unshaded)) for the community's most populated areas and notes on the map Index that all unprinted panels are Zone D, under the remote and uninhabited criteria.

When a FIRM is to be prepared, the FMPCC shall obtain the most current data, including USGS topographic maps; floodprone area maps; original FHBM artwork; FIS reports and FIRMs for contiguous communities; FHARs and FPIs; watershed work plans; other reports available through the USGS, the NRCS, and the USACE; and documentation for the effective FHBM. The FMPCC shall also incorporate changes made previously by LOMC, as appropriate.

The SCRR is to be accompanied by an annotated FHBM or community map with updated corporate limits, road names, and flooding information. The FMPCC shall compare this information to NFIP maps for contiguous communities to ensure the flood hazard information matches. If during the review of contiguous communities, the FMPCC finds that floodplain boundaries do not match, or if other sources are found to provide detailed flooding information, the FMPCC shall consult the PO or his/her designee to determine if an XDS is appropriate.

The FMPCC shall review the areas of flooding designated in the available information. Any apparent errors or discrepancies shall be investigated and, if needed, corrected. Although the FMPCC is not required to check discharges, the FMPCC hydrologic evaluation shall include, but shall not be limited to, an application of the criteria for non-floodprone communities. All SFHAs shall be unnumbered. All areas outside SFHAs shall normally be identified as Zone C or Zone X

(unshaded), unless the RO has requested that the remote and uninhabited areas in the community be identified as Zone D. The FMPCC shall obtain approval from the PO or his/her designee to depict Zone D areas on FIRMs. If the FMPCC engineering review indicates that a minimal conversion for a particular community may be inappropriate, or that significant effort would be involved for such a conversion, the FMPCC shall consult with the PO or his/her designee on the action to be taken.

Because maps are to be converted to depict the most up-to-date FEMA procedures and flooding information, the FMPCC shall use the most recent graphic guidelines. Extensive changes that may require conversion to Z-fold format must be approved by the PO or his/her designee.

At the completion of the engineering review, the FMPCC shall prepare the FHBM for the cartographic phase of the minimal conversion process. At this time, an effective date shall be assigned and a schedule prepared in order to track the conversion through cartographic corrections, correspondence preparation and distribution, and GPO processing. The entire minimal conversion process usually requires 7 months from the receipt of the SCRR and all necessary data by the FMPCC to the new FIRM effective date.

Correspondence for minimal conversions by map must be prepared to notify the community, State Coordinator, affected Federal agencies, and the RO of the conversion. The types of correspondence to be prepared by the FMPCC and the responsibilities for monitoring community review of the FIRM are discussed in detail in Section 6 of *Document Control Procedures Manual* (Reference 2).

1.3.2.2 Minimal Conversions by Letter

If no changes are required within the SFHA shown on the existing FHBM, the community may be converted to the Regular Phase of the NFIP with a letter only. In such cases, the FMPCC shall verify that this procedure is correct by checking the accuracy of the corporate limits, floodplain boundary delineations, and other physical and cultural features. If, during the review, the FMPCC locates sufficient data to prepare an XDS for the community, the FMPCC shall consult with the PO or his/her designee. If the FMPCC determines the maps are inaccurate, the FMPCC shall contact the RO to determine if a minimal conversion by map is warranted. For those FHBMs that meet the criteria for conversion by letter, the FMPCC shall prepare and distribute the necessary correspondence. The specific procedures to be followed are discussed in detail in Section 6 of *Document Control Procedures Manual* (Reference 2).

1.4 Program Implementation and Community Compliance Support

The FMPCC shall perform the coordination and documentation activities necessary for processing the FIS report, FIRM, and FBFM and assisting FEMA in the maintenance of the Regular Phase of the NFIP. During the processing of each report and map, the FMPCC shall communicate with the SC as necessary by:

- Coordinating activities with the FEMA RO as directed by the PO or his/her designee;

- Communicating with other FEMA contractors, Federal and State agencies, and the community as needed;
- Preparing letters and other documents for FEMA concurrence and/or signature;
- Establishing and maintaining community case files and flood elevation determination docket (FEDDs) for FEMA in accordance with Sections 66.3 and 67.3 of the NFIP regulations;
- Maintaining legal documentation and records of correspondence ; and
- Providing inventory lists and printing requisition forms, status reports, and other information to FEMA as required by the PO

1.4.1 Standard Processing Procedures and Schedules

The responsibilities of the FMPCC for standard processing procedures have been discussed throughout Section 1. The following are milestones that generally must be met during the process:

1. The Preliminary FIS report and FIRM are delivered to the community.
2. The FEMA RO staff holds a final CCO meeting with the community (if deemed necessary by the RO).
3. The 90-day appeal period is initiated.
4. All appeals and protests received during the 90-day appeal period are resolved.
5. The compliance period is initiated.
6. The 90- and 30-day suspension letters are issued (as appropriate).
7. The FIS report, FIRM, and FBFM (if appropriate) become effective.

These milestones apply for most communities for which FISs, RFISs, XDSs, RXDSs, or LMMPs are prepared. For some communities, the final CCO meeting may be waived or held before the Preliminary copies of the FIRM and FIS report are delivered to the community and others for review. If new or modified BFEs are not proposed as a result of a study or restudy, no 90-day appeal period will be required. Finally, the length of the compliance period may vary, depending on the status of a community's floodplain management ordinances.

A detailed discussion of FMPCC responsibilities under the accelerated conversion process is provided in Subsection 1.4.2.

1.4.1.1 Flood Elevation Determination Docket

The FMPCC shall prepare the appropriate correspondence for initiating the community's 90-day appeal period and 6-month compliance period in accordance with the procedures outlined in *Document Control Procedures Manual* (Reference 2). This work includes preparing the proposed and final BFE notices for publication in the *Federal Register*; preparing a proposed BFE notice for publication twice in the local newspaper; and preparing and processing the proposed and final BFE determination letters, which are sent to the CEO of the community by certified mail.

The FMPCC shall prepare the BFE notices using the BFEs presented in the Preliminary or Revised Preliminary report and maps, as appropriate. The FMPCC shall ensure that the notices are correct and that they include a range of BFEs for the affected portions of all flooding sources studied or restudied by detailed methods in the community. For proposed BFEs, the FMPCC shall ensure that the notice is published twice in a local newspaper within 10 days of the date on the proposed BFE determination letter that is sent to the CEO of the community.

The FMPCC shall ensure that the FFED letter includes actual dates of publication for the newspaper and *Federal Register* notices. Occasionally, when appeals or protests result in significant changes, the PO may direct the FMPCC to prepare revised copies of the report and maps and send Proof copies to the community with the final BFE determination letter.

As cited earlier, the FMPCC shall establish and maintain a FEDD for each FIS, RFIS, XDS, and RXDS, in accordance with Section 67.3 of the NFIP regulations.

1.4.1.2 Appeals and Protests

The FMPCC shall review, evaluate, and resolve all appeals and protests submitted during the 90-day appeal period in accordance with the procedures outlined in Part 67 of the NFIP regulations. An expanded discussion of these procedures appears in *Appeals, Revisions, and Amendments to National Flood Insurance Program Maps: A Guide for Community Officials* (Reference 3). Appeals must be based solely on information indicating that the proposed BFEs are scientifically or technically incorrect. Objections of other kinds shall be considered and processed as protests.

The FMPCC shall perform the following tasks:

- Acknowledge the receipt of an appeal or protest in writing;
- Evaluate any scientific or technical data submitted;
- Request any additional scientific or technical data required;
- Perform any engineering analyses required (e.g., hydrologic and hydraulic, structural, geotechnical);
- Prepare and distribute, if warranted, Revised Preliminary copies of the report and maps; and
- Prepare an appeal or protest resolution or insert to a FFED letter.

The appeal resolution letter must be sent to the CEO and all appellants for review before the FFED letter is sent to the CEO to start the 6-month compliance period.

Protests shall be handled similarly, but will not result in revised BFEs and, generally, will not involve as much effort on the part of the FMPCC. Usually, the FMPCC shall incorporate changes resulting from protests at the time that the final reproduction materials are prepared; however, if the changes are significant, the PO or his/her designee may direct the FMPCC to prepare and distribute Revised Preliminary or Proof copies of the report and map. Also, the protest resolution may be included in the FFED letter.

1.4.1.3 Standard Processing Schedules

Processing times for studies/restudies are set based primarily on the number of panels affected, the complexity of the study/restudy, and the type of flooding. Another key factor in the processing time will be whether the FMPCC has performed detailed reviews of interim SC submittals. Average processing times to prepare and distribute the Preliminary report (if required) and maps are as follows:

- FISs, RFISs, and LMMPs (no interim submittals by SC)—120 days for incorporated communities and 150 days for Counties (more time may be required if report and map is prepared in Countywide Format)
- FISs, RFISs, and LMMPs (interim submittals by SC)—30 days for incorporated communities and 60 days for Counties
- XDSs and RXDSs—90 days for incorporated communities and 120 days for Counties
- Minimal conversion with maps—60 days

The standard processing time for minimal and non-floodprone conversions by letter is 30 days.

The amount of time required for processing may vary when technical problems (e.g., problems with discharges or hydraulic modeling) are encountered by the FMPCC. The FMPCC shall coordinate resolution of the problems with the PO or his/her designee and other appropriate FEMA and SC staff.

1.4.2 Accelerated Processing Procedures and Schedules

Accelerated processing may be initiated when a community in the Emergency or Regular Phase of the NFIP requests a period of time less than the 6 months provided for in the NFIP regulations for adoption of floodplain management ordinances. The procedures to be followed are outlined in FEMA Instruction No. 8400.1 (Reference 4).

A request for accelerated processing is to be made by the CEO of a community or other community officials to the CCO of the RO staff. The CCO immediately informs appropriate FEMA HQ staff of the community's request. To meet the criteria for accelerated processing, the community must prove compliance with the appropriate floodplain management requirements of Section 60.3 of the NFIP regulations and submit a letter from the CEO indicating that the community agrees with the Preliminary FIS report and FIRM and proposed BFEs, agrees not to appeal, and waives the full 6-month compliance period. However, if an individual property owner submits a legitimate appeal during the 90-day appeal period, the accelerated processing and the attendant effective date of the FIRM are to be canceled.

To accelerate the conversion process, the CCO must submit a copy of the final CCO meeting minutes to the FMPCC, noting the community's request. The FEMA HQ staff shall contact the FMPCC to establish the following milestone dates: (1) the earliest possible final determination date, (2) the earliest possible GPO submittal date, and (3) the earliest possible effective date of the FIRM. FEMA HQ will provide the milestone date information to the CCO, in effect establishing deadlines for receipt of necessary information from the CCO.

The FMPCC shall observe the following guidelines when assigning milestone dates for accelerated processing:

- The 90-day appeal period should start as soon as possible after receipt of the CCO's telephone confirmation of the final CCO meeting results (approximately 30 days).
- The effective date, taken from the FIRM Effective Date List provided to the FMPCC by FEMA HQ, should be that date closest to 4 months from the beginning of the 90-day appeal period.
- The earliest possible GPO submittal date should be 3 months before the effective date.
- The final BFE determination date, chosen from the same list as the FIRM effective date, should be the appropriate date immediately following the end of the 90-day appeal period.

After confirming all milestone dates with FEMA HQ staff, the FMPCC shall proceed with the preparation of the final reproduction materials and all appropriate documenting correspondence.

The FMPCC shall prepare the necessary correspondence and documentation at each milestone. The FMPCC must take special care to ensure that BFE notices are properly published in a local newspaper with wide circulation and in the *Federal Register*. Failure to publish in the newspaper or the *Federal Register* during the 90-day appeal period can result in delay of the final BFE determination, thereby causing a change in the effective date. When publication problems occur, the FMPCC must notify the PO or his/her designee or other FEMA HQ staff immediately. The PO or his/her designee or other FEMA HQ staff shall advise the FMPCC how to proceed.

1.4.3 Document Control Procedures

The FMPCC shall perform the required procedures for preparing and distributing standard and presigned letters. This includes mailing letters, with their appropriate enclosures, as specified in the U.S. Postal Service Domestic Mail Manual (Reference 5). In addition, the FMPCC shall procure FEMA forms and stationery from FEMA. The document control procedures, as outlined in the *FEMA Document Control Procedures Manual* (Reference 2), will be updated when appropriate policy or procedure memorandums are supplied by FEMA. The FMPCC shall keep records and files of correspondence as well as records of BFE publications. Copies of correspondence shall be sent to FEMA HQ staff and the ROs, as directed in the *Document Control Procedures Manual*.

1.4.4 Coordination

During the processing of new or revised map or report products, the FMPCC shall coordinate with representatives of the SC, RO, and FEMA HQ to ensure that the products meet the technical and format specifications of these *Guidelines*. To ensure proper coordination, the FMPCC shall hold meetings with FEMA HQ and/or RO staff; conduct telephone conversations with FEMA HQ and RO staff and with SC staff; and, on occasion, prepare letters and transmit them to the SC. The FMPCC also shall coordinate with the community, as required, to obtain up-to-date corporate limit information and information on CEO names and addresses and map repository addresses.

Section 2

Conditional and Final Revisions and Amendments

At the request of the PO or his/her designee, the FMPCC shall review and process requests from community officials, property owners, and other NFIP constituents for conditional and final map revisions and amendments, revalidation letters, informational letters, annexation requests, and Letters of Determination Review. The procedures to be followed in processing these requests are discussed in the subsections that follow.

2.1 Products/Processes

2.1.1 Final Map Revisions By Letter

Requests for map revisions may be initiated by individuals through their community officials or through Federal, State, or local agencies. They generally involve changes to one or more of the following: flood elevations, flood risk zones, regulatory floodplain boundaries, floodway boundaries, and corporate limits. These changes usually result from one or more of the following:

- Adoption of revised flood discharges
- Construction, including channel modification projects, flood-protection structures, and placement of fill
- Availability of new or more detailed topographic or flood information
- Community annexations of floodprone areas
- Errors or discrepancies uncovered in the effective FIS

These changes may involve the 10-, 50-, 100-, and 500-year floods and regulatory floodway; however, FEMA will not process revisions that do not involve the base flood or regulatory floodway.

A LOMR may be issued by FEMA to revise an effective FIRM, FBFM, and/or FIS report when the extent of the changes resulting from the requested revision are limited or when the request must be addressed quickly. However, a LOMR is not typically issued to add SFHAs to an effective FIRM and FBFM or to increase BFEs. If the width of an SFHA increases, and the increase is contained entirely on the requester's property, a LOMR may be issued. The FMPCC shall use the Standard Map Revision Flowchart (Figure 2-1) to recommend processing. However, the PO or his/her designee shall have discretion in making final decisions about processing.

The FMPCC shall prepare the LOMR using a standard format and shall provide a general description of the changes resulting from the requested revision. (See Section 2 of *Document Control Procedures Manual* (Reference 2) for additional information.) At the direction of the PO or his/her designee, the FMPCC shall prepare the LOMR and include annotated copies of the affected Flood Profile, FIRM, and FBFM panels; Summary of Discharges Table; and Floodway

Data Table, as appropriate. Although a revision accomplished by LOMR usually becomes effective on the date of the LOMR, the effective date may vary. The FMPCC shall refer to the information in Table 2-1 of *Document Control Procedures Manual* (Reference 2) for guidance in determining effective dates of LOMRs. Additional detailed information on the processing procedures for LOMRs is provided in Subsection 2.2.1 of these Guidelines.

Topographic alterations to the SFHA based on the placement of earthen fill and natural high ground above the BFE within a floodway are described in Part 65 of the NFIP regulation. After the date of the first NFIP map designating the SFHA, in order to elevate a legally defined parcel of land or structure above the BFE, FEMA can issue a LOMR-F if a requester submits the appropriate documentation. The LOMR-F request must be routed through the community CEO, or an official designated by the CEO, and the supporting data and documentation must satisfy the criteria described in Section 65.5 of the NFIP regulations. The issuance of a LOMR-F may revise the effective FHBM or FIRM by removing the parcel of land or structure from the SFHA; however, LOMR-Fs should not be confused with LOMRs that make changes in BFEs, floodplain and floodway boundary delineations, and coastal high hazard areas.

Requests for LOMR-Fs may involve one or more properties (lots) and one or more structures. Final determinations based on as-built data may be made for undeveloped lots totally filled above the BFE, portions of lots defined by metes and bounds and filled above the BFE, or for existing structure(s) on ground elevated by fill above the BFE.

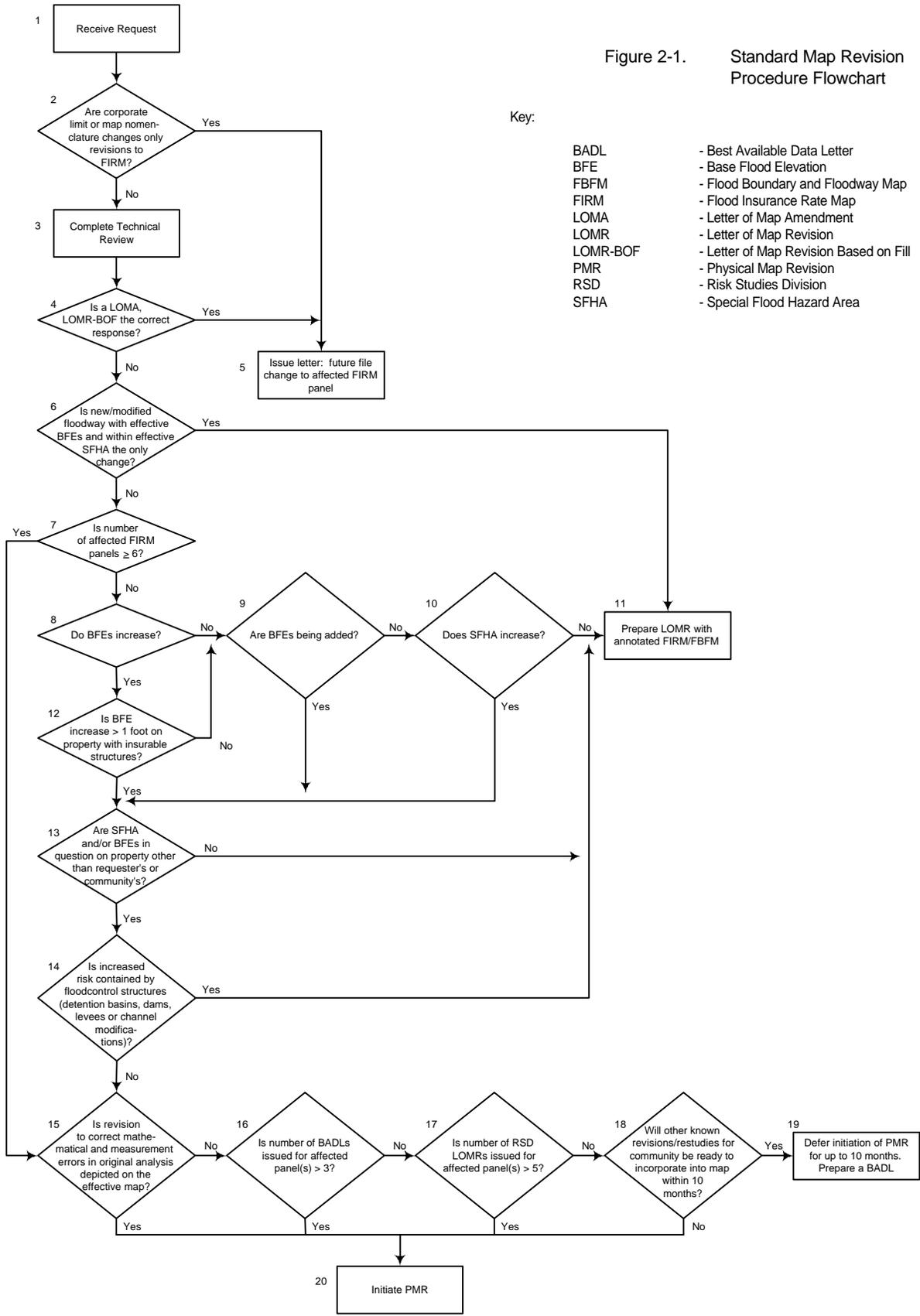
Upon receiving all required data, the FMPCC shall process the LOMR-F in accordance with the detailed procedures provided in Subsection 2.2.2 of these Guidelines.

2.1.2 Physical Map Revisions

A PMR is typically initiated, at the direction of the FEMA PO, when changes resulting from the requested revision are extensive, or when the revision will add significant SFHAs to the effective FIRM or increase the BFEs. A revised FIS report and/or FBFM may also be prepared, depending on the nature of the revision. It should be noted that, under certain circumstances, a LOMR may be issued even if the above-mentioned conditions exist. The FMPCC shall utilize the Standard Map Revision Flowchart (Figure 2-1) in recommending processing. However, the PO or his/her designee shall have discretion in making final decisions about processing.

At the direction of the PO or his/her designee, the FMPCC shall prepare a revised FIRM and, as necessary, FIS report and FBFM in a standard publication format in accordance with the specifications outlined in Appendixes B and C. To accomplish this, the FMPCC shall update the FIRM/FBFM base information as necessary; prepare manuscripts for use in drafting or digitizing the revised FIRM and FBFM; prepare the revised FIS report, FIRM, and FBFM; and prepare final reproduction materials, including a camera-ready copy of the FIS report and negatives of the FIRM and FBFM, or positive plots on mylar, on digital files, for printing by GPO. The FMPCC shall ensure the accuracy and completeness of all final reproduction materials submitted for

Figure 2-1. Standard Map Revision Procedure Flowchart



Key:

- BADL - Best Available Data Letter
- BFE - Base Flood Elevation
- FBFM - Flood Boundary and Floodway Map
- FIRM - Flood Insurance Rate Map
- LOMA - Letter of Map Amendment
- LOMR - Letter of Map Revision
- LOMR-BOF - Letter of Map Revision Based on Fill
- PMR - Physical Map Revision
- RSD - Risk Studies Division
- SFHA - Special Flood Hazard Area

printing. Detailed information on the procedures for processing PMRs is provided in Subsection 2.2.1 of these Guidelines.

2.1.3 Conditional Map Revisions

In some instances, a community or individual may request that FEMA review and comment on the effect of a proposed project on the flood hazards depicted on the effective FIRM and/or FBFM. In these cases, the FMPCC shall review the proposed project based on proposed construction drawings instead of as-built plans. These reviews usually result in the issuance of a Conditional Letter of Map Revision (CLOMR), which describes the effect of the project, if constructed as proposed, on the effective FIRM and/or FBFM. A CLOMR often contains detailed information on conditions that must be met by a requester before FEMA will issue a final determination regarding revising the FIS report, FIRM, and/or FBFM.

Detailed information on the procedures for processing CLOMRs is provided in Subsection 2.3.1 of these Guidelines.

In some instances, a requester may choose to submit documentation that satisfies the criteria of Section 65.8 of the NFIP regulations and request that FEMA review and comment on the effect a proposed project involving the placement of earthen fill within the SFHA will have on the SFHA designation for one or more legally defined parcels of land or one or more proposed structures. Those reviews, performed by the FMPCC, usually result in the issuance of a Conditional Letter of Map Revision Based on Fill (CLOMR-F). Procedures for processing CLOMR-Fs are discussed in Subsection 2.3.2 of these Guidelines.

2.1.4 Map Amendments by Letter

Under the provisions of Part 70 of the NFIP regulations, a requester who believes that his or her property has been inadvertently included in an SFHA is allowed to substantiate this claim by requesting a LOMA. A LOMA is an official determination by FEMA that a property, structure(s), or legally defined parcel(s) of land has been inadvertently included in an SFHA as shown on an effective FHBM or FIRM and is not subject to inundation by the base flood. Generally, the property is located on natural high ground at or above the BFE or on fill placed prior to the effective date of the first NFIP map designating the property as within an SFHA. Limitations of map scale and development of topographic data more accurately reflecting the existing ground elevations at the time the maps were prepared are the two most common bases for LOMA requests.

The result of such a request, if technically warranted, is an amendment to the currently effective FHBM or FIRM. Requests for such determinations generally are submitted by the owners of the affected property or others having an insurable interest in properties that may have been included in the SFHA. The LOMA process provides an avenue of release from the Federal requirement for the purchase of flood insurance. It remains the lending institution's prerogative, however, to require or waive the insurance purchase requirement.

LOMA requests may involve one or more properties (lots) and one or more structures. Final determinations, based on existing conditions, may be made for undeveloped lots or for existing structures.

The FMPCC shall also process requests for information that does not involve properties or structures by providing the best estimate of the BFE in an approximate or detailed SFHA. Detailed information on the processing procedures for LOMAs is provided in Subsection 2.4.2 of these Guidelines.

2.1.5 Conditional Map Amendments

Under Part 70 of the NFIP regulations, a requester who believes his or her structure, when constructed on natural ground at or above the BFE, will be outside the SFHA, may request a conditional determination from FEMA. FEMA's response, prepared by the FMPCC, is usually a Conditional Letter of Map Amendment (CLOMA). CLOMAs provide FEMA's comment on whether the structure, if built as proposed, would be in the SFHA. CLOMAs may not be issued for unimproved or undeveloped property. Detailed information on the processing procedures for CLOMAs is provided in Subsection 2.4 of these Guidelines.

2.1.6 Revalidation Letters

When a revised FIRM panel becomes effective, all previous map actions for that panel are superseded. Therefore, each time a FIRM panel is physically revised and republished, the panel must be updated to include the changes in flood hazard information resulting from previously issued map update actions, including LOMCs. Frequently, the results of a LOMC cannot be shown on a revised FIRM panel because of scale limitations, because the results indicated a particular property (parcel of land or structure) was outside the SFHA as shown on the previous effective FIRM, or because the flood hazard data on which the determination on the LOMC was based have been superseded by new detailed flood hazard data. Because the changes made to the effective FIRM via the LOMC process become effective without the affected panel(s) being physically revised and republished, the FMPCC must maintain records of these modifications so they may be incorporated into the next physical update of the affected panel(s).

To assist communities in maintaining their NFIP maps, FEMA developed a process for revalidating LOMCs automatically when a revised FIRM becomes effective. The result of this process is the issuance of a revalidation letter, termed a LOMC-VALID letter.

Detailed information on the procedures to be followed by the FMPCC in processing LOMC-VALID letters is provided in Subsection 2.5 of these Guidelines.

2.1.7 Letters Of Determination Review

In accordance with the National Flood Insurance Reform Act of 1994 (NFIRA), FEMA processes requests for review of determinations made by lending institutions regarding whether buildings or manufactured homes are located in SFHAs shown on NFIP maps. The resulting review, referred

to as a Letter of Determination Review (LODR), provides borrowers and lending institutions with a mechanism for resolving disputes regarding in/out determinations. The NFIRA stipulates that (1) all such requests must be supported by technical information relating to the building or manufactured home and (2) FEMA must provide the borrower and lending institution with a letter stating whether the building or manufactured home is in the SFHA shown on the effective NFIP map.

Detailed information on the procedures to be followed by the FMPCC in processing LODRs is provided in Subsection 2.7 of these Guidelines.

2.1.8 Annexation Requests

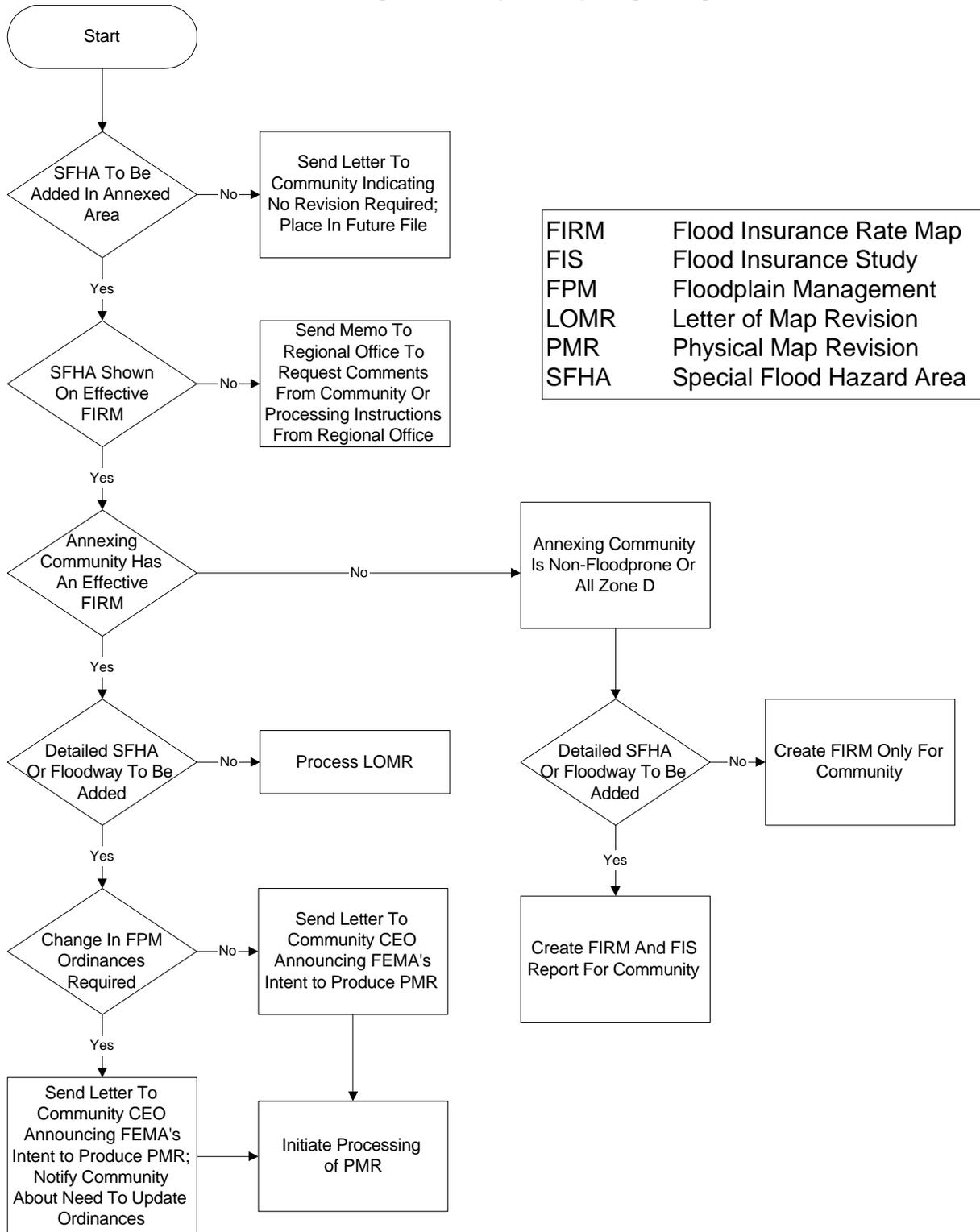
FEMA receives a considerable number of requests from communities to have their NFIP maps updated to reflect recent annexations/de-annexations. To accommodate these requests, FEMA developed a standard decision-making procedure for processing these requests. The procedure is documented in Figures 2-2 and 2-3. The flowchart in Figure 2-2 is to be used when the community is participating in the Regular Phase of the NFIP. The flowchart in Figure 2-3 is to be used when the community is not participating in the Regular Phase of the NFIP.

As shown in Figures 2-2 and 2-3, processing decisions will be made based on the following factors: (1) status of map for annexing community, (2) existence of flood hazard information for annexed area, (3) source of flood hazard information, and (4) effect of annexation on community participation in the NFIP. Using these factors in conjunction with the flowcharts, FEMA HQ will take one of the following actions:

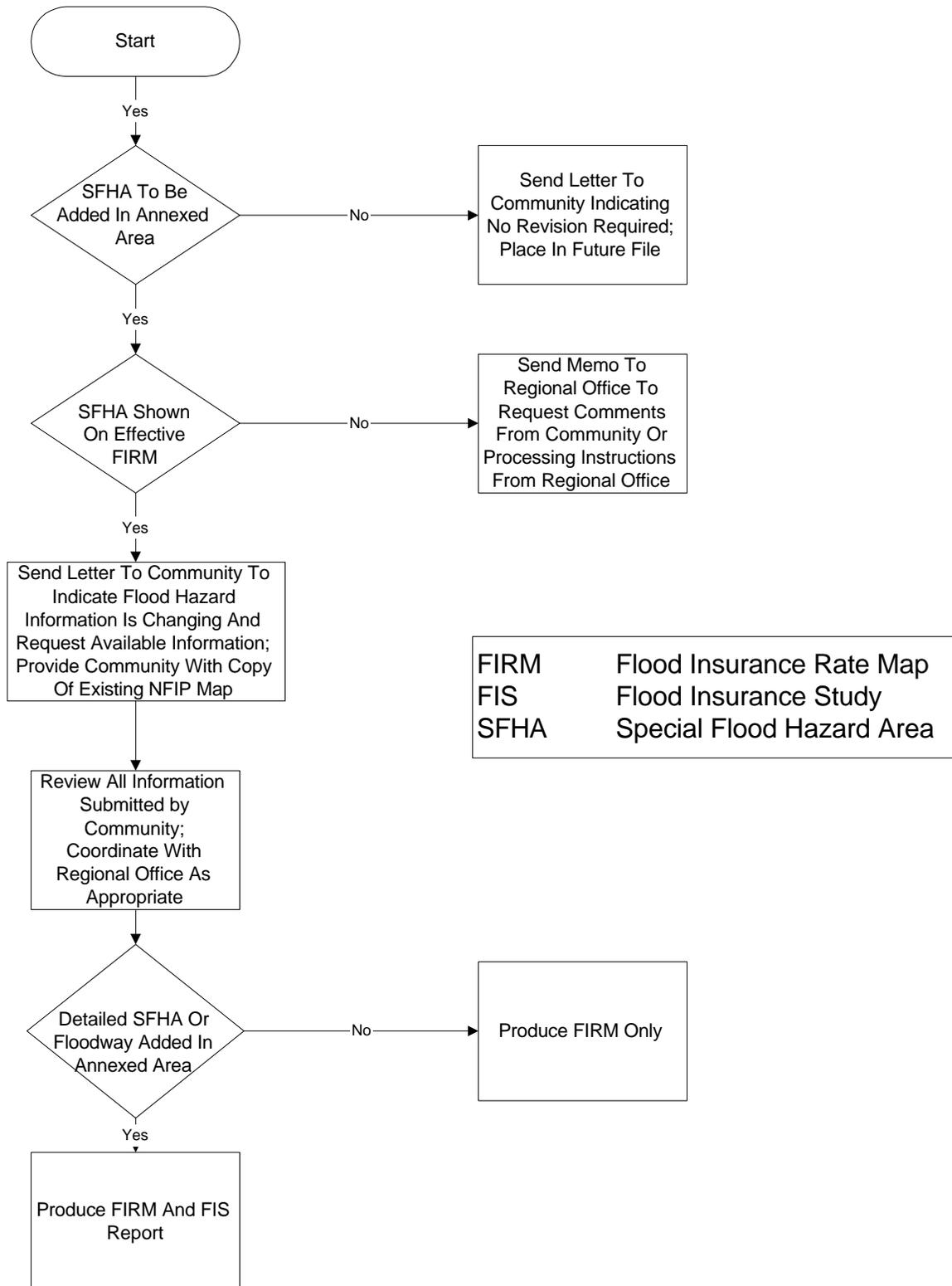
- Send a letter to the annexing community indicating the revision will not be made at this time because the flood hazard information has not changed.
- Issue one or more LOMRs to revise the affected map panel(s) for both the annexing and de-annexing communities.
- Physically update and re-issue affected FIRM panel(s) for both the annexing and de-annexing communities.
- Create new FIRMs for communities that do not have FIRMs when necessary to meet NFIP regulations.
- Send a memorandum to the FEMA RO staff requesting additional guidance and coordination with the community (when the annexed area is covered by an effective or rescinded FHBM or by a rescinded FIRM).

At the request of the PO or his/her designee, the FMPCC shall review incoming information and provide the letters, memorandums, and maps to support the decision-making process detailed in Figures 2-2 and 2-3.

**Figure 2-2. Decision-Making Procedure For Annexations:
Annexing Community Participating In Regular Phase of NFIP**



**Figure 2-3. Decision-Making Procedure For Annexations:
Annexing Community Not Participating In Regular Phase of NFIP**



2.2 Processing Procedures for Map Revisions

2.2.1 Procedures for Map Revisions Based on Conditions Other than Fill

2.2.1.1 Receipt and Acknowledgment

All map revision requests and any accompanying data will be transmitted to the FMPCC by the PO or his/her designee or other FEMA staff. The FMPCC shall inform the PO or his/her designee of any requests for information submitted directly to the FMPCC. The FMPCC shall inventory the materials received and, within 5 working days of receipt, send acknowledgment letters to the CEO of the community. If the requester is anyone other than the CEO, the FMPCC shall send the requester a copy of the acknowledgment letter and, if necessary, telephone the requester to explain the review procedures.

In accordance with Section 65.4 of the NFIP regulations, all requests for changes to effective maps other than those initiated by FEMA must be made in writing by the CEO of the community. The FMPCC shall request community concurrence if the CEO has not submitted it.

2.2.1.2 Case Initiation

Upon receipt of the request, the FMPCC shall assign a case number; create a revision case file (see Appendix F), in accordance with Section 66.3 of the NFIP regulations; and telephone the community to obtain general information (name and address of the CEO and community contact person, and location of community map repository) and, for PMRs, to request an updated community corporate limit map.

The FMPCC shall also enter the revision request into an in-house Management Information System (MIS) and the LOMC module of FEMA's CIS database, make an initial determination as to the expected processing procedure, and record the date of receipt as the date from which all required processing dates are determined.

2.2.1.3 Initial Reconnaissance

After the case has been properly recorded, the FMPCC shall begin a search of all available records to determine the status of the community in the NFIP and to determine any and all past actions by FEMA in the community that may affect the request. The FMPCC shall determine whether all data required to address the request have been submitted, advise the PO or his/her designee of the results of this review, and make a recommendation concerning followup. The PO or his/her designee shall make the final decision on how to proceed with the request.

2.2.1.4 Program Status and Map Actions

The FMPCC shall review various portions of FEMA's databases (i.e., CIS, Monitoring Information on Contracted Studies (MICS), Map Needs Update Support System (MNUSS)) to determine the status of the community in the NFIP and obtain information on complete, active, and future required restudies, map revisions, and map amendments. The FMPCC also may use the *NFIP Community Status Book*, available in hardcopy form from the MSC or from the Mitigation Library on FEMA's Internet site, to determine whether the community is participating in the Emergency or Regular Phase of the NFIP.

The FMPCC shall review the following data sources to obtain more detailed information on the nature and extent of any past map actions in the community:

- **Future Revision Files**—The FMPCC shall review these files to determine if additional revisions to the FIS report, FIRM, or FBFM are warranted. These files exist because, from time to time, information is submitted by the community or discovered during the course of processing a restudy or map revision that does not significantly affect the community's participation in the NFIP. Because of funding constraints, these revisions are deferred for future action and, at the request of the PO or his/her designee, placed in the future revision files. These files also include LOMRs and LOMR-Fs for future PMRs.
- **LOMA and LOMR-F Files**—The FMPCC shall review these files to determine if past LOMA and LOMR-F actions are of sufficient scope to warrant inclusion in the ongoing revision. In general, single-lot LOMAs and LOMR-Fs do not warrant inclusion because of map scale limitations. However, multiple-lot LOMAs and LOMR-Fs may warrant inclusion in a PMR.
- **Five-Year Map Update Files**—As with the Future Revision Files, the FMPCC shall review these files to determine if additional revisions to the FIS report, FIRM, or FBFM are warranted.

2.2.1.5 Required Data

Based on the reason for the request, the FMPCC shall make a determination as to the need for additional data in accordance with the applicable portions of Sections 65.5, 65.6, 65.7, 65.10, 65.11, 65.12, and 65.13 of the NFIP regulations. As part of the revision package, the requester is required to complete the application/certification forms included in the MT-2 application/certification forms package.

Examples of standard data requirements for various structural modifications include, but are not limited to, the following:

- Channelizations
 - Certified as-built construction or grading plans
 - Hydrologic analysis (if the discharges in the effective FIS report are not used)
 - Calibration run duplicating original hydraulic model (multiple profile and floodway)
 - Existing hydraulic model (multiple profile and floodway) if the calibration hydraulic model run does not reflect the floodplain conditions prior to the start of the project

- Revised hydraulic model (multiple profile and floodway)
- Floodplain and/or floodway boundary delineations on the effective map panels
- Transition structure design plans for as-built conditions
- New hydrologic analyses or diversion channels
- Evidence of adequate soil compaction and erosion protection (for placement of fill)
- Certified topographic data that include the entire area of the revision and delineate floodplain and/or floodway boundaries, BFEs, and cross-section locations
- Culverts and Storm Systems
 - Certified as-built construction plans
 - Hydrologic analysis (if the discharges in the effective FIS report are not used)
 - Calibration run duplicating the original hydraulic model, the existing hydraulic model if appropriate, and the revised hydraulic computer models (multiple profile and floodway)
 - Determination of headwater and tailwater elevations
 - Floodplain and/or floodway boundary delineations on the effective map panels
 - Evidence of adequate soil compaction and erosion protection (for placement of fill)
 - Certified topographic data that include the entire area of the revision and delineate floodplain and/or floodway boundaries, BFEs, and cross-section locations
- Bridges
 - Certified as-built construction plans
 - Hydrologic analysis (if the discharges in the effective FIS report are not used)
 - Calibration run duplicating the original hydraulic model, the existing hydraulic model if appropriate, and the revised hydraulic computer models (multiple-profile and floodway)
 - Evidence of adequate soil compaction and erosion protection (for placement of fill)
 - Certified topographic data that include the entire area of the revision and delineate floodplain and/or floodway boundaries, BFES, and cross-section locations
- Levees (Dikes, Berms, and Embankments)
 - Certified as-built construction plans
 - Hydrologic analysis (if the discharges in the effective FIS report are not used)
 - Hydraulic model with levee if compliant with Section 65.10 of the NFIP regulations
 - Hydraulic models with and without levee if not compliant with Section 65.10 of the NFIP regulations
 - Evidence of structural stability, certified by a Registered Professional Engineer,
 - Evidence of operation and maintenance provisions
 - Interior drainage analyses and SFHA boundary delineations
 - Floodplain and/or floodway boundary delineations on the effective FIRM/FBFM panels
 - Evidence of adequate soil compaction and erosion protection (for placement of fill)
 - Certified topographic data that include the entire area of the revision and delineate floodplain and/or floodway boundaries, BFEs, and cross-section locations
 - Additional design data as necessary
- Dams (Detention Basins and Reservoirs)
 - Certified as-built construction plans

- Hydrologic analysis (if the discharges in the effective FIS report are not used)
- Certification by a registered professional engineer that impoundment structures will remain stable during the base flood
- Evidence of operation and maintenance provisions
- Hydraulic analysis
- Floodplain and/or floodway boundary delineations on the effective FIRM/FBFM panels
- Hydrologic analyses for downstream reach, if the dam is designed to lower the base flood discharge
- Evidence of adequate soil compaction and erosion protection (for placement of fill)
- Certified topographic data that include the entire area of the revision and delineate floodplain and/or floodway boundaries, BFEs, and cross-section locations
- Flood-Control Structures Subject to Alluvial Fan Flooding
 - Certified as-built construction plans
 - Certification by a registered professional engineer that the flood-control structures will be able to withstand the hazards associated with flooding, erosion, scour, and relocation of flow paths during the base flood discharge
 - Hydrologic analyses that quantify the discharges (if the discharges on which the effective FIRM is based are not used) and the volumes of water, debris, and sediment movement
 - Engineering analyses demonstrating the impact of flooding from sources other than the fan apex
 - Revised analysis of alluvial fan flooding (if the analysis on which the effective FIRM is based is not used), accompanied by a discussion of the effects of (1) the depth and velocity of flooding, and (2) the scour and sediment deposition on other areas of the fan
 - Evidence of operation and maintenance provisions
 - Revised floodplain boundary delineations on the affected panels of the effective FIRM
 - Topographic data that include the entire area of the revision and delineation of the revised floodplain boundaries (certified, if the topographic data on which the effective FIRM is based are not used)

Evidence of maintenance provisions, where referenced above, are to be in the form of an ordinance that specifies the activities to be performed, the frequency of performance, and the community officials responsible for the performance. If maintenance is to be accomplished by an agency other than the community, a logical provision (e.g., ordinance) for community monitoring and backup maintenance is required. The FMPCC shall ensure that maintenance agreements are submitted for levees and dams.

Certifications, where referenced above, are defined as follows:

- Certification of data is a statement that the data are accurate to the best of the certifier's knowledge.
- Certification of analyses is a statement that the analyses have been performed correctly and in accordance with sound engineering practices.

- Certification of structural works is a statement that the works are designed in accordance with sound engineering practices to provide protection from the base flood.
- Certification of as-built conditions is a statement that a structure has been built according to the plans being certified, is in place, and is fully functional.

The FMPCC shall ensure that certifications include the certifier's name, signature, registration number, and the registration date of the certifier.

2.2.1.6 Technical Review

The FMPCC shall review the technical, scientific, and other information submitted by the revision requester to ensure that the data are technically accurate, consistent with standard engineering practice and FEMA standards, and sufficient to warrant a revision. The extent of the technical review will, generally, be limited to a review of the information presented on the application/certification forms and the supporting documentation submitted with them. The FMPCC shall use the forms to identify inconsistencies and discrepancies and judge reasonableness. In certain cases, such as review of requests involving alluvial fan flooding, unique hydrologic or hydraulic analyses, or significant changes to the SFHAs shown on the effective FIRM, additional technical reviews beyond the reviews of the application/certification forms may be required, as directed by the PO or his/her designee.

For revisions involving the addition of detailed flood information or changes to flooding sources originally studied by detailed methods, analyses and other supporting data for the 10-, 50-, 100-, and 500-year floods and regulatory floodway may be required. At a minimum, the analyses and other supporting data provided in support of a revision request must meet the original standards employed by FEMA for the preparation of the FIS report, FIRM, and FBFM, which are documented in *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference 1).

FEMA requires that the computations performed to support requests for revisions to effective FIS reports, FIRMs, and FBFMs be based on the flood discharge values used for the effective FIS and FIRM; however, revision requests may also be based on new hydrologic conditions or better estimates of the flood discharges. The requester must provide 5- and 95-percent confidence limits in support of new discharge values, when applicable. The requester must not only provide sufficient data to support the use of the new discharges for the 100- and, if necessary, 10-, 50-, and 500-year floods, but must also determine all changes to the FIS report, FIRM, and FBFM that would result from the use of the new discharges. Therefore, the requester will usually be required to provide hydraulic analyses and revised floodplain and floodway boundary delineations, in addition to hydrologic analyses.

2.2.1.6.1 Hydrologic Analyses

Unlike the hydrologic analyses performed by an SC under contract to FEMA, those performed by a revision requester usually have not been reviewed by the FEMA RO staff. Therefore, the FMPCC shall review the information presented on Form 3, entitled "Hydrologic Analysis Form,"

included in the MT-2 package to determine if the discharges are reasonable and adhere to the requirements listed below. The discharge values shall be checked for consistency, within the limitations of the methodology employed, throughout the information submitted by the requester. In performing this check, the FMPCC shall verify that, for flooding sources studied by detailed methods, adequate information has been provided for any of the four recurrence interval floods that may be affected by the new hydrologic analyses.

The following requirements apply when processing requests involving revised hydrology:

- A new discharge must be significantly different from the effective discharge. The new discharge should be adopted if the previously established discharge does not fall within the 5- and 95-percent confidence limits of the most recent estimates. These limits should be determined using methods contained in Bulletin 17B, *Guidelines for Determining Flood Flow Frequency* (Reference 6).
- In cases where the new discharge must be approved by the State, the FMPCC shall ensure that the proper approval from the State has been acquired.
- In cases where the new discharge must be approved by a regional/local flood-control agency, the FMPCC shall ensure that the proper approval from the regional/local flood-control agency has been acquired.
- An alternative methodology, if used, must be available for general use, well documented, and deemed acceptable by a Federal agency or reliable scientific body.
- The revised hydrologic analyses must analyze the same recurrence interval floods as those studied for the effective FIS.
- The methodology used in the revised hydrologic analyses must match that used for contiguous communities.
- The data accumulated and analyses performed must be certified by a registered professional engineer and submitted to the FMPCC for review.
- If the FMPCC believes future conditions discharges have been used for any revision request, the case shall be referred to the PO or his/her designee for review and followup action.

2.2.1.6.2 Hydraulic Analyses

The requester must perform hydraulic analyses to support a revision request based on new hydrologic conditions or physical changes in channel or overbank conditions, if those conditions affect the elevation and extent of the base flood. For revisions involving flooding originally studied by approximate methods and designated as Zone A on the effective FIRM, the analyses performed by the requester generally must be consistent with FEMA standards for approximate studies. Therefore, the analyses may be in the form of hand calculations for step-backwater, normal-depth, or stage-frequency relationships, or the analyses may be based on the use of step-backwater or coastal flooding computer programs.

If the effective hydraulic model is available, the requester should use it to establish baseline conditions. For revisions involving flooding sources studied by detailed methods for the effective FIS, analyses performed by the requester must be consistent with FEMA standards for detailed studies. Therefore, the analysis usually must consist of step-backwater computations for riverine

flooding sources, stage-frequency analyses for lacustrine flooding, hand computations for sheetflow areas, and storm-surge and wave-height or wave-runup calculations for coastal flooding.

The FMPCC's technical review shall generally be limited to the information presented on the application/certification forms. The FMPCC shall review the forms to ensure that the requirements listed below are met. As discussed previously, in certain cases additional technical review beyond review of the application/certification forms may be required, as directed by the PO or his/her designee. All data submitted by the requester must be consistent, and there may be no discontinuities between the information shown for revised areas and that shown for unrevised areas in the FIS report and on the FIRM and FBFM.

In addition, for revisions based on the effects of levees or other flood-control structures that have been credited with providing base flood protection, the FMPCC shall obtain verification, in the form of technical analyses, that those structures meet the minimum criteria outlined in Section 65.10 of the NFIP regulations. Similarly, for flood-control structures located in areas subject to alluvial fan flooding, the FMPCC shall obtain technical analyses to verify that the minimum criteria of Section 65.13 of the NFIP regulations are met. If a PMR is processed, the FMPCC shall verify that the effects of such structures are properly discussed in the FIS report and shown on the FIRM and FBFM.

The following requirements apply when processing requests involving revised hydraulics:

- Revision requests must be based on the effective hydraulic computer. Where the input data representing the effective hydraulic model are unavailable, an approximation should be developed. A new model should be established using the original cross-section topographic information, where possible, and the discharges on which the current FIS report and FIRM are based. The model must use the same effective-flow areas as established in the original analysis and must be calibrated to reproduce the original BFEs to within 0.5 foot.
- If an alternative hydraulic methodology is used, it must be accepted by a Federal agency or reliable scientific body, available for general use, well documented, and meet the requirements of Paragraph 65.6(a)(6) of the NFIP regulations.
- To avoid discontinuities between the revised and unrevised flood data, the hydraulic analyses submitted by the revision requester must be extensive enough to ensure that a logical transition can be shown between the revised flood elevations, floodplain boundaries, and floodway boundaries and those developed previously for areas not affected by the revision. The revised and unrevised BFEs must match, within 0.5 foot, where such transitions occur. Exceptions to this standard must be approved by the PO or his/her designee.
- In general, revision requests that result in increases in BFEs because of the physical actions of an individual property owner within the regulatory floodway will be considered a violation of NFIP regulations unless evidence is provided to show that all adversely affected property owners or adjacent jurisdictions have been notified and have approved the requested revision. In some cases, increases in BFEs can be approved if the requester proves that his or her property boundaries encompass the entire reach affected by the increase and submits evidence of property boundaries. The circumstances in which BFE increases that exceed the allowable standards may be allowed are described in Section 65.12 of the NFIP regulations.

2.2.1.6.3 Coastal Revisions

Computation of the SWFL considers many factors and is performed through the use of computer models or statistical analysis of tide gage data of adequate continuous record. Any revision of the SWFL should be based on new information that either refutes or supplements the database. The requester must submit significant data or produce verifiable information that refutes the information used by the SC to construct the applicable computer model. In the case of tide gages, the requester must perform a statistical analysis prepared with new data that supplements the existing tide gage records or provides evidence that the data used are incorrect. The FMPCC shall review the information presented on Form 9, "Coastal Analysis Form," from the MT-2 application/certification forms package to determine the appropriateness of incorporating the revised data on the FIRM.

For map revision requests in coastal areas based on more up-to-date, site-specific topographic information, a transect and a wave-height analysis based on the profile must be provided. This analysis may also require consideration of other coastal processes, such as erosion and wave runup. This analysis may be conducted based on the terms of the effective FIS and FIRM, the community, or the PO or his/her designee.

Map revisions in coastal areas may also be based on existing, new, or improved shore-protection structures, such as bulkheads, seawalls, breakwaters, and dikes. When structures designed to diminish or absorb wave energy (e.g., breakwaters, bulkheads, seawalls) are involved, the requester must submit evidence that the structure will survive the base flood and associated wave action. The items that the FMPCC shall address before issuing a map revision based on coastal structures are listed in *Criteria for Evaluating Coastal Flood Protection Structures*. (See Appendix G.) Structures designed to provide flood Protection (e.g., levees, dikes, floodwalls) must conform to Section 65.10 of the NFIP regulations and to the criteria outlined in Section 1 of these Guidelines.

The requester must also provide assurance from the State or local agency with maintenance responsibility that the structures involved in the revision will be maintained and will not settle. As-built drawings of all structures are required. Wave height analyses based on transects through these types of structures are valid only when the conditions previously submitted are met.

The FMPCC shall review the information presented on Form 9, "Coastal Analysis Form," and/or Form 10, "Coastal Structures Form," from the MT-2 application/certification forms package to determine the items that require further review and the appropriateness of incorporating the revised data on the FIRM.

2.2.1.6.4 Other Data

Revisions involving changes to flood risk zones, floodplain boundaries, and corporate limits may also be requested. For revisions to flood risk zones, the FMPCC shall verify the accuracy of any calculations the requester submitted and determine whether a revision is warranted based on a review of Form 4, "Riverine Hydraulic Analysis Form," from the MT-2 application/certification forms package and the supporting documentation. Requests that Zone V or Zone A areas be

revised to Zone A or Zone B, respectively, must be supported by hydraulic computations in most cases. For floodplain boundary revisions based on new or more detailed topographic information, hydraulic analyses are usually not required unless the changes in ground contours have significantly affected the geometry of cross sections used for the effective FIS and FIRM or have altered effective-flow areas. For revisions involving only floodplain boundaries, the FMPCC shall review the information presented on Form 5, "Riverine/Coastal Mapping Form," from the MT-2 application/certification forms package to determine whether the requested revisions are acceptable.

2.2.1.7 Reporting and Project Officer Approval

Upon request, the FMPCC shall advise the PO or his/her designee about the current status of a technical review. When the technical review is complete, the FMPCC shall discuss the results of the review, any additional data required to support the requested revision, and any problems encountered during the review with the PO or his/her designee.

The PO or his/her designee shall direct the FMPCC to finalize the technical review by one of the following options:

- Requesting, by telephone or letter, additional or revised data to complete the technical review
- Preparing a LOMR
- Preparing a PMR

For PMRs, the FMPCC shall issue a letter, referred to as a 316-PMR letter, informing the CEO that a PMR will be prepared and requesting that the community submit any information to be incorporated into the PMR.

2.2.1.8 Preparation of Letters and Attachments

When processing a LOMR, the FMPCC shall prepare the letter and attachments (FIRM and/or FBFM panels, Summary of Discharges Table, Floodway Data Table, and/or Flood Profile panels) in accordance with the procedures outlined in the FEMA memorandum dated May 13, 1986, entitled "Policies and Procedures for Flood Map Production Coordination Contractors for Processing Flood Insurance Study Revisions."

A revised FIS report may be required in conjunction with a PMR, based on the nature of the revision. Occasionally, a FIRM may be revised to include changes that do not significantly affect the FIS report, such as floodplain boundary redelineations. However, most PMRs will involve significant changes affecting BFEs, flood risk zones, and floodplain and floodway boundary delineations, and will, therefore, necessitate revisions to the FIS report as well as the FIRM and FBFM.

Unless a PMR has been expanded to include a change to Map Initiatives or Countywide format, the FMPCC shall make revisions to FIS reports in accordance with the provisions of the above-referenced memorandum.

2.2.1.9 Community Review and Comment

Upon completing LOMRs and PMRs, the FMPCC shall provide revised materials to the revision requester and community officials to review and comment on the revised FIS report, FIRM, and/or FBFM. For all revisions, the community shall receive a 30-day review period. When BFEs are changed, a 90-day appeal period shall be required.

2.2.1.9.1 30-Day Review Period

For PMRs, the community and requester are provided a 30-day review period. After the 30-day review period has elapsed, the FMPCC shall review any comments submitted and determine whether any additional revisions are required. Comments may involve the revised areas or other areas not affected by the revision and generally are submitted to FEMA HQ or RO staff. FEMA shall forward the comments to the FMPCC. The FMPCC shall discuss the comments received and any additional data required to support them with the PO or his/her designee. At the direction of the PO or his/her designee, the FMPCC shall request additional information. After reviewing this information, the FMPCC or designee shall report to the PO or his/her designee, who will determine whether further revisions are warranted. If no information is submitted that would alter the BFEs, the FMPCC shall initiate the 90-day appeal period.

Because a LOMR is an official revision of the FIS report, FIRM, and/or FBFM and may become effective immediately, additional changes may be made only through the initiation of another revision; therefore, the PO or his/her designee may determine that such a revision should be deferred. If the changes are significant, a second revision may be warranted.

For a PMR that does not involve modifications to BFEs, the FMPCC shall, at the direction of the PO or his/her designee, incorporate any changes resulting from the review comments into the final reproduction materials. These changes shall be shown on the printed copies of the revised FIS report, FIRM, and/or FBFM. If the changes are significant, the FMPCC shall, at the direction of the PO or his/her designee, prepare and distribute Revised Preliminary copies of the revised FIS report, FIRM, and/or FBFM.

2.2.1.9.2 90-Day Appeal Period

For PMRs and LOMRs that involve new or modified BFEs, the FMPCC shall initiate the statutory 90-day appeal period to provide residents of the affected community an opportunity to appeal the new or modified BFEs. As in the processing of FISs and RFISs, the proposed or proposed modified BFEs must be published in a local newspaper with wide circulation and in the *Federal Register* to initiate the appeal period and must be finalized after the appeal period has elapsed. (Refer to Subsection 1.4 of these Guidelines for the procedures to be followed.)

Because a revision made by a LOMR becomes effective immediately in cases where the SFHA width and BFEs are decreasing, the appeal period occurs after the effective date of the LOMR. In cases where the BFEs and SFHAs are increasing, however, the LOMR may not be effective until after the appeal period has elapsed unless notification and acceptance are received from all affected property owners.

For PMRs, the appeal period is held either before the start of or concurrent with the printing process for the revised FIS report, FIRM, and/or FBFM. The appeal period will occur prior to printing for revisions involving new or higher BFEs and may be concurrent with the printing process for revisions resulting in lower BFEs. For both the prior and concurrent procedures, the appeal period must elapse and the BFEs must be finalized before the revised FIS report, FIRM, and/or FBFM may become effective.

2.2.1.10 Proposed and Final Flood Elevation Determinations

When a 90-day appeal period is required for a PMR or LOMR, the FMPCC shall prepare and process the correspondence for initiating the appeal period and finalizing the new or modified BFEs. The FMPCC shall prepare the proposed BFE notices for publication in the *Federal Register* and a local newspaper with wide circulation and the final BFE notice for publication in the *Federal Register*, and shall prepare and process the proposed and final BFE determination letters that will be sent to the CEO of the community, the State NFIP Coordinator, and all appellants.

For revisions involving BFEs that are accomplished by a LOMR, the LOMR and the proposed BFE determination letter sent to start the appeal period are the same. The proposed BFE notice shall be prepared using the BFEs shown in the effective FIS report and FIRM, as well as those presented in the revised FIS report and FIRM. For PMRs, the final BFE notice that appears in the *Federal Register* shall be prepared using only the modified BFEs. The FMPCC shall ensure that the notices are correct, that they include BFEs for all flooding sources for which revisions were made, and that they are published in a local newspaper with wide circulation and in the *Federal Register*.

2.2.1.11 Appeals and Protests

Appeals and protests concerning PMRs and LOMRs may be submitted by the community or affected property owners during the appeal period. The FMPCC shall review, evaluate, and resolve all appeals submitted in accordance with the procedures outlined in Part 67 of the NFIP regulations and as amplified in *Appeals, Revisions, and Amendments to Flood Insurance Maps: A Guide for Community Officials* (Reference 3). Appeals may be based only on information indicating that the proposed revised BFEs are scientifically or technically incorrect. Objections of other kinds are termed protests.

Within 7 days (5 working days) of receipt of an appeal, the FMPCC shall prepare an appeal acknowledgment letter. The FMPCC shall then evaluate any data submitted; request any additional data required; perform, upon approval of the PO or his/her designee, any engineering analyses required; prepare and distribute Revised Preliminary copies of the FIS report, FIRM, and/or FBFM, if necessary; and prepare an appeal resolution letter to be sent to the appellant.

Protests shall be handled similarly, but protests will not result in revised BFEs and, generally, will not involve as much work on the part of the FMPCC. Changes resulting from protests and from 30-day review comments usually shall be incorporated at the time that the final reproduction

materials are prepared. However, if the changes are significant, the PO or his/her designee may direct the FMPCC to prepare and distribute Revised Preliminary copies of the revised FIS report, FIRM, and/or FBFM. If a Revised Preliminary is not required, the PO or his/her designee shall direct the FMPCC to include the protest resolution in the FFED letter for the PMR.

2.2.1.12 Preparation of Summaries of Map Action

As mentioned in Section 1 of these Guidelines, to assist communities in maintaining the NFIP maps, particularly the FIRM, the FMPCC shall prepare summaries of the LOMAs, LOMR-Fs, and LOMRs that will be superseded when revised FIRM panels become effective. The FMPCC provides a SOMA to the communities at significant milestones during the processing of PMRs to make the affected communities aware of the effect that revised FIRM panels will have on previously issued LOMCs.

To ensure the modifications made by LOMCs are included in a PMR, the FMPCC shall perform searches for LOMC determinations at four stages: (1) before Preliminary copies of the affected FIRM panel(s) are prepared and sent to the community for review and comment, (2) before Revised Preliminary copies of the affected FIRM panel(s) are prepared and sent to the community for review and comment, (3) before the FFED letter is sent to the community, and (4) before the effective date of the revised FIRM panels.

At each stage, the FMPCC shall sort the LOMCs into the following categories:

- **Category 1** includes those LOMAs, LOMRs, and LOMR-Fs whose results have been shown on the revised FIRM panel(s).
- **Category 2** includes those LOMCs whose results could not be mapped and shown on the revised FIRM panel(s) because of map scale limitations or because the affected areas were determined to be outside the SFHA as shown on the effective FIRM. These LOMCs are automatically revalidated after the revised FIRM panel(s) become(s) effective.
- **Category 3** includes those LOMCs whose results have not been, and will not be, reflected on the revised FIRM panel(s) because the flood hazard information on which the original determinations were based is being superseded by new flood hazard information.
- **Category 4** includes those LOMCs that will be revalidated through a single letter that reaffirms the validity of a previously issued LOMC. Therefore, LOMCs that were previously issued for multiple lots or structures where the determination for one or more of the lots or structures have changed cannot be revalidated through this administrative process.

For Category 4 LOMCs, the FMPCC shall review the data submitted in support of the original LOMA, LOMR-F, or LOMR request and issue a new determination for the subject properties after the FIRM effective date. If conditions have changed since the original LOMA, LOMR-F, or LOMR was issued, and additional data and fees are required in order to issue a new determination, the FMPCC will not revalidate or reissue the LOMA, LOMR-F, or LOMR.

The FMPCC activities in preparing and distributing SOMAs are discussed in detail below.

2.2.1.12.1 Pre-Preliminary Activities

During the preparation of the Preliminary copies of the FIRM (and FBFM, if required), the activities below shall be completed. Additional information on SOMA production procedures is provided in Section 10 of *Document Control Procedures Manual* (Reference 2).

1. The FMPCC shall produce a Preliminary SOMA, which is the product of database management software that searches the records in the CIS to identify LOMCs completed or pending for the community.
2. The FMPCC shall review the in-house LOMC case files, other community-based files, hard copies of LOMCs completed by the ROs, and case files for LOMCs completed by the ROs to ensure all affected LOMCs are identified and listed on the SOMA. LOMCs that have already been superseded by a previous map (i.e., its determination date is prior to the current effective FIRM date) will not be investigated for inclusion on the SOMA.
3. The FMPCC shall review each identified LOMC to determine if it has been affected by new flood hazard information and if it can be incorporated into the FIRM. Those LOMCs that are unaffected by the new flood hazard information and can be reflected on the FIRM are listed in Category 1 of the SOMA. Those LOMCs that cannot be reflected on the FIRM but are unaffected by the updated flood hazard information are listed in Category 2 of the SOMA.
4. For the remaining LOMCs, the FMPCC shall review the case files to determine if the LOMC can be revalidated. To determine this, the FMPCC shall perform the following activities: (1) locate the LOMC site on the Preliminary FIRM, (2) determine the BFE for the site, and (3) compare the LAG or LFFE, if applicable, of the structure(s) or the lowest ground elevation of undeveloped lot(s) to the proposed BFE at the site.
5. If the LAG(s), LFFE(s), or lowest ground elevation at the site is above the proposed BFE, the FMPCC shall include the LOMC in Category 2 of the SOMA and it will be eligible for revalidation. LOMCs issued for properties with a LAG(s), LFFE(s), or lowest ground elevations below the BFE will be superseded and, therefore, will be included in Category 3 of the SOMA. As noted above, LOMCs are revalidated by a single letter, the LOMC-Valid letter; therefore, LOMCs issued for multiple structures or lots where the determinations for the lots/structures are no longer as they were determined in the original LOMC will be included in Category 4 of the SOMA.
6. The FMPCC shall send the SOMA to the CEO of the community, RO, and State Coordinator with the transmittal letter that accompanies the Preliminary copies of the revised map panel(s). (The preliminary transmittal letter shall be prepared by the FMPCC.)
7. If no LOMCs have been issued since the affected map panel(s) became effective, the FMPCC shall include an explanatory paragraph in the transmittal letter to the community to acknowledge this fact, and no SOMA shall be sent to the CEO.

2.2.1.12.2 Post-Preliminary Activities

After mailing the Preliminary copies of the PMR to the community, the FMPCC shall complete the activities below, as required.

1. When Revised Preliminary copies are prepared and submitted to the community for review, usually subsequent to the final CCO meeting, the FMPCC shall generate a SOMA and conduct a review similar to that conducted before the Preliminary copies were issued.
2. When required, the FMPCC shall revise the Preliminary SOMA and submit it to FEMA for review with a special transmittal letter to the community. (The special transmittal letter shall be prepared by the FMPCC.)
3. The FMPCC shall mail the revised SOMA to the CEO, RO, and State Coordinator with the special transmittal letter.
4. Approximately 2 weeks before the FFED date, the FMPCC shall generate and review the Final SOMA. The Final SOMA shall include all LOMCs included in the Preliminary SOMA and all LOMCs issued since the Preliminary or Revised Preliminary copies of the FIRM were distributed.
5. The FMPCC shall mail the Final SOMA to the CEO of the community, RO, and State Coordinator with the FFED letter.
6. If no LOMCs have been issued for the affected map panel(s), the FMPCC shall include an explanatory paragraph in the FFED letter to acknowledge this fact, and no SOMA shall be sent to the CEO.

2.2.1.13 Preparation of Revised Reports and Maps for Printing

For PMRs, the FMPCC shall prepare final reproduction materials and submit them to the MSC for printing, as discussed in Subsection 1.2.8 of these Guidelines.

2.2.1.14 Coordination and Documentation Activities

The FMPCC shall perform the required coordination and documentation activities necessary for processing each PMR or LOMR. During the processing, the FMPCC shall:

- Communicate with the requester and community, as necessary.
- Coordinate activities with the FEMA RO as directed by the PO or his/her designee.
- Communicate with other FEMA contractors and Federal, State, and local agencies, as needed.
- Prepare letters and other correspondence for FEMA signature.
- Maintain legal documentation, records of correspondence, and technical data.
- Provide inventory lists, printing requisition forms, status reports, and other information to FEMA as required by the PO or his/her designee.

In addition, the FMPCC shall organize, and may be required to submit to FEMA, records of the correspondence and supporting data associated with PMRs and LOMRs. (Refer to Section 3 of these Guidelines for details.)

2.2.2 Procedures for Map Revisions Based on Fill

2.2.2.1 Receipt and Acknowledgment

Most LOMR-F requests will be submitted directly to the FMPCC by the requester. Requests for LOMR-Fs and any accompanying data received by FEMA RO and HQ staff shall be transmitted to the FMPCC.

Upon receipt of a request, the FMPCC shall record the requester's name, the community name, the property in question, the date of the request, and the date the request was received. The FMPCC shall assign a case number and create a case file for each request; the case file shall contain a summary sheet, a contact sheet, and records of all other contacts pertinent to the case, as well as a compilation of all case-related information. Eventually, this file shall include dated copies of any FEMA correspondence and all subsequent actions. Documentation in the case file shall be kept up-to-date and accurate and the FMPCC shall maintain and store all LOMR-F files.

The FMPCC shall immediately perform an initial review of the requester's submittal to determine if all information, review and processing fee, and application/certification forms necessary to make a determination have been provided. Within 3 days of receipt of the request, the FMPCC shall prepare and mail a letter acknowledging receipt of the request.

2.2.2.2 Technical Review

The FMPCC shall review the information submitted by the requester to determine whether it is sufficient to make a determination. All requests for LOMR-Fs must be supported by sufficient information to demonstrate that the entire area within the legal bounds of a parcel of land, a portion of a parcel (as defined by metes and bounds), or the structures located on it have been elevated by fill at or above the BFE and are not subject to inundation by the base flood. For structures, both the lowest floor (including basement) and the lowest finished grade adjacent to the structure must be elevated to or above the BFE for the structure to be removed from the SFHA. In addition, the requester must provide certification that filled, legally defined parcels of land or fill pads prepared for residential or commercial structure foundations (excluding single-lot/single-structure) meet the criteria described in Paragraph 65.5(a)(6) of the NFIP regulations.

Requests for LOMR-Fs must be submitted through the community to ensure community acknowledgment and review of the request. If the request has not been submitted through community officials, the FMPCC shall request that the requester submit Form 4, "Community Acknowledgment of Requests Involving Fill," from the MT-1 application/certification forms package.

All necessary information to process a request must be received from the requester within 90 days of the date of the initial contact letter. If all information is not received within the 90-day period, the FMPCC shall suspend processing of the case.

After receiving the necessary information, the FMPCC shall make a determination concerning the property or structure by comparing fill and/or structure elevation data with the 100- and 500-year flood depths or elevations at the site in question. The extent of the work required for the FMPCC to make a determination will usually depend on the number of structures or lots involved and whether the SFHA in which the structures are shown was determined based on an approximate or detailed analysis.

2.2.2.2.1 Approximate Analysis

For a LOMR-F request involving an approximate SFHA shown on an effective NFIP map, the requester may provide data to substantiate a BFE from an authoritative source (such as the USACE, USGS, NRCS, or a registered professional engineer), or may request that FEMA determine the BFE. When a requester provides a BFE, sufficient technical information should be provided to support that BFE. The FMPCC shall review the supporting information in light of the data used to prepare the FHBM or FIRM to verify that the elevation provided by the requester is reasonable. Providing an elevation is the responsibility of the requester. When the requester does not have the technical resources and/or the ability to provide an elevation, the FMPCC shall contact the PO or his/her designee to determine whether the FMPCC should determine the BFE using the best available information.

2.2.2.2.2 Detailed Analysis

For a LOMR-F request involving a detailed SFHA shown on an effective FIRM, the FMPCC shall make a determination using the BFE or base flood depth shown in the Summary of Elevations Table or Flood Profiles from the FIS report or the BFE shown on the FIRM. Requests based on BFEs or base flood depths that differ from those shown on the effective FIRM may not be handled under the LOMR-F process; rather, they must be addressed under the LOMR or PMR processes discussed earlier in Section 2.

2.2.2.2.3 Restrictions

LOMR-Fs may not be issued for properties or structures located in coastal high hazard areas (Zone V), alluvial fan flood hazard areas (Zone AO, depth and velocity specified), or areas protected by levees that have not been recognized by FEMA as providing base flood protection. LOMR-Fs also may not be issued or structures elevated on posts, piers, or pilings, if any portion of the structure, including a post, pier, or piling, is still below the BFE.

2.2.2.3 Letter Preparation

Once all information submitted by the requester has been received and evaluated, the FMPCC shall prepare a determination letter. This letter shall always be addressed to the CEO of the community, with copies transmitted to the requester (if different from the CEO), the floodplain management official in the community, and the State Coordinator, as applicable. Procedures for the preparation and content of LOMR-Fs are provided in Section 2 and Appendix B of the

Document Control Procedures Manual (Reference 2). The CEO or his/her designee shall receive copies of all letters for which he or she is not the addressee.

2.2.2.4 Coordination and Documentation Activities

The FMPCC shall perform the required coordination and documentation activities for processing each LOMR-F. During processing, the FMPCC shall communicate with the requester, as necessary; coordinate activities with FEMA; communicate with other FEMA contractors and Federal, State, and local agencies, as needed; prepare letters and other correspondence for FEMA signature; maintain legal documentation and records of correspondence and technical data; and provide inventory lists, status reports, and other information to the PO or his/her designee, as required.

2.3 Processing Procedures for Conditional Map Revisions

2.3.1 Conditional Letters of Map Revision

The processing procedures presented in Subsection 2.2.1 for LOMRs also shall apply to requests for CLOMRs. A CLOMR does not revise the effective FIS report, FIRM, or FBFM; however, the CLOMR does describe changes to the effective FIS report, FIRM, or FBFM that will result from the project, if built as proposed. The CLOMR also describes any additional information (e.g., as-built plans, fill compaction certification) required to process the final determination as a PMR or LOMR.

The FMPCC shall process reviews of requests for CLOMRs in accordance with the provisions of Parts 65 and 72 of the NFIP regulations and the procedures discussed below. Additional information regarding processing of CLOMRs is provided in Section 2 and Appendix B of *Document Control Procedures Manual* (Reference 2).

2.3.2 Conditional Letters of Map Revision Based on Fill

The processing procedures presented in Subsection 2.2.2 of these Guidelines for LOMR-Fs also shall apply to requests for CLOMR-Fs; however, because CLOMR-Fs are based on proposed construction, as-built information is not required. As with CLOMRs, CLOMR-Fs do not revise the effective FIRM. The FMPCC shall process reviews of requests for CLOMR-Fs in accordance with Parts 65 and 72 of the NFIP regulations. Additional information regarding the processing of CLOMR-Fs is provided in Section 2 and Appendix B of *Document Control Procedures Manual* (Reference 2).

2.4 Processing Procedures for Conditional and Final Letters of Map Amendment

2.4.1 Receipt and Acknowledgment

The requester will direct most LOMA and CLOMA requests to the FMPCC. LOMA and CLOMA requests and accompanying data received by FEMA shall be forwarded to the FMPCC.

Upon receipt of a request, the FMPCC shall record the requester's name, the community name, the property in question, the date of the request, and the date that the request was received. A case number and case file shall be established for each request; the case file shall contain a summary sheet, a contact sheet, and records of all other contacts pertinent to the case, as well as a compilation of all case-related information. Eventually, this file shall include dated copies of any FEMA correspondence and all subsequent actions. Documentation in the case file should be up-to-date and accurate, and the FMPCC shall maintain and store all LOMA files.

The FMPCC shall immediately perform an initial review of the requester's submittal to determine if information, review and processing fees (for CLOMAs), and all application/certification forms necessary to make a determination have been provided. Within 3 days of receipt of the request, the FMPCC shall prepare and mail a letter to the requester acknowledging receipt of the request.

2.4.2 Technical Review

The FMPCC shall review the information submitted by the requester to determine whether it is sufficient to make a determination. Requesters must supply information as explained in the MT-EZ form (for single lots/structures) or the MT-1 application/certification forms package. The FMPCC shall request any additional information required by telephone and by letter, if necessary.

All necessary information is to be received from the requester within 90 days of the date of the initial contact letter. If all information is not received within the 90-day period, the FMPCC shall suspend processing of the case.

After receiving the necessary information, the FMPCC shall make a determination concerning the property or structure by comparing ground and/or structure elevation data with the depth or elevation of the 100- and 500-year floods at the site in question. The extent of the work required for the FMPCC to make the determination will normally depend on the number of structures or lots involved and whether an approximate or detailed analysis was performed for the SFHA in which the property is located.

2.4.2.1 Approximate Analysis

For a LOMA request involving an approximate SFHA shown on an effective FHBM or FIRM, the requester may provide data to substantiate a BFE from an authoritative source, such as the USACE, USGS, or NRCS; State and local water resource departments; a registered professional

engineer; or may request that FEMA determine the BFE. When a requester provides a BFE, sufficient technical information should be provided to support that BFE.

The FMPCC shall review the supporting information in light of the data used to prepare the FHBM or FIRM to verify that the BFE provided by the requester is reasonable. Development of the BFE is the responsibility of the requester. When the requester does not have the technical resources and/or the ability to provide a BFE, the FMPCC shall coordinate with the PO or his/her designee to determine whether the FMPCC should compute a BFE using the best information available.

2.4.2.2 Detailed Analysis

For a LOMA request involving a detailed SFHA shown on an effective FIRM, the FMPCC shall make a determination using the BFE or base flood depth shown in the Summary of Elevations Table or Flood Profiles from the FIS report or the BFE shown on the FIRM. Requests based on BFEs or base flood depths that differ from those shown on the effective FIRM may not be handled under the LOMA process; rather, they must be addressed under the LOMR or PMR processes discussed earlier in Section 2.

2.4.2.3 Restrictions

LOMAs and CLOMAs may *not* be issued in the following cases:

- LOMAs and CLOMAs may not be issued or based on preliminary study, restudy, or map revision data.
- LOMAs and CLOMAs may not be issued for properties or structures located in coastal high hazard areas (Zone V) or in alluvial fan flood hazard areas (Zone AO, depth, and velocity specified).
- LOMAs and CLOMAs may not be issued for requests based on levees that have not been recognized by FEMA as providing base flood protection. Requests of this nature are to be considered LOMR or PMR requests and evaluated appropriately.
- LOMAs and CLOMAs may not be issued for structures elevated on posts, piers, or pilings if any portion of the structure, including a post, pier, or piling, is still below the BFE.

2.4.3 Letter Preparation

The FMPCC shall prepare the CLOMA or LOMA, as appropriate, based on the results of the evaluation. The CLOMA shall provide the requester with a conditional determination for each property covered by the request. The LOMA shall provide the requester with a final determination for all property covered by the request. Structures may be conditionally or finally determined to be in or out of the SFHA; lots may be conditionally or finally determined to be entirely in, partially in, or entirely out of the SFHA. The determination shall include the revised flood risk zone designation. Procedures for the preparation and content of LOMAs and CLOMAs are presented in Section 3 and Appendix C of *Document Control Procedures Manual* (Reference 2).

When directed by the PO or his/her designee, the FMPCC shall also prepare informational letters that provide FEMA's best estimate of the BFE in approximate and detailed SFHAs.

2.4.4 Coordination and Documentation Activities

The FMPCC shall perform the required coordination and documentation activities for processing each LOMA or CLOMA request. During the processing, the FMPCC shall communicate with the requester, as necessary; coordinate activities with FEMA; communicate with other FMPCC and Federal, State, and local agencies, as needed; prepare letters and other correspondence for FEMA signature; maintain legal documentation and records of correspondence and technical data; and provide inventory lists, status reports, and other information to the PO, as required.

2.5 Processing Procedures for Revalidations

The results of a LOMC frequently cannot be shown on the revised FIRM panel (1) because of scale limitations, (2) because the results indicated a particular property or structure was outside the SFHA as shown on the previous effective FIRM, or (3) because the flood hazard data on which the determination in the LOMC was based has been superseded by new detailed flood hazard data.

LOMCs must be revalidated if they cannot be shown on the FIRM because of scale limitations or if the property/structure involved was determined to be outside the SFHA as shown on the effective FIRM. The revalidation process begins when the preliminary FIRM is prepared and ends when a LOMC-VALID letter is issued.

The procedures the FMPCC shall follow for automatically revalidating LOMCs are presented in the following subsections. Under these procedures, communities and individual property owners are no longer *required* to request that LOMCs be reissued, and FEMA issues one letter for all affected LOMCs rather than an individual letter for each LOMC request. The result is a more effective tool for floodplain management and flood insurance purposes.

As discussed earlier in these Guidelines, to assist communities in maintaining the NFIP maps, particularly the FIRM, FEMA has directed the FMPCC to prepare summaries of the LOMAs, LOMR-Fs, and LOMRs that will be superseded when the revised FIRM panel(s) become effective. FEMA provides the resulting SOMAs to the communities at significant milestones during the processing of RFISs, RXDSs, LMMPs, or PMRs to make the communities aware of the effect revised FIRM panels will have on previously issued LOMCs. A complete discussion of the requirements for producing SOMAs is provided in Section 10 of *Document Control Procedures Manual* (Reference 2).

Approximately 1 month before the effective date, the FMPCC shall generate a list of LOMCs that must be revalidated. The list shall include Category 2 and Category 3 LOMCs from the final SOMA, LOMCs issued since the FFED letter was mailed, and LOMCs in progress for the community.

The FMPCC shall review the listed LOMCs to verify that all appropriate LOMCs are included. During the verification process, the FMPCC shall assess the pending LOMCs for possible completion before the new effective date; pending LOMCs that will be completed before the effective date may be revalidated. If necessary, the FMPCC shall obtain information from the case file to determine whether a LOMC should be revalidated.

Based on this review, the FMPCC shall prepare the LOMC-VALID letter, which includes the following information for each LOMC: case number (when available), date issued, identifier, map panel number, and new zone designation. Depending on the number of LOMCs to be revalidated, the FMPCC shall include the LOMC information in the letter itself or provide it as a separate attachment.

The FMPCC shall submit the LOMC-VALID letter to FEMA for review and approval approximately 3 weeks before the new effective date and mail the LOMC-VALID letter to the CEO of the community approximately 2 weeks before the new FIRM effective date.

The LOMC-VALID letter becomes effective 1 day after the effective date of the newly effective FIRM panels. The LOMC-VALID letter is considered legally binding, in the same manner as the original LOMC, provided it is accompanied by a copy of the original LOMC. If required by the requester, the FMPCC shall forward a copy of the original LOMC with the LOMC-VALID letter. No fee is to be assessed for such requests.

Following the FIRM effective date, the FMPCC shall prepare and send out new amending or revising LOMAs, LOMR-Fs, and LOMRs for those cases in Category 4 of the SOMA for which new determinations could be made based on available information.

If, subsequent to the issuance of the LOMC-VALID letter, a community official or individual property owner requests that a LOMC be reissued and the LOMC is listed in the LOMC-VALID letter, the FMPCC shall send the requester a copy of the LOMC-VALID letter and, if requested, a copy of the original LOMC. Again, no fees shall be assessed for these requests. However, subsequent requests for copies from the requester or requests from someone other than a community official or individual property owner shall be subject to the fee schedule for FIS backup data published in the *Federal Register* on February 6, 1997.

In preparing the LOMC-VALID letter, the FMPCC shall follow the general guidelines below in presenting case-specific information on revalidated LOMCs.

- A panel number must appear for each revalidated LOMC included in the LOMC-VALID letter. If the FIRM has been reformatted since a LOMC was issued and the FMPCC cannot readily identify the correct panel number, the LOMC should not be included in the letter.
- If the revalidated letter is a LOMR, the FMPCC is not required to include a new zone.
- If the revalidated letter is a multiple-determination LOMA or LOMR-F and multiple zones are cited in the letter, the word “MULTIPLE” may be included in place of the zone.
- If the new zone for a revalidated LOMA or LOMR-F is a Zone X and the FMPCC can readily determine whether it is Zone X (shaded) or Zone X (unshaded), the complete zone is to be

included. If the FMPCC cannot make this determination readily, the term “Zone X” is to be included.

The intent of the LOMC-VALID letter is to indicate that the new FIRM panels did not affect the previous determination. Therefore, if one of the determinations in a multiple-determination LOMA or LOMR-F is a denial for a certain property, it is not necessary to specify the property that was removed from the SFHA or indicate in any way that the request for a certain property was denied. If the property was subsequently removed from the SFHA, the LOMC that included that determination also will be revalidated by the LOMC-VALID letter.

If a requester notifies FEMA about one or more LOMCs that he or she believes should have been revalidated but were not included in a LOMC-VALID letter, the FMPCC shall review available information to determine the accuracy of the request. If the FMPCC finds that one or more LOMCs should have been revalidated, the FMPCC shall prepare a new LOMC-VALID letter. If the LOMC(s) in question could not be located on the FIRM, the FMPCC shall request appropriate information from the requester.

2.6 Processing Procedures for Annexation Requests

FEMA receives a considerable number of requests from communities to have their NFIP maps updated to reflect recent annexations/de-annexations. Therefore, FEMA developed decision-making procedures for processing these requests that can be applied across all FEMA regions. The procedures are documented in Figures 2-2 and 2-3. The FMPCC shall refer to Figure 2-1 when the annexing community is participating in the Regular Phase of the NFIP and to Figure 2-2 when the annexing community is not participating in the Regular Phase of the NFIP.

As shown in Figures 2-1 and 2-2, the FMPCC shall make processing recommendations, and FEMA HQ shall make processing decisions, based on the following factors: (1) status of map for annexing community, (2) existence of flood hazard information for annexed area, (3) source of flood hazard information, and (4) effect of annexation on the community’s participation in the NFIP.

Using these factors in conjunction with the flowcharts, the FMPCC shall recommend, and the PO or his/her designee shall approve, one of the following actions:

- Send a letter to the annexing community indicating the revision will not be made at this time because the flood hazard information has not changed.
- Issue one or two LOMRs to revise the affected map panel(s) for both the annexing and de-annexing communities.
- Physically update and reissue affected FIRM panel(s) for both the annexing and de-annexing communities.
- Create new FIRMs for communities that do not have FIRMs when necessary to meet NFIP regulations.

- Send a memorandum to the RO requesting additional guidance and coordination with the community when the annexed area is covered by an effective or rescinded FHBM or by a rescinded FIRM.

2.7 Processing Procedures for Letter of Determination Review Requests

2.7.1 General Background

As mandated by the NFIRA, FEMA developed a Standard Flood Hazard Determination Form that is to be used by all regulated lenders and Federal agency lenders that make flood hazard determinations for improved property used to secure loans. When a borrower appeals the Standard Flood Hazard Determination made by the borrower and the borrower and lender request a LODR from FEMA, they must provide the completed Standard Flood Hazard Determination Form and all technical information FEMA will need to complete its review.

If sufficient information is provided, the written response from FEMA will indicate FEMA's concurrence or disagreement with the lender's determination and whether the subject building is in the SFHA shown on the effective NFIP map. If sufficient information is not provided, the submitted information will be returned with a written response indicating the additional information to be submitted.

The procedures to be followed by the FMPCC in processing requests for LODRs are detailed in the subsections that follow. Additional information on the procedures and the letters and other documents to be produced by FMPCC is provided in Section 8 and Appendix E of *Document Control Procedures Manual* (Reference 2).

2.7.2 Processing Fees

FEMA assesses a review and processing fee for LODR requests. The current fee is \$80 per request and applies to all requests, regardless of the determination that is issued. As with other review and processing fees, FEMA will review the LODR fees on an annual basis and amend the fees as appropriate.

2.7.3 Initial Review and Processing Requirements

Within 5 days of receipt of a request, the FMPCC shall open, inventory, and date-stamp the submitted information; log the request into the Standard Flood Hazard Tracking and Correspondence System (TCS), which automatically assigns a case number for the request; confirm that the borrower/lender notice and postmark date are not more than 45 days apart, that the correct fee was submitted and in a form that can be deposited directly into the National Flood Insurance Fund (NFIF), and that the current (effective) NFIP map was used in making the determination; and verify whether all required supporting information has been submitted.

If any of the required supporting information is missing, the request is too late, the fee submitted is insufficient or is nonnegotiable (and therefore cannot be deposited), the FMPCC shall return the package to the borrower with the appropriate return notice and update the TCS database. The return package shall include all items submitted by the borrower, including the payment.

If all required items have been submitted, the FMPCC shall log the case into the TCS database, process the payment, acknowledge the request, and initiate the case review.

2.7.4 Final Review and Processing Requirements

The FMPCC shall verify the location, NFIP community name, and community identification number (CID). If a property is in an area that has been annexed to a community, the FMPCC shall ensure that the name and CID for the community that has jurisdictional authority for the property is used in the determination. The FMPCC shall search the CIS databases, case files, and other community-based files for completed or in-progress LOMAs, LOMR-Fs, and LOMRs for the area in which the property in question is located and verify the structure location. The FMPCC shall then evaluate the submitted information, prepare a determination letter, and update the TCS database.

If the request is denied and the elevation data submitted indicate the property may be removed by a LOMA or LOMR-F, the FMPCC shall notify the borrower and lender in the response letter that the processing of a LOMA or LOMR-F request has been initiated. When the LODR is completed, the FMPCC shall review the data in accordance with the procedures for LOMR-Fs or LOMAs.

2.8 Program Implementation

2.8.1 Documentation Control Procedures

The FMPCC shall perform the required procedures for preparing and distributing standard and presigned letters for conditional and final map revisions and map amendments as presented in Sections 2 and 3 and Appendixes B and C of *Document Control Procedures Manual* (Reference 2). This includes mailing letters, with their appropriate enclosures, as specified in the U.S. Postal Service Domestic Mail Manual (Reference 5).

2.8.2 Standard Processing

In accordance with Section 65.9 of the NFIP regulations, when a revision to an NFIP map is requested, the CEO of the community must receive notification (in writing) of the status of the request. This notification must be provided within 90 days of the receipt of the request and will state one or more of the following:

- The effective map(s) shall not be modified.
- The BFEs on the effective FIRM shall be modified, and new BFEs shall be established.

- The changes requested are approved, and the map(s) are revised by a LOMR.
- The changes requested are approved. Revised FIRM (and FBFM) panels will be printed and distributed.
- The changes requested are not significant enough to warrant a reissuance or revision of the FIS report, FIRM, and/or FBFM and will be deferred until such time as a significant change occurs.
- The evaluation of the scientific or technical data submitted will require an additional 90 days to complete.
- The data submitted to support the revision request are not adequate. Additional data must be provided.

This notification is generally interpreted as a written response by the Federal Insurance Administrator or his/her designee; therefore, the FMPCC shall complete all reviews or determine that such completion is not possible to allow ample time for correspondence preparation, review, signature, and mailing within the timeframe. However, to ensure a timely review of and response to any revision requests (including LOMR-Fs and LOMAs), the FMPCC shall prepare a letter that either outlines the additional data needed to resolve the revision request or provides an explanation of what revisions will be undertaken within 30 days of receipt of a revision request.

Upon receiving all technical data necessary to process a request, the FMPCC must submit a LOMR-F or LOMA to FEMA within 2 weeks for a single-lot/single-structure request, and within 4 weeks for a multiple-lot/multiple-structure request. Furthermore, because lengthy delays in resolving requests for map revisions may occur, the FMPCC shall develop and institute procedures to ensure that periods of 90 days or more do not elapse without FEMA corresponding with the requester. The purpose of the correspondence is to advise the revision requester of the status of his or her revision request.

2.9 Fee-Collection System Responsibilities

2.9.1 Background

In January 1986, FEMA instituted a fee-collection system to recover costs incurred in reviewing proposed projects and issuing CLOMAs, CLOMR-Fs, and CLOMRs. In October 1992, FEMA expanded the system to provide for the recovery of costs incurred in reviewing completed projects and issuing LOMR-Fs, LOMRs, and PMRs. Effective October 1, 1996, FEMA established a flat schedule for processing most requests for conditional and final map amendments and revisions. FEMA revised the fee schedule on March 10, 1997, when a new schedule was published in the *Federal Register*.

2.9.2 Coordination Responsibilities

Under the fee schedule, with one exception, requesters are required to submit payment to FEMA in advance of a review. The exception is requests for changes involving structural measures on alluvial fans. For most requests, the FMPCC will only be required to acknowledge receipt of the

payment and coordinate with the Fee-Collection System Administrator (FCSA) to ensure all payments are deposited into the NFIF. For requests involving structural measures on alluvial fans, requesters must submit an initial fee of \$5,000, and the FMPCC must document all billable hours (to nearest half hour) spent on these requests. The FMPCC must then notify FEMA and the requester if the initial fee will be exceeded and provide a revised estimate of the total review and processing costs (calculated as the total number of hours multiplied by a \$50 hourly rate).

Additional information on the required coordination and documentation is provided in Section 2 of *Document Control Procedures Manual* (Reference 2).

2.9.3 Fee Exemptions

In accordance with Section 72.5 of the NFIP regulations, no review and processing fee shall be collected by the FMPCC for the following exempted types of requests:

- Map change requests based on mapping or study analysis errors or the effects of natural changes within SFHAs
- LOMA requests
- Map change requests based on (1) federally sponsored flood-control projects where 50 percent or more of the project's costs are federally funded, and (2) detailed hydrologic and hydraulic studies conducted by Federal, State, or local agencies to replace approximate studies conducted by FEMA and shown on the effective FIRM

Section 3

Program Support, Reporting, and Storage

To aid FEMA in the administration of the NFIP, the FMPCC shall perform a variety of coordination, reporting, and storage functions. At the direction of the PO or his/her designee, the FMPCC shall:

- Hold regular and ad hoc coordination meetings with the PO and other FEMA HQ staff.
- Attend final CCO meetings or other meetings with FEMA HQ and RO staff.
- Establish and maintain a courier service to deliver mail to, and pick up mail from, FEMA HQ.
- Transport FEMA staff to and from coordination meetings at the FMPCC office(s) upon request.
- Maintain designated portions of FEMA's databases (CIS, MICS).
- Maintain an MIS and provide FEMA staff with regular and ad hoc reports (in hardcopy or electronic formats) pertaining to work status and contract performance.
- Store technical and administrative support data associated with the processing of initial and revised FIS reports, FIRMs, FBFMs, conditional and final map revisions, conditional and final map amendments; revalidation letters; and annexation requests.
- Transmit technical and administrative support data in response to requests from FEMA's constituents, including requests filed under the Freedom of Information Act (FOIA).
- Prepare and deliver FIS reports and FIRM and FBFM panels to the MSC in response to requests for reprints.
- Maintain the fee-charge system created by FEMA for external data requests (EDRs), requests for conditional and final map revisions and map amendments, and the LOMC and Map Distribution Service.

These activities shall include, but will not be limited to, those described in the subsections that follow.

3.1 Coordination

The FMPCC Project Manager shall be responsible for maintaining close communication with the PO or his/her designee, other FEMA HQ staff, and FEMA RO staff and will be available for consultation and conferences at the request or concurrence of the PO or his/her designee.

3.1.1 Coordination Meetings

The FMPCC shall attend coordination meetings with FEMA personnel and other FEMA contractors, as required by the FEMA RO and with the concurrence of the PO or his/her designee. These meetings will be held to unify Program direction and to discuss ongoing work. The FMPCC shall document the proceedings of these meetings with meeting minutes.

3.1.2 Coordination With Regional Offices

The FMPCC shall provide technical and administrative support to FEMA ROs, as directed by the PO or his/her designee, regarding studies, conditional and final map revisions, conditional and final map amendments, and other information. Such support shall include technical consultation on technical, mapping, and programmatic issues. At the request of the FEMA RO and concurrence of the PO or his/her designee, the FMPCC shall attend meetings with FEMA constituents.

3.1.3 Courier Services

The FMPCC shall establish and maintain a courier service that delivers mail to, and picks up mail from, FEMA HQ during each workday. The FMPCC also shall arrange transportation of FEMA staff to and from coordination meetings at FMPCC office(s) upon request.

3.2 Contract Management Systems and Reporting

The FMPCC shall operate a comprehensive, internal financial and contractual management system sufficient to provide for effective management of all Federal funds expended as a result of a contract. At a minimum, the FMPCC shall prepare contract status reports, time and cost estimates, computerized status reports, Credited Structures Inventory reports, production reports, and other periodic reports that may be necessary to track status of work and control hours and costs.

3.2.1 Computerized Status Reporting System

The review and preparation of the products described in Sections 1, 2, and 6 is a significant part of the work performed by the FMPCC. Large numbers of studies, restudies, map revisions, and map amendments are performed each year, and the resulting report, map, and letter products must pass through numerous processing stages before they can be published. The ability to maintain accurate records of the reports, maps, and letters being processed, those that have been completed, and the actual and scheduled dates for the completion of each processing stage for each study, restudy, map revision, and map amendment is vital. The FMPCC needs this information for daily operations and short-term and long-range planning. FEMA HQ and RO staff use this information to manage the NFIP and to report to the U.S. Congress.

Recognizing the need for an efficient system of storing and retrieving this information, FEMA developed the automated Status of Studies (SOS) and LOMC modules of the CIS and is developing the MICS system.

3.2.1.1 Status of Studies Module

The SOS module of the CIS contains status and processing information for FISs, RFISs, XDSs, RXDSs, PMRs, LMMP projects, and Special Conversions. The SOS module is comprised of

three databases—the main SOS database, the SOS Flood Source Database, and the SOS Hold Status Database.

More than 70 individual fields must be updated to maintain the accuracy of the SOS module; the FMPCC shall update 85 percent of these. The FEMA ROs shall update the remaining 15 percent of the fields.

3.2.1.2 Letter of Map Change Module

The LOMC module of the CIS contains status and processing information for LOMAs, CLOMAs, LOMR-Fs, CLOMR-Fs, LOMRs, CLOMRs, and LOMC-VALID letters. The LOMC module is comprised of five databases—the main LOMC database, the LOMC Flood Source Database, the LOMC Property Description Database, the LOMC Map Panel Database, and the LOMC Fee Database.

The FMPCC shall update more than 100 individual fields (with widths ranging from 1 to 60 characters) to maintain the accuracy of the LOMC module for each case. FEMA's FCSAs shall update the remaining 10 percent of the fields.

3.2.1.3 FMPCC Requirements

The FMPCC shall, as a routine part of processing studies, restudies, conditional and final map revisions, and conditional and final map amendments, record the required status and processing information to populate the fields in the SOS and LOMC modules in an in-house database. Each week, the FMPCC shall create and transmit five transaction files containing the updated information to the CIS at FEMA HQ via telephone modem (minimum 9600 baud). The FMPCC shall create and transmit these transaction files in accordance with FEMA specifications.

3.2.2 FMPCC Cost Accounting

Direction for the allocation of costs incurred by the FMPCC in the production of work under all tasks is provided in the subsections that follow. Under each task, specific products are produced, and the costs generated during the production process are allocated to specific cost components.

The FMPCC shall track and allocate costs using job-control numbers. These numbers are unique to a particular product or effort being supplied by the FMPCC. Whenever a particular cost component is incurred in the completion of a product, it is to be charged to the job-control number for that product. Specific guidance for the allocation of costs to FMPCC job-control numbers is provided in Subsections 3.2.2.1 through 3.2.2.9.

3.2.2.1 Definition of Cost Components

Before addressing the cost components on a task-by-task and product-by-product basis, a definition of the cost components is essential. The four components of costs are: (1) Direct Labor, (2) Overhead, (3) Other Direct Costs (ODCs), and (4) Fee.

Direct Labor consists of the staff, supervisory, and management efforts involved in the evaluation, research, and production of report, map, letter, and other required products and services (e.g., engineers perform HEC-2 analyses, cartographers scribe map panels, librarians obtain and deliver composite negatives for reprints). Typically, staff-level personnel work on a single type of product within a given task. Supervisory effort involves direct oversight of efforts at the staff level, and frequently includes involvement in the production effort. Supervisors generally oversee the production of a limited number of products. Managerial direct labor is expended for the coordination of efforts on the tasks and the project as a whole. Managers direct the completion of all types of products over several tasks.

Staff, supervisory, and management direct labor is accounted for, at different levels, in all functions involved in completing assignments. Those functions include: engineering review, cartography, quality control (QC) review, document control, project control/administration, library support, reproduction, and publications support (e.g., word processing, graphics development, technical editing, and technical writing).

In computing costs for each product, the following items are included as ODCs:

- Direct materials
- Special equipment
- Travel and subsistence
- Telephones
- General office supplies
- Postage (e.g., overnight mail, Federal Express)
- Computer usage
- Newspaper notices
- Storage, security, and cleaning services
- Special taxes
- Reproduction equipment and materials
- Corporate operations (e.g., benefits package, Social Security, and worker's compensation insurance)
- Office operations (e.g., equipment maintenance and depreciation, building maintenance and depreciation, insurance)

No discussion of Corporate or Office Operations, which are essentially overhead items, has been included in these Guidelines.

In computing ODCs, it is sometimes necessary to allocate costs on a task-by-task usage basis (i.e., telephone costs are charged to a single FMPCC job-control number, then allocated to each task proportionally to the telephone usage on each task). The basis for task-by-task cost allocation shall be approved by FEMA. Possible allocation bases include an hourly usage basis or percentage-of-total-cost basis. This process will be referred to hereafter as a task-by-task usage allocation basis.

The fee is a standard cost component, which shall be negotiated by the FMPCC with the FEMA Contracting Officer (CO) and PO.

3.2.2.2 Task 1—Flood Insurance Study Reports and Flood Insurance Rate Maps

3.2.2.2.1 Products

The major products processed under Task 1 are studies (FISs and XDSs), restudies (RFISs, LMMPs, and RXDSs), and Special Conversions. The basic units of work for these products are FIRM panels.

3.2.2.2.2 Cost Component Breakdown

Each study, restudy, or Special Conversion assignment processed under Task 1 is to be given a unique FMPCC job-control number. Costs associated directly with the production of a product for a specific community are to be charged to that community's FMPCC job-control number. However, as discussed below, some costs are accounted for using general job-control numbers.

Task 1 Direct Labor. Engineering, cartography, QC, document control, word processing, technical writing/editing, and other staff-level efforts that can be specifically identified with a particular community shall be charged directly to that community. In cases where small increments of time are expended dealing with multiple communities/products under Task 1, direct labor may be charged to a single FMPCC job-control number and allocated proportionately to all products completed under Task 1. Provisions will be made for, at a minimum, the identification of engineering, cartography, supervision/management, and other direct labor charged to each product.

The supervisory efforts involved in engineering, cartography, QC, document control, technical writing/editing, and other staff-level efforts are also charged directly to a product whenever possible. However, some supervisory responsibilities cannot be identified specifically with an individual community. Therefore, some supervisory direct labor may be charged to a single job-control number and allocated proportionately to products completed under Task 1. Again, provisions are to be made for identifying engineering, cartographic, and other supervisory direct labor.

Separate management hours shall not be charged to Task 1. Management's direct labor related to Task 1 production shall be included with supervisory direct labor.

Task 1 ODCs. The ODCs incurred under Task 1 in each of the major categories identified earlier are discussed below.

- **Direct Materials.** All materials used to process a study, restudy, or Special Conversion from the Preliminary to the final reproduction materials for submission to GPO are included in the cost for that product. The following comprises a noninclusive list of items that are considered direct materials: vellum; mylar; peel coat; photographic chemicals; matte and negative film; scribe coat; and blue-line, laser printer, and plotter paper.

Whenever possible, materials are to be charged to individual products. (For instance, the cost of final composite negatives produced by a subcontractor are charged to the specific FMPCC job-control number.) However, in cases where bulk materials are purchased (e.g., photographic chemicals, mylar roll stock, laser printer paper), costs may be charged to a general job-control number and distributed to the individual products on a per-panel basis.

- **Special Equipment.** Special equipment is equipment purchased or leased by the FMPCC and used to fulfill the unique requirements of the NFIP. Special equipment required for Task 1 includes scanners, digitizers, photographic processing equipment, copiers, blueprint machines, and word processors/computers. Special equipment costs include the purchase, usage, lease/rental, and maintenance costs of equipment.

Most special equipment is used interchangeably in the production of products under all tasks; therefore, costs associated with special equipment are tracked separately on a FEMA-approved, task-by-task usage allocation basis.

- **Travel and Subsistence.** Travel and subsistence shall not be charged under Task 1; these items are only to be charged under Tasks 3 and 4.
- **Telephones.** Telephone usage may be accounted for as an overhead charge or directly on a FEMA-approved, task-by-task usage allocation basis.
- **General Supplies.** General supplies may be accounted for as an overhead charge or directly on a FEMA-approved, task-by-task usage allocation basis.
- **Postage.** Most postage is paid for by the U.S. Government because the FMPCC has the use of Government-supplied mail meters; however, when overnight services are required, those costs are paid for by the FMPCC and charged back to FEMA.
- **Computer Usage.** Computers may be charged as overhead costs directly to the FMPCC job-control numbers. Direct charges may be at an hourly usage rate to the job-control number for the affected product, or on a FEMA-approved, task-by-task usage allocation basis.
- **Newspaper Notices.** The costs for publication of newspaper notices are charged to the job-control number for the study/restudy for which the notice is published, or on a FEMA-approved, task-by-task usage allocation basis.
- **Reproduction.** Labor costs associated with reproduction services are charged in the department in which they are accrued (e.g., Engineering, Cartography) and, therefore, are charged directly to the FMPCC job-control number. Costs for copier paper and photocopying equipment may be accounted for as an overhead charge, or on a FEMA-approved, task-by-task usage allocation basis.

3.2.2.3 Task 2—Conditional and Final Map Revisions and Amendments

3.2.2.3.1 Products

As discussed in Section 2, the primary products produced under Task 2 are CLOMAs, LOMAs, LOMR-Fs, CLOMR-Fs, LOMRs, CLOMRs, PMRs, LOMC-VALID letters, and LODRs. The basic units of work for these products are community-specific actions called cases.

3.2.2.3.2 Cost Component Breakdown

The accounting principles to be applied to costs incurred under Task 2 are essentially the same as those to be applied to costs incurred under Task 1. The major differences are that not all labor cost and ODC components identified under Task 1 shall be incurred for each Task 2 product (e.g., no cartography labor involved in processing, and no newspaper notices produced for, LOMAs, CLOMAs, LOMR-Fs, CLOMR-Fs, CLOMRs, LOMC-VALID letters, or LODRs), and that costs shall be distributed on a per-case basis, rather than a per-panel basis.

3.2.2.4 Task 3—Project Coordination, Reporting, and Storage

3.2.2.4.1 Products

The basic unit of work for Task 3 is hours. The FMPCC hours in Task 3 are incurred in the following major categories: coordination, reporting, filing and storage, data requests under FOIA, EDRs, reprint requests, and the Fee-Charge System Administration.

3.2.2.4.2 Cost Component Breakdown

Task 3 is, by design, an overall NFIP- and project-support task; therefore, there are no individual communities to be tracked by community-specific job-control numbers. Instead, the FMPCC shall assign general FMPCC job-control numbers to each product category under Task 3. Cost components shall then be charged to the general job-control numbers.

The FMPCC job-control numbers shall be assigned on the following basis:

- **Coordination**—Efforts that cannot be identified with a specific task shall be charged to a single job-control number. Special coordination-type projects shall be assigned individual FMPCC job-control numbers.
- **Reporting**—Four job-control numbers shall be used to track costs incurred for this effort: Financial Reporting, Computerized Status Reporting, Credited Levee System, and Weekly Meeting or Monitoring Visit Minutes.
- **Filing and Storage**—At a minimum, a single general FMPCC job-control number shall be established for FMPCC filing and storage activities; however, the FMPCC may assign job-control numbers to account for costs incurred on subtasks of filing/storage activities.
- **FOIA Requests**—FOIA requests shall be tracked using a separate FMPCC job-control number for each assignment.
- **External Data Requests**—Non-FOIA and other EDRs shall, because of the large volume of requests processed, be tracked on separate FMPCC job-control numbers according to the type of request or by the timeframe in which requests are received.
- **Reprint Requests**—A separate FMPCC job-control number shall be used for each request; these are generally received monthly on a very limited basis.
- **Fee-Charge System Administration**—A separate FMPCC job-control number shall be used for each product/fee type handled by the FCSA.

3.2.2.4.3 Direct Labor

Direct labor costs shall be incurred for each Task 3 category as discussed below.

Coordination. Staff-level employees generally do not incur direct labor on the general management job-control number; however, staff direct labor may be charged to “special coordination” projects, such as attendance at coordination meetings with FEMA HQ or FEMA RO personnel. Supervisory direct labor may also be charged to “special coordination” projects. Direct labor costs are incurred for the FMPCC staff’s daily delivery of mail between FEMA HQ and the FMPCC.

Reporting. Direct labor costs are incurred by project administration staff in the preparation of task orders; the development and maintenance of an in-house computerized status reporting system; the maintenance of FEMA’s databases; the development and maintenance of specialized databases; the preparation of all contractually required and ad hoc reports; and the scheduling and expediting of all products completed under Tasks 1 through 10. Supervisory direct labor is incurred in the supervision of staff working on the various reports and databases and shall be tracked separately.

Filing and Storage. Library staff incur direct labor costs while organizing files for all studies, restudies, Special Conversions, conditional and final map revision requests, and conditional and final map amendment requests processed, and for storing all map files. Cartography staff incur direct labor costs for packaging artwork for storage in the library. These efforts shall be tracked with separate FMPCC job-control numbers. Supervisory direct labor may be charged to this effort. All equipment and leasing costs associated with the library facilities of the FMPCC shall be charged to individual job-control numbers.

Data Requests. For FOIA and other external data requests, direct labor costs are incurred by library staff for retrieving and processing information, by engineering staff performing research when needed, and by cartography staff preparing map materials, when necessary.

Reprint Requests. Library staff incur direct labor costs for retrieval of hardcopy maps from storage, while Cartography staff incur direct labor costs for repair and replacement of negatives before reprinting as needed. Supervisory direct labor, if used, shall be identified for this effort. No management direct labor shall be charged to this effort.

Fee-Charge System Administration. Direct labor costs are incurred by the FCSA for collecting, recording, and tracking fees for conditional and final map change requests, external data requests, and Map Distribution Service requests.

3.2.2.4.4 Other Direct Costs

The ODCs charged to FEMA under Task 4 are discussed below for each of the major categories identified earlier.

Special Equipment. As discussed earlier in this section, special equipment is equipment that is purchased or leased by the FMPCC and used to fulfill the special requirements of the NFIP. Special equipment costs include the purchase, usage, lease/rental, and maintenance costs of the equipment. Most special equipment is used interchangeably in the completion of assignments under multiple tasks. Therefore, costs associated with special equipment shall be tracked on a task-by-task usage allocation basis for special equipment.

Travel and Subsistence. All costs associated with traveling to coordination meetings at FEMA HQ and ROs, at other FMPCC offices, and in communities shall be charged to Task 3. These costs shall be charged to the FMPCC job-control number(s) established for these meetings.

Telephones. Telephone usage shall be charged indirectly as an overhead cost or directly on a FEMA-approved, task-by-task usage allocation basis.

General Supplies. General supplies shall be charged indirectly as an overhead cost or directly on a FEMA-approved, task-by-task usage allocation basis.

Postage. Most postage is paid for by the U.S. Government because the FMPCC uses Government-supplied mail meters. However, overnight services required for data requests or special responses shall be charged directly to the appropriate FMPCC job-control number.

Computer Usage. Computers shall be charged indirectly as an overhead cost or directly on a FEMA-approved, task-by-task usage allocation basis. Direct charges may be at an hour usage rate or on a FEMA-approved, task-by-task usage allocation basis.

Newspaper Notices. No costs shall be incurred for newspaper notices under Task 3.

Reproduction. Labor costs associated with reproduction services shall be charged in the department in which they are incurred, and therefore are charged directly to a FMPCC job-control number. Costs for photocopying equipment and copier paper may be accounted for as an overhead cost or directly on a FEMA-approved, task-by-task usage allocation basis.

3.2.2.5 Task 4—technical and Program Development and Implementation Assistance

3.2.2.5.1 Products

The basic unit of work for Task 4 is hours. Hours in Task 4 are expended in the following major categories:

- Preparation of guidelines and specifications
- Development of improved procedures and methodologies
- Development of improved report and map products
- Provision of briefings and other guidance documents
- Processing of appeals and protests

- Review and revision of hydrologic and hydraulic data and related mapping
- Response to congressional inquiries
- Informational responses to FEMA constituents (letters and e-mail responses)
- FEMA Map Assistance Center Support (toll-free hotline)
- Web support
- LOMC Subscription Service support
- Map Distribution Service support
- Five-Year Map Review/Update support
- Preparation of estimates of future trends
- Conduct of technical meetings for FEMA
- Attendance at technical meetings for FEMA
- Review of new hydrologic and hydraulic methodologies
- Support for CTC program
- Development and delivery of training workshops for FEMA contractors and constituents

3.2.2.5.2 Cost Component Breakdown

Individual FMPCC job-control numbers shall be used in tracking the costs of the multiple special projects assigned under Task 4. Cost components shall be charged appropriately for the work completed.

3.2.2.5.3 Direct Labor

Direct labor costs shall be incurred for staff-level, supervisory, and management efforts for Task 4 and shall be charged to general and individual FMPCC job-control numbers.

3.2.2.5.4 Other Direct Costs

The ODCs charged to FEMA under Task 4 are discussed below for each of the major categories identified earlier.

Special Equipment. As discussed earlier in this section, special equipment is equipment that is purchased or leased by the FMPCC and used to fulfill the special requirements of the NFIP. Special equipment costs include the purchase, usage, lease/rental, and maintenance costs of the equipment. Most special equipment is used interchangeably in the completion of assignments under all four tasks. Therefore, costs associated with special equipment shall be tracked on a task-by-task usage allocation basis for special equipment.

Travel and Subsistence. All travel and subsistence costs associated with individual Task 4 assignments shall be charged to Task 4. These costs shall be charged to the FMPCC job-control number(s) established for these assignments or to general FMPCC job-control numbers established for categories of assignments (e.g., preparation of Guidelines and Specifications).

Telephones. Telephone usage shall be charged indirectly as an overhead cost or directly on a FEMA-approved, task-by-task usage allocation basis.

General Supplies. General supplies shall be charged indirectly as an overhead cost or directly on a FEMA-approved, task-by-task usage allocation basis.

Postage. Most postage is paid for by the U.S. Government because the FMPCC uses Government-supplied mail meters. However, overnight services required for data requests or special responses shall be charged directly to the appropriate FMPCC job-control number.

Computer Usage. Computers shall be charged indirectly as an overhead cost or directly on a FEMA-approved, task-by-task usage allocation basis. Direct charges may be at an hour usage rate for the affected RFIS and RXDS or on a FEMA-approved, task-by-task usage allocation basis.

Newspaper Notices. No costs shall be incurred for newspaper notices under Task 4.

Reproduction. Labor costs associated with reproduction services shall be charged in the department in which they are incurred (e.g., Engineering, Cartography), and therefore are charged directly to a FMPCC job-control number. Costs for photocopying equipment and copier paper may be accounted for as an overhead cost or directly on a FEMA-approved, task-by-task usage allocation basis.

3.2.2.6 Task 5—Engineering Study Data Package Facility

The basic unit of work for Task 5 is a digital media product. Costs in Task 5 are incurred in the following major categories:

- Indexing SC- and FMPCC-generated materials for studies and restudies
- Scanning materials and creating digital media
- Distributing digital media
- Preparing digital media for LOMC Distribution Service

As discussed in detail in Section 5 of these Guidelines, the products produced under Task 5 are digital products that contain essential data used in producing effective studies and restudies.

Because of the large number of studies and restudies processed by the Engineering Study Data Package Facility (ESDPF), the costs incurred are not broken down on a community-by-community basis, as is done in other tasks. Instead, the costs are broken down into the type of work being performed.

3.2.2.7 Task 6—Digital Mapping Products and Services

The major products produced under Task 6 are digital maps; the units of work for these products are panels. In addition, costs may be incurred under Task 6 to develop new techniques and methodologies to address matching, automation, and other GIS services.

3.2.2.7.1 Cost Component Breakdown

Each product processed under Task 6 shall be given a unique FMPCC job-control number. Costs associated directly with the production of a product for a specific community or county shall be charged to that community's FMPCC job-control number. However, some management costs shall be accounted for using general job-control numbers. All costs related directly to the production of a study, restudy, or map revision are charged to FMPCC job-control numbers assigned under Task 1 or Task 2, as appropriate.

3.2.2.7.2 Direct Labor

The same basic labor categories and principles that apply to Task 1 and Task 2 costs shall apply to Task 6 costs; however, computer-assisted drafting design (CADD) and geographic information system (GIS) operators are included.

3.2.2.7.3 Other Direct Costs

The same basic materials and principles that apply to Task 1 or Task 2 ODCs apply to Task 6 ODCs, with the addition of digitizing and plotting supplies or services.

3.2.2.7.4 Task 7—Erosion Studies

As discussed in detail in Section 7 of these Guidelines, the primary effort under Task 7 is review of erosion data and documentation prepared by SCs and production of Erosion FIRMs in compliance with *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference 1). The basic units of work for Task 7, an optional task, are panels.

The accounting principles that shall be applied to costs incurred under Task 7 are essentially the same as those to be applied to costs incurred under Task 2 in that most assignments are made on a case-by-case, community-by-community basis. However, not all labor and other cost components identified under Task 2 are incurred for each Task 7 product.

3.2.2.8 Task 8—Processing of Map Revisions Under the Coastal Barrier Legislation

The one major task for which the FMPCC shall incur costs in Task 8 is revising FIRMs to show the revised limits of Coastal Barrier Resources System (CBRS) units. The basic units of work for Task 8 are panels.

As discussed in detail in Section 8 of these Guidelines, the primary products to be produced under Task 8 are revised FIRM panels. The accounting principles that shall be applied to costs incurred under Task 8 are essentially the same as those to be applied to costs incurred under Task 1 in that assignments are made on a panel-by-panel, community-by-community basis. However, not all labor and other cost components identified under Task 1 are incurred for each Task 8 product.

3.2.2.9 Task 9—Hazard Identification and Mapping

When the FMPCC is asked to assist FEMA in obtaining information regarding natural and technological hazards from Federal, State, and local government sources, the FMPCC shall prepare a technical Proposal and a separate T&C Proposal for each assignment based on the instructions of the FEMA CO, the Task Manager for the assignment, or the PO. The labor categories and ODCs will vary based on the assignment.

3.2.2.10 Task 10—Risk Assessment Activities

The primary services provided by the FMPCC under this task shall be acquisition of data, hardware, and software; digitizing; and database and GIS functions for daily and emergency operations.

3.2.2.10.1 Cost Component Breakdown

Each assignment under this task shall be given a unique FMPCC job-control number. Costs associated with a particular assignment shall be charged to that job-control number. However, some management costs shall be accounted for using general job-control numbers for the task.

3.2.2.10.2 Other Direct Costs

The same basic materials that apply to GIS services provided under Task 6 shall apply to assignments made under this task.

3.2.3 Credited Structures Inventory System

The construction of levees and similar flood-protection structures, such as dikes and floodwalls, has had a major effect on floodprone areas throughout the United States. These structures are intended to protect lives and property and are therefore of particular importance in identifying flood hazards and reducing flood losses. For several years after the inception of the NFIP, FEMA relied heavily on individual SCs to properly evaluate the capacity of levees and similar structures to provide base flood protection. In recognition of the need for a uniform method of evaluating these structures, FEMA issued a Levee Policy in 1981.

The Levee Policy, issued for use by both SCs and the FMPCC, identified the types of structures that qualify as flood-protection structures and outlined the criteria on which the evaluations of these structures should be based. During the preparation and revision of FIS reports, FIRMs, and FBFMs, SCs and the FMPCC use the information provided in the Levee Policy to determine whether these structures should be credited with providing base flood protection.

In response to the growing number of NFIP maps depicting credited flood protection structures, FEMA in 1984 began the Credited Structures Inventory. The inventory was conducted to identify all structures, shown as providing protection from the base flood on effective and soon-to-be-effective FIRMs, including levees, dikes, floodwalls, and road and railroad embankments. The

objective of the Inventory was to collect information that FEMA would need to determine priorities for future levee investigations and to monitor the operation and maintenance of these structures.

In connection with the Inventory, FEMA developed the Credited Structures Inventory System (CSIS), a computerized database and information retrieval system. The results of the Inventory were entered into the CSIS.

The initial phase of the inventory has been completed and the resulting information entered into the CSIS. The FMPCC shall be responsible for providing information required to update the CSIS, which shall be obtained during the processing of FISs, RFISs, LMMP projects, and map revisions (both PMRs and LOMRs).

3.2.3.1 Standard Reports

The CSIS was developed to allow FEMA to store large amounts of information about credited structures, to retrieve all or selected portions of this information, and to generate standard and special reports. When requested by FEMA, the FMPCC shall issue the following standard reports:

- Report of Credited Structures
- Report of Communities with Credited Structures
- Detailed Report of Credited Structures

In addition to these standard reports, the FMPCC shall issue special reports tailored to meet specific needs. CSIS users include the FEMA HQ, FEMA ROs, and the FMPCC.

3.2.3.2 Stored Information

In the CSIS, each credited structure within a State is assigned a unique structure number. Information is collected for each structure and stored under that structure number. Ideally, over 40 pieces of information concerning the structure (including location, accreditation, construction, operation, maintenance, and size) and the protection it provides are collected and stored under the appropriate structure number. The information collected for credited structures is detailed in Subsection 3.2.3.3.

Each FMPCC shall collect credited structure information as part of the processing of individual studies, restudies, and map revisions. This information is recorded on a Levee Inventory Data Entry Forms (LIDEF), which was designed to contain information for only one structure and only for that portion of the structure that falls within a single community. Spaces are provided to record information describing the effects of the structure on the flooding depicted on a maximum of six panels of the FIRM for a community. Therefore, the FMPCC must prepare multiple LIDEFs for a single credited structure that falls within more than one community or affects the flooding on more than six FIRM panels for one community.

3.2.3.3 Flood Map Production Coordination Contractor Requirements

The FMPCC shall, as a routine part of the processing of studies, restudies, and map revisions, identify all levees and similar structures credited with providing base flood protection and, when requested by FEMA, record this information on LIDEFs for entry into the CSIS database. The FMPCC shall submit completed LIDEFs to the FEMA-designated repository on a monthly basis. Instructions for completing LIDEFs are provided below.

3.2.3.3.1 Data Collection and Preparation of Data Entry Form

For each credited structure identified during the processing of a study, restudy, or map revision, the FMPCC shall review its in-house files of completed LIDEFs to verify that the information listed has been provided for entry into the CSIS database. In conducting this review, the FMPCC may find that a structure has not been previously identified, in which case no information for that structure will be contained in the CSIS database. The FMPCC may also find that the structure has been identified and entered into the CSIS, but the information is incomplete, out of date, or otherwise inaccurate.

In either case the FMPCC shall complete the required LIDEF(s). If the structure has not been previously identified, the FMPCC shall assign a structure number and obtain as much information to be listed as possible. Structure numbers are assigned in ascending order from lists the FMPCC maintains for each State. The LIDEF prepared for a previously unidentified structure will be the first for that structure. To add to or update information already in the CSIS database, the FMPCC shall prepare a revised LIDEF.

Before submitting new or revised LIDEFs, the FMPCC shall review the LIDEFs to ensure that the information recorded on them is accurate. The FMPCC shall also keep copies of all completed LIDEFs.

3.2.3.3.2 Instructions for Completing Levee Inventory Data Entry Forms

The FMPCC shall complete LIDEFs using the instructions below. The completed forms are to be submitted to FEMA to update the CSIS. LIDEFs shall be completed in the following cases:

- Credited structures are to be added to the CSIS (Addition).
- A credited structure was recorded in an earlier LIDEF, and the data should be revised (Update).
- A previously inventoried credited structure is no longer a credited structure and shall be deleted from the CSIS (Decertification).

The FMPCC shall use the following guidelines in preparing a LIDEF for submittal to FEMA:

- If any credited structures are to be added to the CSIS, the FMPCC shall submit LIDEFs, completing as many of the items as possible with the information available. Item 7 (Structure Number) shall not be completed; a number will be assigned at a later date.

- If the credited structure was reported in an earlier inventory and some data should be revised, the FMPCC shall submit a LIDEF. An “X” shall be placed in the box next to the word “UPDATE” in the upper right-hand corner of the form. The FMPCC shall complete Items 1 through 5, 7, 39, and 40. Other items should be completed only if the information is new or revised. If a revision or upgrade is required for the comments section (Item 42), the FMPCC shall include any previous comments that must be retained.
- If a structure was identified as a credited structure in an earlier inventory and, based on the updated inventory, is no longer considered a credited structure, the FMPCC shall submit a LIDEF. The following items of the LIDEF shall be completed: 1 through 5, 7, 32, 33, 34, 39, 40, and 43.
- The FMPCC will use only capital letters to complete the form.
- Numeric entries shall always be right-justified; alphanumeric entries shall always be left-justified.
- Unless otherwise specified in the coding instructions, the FMPCC shall leave boxes blank if data are not available.
- Should the given structure be located in more than one community, the FMPCC shall submit all forms with the same structure number together once a structure number has been assigned.
- For Item 8, dams and dam-related dikes designed to permanently impound water shall not be considered as levees. The term “floodwall” refers to a concrete or masonry wall or levee.
- For Item 22, the verification agent may be an appellant or a revision requester who provides data or information used to credit a structure.

The FMPCC shall complete a LIDEF as follows:

- **Community Name**—Enter the community name.
- **Type**—Enter the community type using one of the following standard abbreviations:
 - Borough - BOR
 - City - CTY
 - County - CO
 - Parish -PAR
 - Town - TWN
 - Township - TWP
 - Village - VIL
- **County**—Enter the county name in which the community is primarily located. If the community type is county, enter “UNINCORPORATED AREAS.”
- **State**—Enter the standard two-letter abbreviation.
- **Program Status**—Enter “NP” for non-participating communities and “P” for participating communities.
- **Structure Location**—Enter “A” if all or part of the structure is within the corporate/county limits of the community; enter “B” if the structure lies entirely outside the corporate limits.
- **Structure Number**—Enter the structure number from the Levee Inventory Printout when updating or decertifying a previously inventoried credited structure. Enter a new structure

number when adding new structures. The first two digits of the seven-digit structure number shall be assigned the two-digit State code number assigned to the State in which the structure is located. The last five digits of the number shall be assigned a number identifying the structure (e.g., number "0600463" identifies structure No. 463 within California). A structure located within two or more States shall be assigned separate numbers, identifying the length of the structure within each State.

- **Structure Type**—Enter the two-letter structure-type code. The first letter of the code shall be "R" if it is on a riverine flooding source and "C" if on a coastal source; the second letter of the code shall be one of the following:

A — Levee	E — Road Embankment
B — Floodwall	F — Railroad Embankment
C — Combined Levee and Floodwall	G — Other
D — Ring Levee	

- **Coordinates**—Enter the latitude and longitude of the approximate midpoint of the structure to the nearest 30 seconds, as determined from USGS topographic maps.
- **Hydrologic Subregion**—Enter the three- or four-digit subregion code in which most of the structure is located. This code shall be taken from USGS Hydraulic Unit Maps for individual States.
- **Bank**—Enter "L" if the structure is located on the left overbank (facing downstream) or "R" if the structure is on the right overbank (facing downstream). This item shall be completed for riverine structures only.
- **Length of Structure**—Enter the total length of the crest of the structure, to the nearest 0.1-mile. The total length of a levee or floodwall shall be identified. For a road or railroad embankment, identify only the length credited with providing protection from the base flood.
- **Failures**—Enter information on the past performance of the structure, if available. Enter "A," if a failure has occurred or "B" if no failure has occurred.
- **Official Name**—Enter the name if a structure or project has an accepted name; enter "NONAME" if there is no accepted name.
- **Year Completed**—Enter the year when construction of the main structure was completed; do not enter the year(s) that remedial or maintenance work may have been performed.
- **Rated Level of Protection**—Enter the exceedence frequency, in years, of the flood from which the structure was designed to provide protection. Leave the space blank if there was no design flood.
- **Flooding Source**—Enter the name of the main river (or water body) from which the structure provides protection.
- **Freeboard**—Enter the minimum freeboard, in feet, of the structure.
- **Closures**—Enter the type(s) of closure required to operate the structure, using the following codes:

A — Sandbags	D — Other
B — Flood gates	E — Combination of A, B, C, and/or D
C — Stop logs	F — None

- **Operational Plan**—Enter “A” if there is an approved operational plan; otherwise, leave the space blank.
- **Accreditation/Verification**—Enter one of the following codes:
 - Enter “A” if the structure has been verified as meeting the FEMA Levee Policy or exceptions to FEMA levee freeboard requirements.
 - Enter “B” if the structure was credited prior to implementation of the FEMA Levee Policy. Apply this code to all road and railroad embankments unless the structure has been formally approved by FEMA as meeting the Levee Policy.
 - Enter “C” if the structure was certified by another Federal agency as providing base flood protection (may or may not be verified as meeting the FEMA Levee Policy). If both “C” and “A” apply, enter “C.”
- **Crediting/Verifying Agent**—Enter the crediting/verifying agency. If the agency is the SC, enter “SC” in the first two boxes; if not, leave the first two boxes blank. For the next three boxes, use two- and three-letter abbreviations for the agency (Federal, State, or local). If the firm or agency does not have a FEMA-established two- or three-letter code, enter the full name in the space provided.
- **Maintenance Plan**—Enter “A” if there is a FEMA-approved maintenance plan; otherwise, leave blank.
- **Maintenance**—Enter the name of the Federal, State, or local agency with overall responsibility for maintenance of the structure. If the community is responsible for maintenance, enter the community type after the name using the two- and three-letter codes used in Item 2.
- **Date of Last Inspection**—Enter the year in which the structure was most recently inspected.
- **Owner**—Enter the name of the current owner of the structure.
- **Designer**—Enter the name of the firm or agency that had primary design responsibility for the original structure.
- **Builder**—Enter the name of the firm or agency that had primary responsibility for construction of the original structure.
- **Design Plans**—Enter the name of the firm or agency that has the design plans. If such plans are available in the FMPCC files, enter the FMPCC name.
- **As-Built Survey**—Enter the name of the firm or agency that has the as-built survey. If the survey is available in the FMPCC files, enter the FMPCC name.
- **Inspection Data**—Enter the name of the firm or agency that has current inspection data. This would be the firm or agency that has responsibility for the actual maintenance duties, not necessarily the Federal, State, or local agency that has overall maintenance responsibility.
- **Community Number**—Enter the complete six-digit community identification number (CIN).
- **Panel Number**—Enter the complete four-digit FIRM panel number and suffix for each panel on which the structure is located. The panel number and suffix should reflect the study, restudy, or revision being processed.
- **Effective/Revised Date**—Leave blank if the projected effective/revised date is unknown. If the effective/revised date is available, enter the effective/revised date as it appears on the map panels (shown as Year, Month, Day).

- **Protected Area Type**—Enter the code for whether the area protected from the base flood on each panel is categorized as “primarily developed” (D) or “primarily undeveloped” (U). This determination shall be made on the basis of information such as street patterns and cultural features shown on the flood map.
- **Protected Area Zone**—Enter the code for the designation of the actuarial insurance rate zone adjacent to the landside of the structure. If there is more than one zone, enter the code of the most extensive zone. Use the following codes:

A — Approximate Zone A	O — Zone C or Zone X
AH — Zone AH	D — Zone D
AO — Zone AO	V — Approximate Zone V
A# — Zone A# with elevations	V# — Zone V# with elevations
AE — Zone A with elevations	VE — Zone V with elevations
B — Zone B	
- **Area of Protected Areas**—Enter the approximate area of the protected area, to the nearest 0.5 square mile, as shown on the affected FIRM panel.
- **Unprotected Area Zone**—Enter the code for the designation of the flood risk zone adjacent to the waterside of the structure. If more than one zone appears in the unprotected area, enter the code of the most extensive zone. Use the same codes as for Protected Area Zones.
- **Inventory By**—Enter the initials of the FMPCC performing the inventory.
- **Date of Inventory**—Enter the year, month, and day on which the inventory was completed or updated.
- **Study or Revision**—Indicate whether a study, restudy, or revision is in progress by entering one of the following codes (leave blank if no study or revision is in progress):
 - A — An FIS/RFIS for which the composite negative package has not been sent to FEMA.
 - B — A PMR for which the composite negative package has not been sent to FEMA.
 - C — A LOMR involving this structure has not been issued.
- **Comments**—Include concise comments on items that might be significant in setting priorities for the restudy of levees, floodwalls, or other embankments. These may include additional information pertaining to Items 13, 15, 18 through 21, 23, 41, or others; the structure number for this structure in an adjacent State, should the structure cross State lines; the structure number for another structure operating in conjunction with the inventoried structure (in the event of a two-levee system); or if the USACE is indicated for Items 22, 24, or 26 through 31, the USACE District may be added in this section.
- **Decertification**—Enter “A” if the structure is included in the levee inventory database as a credited structure and is no longer considered a credited structure based on a more recent inventory.

3.2.4 Periodic Reports

As directed by the PO or his/her designee, the FMPCC shall produce or provide information on the SOS and LOMC modules to provide periodic status and production reports, which may include:

- **Monthly Objective Status Report**—This report provides projected and actual totals for Preliminary FISs, RFISs, PMRs, and LMMP projects and DFIRMs; Part 65, 67, and 70 appeal resolutions; effective FIRMs; and LOMAs, LOMR-Fs, and LOMRs issued.
- **Monthly Production Report**—This report provides a summary of work receipts, completions, and work to be completed in Tasks 1, 2, and 6.
- **Part 67 Appeals and Protest Status Report**—This status report provides the dates of receipt and acknowledgment and the status of the evaluation and resolution of each active Part 67 appeals and protest.
- **LOMA Statistics Report**—This status report provides the numbers of single-lot and multiple-lot and subdivision LOMA requests received and the numbers of lots processed (by type of resolution).
- **Contract Status Report**—This monthly report lists the work assignments and available funding under each contract task.

3.2.5 Ad Hoc Reports

The FMPCC shall prepare ad hoc reports for FEMA HQ and RO staff at the direction of the PO or his/her designee.

3.3 Filing and Storage

3.3.1 Technical Support Data Notebook

For studies and restudies, SCs are required to organize technical and administrative data in a technical Support Data Notebook (TSDN) prior to submittal to the FMPCC for processing. The TSDN will contain all technical data developed or used by the SC during the study/restudy process, and will be prepared according to the format outlined in Appendix E of these Guidelines.

3.3.2 Files

The FMPCC shall establish and maintain files for all map, report, and letter products processed under Tasks 1, 2, 4, and 6. These files shall contain all artwork, reproduction materials, correspondence, technical analyses, work maps, digital files, printouts, and other materials relating to the map, report, and letter products. In addition, for studies and restudies, the FMPCC shall maintain the TSDN submitted by the SC and an inventory that lists the contents of the file for each community. The FMPCC shall establish and maintain FEDD files for all studies, restudies, and map revisions in accordance with the provisions of Sections 66.3 and 67.3 of the NFIP regulations. The FMPCC shall also establish and maintain individual files for the storage of microfilmed or digitally stored technical and administrative support data, data scanned on CD-ROMs, oversized materials, and nonmicrofilmable or scannable-support data.

3.3.3 Storage

The FMPCC shall establish and maintain a storage facility that provides reasonable protection for filed materials and establish and maintain an identification and indexing system to permit rapid retrieval of filed materials. The FMPCC shall dispose of Program materials in accordance with written instructions provided by the PO or his/her designee.

3.3.4 Distribution Requirements

The FMPCC shall transmit copies of original materials and supply descriptive materials and Program information, such as NFIP brochures, other publications, or regulations, to a requester at the direction of the PO or his/her designee. The FMPCC shall store and maintain administrative and technical support data associated with the processing of studies, restudies, conditional and final map revisions, and conditional and final map amendments. The FMPCC shall reproduce data in hardcopy, microfiche, or computer-disk format according to the format of the stored materials in response to information and data requests.

According to criteria established by FEMA, the FMPCC shall determine whether a fee is to be assessed to the requester to recover costs incurred during retrieval and reproduction of the data. If a fee is charged, the FMPCC shall determine the fee amount. All such fees shall be documented by the FMPCC and reported to the FCSA. The responsibilities of the FCSA and additional details about the fees to be charged are discussed in Section 5 of these Guidelines.

3.3.5 Engineering Study Data Packages

To reduce storage requirements and to facilitate responses to requests for the administrative and technical support data developed during study and restudy processing, FEMA has chosen to prepare and maintain a standardized archive package of the data, called an Engineering Study Data Package (ESDP). The FMPCC responsibilities for storing data for studies, restudies, conditional and final map revisions, and conditional and final map amendments and for submitting them to the ESDPF for permanent storage in digital form are provided in the following subsections.

3.3.5.1 Stored Information

The FMPCC shall categorize the data developed by SCs and the FMPCC for studies and restudies as either essential or nonessential. Essential data are those that FEMA is legally required to maintain to reconstruct an original study or restudy. Essential data include digital and hardcopy versions of survey notes, input and output data from hydrologic and hydraulic models, SC work maps and other topographic information, and pertinent correspondence. Nonessential data are those that pertain to a study or restudy that would not be needed if the study or restudy were to be reconstructed. The documents that contain these data include community maps; base maps; Preliminary and Revised Preliminary copies of FIS reports, FIRMs, and FBFMs; USGS topographic quadrangle maps (unless used as SC work maps); and duplicate copies of materials or correspondence.

Since 1981, SCs and the FMPCC have submitted original study and restudy materials to the ESDPF. When these materials arrive at the ESDPF, they are logged in and categorized as essential or nonessential, as defined by FEMA. In general, the materials containing essential data are indexed, scanned, and stored in digital form. Mapping materials deemed too large for scanning are permanently retained by the FMPCC in individual files to facilitate retrieval for future reference and reproduction purposes.

The instructions in Appendix E of these Guidelines provide guidance for the FMPCC's organization and submittal of study and restudy support materials prepared in the TSDN format, which is required for studies and restudies procured since October 1, 1989. After scanning and digital archiving is complete, the ESDPF staff shall provide the FMPCC with the support data in digital form and, when applicable, any supplementary hardcopy originals of essential data that could not be scanned because of the poor quality of the original material. The FMPCC may retain historic materials, especially maps, for reference purposes. The ESDPF will send hardcopy originals of scanned material to a data repository previously identified by the FEMA RO. The ESDPF staff shall also duplicate and distribute the digital data to FEMA ROs and State agencies. Because of copyright restrictions, data provided by the ESDPF cannot be duplicated for distribution purposes.

3.3.5.2 Storage Requirements

For each study and restudy processed, the FMPCC shall maintain files of all materials submitted by the SC and developed by the FMPCC during processing. SCs usually submit the following (in some combination of digital and hardcopy formats):

- Draft FIS report, including figures and profiles
- Topographic work maps
- Computer printouts (from hydraulic models, hydrologic models, or both)
- Base map materials
- Copies of pertinent memorandums, correspondence, and reports
- Hydrologic and hydraulic computations and documentation sheets

Materials developed by the FMPCC usually include:

- Final copies of FIS reports and FIRMs
- Copies of pertinent telephone conversation records
- Copies of pertinent memorandums and correspondence
- Corrected/revised hydrologic and hydraulic computations
- Corrected/revised work maps

The SC will prepare studies and restudies in the TSDN format; the FMPCC shall maintain these documents and submit them to the ESDPF in the TSDN format.

For the ESDPF staff to handle archived materials efficiently, the FMPCC shall, upon completion of a study or restudy, organize FMPCC-generated materials by labeling them accurately and

discarding extraneous materials such as in-house checklists and duplicate copies of reports, correspondence, or maps. The FMPCC shall prepare an index of the material chosen for storage in the data package.

At this point, the data package is complete and shall be considered closed. Occasionally, however, it may be necessary for the FMPCC to pull information from the package to respond to a data request or to process a conditional or final map revision or amendment. The FMPCC shall ensure that data removed from the package are noted and monitored so that they are returned to the package before it is transmitted to the ESDPF.

Materials accumulated by the FMPCC after the study or restudy has been completed shall not be included in the study or restudy package sent to the ESDPF. The FMPCC shall retain these materials, which usually include information associated with conditional and final map revisions and amendments, in separate files to be incorporated into a future restudy.

After a study or restudy becomes effective, ESDPF staff may notify the FMPCC by letter that pertinent data are to be submitted to the ESDPF for digital archiving. Generally, pertinent data for several studies or restudies will be requested at one time. A list of these studies or restudies will be provided with the notification letter, along with a copy of the checklist to be used by ESDPF staff to inventory materials. The checklist will identify the types of materials that the FMPCC shall submit. Unless otherwise directed by the PO or his/her designee, the FMPCC shall submit the requested data within 30 days after receiving the notification letter.

Upon receiving the notification letter, the FMPCC shall retain requested data only if they are needed in connection with the processing of a study, restudy, or map revision (for the requested community or an adjacent community). The FMPCC may retain the requested data as needed but must submit them to the ESDPF when they are no longer needed.

Occasionally, the FMPCC may not have the requested data for a study or restudy or may have only some of the data that are normally included. The missing data may have been transferred or may have never been developed. When the FMPCC is unable to submit requested data to the ESDPF, the FMPCC shall include the following in the transmittal memorandum:

- The name of each study or restudy for which the requested data are not submitted
- A list of the data that are not submitted (for incomplete submissions only)
- The name(s) of the person(s) or organization(s) to whom the data were sent, if applicable
- A brief statement explaining why the data are not being submitted

If the data will be submitted later, the FMPCC shall provide a projected date of submission, if known.

3.4 Data Requests Under the Freedom of Information Act

3.4.1 Introduction

5 U.S.C. § 552, known as the Freedom of Information Act (FOIA), was enacted in 1966. FOIA is the legislative basis for allowing public access to Federal Government information. It allows the release of information to the media, academia, and citizens and specifies the time in which the requests must be filled. Although these requests rank among the most important items the FMPCC processes, these requests are, however, made infrequently.

The General Law Division of the FEMA Office of General Counsel (OGC) is responsible for receiving, acknowledging, logging, and responding to FOIA requests. The major differences between standard EDRs and FOIA requests are processing time and the materials each type of request covers. Study and restudy materials are available through FEMA's EDR and fee-charge system. Therefore, the FMPCC shall treat FOIA requests for these materials as a standard EDR, subject to the fees and other specifications already in place.

3.4.2 Processing Time

FOIA requests are highly time-sensitive because, by law, FEMA is required to respond within a given timeframe. Prior to 1996, this timeframe was 10 days. In 1996, President Clinton issued H.R. 3802, which amended 5 U.S.C. 552 and extended the legal response time to 20 days. This acknowledged the difficulty in processing FOIA requests within 10 days. Because FEMA has a separate department that receives, acknowledges, logs, and responds to these requests; it often takes the request several days to reach the FMPCC for response.

3.4.3 Information Gathering Requirements

Upon receipt of a FOIA request, the FMPCC may receive special instructions from FEMA. If there is any doubt about the data the requester needs, the FMPCC shall contact the PO, his/her designee, or other FEMA staff for clarification. The FMPCC shall not contact the requester directly unless directed to do so by FEMA staff. All questions must be relayed through FEMA.

The FMPCC shall locate the data as soon as possible. If some or all of the data are on microfiche, the FMPCC shall contact FEMA to determine how the data should be handled; frequently, FEMA will direct the FMPCC to make paper copies from the microfiche.

Different types of information may be requested under FOIA procedures. The following describes different types of requests and how they should be handled.

3.4.3.1 Draft, Preliminary, and Conditional Data

Draft or preliminary support data may be released to the requester; however, the FMPCC shall clearly note on the outgoing correspondence and materials themselves that the data are draft or preliminary and subject to change.

The release of conditional information shall follow the guidelines set forth in the FEMA memorandum dated June 7, 1990. In general, the FMPCC shall check with FEMA before releasing any data that do not support an effective FIS.

A special letter must be prepared to the originator of data from CLOMR requests to allow the originator to identify any confidential or privileged material. This letter puts the FOIA request “on-hold” for 7 working days from the date the letter is sent. The FMPCC will also prepare a letter to the FOIA requester explaining that the data originator is being given the opportunity to object to the release of the information and that a formal time will be allowed for the requester’s response before the data are released.

3.4.3.2 Effective Information

The FMPCC shall ensure that effective data to be released are the most recent. The FMPCC shall also ensure that any requested hydrologic and hydraulic models match the FIRM, FBFM, and FIS report and any mapping submitted with a revision request (if appropriate).

3.4.3.3 General Instructions

The FMPCC shall sanitize all information to be released (i.e., black out names of people of nonofficial standing). If it is unclear whether data should be included in the package (especially such things as phone logs, internal processing notes, etc.), the FMPCC shall contact the PO or his/her designee for guidance.

For most FOIA requests, FEMA will need a cost estimate to give the requester. The FMPCC shall ensure the data can be located before giving a cost estimate.

Occasionally, a request may become highly involved and much more time than expected may be spent on its resolution. Such situations may occur when extensive coordination with FEMA is required for the release of draft or preliminary data, or if a problem exists in finding the data. Should this occur, the FMPCC shall consult with the PO or his/her designee to determine the time to be billed and how to charge any nonbillable time.

3.4.4 Cost Computations

FOIA requests fall into different billing categories, as noted in the Definitions section of the Record of FOIA Case Processing Costs form, which must be completed as a basis for FEMA’s preparation of the FOIA report to the U.S. Congress. FEMA will determine the billing category before the FMPCC receives the FOIA request. The process used to calculate labor and reproduction costs is discussed below.

The hourly wage for each person involved is used to calculate labor costs. The FMPCC must determine exactly how much time each person charged (and will charge) to the request. The FMPCC shall compute reproduction costs according to actual costs. The process for computing costs is outlined below.

1. The FMPCC shall prepare a typed or handwritten worksheet showing the number of hours charged along with reproduction cost calculations.
2. The FMPCC shall then calculate the weighted hourly labor rate based on the salaries and time charged by the individuals working on the case. To ensure confidentiality of staff salaries, the FMPCC shall enclose the worksheet with this information in a sealed envelope marked "Confidential-Salary Information Enclosed." On the other copy of the worksheet, the FMPCC shall write the weighted hourly labor rate. The sealed envelope will be part of the file the FMPCC submits to FEMA.
3. The FMPCC shall complete the Record of FOIA Case Processing Costs form based on the totals calculated on the worksheet.
4. The FMPCC shall prepare a typed Cost Summary to be enclosed with the letter to the requester and include this Cost Summary on diskette with the cover letter.

For many FOIA requests, FEMA gives the requester 2 hours of search time and 100 pages of information at no cost. Also, FOIA requesters will not usually be charged if the total cost is less than \$30.00. However, the FMPCC shall calculate the costs following Steps 1 through 4 above for all FOIA requests.

Whatever time is charged by the FMPCC must be included in these cost calculations. However, if the FMPCC believes the requester should not be billed for all of the time charged, especially if data were misplaced or FEMA policy issues had to be resolved, the FMPCC shall bring this concern to FEMA's attention with a short note attached to the file.

It is extremely important that all cost computations be done correctly and that the documentation file be completed.

3.4.5 Case File and Correspondence Preparation

The FMPCC shall place the following items on the left-hand side of the case file: (1) incoming request (original); (2) paperwork from FEMA; and (3) concurrence and cc: page on top. The FMPCC shall place the following items on the right-hand side of the file: (1) outgoing FOIA response letter and (2) all enclosures.

The FMPCC shall prepare a letter from FEMA to the requester describing the information and requesting payment, if applicable. This letter may also include special verbiage regarding draft and preliminary data, FIS processing, etc., as applicable. Usually, the FMPCC will prepare this letter in final form and submit it to FEMA with a diskette. As mentioned earlier in this subsection, the FMPCC shall include the cost summary in the submittal to FEMA.

3.4.6 Information Submitted to FEMA

The FMPCC shall include the following information in the file sent to FEMA:

- Incoming correspondence and other relevant correspondence generated since the request was received

- Draft or final letter with the Cost Summary (on diskette)
- Confidential cost worksheet in a sealed envelope
- Completed Record of FOIA Case Processing Costs form
- All requested materials

After their review has been completed, FEMA may ask the FMPCC to send the material and the signed and dated letter to the requester, or FEMA may mail the materials and letter.

3.4.7 Completion

When requested to do so, the FMPCC shall distribute signed and dated copies of the final letter to the requester, with copies being sent to the RO, State NFIP Coordinator, FEMA FOIA Officer, other FEMA HQ staff as directed by the FEMA FOIA Officer, the PO, or their designees. The FMPCC shall store the FOIA case file with other technical and administrative support data for the community.

3.5 Other External Data Requests

Data requests that are not received under the FOIA shall be processed through the FEMA Fee-Collection System. The FMPCC shall respond directly to data requests involving by mailing data (in electronic, microfilm, paper form, or some combination thereof) to the requester. All fees charged for these data requests shall be collected for FEMA by the FCSA.

The FMPCC shall ensure that requesters of data submit the required user fees with requests for FIS backup data. FEMA has established seven categories into which requests for FIS backup data are separated. These categories are:

1. Category 1—Paper copies, microfiche, or diskettes of hydrologic and hydraulic backup data for current or previously effective FIS
2. Category 2—Paper or mylar copies of topographic mapping developed during FIS process
3. Category 3—Paper copies or microfiche of survey notes developed during FIS process
4. Category 4—Paper copies of individual LOMCs
5. Category 5—Paper copies of preliminary map panels
6. Category 6—CD-ROM of Digital Line Graph (DLG) files
7. Category 7—Computer diskettes and user's manuals for FEMA programs (e.g., Wave Height, Wave Runup, Alluvial Fan)

A *nonrefundable* fee of \$90 to cover the preliminary costs of research and retrieval must be submitted to initiate requests for data under Categories 1, 2, and 3. The total costs of processing requests in Categories 1, 2, and 3 above will vary based on the complexity of the research involved in retrieving the data and the volume and medium of data to be reproduced and distributed. No data shall be provided to a requester until all required fees have been paid.

No initial fee is required to initiate a request for data under Categories 4 through 7. The FMPCC shall notify the requester by telephone about the availability of materials and the fees associated

with the requested data. As with requests for data under Categories 1, 2, and 3, no data shall be provided to requesters until all required fees are paid.

The costs for processing requests under Categories 4 through 7 are based on the quantity of items ordered. The FMPCC shall apply the FEMA-established flat user fees for these categories of requests.

In addition to the FMPCC and FEMA staff, the following are exempt from fees for technical and administrative support data:

- Federal agencies that regularly participate in studies and restudies (Tennessee Valley Authority (TVA), USACE, NRCS, USGS, and National Oceanographic and Atmospheric Administration (NOAA))
- Private firms involved in performing studies and restudies under contract with FEMA (contract number is required at time of request)
- Communities that have supplied the DLG base to FEMA and request DLG data
- Communities that request data for an affected flooding source during the statutory 90-day appeal period
- State NFIP Coordinators if the data have not already been provided on microfiche or CD-ROM or if the State is actively involved in performing a study or restudy that will be used by FEMA to update maps

FEMA RO and HQ staff also may waive a fee for the specific request by notifying the FMPCC. Fees have been waived for graduate students; university professors; individuals, firms, or nonprofit organizations that are conducting research that will be educational or otherwise beneficial to the public or FEMA; and for hardship cases (e.g., individuals who lost LOMAs (and related materials) due to flooding, individuals on fixed incomes).

3.6 Reprint Requests

When necessary, the MSC will request that the FMPCC prepare and deliver camera-ready (composite negatives for Z-fold format and positive copies for 11" × 17" format) copies of FIRM and/or FBFM panels to the MSC to replace missing or damaged materials needed to respond to requests for reprints. Less frequently, the MSC also will request camera-ready materials for FIS reports. The number of panels or reports requested and the frequency of requests will vary, because the requests are based on the volume of missing materials and the frequency of requests for panels received by MSC personnel. The general turnaround time for reprint requests will be 2 to 4 weeks, unless extensions are granted. With the approval of the MSC staff and the PO or his/her designee, extensions may be granted for unusually large requests.

3.7 Fee-Charge System Procedures

As discussed earlier in these Guidelines, FEMA has established fee collection procedures for the processing of conditional and final map revisions and amendments and for requests for backup data. To maintain an accurate accounting of the checks, money orders, and credit charges that

are received, FEMA has established a centralized fee-collection system, administered by the FCSA.

The procedures for tracking, reporting, and handling the fees collected for reviewing and processing conditional and final map revisions and amendments are presented in *Document Control Procedures Manual* (Reference 2) and in “Procedures for Collecting, Depositing, and Reporting Fees Under Part 72 of the NFIP Procedures,” (Reference 7).

The procedures for tracking, reporting, and handling the fees collected for responding to data requests are outlined in “Procedures for the Administration of FEMA’s Fee-Collection System” (Reference 8).

Section 4

Technical and Program Development and Implementation Assistance

At the direction of the PO or his/her designee, the FMPCC shall provide technical development assistance, assistance in the review and processing of appeals and protests, program development and implementation assistance, CTC Program support, support for training workshops for FEMA contractors and constituents, and support for FEMA's Map Modernization Program.

4.1 Technical Development

At the direction of the PO or his/her designee, the FMPCC shall provide technical development assistance for the following:

- Preparation of guidelines, specifications, and procedures manuals
- Development of improved procedures and methodologies
- Development of improved map and report products
- Provision of briefings and other guidance to assist FEMA
- Review and revision of hydrologic and hydraulic data and related mapping that have been determined not to meet the requirements of *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference 1)
- Preparation of responses to inquiries from the U.S. Congress
- Preparation of informational responses (letters and e-mail messages) to inquiries from FEMA constituents other than the U.S. Congress
- FEMA Map Assistance Center Support
- Web support
- Support for LOMC Subscription Service and Map Distribution Service
- Support for Five-Year Map Update process

4.1.1 Preparation of Guidelines, Specifications, and Procedures Manuals

The FMPCC shall, at the direction of the PO or his/her designee, assist in the continuing development and revision of guidelines, specifications, and procedures manuals for conducting studies and restudies; submitting map revisions and map amendments; reviewing studies, restudies, map revisions, and map amendments; and preparing and revising FIS reports, maps, and letters.

4.1.2 Development of Improved Procedures and Methodologies

The FMPCC shall, at the direction of the PO or his/her designee, assist in the review and development of improved procedures and methodologies for performing hydrologic and hydraulic engineering analyses for FIS reports and maps and for processing studies, restudies, conditional and final map revisions, and map amendments.

4.1.3 Development of Improved Report and Map Products

The FMPCC shall, at the direction of the PO or his/her designee, assist in the review and development of improved formats for preparing FIS report and map products.

4.1.4 Provision of Briefings and Other Guidance Documents

The FMPCC shall, at the direction of the PO or his/her designee, prepare briefings and other guidance documents and deliver them to FEMA staff and to other FEMA contractors.

4.1.5 Review and Revision of Hydrologic and Hydraulic Data and Related Mapping

Occasionally, hydrologic and hydraulic data and related mapping that are to serve as the basis for the preparation of revised FIS reports, FIRMS, and FBFMs are determined not to meet the requirements of *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference 1). To assist FEMA in determining whether such data may be used, the FMPCC shall, at the direction of the PO or his/her designee, review the data to determine whether the methodologies on which they are based follow sound engineering practices. If the data are the result of analyses performed with an alternative computer model, the model must meet the requirements set forth at Section 65.6 of the NFIP regulations. Furthermore, the PO or his/her designee must approve the use of such a model. In addition, at the direction of the PO or his/her designee, the FMPCC shall perform engineering analyses or other additional work to improve inadequate data or mapping.

4.1.6 Congressional Responses

A Congressional response is defined as a written response to an inquiry from a U.S. Representative, U.S. Senator, or to a constituent who has contacted the President or Vice President concerning such topics as the impact of the NFIP on a community or on a constituent's property; or the status of a study, restudy, conditional or final map revision request, or conditional or final map amendment request. When requested by the PO or his/her designee, the FMPCC shall investigate the specific concerns expressed in the constituent's letter and prepare a response that answers the inquiry.

The response shall be designed to educate both the inquirer and the constituent on the intent of the NFIP. The FMPCC shall not contact or respond to the constituent directly, unless requested to do so by the PO or his/her designee. The FMPCC shall consider all Congressional responses as top-priority assignments, and they shall be handled as expeditiously as possible (generally within 1 week of receipt, but as assigned by the PO or his/her designee).

After investigating the specific concerns, the FMPCC shall prepare a final letter and submit it to the PO or his/her designee or other requester at FEMA HQ. At the direction of the PO or his/her designee, Congressional responses may be delivered to FEMA HQ in either hardcopy form via courier or electronically via diskette or e-mail message. When appropriate, the FMPCC shall coordinate the response with FEMA RO staff before delivering the response to FEMA HQ.

The guidelines and suggestions that follow are to be considered by the FMPCC when preparing a Congressional response for signature by the Associate Director, Mitigation Directorate.

- The opening paragraph is to state to whom the Congressional inquiry was addressed at FEMA, the date of the inquiry, and on whose behalf (name of the constituent) the inquiry is being made. The date of the constituent's letter, if applicable, is to be referenced also. Finally, the first paragraph should state, briefly, the specific concerns of the Congressperson and constituent, as appropriate.
- The second paragraph of the letter is to address the specific concerns directly and concisely.
- Subsequent paragraphs shall brief the inquirer on general topics involving the NFIP as they relate to the concerns of the constituent. In general, the FMPCC shall assume that the inquirer and constituent have limited knowledge about the NFIP; therefore, the FMPCC shall minimize the use of NFIP-specific terminology and acronyms.
- In closing the letter, the FMPCC shall direct further questions to the FEMA Office of Congressional and Legislative Affairs.
- Unless requested otherwise by the inquirer the response shall be addressed to the inquirer's Washington, DC, office. However, if the FMPCC is requested to address the response to the inquirer's home district office, a signed copy shall also be sent to the inquirer's Washington, DC, office, and the FMPCC shall ensure that this distribution is clear in the letter.
- The FMPCC shall also include the FEMA RO in the cc: list at the end of the letter.

For additional information on preparing Congressional responses, the FMPCC shall refer to FEMA Manual 5200.1, *Correspondence* (Reference __), and *Congressional Correspondence Handbook*, (Reference 9).

4.1.7 Informational Responses to Constituents

The FMPCC, at the direction of the PO or his/her designee, shall prepare informational responses to inquiries from Federal, State, and local agencies; private property owners; and other FEMA constituents. These responses may be provided by letter, telephone conversation, facsimile transmission, or e-mail message. The responses may provide information on the source(s) of the flood hazard information depicted in effective NFIP maps for particular communities, the NFIP in general, or particular FEMA policies and procedures. Frequently, the responses forward FEMA

publications or direct the individuals to the proper place or person for the answers to their concerns. When appropriate, the FMPCC shall coordinate the response with FEMA RO staff before delivering the response to FEMA HQ.

4.1.8 Map Assistance Center Support

The FMPCC shall, using Government-owned telephone equipment, staff a Map Assistance Center to provide toll-free telephone service to the public in designated portions of the United States. The purpose of the Map Assistance Center is to enable FEMA to be more responsive to its constituents while reducing the burden on FEMA HQ and RO staff resources. Through the Map Assistance Center, the FMPCC shall:

- Answer general questions about NFIP maps and related regulations and procedures
- Answer specific questions about the status of active and completed studies, restudies, conditional and final map revision requests, and conditional and final map amendment requests
- Answer questions about technical and administrative support data available from the FEMA archives maintained by the FMPCC
- Link the caller with other FEMA service and fax numbers and the FEMA web site
- Provide information regarding FEMA products, brochures, and publications
- Provide statistical information to FEMA HQ and RO staff, on a monthly and/or quarterly basis, on the nature and geographic origin of questions

The 1-800 number service will contain an interactive database that is linked to FEMA's web site, fax lines, and other general phone numbers and to the FMPCC-maintained MIS. Map Assistance Center operators will receive an inquiry, access the database for relevant information, and provide the caller with information in the form of a verbal response, a hard copy to be mailed, a facsimile transmission, and/or an Internet location from which information can be obtained. The Map Assistance Center operator also shall have the ability to transfer calls to the FMPCC engineer working on a specific action, other NFIP specialists at the FMPCC, or to the appropriate FEMA HQ or RO contact when necessary.

The 1-800 number database will contain a main screen with five separate topic windows with the following titles: General Status, FEMA Products and Backup Data, Technical Questions, and Transfer Calls and Referrals. Each of these windows when accessed will provide information on a number of different topics, and each of the windows is linked for cross-referencing.

4.1.9 Web Support

The FMPCC shall, at the request of FEMA HQ or RO staff and with the concurrence of the PO or his/her designee, provide technical and programmatic assistance to support the creation and maintenance of pages in FEMA's web site, particularly the Flood Hazard Mapping site.

4.1.10 LOMC Subscription Service Support

The FMPCC shall, at the direction of the PO or his/her designee, provide administrative and technical support for the LOMC Distribution Service. The FMPCC activities for the effort shall include the following twice each month:

- Prepare copies of amending or revising LOMAs, LOMR-Fs, and LOMRs; denial letters; and out-as-shown letters.
- Organize the letters by community, State, and region in chronological order.
- Insert "Notice to Subscribers" sheets in place of oversized LOMC attachments (anything larger than 8-1/2" x 11").
- Number the pages.
- Prepare an index of the LOMCs included.

When requested by LOMC Distribution Service subscribers, the FMPCC also shall provide copies of oversized LOMC attachments to the subscribers free of charge.

The requirements for preparing the final publication on CD-ROM are provided in Subsection 5.3 of these Guidelines.

4.1.11 Map Distribution Service Support

The FMPCC shall, at the direction of the PO or his/her designee, provide administrative and technical support for a Map Distribution Service. Under this service, FEMA provides copies of LOMCs or copies of FIRMs and FBFMs. Copies of LOMCs are provided shortly after they are issued. Copies of FIRMs and FBFMs are provided at two critical production stages:

1. At the **Preliminary** stage, when FEMA first provides the completed FIRM and FBFM panels to community officials, State agencies, and selected others for review prior to initiating the compliance process; and
2. At the **Final Proof** stage, when FEMA submits the final camera-ready FIRM and FBFM panels to GPO for publication. FEMA is offering these services, as adjuncts to the existing LOMC Distribution Service and the Compendium of Map Changes published twice each year in the *Federal Register*, as vehicles for keeping interested parties aware of pending changes in NFIP maps.

The FMPCC support of this service will consist of the following:

- Each Monday, the FMPCC shall provide interested parties with copies of the LOMCs that were sent to community officials and other requesters during the previous week. Two ordering options are available: (1) All LOMCs; and (2) LOMCs for a particular State.
- Each Monday, the FMPCC shall provide interested parties with blueline copies of the FIRM and FBFM panels that were sent to community officials and others during the previous week. Two ordering options are available: (1) All map panels; and (2) Map panels for a particular State.

- Every other Monday, the FMPCC shall provide interested parties with blue-line or black-line copies of the FIRM and FBFM panels that were submitted to GPO during the previous 2 weeks. As with the Preliminary Map Panels, two ordering options are available.

During the first week of each month, the FCSA shall send invoices to the parties that receive the LOMCs and map panels, requesting payment for the LOMCs and panels delivered during the previous month. The invoices shall be based on a FEMA-established fee schedule.

Payment for the LOMCs and map panels received is to be submitted in the form of a check or money order made payable in U.S. funds to the National Flood Insurance Program or credit card payment. The payment must be received by the FCSA within 15 days of the date of the invoice. If payment is not received during that 15-day period, no additional orders are to be shipped, and the FCSA shall notify the FMPCC and designated FEMA HQ staff. The balance due will be turned over to the U.S. Treasury Department for collection.

4.1.12 Five-Year Map Update Support

In accordance with Section 575 of the National Flood Insurance Reform Act of 1994, FEMA must "...once during each 5-year period... assess the need to revise and update all floodplain areas and flood risk zones identified, delineated, or established [under Section 1360 of the Act] based on an analysis of all natural hazards affecting flood risks." The FMPCC may, at the request of the PO or his/her designee, support FEMA's efforts. Examples of possible tasks are as follows:

- Prepare and send letters and questionnaires to CEOs and Floodplain Administrators of participating communities to ask about mapping needs.
- Develop and maintain an address database that contains up-to-date names, addresses, and telephone numbers for community officials.
- Review needs information received from contacted communities.
- Verify needs by reviewing the FIRM and ongoing map revisions.
- Contact communities when required to obtain all necessary information about needs.
- Complete summary sheets for the responding communities outlining the needs.
- Input information on the verified need into the MNUSS database.
- Analyze MNUSS-generated data and provide reports that rank and prioritize map update needs.
- Coordinate enhancements to the MNUSS software to improve data entry and reporting.
- Prepare status reports on progress for the Office of Management and Budget and the U.S. Congress.

4.2 Appeal and Protest Processing Assistance

The FMPCC shall, at the direction of the PO or his/her designee, review and evaluate all appeals of proposed or proposed modified BFEs; recommend resolutions to FEMA; and assist FEMA in carrying out the resolutions. This process may involve communicating with community officials, other appellants, FEMA HQ and RO staff, and State NFIP Coordinators; preparing revised FIS

reports and maps, as necessary; and preparing correspondence. When requested by the PO or his/her designee, the FMPCC shall perform independent engineering analyses to resolve the appeals.

The FMPCC shall, at the direction of the PO or his/her designee, review and evaluate all comments and map change requests submitted to FEMA during the 90-day appeal that do not affect the proposed or proposed modified BFEs. The FMPCC shall handle such comments and map change requests as protests. As with appeals, the FMPCC shall evaluate the request, recommend solutions to FEMA, and assist FEMA in addressing the request. This process may involve communicating with community officials, other individual requesters, FEMA HQ and RO staff, and State NFIP Coordinators; preparing revised FIS reports and maps, as necessary; and preparing correspondence. The FMPCC may, at the request of the PO or his/her designee, respond to protests by including a short response (one or two paragraphs) in the FFED letter.

4.3 Program Development and Implementation Assistance

The FMPCC shall provide program development and implementation assistance to FEMA personnel in activities not directly related to specific communities. Some examples are as follows:

- Preparing documents that will aid in determining historical trends and in estimating future trends to provide input for the development of FEMA policy and procedures
- Conducting technical meetings for FEMA
- Attending technical or programmatic meetings with FEMA personnel, including technical conferences attended by major NFIP constituents (e.g., American Society of Floodplain Managers (ASFPM), American Society of Civil Engineers (ASCE), Technical Mapping Advisory Council (TMAC))
- Reviewing new hydraulic and hydrologic methodologies and models submitted by technical experts

4.4 Support for Cooperating Technical Community Program

In an effort to foster working relationships with local entities that involve cooperating on the development, review, and update of the flood hazard information shown on NFIP maps, FEMA has undertaken the development of the Cooperating Technical Community (CTC) Program. For this program, FEMA has considered developing more standardized and formal agreements that could be implemented local entities in a “cafeteria plan” format. Depending on interests, experience, capabilities, and available funding, an entity could choose to participate in one or more parts of the program. The following agreement types are being considered by FEMA:

- Digital base map data sharing
- Q3 Flood Data preparation and maintenance
- Hydraulic and hydrologic data development and mapping
- DFIRM preparation and maintenance
- Hydraulic and hydrologic data review

- Risk assessment

The FMPCC shall, at the request of FEMA RO and HQ staff and at the direction of the PO or his/her designee, provide technical, programmatic, and logistical support for the implementation of the CTC Program. The six types of CTC agreements are discussed in detail in Subsections 4.4.1 through 4.4.6.

4.4.1 Digital Base Map Data Sharing Agreements

This type of CTC agreement is likely be the most common type because it involves sharing data that are commonly developed at the local level (digital base mapping data) and the exchange of those data for FEMA flood hazard boundary data, which are also widely used for many local applications.

Digital base map data sharing agreements must be standardized. The significant components that must be addressed by CTC agreements for digital base map data sharing include the following:

- The digital base map data provided by the local entity must meet FEMA mapping needs for spatial accuracy, content, and format.
- FEMA must have the right to not use the data if they do not meet FEMA mapping needs.
- The digital base map data and digital flood hazard boundary data must be exchanged at little or no cost to either party.
- FEMA must have the right to publish unlimited numbers of hardcopy and softcopy products using the digital base map data.
- Acknowledgment of the contribution by the local entity must be made on FEMA map products.
- FEMA must provide digital copies of the flood hazard boundary data developed using their base map data to the local entity for their use.

Other legal restrictions or requirements may need to be negotiated between the parties. A review process that involves FEMA's Office of General Counsel may be required, depending on the nature of the agreement. However, to the extent possible, these agreements must be standardized to limit the number of reviews required to implement them. Standardized agreements requiring fewer reviews can be implemented more quickly. In addition, agreements requiring less customization are more likely to be implemented, particularly if they can be used "off the shelf."

4.4.2 Q3 Flood Data Preparation and Maintenance Agreements

CTC agreements involving the preparation of Q3 Flood Data or the new Q3 Plus Data (collectively referred to herein as Q3 Flood Data) must address the following concerns.

- Data prepared by the local entity must meet FEMA Q3 Flood Data specifications. This includes meeting the specifications for spatial accuracy as well as content and data format.
- FEMA must provide technical assistance to the local entity, including computer software or databases used for FEMA in-house production and checking of Q3 Flood Data.

- FEMA must review the Q3 Flood Data provided by the local entity to ensure they meet FEMA specifications for spatial accuracy and content. Data that do not meet those requirements must be returned.
- Once reviewed and accepted, the Q3 Flood Data prepared by the local entity must be distributed by FEMA along with the other Q3 Data files.
- Acknowledgment of the contribution by the local entity must be made in the Q3 Flood Data metadata files.
- Cost-sharing arrangements will be made on a case-by-case basis. However, the unit cost of the Q3 Flood Data prepared by the local entity must not exceed the cost to FEMA to prepare it in-house.

4.4.3 Hydraulic and Hydrologic Data Development and Mapping Agreements

This type of CTC agreement encompasses the Performance Partnership Agreements and Cooperative Agreements used by the FEMA ROs for cost sharing of restudies. Again, the goal is to standardize these agreements while allowing the flexibility for local variation. The CTC agreements for hydraulic and hydrologic data development and mapping could be used by the ROs for restudies or could be implemented for map revision activities initiated by the local entity. New mapping proposals involving nontraditional modeling or new mapping technologies would fall under this agreement type. Any proposed technology that falls outside of that currently used by FEMA must be approved under the terms of the agreement. The significant components that must be addressed by CTC agreements for sharing hydraulic and hydrologic data and mapping include the following:

- Data prepared by the local entity must meet FEMA FIS specifications as detailed in *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference 1). This includes meeting the specifications for both engineering and mapping criteria.
- The modeling and mapping approach proposed by the local entity must be described fully and approved by FEMA before the agreement is negotiated. This includes the use of nontraditional modeling or mapping technologies.
- FEMA must provide technical assistance to the local entity, including computer software or digitizing menus used for FEMA in-house production and checking of FIS data.
- FEMA must review the FIS data provided by the local entity to ensure they meet FEMA specifications. Data that do not meet those requirements must be returned.
- Once reviewed and accepted, the FIS data prepared by the local entity must be incorporated into the effective map(s) for that community and distributed by FEMA.
- FEMA must acknowledge the contribution by the local entity in the FIS report.
- Cost-sharing arrangements will be made on a case-by-case basis. However, the unit cost of the FIS data prepared by the local entity must not exceed the cost to FEMA to contract for it independently.

For local entities that opt to take over maintenance of all hydraulic and hydrologic data for the community, a schedule for FEMA publication of those data must be negotiated. The schedule

must take into account local map update needs, community review and compliance needs, FEMA review schedule, and FEMA publication costs.

4.4.4 Digital Flood Insurance Rate Map Preparation and Maintenance Agreements

This type of CTC agreement involves the preparation of DFIRMs by local entities. These agreements will involve local entities that can combine digitized flood hazard boundary information with appropriate base map information to produce hardcopy DFIRMs and softcopy DFIRM data files. Again, the goal is to standardize these agreements while still allowing flexibility for local variation.

CTC agreements involving the preparation of DFIRMs must address the following concerns.

- Data prepared by the local entity must meet FEMA DFIRM specifications, including the specifications for base map data, spatial accuracy, graphic portrayal, content, and data format.
- FEMA must provide technical assistance to the local entity, to include computer software, digitizing menus, or plotting tools used for FEMA in-house production and checking of the DFIRM hardcopy maps and digital data files.
- FEMA must review the DFIRM data and hardcopy maps provided by the local entity to ensure they meet FEMA specifications. Data that do not meet those requirements must be returned.
- Once reviewed and accepted, the DFIRM prepared by the local entity must be published in hardcopy form by FEMA and distributed in softcopy form along with other DFIRM data files.
- FEMA must acknowledge the contribution by the local entity in the DFIRM title block and metadata files.
- Cost-sharing arrangements will be made on a case-by-case basis. However, the unit cost of the DFIRM prepared by the local entity must not exceed the cost to FEMA to prepare it in-house.
- A schedule for FEMA publication of hardcopy DFIRMs and softcopy DFIRM data prepared by local entities must be negotiated. The schedule must take into account local map update needs, community review and compliance needs, FEMA review schedule, and FEMA publication costs.

4.4.5 Hydraulic and Hydrologic Review Agreements

Entities with statutory authority will be selected for participation in the program based on their expressed interest, participation in the NFIP, and technical qualifications. Under these agreements, qualified local entities must perform technical reviews of map revision requests using their own resources. FEMA must accept the technical reviews performed by the local entities and issue revised maps, CLOMRs, LOMRs, or deferrals. FEMA must randomly check a statistically valid sample of technical review submittals. Only those map revisions involving riverine and shallow flooding conditions are included. Coastal, alluvial fan, supercritical flow, levees and floodwalls, ice jams, LOMAs, and LOMRs based on fill may be included at a later date if warranted by the qualifications and interests of participating entities.

4.4.6 Risk Assessment Agreements

This type of CTC agreement will encourage local entities to assume responsibility for understanding the risks associated with natural hazards. Local entities will collect and develop digital data to be used in conducting loss estimates and determining risks. Risk assessment agreements will involve State and local entities that are interested in gathering inventory and natural hazard data and using these data to perform loss estimates.

FEMA has developed a methodology for estimating potential earthquake losses (HAZUS) and is expanding that methodology to include the capability to estimate potential losses from flood and wind events. Once FEMA has completed the flood loss estimation component of HAZUS, local entities will use HAZUS to perform flood loss estimates. HAZUS contains a large amount of default inventory data that can be updated with improved local data. Because the data gathering process is the most time consuming (and important) part of performing an accurate loss estimate, local entities will be encouraged to begin this effort through risk assessment CTC agreements. Through the inclusion of risk assessment, communities will be better prepared to link mapping initiatives to other initiatives.

CTC agreements involving risk assessment must address the following concerns.

- Data provided by the local entity must be applicable to estimating potential social and economic losses from floods or other risk assessment initiatives.
- Data provided by the local entity must be an improvement over the default data currently available in HAZUS.
- Data provided by the local entity must be nonproprietary and a copy of the data must be provided to FEMA for inclusion in future HAZUS updates.
- Acknowledgment of the contribution of the local entity must be included in FEMA's description of the data.

Other restrictions or requirements may need to be developed as local entities offer suggestions about possible risk assessment agreements.

4.4.7 Support for Training Workshops for FEMA Contractors and Constituents

The FMPCC shall, at the request of the FEMA RO and at the direction or concurrence of the PO or his/her designee, provide logistical and technical support for training workshops for FEMA contractors and constituents. The level of support provided by the FMPCC will vary depending on the training required and the location of the training. For most workshops, the FMPCC shall prepare presentation materials for trainers and notebooks for workshop attendees and, when requested, provide individuals with specific technical or programmatic knowledge to assist in delivering the workshop. However, if requested by FEMA, the FMPCC also shall handle all logistical arrangements for workshops, including finding a place to hold the workshop, sending invitations to potential attendees, arranging transportation, and finalizing food service

arrangements. The level of effort and the budget for each workshop shall be decided at the beginning of the planning process.

4.4.8 Support for Map Modernization Program

As mentioned earlier in these Guidelines, FEMA has developed a plan for modernizing the NFIP maps and improving other aspects of the products and services offered through the NFIP. This plan is documented in a FEMA report entitled *Modernizing FEMA's Flood Hazard Mapping Program, A Progress Report* (Reference 11). As a result of the plan, State and community officials, private property owners, and others will be made more aware of flood hazards nationwide. The cornerstones of the plan are to use state-of-the-art technology to cost effectively develop accurate and complete flood hazard information for the entire United States; provide that information in readily available, easy-to-use format; and alert and educate the public regarding the risk of flood hazards. As indicated in that report, FEMA plans to use existing digital engineering, mapping, information management, and electronic communication technologies to improve the mapping program in four primary areas: (1) map accuracy and completeness, (2) map utility, (3) map production, and (4) public awareness and customer service.

To implement the various objectives of the plan, FEMA has formed 37 Work Groups, comprised of representatives from FEMA HQ, FEMA ROs, and FEMA contractors. At the request of the PO or his/her designee, the FMPCC shall provide technical, programmatic, and logistical support to the various Work Groups.

Section 5

Engineering Study Data Package

5.1 Background

The purpose of FEMA's ESDP project is to prepare standardized digital records of the technical and administrative support data generated by the SCs, the FMPCC, and revision requesters. The data archived for the ESDP project include:

- Materials required to reconstruct an FIS, RFIS, LMMP, or PMR
- Copies of LOMRs
- Copies of LOMR-Fs
- Copies of LOMAs

In addition, FEMA may exercise the option to digitally archive materials submitted in support of LOMR, LOMR-F, and LOMA cases through the ESDP project.

The project is supported by both the FMPCC and administered by one of the FMPCC as additional support to FEMA.

5.2 Description of the Archiving Operation

Materials submitted to FEMA in support of FISs, RFISs, LMMPs and PMRs are identified for digital archiving by the ESDPF staff according to each product's effective date as it appears in the SOS module of the CIS. Periodically, the ESDPF staff sends notification letters, along with a call-in sheet, to the FMPCC requesting they submit all administrative and technical support data/materials related to the FIS, RFIS, LMMP, or PMR for the given Region listed on the call-in sheet.

The FMPCC transmittals shall include all technical and administrative support data submitted by SCs in support of the requested studies and restudies, data submitted by revision requesters in support of PMRs, and data generated by the FMPCC. These data include, but are not limited to, correspondence, computer diskettes or hardcopy printouts of hydrologic and hydraulic data, field survey notes, and cross-section data.

The FMPCC should pay particular attention to ensuring that the data submitted are complete and include all of the technical and administrative support data needed to recreate the study, restudy, or map revision for the each community called in. To help the ESDPF staff verify the completeness of the submission, the FMPCC shall transmit a copy of the effective FIS report along with the data to help determine the scope of the study. The ESDPF staff will scan the FIS report text along with the other technical and administrative support data.

The FMPCC shall ensure only the effective data called in for archiving are submitted. The FMPCC shall exclude extraneous materials such as CLOMRs, CLOMR-Fs, CLOMAs, drop letters, and denial letters, as well as duplicate copies of materials and correspondence and internal working copies. The FMPCC shall submit LOMRs, LOMR-Fs, and LOMAs that have been incorporated into the requested study, restudy, or map revision. The FMPCC shall not submit source program versions of standard programs, such as HEC-2 or WHAFIS. For studies and restudies contracted after October 1, 1989, the data must be submitted in the TSDN format (See Appendix E.)

When the data arrive at the ESDPF, the ESDPF staff inventory and record the data. The inventory records what data have been submitted for archiving, the format of the material (scanned image or data file), and what has been stored in hardcopy and how to retrieve it.

As the materials are indexed and organized, ESDPF staff shall review each document for acceptability for scanning and verify that the submitted hydraulic models agree with the effective FIS report. The ESDPF staff shall scan indexed materials of acceptable size and quality. After scanning, the ESDPF staff shall supply each originating FMPCC with the digital product. The ESDPF staff shall return all essential data that were not included in the digital product, such as work maps and data that did not scan well due to poor quality or size limitations, to the FMPCC for permanent storage in hardcopy format. The largest size compatible with scanning is 11" x 17". The ESDPF will return all diskettes and published FIS reports after scanning is completed.

The ESDPF staff shall also provide a copy of the digital product to the appropriate FEMA RO and State NFIP Coordinator.

5.3 Letter of Map Change Publication

The ESDPF staff shall perform the following tasks in preparing the LOMC publication for distribution to subscribers of the LOMC Distribution Service:

- Compile copies of all LOMCs issued during the given 2-week period.
- Compile an index of the LOMCs issued during the 2-week period covered by the publication.
- Ensure that the LOMCs have been properly sanitized to remove private individual's names.
- Collate letters into prescribed order.
- Compile an addendum list of LOMCs that should have been included in prior publications.
- Number all pages in nonphoto blue pencil.

The ESDPF staff shall prepare the publication in digital format and ensure that the quality of the publication is maintained. The ESDPF staff shall maintain a schedule to ensure that the publication reaches the subscribers in a timely fashion.

5.4 Data Archiving Requirements

The ESDPF staff shall prepare the data in a format accepted by the National Archives and Records Administration and shall dispose of the records in accordance with FEMA-accepted practices. The ESDPF staff shall maintain a duplicate copy of all digital files produced by the ESDPF in a separate facility to ensure the safekeeping of those records.

Section 6

Q3 Flood Data, Digital Flood Insurance Rate Map, and Geographic Information Systems Services

6.1 Introduction

This section provides guidance on the preparation of Q3 Flood Data, DFIRMs, DFIRM-DLGs, digital LOMR attachments, DFIRM 2.0, DFIRM 2.05, DFIRM 2.1, and other GIS services.

6.2 Q3 Flood Data

To support disaster recovery operations, FEMA developed specifications for a digital product referred to as the Q3 Flood Data. The Q3 Flood Data product is designed to serve FEMA's Response and Recovery activities as well as flood insurance policy marketing initiatives. This product is designed to allow rapid access to and distribution of digital FIRM data, and is compatible with all existing DFIRM data already available and underway. These specifications are outlined in detail in *Q3 Flood Data Specifications* (Reference 12).

The FMPCC shall produce Q3 Flood Data at the request of the PO or his/her designee. All Q3 Flood Data files shall conform to the standards outlined in the *Q3 Flood Data Specifications* (Reference 12). Highlights of these specifications follow.

6.2.1 Q3 Flood Data Contents

The FMPCC shall develop Q3 Flood Data by scanning and vectorizing or digitizing the existing hardcopy FIRM to create a thematic overlay of flood risks. Q3 Flood Data files contain only certain features from the existing hardcopy FIRM.

Features contained in the Q3 Flood Data files include the following:

- 1-percent and 0.2-percent-annual-chance floodplain areas, including Zone V areas and certain regulatory floodway zone designations
- CBRS areas
- Political areas, including CID
- FIRM panel areas, including panel number and suffix
- 7.5-minute quadrangle areas
- Mappable LOMCs

Sources that reflect updates effected by LOMRs, LOMAs, and LOMR-Fs shall be used by the FMPCC in the preparation of Q3 Flood Data files. These revisions/amendments are included in the Q3 Flood Data if they are mappable at the publication scale of the source graphic.

The Q3 Flood Data files shall NOT include the following:

- Base map data (e.g., streets)
- BFE lines and values
- Cross sections and letter identifiers
- ERMs and related elevations
- Internal boundaries of contiguous CBRS areas
- Prohibition dates associated with individual CBRS areas

With the exception of minor graphical mismatches, the FMPCC shall not correct edge-matching errors, overlaps and underlaps in coverage, and similar problems during digital capture.

The hardcopy FIRMs from which the Q3 Flood Data are extracted contain no horizontal control. The specifications for the horizontal control of Q3 Flood Data are consistent with those required for mapping at the scale of 1:24,000. The FMPCC shall typically perform the horizontal controlling of these data by fitting the vectors to a georeferenced raster 7.5-minute-series quadrangle file.

The Q3 Flood Data are contained in one single countywide file, including all incorporated and unincorporated areas of a county. The feature items and attributes are defined in detail in *Q3 Flood Data Specifications* (Reference 12).

The means for linking other associated NFIP data to Q3 Flood Data files can be derived from the attributes contained within the files. For instance, the FMPCC may compare effective FIRM panel from the *Community Status Book* or the Flood Map Status Information System to the FIRM panel information in the Q3 Flood Data files to determine if the Q3 Flood Data files reflect the most current mapping.

6.2.2 Q3 Flood Data Applications

The Q3 Flood Data do not replace the existing hardcopy FIRM or, if one exists, DFIRM product. The product has been designed to support disaster response, planning, and some Community Rating System (CRS) activities; insurance marketing; and mortgage portfolio review. It does not provide BFE information; thus, it has limited application for engineering analysis, particularly for site design or rating of flood insurance policies for properties located in SFHAs.

Q3 Flood Data are not tied to a base map, are not used to produce a new version of the hardcopy FIRM, and are not subjected to community review. Q3 Flood Data are intended to provide users with automated flood risk data suitable for determining whether features are within or outside the SFHA.

6.2.3 Q3 Flood Data Formats

Q3 Flood Data products are provided in a public domain data transfer format (DLG) as well as proprietary formats (ARC/INFO and MapInfo).

6.2.4 Q3 Flood Data Projections

FEMA uses the Universal Transverse Mercator (UTM) projection and coordinate systems for its Q3 Flood Data in DLG format. The geographic projection and coordinate systems are used for the production of Q3 Flood Data in ARC/INFO and MapInfo formats.

6.2.5 Q3 Flood Data File Naming

To provide for efficient file retrieval and indexing, a standardized naming convention for Q3 Flood Data was established. The following convention is DOS-compatible and allows for the unique identification of any county area of digital FIRM data. All file names are in lower-case letters. The vector file names are:

cssccc

where:

c = the character 'c'

ss = State Federal Information and Processing Standards (FIPS) code (numeric code)

ccc = County FIPS code (numeric code)

and:

an extension specific to the file format follows (e.g., .e00 for ARC/INFO export files; .dlg for DLG files; and .dat, .id, .map, and .tab for MapInfo files).

One metadata file shall accompany each county file. The FMPCC shall name the metadata files using the same naming convention as the other files, with the exception of the letter "m" at the end (e.g., c06048.dlm, c06048m, c06048.mim).

6.3 DFIRM Production Procedures

The subsections below outline the production procedures for DFIRMs. The DFIRM Flowchart (Figure 6-1) provides the framework for the discussions in these subsections.

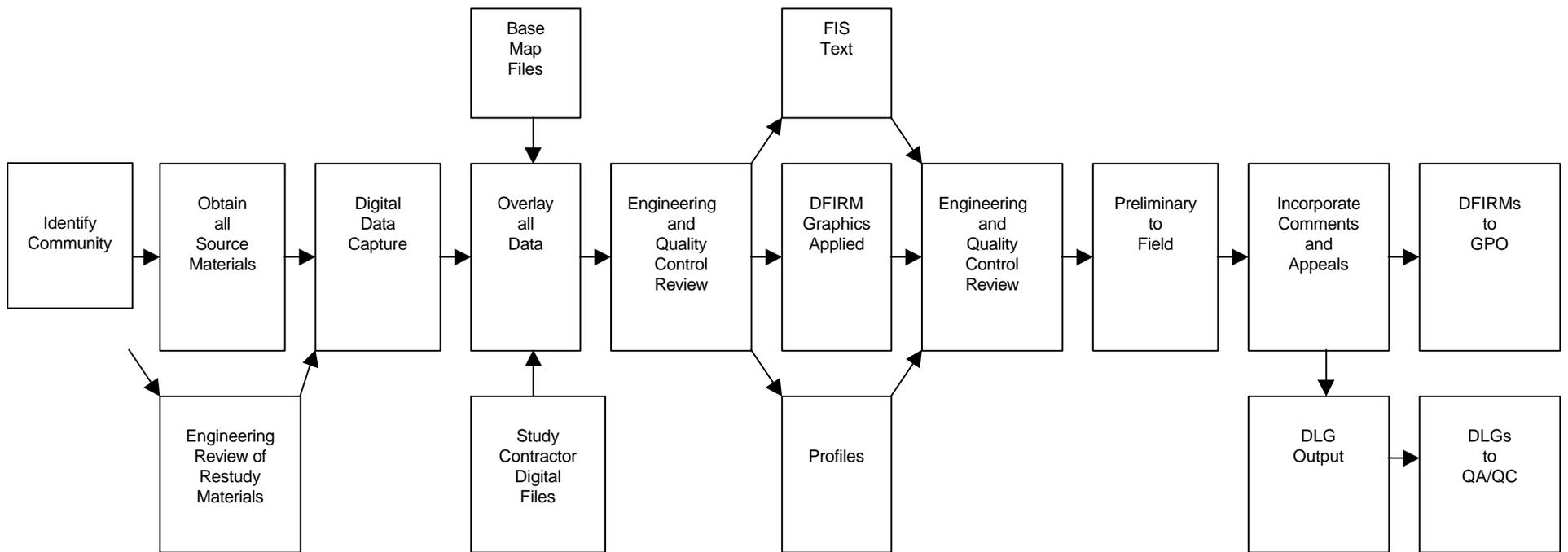


Figure 6-1. DFIRM Flowchart

6.3.1 Identification of Counties

FEMA has established criteria for use in prioritizing counties for DFIRM production. These criteria take into account the following factors: the number of map revisions in a county, the number of flood insurance policies in force, the combined Metropolitan Statistical Area rank and number of insurable structures, and the distribution of the FIRMs that cover the county. The following criteria must be met:

- The county must have a significant map action, such as an RFIS, LMMP, or PMR in progress or imminent.
- The county must have a significant level of historical revision activity.
- The county must be identified as a Metropolitan Statistical Area.
- Lower-priority counties will be considered for DFIRM production if funds are available.

FEMA has determined that all DFIRMs shall be prepared as horizontally controlled map products referenced to a real-world coordinate system. Typically, DFIRMs are prepared in the Countywide, Map Initiatives Format. However, DFIRMs may be prepared in smaller units (e.g., for individual communities) if such an approach is deemed to be cost-effective and uses the data at hand in the most efficient manner. Special approval for this approach must be obtained from FEMA on a case-by-case basis.

6.3.2 Collection Of Source Materials

The FMPCC shall obtain all pertinent source materials for use in converting the FIRMs for a county to digital format. These include all current effective FIRMs, FBFMs, and FIS reports. In addition, the USGS topographic quadrangle maps that cover the entire county shall be obtained as reference materials and for use in establishing horizontal control on the FIRMs and FBFMs. The FMPCC shall also obtain all LOMAs, LOMR-Fs, LOMRs, SC work maps, revision manuscripts, and community maps showing the current corporate limits that may affect the county area.

6.3.3 Digital Base Map

The FMPCC shall obtain the best available base map data files that cover a county chosen for DFIRM conversion. FEMA has established the following criteria for base map files:

- The base map data shall be provided to FEMA at no cost or nominal cost (i.e., the cost of a computer tape).
- FEMA shall have the right to retain a copy of the digital or hardcopy data.
- FEMA shall have the right to print and distribute unlimited numbers of hardcopy DFIRMs produced using community, county, or State agency-supplied digital or hardcopy base map data.

It is currently not FEMA policy to distribute digital base map files supplied by a community, county, or State agency. However, in the future, it will be necessary for FEMA to distribute

digital base map data with the floodplain boundaries. FEMA requests approval of the community, county, or State agency to do this. If approval cannot be granted for FEMA's release of the digital base map data files, future editions of the DFIRM may be published using alternative public domain base map data.

6.3.3.1 Contents

Base map files that are suitable for DFIRM use by the FMPCC shall contain either street centerlines, edge-of-pavement lines, or rights-of-way; street names; railroads; airports; hydrography; political boundaries; flood-control structures; and any other pertinent planimetric features in vector or hardcopy format that can be optically scanned. If base map files are available in vector format, these features must be separated by layer, level, color, or attribute codes.

6.3.3.2 Community Sources

Suitable base map files may be available from local, county, regional, or State agencies. Digital files that are available from local agencies are often very detailed and accurate, and base map files of this nature shall be used by the FMPCC as the first preference if they are available and meet FEMA criteria for release of data.

6.3.3.3 USGS Digital Line Graph File

Another source of suitable digital data is USGS DLG files that contain pertinent base map features and may be available at a sale of 1:24,000 or 1:100,000. If necessary to maintain accuracy of data within the floodplains, these data may be adjusted by the FMPCC to improve their positional accuracy.

6.3.3.4 U.S. Census Bureau Files

Topologically Integrated Geographic Encoded Reference system (TIGER) files produced by the U.S. Census Bureau are available for the entire United States. These files contain street centerlines and street names and represent a valuable source of street names that can be used in conjunction with the aforementioned USGS DLG files, which contain no street names. However, the locations of features may not be planimetrically correct. If the FMPCC uses these files as a source of street centerlines, they must first be carefully reviewed for positional accuracy. If necessary, the FMPCC shall adjust the features to be at least as accurate as the position of the same features that would be found on a USGS 1:24,000-scale quadrangle map.

6.3.3.5 Scanning and Vectorizing

In some instances, scanning and vectorizing the existing base map used to produce the manual FIRM may be the most cost-effective alternative. Before exercising this option, the FMPCC shall evaluate the hardcopy maps to determine if the locations of the base map features will be suitably accurate once horizontal control has been added to the digital files. If the FMPCC determines the FIRM base map is suitable, the manual artwork should be used to create an overlay that can be

scanned and vectorized with minimal processing cleanup. The resulting file must contain the previously described base map features separated by layer, level, color, or attribute codes.

6.3.3.6 Coordination

Coordination with local, county, regional, State, or Federal agencies for the acquisition of digital base map files that cover a DFIRM county should begin as soon as the county or community is identified. Ideally, this process should begin when the RO initiates a study or restudy so that the SC and FMPCC are both using the same base map source(s) for the DFIRM. This approach will increase the accuracy and efficiency of the study/restudy and decrease the cost to FEMA. Otherwise, base map acquisition should be initiated in time to ensure its availability for use by the FMPCC when the study/restudy materials are submitted by the SC and the DFIRM is scheduled for production. Memorandums of Understanding or License Agreements that provide for FEMA's use of data collected by another agency should be negotiated as early as possible in this process.

When potential suppliers of digital base map data are initially contacted about the availability of data, the FMPCC shall gather information about the contents, accuracy, completeness, projection, and datum of the files. Once the suppliers of data have agreed to provide files to FEMA, the FMPCC should request that they also provide documentation about the data along with the files. This should be in the form of the FEMA Digital Base Map Information Checklist (See Figure 6-2 at the end of this Section).

6.3.3.7 Review

Once the digital base map files have been received from the suppliers, the FMPCC shall load them onto a computer system and review them for completeness, accuracy, and suitability for DFIRM use. If the files are incomplete or not documented properly, the FMPCC shall contact the supplier of the files to obtain additional information.

6.3.4 Digital Restudy or Revision Materials

As discussed in Subsection 1.2.3.8, the FMPCC shall review all digital data submitted by SCs to ensure conformance with Appendix 7 of *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference 1) and to evaluate their suitability for incorporation into a DFIRM.

If digital files are submitted to support a request for change to an effective FIRM, the FMPCC shall review them following the guidelines outlined in Section 2. The FMPCC shall also evaluate the files for suitability for use in producing a DFIRM. The county will also be reviewed to determine its DFIRM conversion priority.

6.3.5 Horizontal Control

NFIP maps produced using traditional, manual cartographic methods were produced without explicit horizontal control. Users of these maps have relied on the printed paper copies of these

maps and used relative relationships in determining the locations of structures on the maps. The production of NFIP maps using digital technology requires horizontal control in order for the data to be properly located relative to a digital landbase.

The process of establishing horizontal control must be defined such that the relationship of the floodplain to the landbase is maintained. Also, in the cases where the horizontal accuracy in the floodplain is extremely precise and supported by detailed photogrammetric mapping at scales between 1" = 100' and 1" = 1,000', this information must not be lost during the process of establishing control. The procedures used by the FMPCC to establish horizontal control shall meet these requirements.

6.3.5.1 Coordinate System

Adding horizontal control to maps requires the selection of a coordinate system. The coordinate system provides a "grid" that identifies the locations of points. Commonly used coordinate systems that the FMPCC may use include the following:

- Geocoordinates (Latitude, Longitude)
- Universal Transverse Mercator (UTM) coordinates
- State Plane coordinates

The FEMA document entitled *Standards for Digital Flood Insurance Rate Maps* (Reference 13) requires that the final DFIRM-DLGs use the UTM coordinate system. The conversion from either Geocoordinates or State Plane coordinates to UTM coordinates can be efficiently and accurately performed using a computer. Thus, the FMPCC may use any of these coordinate systems to initially establish horizontal control as long as the FMPCC converts the coordinates to UTM before the DFIRM-DLGs are output.

6.3.5.2 Accuracy

The FMPCC shall establish horizontal control with sufficient accuracy and in such a manner as to serve as the basis for identifying and verifying specific locations and referencing the digitized FIRM data to a digital landbase. FEMA's economic constraints preclude a level of accuracy in establishing horizontal control that would require additional field surveys. Thus, the achievement of horizontal control for FIRMs on the order of a few feet may not be feasible. However, the FMPCC shall maintain the accuracy of the existing FIRMs.

It is important that the FMPCC maintain the integrity of the relationship of the floodplain information shown on the FIRM to the model and profile that accompany the maps. The FMPCC shall check the floodplain widths and distances between cross sections after the addition of horizontal control to ensure that distortions have not been introduced.

Users must not be misled as to the horizontal accuracy of the final DFIRM product. Depending on the sources of the data portrayed on the DFIRM, some areas may be more accurate than others. Newly surveyed data or data generated from horizontally controlled files will generally be more accurate than older, uncontrolled data that are digitized from effective FIRMs. Within the

effective FIRMs, detailed areas are more likely to be more accurate to start with, and maintaining that accuracy during digital capture is important to the presentation of the engineering analysis.

The FMPCC shall be responsible for establishing horizontal control to all map components used in DFIRM production that are not already georeferenced. This includes adding horizontal control to the effective FIRMs, base map sources, SC-supplied work maps, and other map revision materials. Several methods are available for this process, including but not limited to those outlined in the following subsections.

6.3.5.3 Hardcopy Methods

6.3.5.3.1 Annotating Source Maps with Latitude and Longitude of Known Points

This method is discussed in full in *Methodology for Adding Horizontal Control to Flood Maps* (Reference 14).

6.3.5.3.2 Adding Icons to Source Maps and a Horizontally Controlled Base Map

This method works well in situations where the character of the features portrayed is very similar between the source maps and the target base maps. This process involves identifying and annotating with icons the same features on both the source maps (the FIRMs) and a horizontally controlled base map. Typically, the FMPCC shall choose manmade features that are not subject to change, such as road intersections, and the FMPCC shall use no fewer than four to effect the addition of adequate horizontal control. The FMPCC shall use these two sets of icons to perform a transformation of data using an algorithm established for this purpose.

The FMPCC shall add the points established on the horizontally controlled base map as icons in the digital base map file or digitize them into a blank file containing known real-world coordinates. Thus, they shall become fully georeferenced and horizontally controlled points. The FMPCC shall place the same points as icons in the digital files that are captured from the FIRMs. The FMPCC shall then transform the digital thematic FIRM data files using an algorithm designed for this purpose to match the horizontally controlled base map target points.

A variation on this method is described in Sections 2.1 and 2.2 of *Digital Line Graphs and Flood Risk Directory Production Procedures and Appendixes* (Reference 15).

6.3.5.3.3 Horizontally Controlled Manuscripts

The FMPCC may generate new horizontally controlled manuscripts prior to digital capture of the thematic FIRM data. The FMPCC generates these manuscripts from base maps that are horizontally controlled, and the uncontrolled thematic data shall be added to them using manual map compilation techniques. Base maps used for this purpose shall be plots of horizontally controlled, accurate base map files, or hardcopy USGS 7.5-minute-series quadrangle maps. The FMPCC shall exercise in good engineering judgment for this procedure, as considerable local realignment may be required to effect a good fit between the two sources.

6.3.5.4 Softcopy Methods

6.3.5.4.1 Heads Up Horizontal Control

This method is similar to that outlined above for horizontally controlled manuscripts, but uses computer-aided tools to replace hardcopy compilation techniques. After completion of panel capture and base mapping, the flood data are ready to be “controlled” interactively to the digital (raster or vector) landbase. For the purpose of this process, “controlling” is defined as “locating the floodplain delineations from an uncontrolled FIRM onto a horizontally controlled base map source such as a USGS quadrangle.” The FMPCC shall accomplish this by scaling, moving, and/or rotating the digitized panel data to fit common points on the FIRM and quad within the floodplain. No warping or “rubber-sheeting” of the data shall be done.

Once the controlled base map is available, the FMPCC shall begin fitting the panel information to this base. Before any manipulations are performed, the FMPCC shall review the panels and define a logical approach for each one. The normal approach shall be to control each individual river or stream, beginning with the largest and progressing to the smallest. The FMPCC shall determine the actual location of the flood areas by identifying points within the flood areas on the FIRMs and locating those same points on the base map. The FMPCC shall use two points, one at each end of the area to be controlled, to determine the angle of rotation. The FMPCC shall measure for bearing between the two points from the panel file and also from the quad file, and apply the difference to the panel file as the angle of rotation. Next, the FMPCC shall resolve any scale discrepancies. Normally, this shall require converting from feet to meters. The last step shall involve moving the panel data to its “controlled” location. During this first pass, the FMPCC shall process the entire panel through the scale, move, and rotate operation.

Once moved, the FMPCC shall examine the primary stream to determine how well the digitized FIRM data match the features shown on the base map. Any subtle adjustments needed to complete the primary stream shall be made before proceeding.

The FMPCC shall examine the secondary streams next to determine what, if any, further adjustments are necessary for each to conform to the base map. In some instances, the FMPCC may need to rotate a secondary stream while holding the primary stream in place. Also, another stream may be shown on the panel with no connection to the first. The FMPCC shall control this stream independent of the first.

The FMPCC shall repeat this process for each panel in the county, including the incorporated communities. Upon completion of the controlling process, the flood information is considered to be correctly positioned. The FMPCC shall address the mismatches at panel lines that were present in the original panels during the engineering review.

During the engineering review, a FMPCC engineer experienced in hydrology and floodplain boundary delineation shall perform a rigorous review of each of the fitted panels. The process shall begin by preparing a plot, known as an analyst overlay, showing the raster base map with the street centerlines and all data captured from the panels, including the floodplain boundary delineations, BFE lines, cross sections, streams, and political boundaries. The FMPCC shall depict each of these features in a different color on the analyst overlay.

The FMPCC shall begin the review by resolving any discrepancies in corporate boundaries. These may be the result of mismatches between two communities on the effective FIRMs or annexation.

6.3.5.4.2 Automated Techniques

The availability of computer software programs that can automatically generate floodplain boundaries from engineering models and digital elevation data presents a unique opportunity for the future. Once the reliability of these software tools has been fully tested, adding horizontal control to floodplain boundaries may be able to be fully automated in areas where suitable elevation and engineering backup data are available.

6.3.6 Data Capture Scale

The data capture performed by the FMPCC for DFIRM production shall be done at the publication scale of the DFIRM or smaller. Whenever possible, the FMPCC shall perform digital capture of DFIRM data at the scale of the effective FIRM, effective FBFM, or SC-generated work map. This will ensure that no degradation of data occurs during the digital conversion process. Countywide DFIRMs shall be published at one of the following map scales: 1" = 500', 1" = 1,000', or 1" = 2,000'. The DFIRM may be comprised of maps at any one or all of these scales. Other scales (e.g., 1" = 400') may be used for non-countywide DFIRMs with the approval of the PO or his/her designee.

6.3.7 DFIRM Continuity

Because the DFIRM is usually prepared in the Countywide Format, the FMPCC shall ensure that all detail is edge-matched between panels and between communities within the county. The FMPCC shall resolve all discrepancies that are encountered. The countywide DFIRM thematic data files must be seamless and topologically correct. In addition, the FMPCC shall edge-match between adjoining digital data files (between adjoining counties). This shall be done at whatever scale is necessary to effect an exact match of detail.

6.3.8 Digital Data Capture

6.3.8.1 National Flood Insurance Program Maps

The FMPCC shall digitally capture all existing thematic data that are not superseded by new restudy information, LOMAs, LOMR-Fs, LOMRs, or other map revisions. The FMPCC shall adequately separate the data by layer, level, color, or attribute for the data to be plotted in conformance with the DFIRM graphics specifications outlined in Appendix B, and for the files to be output in DLG format in conformance with *Standards for Digital Flood Insurance Rate Maps* (Reference 13). The three options for layers, levels, colors, or attributes that may be used by the FMPCC in the data conversion process are detailed in Appendix 7 of *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference 1).

The FMPCC shall horizontally control FIRM and FBFM data as outlined in Subsection 6.3.5 and projected them as needed in order for the final files to be output in UTM coordinates. Horizontal and vertical datums may not be mixed within files for one DFIRM, and documentation about the projection and datums shall accompany the DFIRM files. This documentation may be in the form of the FEMA Digital Base Map Information Checklist (Figure 6-2) or a metadata file as described in the *Standards for Digital Flood Insurance Rate Maps* (Reference 13).

The FMPCC also may capture base map detail to augment the chosen base map source as necessary at this time. The base map features required would be those needed to support the NFIP map requirements (e.g., bridges, new roads crossing the floodplain).

6.3.8.2 Study Contractor Work Maps

SC work maps may be received by the FMPCC in digital and/or hardcopy format. In either case, the FMPCC shall review the SC submittal following the guidelines outlined in Section 1 of these Guidelines before digital capture or processing begins. This review shall include an evaluation of the completeness and accuracy of the data capture. In addition, the FMPCC shall review the layers, levels, colors, or attributes for conformance with *Flood Insurance Study Guidelines and Specifications for Study Contractors* (Reference 1). Any nonconforming data shall be revised or resubmitted to the SC for revision as necessary. The FMPCC shall coordinate with the PO or his/her designee for guidance on which course of action is most appropriate.

If the SC submittal is in digital format, the FMPCC shall transform and project the data as necessary to place them in the same coordinate system (UTM) as the rest of the DFIRM data. If the files are not georeferenced, the FMPCC shall add the horizontal control at this time.

The FMPCC shall fit the restudy data into the countywide digital files of the effective FIRMs and FBFMs, and shall supersede any outdated data. The FMPCC shall effect a tie-in to achieve an exact match between the two sources.

If the SC work maps are submitted in hardcopy format, the FMPCC shall digitally capture all necessary thematic data from the manuscripts and georeference the resulting files. Base map detail to augment the chosen base map source may also be captured as necessary at this time. The base map features required would be those needed to support NFIP map requirements (e.g., bridges, new roads crossing the floodplain, etc.).

6.3.8.3 Map Revisions or Changes

The FMPCC shall incorporate all LOMAs, LOMR-Fs, LOMRs, and any other approved map revisions into the DFIRM products. The FMPCC shall also evaluate the DFIRM production priority of the county affected by the map revision and make a recommendation to the PO or his/her designee on whether to initiate DFIRM production for the county.

If the data are submitted in digital format, the FMPCC shall review the data for their suitability for incorporation into a DFIRM. The data shall be transformed and projected as necessary to place them in the same coordinate system (UTM) as the rest of the DFIRM data.

6.3.8.4 Base Map Data

The FMPCC shall not perform wholesale digital capture of base map data, but shall use the best available digital base map files, as outlined in Subsection 6.3.3. These data may be augmented as necessary to support NFIP map requirements. The FMPCC shall add horizontal control to any digital base map files that are not already georeferenced.

6.3.9 Multiple-County Communities

The same guidelines that apply to manually generated countywide FIRMs apply to DFIRMs regarding the inclusion of multiple-county community data. (See Subsection 1.1.3. of these Guidelines) These guidelines call for communities that lie in more than one county to maintain their own FIRM until such time as complete coverage of the community is available in countywide maps that cover all portions of the community. At that time, the entire community will usually be mapped on the appropriate countywide DFIRMs. Exceptions may be made (such as if a large community lies primarily within a county being converted to countywide format) at the discretion of the PO or his/her designee.

6.3.10 DFIRM Graphics Specifications

The goal in developing DFIRM graphics specifications was to emulate the specifications that were developed previously for FIRMs produced using manual cartographic techniques. The manual and digital FIRM specifications may be found in Appendix B of these Guidelines.

Because of the wide variety of mapping software packages available in the marketplace, it would be impossible for FEMA to provide DFIRM specifications tailored to each package. The DFIRM graphics specifications found in Appendix B are intended to be used as a guide by the FMPCC in developing DFIRMs that emulate the Countywide, Map Initiatives Format specifications for FIRMs as closely as possible.

In addition to the information currently found on FIRMs, FEMA determined that users of DFIRMs require additional information that is pertinent to the digital files, such as their source and accuracy, as well as the projection and datums used in mapping the county. This information shall be added to the DFIRMs in the “Notes to User.” The geographic coordinates in latitude and longitude shall also be added to the four corners of the map sheet. (See Appendix B for examples of DFIRM Legends and Notes to User.)

The FMPCC shall place all text not aligned to a feature on the DFIRM at an angle of 0° relative to the central meridian of the UTM zone within which the county falls.

6.3.11 Panelization of DFIRMs

As cited earlier, countywide DFIRMs shall be published at one of the following map scales: 1” = 500’, 1” = 1,000’, or 1” = 2,000’. In addition, the countywide DFIRMs shall be published

using a USGS 7.5-minute series topographic quadrangle sheet paneling scheme, or subdivision thereof, depending on the scale of the DFIRM.

There are several advantages to this scheme, the first of which is that the hardcopy DFIRMs published by FEMA will be consistent with maps published by other Federal agencies. USGS topographic quadrangle maps are available for the entire United States and are widely used by the public. In addition, USGS topographic quadrangle maps are used as the base maps for thematic presentation of data by many Federal agencies. Thematic maps published by FEMA using this same paneling scheme benefit many users. *Standards for Digital Flood Insurance Rate Maps* (Reference 13) call for the DFIRM-DLGs to be tiled by USGS 7.5-minute-series topographic quadrangle sheets. Using the same paneling scheme for DFIRMs and DFIRM-DLGs benefits both the data producers and users. The data files and hardcopy products match more closely, reducing confusion and time spent on file management. DFIRM compilation procedures are simplified because map sources match more closely. Additionally, data users can locate or request areas by the FIRM panel number or the USGS topographic quadrangle sheet name. Future hardcopy publish-on-demand systems and electronic file distribution systems will also benefit from a permanent, ordered paneling scheme that corresponds to the USGS topographic quadrangle paneling scheme.

The FMPCC shall not use map insets in preparing DFIRMs. This is necessitated by the requirement for the digital data files to be maintained in real-world coordinates. The FMPCC may add small areas around the perimeter of a county or community to an existing map sheet as overedge areas. Larger areas may require a separate map panel.

6.3.12 DFIRM Border Format

The FMPCC shall have the option of producing DFIRMs with two legend areas, one on either side of the map panel. These areas shall contain all standard Countywide, Map Initiatives Format title block, legend, and notes information, as well as any special notes (e.g., base map source notes) and ERM descriptions. In general, the legend area on the left-hand side of the map panel shall be used for the ERM descriptions, CBRS notes, and special notes.

6.3.13 Non-Countywide DFIRMs

On a case-by-case basis, with the approval of the PO or his/her designee, non-countywide DFIRMs may be produced. They may be prepared to take advantage of digital data provided by an SC or community. The FMPCC shall assess the digital data provided. The FMPCC shall recommend a mapping approach based on the cost considerations of countywide mapping, DFIRM priorities, the percentage of the county remaining to be mapped, and the benefits of countywide mapping to the community and the NFIP.

The FMPCC shall produce non-countywide DFIRMs using the same basic standards used to produce countywide DFIRMs. They shall be horizontally controlled and the base map considerations are the same. Publication scales are typically the same as for countywide DFIRMs (1"=500', 1"=1,000', and 1"=2,000'). However, with the approval of the PO or his/her designee,

the FMPCC may use other scales such as 1"=400' or 1"=800'. The FMPCC shall not use inserts and shall ensure that north is oriented to the top of the panel.

Non-countywide DFIRMs may be paneled using A, B, C, D, or E frames rather than subdivisions of USGS topographic quadrangles. This allows for the possibility of retaining a portion of the study in a manual format while converting a portion to a digital format, retaining the original paneling scheme. Non-countywide DFIRMs that are paneled this way may not have room for the left-hand legend area and the geographic (latitude and longitude) corner coordinates.

Non-countywide DFIRMs can be converted to countywide DFIRMs at a later date by appending the files together and re-tiling the data using USGS topographic quadrangle panels.

6.3.14 Custom DFIRM Map Products

One of the results of producing countywide DFIRMs using the USGS 7.5-minute-series quadrangle sheet paneling scheme is that some smaller communities that were previously printed on one map panel may now fall on more than one panel. On a case-by-case basis, as directed by the PO or his/her designee, the FMPCC may prepare a custom map product that shows an individual community on just one map panel for a community. As GIS use becomes more widespread throughout communities, the need for custom map products such as this will vanish. GIS users will have the ability to print their own custom map products, using their base mapping files and FEMA's thematic floodplain boundary files. However, until GIS use is more universal, custom DFIRM products may be produced.

6.3.15 DFIRM Indexes

The FMPCC shall prepare index maps for all DFIRMs that require more than one map panel to depict a community or county. Index maps provide the user with an orientation tool that shows how the DFIRM panels relate to major features (e.g., roads, railroads, water bodies) with the community or county. The graphic specifications for index maps are presented in Appendix B. Whenever possible, the features shown on the index map should be derived from the same files used to prepare the individual DFIRM panels. This enables the index features to be updated automatically if the features are revised on the individual panels.

6.3.16 DFIRM Distribution and Reproduction Materials

6.3.16.1 Preliminary Distribution

The FMPCC shall prepare and distribute Preliminary copies, and as necessary, Revised Preliminary copies and Proof copies of the DFIRMs in accordance with the procedures and specifications provided here and in Section 1 of these Guidelines.

6.3.16.2 Final Reproduction Materials

The FMPCC shall prepare final (camera-ready) reproduction materials of the DFIRMs for printing by GPO as specified in Section 1 and Appendix B of these Guidelines. DFIRMs may be provided to the GPO as positive plots on mylar or as composite negatives.

6.3.16.3 Distribution of Digital Files

DFIRM and DFIRM-DLG files shall be made available to the public by the FMPCC through the ESDP fee-charge system until such time as FEMA develops a distribution mechanism through the MSC or the Internet. The DFIRM files shall be made available in the format used to produce the DFIRMs or in DLG format, whichever is available and requested by the requester. The files may be delivered on CD-ROM or other electronic media that are mutually agreed upon by the FMPCC and the requester.

The base map information (e.g., road locations, road names, railroads, airports) used to prepare the digital FIRM can be provided to requesters if its source was in the public domain. Typically, base map information generated by the USGS or other Federal agencies is in the public domain. However, if the base map information was provided to FEMA by a local government agency that retains licensing rights to its data, FEMA cannot distribute these data except to the provider. At FEMA's request, the FMPCC shall direct requesters to contact that agency directly about obtaining the base map information.

One copy of the digital FIRM data can be provided at no charge to any local government agency that provided base map data to FEMA. Other data requests are filled for a standard fee if the data are provided in the DFIRM production format. Requests for data translation to another file format (such as AutoCAD DWG or DXF) or projection from UTM to another projection or datum (such as State Plane or NAD83) will incur an additional charge for the data conversion. The FMPCC shall calculate this charge individually, based on the number of panels and the type of conversion.

6.3.17 Archiving

The FMPCC shall maintain archive data files at the following milestones:

- One copy of any digital data files submitted by SCs or revision requestors shall be retained by the FMPCC in the original file format.
- One copy of any digital base map files used or acquired by the FMPCC shall be retained in the original file format.
- Two copies of the preliminary DFIRM files shall be retained, documenting the DFIRM files as they exist at the time of Preliminary distribution. One copy shall be retained at the FMPCC's facility.
- Two copies of the effective DFIRM files shall be retained, documenting the effective DFIRMs. One copy shall be retained at the FMPCC's facility.

The FMPCC shall maintain intermediate archive files in the format in which the data were submitted or in the format compatible with the procedure used at the milestone. Final delivery files shall be in the format prescribed in the specifications for the product. File naming conventions for intermediate working and archive files should include the community name or its State and county FIPS code. File naming conventions for final deliverable shall follow the format prescribed in the specifications for the product. CD-ROM is the preferred storage medium. Other acceptable storage media include 8mm tape, 4mm DAT tape, or zip disk. Acceptable media writing formats include tar, CPIO, and copy.

The FMPCC shall label all archives and final deliverables on electronic media with at least the following information:

- FMPCC name
- Community, county, State name
- CID and FIPS codes
- Contents (a brief description of the contents, e.g., base map data)
- Data format
- Date

6.3.18 File Documentation

The FMPCC shall document the following items for all archived and final DFIRM data files:

- File format
- File naming convention
- Storage media and tape writing format
- Data producer
- Community name and number
- File contents
- Date
- File size
- Pertinent information about projection, coordinate system, horizontal and vertical datums, as well as spheroids used in data creation

6.4 DFIRM-DLG Production Procedures

When requested by the PO or his/her designee, the FMPCC shall produce DLG files of the thematic floodplain information contained on the DFIRMs. These DFIRM-DLG files shall be produced in accordance with the specifications detailed in *Standards for Digital Flood Insurance Rate Maps* (Reference 13). The DFIRM-DLG files shall reflect all effective thematic floodplain information as published on the DFIRMs.

The DFIRM-DLG files shall be tiled by 7.5-minute-series quadrangle sheet and by county. If a 7.5-minute-series quadrangle falls in two counties, both of which are published as DFIRM-DLGs,

the area of the quadrangle that falls in each county will be published with the corresponding county (i.e., the two pieces will be published separately. If only one of the two counties is published as a DFIRM-DLG, the other portion of the quadrangle will remain unpublished until its countywide DFIRM-DLG is complete.

The FMPCC shall output the DFIRM-DLGs and deliver them to FEMA's independent Quality Assurance/QC Contractor at the same time that the FMPCC submits the DFIRM final reproduction materials to GPO for printing. The FMPCC shall ensure that there is complete agreement of content between the DFIRMs and the DFIRM-DLG files. A metadata file as described in the *Standards for Digital Flood Insurance Rate Maps* (Reference 13) shall accompany the DFIRM-DLGs. This file shall serve to document the contents of the DFIRM-DLG files for all users.

6.5 Digital Attachment to Letters of Map Revision

Map attachments to LOMRs may be produced in either manual or digital format. The decision on whether to proceed with a digital LOMR shall be made on a case-by-case basis and will depend on how extensive the revision is and how extensive the effective information is surrounding the revision. In general, if the annotation can be done by hand quickly and the quality of the product will not be compromised, the panel may be annotated manually. Otherwise, the FMPCC shall be annotate it digitally. Digital attachments to LOMRs may be produced to update either manual FIRMs or DFIRMs.

A digital attachment will include a digital copy of the area of the FIRM that is being revised, updated to reflect the revision. The area of revision will be highlighted and a map legend and title block will be added to the page. The digital LOMR can be presented in either landscape or portrait layout depending on which shape works best for the area of revision.

Digital attachments that revise manual FIRMs are not required to be georeferenced. Digital attachments that revise DFIRMs should be prepared from the DFIRM files that are already georeferenced.

Examples of digital LOMR attachments are shown in Appendix B.

6.6 New DFIRM Products

FEMA is in the process of developing specifications for a new DFIRM product. Draft base map standards for the new DFIRM product have been developed and are provided in this document. Additional product specifications will be documented separately. If requested by the PO or his/her designee to prepare the new DFIRM product, the FMPCC shall follow those specifications once they have been finalized.

6.6.1 Draft Base Map Standards For New DFIRMS

In accordance with its Map Modernization objectives, FEMA developed draft base map specifications for the new DFIRM product. These new DFIRMS will exploit computer technology to allow for more efficient map updates, production, and distribution. They will also provide for cost-efficient, rapid conversion of the mapping inventory to a digital format. The new DFIRMS may be prepared for communities with adequate flood data and those that require new engineering work.

6.6.1.1 Base Map Choice Priorities

Community-supplied base map data that meet FEMA criteria will be the first choice for new DFIRM production. DOQs produced by the USGS will be the second choice and the default base map if suitable community data are not available. If neither suitable community base map data nor USGS DOQs are available for a county scheduled for new DFIRM production, FEMA will provide the community with information on base map sources, including information on partnering with USGS to initiate DOQ production for that county. DOQ production normally takes 12 to 14 months, so coordination with USGS needs to be initiated with that timeframe and the new DFIRM production schedule in mind.

New DFIRM road names will be derived from community-supplied files or hardcopy sources, current FIRM panels, and/or U.S. Bureau of the Census TIGER files. Road names will be needed no matter what base map source is chosen for new DFIRM production.

6.6.1.2 Community Coordination

FEMA will coordinate with all of the communities within a county scheduled for new DFIRM creation at the beginning of the production process. The FMPCC shall send each community a FEMA letter that describes the new DFIRM product, requests pertinent information, describes the minimum requirements for the submittal of data to be included in the new DFIRM, and identifies the default base map source if community data are not available or suitable. Pertinent information that will be requested will include base map data; a current corporate limits map; elevation data, either electronic or hardcopy; and any engineering information that needs to be added to the FIRM. Communities will be encouraged to coordinate with other communities within the same county to provide FEMA an integrated base map for the whole county.

6.6.1.3 Minimum Standards for Community-Supplied Data

For FEMA to use community-supplied base map data instead of USGS DOQs for new DFIRM production, the following minimum standards must be met:

- **Resolution**—The minimum resolution requirement for raster data files is 1 meter ground distance.
- **Horizontal Accuracy**—The base map data used by FEMA to produce a new DFIRM will employ the National Standard for Spatial Data Accuracy (NSSDA) to report horizontal

accuracy. The NSSDA uses root-mean-square error reported in ground distances at the 95-percent confidence level. This means that 95 percent of the positions in the dataset will have an error with respect to true ground position that is equal to or smaller than the reported accuracy value. The minimum horizontal positional accuracy for new DFIRM base map data will be that of the default base map – the USGS DOQs whose NSSDA accuracy is 38 feet.

- **Vertical Accuracy**—Vertical accuracy requirements for the new DFIRM product will be defined under the specifications for new SC work maps.
- **Horizontal Reference System**—The files must be georeferenced to a known projection and datum and be accompanied by information that describes those parameters.
- **Data Sources**—Community-supplied data may be in the form of DOQs or vector data files. The vector files may be photogrammetrically compiled or digitized from orthophotos. Unacceptable file sources include TIGER files or other files compiled at scales smaller than 1:20,000.
- **Currentness**—The data must have been created or reviewed for update needs within the last 7 years.
- **Coverage**—Complete and integrated data for an entire county are preferred. If only portions of a county are available, FEMA may choose to use the default base map source (USGS DOQs) for the county.
- **Availability**—The data must be available immediately and must be sent within 30 days of receipt of FEMA’s request.
- **Restrictions on Use**—FEMA must be able to print and distribute an unlimited number of hardcopy maps using the data. FEMA must also be able to freely distribute the base map data in raster format along with the floodplain information to the public.
- **Contents**—To be used in lieu of DOQs, the files must be in a vector format and contain transportation features including roads, railroads, and airports. Roads are considered to be those travelways intended and maintained for use by motorized vehicles. Roads may be portrayed as road centerlines, edge-of-pavement, or right-of-way.

FEMA also desires to augment the USGS DOQs or community-supplied transportation features with the following vector data:

- Hydrographic features, including streams, rivers, lakes, and shorelines
 - Current political boundaries, including those that define the county, corporate limits, ETJ areas, military lands, and Indian lands
 - Parks or forest lands if applicable
 - Range, township, and section lines if applicable
- Feature names for all of the above-referenced features that have names. These may be provided annotation/text features (preferred) or as attributes
- **Optional Contents**—FEMA also desires the following features, if available:
 - Bridges
 - Unimproved roads or trails (i.e., travelways not intended for motorized vehicles or not usually used by motorized vehicles due to width or seasonal conditions)
 - Flood-control structures, including levees, dams, weirs, floodwalls, and jetties

- Elevation data in the form of contours and spot elevations, DEM or DTM data, Triangulated Irregular Network (TIN), or mass points and break lines. (If both are available, FEMA desires both those data and the resulting data that are derived from them.)
- Building footprints
- Parcel outlines or parcel centroids
- **Thematic Separation of Data**—Thematic data must be separated by level, layer, attribute, or file. In other words, the roads should be separated from the streams or corporate limits by one of the listed methods.
- **File Format**—The files must be submitted in one of the following file formats.
 - **Raster Data**—The DOQ files may be submitted in TIF, BIP, or JPEG format.
 - **Vector Data**—These files may be submitted in ARC/INFO export file (E00), ArcView shape file (SHP), MicroStation design file (DGN) (* preferred format), MapInfo interchange format (MIF), MapInfo native table format (TAB), AutoCAD drawing file (DWG), AutoCAD drawing exchange format (DXF), Digital Line Graph (DLG), or Spatial Data Transfer Standard (SDTS) format.
- **Transfer Media**—The files must be submitted on one of the following electronic media: CD-ROM (preferred medium), Zip disk, 8-mm tape, 4-mm tape, 3.5-inch diskette, electronic transfer to FTP site, and electronic transfer by E-mail (for files under 2mb)
- **Tiling**—Data should be in one single file or a series of thematic files that cover the entire geographic area of the community instead of individual small tiles that each cover a limited geographic area.
- **Data Structure**—Vector data files must meet the following data structure requirements:
 - Line features must be continuous (no dashes, dots, patterns, or hatching).
 - Files must not contain curves, B-splines, or arcs.
 - Files must not contain nested cells.
 - CADD files must not contain annotation generated from a database; the annotation must be placed as text.
 - No gaps or overshoots should exist between features that should close.
- **Metadata**—The files must be accompanied by metadata that complies with the Federal Geographic Data Committee (FGDC) metadata standards or a FEMA Digital Base Map Information Checklist that describes the files and their contents.

6.6.1.4 Combining Data from Multiple Sources

FEMA would prefer to receive complete and integrated data for an entire county. If only portions of a county are available, FEMA may choose to use the default base map source (USGS DOQs) for the county. FEMA may also choose to combine data from multiple base map sources to prepare the new DFIRM product. This may entail piecing together data provided by adjoining communities or adjoining DOQs. This may mean that the FMPCC will clip files at the edges in order to facilitate fitting data together from multiple sources. However, once a base map data source has been accepted, the FMPCC shall use the locations of features in the base map data files as is and will not modify the feature alignments that are provided. In some instances, this may

mean that there shall be slight mismatches between communities as roads or other features cross community boundaries.

6.6.1.5 Acknowledgment of Data Sources

FEMA will prepare an acknowledgment note that tells new DFIRM users what the source(s) of the digital base map data is(are) and provides information on how to handle any issues that may arise when making determinations where two sources adjoin.

6.7 Geographic Information Systems Services

The FMPCC shall assist FEMA in developing techniques and methodologies to incorporate automated map production and GIS technology into the flood risk mapping process. These efforts may include the following:

- Piloting techniques to provide address matching applications to support the continued collection of flood risk information for individual structures
- Piloting automated review of digital files submitted to FEMA for use in various applications, to include review of digital files submitted for potential DFIRM use
- Piloting use of remote sensing and Global Positioning Systems for automated collection of digital data to serve as base maps, or to provide engineering data for input to flood risk assessment models
- Piloting techniques to interface digital engineering data with flood risk assessment model input, setup, calibration, execution, and validation
- Piloting techniques to automate transfer of flood risk assessment model results to a map format
- Piloting techniques to automate development and storage of final FIRMs in a digital data format suitable for hardcopy distribution and publication

The objective of these efforts shall be to reduce the labor-intensive nature of flood risk assessment studies and DFIRM production.

**Figure 6-2
FEMA Digital Base Map Information Checklist**

The following checklist is intended to solicit information about the availability and format of digital base map data that may be used by the Federal Emergency Management Agency (FEMA) for preparing a digital Flood Insurance Rate Map (DFIRM). In addition to providing this information, if a sample plot and digital file can be provided for examination, a more thorough review of the data can be performed to determine their suitability.

If no digital data are currently available but are in production, information about the planned data and their estimated completion date would be useful.

Point of Contact:

Name and/or Title _____

Community/Agency _____

Department _____

Address _____

Telephone _____

Fax _____

Email _____

Data Type:

Pertinent information includes the following:

Format:

- ARC/INFO
- ArcView
- MapInfo
- Intergraph
- AutoCAD
- Other _____
- Digital Orthophoto
 - Black & white
 - Color
 - TIF
 - JPEG
 - Raw
- Scanned
 - Georeferenced? _____
 - Dots per inch _____
 - Black & white
 - Gray scale
 - Color

Source Information:

How and when were the data compiled? By whom? At what scale? Pertinent information includes the following:

- Photogrammetrically compiled
- Digitized from a hardcopy source
 - Parcel maps/Plat maps
 - USGS quadrangles
 - Orthophotos
 - Aerial photos
 - Other community map _____
- Generated using coordinate geometry (COGO)
- Scanned

Date of photography or source material _____

Scale of data creation _____

Agency or firm that produced the data _____

Date of creation (if incomplete, provide estimated completion date) _____

Projection, Datums, Accuracy:

What coordinate system and projection were used? What horizontal and vertical datums were used? What is the stated accuracy of the data?

Coordinate system/projection:

- State Plane
- UTM
- Geographic (latitude and longitude)
- Other _____

Units:

- Feet
- Meters
- Decimal degrees
- Degrees, minutes, seconds
- Other _____

Horizontal datum:

- NAD27, Clarke 1866 spheroid
- NAD83, GRS80 spheroid

Vertical datum:

- NGVD29
- NAVD88
- Other _____

Accuracy _____

Data Contents:

What features are contained in the data set(s)? Are feature names included? If so, are they available as attributes and/or graphic text (annotation)? If possible, please provide metadata, a data dictionary, or a layer list in addition to this form

- Roads
 - Centerlines
 - Edge-of-pavement
 - Rights-of-way
- Road names
 - Scale(s) at which they were intended to be used _____
- Railroads
 - Railroad names
- Airports
 - Airport names
- Streams, lakes, other water bodies
 - Feature names
- Range & township/section lines and numbers
- Political boundaries
 - Area names
- Flood control structures (dams, weirs, jetties, culverts, etc.)
- Contours
 - Contour interval _____
- DEM/DTM
- Building outlines
- Parcels

Transfer Media:

What options are there for transferring the data to other users? What are the platform options?

Media:

- CD-ROM
- 8-mm tape
- 4-mm tape
- Zip drive
- Diskettes
- E-mail
- Other _____

Platforms:

- UNIX
- PC
- NT

Cost and Restrictions on Use:

What is the cost of the data? Would you be willing to exchange base mapping data for FEMA's floodplain map data? Are there any restrictions on the use of these data? Is a formal request from FEMA needed before the data may be released? If so, to whom should the request be directed?

Section 7

Erosion Studies

In response to NFIRA, FEMA is managing a study to evaluate erosion hazards. The purpose of the study is to determine whether the effects of erosion should be considered in mapping flood risk zones and setting insurance premium rates through the NFIP. The study, which will be submitted to the U.S. Congress early in the year 2000, will provide a quantitative basis for evaluating the impact of erosion and erosion mapping on coastal communities and on the NFIP. The conclusions of the report will help provide closure to a long-standing debate and Congressional concern as to whether FEMA should map coastal erosion hazard areas and use these data in determining insurance premium rates and land-use management provisions through the NFIP.

Because there is uncertainty about whether legislation will be enacted within the next 5 years that would require addressing an erosion-mapping component to the NFIP, FEMA deems it necessary to continue to conduct erosion-related research, at a maintenance-level effort. FMPCC involvement in this task shall be to assist, review, and occasionally conduct long-term erosion-rate analysis studies.

Possible review/study efforts could involve the following:

- Determination of optimal methods for calculating and delineating 60-year or other multiple-year erosion hazard areas
- Review and synthesis of State coastal erosion management programs
- Development of FMPCC and SC guidelines and specifications for erosion hazard mapping and analysis studies
- Other services to be determined

Possible future enactment of legislation requiring an erosion-mapping program may require significant expansion and modification of this task. This revised task would require that the FMPCC review erosion-rate data and documentation developed and compiled by SCs. In addition, the FMPCC would be responsible for plotting erosion hazard data on FIRMs and for preparing final erosion hazard study reports.

Section 8

Processing of Map Revisions Under the Coastal Barrier Legislation

8.1 Overview

The U. S. Congress passed the Coastal Barrier Resources Act (CBRA) in 1982 and the Coastal Barrier Improvement Act in 1990, defining and establishing a system of protected coastal areas (including the Great Lakes) and Otherwise Protected Areas (OPAs), known as the Coastal Barrier Resources System (CBRS). The Acts define areas within the CBRS as depositional geologic features consisting of unconsolidated sedimentary materials; subject to wave, tidal and wind energies; and protecting landward aquatic habitats from direct wave attack. The Acts further define coastal barriers as “all associated aquatic habitats, including the adjacent wetlands, marshes, estuaries, inlets and nearshore waters, but only if such features and associated habitats contain few manmade structures and these structures and man's activities on such features, and within such habitats do not significantly impede geomorphic and ecological processes.” The Acts provide protection to CBRS areas by prohibiting most expenditures of Federal funds within the CBRS. These prohibitions refer to "any form of loan, grant, guarantee, insurance, payment, rebate, subsidy or any other form of direct or indirect Federal assistance," with specific and limited exceptions.

The U.S. Congress designated the initial CBRS areas in 1982. Subsequent modifications to the CBRS are introduced as legislation to be acted on by the U.S. Congress, and originate from State and local requests, as well as recommendations made by the U.S. Fish and Wildlife Service. After the U.S. Congress approves additions to the CBRS, the new areas are assigned a unique effective date, after which Federal assistance prohibitions apply. In cooperation with the U.S. Department of the Interior, FEMA transfers CBRS boundaries to FIRMs using congressionally adopted source maps. FIRMs clearly depict the different CBRS areas and their effective dates with special map notes and symbologies as outlined in Appendix B of these Guidelines. It should be noted that although FEMA shows CBRS areas on FIRMs, the U.S. Congress is the only entity that may authorize a revision to CBRS boundaries.

This section of the Guidelines uses the terms “Coastal Barriers” and “Coastal Barrier Resources System” units (or CBRS units). These terms are intended to be inclusive of all classifications of Coastal Barriers within the CBRS, including areas designated as OPAs.

8.2 CBRS Classifications

The three classifications of Coastal Barrier units are as follows:

1. **The 1982 Coastal Barriers** were established by the CBRA of 1982 (Public Law 97-348). The Act established 186 units within the CBRS. Under this Act, no new flood insurance coverage could be provided under this title on or after October 1, 1983, for any new construction or substantial improvements of structures located on any coastal barrier within the CBRS. Most of the 1982 CBRS units were shown on FIRMs dated October 1, 1983.
2. **1990 and later Coastal Barriers** are CBRS units newly identified by the Coastal Barrier Improvement Act of 1990 (Public Law 101-591) and all subsequent nonpublic land areas added to the CBRS. The Act added new barrier units to the CBRS, modified existing barrier units, and established CBRS units designated as OPAs.
3. **1991 and Later Otherwise Protected Areas** are undeveloped coastal barriers within the boundaries of an area established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes.

8.3 Flood Insurance Prohibitions

Federal flood insurance is available in a CBRS area if the subject building was constructed (or permitted and under construction) before the CBRS area's effective date. For CBRS areas designated by the 1982 Act, the sale of Federal flood insurance is prohibited for structures built or substantially improved after October 1, 1983. For subsequent additions to the CBRS, the insurance prohibition date is shown on the FIRM. For structures located in the OPAs, insurance may be obtained if written documentation is provided certifying that the structure is used in a manner consistent with the purpose for which the area is protected. If an existing insured structure is substantially improved or damaged, any Federal flood insurance policy will not be renewed. If a Federal flood insurance policy is issued in error, it will be canceled and the premium refunded; no claim can be paid, even if the error is not found until a claim is made.

8.4 Types of CBRS FIRM Revisions

The FMPCC shall accomplish the following types of revisions:

- Revising existing FIRM panels to modify or decrease the size of CBRS units and OPAs
- Revising existing FIRM panels to account for new CBRS units and OPAs, as appropriate

FEMA will provide the original CBRS unit maps to the FMPCC. The FMPCC shall direct all questions or problems concerning the delineation of CBRS boundaries to the PO or his/her designee.

It is anticipated that a percentage of communities with scheduled map revisions will also require revisions to CBRS unit maps. The FMPCC shall combine these two tasks whenever feasible.

8.5 Historical Dates of the Coastal Barrier Resources System

The following is a historical summary of significant dates in the history of the CBRS:

- October 1, 1982** Passage of the Coastal Barrier Resources System Act (Public Law 97-348). The effect of this Act was to establish the CBRS and to provide a 1-year grace period during which communities could prepare for the Federal flood insurance funding prohibitions that would go into effect with publication of the FIRMs 1 year later on October 1, 1983.
- October 1, 1983** All Coastal Barrier units established with the passage of the Coastal Barrier Resources System Act of 1982 were mapped and finalized on FIRMs dated October 1, 1983.
- November 16, 1990** Passage of the Coastal Barrier Improvement Act (Public Law 101-591). The effect of this Act was to significantly enlarge the CBRS and to impose Federal insurance and funding prohibitions for new construction or substantial improvements within units added to the CBRS on and after November 16, 1990. This Act also established the addition of specific public lands to the CBRS 1 year after passage of the Act.
- June 6, 1991** *Federal Register* notice of availability of maps showing CBRS changes made in Public Law 101-591.
- November 16, 1991** Date on which Federal flood insurance prohibitions were applied to public lands designated as OPAs within the CBRS. The only prohibition that applies in an OPA is Federal flood insurance for new construction or substantial improvements that occur after that date, with specific and limited exceptions.
- October 23, 1992** Passage of Public Law 102-440 (the “Wild Exotic Bird Conservation Act”). The CBRS changes that were made as a result of this Act were published in the *Federal Register* of November 15, 1993.
- November 15, 1993** Publication of the *Federal Register* that provided notification of the changes made under Section 4(e) of Public Law 101-591. This section of Public Law 101-591 was established to allow for minor and technical boundary modifications subsequent to the passage of the Coastal Barrier Improvement Act. This *Federal Register* also provided notification of the availability of revised CBRS maps showing the changes made by Public Law 102-440.
- November 2, 1994** Passage of Public Law 103-461, effecting changes to the CBRS. Most changes under this act involved minor exclusions from the System.

- February 23, 1995** Publication in the *Federal Register* of the availability of CBRS maps showing the changes made under Public Law 103-461.
- May 24, 1996** Passage of Public Law 104-148, which resulted in a reduction to CBRS Unit NY-59P.
- October 9, 1996** Passage of Public Law 104-265, effecting a reduction to CBRS Unit SC-01.
- November 12, 1996** Passage of Public Law 104-333, effecting changes to several Florida CBRS units.
- February 24, 1997** Notification in the *Federal Register* of the finalization of changes to the CBRS resulting from a 5-year review/update of CBRS unit boundaries provided for in Section 4(c) of Public Law 101-591. The intent of these changes was to keep the CBRS current with the physiographic changes that occur in coastal areas.
- April 18, 1997** Publication in the *Federal Register* of the availability of CBRS maps showing the changes made under Public Laws 104-148 and 104-265.
- May 28, 1997** Publication in the *Federal Register* of the availability of CBRS maps showing the changes made under Public Law 104-333.
- March 5, 1998** Notification by the U.S. Federal District Court of the District of Columbia that the boundary changes made by Public Law 104-333 were invalidated subsequent to a successful challenge being brought before the court.
- October 21, 1998** Passage of Public Law 105-277, which reinstated the changes made by Public Law 104-333 that were invalidated on March 5, 1998. This law also effected other minor changes to the CBRS in South Carolina and Florida.

8.6 CBRS Database Control

The FMPCC shall maintain the national CBRS database. This database shall be updated whenever a revision to a FIRM panel containing CBRS units is processed. All such changes to the database shall be reported to the FMPCC assigned to the maintenance of the database. The database is made available on the NFIP website and as such must be updated monthly and forwarded to the NFIP Bureau and Statistical Agent. The database is provided to the NFIP Bureau and Statistical Agent in a variety of data formats for downloading from the website. The following protocol for database translations should be followed on a monthly basis by the FMPCC assigned to this task.

On the first business day of each month, the designates FMPCC shall send a WinZip file to a designated individual at the NFIP Bureau and Statistical Agent via e-mail. The WinZip file should consist of the latest version of the CBRS database in Excel, Lotus 123, Quattro Pro, ASCII,

Access, and dBase. The following protocol should be followed when creating the file translations:

Create the Quattro Pro and Lotus 123 files as follows:

1. Open the Excel file entitled cbrsdata.xls.
2. Save the file as a WQ1 (Quattro Pro) with the same prefix, cbrsdata.
3. Save the file as a WK4 (Lotus 1-2-3) file with the same prefix, cbrsdata.

Create the ASCII file as follows:

1. Open the Excel cbrsdata.xls file.
2. From the File menu, select Save As... .
3. From the Save as type: drop-down menu, choose Text (OS/2 or MS-DOS) (*.txt) and then click Save.

Create the Access file as follows:

1. Open a new database file in Access by selecting Blank Database from the startup screen.
2. Name the new Access file with the prefix cbrsdata.
3. From the Tables tab on the new database screen, click New and then click OK for the datasheet view option.
4. From the File menu, choose Get External Data and then click Import.
5. Choose Microsoft Excel from the Files type menu.
6. Locate the Excel cbrsdata.xls file and select it for import.
7. Select Show Worksheets and then click Next.
8. Select First Row Contains Column Headings and then click Next.
9. Select In a New Table and then click Next.
10. Choose No Primary Key from the next screen and then click Next.
11. Click Finish.

Create the dBase file as follows:

1. Open the newly created Access file.
2. From the File menu, click Save As/Export... .
3. From the next screen click OK.
4. From the next screen select dBase IV (*.dbf) from the Save as type: drop-down menu.
5. Change the File name to cbrsdata.

Add all of the above file translations to a WinZip file entitled cbrsdata.zip and send to the e-mail address specified at the top of this section or to the current e-mail address contact for the NFIP Bureau and Statistical Agent.

8.7 Work to be Performed in a CBRS FIRM Revision

The tasks to be performed include, but are not limited to, the following:

- Obtaining copies of printed FIRMs and FIRM artwork
- Reviewing lists of active studies and restudies to determine whether the necessary revisions to CBRS unit maps can be combined with current map actions
- Preparing the map layout and performing all manual or digital cartographic work associated with showing new boundaries and screens of CBRS boundaries from the CBRS maps to the FIRM
- Providing a detailed QC review of all existing and revised CBRS boundaries on the FIRM being revised
- Preparing correspondence to notify affected communities of the revisions being made
- Preparing camera-ready artwork for submittal to the GPO

8.8 Source Materials

Delineation of CBRS units on the FIRM should be based on the congressionally adopted CBRS source maps produced by the U.S. Department of the Interior (DOI), which will be supplied to the FMPCC by the PO or his/her designee. These maps, hereinafter referred to as “System maps” were produced by the U.S. Fish and Wildlife Service from a set of maps adopted by the U.S. Congress pursuant to the Coastal Barrier Improvement Act of 1990 and amended as new legislation warrants.

In addition, a set of maps prepared in 1988 by the DOI entitled “Report to Congress: Coastal Barrier Resources System, Recommendations for Additions to or Deletions from the Coastal Barrier Resource System” (Reference 16) is available to the FMPCC for reference purposes only. These maps show what was provided to the U.S. Congress when the 1990 Act was pending. They portray the 1982 extent of the CBRS and clearly define the recommended changes. Although these maps are not to be used by the FMPCC for the delineation of CBRS units, they are useful in determining the original extent of 1982 CBRS units and the recommended changes.

8.9 Coastal Barrier Mapping Specifications

8.9.1 Coastal Barrier Resources System Boundaries

8.9.1.1 Existing 1983 CBRS Boundaries

Existing 1983 Barriers may appear more detailed on the FIRM than the Barrier delineation shown on the System maps. This does not mean that the existing Barrier has been redelineated. It is more likely that the difference between the System map and the FIRM is due to the difference in source maps used to delineate Coastal Barriers in 1983.

8.9.1.2 CBRS Unit Boundaries versus Houses

The System maps show direct horizontal relationships between existing houses and the CBRS unit boundaries; these relationships must be maintained. Most often, the Coastal Barrier boundary has been delineated to keep existing homes out of the designated Coastal Barrier.

8.9.1.3 CBRS Unit Boundaries versus Linework Features

The System maps use thick lines to represent CBRS unit boundaries. Although standard cartographic practice is to follow the center of a boundary, if the boundary has a direct relationship with a linework feature (such as being against the edge of a road), the FMPCC must be careful to maintain that relationship, even if it means the edge of the boundary line shown on the System map will be used.

8.9.1.4 Existing Floodplain Boundaries

CBRS boundaries have no direct relationship to existing floodplain boundaries. Any appearance as such should be questioned.

8.9.1.5 Boundary Lines Between Contiguous CBRS Units of Different Classifications

Boundary lines must be shown to differentiate between contiguous Barriers of different classifications, because each CBRS classification carries a different insurance prohibition. This means that same-screen Barriers will be shown bisected by a boundary line if the Barriers on either side of the line are of a different classification.

Note: See the information in Section 8.8.4 of these Guidelines regarding the map screens and the number of CBRS notes to use. The 1994 CBRS FIRM revisions marked the start of a new requirement to label/identify all barriers on the FIRM as a result of the use of three map screens to represent several different CBRS classifications.

8.9.1.6 Enlarged CBRS Units

If an existing CBRS unit is enlarged, the enlarged area will be considered on the System maps to be a part of the same unit. Therefore, boundaries between, for example, 1991 and 1993 OPAs of the same unit number will not be shown on the System maps. However, these boundaries will be shown on the FIRM panels to differentiate between the different years of identification for each area (as a result of the different insurance prohibitions unique to each area).

8.9.1.7 Contiguous CBRS Units

There are several occasions where CBRS units with different unit numbers are contiguous to each other on the CBRS maps; the same holds true for OPA units with different numbers. The

FMPCC shall ensure that the FIRM, however, does not show a boundary line between different CBRS or different OPA units if they carry the same prohibition date.

8.9.1.8 Inaccurate CBRS Unit Delineations

Any problems with the Coastal Barrier delineation should be corrected, and the U.S. Fish and Wildlife Service should be made aware of all such changes.

8.9.1.9 Errors on 1983 FIRMs

There will be occasions where a 1982 Barrier screen was inadvertently omitted from the 1983 FIRM because the barrier cross-hatching was not extended past the shoreline to the full extent of the SFHA zone screen or the 1982 Barrier was missed when the Barriers were first mapped. When this occurs, the FMPCC shall show the addition as a 1982 Barrier, not a 1990 Barrier.

8.9.2 FIRM Index

In the 1982 Coastal Barrier FIRM revisions, a map note appeared on the FIRM Index, which itemized the CBRS panels. Use of this note was discontinued up until 1996, when it was reinstated at the request of FEMA. Therefore, the FMPCC shall add the following note above the FIRM Index title block and north arrow for any community that contains Coastal Barrier units.

- NOTE -
DESIGNATED COASTAL BARRIERS ARE
SHOWN ON PANELS [PANEL NUMBERS]

8.9.3 Reason for Revision Notes in FIRM Legend

For guidance on the proper revision note to be used in the FIRM Legend, the FMPCC shall follow the Coastal Barrier revision notes matrix shown in Table 8-1. The proper note to be used depends on whether Barriers are being added or removed and/or OPAs are being added to the community. Only one of the notes shown is to be used for any given community, so it must reflect the community as a whole. These revision notes are not to be panel-specific. They must reflect the action taken for the entire subject jurisdiction.

Figure 8-1. Coastal Barrier Revision Notes Matrix

Revision Note	Barrier Added	Barrier Removed ¹	OPAs Added
To add undeveloped coastal barriers	✓		
To remove undeveloped coastal barriers		✓	
To modify undeveloped coastal barriers	✓	✓	
To add otherwise protected areas			✓
To add undeveloped coastal barriers and otherwise protected areas	✓		✓
To remove undeveloped coastal barriers and to add otherwise protected areas		✓	
To modify undeveloped coastal barriers and to add otherwise protected areas	✓	✓	✓

¹This refers to any area, regardless of size, that has had the CBRS unit reduced in size in any area.

8.9.4 Map Screens

Although there are several different types of Coastal Barriers, there are only three unique map screens. The three screens (not to true scale) are as follows:



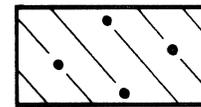
1983

Coastal Barriers



1990 or later

Coastal Barriers



1991 or later

Otherwise Protected Areas

Appendix B of these Guidelines provides specifications for the CBRS screens, a graphic representation of the CBRS screens. The FMPCC shall not terminate CBRS screens at the shoreline unless the shoreline is coincident with the Barrier or OPA boundary. The FMPCC shall extend the boundary into the open water to the edge of the 50-percent SFHA screen. The open-water extent of Coastal Barrier or OPA boundaries and cross-hatching on a FIRM panel also shall not extend beyond the SFHA screen unless the Coastal Barrier boundary is closed on the CBRS map.

8.9.5 Map Notes

8.9.5.1 Title Block Notes

There should be a Coastal Barrier note located on the FIRM panel title block of all new or revised CBRS panels. The note should read as follows:

-NOTE-

THIS MAP INCORPORATES APPROXIMATE BOUNDARIES OF COASTAL BARRIER RESOURCES SYSTEM UNITS AND/OR OTHERWISE PROTECTED AREAS ESTABLISHED UNDER THE COASTAL BARRIER IMPROVEMENT ACT OF 1990 (PL 101-591).

Subsequent to the passage of Public Law 101-591, there have been several changes to the System. These changes are itemized above in Section 8.5 of these Guidelines. If the map panel contains a coastal barrier established under an act subsequent to Public Law 101-591, the note that is placed in the FIRM title block will be modified to include the subject public law. One such example is provided below:

-NOTE-

THIS MAP INCORPORATES APPROXIMATE BOUNDARIES OF COASTAL BARRIER RESOURCES SYSTEM UNITS AND/OR OTHERWISE PROTECTED AREAS ESTABLISHED UNDER THE COASTAL BARRIER IMPROVEMENT ACT OF 1990 (PL 101-591) AND/OR THE WILD EXOTIC BIRD CONSERVATION ACT OF 1992 (PL 102-440).

8.9.5.2 General Map Note

Old CBRS FIRM panels may contain a general map note in the body of the FIRM panel similar to the note that is now placed in the FIRM title block. If any such general map notes exist from the previous effective FIRM, the FMPCC shall remove them.

8.9.5.3 Coastal Barrier Identification Notes

Each of the different Coastal Barrier classifications requires a different explanatory note on the map. The notes specific to the Coastal Barrier classifications are grouped into three classifications: 1983 Coastal Barriers, 1990 or later Coastal Barriers, and 1991 or later Otherwise Protected Areas. The FMPCC shall use the correct note for each barrier type and the proper date should be inserted as appropriate. Specifications for the use of an abbreviated note with a special Coastal Barrier Legend that will be used for most digital FIRMs is also provided below.

1983 Coastal Barrier Note:

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTANTIALLY IMPROVED ON OR AFTER OCTOBER 1, 1983, IN DESIGNATED COASTAL BARRIERS.

1990 (or later) Coastal Barrier Note:

FLOOD INSURANCE NOT AVAILABLE FOR NEW CONSTRUCTION OR SUBSTANTIALLY IMPROVED STRUCTURES ON OR AFTER (date) , IN DESIGNATED COASTAL BARRIERS.

1991 (or later) Otherwise Protected Area Note:

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTANTIALLY IMPROVED ON OR AFTER (date) - NOT USED IN A MANNER CONSISTENT WITH THE PURPOSE OF THE OTHERWISE PROTECTED AREAS.

8.9.5.4 Number of Notes to Use

In years prior to 1994, FEMA specifications required that each FIRM panel carry a minimum of one Barrier identification label for each Barrier class present on the FIRM panel. There was no requirement to label each separate Barrier within a given classification of Barrier. If, for example, there were several 1991 OPAs on a panel, only one of them had to be labeled, because there was only one unique map screen per Barrier classification. In the 1994 CBRS revisions, FIRM panels began to use the same map screens to represent several different classifications of Barrier. Therefore, all separate barrier areas on a FIRM must be labeled with one of the Barrier identification notes shown above. The only distinction between many of the Barriers on the FIRM panel will be the specific Barrier identification label.

8.9.5.5 Location of Coastal Barrier Notes

The FMPCC shall locate the Coastal Barrier and OPA notes, whenever possible, on or near the land area, and should not overprint existing base or floodplain features. If the FMPCC cannot locate the note on the land area due to space and clarity considerations, the FMPCC shall place the note in the open water within the Barrier or OPA screen, near the land area. If the note cannot be placed within the Barrier or OPA screen without creating overprints, the FMPCC shall leader from the note to the land area.

8.9.5.6 Alternate Coastal Barrier Labeling

For most digital FIRMs and for those manual FIRMs where excessive clutter would result from labeling all Barriers, the following alternate Barrier labels should be used:

COASTAL BARRIER
IDENTIFIED date
(SEE COASTAL BARRIER LEGEND)

OTHERWISE PROTECTED AREA
IDENTIFIED date
(SEE COASTAL BARRIER LEGEND)

When this procedure is used, the FMPCC shall label all Barriers on the FIRM panel in this fashion. This will involve retrofitting existing Barrier labels (from previous editions of the FIRM) to conform to the alternate labeling procedure. In addition, when this procedure is used, the FMPCC shall place a special coastal barrier legend in the body of the map for manual or single-border digital FIRMs, and in the left-hand border on double-border digital FIRMs. This legend will show the entire CBRS map note for each classification of Coastal Barrier present on the FIRM panel.

For manually produced FIRMs, the FMPCC shall ensure Coastal Barrier legend contains the entire CBRS map note for only those Barriers present on the FIRM panel in question. For digital FIRMs, the Coastal Barrier legend will contain the entire CBRS map note for all Barriers on all FIRM panels (to avoid having to create multiple legends). An example of the Coastal Barrier legend may be found in Appendix B of these Guidelines.

8.9.5.7 Coastal Barrier Coordinator Note

The FMPCC shall add a note to each CBRS FIRM to refer map users to the Regional Coastal Barrier Coordinator. The FMPCC note shall read as follows:

Comments or concerns regarding Coastal Barrier Resources System areas should be directed to the Coastal Barrier Coordinator at the U.S. Fish and Wildlife Service; (_ _ _) _ _ _ - _ _ _ _ .

Insert the proper phone number into the above note as follows:

(413) 253-8614	CT, DE, MA, ME, MD, NJ, NY, RI, VA
(404) 679-7125	AL, FL, GA, LA, NC, PR, SC, VI
(612) 725-3536	MI, MN, OH, WI
(505) 248-6921	TX

The FMPCC shall place the note on all manual cartographic CBRS FIRM panels in the body of the FIRM panel close to the CBRS units. For digital CBRS FIRM panels, the FMPCC shall display the note below the Coastal Barrier Legend (see Appendix B) or in the body of the FIRM panel close to the CBRS units (if the alternate labeling system is not used).

8.9.5.8 Floodway Note

If the Coastal Barrier or OPA screen happens to overlap an area of floodway on a Map Initiatives FIRM, both the floodway screen and the barrier cross-hatching will be shown. If there appears to be a need to clarify that the area within the floodway is also a Coastal Barrier, the following note should be leadered in to the area of overlap:

THIS AREA IS CONTAINED WITHIN THE
COASTAL BARRIER RESOURCES SYSTEM

8.10 Other Miscellaneous Improvements

8.10.1 Letters of Map Revision

If a LOMR was issued to revise an effective FIRM panel, it must be included on the revised FIRM. The following standard LOMR addition note shall be used in the FIRM Legend: “To incorporate previously issued Letters of Map Revision.”

8.10.2 FIS Report

The FMPCC shall not revise the FIS report for revisions performed solely to add, remove, or revise Barriers. In addition, for active restudies and revisions that are being prepared for other reasons, the FMPCC shall not revise the FIS report to mention the action involving Barriers.

8.10.3 Community Notification

Proof FIRM panels are to be issued for revisions that are processed solely for the addition, deletion, or modification of Coastal Barriers. The Proof FIRM is to be issued with a standard transmittal letter provided by FEMA HQ that indicates that the subject FIRM will be revised in 6 months to show non-appealable CBRS revisions. For these types of revisions, when the camera-ready materials are complete, the standard (179-series) transmittal letter to the CEO of the community shall be replaced with a special Coastal Barrier transmittal letter.

8.10.4 U.S. Fish and Wildlife Service Review Comments

The U.S. Fish and Wildlife Service has been given a 30-day review period to ensure that the Barriers are properly mapped. The FMPCC shall coordinate with the U.S. Fish and Wildlife Service at the end of the 30-day review period to ensure proper inclusion of changes noted by the agency.

8.10.5 Coastal Barrier Unit Numbers

The FMPCC shall number individual CBRS units. 1983 CBRS unit numbers shall be preceded by a single letter (e.g., C14). New 1990 or later units (not OPAs) shall be preceded by the two-letter State abbreviation and will also include a hyphen (e.g., TX-05 for a Texas unit). The 1991 or later OPAs will always be followed by a “P” (e.g., C14P or TX-05P).

Section 9

Hazard Identification and Mapping

The FMPCC shall assist in obtaining information regarding natural and technological hazards from Federal, State, and local government sources. This information would be used to produce maps portraying a broad range of natural and technological hazards.

Work assignments under this task are optional and may be exercised at any time during the term of the contract at the discretion of the FEMA CO. At that time, the FMPCC shall prepare a technical Proposal and a separate T&C Proposal based on instructions from the CO, the Task Manager for the particular work assignment, or the PO.

Section 10

Risk Assessment Activities

The FMPCC shall, at the request of the PO or his/her designee, provide onsite and offsite support to FEMA's Risk Assessment mission and related functions. This support shall include acquisition of data, hardware, and software; digitizing; and database and GIS functions for daily and emergency operations. These functions will support mitigation, preparedness, response, and recovery efforts. These functions, which primarily support the ongoing Risk Assessment mission, shall also be used in direct support to the Emergency Support Team/Emergency Support Function for Information Planning (EST/ESF-5) within FEMA. The tasks may be characterized by time-critical operations to perform the following activities:

- Acquisition of source materials (e.g., maps, reports)
- Acquisition, preparation, interpretation, and analysis of imagery
- Digitizing of feature and related event information, characterized as geographic, property, disaster relief, flood insurance, demographic, and infrastructure data
- Preparation of digital files for use in the FEMA-GIS software tools (e.g., ARC/INFO, Map Info, Oracle, EIS)
- Daily operation, maintenance, and upgrading of the FEMA-GIS, including within the FEMA EST/ESF-5 environment
- Preparation of output products in digital and hardcopy formats for data exchange within FEMA and with Federal, State, and local governmental agencies
- Development of training materials and presentation of training courses on using the FEMA-GIS

The digitizing and GIS support operations shall follow the requirements described in Section 6 of these Guidelines.