

SHORT COURSE

**Policy and Procedures
For Revising
FEMA Flood Hazard Maps**

Presented At The

**ASSOCIATION OF STATE FLOODPLAIN
MANAGERS CONFERENCE**
Seattle, Washington

Presented By The



**Federal Emergency
Management Agency**

and



Michael Baker, Jr., Inc.

June 11, 1987

SHORT COURSE

**Policy and Procedures
For Revising
FEMA Flood Hazard Maps**

Property of
Flood Control District of MC Library

Please Return to
2801 W. Durango
Phoenix, AZ 85009

Presented At The

**ASSOCIATION OF STATE FLOODPLAIN
MANAGERS CONFERENCE**
Seattle, Washington

Presented By The



**Federal Emergency
Management Agency**

and

**Baker
Engineers**

Michael Baker, Jr., Inc.

June 11, 1987

**POLICY AND PROCEDURES FOR REVISING
FEMA FLOOD HAZARD MAPS**

COURSE OUTLINE

JUNE 11, 1987

8:30 - 8:45	SECTION I - INTRODUCTION	Karl F. Mohr - FEMA - Headquarters
8:45 - 9:00	SECTION II - MAP REVISIONS - GENERAL	David J. Greenwood - Michael Baker, Jr., Inc.
9:00 - 9:30	SECTION III - PART 70 LOMAs	Gerald R. Herr - Michael Baker, Jr., Inc.
9:30 - 10:15	SECTION IV - PART 65 REVISIONS	Ernest D. Lepore - Michael Baker, Jr., Inc.
10:15 - 10:30	BREAK	
10:30 - 11:00	SECTION V - FLOODWAY REVISIONS	Lawrence P. Basich - FEMA - Region X
11:00 - 11:10	SECTION VI - REVISIONS INVOLVING LEVELS	Karl F. Mohr - FEMA - Headquarters
11:10 - 11:30	SUMMARY/QUESTIONS AND ANSWERS	



SECTION

I

Appeals, Revisions, and Amendments

In dealing with flood insurance map changes, you will encounter the following three terms used to refer to changes in flood insurance maps:

- Appeals--challenges to proposed BFE determinations during a formal 90-day appeal period. Successful Appeals to proposed BFEs result in changes being incorporated into the FIS report and FIRM at the time they are published.
- Map Revisions--changes to effective FHBMs and FIRMs result in Map Revisions. NFIP maps become effective after they are published and distributed. The effective date is shown on the map. Map revisions may be accomplished by publishing a revised FHBM or FIRM and FIS report or, where feasible, by publishing a written description of the change in a Letter of Map Revision (LOMR).
- Map Amendments--changes to effective FHBMs and FIRMs resulting from the exclusion of individual structures and legally described parcels of undeveloped land from the SFHA; such changes are described in Letters of Map Amendments (LOMAs).

Policy and Procedures for Revising
FEMA Flood Hazard Maps

Choose the type of process which most correctly addresses the type of revision requested in each of the below numbered situations.

- 1) Dam Break, ID has just completed a channel improvement project which reduces the Special Flood Hazard Area (SFHA). The improvement is relatively short in length. Base flood elevations are reduced.

LOMR Physical Revision LOMA

- 2) The Town of Podunk, IA desires a modification of the floodway due to physical improvement which have been completed. The length of the improvement is extensive and involves several flood map panels. Base flood elevations are reduced.

LOMR Floodway Revision Physical Revision

- 3) Mrs. Floodrina Highpants desires removal of their property from the Special Flood Hazard Area. Their property is well above the flood plain even though their property is shown partially inundated.

CLOMR LOMA LOMR

- 4) Flood Flats, AZ desires a modification to the floodway for development of an office park. No physical improvements to the channel are planned.

LOMA CLOMR Floodway Revision

- 5) Dr. I Wood Kutt desires modification of the SFHA as a result of planned grading within the flood plain to elevate properties above the base flood elevation. All grading is outside the regulatory floodway.

LOMR CLOMR LOMA

- 6) Bo Gus Builders desires modification of the SFHA as a result of proposed channel improvements. The base flood elevations will be reduced after construction is complete.

LOMR CLOMR LOMA

- 7) The City of Phemaville, CA desires a modification to the SFHA to reflect new topography which has been recently developed by the community. The coverage is extensive. The SFHA is shown as approximate Zone A.

LOMR LOMA Physical Revision

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SECTION

II

MAP REVISIONS

The Role of the Technical Evaluation Contractor (TEC)

THOROUGH

ENGINEERING

CHECK

TOTALLY

EXPLAINABLE

COMPLIANCE

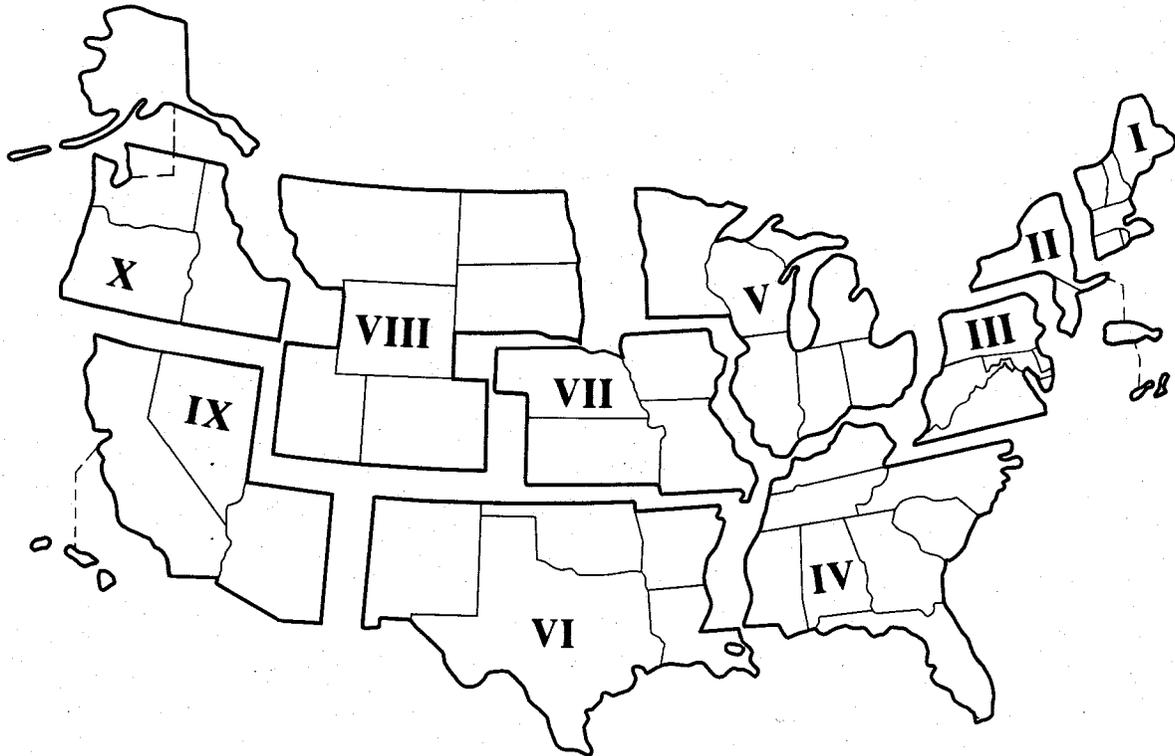
TIMELY

ECONOMICAL

COMPLETE

FEMA

Regional Boundaries & TEC Responsibilities



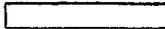
FEMA Central Office Regional Project Officers:

**Regions
8, 9 & 10**



Karl F. Mohr

**Regions
4, 5, & 7**



Maynard E. Long

**Regions
1, 2, 3, & 6**



William Locke

FEMA Regional TECs

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(301) 982-2800

**Project Manager:
Nelson Allen**

**Dewberry & Davis
8401 Arlington Blvd
Fairfax, VA 22031**

(703) 849-0100

**Project Manager:
James Murphy**

TRAINED

ENGINEERS

COMPETENT

SENSIBLE

PROCESSING TIMES

Type of Revision	Time Required	Reference Regulation
Letter of Map Amendment (LOMA)	60 Days (Internal 30 days)	70.4
Letter of Map Revision (LOMR)	90 Days (Internal 30-60 days)	65.9
Conditional LOMR (CLOMR)	60 Days w/ Adequacy Information	72.4g1
	90 Days w/Comments	72.4g2
CLOMA	30 Days w/Adequacy Information	72.4f1
	30 Days w/Comments	72.4f2
PHYSICAL REVISION	(1 Year with Appeals)	65.9

**SUGGESTED STEPS TO THE MAP REVISION
PROCESS**

1. CONTACT THE COMMUNITY
 - a). Local Requirements
 - b). Permits
 - c). Endorsement/Acknowledgements
 - d). Regulations 65.4b - require submission of request from Community

2. CONTACT THE FEMA REGIONAL OFFICE
 - a). Current Regulations; Conditions & Criteria
 - b). Status of other map revisions in the same areas
 - c). Restudy Status
 - d). Guidance

3. SUBMIT FOR CONDITIONAL LOMR (Suggested Only)
 - a). Get the design tentative review prior to construction.
 - b). Lays out the ground rules for long-term maintenance, etc.

4. CONSTRUCTION OF PROJECT
 - a). Keep accurate records of construction
 - b). Work with designer on field changes

5. SUBMIT FINAL MAP REVISION REQUEST
 - a). Use a check list
 - b). Review and fulfill any items mentioned in the Conditional LOMR
 - c). Support any significant field changes with hydraulic computations

6. THE CLOCK STARTS RUNNING WHEN IT'S ALL COMPLETE

7. RECEIVE FINAL LOMR

8. PHYSICAL MAP REVISION TO FOLLOW

**Baker
Engineers**

SECTION

III

65.5 Revision to special hazard area boundaries with no change to base flood elevation determinations.

- (a) *Data requirements for topographic changes.* In many areas of special flood hazard (excluding V zones and floodways) it may be feasible to elevate areas with earth fill above the base flood elevation. Scientific and technical information to support a request to gain exclusion from an area of special flood hazard of a structure or parcel of land that has been elevated by the placement of fill shall include the following:
- (1) A copy of the recorded deed indicating the legal description of the property and the official recordation information (deed book volume and page number) and bearing the seal of the appropriate recordation official (e.g., County Clerk or Recorder of Deeds).
 - (2) If the property is recorded on a plat map, a copy of the recorded plat indicating both the location of the property and the official recordation information (plat book volume and page number) and bearing the seal of the appropriate recordation official. If the property is not recorded on a plat map, copies of the tax map or other suitable maps are required to aid FEMA in accurately locating the property.
 - (3) If a legally defined parcel of land is involved, a topographic map indicating present ground elevations and date of fill. FEMA's determination as to whether a legally defined parcel of land is to be excluded from the area of special flood hazard shall be based upon a comparison of the ground elevations of the parcel with the elevations of the base flood. If the ground elevations of the entire legally defined parcel of land are at or above the elevations of the base flood, the parcel may be excluded from the area of special flood hazard.
 - (4) If a structure is involved, a topographic map indicating structure location and ground elevations including the elevations of the lowest floor (including basement) and the lowest adjacent grade to the structure. FEMA's determination as to whether a structure is to be excluded from the area of special flood hazard shall be based upon a comparison of the elevation of the lowest floor (including basement) and the elevation of the lowest adjacent grade with the elevation of the base flood. If the entire structure and the lowest adjacent grade are at or above the elevation of the base flood, the structure may be excluded from the area of special flood hazard.
 - (5) Data to substantiate the base flood elevation. If FEMA has completed a Flood Insurance Study (FIS), that data will be used to substantiate the base flood. Otherwise, data provided by an authoritative source, such as the U.S. Army Corps of Engineers, U.S. Geological Survey, U.S. Soil Conservation Service, state and local water resource departments, or technical data prepared and certified by a registered professional engineer may be submitted. If base flood elevations have not previously been established, hydraulic calculations may also be requested.

(6) Where fill has been placed to raise the ground surface to or above the base flood elevation and the request to gain exclusion from an area of special flood hazard includes more than a single structure or a single lot, it must be demonstrated that fill will not settle below the elevation of the base flood, and that the fill is adequately protected from the forces of erosion, scour, or differential settlement as described below:

(i) Fill must be compacted to 95 percent of the maximum density obtainable with the Standard Proctor Test method issued by the American Society for Testing and Materials (ASTM Standard D-698). This requirement applies to fill pads prepared for residential or commercial structure foundations and does not apply to filled areas intended for other uses.

(ii) Fill slopes for granular materials are not steeper than one vertical on one-and-one-half horizontal unless substantiating data justifying steeper slopes is submitted.

(iii) Adequate protection is provided fill slopes exposed to flood water with expected velocities during the occurrence of the base flood of five feet per second or less by covering them with grass, vines, weeds, or similar vegetation undergrowth.

(iv) Adequate protection is provided fill slopes exposed to flood waters with velocities during the occurrence of the base flood of greater than five feet per second by armoring them with stone or rock slope protection.

(7) A revision of flood plain delineations based on fill must demonstrate that any such fill has not resulted in a floodway encroachment.

(b) *New topographic data.* The procedures described in paragraphs (a)(1) through (5) of this section may be also followed to request a map revision when no physical changes have occurred in the area of special flood hazard, when no fill has been placed, and when the natural ground elevations, as evidenced by new topographic maps, more detailed or more accurate than those used to prepare the map to be revised, are shown to be above the elevation of the base flood.

(c) *Certification requirements.* The items required in paragraphs (a)(3) and (4) and (b) of this section shall be certified by a registered professional engineer or licensed land surveyor. Items required in paragraph (a)(6) of this section shall be certified by the community's NFIP permit official, a registered professional engineer, or an accredited soils engineer. Such certifications are subject to the provisions of 65.2 of this subchapter.

(d) *Submission procedures.* All requests shall be submitted to the appropriate FEMA Regional Office servicing the community's geographic area.

70.3 Right to submit technical information.

- (a) Any owner or lessee of property (applicant) who believes his property has been inadvertently included in a designated A, A0, A1-30, AE, AH, A99, V0, V1-30, VE, and V Zones on a FHBM or a FIRM, may submit scientific or technical information to the Administrator for his/her review.
- (b) Scientific and technical information for the purpose of this part may include, but is not limited to the following:

 - (1) An actual copy of the recorded plat map bearing the seal of the appropriate recordation official (e.g. County Clerk, or Recorder of Deeds) indicating the official recordation and proper citation (Deed or Plat Book Volume and Page Numbers), or an equivalent identification where annotation of the deed or plat book is not the practice.
 - (2) A topographical map showing (i) ground elevation contours in relation to the National Geodetic Vertical Datum (NGVD) of 1929, (ii) the total area of the property in question, (iii) the location of the structure or structures located on the property in question, (iv) the elevation of the lowest floor (including basement) of the structure or structures and (v) an indication of the curvilinear line which represents the area subject to inundation by a base flood. The curvilinear line should be based upon information provided by any appropriate authoritative source, such as a Federal Agency, the appropriate state agency (e.g., Department of Water Resources), a County Water Control District, a County or City Engineer, a Federal Emergency Management Agency Flood Insurance Study, or a determination by a Registered Professional Engineer;
 - (3) A copy of the FHBM or FIRM indicating the location of the property in question;
 - (4) A certification by a Registered Professional Engineer or Licensed Land Surveyor of the type of structure and that the lowest floor (including basement) of the structure is above the base flood level.



Federal Emergency Management Agency

Washington, D.C. 20472

CONDITIONS AND CRITERIA FOR LETTERS OF MAP AMENDMENT (LOMAs)

This sets forth the policy of the Federal Emergency Management Agency (FEMA) concerning requests to FEMA for a determination as to whether a structure(s) or proposed structure(s), or a legally definable parcel of land, has been inadvertently included in a Special Flood Hazard Area (SFHA) as shown on a Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map (FHBM) and is located on natural high ground or on fill placed prior to the effective date of the first National Flood Insurance Program (NFIP) map designating the SFHA. In order for FEMA to issue a Letter of Map Amendment (LOMA) under Part 70 of the NFIP regulations, a property owner should submit documentation to satisfy the criteria set forth below. Compliance with the criteria will result in the issuance of a LOMA, which will remove the property from the SFHA, and amend the currently effective FEMA map. A LOMA will only be issued if the elevations of the parcel of land or of the ground surrounding the structure(s) have not been altered by fill placed since the effective date of the first NFIP map designating the SFHA.

1-1 Definitions:

The terms used in this memorandum have the same meaning as those defined in part 59.1 of the NFIP regulations at 44 CFR 59 et seq. SFHAs comprise all lands subject to inundation by the flood having a one-percent chance of being equaled or exceeded in any given year--hereafter called the base flood. This flood's elevation is called the base flood elevation (BFE) and is measured in feet above a given datum--e.g., the National Geodetic Vertical Datum (NGVD).

1-2 Technical Data Required:

All requests for LOMAs must be supported by sufficient technical data to demonstrate that the entire parcel of land or the structure(s) are not subject to inundation by the base flood. This consists of proving that the lowest grade adjacent to the structure(s) or that elevations of the entire lot are at or above the BFE. The following documentation should be submitted to aid FEMA in processing each LOMA request:

1. A copy of the recorded deed indicating the legal description of the property and the official recordation information (deed book volume and page number) and bearing the seal of the Recorder of Deeds.
2. If a property is recorded on a plat map, a copy of the recorded plat indicating both the location of the property and the official recordation information (plat book volume and page number) and bearing the seal of the Recorder. If the property is not recorded on a plat map, copies of the tax map or other suitable maps are required to aid FEMA in accurately locating the property.

3. A topographic map, certified by a registered professional engineer or licensed land surveyor, indicating structure locations, ground elevations, and the elevation of the lowest finished grade adjacent to the structure.

In cases of new construction, a clear distinction must be made between existing and proposed elevations; after completion, all finished grades and elevations must be certified as-built.

4. Data to substantiate the BFE (100-year elevation) may be provided by a FEMA Flood Insurance Study (FIS) or by an authoritative source, such as the U.S. Army Corps of Engineers, U.S. Geological Survey, U.S. Soil Conservation Service, or state and local water resource departments, or may be determined from technical data prepared by a registered engineer. Hydraulic calculations may also be requested to determine a base flood elevation in an area where a BFE (100-year elevation) has not previously been established.
5. A signed copy of the statement asserting the accuracy of the information submitted (form entitled "Request for Letter of Map Amendment").
6. If your request is for more than one lot or structure, then an official currently effective FEMA map (FIRM or FHBM), or photographic copy on which the legal metes and bounds of the property, including each lot within a subdivision, have been drawn as accurately as possible is required. The map submitted must bear the seal of a licensed land surveyor or registered professional engineer to certify that the property is correctly located on the FEMA map based on the legal description of the property. Any lot or tract of property that has a flood boundary running through the bounds of that lot should also have an accurately drawn location of the structure(s) shown on the lot. A reproduction made from a photocopy of the FEMA map is unacceptable since the size of the map may be distorted.
7. In certain instances, additional data may be required for FEMA to make a determination. This may consist of, but not be limited to, certifications by registered engineers or land surveyors as to the type of structure and whether it is elevated on posts, piers, pilings, or barrier sand dunes; hydraulic calculations on the flooding condition; development plans indicating dates and extent of fill placement; and an ordinance for structural improvements which specifies maintenance responsibilities and activities.

1-3 Criteria for Removing Floodplain Designation:

As previously stated, individuals furnishing technical data which indicates that the lowest adjacent grade elevation of a structure is at or above the BFE, and that the structure is located on natural high ground or on fill placed prior to the effective date of the first NFIP map designating the SFHA, can normally have the structure removed from the floodplain on the map. There are, however, several special considerations which provide exceptions to this rule.

Special Considerations:

(1) Floodways

LOMAs will not be issued under Part 70 procedures of the NFIP regulations for property located in a designated or anticipated regulatory floodway. The floodway is the channel of a river or other watercourse that must be reserved to efficiently carry the floodwaters. Appeals of floodway designations should be directed to community officials because the floodway is designated and adopted by the community.

(2) Elevated Structures

Buildings that have the lowest floor elevated on posts, piers, or pilings above the BFE in the SFHA will not be removed from the SFHA if any portion of the structure (i.e., posts or piers) is still in the SFHA.

(3) Coastal High Hazard Areas

LOMAs will not be issued under Part 70 procedures of the NFIP regulations for property located in a designated or anticipated coastal high hazard area subject to wave action (V Zone).

Individuals who believe that their property has been incorrectly designated in a coastal high hazard area (which would also include any property that was elevated by the placement of compacted fill before the effective date of the current FHBM or FIRM), and is not subject to wave effects, can request a zone change under the Part 65 procedures of the NFIP regulations. Technical data supporting their contentions should be submitted through the community for consideration by FEMA. Once the zone has been changed, a LOMA request will be considered.

It should be noted that new construction in a coastal high hazard area (V Zone) is not eligible for flood insurance unless:

- (a) Wave heights have been developed for the site; and
- (b) The structure is rated for insurance purposes based on a system that reflects its capacity to withstand the height and force of waves during the 100-year flood.

(4) Sheet Flow Areas

In some cases, LOMAs can be issued under Part 70 procedures of the NFIP regulations for property located in areas of sheet flow flooding (AO Zones). Often, however, hydrologic and hydraulic conditions preclude application of Part 70 criteria, and therefore, these requests must be processed under Part 65 LOMR (218-65) procedures.

(5) Levees

LOMAs will not be issued under Part 70 procedures of the NFIP regulations for property protected by a levee. Community officials can request a zone change as a result of the construction of a levee under Part 65 procedures of the NFIP.

1-4 Conditional LOMAs:

Conditional LOMAs may be issued for proposed structures on land which is partially inundated by the base flood. It must be shown that the structure(s) will be located on natural high ground above the base flood elevation, on the portion of land that has been inadvertently included in a SFHA. After construction is completed, certified as-built information must be submitted to FEMA for the purpose of obtaining a LOMA. The information required for a Conditional LOMA is basically the same as that for a LOMA.

Property owners and developers should note that a Conditional LOMA merely provides a comment on the proposed plan and does not amend the map. It also does not relieve Federal agencies of the need to comply with Executive Order 11988 on Floodplain Management in carrying out the responsibilities for providing federally undertaken, financed, or assisted construction and improvements or in their regulating and licensing activities.

1-5 FEMA Evaluation and Response:

Upon receipt and evaluation of the required data by FEMA, the individual(s) making the inquiry will be notified of our findings. Should a review of the evidence indicate that a change in FEMA maps is needed, a LOMA will be issued with copies going to the state coordinating agency, and the community. The time required for FEMA to review requests for LOMAs will generally depend on the quality and completeness of the data submitted. Requests are usually evaluated within four (4) to eight (8) weeks of the receipt of all technical data required to review the case.

1-6 Insurance Purchase and Premium Refunds After Issuance of a LOMA:

Property owners are required to purchase flood insurance as a condition of direct Federal or federally related financial assistance on a structure located in a designated SFHA on a FHBM or FIRM. Persons seeking a LOMA should check with the lending institution that imposed the flood insurance requirement originally to ensure that if they are granted the LOMA from FEMA, the lending institution will honor it. Although FEMA may issue a LOMA removing a structure or structures from the SFHA, it is the lending institution's prerogative to require flood insurance if it deems such action appropriate. If, however, the lending institution accepts a LOMA and agrees to waive the flood insurance purchase requirement, the property owner is eligible for a full refund of the premium paid, less the expense constant, for the current policy

year, provided that no claim is pending or has been paid on the policy in question during the same policy year. This is because LOMAs are for structures that were inadvertently included in the SFHA and flood insurance requirements due to these locations should never have been imposed. For processing of the refund, the property owner need only provide the LOMA and evidence of the waiver of the flood insurance requirement from the lending institution to the agency or broker who sold the policy.

1-7 Appropriate Address:

Letters of request and information supporting requests for a LOMA for multi-lots or subdivisions should be sent directly to:

Federal Emergency Management Agency
Federal Insurance Administration
Office of Risk Assessment
Technical Operations Division
Washington, D.C. 20472

Requests for a single-lot or single-structure LOMA should be sent to the appropriate FEMA Regional Office (See Attachment).

More specific information relating to LOMAs may be obtained by telephoning FEMA's Washington Office at (202) 646-2764.

Attachments

March 1986

FEMA REGIONAL OFFICES

Region I

(Connecticut, Maine, Massachusetts,
New Hampshire, Rhode Island, and
Vermont)

Federal Emergency Management Agency
Natural and Technological Hazards Division
J. W. McCormack Post Office
and Courthouse Building
Room 462
Boston, Massachusetts 02109

Region II

(New York, Puerto Rico, New Jersey,

Federal Emergency Management Agency
Natural and Technological Hazards Division
26 Federal Plaza, Room 19-100
New York, New York 10278

Region III

(Delaware, District of Columbia, Maryland,
Pennsylvania, Virginia, and West Virginia)

Federal Emergency Management Agency
Natural and Technological Hazards Division
Liberty Square Building (Second Floor)
105 south Seventh Street
Philadelphia, Pennsylvania 19106

Region IV

(Alabama, Florida, Georgia, Kentucky,
Mississippi, North Carolina, South Carolina,
and Tennessee)

Federal Emergency Management Agency
Natural and Technological Hazards Division
1371 Peachtree Street, N.E.
Suite 736
Atlanta, Georgia 30309

Region V

(Illinois, Indiana, Michigan, Minnesota,
Ohio, and Wisconsin)

Federal Emergency Management Agency
Natural and Technological Hazards Division
300 South Wacker Drive (24th Floor)
Chicago, Illinois 60606

Region VI

(Arkansas, Louisiana, New Mexico,
Oklahoma, and Texas)

Federal Emergency Management Agency
Natural and Technological Hazards Division
Federal Center
800 North Loop 288
Denton, Texas 76201-3698

Region VII

(Iowa, Kansas, Missouri, and Nebraska)

Federal Emergency Management Agency
Natural and Technological Hazards Division
Federal Office Building
911 Walnut Street
Kansas City, Missouri 64106

Region VIII

(Colorado, Montana, North Dakota, South
Dakota, Utah, and Wyoming)

Federal Emergency Management Agency
Natural and Technological Hazards Division
Denver Federal Center
Building 710
Box 25267
Denver, Colorado 80225-0267

Region IX

(Arizona, California, Hawaii, and Nevada)

Federal Emergency Management Agency
Natural and Technological Hazards Division
Presidio of San Francisco
Building 105
San Francisco, California 94129

Region X

(Alaska, Idaho, Oregon, and Washington)

Federal Emergency Management Agency
Natural and Technological Hazards Division
Federal Regional Center
130 228th Street, S.W.
Bothell, Washington, 98021-9796



Federal Emergency Management Agency

Washington, D.C. 20472

REQUEST FOR LETTER OF MAP AMENDMENT

This is to request that a determination be made as to whether or not a certain land area or structure is within a Special Flood Hazard Area.

I hereby certify that, to the best of my knowledge, fill has not been placed to elevate this land or structure since the date it was first identified as being in a Special Flood Hazard Area.

All documents submitted in support of this appeal are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Date

Signature of Applicant



Federal Emergency Management Agency

Washington, D.C. 20472

June 1987

CONDITIONS AND CRITERIA FOR ISSUING LETTERS OF MAP REVISION (LOMRs) INVOLVING FILL

These conditions and criteria set forth the policy of the Federal Emergency Management Agency (FEMA) concerning requests to determine whether parcels of land and structures, which have been elevated by fill, are located within a Special Flood Hazard Area (SFHA) as shown on a Flood Insurance Rate Map (FIRM) or a Flood Hazard Boundary Map (FHBM). FEMA can issue a Letter of Map Revision (LOMR) under the National Flood Insurance Program (NFIP) regulations if a property owner submits documentation, routed through the community Chief Executive Officer (CEO) or an official designated by the CEO, that satisfies the criteria listed below. The issuance of a LOMR involving fill will result in the removal of the parcel of land or structures from the SFHA. The policy discussed in this document does not address requests involving fill placed prior to the effective date of the first NFIP map designating the SFHA. Neither does it pertain to LOMRs affecting changes in base flood elevations (BFEs), floodway designations, coastal high hazard areas (V Zones), and/or shallow flooding or alluvial fans.

1-1 Definitions:

The terms used in this document have the same meaning as those defined in Part 59.1 of the NFIP regulations at 44 CFR 59 *et seq.* Special Flood Hazard Areas indicate all lands subject to inundation by a flood having a one-percent or greater chance of being equaled or exceeded each year--hereafter called the base flood. This flood elevation acronym is the BFE and the unit of measure is feet above a given datum which is currently the National Geodetic Vertical Datum of 1929 (NGVD). A parcel of land is that which is legally defined by townships and ranges, metes and bounds, or subdivision plats which can include blocks and lots.

1-2 Criteria for Revision and Technical Supporting Data Required:

All requests for a LOMR involving fill must be supported by sufficient technical data to demonstrate that the entire area within the legal bounds of a parcel of land or the structures have been elevated by fill to or above the base flood elevation and are not subject to inundation by the base flood. For structures, it must be demonstrated that both the lowest floor (including basement) and the lowest finished grade adjacent to the structure have been elevated by fill to or above the BFE. Requests for LOMRs involving fill must be submitted through the community Chief Executive Officer to ensure community acknowledgement and review of the request. The following documentation should be submitted to aid FEMA in processing each LOMR request:

- a. A copy of the recorded deed indicating the legal description of the parcel of land and the official recordation information (deed book volume and page number) and bearing the seal of the Recorder of Deeds.

- b. If the parcel of land is recorded on a plat map, a copy of the recorded plat indicating both the location of the parcel of land and the official recordation information (plat book volume and page number) and bearing the seal of the Recorder, if the parcel of land is not recorded on a plat map, copies of the tax map or other suitable maps are required to aid FEMA in accurately locating the property.
- c. For a parcel of land filled in its entirety, a topographic map indicating ground elevations and date of fill, certified by a registered professional engineer or licensed land surveyor.
- d. For structures, a topographic map indicating location, ground elevations, the elevations of the lowest floor (including basement) and the lowest grade adjacent to the structures, and date of fill, certified by a registered professional engineer or licensed land surveyor.

In cases of new construction, a clear distinction must be made between existing and proposed elevations; after completion, all finished grades and elevations must be certified "as-built".

- e. Data to substantiate the BFE (100-year elevation). If FEMA has completed a Flood Insurance Study (FIS), that data will be used. Otherwise data may be obtained from an authoritative source such as the U.S. Army Corps of Engineers, U.S. Geological Survey, U.S. Soil Conservation Service and other Federal agencies, state and local water resources departments, or a registered professional engineer.
- f. A signed copy of the statement asserting the accuracy of the information submitted (form entitled, "Request for Letter of Map Revision").
- g. A signed copy of the statement by the community asserting that they have acknowledged and reviewed the revision request (form entitled, "Community Acknowledgement of Request for Letter of Map Revision").
- h. If the request is for more than one lot or structure, then an official currently effective FEMA map (FIRM or FHBM), or a photographic copy on which the legal metes and bounds of the property, including each lot within a subdivision, have been drawn as accurately as possible, is required. The map submitted must bear the seal of a licensed land surveyor or registered professional engineer to certify that the parcel of land is correctly located on the FEMA map based on the legal description of the property. Any parcel of land that has a flood boundary running through the bounds of that parcel should also have an accurately

drawn location of the structure(s) shown on the lot. A reproduction made from a photocopy of the FEMA map is unacceptable since the size of the map may be distorted.

1. If the request is for more than one lot or structure, then a certification by the community building permit official or a registered professional engineer or soils engineer must be submitted certifying the following:
 1. That the fill has been compacted to 95 percent of the maximum density obtainable with the Standard Proctor Test method for fill pads prepared for residential or commercial structure foundations;
 2. that fill slopes are not steeper than one vertical on one-and-one-half horizontal (steeper slopes must be justified);
 3. that adequate erosion protection is provided for fill slopes exposed to moving flood waters (slopes exposed to flows with velocities of up to 5 feet per second (fps) during the 100-year flood must, at a minimum, be protected by a cover of grass, vines, weeds, or similar vegetation; slopes exposed to flows with velocities greater than 5 fps during the 100-year flood must, at a minimum, be protected by stone or rock riprap); and
 4. that the fill has not been placed within an established regulatory floodway.
- j. In certain instances, additional data may be required for FEMA to make a determination. These data may consist of, but are not limited to, certifications by registered engineers or land surveyors as to the type of structure and whether it is elevated on posts, piers, pilings, or primary frontal sand dunes; hydraulic calculations on the flooding condition; development plans indicating dates and extent of fill placement; and an ordinance for structural improvements which specifies maintenance responsibilities and activities.

1-3 Conditional LOMRs:

Conditional LOMRs may be issued for proposed structures on parcels of land which has been or will be elevated above the BFE by fill. To qualify for a Conditional LOMR, the proposed structures must meet the same criteria as existing structures constructed on land elevated by fill. After construction is completed, certified "as-built" information must be submitted to FEMA for a final determination.

FEMA has initiated a reimbursement procedure to allow for the recovery of costs associated with the review of requests for Conditional LOMRs only, thereby reducing the expense to the general taxpayer. Further information regarding this procedure is located in the final rule, published at 44 CFR Part 72.

Property owners and developers should note that a Conditional LOMR merely provides comment on the proposed plan and does not amend the map. It also does not relieve Federal agencies of the need to comply with Executive Order 11988 on Floodplain Management in carrying out their responsibilities for providing federally undertaken, financed, or assisted construction and improvements or in their regulating and licensing activities.

1-4 Special Considerations:

(1) Sheet Flow Flooding (AO Zones)

In areas of sheet flow flooding (AO zones), with the exception of those located on alluvial fans, technical data must be submitted to indicate that the structure and adjacent grade have been elevated above the depth of shallow flooding, thereby creating an "island" within the shallow flooding zone. Adequate drainage paths around structures' slopes are required to guide floodwaters around and away from structures.

(2) Floodways

LOMRs involving fill will not be issued under these procedures of the NFIP regulations for property located in a designated or anticipated regulatory floodway. The floodway is the channel of a river or other watercourse that must be reserved to efficiently carry the floodwaters. Appeals of floodway designations should be directed to community officials because the floodway is designated and adopted by the community.

(3) Elevated Structures

Buildings that have the lowest floor elevated on posts, piers, or pilings above the BFE in the SFHA will not be removed from the SFHA if any portion of the structure (i.e., posts or piers) is still in the SFHA.

(4) Coastal High Hazard Areas

LOMRs involving fill will not be issued under these procedures of the NFIP regulations for property located in a designated or anticipated coastal high hazard area subject to wave action (V zone).

Individuals who believe that their property has been incorrectly designated in a coastal high hazard area and is not subject to wave effects, can request a zone change under the Part 65 procedures of the NFIP regulations. Technical data supporting their contentions should be submitted through the community for consideration by FEMA.

(5) Alluvial Fan Areas

LOMRs involving fill will not be issued under these procedures of the NFIP regulations for property located in areas of alluvial fan flooding. Community officials can request a zone change for property included in an alluvial fan area under Part 65 procedures of the NFIP.

1-5 FEMA Evaluation and Response:

Upon receipt and after evaluation of the required data by FEMA, the community will be notified of the findings. Should a review of the evidence indicate that a change in FEMA maps is needed, a LOMR will be issued with copies transmitted to the state coordinating agency and the owner of the property, if applicable. The time required for FEMA to review requests of this nature will generally depend on the quality and completeness of the data submitted. Requests are usually evaluated within four (4) to eight (8) weeks of the receipt of all technical data required to review the case.

1-6 Insurance Purchase Requirement After Issuance of LOMRs:

Property owners are required to purchase flood insurance as a condition of direct Federal or federally related financial assistance on a structure located in a designated SFHA on a FFBM or FIRM. Persons seeking a LOMR should check with the lending institution that imposed the flood insurance requirement originally to ensure that if they are granted the LOMR from FEMA, the lending institution will honor it. Although FEMA may issue a LOMR removing a structure or structures from the SFHA, it is the lending institution's prerogative to require flood insurance if it deems such action appropriate. If, however, the lending institution accepts a LOMR and agrees to waive the flood insurance purchase requirement, the property owner is eligible for a full refund of the premium paid, less the expense constant, for the current policy year, provided that no claim is pending or has been paid on the policy in question during the same policy year. For processing of the refund, the property owner need only provide the LOMR and evidence of the waiver of the flood insurance requirement from the lending institution to the agency or broker who sold the policy.

1-7 Appropriate Address:

Requests for LOMRs involving fill should be submitted through the community to the appropriate FEMA Regional Office. If the request is for a determination involving a single lot or a single structure, the regional office will make the determination.

All other requests (i.e., parcel of land, which includes multiple lots, subdivisions, or multiple structures) will be forwarded by the regional office to the FEMA Headquarters Office in Washington, D.C., for disposition.

More specific information relating to LOMRs may be obtained by telephoning FEMA's Washington Office at (202) 646-2764.

Attachments

June 1987

FEMA REGIONAL OFFICES

Region I

(Connecticut, Maine, Massachusetts,
New Hampshire, Rhode Island, and Vermont)

Federal Emergency Management Agency
Natural and Technological Hazards
Division

J.W. McCormack Post Office
and Courthouse Building
Room 462
Boston, Massachusetts 02109

Region II

(New York, Puerto Rico, New Jersey,
and Virgin Islands)

Federal Emergency Management Agency
Natural and Technological Hazards
Division

26 Federal Plaza, Room 19-100
New York, New York 10278

Region III

(Delaware, District of Columbia,
Maryland, Pennsylvania, Virginia, and
West Virginia)

Federal Emergency Management Agency
Natural and Technological Hazards
Division

Liberty Square Building (Second Floor)
105 South Seventh Street
Philadelphia, Pennsylvania 19106

Region IV

(Alabama, Florida, Georgia, Kentucky,
Mississippi, North Carolina, South
Carolina, and Tennessee)

Federal Emergency Management Agency
Natural and Technological Hazards
Division

1371 Peachtree Street, N.E.
Suite 736

Region V

(Illinois, Indiana, Michigan,
Minnesota, Ohio, and Wisconsin)

Federal Emergency Management Agency
Natural and Technological Hazards
Division

300 South Wacker Drive
(24th Floor)
Chicago, Illinois 60606

Region VI

(Arkansas, Louisiana, New Mexico,
Oklahoma, and Texas)

Federal Emergency Management Agency
Natural and Technological Hazards
Division

Federal Center
800 North Loop 288
Denton, Texas 76201-3698

Region VII

(Iowa, Kansas, Missouri, and
Nebraska)

Federal Emergency Management Agency
Natural and Technological Hazards
Division

Federal Office Building
911 Walnut Street
Kansas City, Missouri 64106

Region VIII

(Colorado, Montana, North Dakota,
South Dakota, Utah, and Wyoming)

Federal Emergency Management Agency
Natural and Technological Hazards
Division

Denver Federal Center
Box 25267
Building 710
Denver, Colorado 80225-0267

Region IX

(Arizona, California, Hawaii, and Nevada)

Federal Emergency Management Agency
Natural and Technological Hazards
Division
Presidio of San Francisco
Building 105
San Francisco, California 94129

Region X

(Alaska, Idaho, Oregon, and Washington)

Federal Emergency Management Agency
Natural and Technological Hazards
Division
Federal Regional Center
130 228th Street, S.W.
Bothell, Washington 98021-9796



Federal Emergency Management Agency

Washington, D.C. 20472

COMMUNITY ACKNOWLEDGEMENT OF REQUEST

FOR LETTER OF MAP REVISION

Community Name

Property

We hereby acknowledge receipt and review of this Letter of Map Revision request and have found that the project meets all of our community's applicable floodplain management regulations. We understand that this request is being forwarded to FEMA for a possible map revision.

Community Official's Signature

Date

Community Official's Title



Federal Emergency Management Agency

Washington, D.C. 20472

REQUEST FOR LETTER OF MAP REVISION (218-65)

This is to request that a determination be made as to whether or not a certain land area or structure is within a Special Flood Hazard Area.

All documents submitted in support of this appeal are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Date

Signature of Applicant



Federal Emergency Management Agency

Washington, D.C. 20472

Case # _____

DATA REQUEST CHECKLIST FOR LETTER OF MAP REVISION BASED ON FILL

Requestor: _____

Date: _____

Community: _____

Property: _____

The information checked below in Column 1 is required to process your request for a Letter of Map Revision. Information checked in Column 2 has been received and should not be resubmitted unless specifically requested.

(1) REQ'D DATA	(2) REC'D DATA	
_____		1. A copy of the recorded deed giving the legal description of your property, bearing the seal of the County Clerk of Recorder of Deeds, and indicating the official recordation data (deed book volume and page number).
_____		2. A copy of the recorded plat map showing the location of your property, bearing the seal of the County Clerk or Recorder of Deeds, and indicating the official recordation data (plat book volume and page number).
_____		3. Street address(es) of the property. (If proposed structure(s), submit street address once structure is built along with a copy of the Conditional Letter of Map Revision.)
_____		4. Tax assessor's or other suitable maps showing the surveyed location of the property (only in cases where a recorded plat is not available).
_____		5. If your request is for more than one lot or structure, then a photographic or original copy of an official, currently effective Federal Emergency Management Agency Map (Flood Insurance Rate Map or Flood Hazard Boundary Map) showing the accurately plotted legal metes and bounds of the property and certified by a professional engineer or licensed land surveyor. Property should be plotted as outlined in the enclosed memorandum "Conditions and Criteria for Issuing Letters of Map Revision (LOMRs) Involving Fill," Section 1-2, Item h.
_____		6. Certified planimetric information indicating the location of structures on the property.

(1) REQ'D DATA	(2) REC'D DATA

12. The signed and dated "Community Acknowledgement of Request for Letter of Map Revision" form (enclosed).
13. A letter from the state approving your fill within the Special Flood Hazard Area.
14. Initial fee for Conditional LOMR based on fill (Final LOMRs do not require a fee)*:
 - a. Single-lot \$125
 - b. Multi-lot/subdivision \$175
15. Daytime telephone number
16. Other: _____

The information checked in Column 1 should be sent directly to our consulting engineers at the following address:

Michael Baker, Jr., Inc.
 1420 King Street, Sixth Floor
 Alexandria, VA 22314
 Attention: Mr. Gerald R. Herr

*The initial fee for a conditional request should be sent by Registered Mail, Return Receipt Requested, directly to the Federal Emergency Management Agency at the following address:

Federal Emergency Management Agency
 Federal Insurance Administration
 Office of Risk Assessment
 Technical Operations Division
 500 C Street, SW., Room 422
 Washington, D.C. 20472

ATTENTION: MR. CHARLES A. LINDSEY

The case number referenced above should be included on your check or money order for identification purposes.



Federal Emergency Management Agency

Washington, D.C. 20472

DATA REQUEST CHECKLIST FOR A LETTER OF MAP AMENDMENT

Requestor: _____

Date: _____

The information checked below in Column 1 is required to process your request for a Letter of Map Amendment. Information checked in Column 2 has been received and should not be resubmitted unless specifically requested.

Community: _____

Property: _____

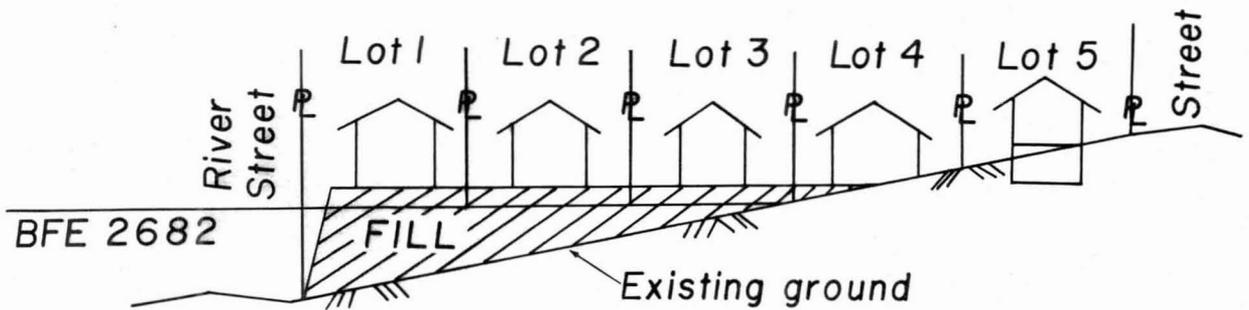
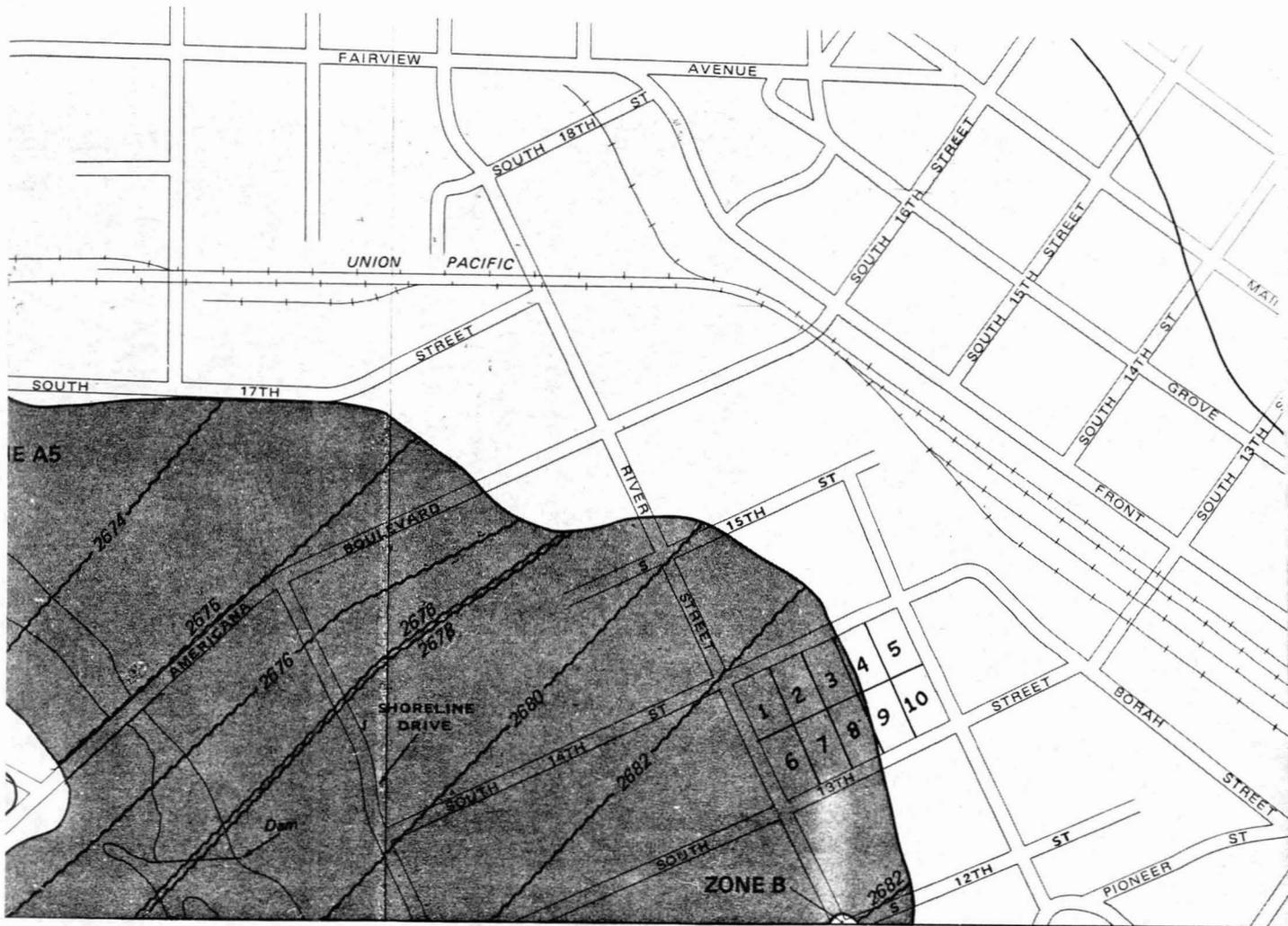
(1) REQ'D DATA	(2) REC'D DATA
----------------------	----------------------

1. A copy of the recorded Deed giving the legal description of your property, bearing the seal of the County Clerk or Recorder of Deeds, and indicating the official recordation data (deed book volume and page number).
2. A copy of the recorded plat map showing the location of your property, bearing the seal of the County Clerk or Recorder of Deeds, and indicating the official recordation data (plat book volume and page number).
3. Street address(es) of the property. (If proposed structure(s), submit street address once structure is built along with a copy of the Conditional Letter of Map Revision).
4. Tax assessor's or other suitable maps showing the surveyed location of the property (only in cases where a recorded plat is not available).
5. If your request is for more than one lot or structure, then a photographic or original copy of an official currently effective FEMA Map (FIRM or FHBM) showing the accurately plotted legal metes and bounds of the property and certified by a professional engineer or licenced land surveyor.
6. Certified planimetric information indicating the location of structures on the property.
7. Certification by a registered professional engineer or licensed land surveyor stating:
 - a. The elevation of the lowest finished grade adjacent to the structure. (Include datum)
 - b. The elevation of the lowest floor (including basement). In cases of no basement, it should be so stated. (Include datum)

(1) REQ'D DATA	(2) REC'D DATA	
		8. Certification of the dates and extent of fill placement.
		9. Hydraulic calculations for: _____ _____
		10. The signed and dated "Request for Letter of Map Amendment" form (Attached).
		11. Daytime telephone number.
		12. Other: _____

The information checked in Column 1 should be sent directly to our consulting engineers, at the following address:

Michael Baker, Jr., Inc.
1420 King Street, Sixth Floor
Alexandria, VA 22314-2788
Attention: Mr. Gerald R. Herr



DETERMINATIONS

- Lot 1- Property partially inundated-Structure Exempt LOMR- based on fill
- Lots 2&3-Entire Lot filled above BFE- Exempt LOMR- based on fill
- Lot 4- Inadvertent Inclusion- Existing ground on entire Lot above 100 year BFE. LOMA.
- Lot 5- Entire Lot is Out as shown on FIRM. LOMA.



SECTION

IV

PART 65 REVISIONS

TYPES OF REVISIONS

65A	-	Physical Revision	-	BFE's affected
65B	-	LOMR	-	BFE's affected
65C	-	Physical Revision	-	No BFE's affected
65D	-	LOMR	-	No BFE's affected

REVIEW OF REGULATIONS

PART 65.3	-	Requirement to submit new technical data
PART 65.4	-	Right to submit new technical data
PART 65.6	-	Revision of base flood elevation determinations
PART 65.8	-	Review of proposed projects
PART 65.9	-	Review and response by the Administrator

EXAMPLE CASES

65.3 Requirement to submit new technical data.

A community's base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, a community shall notify the Administrator of the changes by submitting technical or scientific data in accordance with this part. Such a submission is necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and flood plain management requirements will be based upon current data.

65.4 Right to submit new technical data.

- (a) A community has a right to request changes to any of the information shown on an effective map that does not impact flood plain or floodway delineations or base flood elevations, such as community boundary changes, labeling, or planimetric details. Such a submission shall include appropriate supporting documentation in accordance with this part and may be submitted at any time.
- (b) All requests for changes to effective maps, other than those initiated by FEMA, must be made in writing by the Chief Executive Officer of the community (CEO) or an official designated by the CEO. Should the CEO refuse to submit such a request on behalf of another party, FEMA will agree to review it only if written evidence is provided indicating the CEO or designee has been requested to do so.

65.8 Review of proposed projects.

A community, or individual through the community, wishing FEMA's comments on whether a proposed project, if built as proposed, would justify a map revision may request a Conditional Letter of Map Amendment or Revision in accordance with Part 72 of this subchapter. The data required to support such requests are the same as those required to support requests for revisions in accordance with 65.5, 65.6, and 65.7, except as-built certification is not required.

65.9 Review and response by the Administrator.

If any questions or problems arise during review, FEMA will consult the Chief Executive Officer of the community (CEO), the community official designated by the CEO and/or the requester for resolution. Upon receipt of a revision request, the Administrator shall mail an acknowledgment of receipt of such request to the CEO. Within 90 days of receiving the request with all necessary information, the Administrator shall notify the CEO of one or more of the following:

- (a) The effective map(s) shall not be modified;
- (b) The base flood elevations on the effective FIRM shall be modified and new base flood elevations shall be established under the provisions of Part 67 of this subchapter;
- (c) The changes requested are approved and the map(s) amended by Letter of Map Revision (LOMR);
- (d) The changes requested are approved and a revised map(s) will be printed and distributed;
- (e) The changes requested are not of such a significant nature as to warrant a reissuance or revision of the flood insurance study or maps and will be deferred until such time as a significant change occurs;
- (f) An additional 90 days is required to evaluate the scientific or technical data submitted; or
- (g) Additional data are required to support the revision request.

65.6 Revision of base flood elevation determinations.

(a) *General conditions and data requirements.*

- (1) The supporting data must include all the information FEMA needs to review and evaluate the request. This may involve the requestor's performing new hydrologic and hydraulic analysis and delineation of new flood plain boundaries and floodways, as necessary.
- (2) To avoid discontinuities between the revised and unrevised flood data, the necessary hydrologic and hydraulic analyses submitted by the map revision requestor must be extensive enough to ensure that a logical transition can be shown between the revised flood elevations, flood plain boundaries, and floodways and those developed previously for areas not affected by the revision. Unless it is demonstrated that it would not be appropriate, the revised and unrevised base flood elevations must match within one-half foot where such transitions occur.
- * * (3) Revisions cannot be made based on the effects of proposed projects or future conditions. Section 65.8 of this subchapter contains provisions for obtaining conditional approval of proposed projects that may effect map changes when they are completed.
- (4) The datum and date of releveling of benchmarks, if any, to which the elevations are referenced must be indicated.
- (5) Maps will not be revised when discharges change as a result of the use of an alternative methodology or data for computing flood discharges unless the change is statistically significant as measured by a confidence limits analysis of the new discharge estimates.
- (6) In order for an alternative hydraulic or hydrologic methodology to be accepted, any computer program used must be accepted for general use by a governmental agency or notable scientific body, must be well documented including a user's and programmer's manual, and must be available to the general user.
- (7) A revised hydrologic analysis for flooding sources with established base flood elevations must include evaluation of the same recurrence interval(s) studied in the effective FIS, such as the 10-, 50-, 100-, and 500-year flood discharges.

- (8) A revised hydraulic analysis for a flooding source with established base flood elevations must include evaluation of the same recurrence interval(s) studied in the effective FIS, such as the 10-, 50-, 100-, and 500-year flood elevations, and of the floodway. Unless the basis of the request is the use of an alternative hydraulic methodology or the requestor can demonstrate that the data of the original hydraulic computer model is unavailable or its use is inappropriate, the analysis shall be made using the same hydraulic computer model used to develop the base flood elevations shown on the effective Flood Insurance Rate Map and updated to show present conditions in the flood plain. Copies of the input and output data from the original and revised hydraulic analyses shall be submitted.
 - (9) A hydrologic or hydraulic analysis for a flooding source without established base flood elevations may be performed for only the 100-year flood.
 - (10) A revision of flood plain delineations based on topographic changes must demonstrate that any topographic changes have not resulted in a floodway encroachment.
 - (11) Delineations of flood plain boundaries for a flooding source with established base flood elevations must provide both the 100- and 500-year flood plain boundaries. For flooding sources without established base flood elevations, only 100-year flood plain boundaries need be submitted. These boundaries should be shown on a topographic map of suitable scale and contour interval.
- (b) *Data requirements for correcting map errors.* To correct errors in the original flood analysis, technical data submissions shall include the following:
- (1) Data identifying mathematical errors.
 - (2) Data identifying measurement errors and providing correct measurements.
- (c) *Data requirements for changed physical conditions.* Revisions based on the effects of physical changes that have occurred in the flood plain shall include:
- (1) *Changes affecting hydrologic conditions.* The following data must be submitted:
 - (i) General description of the changes (e.g., dam, diversion channel, or detention basin).
 - (ii) Construction plans for as-built conditions, if applicable.
 - (iii) New hydrologic analysis accounting for the effects of the changes.
 - (iv) New hydraulic analysis and profiles using the new flood discharge values resulting from the hydrologic analysis.

- (v) Revised delineations of the flood plain boundaries and floodway.
- (2) *Changes affecting hydraulic conditions.* The following data shall be submitted:
- (i) General description of the changes (e.g., channelization or new bridge, culvert, or levee).
 - (ii) Construction plans for as-built conditions.
 - (iii) New hydraulic analysis and flood elevation profiles accounting for the effects of the changes and using the original flood discharge values upon which the original map is based.
 - (iv) Revised delineations of the flood plain boundaries and floodway.
- (3) *Changes involving topographic conditions.* The following data shall be submitted:
- (i) General description of the changes (e.g., grading or filling).
 - (ii) New topographic information, such as spot elevations, cross sections grading plans, or contour maps.
 - (iii) Revised delineations of the flood plain boundaries and, if necessary, floodway.
- (d) *Data requirements for incorporating improved data.* Requests for revisions based on the use of improved hydrologic, hydraulic, or topographic data shall include the following data:
- (1) Data that are believed to be better than those used in the original analysis (such as additional years of stream gage data).
 - (2) Documentation of the source of the data.
 - (3) Explanation as to why the use of the new data will improve the results of the original analysis.
 - (4) Revised hydrologic analysis where hydrologic data are being incorporated.
 - (5) Revised hydraulic analysis and flood elevation profiles where new hydrologic or hydraulic data are being incorporated.
 - (6) Revised delineations of the flood plain boundaries and floodway where new hydrologic, hydraulic, or topographic data are being incorporated.
- (e) *Data requirements for incorporating improved methods.* Requests for revisions based on the use of improved hydrologic or hydraulic methodology shall include the following data:

- (1) New hydrologic analysis when an alternative hydrologic methodology is being proposed.
 - (2) New hydraulic analysis and flood elevation profiles when an alternative hydrologic or hydraulic methodology is being proposed.
 - (3) Explanation as to why the alternative methodologies are superior to the original methodologies.
 - (4) Revised delineations of the flood plain boundaries and floodway based on the new analysis(es).
- (f) *Certification requirements.* All analysis and data submitted by the requester shall be certified by a registered professional engineer or licensed land surveyor, as appropriate, subject to the definition of "certification" given at 65.2 of this subchapter.
- (g) *Submission procedures.* All requests shall be submitted to the appropriate FEMA Regional Office servicing the community's geographic area.



Federal Emergency Management Agency

Washington, D.C. 20472

CONDITIONS AND CRITERIA FOR MAP REVISIONS

A. Introduction

This document describes the conditions and criteria for revising a Flood Insurance Study (FIS) under Part 65 of the National Flood Insurance Program (NFIP) regulations. The Federal Emergency Management Agency (FEMA) recognizes that FISs may require revision due to new information becoming available or through physical changes in flood plains. This document defines the situations that fall under Part 65 of the NFIP regulations and describes the procedures for correcting or updating Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs).

B. Definitions

A Letter of Map Amendment (LOMA) issued under Part 70 of the NFIP regulations indicates whether or not a structure(s) or proposed structure(s) is located in a Special Flood Hazard Area (SFHA) as shown on a FIRM or Flood Hazard Boundary Map (FHBM). A LOMA removes a property from the SFHA and thereby makes inapplicable the Federal requirement for the purchase of flood insurance. For more information regarding LOMAs, refer to "Conditions and Criteria for Letters of Map Amendment."

A Conditional Letter of Map Revision, or belief letter, issued under Part 65 of the NFIP regulations is FEMA's comment on the effectiveness or impacts of a proposed flood control project or flood plain modification. It is based on FEMA's review of the proposed project and states that were the proposed project built as designed, it would be cause for a map revision.

A Letter of Map Revision (LOMR) can be issued under Part 65 of the NFIP regulations as an expeditious means of revising a FIRM or FBFM. The LOMR gives a detailed description of the Base Flood Elevation (BFE) and graphic changes that will be made to the SFHA currently delineated on the effective FIRM and/or FBFM. LOMRs involving BFE changes are always succeeded by a physical map revision.

A Physical Map Revision under Part 65 of the NFIP regulations involves changing and republishing the existing FIRM and/or FBFM to reflect any updated condition. Valid LOMAs and LOMRs are incorporated into map revisions.

C. Reasons for Revision

FEMA will revise an effective FIS to reflect new information which shows the original FIS to be incorrect and to reflect physical changes which invalidates the original FIS analyses or presentation of data. Updated or corrected topographic mapping, hydrologic data, or hydraulic data constitute new information which may warrant a revision. Flood

protection projects and any form of topographic alterations (cut and fill) constitute physical changes which may also warrant a map revision.

D. General Revision Policy

Within the statutory criteria established for appeals, revision requests will be evaluated based on the possession of knowledge or information indicating that the effective elevations are scientifically or technically incorrect. In certain situations where new information shows mathematical or measurement errors in the original FIS, FEMA will accept the responsibility for revising the FIS provided the requestor submits the basic data necessary to correct the problem. Where revision requests are based on the application of alternative methods, appellants are required to demonstrate that the new analyses result in more correct estimates of base flood elevations, thus demonstrating that FEMA's estimates are incorrect. In these situations, where a revision request is being made based on improved data, methods, or applications, the community (or requestor through the community) must accept responsibility for providing all data and analyses necessary to update the FIS.

If a physical change resulting from development warrants a revision to the existing analyses, FEMA will not undertake this new technical analysis. The requestor, through the community, must accept responsibility for providing all data and analysis necessary for updating the FIS.

E. Community Map Revision Requests

The map revision process cannot be initiated without the community's endorsement since it is the community that adopts the effective FIS. Therefore, any individuals requesting a change to the FIS, must do so through the community. The community, in turn, may support the request and forward the information to FEMA for evaluation. FEMA will review the request to ascertain that the following conditions are met before evaluating the revision request.

Condition Number 1

The community must endorse the revision request and demonstrate preparedness to accept responsibility for the operation and/or maintenance of any structural measures (e.g. channel improvements or levees) involved. The request submittal should include the following:

- 1.1 A statement that the community endorses the revision request.
- 1.2 If the basis for the revision request is a channel modification, the completion of a dam, levee, or any other structural measure, evidence is required to demonstrate the design is adequate and that maintenance and operation provisions, where applicable, have been made.
 - a. For a channel modification or similar structural measure, the community is responsible for maintenance of the channel.

- b. For a levee, the community must develop and officially adopt a formal maintenance and operation plan that describes the type and frequency of the maintenance activities that will be performed and the operation of any closure.

- 1.3 The submittal must indicate that, where necessary, state approval of the revision has been obtained.

Condition Number 2

If the revision request is based on information showing a mathematical or measurement error in the original analysis, the submittal must include the following:

- 2.1 Documentation that identifies the specific source of the error.
- 2.2 A written description of the new information and how it differs from the existing FIS information.
- 2.3 Basic data supporting the revision request to enable FEMA to revise the FIS. In most cases, this data must be certified by a registered professional engineer or licensed land surveyor. Updated topographic maps, revised community boundary maps including annexation ordinances, and channel, dam, or bridge structure plans which illustrate the correct dimensions are examples of the basic data required.

Condition Number 3

If the revision request is based on improved application of hydrologic, hydraulic, or other methods, or use of better data in applying such methods, the requestor must submit the following:

- 3.1 Documentation that identifies the error in the application or in the inferior data in the original analysis and supports why the application is incorrect or the data is inferior.
- 3.2 Engineering analyses applying the same basic methods utilized by FEMA but with the changes itemized.
- 3.3 Alternative engineering analyses utilizing the methods or assumptions determined to be correct.
- 3.4 Background technical information which supports the requestor's changes as being more correct.
- 3.5 Certification by a registered professional engineer or licensed land surveyor of the correctness of any alternate data utilized or measurements made.
- 3.6 Documentation of all locations where the requestor's base flood elevations are different from FEMA's.

All engineering analyses performed must substantiate that the revised hydrologic or hydraulic analyses meet FEMA requirements as well as any state or community requirements.

F. General Technical Guidance

Flood plain revisions should be based on the hydraulic model used to develop the flood profile and flood boundaries currently in effect. The community should request, through the FEMA Regional Office, a copy of the input data used in the computer model for its effective FIS. Where the input data representing the original hydraulic model is unavailable, or where a technically superior model can be used, an approximation should be developed. A new model should be established using the original cross section topographic information, where possible, and the discharges contained in the FIS which established the original BFEs. The model must use the same effective flow areas as established in the original analysis and must be calibrated to reproduce the original base flood elevations within 0.1 foot. Any differences between the new analysis and the original profile must be justified on an engineering basis.

After the model has been checked and matches the original base flood elevations, the model can be modified for new flood plain runs. The analysis will be accomplished as specified for the following conditions:

Discharge Decreases. Hydraulic analyses may be revised when a base flood discharge decreases as a result of structural improvements, such as the construction of a flood control dam or other significant retention facilities. Hydraulic analyses should not be revised based on a computed discharge reduction which results from changed methodology or longer stream gage records, unless the change is statistically significant. The statistical significance criteria are discussed in Section 2-6 "Hydrologic Analyses" of FEMA's Guidelines and Specifications for Study Contractors (dated September 1985). If it is evident that the change is statistically significant, the original hydraulic model should be rerun, changing only the discharges. In cases where the statistical significance test does not apply, a determination by a state or Federal agency that the change is significant may be accepted as a basis for a map revision.

Discharge Increases. If watershed conditions have resulted in a significant (defined as above) increase in discharge, the original hydraulic model must be run with the increased discharges.

Channel Modification. The original hydraulic model will be modified to include the channel modification, and any other encroachment occurring subsequent to the original flood plain delineation.

In all situations, the revised hydraulic analysis should be modified to include current conditions as well as any encroachment to the flood plain that may have occurred since the original model was developed. The revised hydraulic analysis should also include a zone determination, and if only a portion of the existing hydraulic analysis is revised,

the upstream and downstream portions of the revised analysis should coincide with the effective FIS profiles, i.e., hydraulic calculations should be continued for a great enough distance upstream and downstream of the revised area until water-surface elevations coincide with those in the effective FIS.

The submittal must include the technical data that enables FEMA to determine whether the flood plain revision meets FEMA's requirements. The submittal must include the following:

- o A copy of the printout for the original hydraulic computer model representing the 100-year flood profile run for conditions existing at the time the currently effective hydraulic analysis was developed. The printout must include full input and output listings.
- o A copy of the printout from the hydraulic computer model representing the new 10-, 50-, 100-, and 500-year profiles. The model should be the same as that used in the preceding item, but modified to include any channel modification, fill or other encroachment that may have occurred in the flood plain since the original flood plain was delineated.
- o Delineation of the 100- and 500-year flood boundaries and the location and alignment of cross sections and flow line used in the hydraulic model. This information should be shown on a map of suitable scale and topographic definition to provide reasonable accuracy.
- o A copy of the currently effective flood profiles showing the existing and the revised flood elevations.
- o Certification from a registered professional engineer that the physical parameters used in the proposed flood boundary delineation represent actual conditions and that the standards contained in these "Conditions and Criteria" are met.

When a map is revised as a result of a new hydraulic analysis, the effect of the revised hydraulics on the floodway must also be considered. If a revised floodway analysis is necessary, the community should refer to the "Conditions and Criteria for Floodway Revisions" for additional information that will be required.

G. FEMA Response to Map Revision Request

FEMA will evaluate a request from the community for a revision and respond by one of the following means:

- (1) A preliminary copy of the revised FIS will be sent to the community for their review. If the revision involves BFE changes or the establishment of new BFEs, FEMA will initiate a 90-day Appeals Period. Upon review and resolution of any comments and/or appeals received, FEMA will issue a new effective FIS which will be sent to all previous recipients of the maps.

- (2) Send a Letter of Map Revision (LOMR) to the community stating that the review of the submitted material has resulted in an official map revision but that a physical map revision is not warranted at this time. The LOMR will give a detailed description of the BFE and graphic changes that have been made to the SFHA currently delineated on the effective FIS. The material, including a copy of the maps showing the revised information, will be filed for incorporation at a later time into a physical map revision. The approved map revision copies will be dated. Since it is possible that FEMA has responded to a map revision request in this manner, all FIS users are encouraged to contact the community before proceeding with plans for development within the flood plain areas. LOMRs that result in an increase in BFE will also be preceded by a 90-day appeals period. An appeals period for a LOMR which only decreases BFEs will be provided subsequent to the issuance of the LOMR.
- (3) Send a letter to the community with a copy to any other requestor stating that the submitted material is not adequate to make an evaluation and offer them the option of submitting additional information.
- (4) Send a letter to the community with a copy to any other requestor stating that the submitted material appears to justify a map revision, but because not enough information was submitted the community will be placed on a list for restudy consideration, as funds permit, unless the community can submit additional information.
- (5) Send a letter to the community with a copy to any other requestor stating that the submitted material does not substantiate their request for a map revision and that the file will be closed unless the community can submit additional information to substantiate their request.

H. Submittal of Material

Submit material to the FEMA Regional Office. The Regional Office will review material for completeness, concur with the proposed changes, approve any maintenance ordinances, and forward the necessary material to FEMA Headquarters.

FEMA Headquarters will review the hydrologic/hydraulic backup material, engineering design, and any plans of operation and maintenance (where appropriate), request additional information as necessary, then respond to the community by means of the appropriate action defined under Section F above.

To obtain further information on the conditions and criteria for map revisions, communities are encouraged to contact the appropriate FEMA Regional Office or FEMA Headquarters in Washington, D.C., at (202) 287-0700, prior to requesting a map revision.

FEMA PROCESSING TIME FOR EFFECTIVE REVISIONS

● PART 65

- LOMR

- PHYSICAL REVISION

+ 90-DAY APPEAL PERIOD HELD PRIOR TO PUBLISHING REVISED MAP

+ 90-DAY APPEAL PERIOD HELD CONCURRENT WITH PUBLISHING REVISED MAP

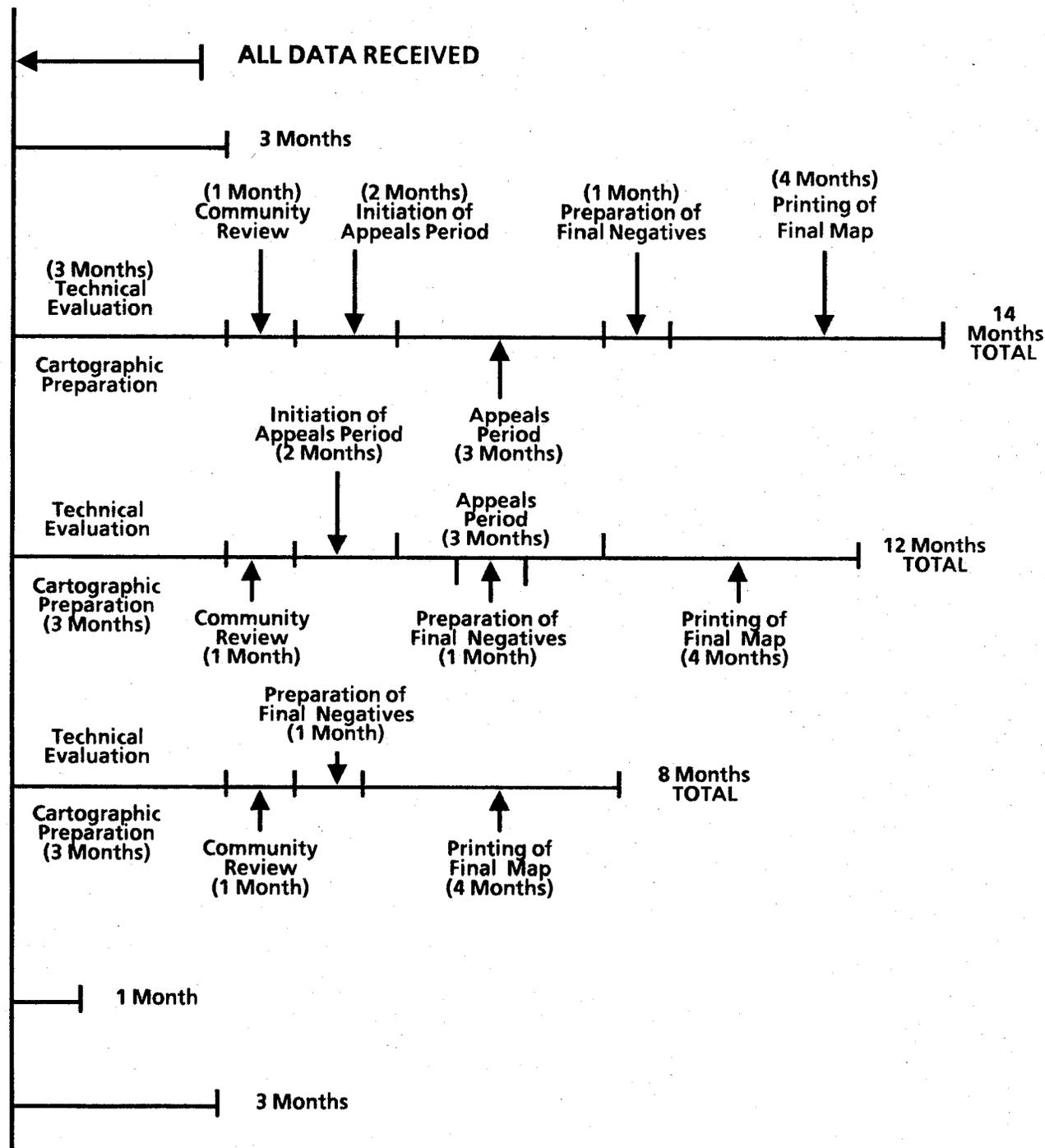
+ NO APPEALS PERIOD

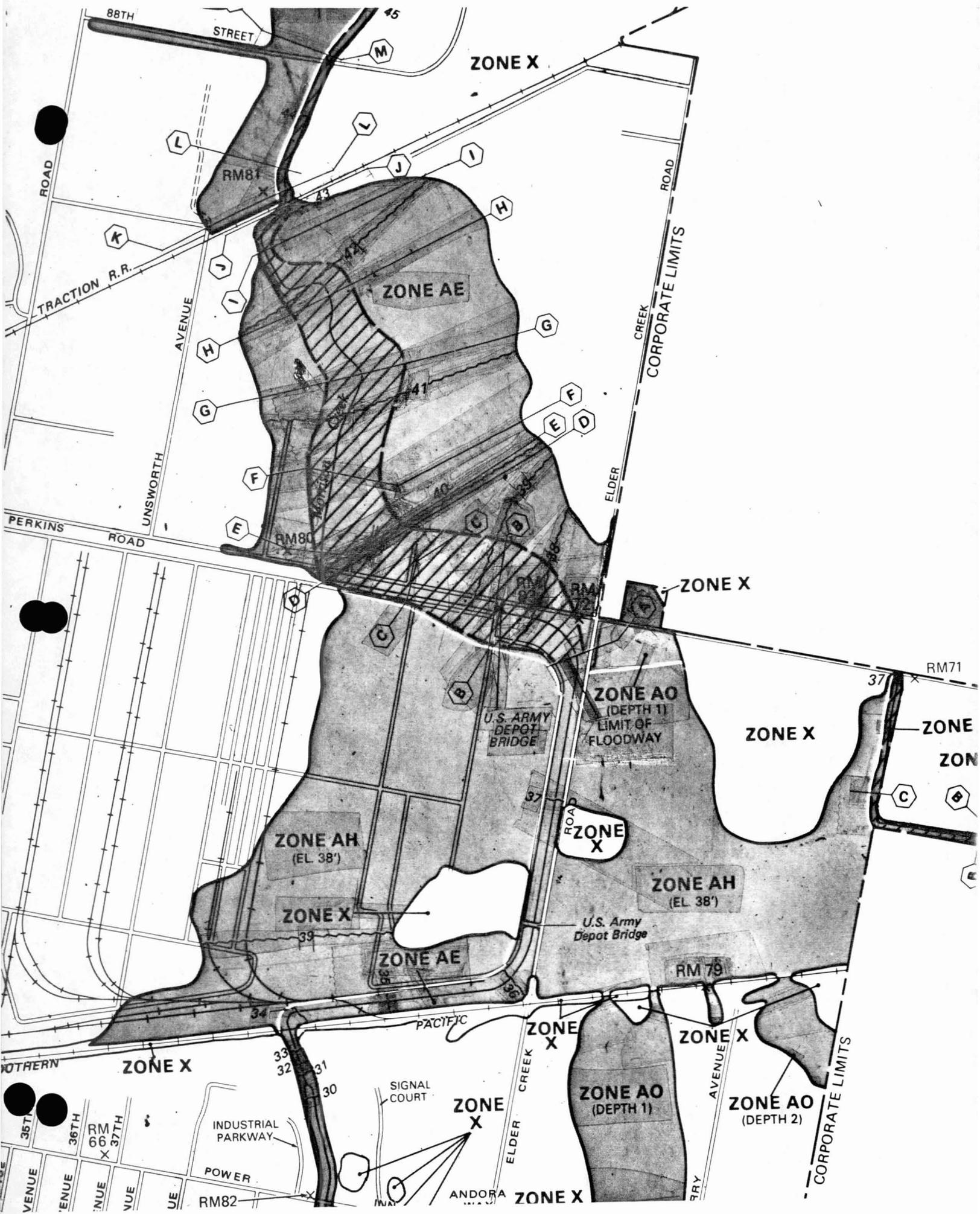
● PART 70

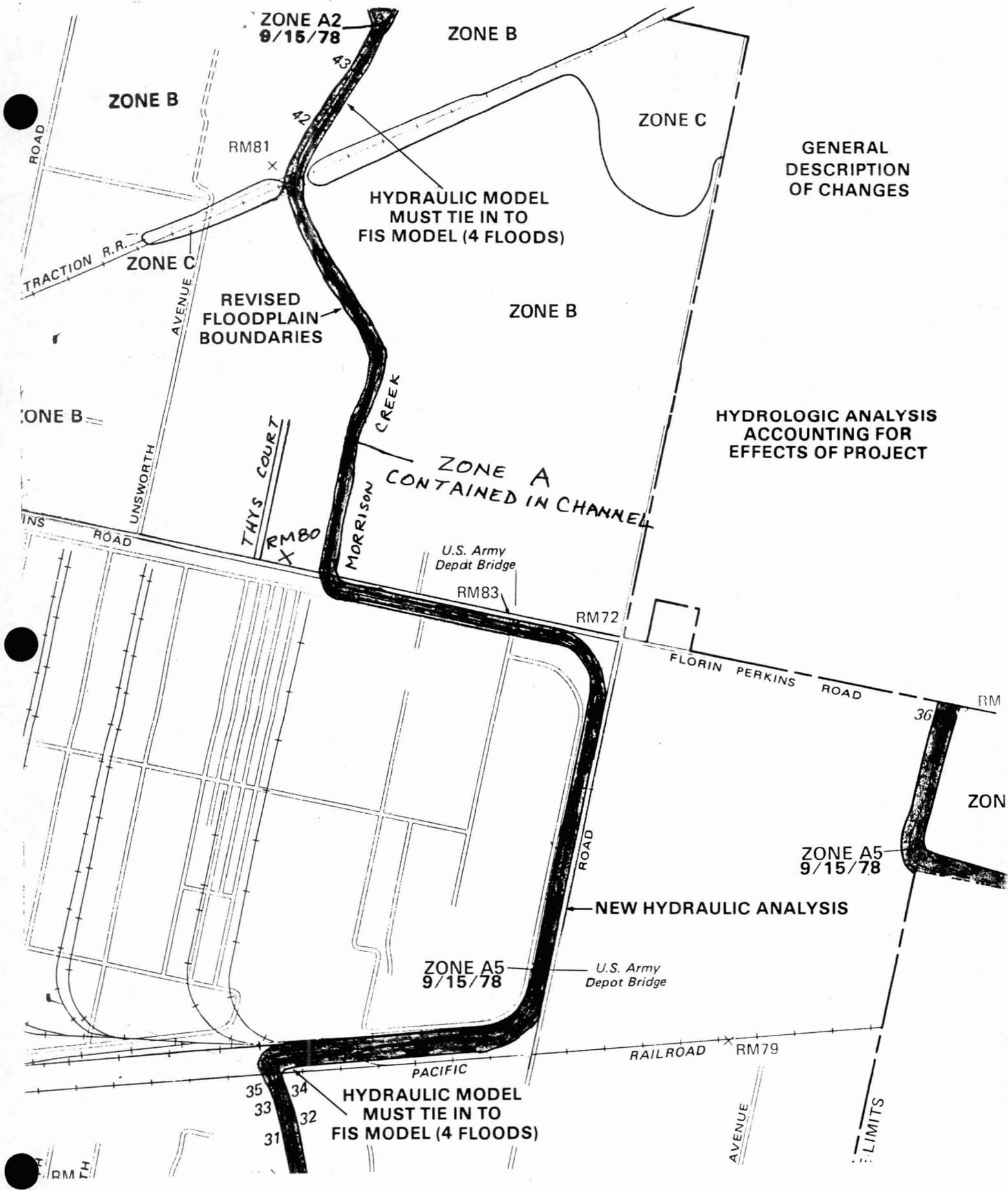
- LOMA

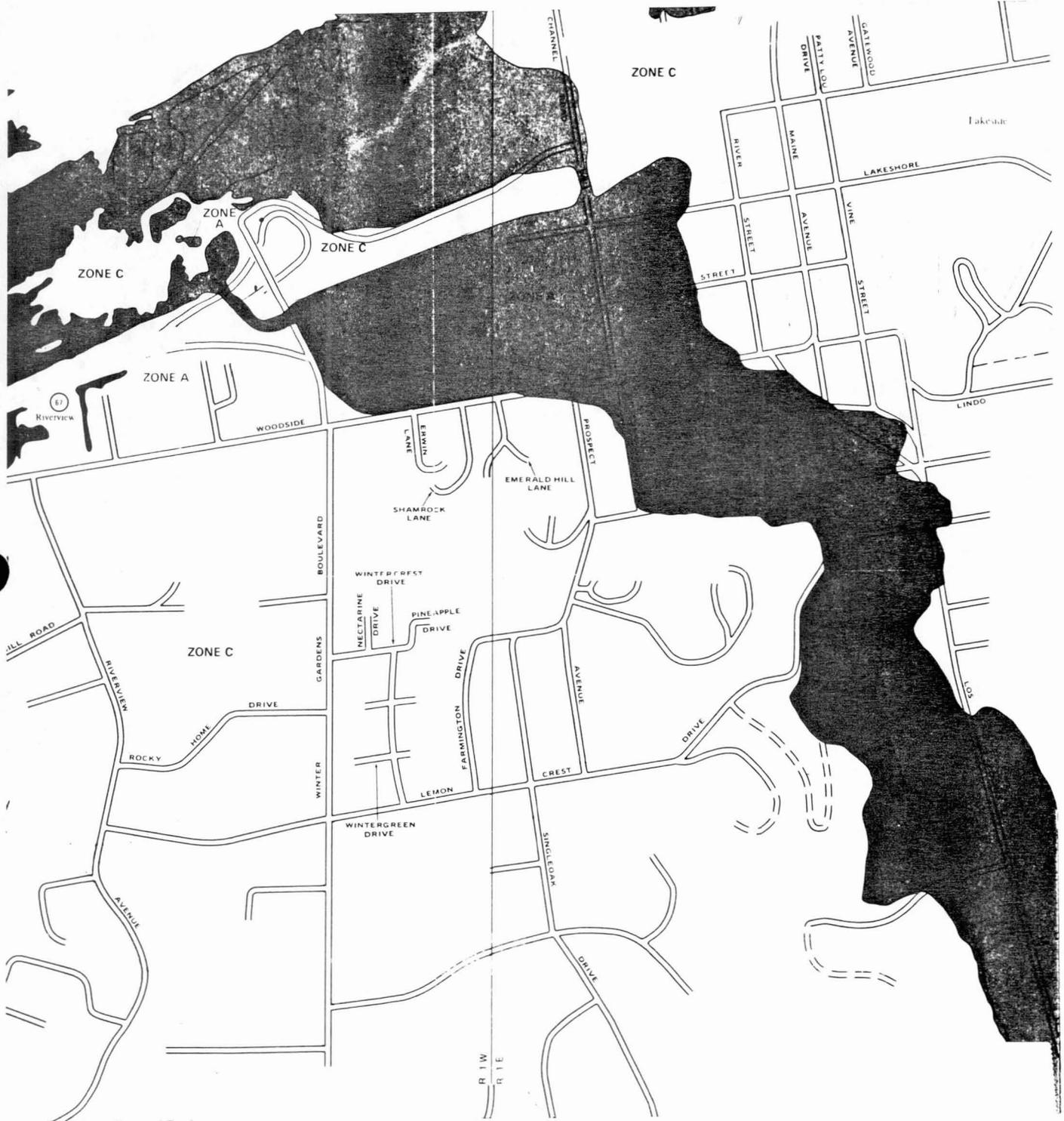
● PART 72

- CLOMR



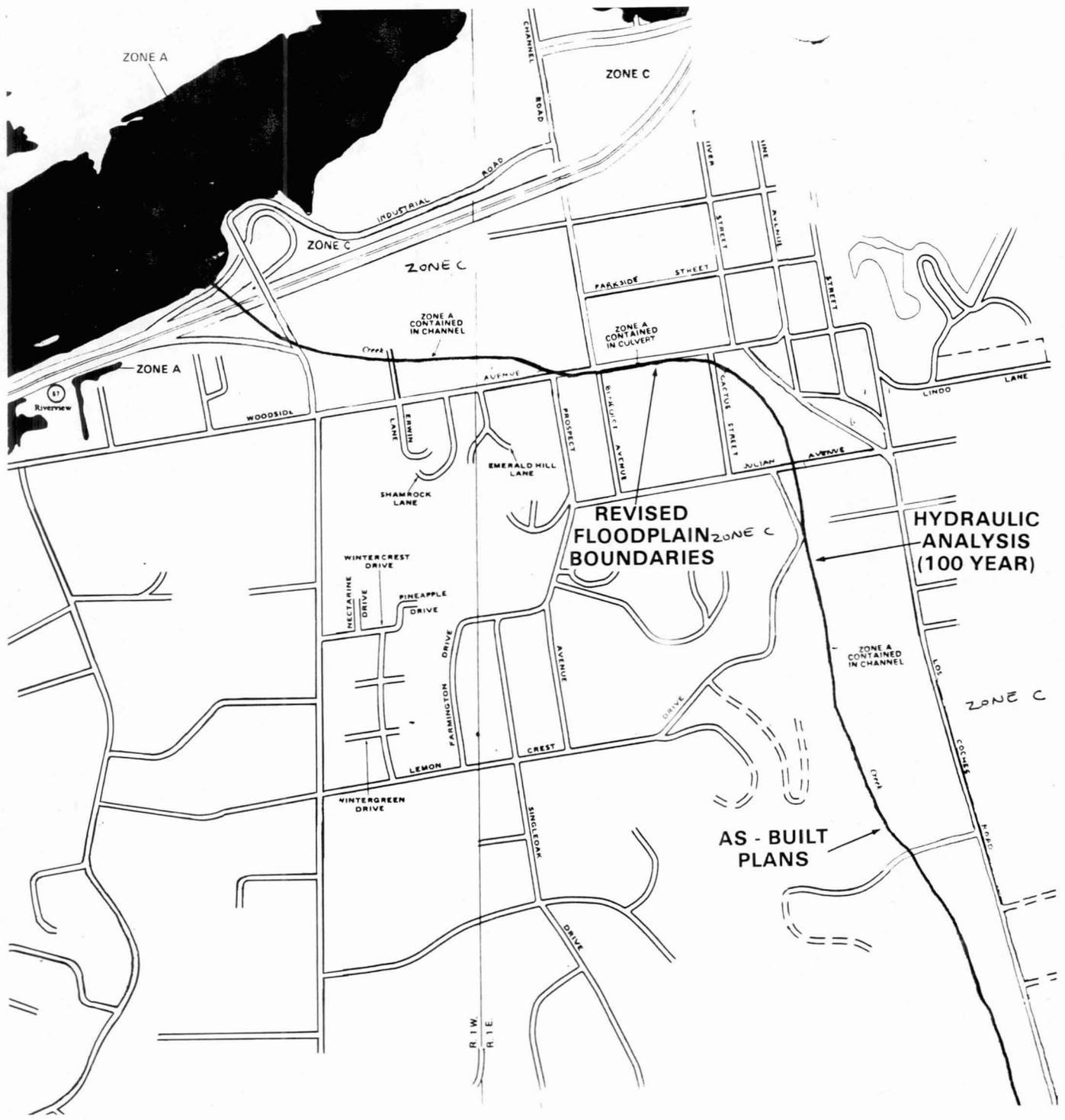






GENERAL DESCRIPTION OF CHANGES

HYDROLOGIC ANALYSIS ACCOUNTING FOR THE EFFECTS OF PROJECT





SECTION

V

65.7 Floodway Revisions

- (a) *General.* Floodway data is developed as part of FEMA Flood Insurance Studies and is utilized by communities to select and adopt floodways as part of the flood plain management program required by 60.3 of this subchapter. When it has been determined by a community that no practicable alternatives exist to revising the boundaries of its previously adopted floodway, the procedures below shall be followed.
- (b) *Data requirements when base flood elevation changes are requested.* When a floodway revision is requested in association with a change to base flood elevations, the data requirements of 65.6 shall also be applicable. In addition, the following documentation shall be submitted:
- (1) Copy of a public notice distributed by the community stating the community's intent to revise the floodway or a statement by the community that it has notified all affected property owners and affected adjacent jurisdictions.
 - (2) Copy of a letter notifying the appropriate State agency of the floodway revision when the State has jurisdiction over the floodway or its adoption by communities participating in the NFIP.
 - (3) Documentation of the approval of the revised floodway by the appropriate State agency (for communities where the State has jurisdiction over the floodway or its adoption by communities participating in the NFIP).
 - (4) Engineering analysis for the revised floodway, as described below:
 - (i) The floodway analysis must be performed using the hydraulic computer model used to determine the proposed base flood elevations.
 - (ii) The floodway limits must be set so that neither the effective base flood elevations nor the proposed base flood elevations if less than the effective base flood elevations, are increased by more than the amount specified under 60.3 (d)(2). Copies of the input and output data from the original and modified computer models must be submitted.
 - (5) Delineation of the revised floodway on the same topographic map used for the delineation of the revised flood boundaries.
- (c) *Data requirements for changes not associated with base flood elevation changes.* The following data shall be submitted:
- (1) Items described in paragraphs (b)(1) through (3) of this section must be submitted.
 - (2) Engineering analysis for the revised floodway, as described below:
 - (i) The original hydraulic computer model used to develop the established base flood elevations must be modified to include all encroachments that have occurred in the flood plain since the existing floodway was developed. If the original computer model is not available, an alternate

hydraulic computer model may be used provided the alternate model has been calibrated so as to reproduce the original water surface profile of the original hydraulic computer model. The alternate model must be then modified to include all encroachments that have occurred since the existing floodway was developed.

- (ii) The floodway analysis must be performed with the modified computer model using the desired floodway limits.
 - (iii) The floodway limits must be set so that combined effects of the past encroachments and the new floodway limits do not increase the effective base flood elevations by more than the amount specified in 60.3 (d)(2). Copies of the input and output data from the original and modified computer models must be submitted.
- (3) Delineation of the revised floodway on a copy of the effective NFIP map and a suitable topographic map.
- (d) *Certification requirements.* All analyses submitted shall be certified by a registered professional engineer. All topographic data shall be certified by a registered professional engineer or licensed land surveyor. Certifications are subject to the definition given at 65.2 of this subchapter.
 - (e) *Submission procedures.* All requests that involve changes to floodways shall be submitted to the appropriate FEMA Regional Office servicing the community's geographic area.

NATIONAL FLOOD INSURANCE PROGRAM

FLOODWAY

FLOOD BOUNDARY AND
FLOODWAY MAP

CITY OF
BROWNSVILLE,
OREGON
LINN COUNTY

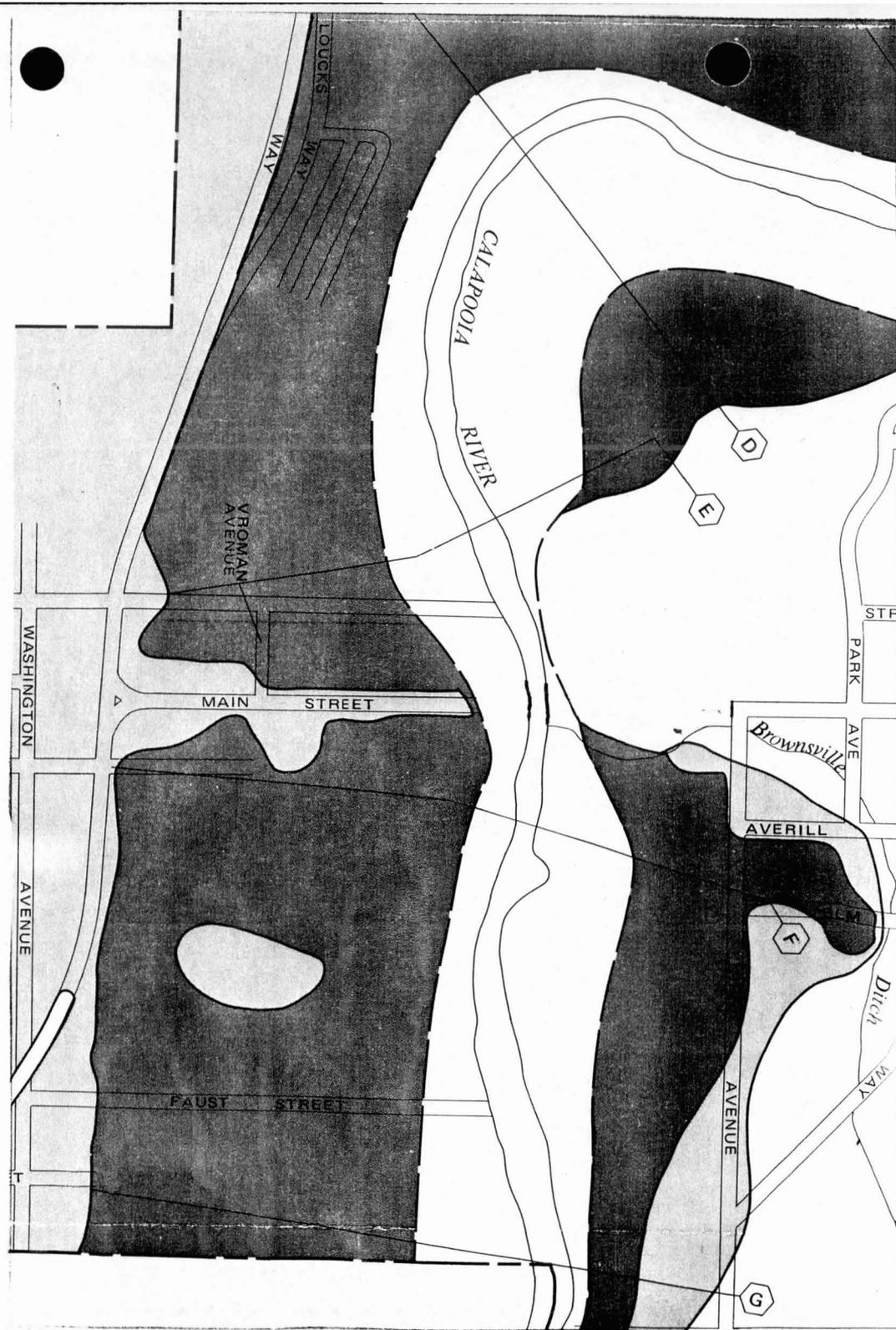
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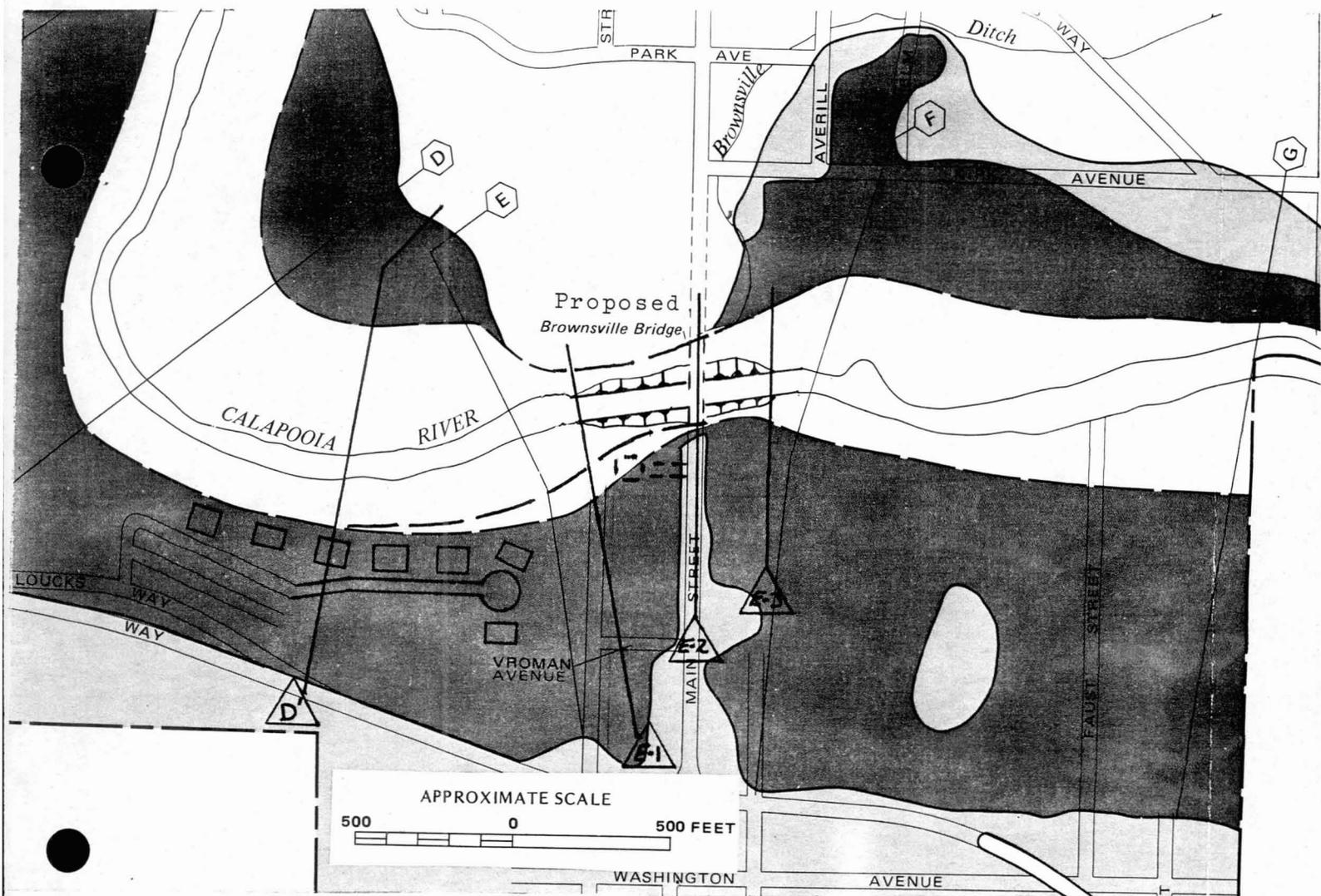
COMMUNITY-PANEL NUMBER
410138 0001

EFFECTIVE DATE:
AUGUST 17, 1981

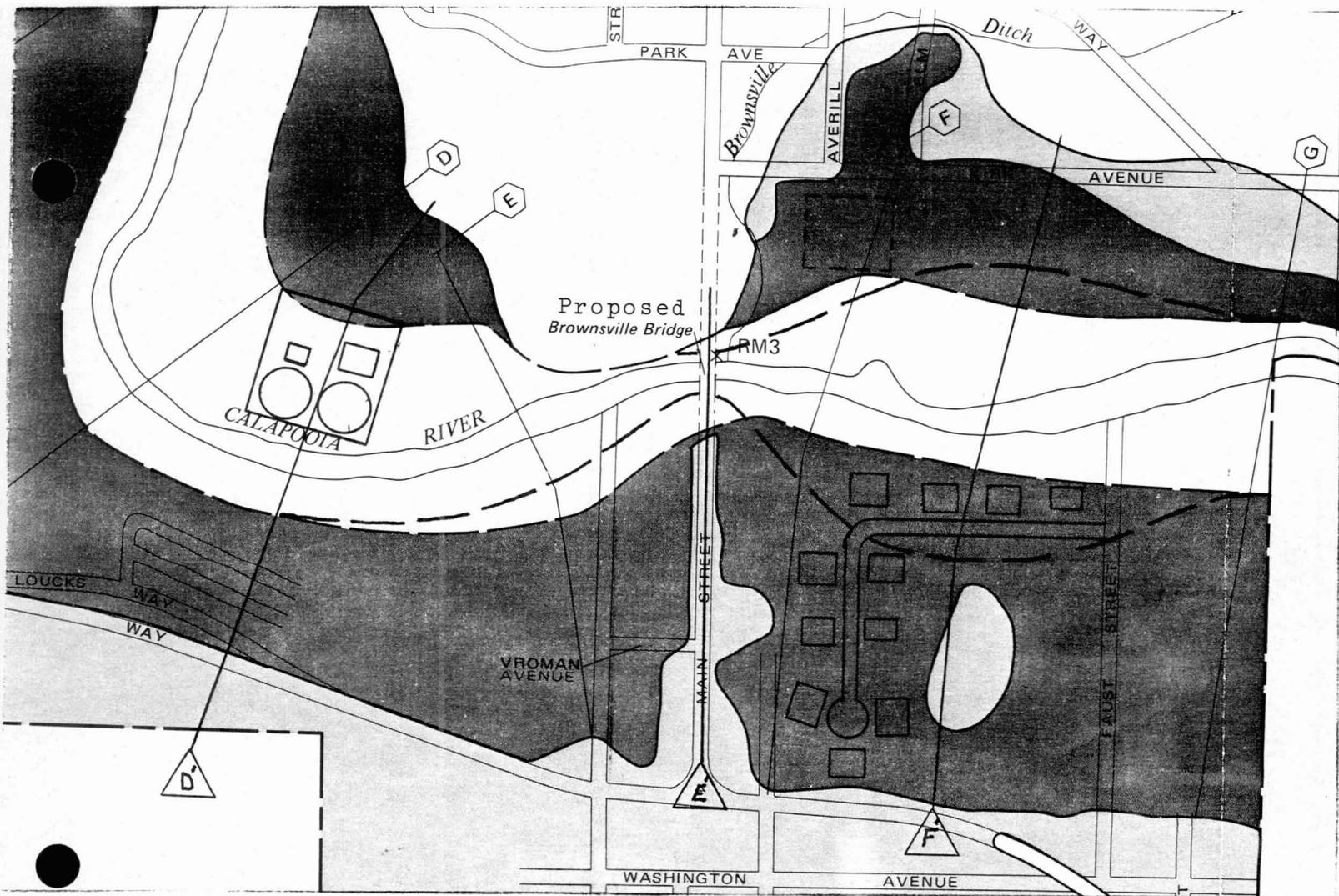


federal emergency management agency
federal insurance administration

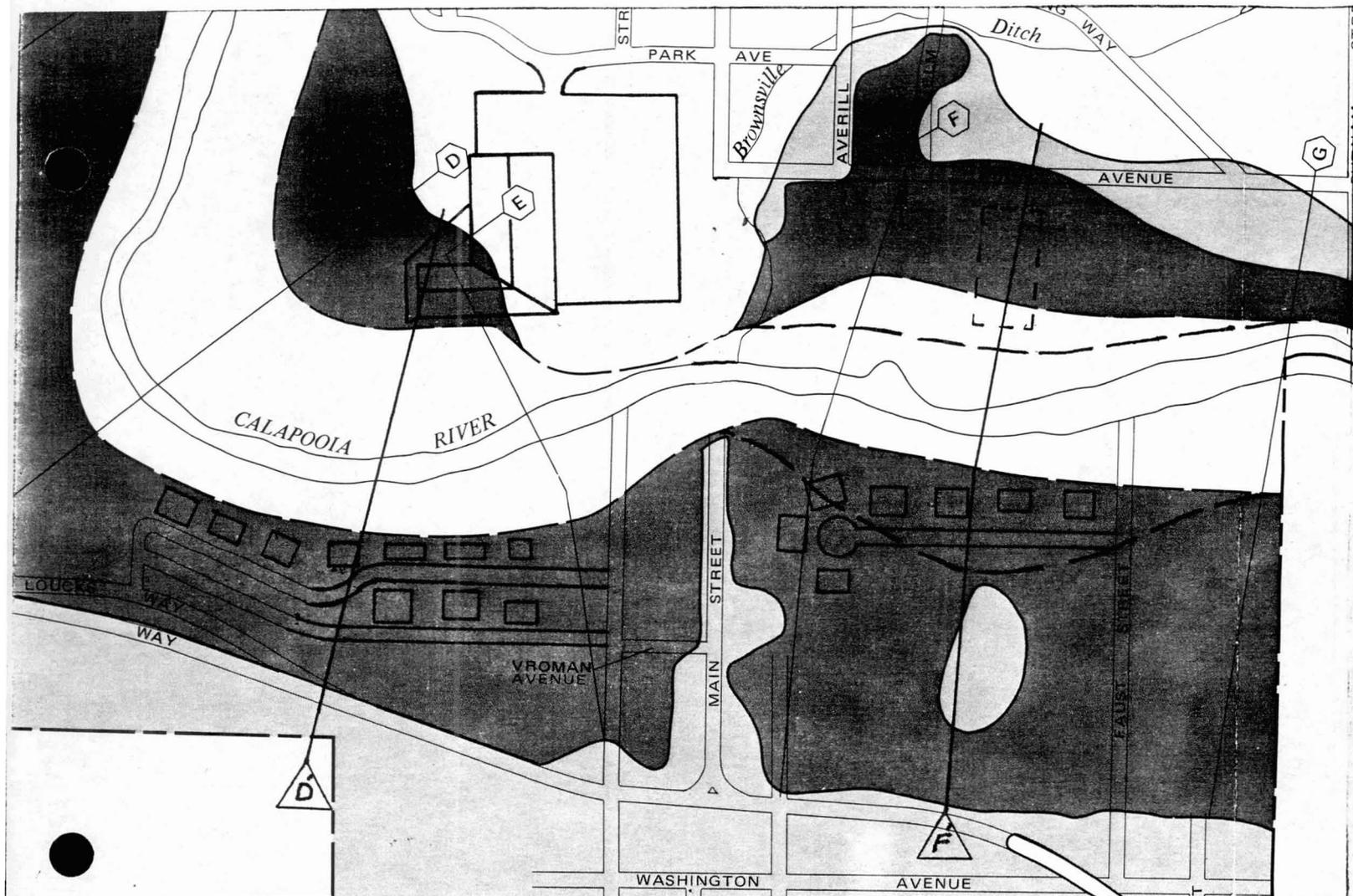




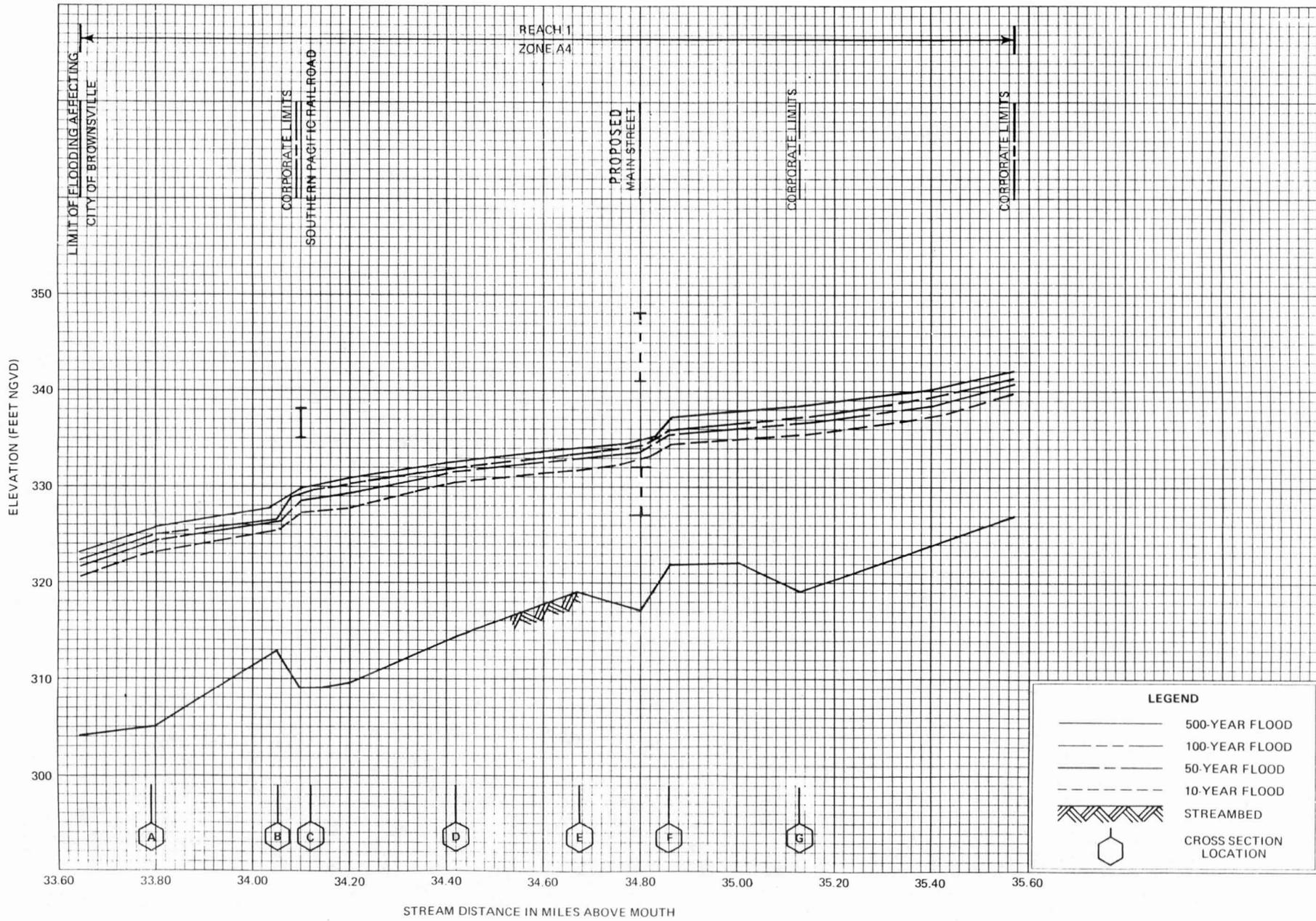
1. Contact FEMA Regional Office for guidance;
2. Contact local government for viable alternate floodway locations;
3. Obtain FIS computer models (from Regional Office);
4. Verify model - code, run and check;
5. Modify model to include all encroachments in the flood plain since existing floodway was developed - step 2;
 - a.) Model channel plus bridge -- assure no increase;
 - b.) Include remaining development int(a) model;
6. Compute 100-year profile and floodway at desired location;
7. Check floodway elevations against 4 or 5. a.), whichever is less. If equal to or less than 1.0' -- okay;
8. Submittals -- through community to FEMA Regional Office;
 - a.) Public notice or notification to each affected property owner;
 - b.) Engineering analysis (see attached).



1. Contact FEMA Regional Office for guidance;
2. Contact local government for viable alternate floodway locations;
3. Obtain FIS computer models (from Regional Office);
4. Verify model - code, run and check;
5. Modify model to include all encroachments in the flood plain since existing floodway was developed - step 2;
 - a.) Correct error in original analysis -- establish 100-year profile;
 - b.) Amend (a) by including remaining flood plain developments;
6. Compute 100-year profile and floodway at desired location;
7. Check floodway elevations against 5. a.). If equal to or less than 1.0' -- okay;
8. Submittals -- through community to FEMA Regional Office;
 - a.) Public notice or notification to each affected property owner;
 - b.) Engineering analysis (see attached).



1. Contact FEMA Regional Office for guidance;
2. Contact local government for viable alternate floodway locations;
3. Obtain FIS computer models (from Regional Office);
4. Verify model - code, run and check;
5. Modify model to include all encroachments in the flood plain since existing floodway was developed;
6. Compute 100-year profile and floodway at desired location;
7. Check floodway elevations against FIS model 100-year flood elevations.
If equal to or less than 1.0' -- okay;
8. Submittals -- through community to FEMA Regional Office;
 - a.) Public notice or notification to each affected property owner;
 - b.) Engineering analysis (see attached).



FLOOD PROFILES
CALAPOOVIA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration
CITY OF BROWNSVILLE, OR
(LINN CO.)

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY	INCREASE
Calapooia River								
A	33.79	1028 ²	6509	3.4	324.8	324.8	325.7	0.9
B	34.05	750/430 ³	3195	6.9	326.8	326.8	327.7	0.9
C	34.12	747	4176	5.3	329.9	329.9	330.1	0.2
D	34.42	761	5609	3.9	331.9	331.9	332.8	0.9
E	34.67	689	3791	5.8	333.3	333.3	334.1	0.8
F	34.86	517	4936	4.5	336.1	336.1	337.1	1.0
G	35.13	553	4770	4.6	337.3	337.3	338.3	1.0

¹Miles Above Mouth ²Floodway Lies Entirely Outside Corporate Limits

³Width/Width Within Corporate Limits

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

CITY OF BROWNSVILLE, OR
(LINN CO.)

FLOODWAY DATA

CALAPOOIA RIVER



Federal Emergency Management Agency

Washington, D.C. 20472

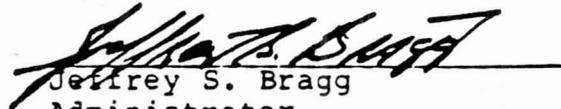
CONDITIONS AND CRITERIA FOR FLOODWAY REVISIONS

FOREWORD

The National Flood Insurance Program makes flood insurance available to property owners in communities that adopt and enforce flood plain management measures to reduce future flood losses. The Program provides flood hazard maps and risk information on which local flood plain management measures are based.

One aspect of a sound flood plain management program is the maintenance of a floodway area to assure that the elevations of future floods will not be increased significantly. The adoption of a floodway by a community preserves the necessary conveyance area for passage of the flood waters by restricting actions within the floodway which will result in any increase in flood elevation.

After a floodway is adopted, a community may encounter a compelling need to change the configuration of their floodway and therefore request that the floodway map prepared by the Federal Emergency Management Agency (FEMA) be revised. The purpose of these conditions and criteria is to set forth the nature and extent of the material needed to support such a request. Compliance with the criteria described herein will allow FEMA to review the material and revise the floodway maps as appropriate in a timely manner.



Jeffrey S. Bragg
Administrator
Federal Insurance Administration

CONDITIONS AND CRITERIA FOR FLOODWAY REVISIONS

This document sets forth FEMA policy concerning requests for revising the Flood Boundary and Floodway Map (FBFM) prepared by FEMA for adoption by the community to regulate floodways in accordance with Title 44, Part 60.3(d) of the Code of Federal Regulations.

A. FEMA Role in Establishing Floodways

The National Flood Insurance Act of 1968, Section 1361 authorized FEMA to carry out flood studies relating to encroachments and obstructions on stream channels and floodways. The purpose of the studies is to support state and local efforts to:

- (1) regulate the development of land which is exposed to flood damage, where appropriate,
- (2) guide proposed construction away from locations which are threatened by flood hazard,
- (3) assist in reducing damages caused by floods, and
- (4) otherwise improve the long-range land management and use of floodprone areas.

The section is explicit in that FEMA shall work closely with, and provide necessary technical assistance to, state, interstate, and local government agencies in their efforts toward sound flood plain management.

The FEMA role consists of establishing minimum standards and providing information to state and local regulating agencies. Established criteria are contained in Part 60.3 (d) of Chapter 1, Title 44 of the Code of Federal Regulations. The regulation states that when FEMA has provided data from which a regulatory floodway shall be designated, the community shall select and adopt a regulatory floodway based on the principle that the area chosen for the regulatory floodway must carry the waters of the base flood (100-year) without increasing the water surface elevation of that flood more than 1.0 foot at any point. However, the community may adopt a more restrictive floodway in which the surcharge limit is less than 1.0 foot.

The FEMA role, therefore, is to provide data from which the community can formulate and adopt a floodway for regulatory purposes. From a practical standpoint, FEMA coordinates with communities during the data generation stage and prepares data on a single floodway delineation which reflects community input. Once a floodway is adopted by the community, FEMA continues to support the community in its efforts to enforce the floodway and provides copies of the maps to users.

B. Definition and Purpose of Floodway

The floodway is defined as the channel of a stream and any adjacent flood plain areas that must be reserved in order to discharge the 100-year flood without increasing flood heights by a specified amount. The purpose for establishing a floodway is to provide for the balancing of the competing uses of development against the resulting increase in flood hazards. FEMA has set a minimum standard, limiting the floodway width to that which will not result in an increase of the 100-year flood by more than 1.0 foot. Several states have adopted requirements which limit the increases to less than the FEMA minimum standard. In cases where the state has adopted more stringent standards by legally enforceable statute or regulation, FEMA computes floodways based upon these standards. Once the floodway has been adopted, encroachments, including fill, new construction, substantial improvements, and other development within the adopted floodway that would result in any increase in flood levels within the community during the occurrence of the base flood discharge is prohibited.

C. Floodway Revision - General Policies

Within the criteria established by FEMA, many floodway configurations may be generated. However, once adopted by a community, a particular floodway configuration becomes administratively established, much the same as other community regulations. An adopted floodway represents a reasonable allocation of an area for the passage of flood waters and does not necessarily represent the minimum area required to meet the FEMA minimum standard. Once the floodway is adopted, the floodway boundaries are intended to remain static.

During a restudy, the existing floodway configuration should be checked to assure that it meets acceptable surcharge limits under present conditions. Where surcharge limits are exceeded, the floodway should be expanded.

A floodway may be reduced in size if the discharges have been reduced as a result of a physical change, such as a diversion of the flow, or the construction of a dam or other major retention measures. A floodway may also be reduced as a result of stream modifications. Floodway changes should not be based on physical changes, unless it has been established that adequate maintenance has been provided to assure continuation of the structural effects.

A further basis for a floodway revision is the desire by a community to respond to a social or economic need for development within a floodway. This need may be met by shifting the floodway boundaries, using appropriate hydraulic analysis, while maintaining the flood carrying capacity of the floodway.

After a floodway is established, development may occur in the fringe area (the area within the flood plain but outside the floodway), but should not occur in the floodway unless it is shown that the development will not reduce the conveyance of the floodway. If it becomes necessary to

revise the floodway, the original hydraulic model must be used to establish the base profile for the new encroachment analysis. The model would then be modified to include the in-place encroachment for the revised floodway runs.

D. Community Floodway Map Revision Request

The floodway designation is not "appealable" to FEMA by individuals, since it is the community that selects and adopts the regulatory floodway. Thus, an individual should appeal the floodway designation to, or seek amendments from, the community. The community, in turn, may support the amendment and request FEMA to revise the original, FEMA-produced Flood Boundary and Floodway Map (FBFM). FEMA will review the request to ascertain that the following conditions are met before expending effort on the revision:

Condition Number 1

The community must demonstrate that it is prepared to adopt the modified floodway and that all legal requirements will have been met before the floodway is revised. Before changes are made to community regulated areas, communities are required by the state to follow certain administrative procedures. The request to FEMA needs to include evidence that appropriate procedures have been followed. Typical information to be submitted are as follows:

- 1.1 Copy of a public notice of the intent to modify the floodway.
- 1.2 A statement that the community has notified, and obtained approval from, any adversely impacted property owners or adjacent jurisdictions.
- * * 1.3 In lieu of the above, a statement that the change will result in no adverse impact.
- 1.4 A copy of the notification of the floodway change to the state.

Condition Number 2

An engineering analysis has been performed to substantiate that the revised floodway meets FEMA minimum standards as well as any state or community requirements.

Floodway revisions must be based on the hydraulic model used to develop the floodway currently in effect. The community should request, through the FEMA Regional Office, a copy of the input data used in the computer model for its effective Flood Insurance Study. Where the input data representing the original hydraulic model is unavailable, an approximation should be developed. A new model should be established using the original cross section topographic information, where possible, and the discharges contained in the Flood Insurance Study which established the original floodway. The model must use the same effective flow areas as established in the original analysis and be calibrated to

reproduce the original base flood elevations within 0.1 foot. Where reproduction of the original base flood elevations within 0.1 foot is not possible, or results in unsound engineering practices, the community should contact the appropriate FEMA Regional Office for direction.

After the model has been checked and matches the original base flood elevations, the model can be modified for new floodway runs. The analysis will be accomplished as specified for the following basis for revision:

Discharge Decreases

Floodways may be revised when a base flood discharge decreases as a result of structural improvements, such as the construction of a flood control dam or other significant retention facilities. Floodways should not be revised based on a computed discharge reduction which results from changed methodology or longer stream gage records, unless the change is statistically significant. The statistical significance criteria are discussed in Section 2-6 "Hydrologic Analyses" of FEMA's Guidelines and Specifications for Study Contractors (dated September 1982). In cases where the statistical significance test does not apply, a determination by a state or Federal agency that the change is significant may be accepted as a basis for a floodway revision. If evident that the change is statistically significant, the original hydraulic model should be rerun, changing only the discharges. This will serve as the base run for the subsequent floodway encroachment runs. The floodway model should then be modified to include current conditions, as well as any encroachment that may have occurred since the original model was produced. The resulting floodway elevations must not exceed the base run elevations by more than 1.0 foot, or as specified by the state or community.

Discharge Increases

If watershed conditions have resulted in a significant increase in discharge, the original hydraulic model needs to be run with the increased discharges. The resulting base flood profile will serve as the base for the floodway runs. The floodway runs must include any encroachment that may have occurred since the delineation of the original floodway.

Channel Modification

The original model will be modified to include the channel modification, and any other encroachment occurring subsequent to the original floodway delineation. The resulting base flood profile will serve as the base for the floodway runs. The floodway runs must include any encroachment that may have occurred since the delineation of the original floodway. The resulting floodway elevations must not exceed the new base flood elevations or the original base flood elevations by more than 1.0 foot, or as specified by the state or community.

Social or Economic

Where it is desired to shift the floodway for social or economic reasons, the base flood elevations from the original model would serve as the base profile for the new floodway run. The model would then be modified to account for any encroachment in the flood plain since the original study. The new floodway limits are to be set in a manner which will not result in an increase to the original base flood elevation in excess of that permitted by FEMA or the state.

Condition Number 3

Submittal includes technical data that enables FEMA to determine whether the floodway revision meets the FEMA minimum standard. Submittal must include the following:

- 3.1 A copy of the printout for the original hydraulic computer model representing the 100-year flood profile run for conditions existing at the time the currently effective floodway was developed. The printout must include full input and output listings.
- 3.2 A copy of the printout for the original hydraulic computer model representing the floodway run for conditions under which the currently effective floodway was developed. The printout must include full input and output listings.
- 3.3 A copy of the printout from the hydraulic computer model representing the new 100-year profile. The model should be the same as that used in item 3.1, but modified to include any channel modification, fill or other encroachment that may have occurred in the flood plain since the original floodway was delineated.
- 3.4 A copy of the printout from the hydraulic computer model representing the floodway run for the proposed floodway, including channel modifications and encroachments since the original floodway was established. The equal conveyance reduction method should be used to compute the revised floodway limits unless agreements have been made with affected property owners to utilize a different method. The printout must include full input and output listings with all input changes from the original model highlighted. The net effect of the channel modifications, the encroachments made subsequent to the establishment of the original floodway, and the new proposed floodway limits must not increase the water surface elevation by more than 1.0 foot above that computed in item 3.1, and also must not exceed 1.0 foot above the new 100-year elevations computed in item 3.3.
- 3.5 A copy of the revised Floodway Data Table representing data for the proposed floodway configuration.
- 3.6 One copy of the currently effective FBFM showing the existing floodway and one copy showing the proposed floodway configurations.

- 3.7 Certification from a registered professional engineer that the physical parameters used in the proposed floodway delineation represent actual conditions and that the standards contained in these "Conditions and Criteria" are met.
- 3.8 If the basis for the proposed floodway revision is a channel modification, the completion of a dam, or any other structural measure, evidence is required to demonstrate the design is adequate, and that maintenance and operation provisions, where applicable, have been made. The submittal must indicate what entity has maintenance responsibility and how maintenance will be accomplished. If maintenance is to be accomplished by agencies other than the community, a legal provision for community monitoring and back-up assistance is required.
- 3.9 Documentation of approval of the proposed floodway revision from the appropriate state agency for communities where the state regulates the floodway.
- 3.10 Documentation of any variation from Condition 2 and/or Condition 3. This includes approval from the appropriate agencies and an explanation of the reason for variation.

E. FEMA Response to Floodway Revision Request

FEMA will review a community's request for a floodway map revision. It is recognized that while the floodway is adopted by a community, Flood Insurance Study users other than the community may request copies of the floodway delineations. Therefore, in support of the community and other users, FEMA maintains a system for distributing floodway information and revising delineations as the need arises. When the revision is considered to be significant, FEMA will revise floodway maps and distribute them to recognized users. Significant floodway revisions are identified based on the size of area, as well as the number of interests affected by the revision.

FEMA will respond to a request from the community for a floodway revision by one of the following means:

- (1) Reprinting the affected FBFM panels with corresponding map revised dates. The panels will be accompanied by a revised index panel showing the most up-to-date floodway panels maintained at FEMA. Copies of the revised floodway panels will be sent to previous recipients of the floodway maps. A revised Flood Insurance Study report will accompany the floodway maps. Included in the report will be a description of the revision and revised Floodway Data Tables.
- (2) Send one copy of the FBFM designating the approved floodway revision to the community, and a letter of floodway revision stating that the review of the submitted material has resulted in the determination that FEMA minimum requirements have been met but a reprinting of the FBFM is not warranted at this time. The

material, including the copy of the FBFM showing the revised floodway, will be filed for incorporation at a later time into a floodway map revision. The approved FBFM revision copies will be dated. Since it is possible that FEMA has responded to a floodway revision request in this manner, all Flood Insurance Study users are encouraged to contact the community before proceeding with plans for development within the flood fringe areas or near floodways.

- (3) Send a letter to the community stating that the submittal material is incomplete and/or that the revised floodway does not meet FEMA minimum criteria.

F. Submittal of Material

Submit material to the FEMA Regional Office. The Regional Office will review material for completeness, concur with the proposed changes, approve any maintenance ordinances, and forward the necessary material to the FEMA Central office.

FEMA Central will review the hydrologic/hydraulic back-up material, engineering design, and any plans of operation and maintenance (where appropriate), request additional revisions or corrections as necessary, then respond to the community by means of the appropriate action defined under Section E above.

- G. To obtain further information on the conditions and criteria for floodway revisions, communities are encouraged to contact the appropriate FEMA Regional Office or FEMA Central in Washington, D.C. at (202) 646-2767, prior to the request for a floodway revision.



SECTION

VI

65.10 Mapping of areas protected by levee systems.

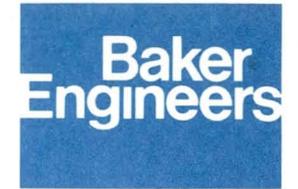
- (a) *General.* For purposes of the NFIP, FEMA will only recognize in its flood hazard and risk mapping effort those levee systems that meet, and continue to meet, minimum design, operation, and maintenance standards that are consistent with the level of protection sought through the comprehensive flood plain management criteria established by 60.3 of this subchapter. Accordingly, this section describes the types of information FEMA needs to recognize, on NFIP maps, that a levee system provides protection from the base flood. This information must be supplied to FEMA by the community or other party seeking recognition of such a levee system at the time a flood risk study or restudy is conducted, when a map revision under the provisions of Part 65 of this subchapter is sought based on a levee system, and upon request by the Administrator during the review of previously recognized structures. The FEMA review will be for the sole purpose of establishing appropriate risk zone determinations for NFIP maps and shall not constitute a determination by FEMA as to how a structure or system will perform in a flood event.
- (b) *Design criteria.* For levees to be recognized by FEMA, evidence that adequate design and operation and maintenance systems are in place to provide reasonable assurance that protection from the base flood exists must be provided. The following requirements must be met:
- (1) *Freeboard.*
 - (i) Riverine levees must provide a minimum freeboard of three feet above the water-surface level of the base flood. An additional one foot above the minimum is required within 100 feet in either side of structures (such as bridges) riverward of the levee or wherever the flow is constricted. An additional one-half foot above the minimum at the upstream end of the levee, tapering to not less than the minimum at the downstream end of the levee, is also required.
 - (ii) Occasionally, exceptions to the minimum riverine freeboard requirement described in paragraph (b)(1)(i) of this section, may be approved. Appropriate engineering analyses demonstrating adequate protection with a lesser freeboard must be submitted to support a request for such an exception. The material presented must evaluate the uncertainty in the estimated base flood elevation profile and include, but not necessarily be limited to an assessment of statistical confidence limits of the 100-year discharge; changes in stage-discharge relationships; and the sources, potential, and magnitude of debris, sediment, and ice accumulation. It must be also shown that the levee will remain structurally stable during the base flood when such additional loading considerations are imposed. Under no circumstances will freeboard of less than two feet be accepted.

- (iii) For coastal levees, the freeboard must be established at one foot above the height of the one percent wave or the maximum wave runup (whichever is greater) associated with the 100-year stillwater surge elevation at the site.
 - (iv) Occasionally, exceptions to the minimum coastal levee freeboard requirement described in paragraph (b)(1)(iii) of this section, may be approved. Appropriate engineering analyses demonstrating adequate protection with a lesser freeboard must be submitted to support a request for such an exception. The material presented must evaluate the uncertainty in the estimated base flood loading conditions. Particular emphasis must be placed on the effects of wave attack and overtopping on the stability of the levee. Under no circumstances, however, will a freeboard of less than two feet above the 100-year stillwater surge elevation be accepted.
- (2) *Closures.* All openings must be provided with closure devices that are structural parts of the system during operation and design according to sound engineering practice.
- (3) *Embankment protection.* Engineering analyses must be submitted that demonstrate that no appreciable erosion of the levee embankment can be expected during the base flood, as a result of either currents or waves, and that anticipated erosion will not result in failure of the levee embankment or foundation directly or indirectly through reduction of the seepage path and subsequent instability. The factors to be addressed in such analyses include, but are not limited to: Expected flow velocities (especially in constructed areas); expected wind and wave action; ice loading; impact of debris; slope protection techniques; duration of flooding at various stages and velocities; embankment and foundation materials; levee alignment, bends, and transitions; and levee side slopes.
- (4) *Embankment and foundation stability.* Engineering analyses that evaluate levee embankment stability must be submitted. The analyses provided shall evaluate expected seepage during loading conditions associated with the base flood and shall demonstrate that seepage into or through the levee foundation and embankment will not jeopardize embankment or foundation stability. An alternative analysis demonstrating that the levee is designed and constructed for stability against loading conditions for Case IV as defined in the U.S. Army Corps of Engineers (COE) manual, "Design and Construction of Levees" (EM 1110-2-1913, Chapter 6, Section II), may be used. The factors that shall be addressed in the analyses include: Depth of flooding, duration of flooding, embankment geometry and length of seepage path at critical locations, embankment and foundation materials, embankment compaction, penetrations, other design factors affecting seepage (such as drainage layers), and other design factors affecting embankment and foundation stability (such as berms).

- (5) *Settlement.* Engineering analyses must be submitted that assess the potential and magnitude of future losses of freeboard as a result of levee settlement and demonstrate that freeboard will be maintained within the minimum standards set forth in paragraph (b)(1) of this section. This analysis must address embankment loads, compressibility of embankment soils, compressibility of foundation soils, age of the levee system, and construction compaction methods. In addition, detailed settlement analysis using procedures such as those described in the COE manual, "Soil Mechanics Design-Settlement Analysis" (EM 1100-2-1904) must be submitted.
 - (6) *Interior drainage.* An analysis must be submitted that identifies the source(s) of such flooding, the extent of the flooded area, and, if the average depth is greater than one foot, the water-surface elevation(s) of the base flood. This analysis must be based on the joint probability of interior and exterior flooding and the capacity of facilities (such as drainage lines and pumps) for evacuating interior floodwaters.
 - (7) *Other design criteria.* In unique situations, such as those where the levee system has relatively high vulnerability, FEMA may require that other design criteria and analyses be submitted to show that the levees provide adequate protection. In such situations, sound engineering practice will be the standard on which FEMA will base its determinations. FEMA will also provide the rationale for requiring this additional information.
- (c) *Operation plans and criteria.* For a levee system to be recognized, the operational criteria must be as described below. All closure devices or mechanical systems for internal drainage, whether manual or automatic, must be operated in accordance with an officially adopted operation manual, a copy of which must be provided to FEMA by the operator when levee or drainage system recognition is being sought or when the manual for a previously recognized system is revised in any manner. All operations must be under the jurisdiction of a Federal or State agency, an agency created by Federal or State law, or an agency of a community participating in the NFIP.
- (1) *Closures.* Operation plans for closures must include the following:
 - (i) Documentation of the flood warning system, under the jurisdiction of Federal, State, or community officials, that will be used to trigger emergency operation activities and demonstration that sufficient flood warning time exists for the completed operation of all closure structures, including necessary sealing, before floodwaters reach the base of the closure.
 - (ii) A formal plan of operation including specific actions and assignments of responsibility by individual name or title.

- (iii) Provisions for periodic operation, at not less than one-year intervals, of the closure structure for testing and training purposes.
- (2) *Interior drainage systems.* Interior drainage systems associated with levee systems usually include storage areas, gravity outlets, pumping stations, or a combination thereof. These drainage systems will be recognized by FEMA on NFIP maps for flood protection purposes only if the following minimum criteria are included in the operation plan:
- (i) Documentation of the flood warning system, under the jurisdiction of Federal, State, or community officials, that will be used to trigger emergency operation activities and demonstration that sufficient flood warning time exists to permit activation of mechanized portions of the drainage system.
 - (ii) A formal plan of operation including specific actions and assignments of responsibility by individual name or title.
 - (iii) Provision for manual backup for the activation of automatic systems.
 - (iv) Provisions for periodic inspection of interior drainage systems and periodic operation of any mechanized portions for testing and training purposes. No more than one year shall elapse between either the inspections or the operations.
- (3) *Other operation plans and criteria.* Other operating plans and criteria may be required by FEMA to ensure that adequate protection is provided in specific situations. In such cases, sound emergency management practice will be the standard upon which FEMA determinations will be based.
- (d) *Maintenance plans and criteria.* For levee systems to be recognized as providing protection from the base flood, the maintenance criteria must be as described herein. Levee systems must be maintained in accordance with an officially adopted maintenance plan, and a copy of this plan must be provided to FEMA by the owner of the levee system when recognition is being sought or when the plan for a previously recognized system is revised in any manner. All maintenance activities must be under the jurisdiction of a Federal or State agency, an agency created by Federal or State law, or an agency of a community participating in the NFIP that must assume ultimate responsibility for maintenance. This plan must document the formal procedure that ensures that the stability, height, and overall integrity of the levee and its associated structures and systems are maintained. At a minimum, maintenance plan shall specify the maintenance activities to be performed, the frequency of their performance, and the person by name or title responsible for their performance.
- (e) *Certification requirements.* Data submitted to support that a given levee system complies with the structural requirements set forth in paragraphs (b)(1) through

(7) of this section must be certified by a registered professional engineer. Also, certified as-built plans of the levee must be submitted. Certifications are subject to the definition given at 65.2 of this subchapter. In lieu of these structural requirements, a Federal agency with responsibility for levee design may certify that the levee has been adequately designed and constructed to provide protection against the base flood.



SUMMARY/QUESTIONS & ANSWERS

61.12 Rates based on a flood protection system involving Federal funds.

- (a) Where the Administrator determines that a community has made adequate progress on the construction of a flood protection system involving Federal funds which will significantly limit the area of special flood hazards, the applicable risk premium rates for any property, located within a special flood hazard area intended to be protected directly by such system will be those risk premium rates which would be applicable when the system is complete.
- (b) Adequate progress in paragraph (a) of this section means that the community has provided information to the Administrator sufficient to determine that substantial completion of the flood protection system has been effected because:
- (1) 100 percent of the total financial project cost of the completed flood protection system has been authorized;
 - (2) At least 60 percent of the total financial project cost of the completed flood protection system has been appropriated;
 - (3) At least 50 percent of the total financial project cost of the completed flood protection system has been expended;
 - (4) All critical features of the flood protection system, as identified by the Administrator, are under construction, and each critical feature is 50 percent completed as measured by the actual expenditure of the estimated construction budget funds; and
 - (5) The community has not been responsible for any delay in the completion of the system.
- (c) Each request by a community for a determination must be submitted in writing to the Risk Studies Division, Office of Risk Assessment, Federal Insurance Administration, Federal Emergency Management Agency, Washington, DC, and contain a complete statement of all relevant facts relating to the flood protection system, including, but not limited to, supporting technical data (e.g., U.S. Army Corps of Engineers flood protection project data), cost schedules, budget appropriation data and the extent of Federal funding of the system's construction. Such facts shall include information sufficient to identify all persons affected by such flood protection system or by such request: a full and precise statement of intended purposes of the flood protection system; and a carefully detailed description of such project, including construction completion target dates. In addition, true copies of all contracts, agreements, leases, instruments, and other documents involved must be submitted with the request. Relevant facts reflected in documents, however, must be included in the statement and not merely incorporated by reference, and must be accompanied by an analysis of their bearing on the requirements of paragraph (b) of this section, specifying the pertinent provisions. The request must contain a statement whether, to the best of the knowledge of the person responsible for preparing the application for the community, the flood protection system is currently the subject matter of litigation before any Federal, State, or local court or administrative agency, and

the purpose of that litigation. The request must also contain a statement as to whether the community has previously requested a determination with respect to the same subject matter from the Administrator, detailing the disposition of such previous request. As documents become part of the file and cannot be returned, the original documents should not be submitted.

- (d) The effective date for any risk premium rates established under this section shall be the date of final determination by the Administrator that adequate progress toward completion of a flood protection system has been made in a community.
- (e) A responsible official of a community which received a determination that adequate progress has been made towards completion of a flood protection system shall certify to the Administrator annually on the anniversary date of receipt of such determination that no present delay in completion of the system is attributable to local sponsors of the system, and that a good faith effort is being made to complete the project.
- (f) A community for which risk premium rates have been made available under section 1307(e) of the National Flood Insurance Act of 1968, as amended, shall notify the Administrator if, at any time, all progress on the completion of the flood protection system has been halted or if the project for the completion of the flood protection system has been canceled.

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NATURAL AND TECHNOLOGICAL HAZARDS DIVISION (NTHD)

KEBBA BUCKLEY

FEDERAL EMERGENCY MANAGEMENT AGENCY

Revised as of October 1, 1986

National Flood Insurance Program and Related Regulations



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Telephone numbers listed are those of the Natural and Technological Hazards Divisions (NTHD) in the FEMA Regional Offices. National Flood Insurance Program-related correspondence should be sent to the attention of the NTHD Chief.

SUBCHAPTER B—INSURANCE AND HAZARD MITIGATION

EDITORIAL NOTE: Nomenclature changes to Subchapter B appear at 44 FR 31177, May 31, 1979 and 44 FR 62517, October 31, 1979.

PARTS 50-54 [RESERVED]

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NATIONAL FLOOD INSURANCE PROGRAM

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AUTHORITY: 42 U.S.C. 4001 et seq.; Reorganization Plan No. 3 of 1978; E.O. 12127.

Subpart A—General

§ 59.1 Definitions.

As used in this subchapter—

“Act” means the statutes authorizing the National Flood Insurance Program that are incorporated in 42 U.S.C. 4001-4128.

“Actuarial rates”—see “risk premium rates.”

“Administrator” means the Federal Insurance Administrator.

“Agency” means the Federal Emergency Management Agency, Washington DC.

“Applicant” means a community which indicates a desire to participate in the Program.

“Appurtenant structure” means a structure which is on the same parcel of property as the principal structure to be insured and the use of which is

incidental to the use of the principal structure.

“Area of shallow flooding” means a designated AO, AH, or VO zone on a community’s Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

“Area of special flood-related erosion hazard” is the land within a community which is most likely to be subject to severe flood-related erosion losses. The area may be designated as Zone E on the Flood Hazard Boundary Map (FHBM). After the detailed evaluation of the special flood-related erosion hazard area in preparation for publication of the FIRM, Zone E may be further refined.

“Area of special flood hazard” is the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. The area may be designated as Zone A on the FHBM. After detailed ratemaking has been completed in preparation for publication of the FIRM, Zone A usually is refined into Zones A, AO, AH, A1-30, AE, A99, VO, or V1-30, VE, or V.

“Area of special mudslide (i.e., mudflow) hazard” is the land within a community most likely to be subject to severe mudslides (i.e., mudflows). The area may be designated as Zone M on the FHBM. After the detailed evaluation of the special mudslide (i.e., mudflow) hazard area in preparation for publication of the FIRM, Zone M may be further refined.

“Associate Director” means the Associate Director, State and Local Programs, and Support.

“Base flood” means the flood having a one percent chance of being equalled or exceeded in any given year.

"*Basement*" means any area of the building having its floor subgrade (below ground level) on all sides.

"*Breakaway wall*" means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

"*Building*"—see "*structure*."

"*Chargeable rates*" mean the rates established by the Administrator pursuant to section 1308 of the Act for first layer limits of flood insurance on existing structures.

"*Chief Executive Officer*" of the community ("CEO") means the official of the community who is charged with the authority to implement and administer laws, ordinances and regulations for that community.

"*Coastal high hazard area*" means the area subject to high velocity waters, including but not limited to hurricane wave wash or tsunamis. The area is designated on a FIRM as Zone V1-30, VE, or V.

"*Community*" means any State or area or political subdivision thereof, or any Indian tribe or authorized tribal organization, or Alaska Native village or authorized native organization, which has authority to adopt and enforce flood plain management regulations for the areas within its jurisdiction.

"*Contents coverage*" is the insurance on personal property within an enclosed structure, including the cost of debris removal, and the reasonable cost of removal of contents to minimize damage. Personal property may be household goods usual or incidental to residential occupancy, or merchandise, furniture, fixtures, machinery, equipment and supplies usual to other than residential occupancies.

"*Criteria*" means the comprehensive criteria for land management and use for flood-prone areas developed under 42 U.S.C. 4102 for the purposes set forth in Part 60 of this subchapter.

"*Critical feature*" means an integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.

"*Curvilinear Line*" means the border on either a FHBM or FIRM that delineates the special flood, mudslide (i.e., mudflow) and/or flood-related erosion hazard areas and consists of a curved or contour line that follows the topography.

"*Deductible*" means the fixed amount or percentage of any loss covered by insurance which is borne by the insured prior to the insurer's liability.

"*Development*" means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations.

"*Director*" means the Director of the Federal Emergency Management Agency.

"*Eligible community*" or "*participating community*" means a community for which the Administrator has authorized the sale of flood insurance under the National Flood Insurance Program.

"*Elevated building*" means a non-basement building (i) built, in the case of a building in Zones A1-30, AE, A, A99, A0, AH, B, C, X, or D, to have the top of the elevated floor, or in the case of a building in Zones V1-30, VE, or V, to have the bottom of the lowest horizontal structure member of the elevated floor elevated above the ground level by means of pilings, columns (posts and piers), or shear walls parallel to the flow of the water and (ii) adequately anchored so as not to impair the structural integrity of the building during a flood of up to the magnitude of the base flood. In the case of Zones A1-30, AE, A, A99, A0, AH, B, C, X, or D, "elevated building" also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of flood waters. In the case of Zones V1-30, VE, or V, "elevated building" also includes a building otherwise meeting the definition of "elevated building", even though the lower area is enclosed by means of breakaway walls if the breakaway walls meet the standards of § 60.3(e)(5).

"Emergency Flood Insurance Program" or *"emergency program"* means the Program as implemented on an emergency basis in accordance with section 1336 of the Act. It is intended as a program to provide a first layer amount of insurance on all insurable structures before the effective date of the initial FIRM.

"Erosion" means the process of the gradual wearing away of land masses. This peril is not per se covered under the Program.

"Exception" means a waiver from the provisions of Part 60 of this subchapter directed to a community which relieves it from the requirements of a rule, regulation, order or other determination made or issued pursuant to the Act.

"Existing construction," means for the purposes of determining rates, structures for which the "start of construction" commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. "Existing construction" may also be referred to as "existing structures."

"Existing structures" see *"existing construction."*

"Federal agency" means any department, agency, corporation, or other entity or instrumentality of the executive branch of the Federal Government, and includes the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation.

"Federal instrumentality responsible for the supervision, approval, regulation, or insuring of banks, savings and loan associations, or similar institutions" means the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the Comptroller of the Currency, the Federal Home Loan Bank Board, the Federal Savings and Loan Insurance Corporation, and the National Credit Union Administration.

"Financial assistance" means any form of loan, grant, guaranty, insurance, payment, rebate, subsidy, disaster assistance loan or grant, or any other form of direct or indirect Federal assistance, other than general or special revenue sharing or formula grants made to States.

"Financial assistance for acquisition or construction purposes" means any form of financial assistance which is intended in whole or in part for the acquisition, construction, reconstruction, repair, or improvement of any publicly or privately owned building or mobile home, and for any machinery, equipment, fixtures, and furnishings contained or to be contained therein, and shall include the purchase or subsidization of mortgages or mortgage loans but shall exclude assistance pursuant to the Disaster Relief Act of 1974 other than assistance under such Act in connection with a flood. It includes only financial assistance insurable under the Standard Flood Insurance Policy.

"First-layer coverage" is the maximum amount of structural and contents insurance coverage available under the Emergency Program.

"Flood" or "Flooding" means:

(a) A general and temporary condition of partial or complete inundation of normally dry land areas from:

(1) The overflow of inland or tidal waters.

(2) The unusual and rapid accumulation or runoff of surface waters from any source.

(3) Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph (a)(2) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.

(b) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph (a)(1) of this definition.

"Flood elevation determination" means a determination by the Administrator of the water surface elevations

of the base flood, that is, the flood level that has a one percent or greater chance of occurrence in any given year.

"*Flood elevation study*" means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.

"*Flood Hazard Boundary Map*" (FHBM) means an official map of a community, issued by the Administrator, where the boundaries of the flood, mudslide (i.e., mudflow) related erosion areas having special hazards have been designated as Zones A, M, and/or E.

"*Flood insurance*" means the insurance coverage provided under the Program.

"*Flood Insurance Rate Map*" (FIRM) means an official map of a community, on which the Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community.

"*Flood Insurance Study*" see "*flood elevation study*."

"*Flood plain*" or "*flood-prone area*" means any land area susceptible to being inundated by water from any source (see definition of "flooding").

"*Flood plain management*" means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and flood plain management regulations.

"*Flood plain management regulations*" means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a flood plain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

"*Flood protection system*" means those physical structural works for which funds have been authorized, appropriated, and expended and which

have been constructed specifically to modify flooding in order to reduce the extent of the area within a community subject to a "special flood hazard" and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

"*Flood proofing*" means any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

"*Flood-related erosion*" means the collapse or subsidence of land along the shore of a lake or other body of water as a result of undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding.

"*Flood-related erosion area*" or "*flood-related erosion prone area*" means a land area adjoining the shore of a lake or other body of water, which due to the composition of the shoreline or bank and high water levels or wind-driven currents, is likely to suffer flood-related erosion damage.

"*Flood-related erosion area management*" means the operation of an overall program of corrective and preventive measures for reducing flood-related erosion damage, including but not limited to emergency preparedness plans, flood-related erosion control works, and flood plain management regulations.

"*Floodway*"—see "*regulatory floodway*."

"*Floodway encroachment lines*" mean the lines marking the limits of floodways on Federal, State and local flood plain maps.

"*Freeboard*" means a factor of safety usually expressed in feet above a flood level for purposes of flood plain man-

agement. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.

"*Functionally dependent use*" means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

"*General Counsel*" means the General Counsel of the Federal Emergency Management Agency.

"*Highest adjacent grade*" means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

"*Independent scientific body*" means a non-federal technical or scientific organization involved in the study of land use planning, flood plain management, hydrology, geology, geography, or any other related field of study concerned with flooding.

"*Insurance adjustment organization*" means any organization or person engaged in the business of adjusting loss claims arising under the Standard Flood Insurance Policy.

"*Insurance company*" or "*insurer*" means any person or organization authorized to engage in the insurance business under the laws of any State.

"*Levee*" means a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

"*Levee System*" means a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

"*Lowest Floor*" means the lowest floor of the lowest enclosed area (in-

cluding basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; *Provided*, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of § 60.3.

"*Mangrove stand*" means an assemblage of mangrove trees which are mostly low trees noted for a copious development of interlacing adventitious roots above the ground and which contain one or more of the following species: Black mangrove (*Avicennia Nitida*); red mangrove (*Rhizophora Mangle*); white mangrove (*Laguncularia Racemosa*); and buttonwood (*Conocarpus Erecta*).

"*Manufactured home*" means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For flood plain management purposes the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days. For insurance purposes the term "manufactured home" does not include park trailers, travel trailers, and other similar vehicles.

"*Manufactured home park or subdivision*" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

"*Map*" means the Flood Hazard Boundary Map (FHBM) or the Flood Insurance Rate Map (FIRM) for a community issued by the Agency.

"*Mean sea level*" means, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

"*Mudslide*" (*i.e., mudflow*) describes a condition where there is a river, flow or inundation of liquid mud down a hillside usually as a result of a dual condition of loss of brush cover, and the subsequent accumulation of water

on the ground preceded by a period of unusually heavy or sustained rain. A mudslide (i.e., mudflow) may occur as a distinct phenomenon while a landslide is in progress, and will be recognized as such by the Administrator only if the mudflow, and not the landslide, is the proximate cause of damage that occurs.

"*Mudslide (i.e., mudflow) area management*" means the operation of an overall program of corrective and preventive measures for reducing mudslide (i.e., mudflow) damage, including but not limited to emergency preparedness plans, mudslide control works, and flood plain management regulations.

"*Mudslide (i.e., mudflow) prone area*" means an area with land surfaces and slopes of unconsolidated material where the history, geology and climate indicate a potential for mudflow.

"*New construction*" means, for the purpose of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later. For flood plain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a flood plain management regulation adopted by a community.

"*100-year flood*" see "*base flood.*"

"*Participating community*," also known as an "eligible community," means a community in which the Administrator has authorized the sale of flood insurance.

"*Person*" includes any individual or group of individuals, corporation, partnership, association, or any other entity, including State and local governments and agencies.

"*Policy*" means the Standard Flood Insurance Policy.

"*Premium*" means the total premium payable by the insured for the coverage or coverages provided under the policy. The calculation of the premium may be based upon either chargeable rates or risk premium rates, or a combination of both.

"*Principally above ground*" means that at least 51 percent of the actual

cash value of the structure, less land value, is above ground.

"*Program*" means the National Flood Insurance Program authorized by 42 U.S.C. 4001-4128.

"*Program deficiency*" means a defect in a community's flood plain management regulations or administrative procedures that impairs effective implementation of those flood plain management regulations or of the standards in §§ 60.3, 60.4, 60.5, or 60.6.

"*Project cost*" means the total financial cost of a flood protection system (including design, land acquisition, construction, fees, overhead, and profits), unless the Federal Insurance Administrator determines a given "cost" not to be a part of such project cost.

"*Regular Program*" means the Program authorized by the Act under which risk premium rates are required for the first half of available coverage (also known as "first layer" coverage) for all new construction and substantial improvements started on or after the effective date of the FIRM, or after December 31, 1974, for FIRM's effective on or before that date. All buildings, the construction of which started before the effective date of the FIRM, or before January 1, 1975, for FIRM's effective before that date, are eligible for first layer coverage at either subsidized rates or risk premium rates, whichever are lower. Regardless of date of construction, risk premium rates are always required for the second layer coverage and such coverage is offered only after the Administrator has completed a risk study for the community.

"*Regulatory floodway*" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

"*Remedy a violation*" means to bring the structure or other development into compliance with State or local flood plain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from

flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing Federal financial exposure with regard to the structure or other development.

"*Risk premium rates*" mean those rates established by the Administrator pursuant to individual community studies and investigations which are undertaken to provide flood insurance in accordance with section 1307 of the Act and the accepted actuarial principles. "Risk premium rates" include provisions for operating costs and allowances.

"*Riverine*" means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

"*Sand dunes*" mean naturally occurring accumulations of sand in ridges or mounds landward of the beach.

"*Scientifically incorrect*". The methodology(ies) and/or assumptions which have been utilized are inappropriate for the physical processes being evaluated or are otherwise erroneous.

"*Second layer coverage*" means an additional limit of coverage equal to the amounts made available under the Emergency Program, and made available under the Regular Program.

"*Servicing company*" means a corporation, partnership, association, or any other organized entity which contracts with the Federal Insurance Administration to service insurance policies under the National Flood Insurance Program for a particular area.

"*Sheet flow area*"—see "*area of shallow flooding*."

"*Special hazard area*" means an area having special flood, mudslide (i.e., mudflow) and/or flood-related erosion hazards, and shown on an FHBM or FIRM as Zone A, AO, A1-30, AE, A99, AH, VO, V1-30, VE, V, M or E.

"*Standard Flood Insurance Policy*" means the flood insurance policy issued by the Federal Insurance Administrator, or an insurer pursuant to an arrangement with the Administrator pursuant to Federal statutes and regulations.

"*Start of Construction*" (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (Pub. L. 97-348)),

includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

"*State*" means any State, the District of Columbia, the territories and possessions of the United States, the Commonwealth of Puerto Rico, and the Trust Territory of the Pacific Islands.

"*State coordinating agency*" means the agency of the state government, or other office designated by the Governor of the state or by state statute at the request of the Administrator to assist in the implementation of the National Flood Insurance Program in that state.

"*Storm cellar*" means a space below grade used to accommodate occupants of the structure and emergency supplies as a means of temporary shelter against severe tornado or similar wind storm activity.

"*Structure*" means, for flood plain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home. "Structure" for insurance coverage purposes, means a walled and roofed building, other than a gas or liquid storage tank, that is principally above ground and affixed to a permanent site, as well as a manufactured home on a permanent foundation. For the latter purpose, the term includes a

building while in the course of construction, alteration or repair, but does not include building materials or supplies intended for use in such construction, alteration or repair, unless such materials or supplies are within an enclosed building on the premises.

"*Subsidized rates*" mean the rates established by the Administrator involving in the aggregate a subsidization by the Federal Government.

"*Substantial improvement*" means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either, (a) before the improvement or repair is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either (1) any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions or (2) any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

"*Technically incorrect*". The methodology(ies) utilized has been erroneously applied due to mathematical or measurement error, changed physical conditions, or insufficient quantity or quality of input data.

"*V Zone*"—see "coastal high hazard area."

"*Variance*" means a grant of relief by a community from the terms of a flood plain management regulation.

"*Violation*" means the failure of a structure or other development to be fully compliant with the community's flood plain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in § 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such

time as that documentation is provided.

"*Water surface elevation*" means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, (or other datum, where specified) of floods of various magnitudes and frequencies in the flood plains of coastal or riverine areas.

[41 FR 46968, Oct. 26, 1976, as amended at 43 FR 7140, Feb. 17, 1978. Redesignated at 44 FR 31177, May 31, 1979, and amended at 46 FR 1274, Jan. 6, 1981; 47 FR 43061, Sept. 30, 1982; 48 FR 31644, July 11, 1983; 48 FR 39068, Aug. 29, 1983; 48 FR 44543 and 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 49 FR 33655-33656, Aug. 24, 1984; 49 FR 38119, Sept. 27, 1984; 50 FR 36023, Sept. 4, 1985; 50 FR 40007, Oct. 1, 1985; 50 FR 43706, Oct. 29, 1985; 51 FR 30306, Aug. 25, 1986]

§ 59.2 Description of program.

(a) The National Flood Insurance Act of 1968 was enacted by Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448, August 1, 1968) to provide previously unavailable flood insurance protection to property owners in flood-prone areas. Mudslide (as defined in § 59.1) protection was added to the Program by the Housing and Urban Development Act of 1969 (Pub. L. 91-152, December 24, 1969). Flood-related erosion (as defined in § 59.1) protection was added to the Program by the Flood Disaster Protection Act of 1973 (Pub. L. 93-234, December 31, 1973). The Flood Disaster Protection Act of 1973 requires the purchase of flood insurance on and after March 2, 1974, as a condition of receiving any form of Federal or federally-related financial assistance for acquisition or construction purposes with respect to insurable buildings and mobile homes within an identified special flood, mudslide (i.e., mudflow), or flood-related erosion hazard area that is located within any community participating in the Program. The Act also requires that on and after July 1, 1975, or one year after a community has been formally notified by the Administrator of its identification as community containing one or more special flood, mudslide (i.e., mudflow), or flood-related erosion hazard areas, no such Federal financial assistance, shall be provided

within such an area unless the community in which the area is located is then participating in the Program, subject to certain exceptions. See FIA published Guidelines at § 59.4(c).

(b) To qualify for the sale of federally-subsidized flood insurance a community must adopt and submit to the Administrator as part of its application, flood plain management regulations, satisfying at a minimum the criteria set forth at Part 60 of this subchapter, designed to reduce or avoid future flood, mudslide (i.e., mudflow) or flood-related erosion damages. These regulations must include effective enforcement provisions.

(c) Minimum requirements for adequate flood plain management regulations are set forth in § 60.3 for flood-prone areas, in § 60.4 for mudslide (i.e., mudflow) areas and in § 60.5 for flood-related erosion areas. Those applicable requirements and standards are based on the amount of technical information available to the community.

[41 FR 46968, Oct. 26, 1976, as amended at 43 FR 7140, Feb. 17, 1978. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 59.3 Emergency program.

The 1968 Act required a risk study to be undertaken for each community before it could become eligible for the sale of flood insurance. Since this requirement resulted in a delay in providing insurance, the Congress, in section 408 of the Housing and Urban Development Act of 1969 (Pub. L. 91-152, December 24, 1969), established an Emergency Flood Insurance Program as a new section 1336 of the National Flood Insurance Act (42 U.S.C. 4056) to permit the early sale of insurance in flood-prone communities. The emergency program does not affect the requirement that a community must adopt adequate flood plain management regulations pursuant to Part 60 of this subchapter but permits insurance to be sold before a study is conducted to determine risk premium rates for the community. The program still requires upon the effective date of a FIRM the charging of risk premium rates for all new construction and substantial improvements and for higher

limits of coverage for existing structures.

[43 FR 7140, Feb. 17, 1978. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44543, Sept. 29, 1983]

§ 59.4 References.

(a) The following are statutory references for the National Flood Insurance Program, under which these regulations are issued:

(1) National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968), Pub. L. 90-448, approved August 1, 1968, 42 U.S.C. 4001 et seq.

(2) Housing and Urban Development Act of 1969 (Pub. L. 91-152, approved December 24, 1969).

(3) Flood Disaster Protection Act of 1973 (87 Stat. 980), Pub. L. 93-234, approved December 31, 1973.

(4) Section 816 of the Housing and Community Development Act of 1974 (87 Stat. 975), Pub. L. 93-383, approved August 22, 1974.

(5) Pub. L. 5-128 (effective October 12, 1977).

(6) The above statutes are included in 42 U.S.C. 4001 et seq.

(b) The following are references relevant to the National Flood Insurance Program:

(1) Executive Order 11988 (Flood-plain Management, dated May 24, 1977 (42 FR 26951, May 25, 1977)).

(2) The Flood Control Act of 1960 (Pub. L. 86-645).

(3) Title II, section 314 of Title III and section 406 of Title IV of the Disaster Relief Act of 1974 (Pub. L. 93-288).

(4) Coastal Zone Management Act (Pub. L. 92-583), as amended Pub. L. 94-370.

(5) Water Resources Planning Act (Pub. L. 89-90), as amended Pub. L. 94-112 (October 16, 1975).

(6) Title I, National Environmental Policy Act (Pub. L. 91-190).

(7) Land and Water Conservation Fund Act (Pub. L. 89-578), and subsequent amendments thereto.

(8) Water Resources Council, Principles and Standards for Planning, Water and Related Land Resources (38 FR 24778-24869, September 10, 1973).

(9) Executive Order 11593 (Protection and Enhancement of the Cultural Environment), dated May 13, 1971 (36 FR 8921, May 15, 1971).

(10) 89th Cong., 2nd Session, H.D. 465.

(11) Required land use element for comprehensive planning assistance under section 701 of the Housing Act of 1954, as amended by the Housing and Community Development Act of 1974 (24 CFR 600.72).

(12) Executive Order 11990 (Protection of Wetlands, dated May 24, 1977 (42 FR 26951, May 25, 1977)).

(13) Water Resources Council (Guidance for Floodplain Management) (42 FR 52590, September 30, 1977).

(14) Unified National Program for Floodplain Management of the United States Water Resources Council, July 1976.

(c) The following reference guidelines represent the views of the Federal Insurance Administration with respect to the mandatory purchase of flood insurance under section 102 of the Flood Disaster Protection Act of 1973: Mandatory Purchase of Flood Insurance Guidelines (39 FR 26186-26193, July 17, 1974; 40 FR 16710, April 14, 1975; 40 FR 54277-54278, November 21, 1975; and 41 FR 2426, January 16, 1976).

[41 FR 46968, Oct. 26, 1976, as amended at 43 FR 7140, Feb. 17, 1978. Redesignated at 44 FR 31177, May 31, 1979]

Subpart B—Eligibility Requirements

§ 59.21 Purpose of subpart.

This subpart lists actions that must be taken by a community to become eligible and to remain eligible for the Program.

[41 FR 46968, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979]

§ 59.22 Prerequisites for the sale of flood insurance.

(a) To qualify for flood insurance availability a community shall apply for the entire area within its jurisdiction, and shall submit:

(1) Copies of legislative and executive actions indicating a local need for flood insurance and an explicit desire

to participate in the National Flood Insurance Program;

(2) Citations to State and local statutes and ordinances authorizing actions regulating land use and copies of the local laws and regulations cited;

(3) A copy of the flood plain management regulations the community has adopted to meet the requirements of §§ 60.3, 60.4 and/or § 60.5 of this subchapter. This submission shall include copies of any zoning, building, and subdivision regulations, health codes, special purpose ordinances (such as a flood plain ordinance, grading ordinance, or flood-related erosion control ordinance), and any other corrective and preventive measures enacted to reduce or prevent flood, mudslide (i.e., mudflow) or flood-related erosion damage;

(4) A list of the incorporated communities within the applicant's boundaries;

(5) Estimates relating to the community as a whole and to the flood, mudslide (i.e., mudflow) and flood-related erosion prone areas concerning:

(i) Population;

(ii) Number of one to four family residences;

(iii) Number of small businesses; and

(iv) Number of all other structures.

(6) Address of a local repository, such as a municipal building, where the Flood Hazard Boundary Maps (FHBM's) and Flood Insurance Rate Maps (FIRM's) will be made available for public inspection;

(7) A summary of any State or Federal activities with respect to flood plain, mudslide (i.e., mudflow) or flood-related erosion area management within the community, such as federally-funded flood control projects and State-administered flood plain management regulations;

(8) A commitment to recognize and duly evaluate flood, mudslide (i.e., mudflow) and/or flood-related erosion hazards in all official actions in the areas having special flood, mudslide (i.e., mudflow) and/or flood-related erosion hazards and to take such other official action reasonably necessary to carry out the objectives of the program; and

(9) A commitment to:

(i) Assist the Administrator at his/her request, in his/her delineation of the limits of the areas having special flood, mudslide (i.e., mudflow) or flood-related erosion hazards;

(ii) Provide such information concerning present uses and occupancy of the flood plain, mudslide (i.e., mudflow) or flood-related erosion areas as the Administrator may request;

(iii) Maintain for public inspection and furnish upon request, for the determination of applicable flood insurance risk premium rates within all areas having special flood hazards identified on a FHBM or FIRM, any certificates of floodproofing, and information on the elevation (in relation to mean sea level) of the level of the lowest floor (including basement) of all new or substantially improved structures, and include whether or not such structures contain a basement, and if the structure has been floodproofed, the elevation (in relation to mean sea level) to which the structure was floodproofed;

(iv) Cooperate with Federal, State, and local agencies and private firms which undertake to study, survey, map, and identify flood plain, mudslide (i.e., mudflow) or flood-related erosion areas, and cooperate with neighboring communities with respect to the management of adjoining flood plain, mudslide (i.e., mudflow) and/or flood-related erosion areas in order to prevent aggravation of existing hazards;

(v) Upon occurrence, notify the Administrator in writing whenever the boundaries of the community have been modified by annexation or the community has otherwise assumed or no longer has authority to adopt and enforce flood plain management regulations for a particular area. In order that all FHBM's and FIRM's accurately represent the community's boundaries, include within such notification a copy of a map of the community suitable for reproduction, clearly delineating the new corporate limits or new area for which the community has assumed or relinquished flood plain management regulatory authority.

(b) An applicant shall legislatively:

(1) Appoint or designate the agency or official with the responsibility, authority, and means to implement the commitments made in paragraph (a) of this section, and

(2) Designate the official responsible to submit a report to the Administrator concerning the community participation in the Program, including, but not limited to the development and implementation of flood plain management regulations. This report shall be submitted annually or biennially as determined by the Administrator.

(c) The documents required by paragraph (a) of this section and evidence of the actions required by paragraph (b) of this section shall be submitted to the Federal Emergency Management Agency, Washington DC 20472.

[41 FR 46968, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979 and amended at 48 FR 29318, June 24, 1983; 48 FR 44543 and 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 49 FR 33656, Aug. 24, 1984; 50 FR 36023, Sept. 4, 1985]

§ 59.23 Priorities for the sale of flood insurance under the regular program.

Flood-prone, mudslide (i.e., mudflow) and flood-related erosion prone communities are placed on a register of areas eligible for ratemaking studies and then selected from this register for ratemaking studies on the basis of the following considerations—

(a) Recommendations of State officials;

(b) Location of community and urgency of need for flood insurance;

(c) Population of community and intensity of existing or proposed development of the flood plain, the mudslide (i.e., mudflow) and the flood-related erosion area;

(d) Availability of information on the community with respect to its flood, mudslide (i.e., mudflow) and flood-related erosion characteristics and previous losses;

(e) Extent of State and local progress in flood plain, mudslide (i.e., mudflow) area and flood-related erosion area management, including adoption of flood plain management regulations consistent with related ongoing programs in the area.

[41 FR 46968, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979]

§ 59.24 Suspension of community eligibility.

(a) A community eligible for the sale of flood insurance shall be subject to suspension from the Program for failing to submit copies of adequate flood plain management regulations meeting the minimum requirements of paragraphs (b), (c), (d) or (e) of § 60.3 or paragraph (b) of § 60.4 or § 60.5, within six months from the date the Administrator provides the data upon which the flood plain regulations for the applicable paragraph shall be based. Where there has not been any submission by the community, the Administrator shall notify the community that 90 days remain in the six month period in order to submit adequate flood plain management regulations. Where there has been an inadequate submission, the Administrator shall notify the community of the specific deficiencies in its submitted flood plain management regulations and inform the community of the amount of time remaining within the six month period. If, subsequently, copies of adequate flood plain management regulations are not received by the Administrator, he shall, no later than 30 days before the expiration of the original six month period, provide written notice to the community and to the state and assure publication in the **FEDERAL REGISTER** under Part 64 of this subchapter, of the community's loss of eligibility for the sale of flood insurance, such suspension to become effective upon the expiration of the six month period. Should the community remedy the defect and the Administrator receive copies of adequate flood plain management regulations within the notice period, the suspension notice shall be rescinded by the Administrator. If the Administrator receives notice from the State that it has enacted adequate flood plain management regulations for the community within the notice period, the suspension notice shall be rescinded by the Administrator. The community's eligibility shall remain terminated after suspension until copies of adequate flood plain management regula-

tions have been received and approved by the Administrator.

(b) A community eligible for the sale of flood insurance which fails to adequately enforce flood plain management regulations meeting the minimum requirements set forth in §§ 60.3, 60.4 and/or 60.5 shall be subject to probation. Probation shall represent formal notification to the community that the Administrator regards the community's flood plain management program as not compliant with NFIP criteria. Prior to imposing probation, the Administrator (1) shall inform the community upon 90 days prior written notice of the impending probation and of the specific program deficiencies and violations relative to the failure to enforce, (2) shall, at least 60 days before probation is to begin, issue a press release to local media explaining the reasons for and the effects of probation, and (3) when the probation is to begin on or after October 1, 1986, shall, at least 90 days before probation is to begin, advise all policyholders in the community of the impending probation and the additional premium that will be charged, as provided in this paragraph, on policies sold or renewed during the period of probation. During this 90-day period the community shall have the opportunity to avoid probation by demonstrating compliance with Program requirements, or by correcting Program deficiencies and remedying all violations to the maximum extent possible. If, at the end of the 90-day period, the Administrator determines that the community has failed to do so, the probation shall go into effect. Probation may be continued for up to one year after the community corrects all Program deficiencies and remedies all violations to the maximum extent possible. Flood insurance may be sold or renewed in the community while it is on probation. Where a policy covers property located in a community placed on probation on or after October 1, 1986, an additional premium of \$25.00 shall be charged on each such policy initially issued, based upon the submission by the applicant of an application for flood insurance, or renewed, based upon the policyholder's response to a turn-around renewal premium notice

or policyholder application notice, during the one-year period beginning on the date the community is placed on probation and during any successive one year periods during which the community remains on probation for any part thereof.

(c) A community eligible for the sale of flood insurance which fails to adequately enforce its flood plain management regulations meeting the minimum requirements set forth in §§ 60.3, 60.4 and/or 60.5 and does not correct its Program deficiencies and remedy all violations to the maximum extent possible in accordance with compliance deadlines established during a period of probation shall be subject to suspension of its Program eligibility. Under such circumstances, the Administrator shall grant the community 30 days in which to show cause why it should not be suspended. The Administrator may conduct a hearing, written or oral, before commencing suspensive action. If a community is to be suspended, the Administrator shall inform it upon 30 days prior written notice and upon publication in the FEDERAL REGISTER under Part 64 of this subchapter of its loss of eligibility for the sale of flood insurance. In the event of impending suspension, the Administrator shall issue a press release to the local media explaining the reasons and effects of the suspension. The community's eligibility shall only be reinstated by the Administrator upon his receipt of a local legislative or executive measure reaffirming the community's formal intent to adequately enforce the flood plain management requirements of this subpart, together with evidence of action taken by the community to correct Program deficiencies and remedy to the maximum extent possible those violations which caused the suspension. In certain cases, the Administrator, in order to evaluate the community's performance under the terms of its submission, may withhold reinstatement for a period not to exceed one year from the date of his receipt of the satisfactory submission or place the community on probation as provided for in paragraph (b) of this section.

(d) A community eligible for the sale of flood insurance which repeals its

flood plain management regulations, allows its regulations to lapse, or amends its regulations so that they no longer meet the minimum requirements set forth in §§ 60.3, 60.4 and/or 60.5 shall be suspended from the Program. If a community is to be suspended, the Administrator shall inform it upon 30 days prior written notice and upon publication in the FEDERAL REGISTER under Part 64 of this subchapter of its loss of eligibility for the sale of flood insurance. The community eligibility shall remain terminated after suspension until copies of adequate flood plain management regulations have been received and approved by the Administrator.

(e) A community eligible for the sale of flood insurance may withdraw from the Program by submitting to the Administrator a copy of a legislative action that explicitly states its desire to withdraw from the National Flood Insurance Program. Upon receipt of a certified copy of a final legislative action, the Administrator shall withdraw the community from the Program and publish in the FEDERAL REGISTER under Part 64 of this subchapter its loss of eligibility for the sale of flood insurance. A community that has withdrawn from the Program may be reinstated if it submits the application materials specified in § 59.22(a).

(f) If during a period of ineligibility under paragraphs (a), (d), or (e) of this section, a community has permitted actions to take place that have aggravated existing flood plain, mudslide (i.e., mudflow) and/or flood related erosion hazards, the Administrator may withhold reinstatement until the community submits evidence that it has taken action to remedy to the maximum extent possible the increased hazards. The Administrator may also place the reinstated community on probation as provided for in paragraph (b) of this section.

(g) The Administrator shall promptly notify the servicing company and any insurers issuing flood insurance pursuant to an arrangement with the Administrator of those communities whose eligibility has been suspended or which have withdrawn from the program. Flood insurance shall not be sold or renewed in those communities.

Policies sold or renewed within a community during a period of ineligibility are deemed to be voidable by the Administrator whether or not the parties to sale or renewal had actual notice of the ineligibility.

[41 FR 46968, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44543 and 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 50 FR 36023, Sept. 4, 1985]

PART 60—CRITERIA FOR LAND MANAGEMENT AND USE

Subpart A—Requirements for Flood Plain Management Regulations

Sec.

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- 60.25 Designation, duties, and responsibilities of State Coordinating Agencies.
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AUTHORITY: 42 U.S.C. 4001 et seq.; Reorganization Plan No. 3 of 1978; E.O. 12127.

SOURCE: 41 FR 46975, Oct. 26, 1976, unless otherwise noted. Redesignated at 44 FR 31177, May 31, 1979.

Subpart A—Requirements for Flood Plain Management Regulations

§ 60.1 Purpose of subpart.

(a) The Act provides that flood insurance shall not be sold or renewed under the program within a community, unless the community has adopted adequate flood plain management regulations consistent with Federal criteria. Responsibility for establishing such criteria is delegated to the Administrator.

(b) This subpart sets forth the criteria developed in accordance with the Act by which the Administrator will determine the adequacy of a community's flood plain management regulations. These regulations must be legally-enforceable, applied uniformly throughout the community to all privately and publicly owned land within flood-prone, mudslide (i.e., mudflow) or flood-related erosion areas, and the community must provide that the regulations take precedence over any less restrictive conflicting local laws, ordinances or codes. Except as otherwise provided in § 60.6, the adequacy of such regulations shall be determined on the basis of the standards set forth in § 60.3 for flood-prone areas, § 60.4 for mudslide areas and § 60.5 for flood-related erosion areas.

(c) Nothing in this subpart shall be construed as modifying or replacing the general requirement that all eligible communities must take into account flood, mudslide (i.e., mudflow) and flood-related erosion hazards, to the extent that they are known, in all official actions relating to land management and use.

(d) The criteria set forth in this subpart are minimum standards for the adoption of flood plain management regulations by flood-prone, mudslide (i.e., mudflow)-prone and flood-related erosion-prone communities. Any community may exceed the minimum criteria under this part by adopting more comprehensive flood plain management regulations utilizing the standards such as contained in Subpart C of this part. In some instances, community officials may have access to information or knowledge of conditions that require, particularly for human

safety, higher standards than the minimum criteria set forth in Subpart A of this part. Therefore, any flood plain management regulations adopted by a State or a community which are more restrictive than the criteria set forth in this part are encouraged and shall take precedence.

[41 FR 46975, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 60.2 Minimum compliance with flood plain management criteria.

(a) A flood-prone community applying for flood insurance eligibility shall meet the standards of § 60.3(a) in order to become eligible if a FHBM has not been issued for the community at the time of application. Thereafter, the community will be given a period of six months from the date the Administrator provides the data set forth in § 60.3 (b), (c), (d), or (e) in which to meet the requirements of the applicable paragraph. If a community has received a FHBM, but has not yet applied for Program eligibility, the community shall apply for eligibility directly under the standards set forth in § 60.3(b). Thereafter, the community will be given a period of six months from the date the Administrator provides the data set forth in § 60.3 (c), (d), or (e) in which to meet the requirements of the applicable paragraph.

(b) A mudslide (i.e., mudflow)-prone community applying for flood insurance eligibility shall meet the standards of § 60.4(a) to become eligible. Thereafter, the community will be given a period of six months from the date the mudslide (i.e., mudflow) areas having special mudslide hazards are delineated in which to meet the requirements of § 60.4(b).

(c) A flood-related erosion-prone community applying for flood insurance eligibility shall meet the standards of § 60.5(a) to become eligible. Thereafter, the community will be given a period of six months from the date the flood-related erosion areas having special erosion hazards are delineated in which to meet the requirements of § 60.5(b).

(d) Communities identified in Part 65 of this subchapter as containing more than one type of hazard (e.g., any combination of special flood, mudslide (i.e., mudflow), and flood-related erosion hazard areas) shall adopt flood plain management regulations for each type of hazard consistent with the requirements of §§ 60.3, 60.4 and 60.5.

(e) Local flood plain management regulations may be submitted to the State Coordinating Agency designated pursuant to § 60.25 for its advice and concurrence. The submission to the State shall clearly describe proposed enforcement procedures.

(f) The community official responsible for submitting annual or biennial reports to the Administrator pursuant to § 59.22(b)(2) of this subchapter shall also submit copies of each annual or biennial report to any State Coordinating Agency.

(g) A community shall assure that its comprehensive plan is consistent with the flood plain management objectives of this part.

(h) The community shall adopt and enforce flood plain management regulations based on data provided by the Administrator. Without prior approval of the Administrator, the community shall not adopt and enforce flood plain management regulations based upon modified data reflecting natural or man-made physical changes.

[41 FR 46975, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 29318, June 24, 1983; 48 FR 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 50 FR 36024, Sept. 4, 1985]

§ 60.3 Flood plain management criteria for flood-prone areas.

The Administrator will provide the data upon which flood plain management regulations shall be based. If the Administrator has not provided sufficient data to furnish a basis for these regulations in a particular community, the community shall obtain, review and reasonably utilize data available from other Federal, State or other sources pending receipt of data from the Administrator. However, when special flood hazard area designations and water surface elevations have

been furnished by the Administrator, they shall apply. The symbols defining such special flood hazard designations are set forth in § 64.3 of this subchapter. In all cases the minimum requirements governing the adequacy of the flood plain management regulations for flood-prone areas adopted by a particular community depend on the amount of technical data formally provided to the community by the Administrator. Minimum standards for communities are as follows:

(a) When the Administrator has not defined the special flood hazard areas within a community, has not provided water surface elevation data, and has not provided sufficient data to identify the floodway or coastal high hazard area, but the community has indicated the presence of such hazards by submitting an application to participate in the Program, the community shall:

(1) Require permits for all proposed construction or other development in the community, including the placement of manufactured homes, so that it may determine whether such construction or other development is proposed within flood-prone areas;

(2) Review proposed development to assure that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334;

(3) Review all permit applications to determine whether proposed building sites will be reasonably safe from flooding. If a proposed building site is in a flood-prone area, all new construction and substantial improvements shall (i) be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, (ii) be constructed with materials resistant to flood damage, (iii) be constructed by methods and practices that minimize flood damages, and (iv) be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accu-

mulating within the components during conditions of flooding.

(4) Review subdivision proposals and other proposed new development, including manufactured home parks or subdivisions, to determine whether such proposals will be reasonably safe from flooding. If a subdivision proposal or other proposed new development is in a flood-prone area, any such proposals shall be reviewed to assure that (i) all such proposals are consistent with the need to minimize flood damage within the flood-prone area, (ii) all public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage, and (iii) adequate drainage is provided to reduce exposure to flood hazards;

(5) Require within flood-prone areas new and replacement water supply systems to be designed to minimize or eliminate infiltration of flood waters into the systems; and

(6) Require within flood-prone areas (i) new and replacement sanitary sewage systems to be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters and (ii) onsite waste disposal systems to be located to avoid impairment to them or contamination from them during flooding.

(b) When the Administrator has designated areas of special flood hazards (A zones) by the publication of a community's FHBM or FIRM, but has neither produced water surface elevation data nor identified a floodway or coastal high hazard area, the community shall:

(1) Require permits for all proposed construction and other developments including the placement of manufactured homes, within Zone A on the community's FHBM or FIRM;

(2) Require the application of the standards in paragraphs (a) (2), (3), (4), (5) and (6) of this section to development within Zone A on the community's FHBM or FIRM;

(3) Require that all new subdivision proposals and other proposed developments (including proposals for manufactured home parks and subdivisions) greater than 50 lots or 5 acres, which-

ever is the lesser, include within such proposals base flood elevation data;

(4) Obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State, or other source, including data developed pursuant to paragraph (b)(3) of this section, as criteria for requiring that new construction, substantial improvements, or other development in Zone A on the community's FHBM or FIRM meet the standards in paragraphs (c)(2), (c)(3), (c)(5), (c)(6), (d)(2) and (d)(3) of this section;

(5) Where base flood elevation data are utilized, within Zone A on the community's FHBM or FIRM:

(i) Obtain the elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures, and

(ii) Obtain, if the structure has been floodproofed in accordance with paragraph (c)(3)(ii) of this section, the elevation (in relation to mean sea level) to which the structure was floodproofed, and

(iii) Maintain a record of all such information with the official designated by the community under § 59.22(a)(9)(iii);

(6) Notify, in riverine situations, adjacent communities and the State Coordinating Office prior to any alteration or relocation of a watercourse, and submit copies of such notifications to the Administrator;

(7) Assure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained;

(8) Require that all manufactured homes to be placed within Zone A on a community's FHBM or FIRM shall be installed using methods and practices which minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not to be limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces.

(c) When the Administrator has provided a notice of final flood elevations for one or more special flood hazard

areas on the community's FIRM and, if appropriate, has designated other special flood hazard areas without base flood elevations on the community's FIRM, but has not identified a regulatory floodway or coastal high hazard area, the community shall:

(1) Require the standards of paragraph (b) of this section within all A1-30 zones, AE zones, A zones, AH zones, and AO zones, on the community's FIRM;

(2) Require that all new construction and substantial improvements of residential structures within Zones A1-30, AE and AH zones on the community's FIRM have the lowest floor (including basement) elevated to or above the base flood level, unless the community is granted an exception by the Administrator for the allowance of basements in accordance with § 60.6 (b) or (c);

(3) Require that all new construction and substantial improvements of non-residential structures within Zones A1-30, AE and AH zones on the community's firm (i) have the lowest floor (including basement) elevated to or above the base flood level or, (ii) together with attendant utility and sanitary facilities, be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

(4) Provide that where a non-residential structure is intended to be made watertight below the base flood level, (i) a registered professional engineer or architect shall develop and/or review structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the applicable provisions of paragraph (c)(3)(ii) or (c)(8)(ii) of this section, and (ii) a record of such certificates which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed shall be maintained with the official designated by the community under § 59.22(a)(9)(iii);

(5) Require, for all new construction and substantial improvements, that fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria: A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(6) Require that all manufactured homes to be placed or substantially improved within Zones A1-30, AH, and AE on the community's FIRM be elevated on a permanent foundation such that the lowest floor of the manufactured home is at or above the base flood elevation; and be securely anchored to an adequately anchored foundation system in accordance with the provisions of paragraph (b)(8) of this section.

(7) Require within any AO zone on the community's FIRM that all new construction and substantial improvements of residential structures have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified);

(8) Require within any AO zone on the community's FIRM that all new construction and substantial improvements of nonresidential structures (i) have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified), or (ii) together with attendant utility and sanitary facilities be completely flood-proofed to that level to meet the

floodproofing standard specified in § 60.3(c)(3)(ii);

(9) Require within any A99 zones on a community's FIRM the standards of paragraphs (a)(1) through (a)(4)(i) and (b)(5) through (b)(9) of this section;

(10) Require until a regulatory floodway is designated, that no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

(11) Require within Zones AH and AO, adequate drainage paths around structures on slopes, to guide floodwaters around and away from proposed structures.

(d) When the Administrator has provided a notice of final base flood elevations within Zones A1-30 and/or AE on the community's FIRM and, if appropriate, has designated AO zones, AH zones, A99 zones, and A zones on the community's FIRM, and has provided data from which the community shall designate its regulatory floodway, the community shall:

(1) Meet the requirements of paragraphs (c) (1) through (11) of this section;

(2) Select and adopt a regulatory floodway based on the principle that the area chosen for the regulatory floodway must be designed to carry the waters of the base flood, without increasing the water surface elevation of that flood more than one foot at any point;

(3) Prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway that would result in any increase in flood levels within the community during the occurrence of the base flood discharge;

(e) When the Administrator has provided a notice of final base flood elevations within Zones A1-30 and/or AE on the community's FIRM and, if ap-

appropriate, has designated AH zones, AO zones, A99 zones, and A zones on the community's FIRM, and has identified on the community's FIRM coastal high hazard areas by designating Zones V1-30, VE, and/or V, the community shall:

(1) Meet the requirements of paragraphs (c)(1) through (11) of this section;

(2) Within Zones V1-30, VE, and V on a community's FIRM, (i) obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures, and whether or not such structures contain a basement, and (ii) maintain a record of all such information with the official designated by the community under § 59.22(a)(9)(iii);

(3) Provide that all new construction within Zones V1-30, VE, and V on the community's FIRM is located landward of the reach of mean high tide;

(4) Provide that all new construction and substantial improvements in Zones V1-30 and VE, and also Zone V if base flood elevation data is available, on the community's FIRM, are elevated on pilings and columns so that (i) the bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to or above the base flood level; and (ii) the pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equalled or exceeded in any given year (100-year mean recurrence interval). A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of paragraphs (e)(4)(i) and (ii) of this section.

(5) Provide that all new construction and substantial improvements within Zones V1-30, VE, and V on the com-

munity's FIRM have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood lattice-work, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. For the purposes of this section, a breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by local or State codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions:

(i) Breakaway wall collapse shall result from a water load less than that which would occur during the base flood; and,

(ii) The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). Maximum wind and water loading values to be used in this determination shall each have one percent chance of being equalled or exceeded in any given year (100-year mean recurrence interval).

Such enclosed space shall be useable solely for parking of vehicles, building access, or storage.

(6) Prohibit the use of fill for structural support of buildings within Zones V1-30, VE, and V on the community's FIRM;

(7) Prohibit man-made alteration of sand dunes and mangrove stands within Zones V1-30, VE, and V on the community's FIRM which would increase potential flood damage.

[41 FR 46975, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 46 FR 1274, Jan. 6, 1981; 48 FR 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 49 FR 33656, Aug. 24, 1984; 50 FR 36024, Sept. 4, 1985; 51 FR 30307, Aug. 25, 1986]

§ 60.4 Flood plain management criteria for mudslide (i.e., mudflow)-prone areas.

The Administrator will provide the data upon which flood plain management regulations shall be based. If the Administrator has not provided sufficient data to furnish a basis for these regulations in a particular community, the community shall obtain, review, and reasonably utilize data available from other Federal, State or other sources pending receipt of data from the Administrator. However, when special mudslide (i.e., mudflow) hazard area designations have been furnished by the Administrator, they shall apply. The symbols defining such special mudslide (i.e., mudflow) hazard designations are set forth in § 64.3 of this subchapter. In all cases, the minimum requirements for mudslide (i.e., mudflow)-prone areas adopted by a particular community depend on the amount of technical data provided to the community by the Administrator. Minimum standards for communities are as follows:

(a) When the Administrator has not yet identified any area within the community as an area having special mudslide (i.e., mudflow) hazards, but the community has indicated the presence of such hazards by submitting an application to participate in the Program, the community shall

(1) Require permits for all proposed construction or other development in the community so that it may determine whether development is proposed within mudslide (i.e., mudflow)-prone areas;

(2) Require review of each permit application to determine whether the proposed site and improvements will be reasonably safe from mudslides (i.e., mudflows). Factors to be considered in making such a determination should include but not be limited to (i) the type and quality of soils, (ii) any evidence of ground water or surface water problems, (iii) the depth and quality of any fill, (iv) the overall slope of the site, and (v) the weight that any proposed structure will impose on the slope;

(3) Require, if a proposed site and improvements are in a location that may have mudslide (i.e., mudflow) haz-

ards, that (i) a site investigation and further review be made by persons qualified in geology and soils engineering, (ii) the proposed grading, excavations, new construction, and substantial improvements are adequately designed and protected against mudslide (i.e., mudflow) damages, (iii) the proposed grading, excavations, new construction and substantial improvements do not aggravate the existing hazard by creating either on-site or off-site disturbances, and (iv) drainage, planting, watering, and maintenance be such as not to endanger slope stability.

(b) When the Administrator has delineated Zone M on the community's FIRM, the community shall:

(1) Meet the requirements of paragraph (a) of this section; and

(2) Adopt and enforce a grading ordinance or regulation in accordance with data supplied by the Administrator which (i) regulates the location of foundation systems and utility systems of new construction and substantial improvements, (ii) regulates the location, drainage and maintenance of all excavations, cuts and fills and planted slopes, (iii) provides special requirements for protective measures including but not necessarily limited to retaining walls, buttress fills, sub-drains, diverter terraces, benchings, etc., and (iv) requires engineering drawings and specifications to be submitted for all corrective measures, accompanied by supporting soils engineering and geology reports. Guidance may be obtained from the provisions of the 1973 edition and any subsequent edition of the Uniform Building Code, sections 7001 through 7006, and 7008 through 7015. The Uniform Building Code is published by the International Conference of Building Officials, 50 South Los Robles, Pasadena, California 91101.

[41 FR 46975, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 60.5 Flood plain management criteria for flood-related erosion-prone areas.

The Administrator will provide the data upon which flood plain manage-

ment regulations for flood-related erosion-prone areas shall be based. If the Administrator has not provided sufficient data to furnish a basis for these regulations in a particular community, the community shall obtain, review, and reasonably utilize data available from other Federal, State or other sources, pending receipt of data from the Administrator. However, when special flood-related erosion hazard area designations have been furnished by the Administrator they shall apply. The symbols defining such special flood-related erosion hazard designations are set forth in § 64.3 of this subchapter. In all cases the minimum requirements governing the adequacy of the flood plain management regulations for flood-related erosion-prone areas adopted by a particular community depend on the amount of technical data provided to the community by the Administrator. Minimum standards for communities are as follows:

(a) When the Administrator has not yet identified any area within the community as having special flood-related erosion hazards, but the community has indicated the presence of such hazards by submitting an application to participate in the Program, the community shall

(1) Require the issuance of a permit for all proposed construction, or other development in the area of flood-related erosion hazard, as it is known to the community;

(2) Require review of each permit application to determine whether the proposed site alterations and improvements will be reasonably safe from flood-related erosion and will not cause flood-related erosion hazards or otherwise aggravate the existing flood-related erosion hazard; and

(3) If a proposed improvement is found to be in the path of flood-related erosion or to increase the erosion hazard, require the improvement to be relocated or adequate protective measures to be taken which will not aggravate the existing erosion hazard.

(b) When the Administrator has delineated Zone E on the community's FIRM, the community shall

(1) Meet the requirements of paragraph (a) of this section; and

(2) Require a setback for all new development from the ocean, lake, bay, riverfront or other body of water, to create a safety buffer consisting of a natural vegetative or contour strip. This buffer will be designated by the Administrator according to the flood-related erosion hazard and erosion rate, in conjunction with the anticipated "useful life" of structures, and depending upon the geologic, hydrologic, topographic and climatic characteristics of the community's land. The buffer may be used for suitable open space purposes, such as for agricultural, forestry, outdoor recreation and wildlife habitat areas, and for other activities using temporary and portable structures only.

[41 FR 46975, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 60.6 Variances and exceptions.

(a) The Administrator does not set forth absolute criteria for granting variances from the criteria set forth in §§ 60.3, 60.4, and 60.5. The issuance of a variance is for flood plain management purposes only. Insurance premium rates are determined by statute according to actuarial risk and will not be modified by the granting of a variance. The community, after examining the applicant's hardships, shall approve or disapprove a request. While the granting of variances generally is limited to a lot size less than one-half acre (as set forth in paragraph (a)(2) of this section), deviations from that limitation may occur. However, as the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases. The Administrator may review a community's findings justifying the granting of variances, and if that review indicates a pattern inconsistent with the objectives of sound flood plain management, the Administrator may take appropriate action under § 59.24(b) of this subchapter. Variances may be issued by a community for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or a State Inventory of Historic Places, without

regard to the procedures set forth in this section. Procedures for the granting of variances by a community are as follows:

(1) Variances shall not be issued by a community within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result;

(2) Variances may be issued by a community for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, in conformance with the procedures of paragraphs (a) (3), (4), (5) and (6) of this section;

(3) Variances shall only be issued by a community upon (i) a showing of good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances;

(4) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief;

(5) A community shall notify the applicant in writing over the signature of a community official that (i) the issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage and (ii) such construction below the base flood level increases risks to life and property. Such notification shall be maintained with a record of all variance actions as required in paragraph (a)(6) of this section; and

(6) A community shall (i) maintain a record of all variance actions, including justification for their issuance, and (ii) report such variances issued in its annual or biennial report submitted to the Administrator.

(7) Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that (i) the criteria of paragraphs (a)(1) through (a)(4) of this section are met, and (ii) the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

(b)(1) The requirement that each flood-prone, mudslide (i.e., mudflow)-prone, and flood-related erosion prone community must adopt and submit adequate flood plain management regulations as a condition of initial and continued flood insurance eligibility is statutory and cannot be waived, and such regulations shall be adopted by a community within the time periods specified in §§ 60.3, 60.4 or § 60.5. However, certain exceptions from the standards contained in this subpart may be permitted where the Administrator recognizes that, because of extraordinary circumstances, local conditions may render the application of certain standards the cause for severe hardship and gross inequity for a particular community. Consequently, a community proposing the adoption of flood plain management regulations which vary from the standards set forth in §§ 60.3, 60.4, or § 60.5, shall explain in writing to the Administrator the nature and extent of and the reasons for the exception request and shall include sufficient supporting economic, environmental, topographic, hydrologic, and other scientific and technical data, and data with respect to the impact on public safety and the environment.

(2) The Administrator shall prepare a Special Environmental Clearance to determine whether the proposal for an exception under paragraph (b)(1) of this section will have significant impact on the human environment. The decision whether an Environmental Impact Statement or other environmental document will be prepared, will be made in accordance with the procedures set out in 44 CFR Part 10. Ninety or more days may be required for an environmental quality clearance if the proposed exception will have sig-

nificant impact on the human environment thereby requiring an EIS.

(c) A community may propose flood plain management measures which adopt standards for floodproofed residential basements below the base flood level in zones A1-30, AH, AO, and AE which are not subject to tidal flooding. Notwithstanding the requirements of paragraph (b) of this section the Administrator may approve the proposal provided that:

(1) The community has demonstrated that areas of special flood hazard in which basements will be permitted are subject to shallow and low velocity flooding and that there is adequate flood warning time to ensure that all residents are notified of impending floods. For the purposes of this paragraph flood characteristics must include:

(i) Flood depths that are five feet or less for developable lots that are contiguous to land above the base flood level and three feet or less for other lots;

(ii) Flood velocities that are five feet per second or less; and

(iii) Flood warning times that are 12 hours or greater. Flood warning times of two hours or greater may be approved if the community demonstrates that it has a flood warning system and emergency plan in operation that is adequate to ensure safe evacuation of flood plain residents.

(2) The community has adopted flood plain management measures that require that new construction and substantial improvements of residential structures with basements in zones A1-30, AH, AO, and AE shall:

(i) Be designed and built so that any basement area, together with attendant utilities and sanitary facilities below the floodproofed design level, is watertight with walls that are impermeable to the passage of water without human intervention. Basement walls shall be built with the capacity to resist hydrostatic and hydrodynamic loads and the effects of buoyancy resulting from flooding to the floodproofed design level, and shall be designed so that minimal damage will occur from floods that exceed that level. The floodproofed design level shall be an elevation one foot above

the level of the base flood where the difference between the base flood and the 500-year flood is three feet or less and two feet above the level of the base flood where the difference is greater than three feet.

(ii) Have the top of the floor of any basement area no lower than five feet below the elevation of the base flood;

(iii) Have the area surrounding the structure on all sides filled to or above the elevation of the base flood. Fill must be compacted with slopes protected by vegetative cover;

(iv) Have a registered professional engineer or architect develop or review the building's structural design, specifications, and plans, including consideration of the depth, velocity, and duration of flooding and type and permeability of soils at the building site, and certify that the basement design and methods of construction proposed are in accordance with accepted standards of practice for meeting the provisions of this paragraph;

(v) Be inspected by the building inspector or other authorized representative of the community to verify that the structure is built according to its design and those provisions of this section which are verifiable.

[41 FR 46975, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44543 and 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 50 FR 36025, Sept. 4, 1985; 51 FR 30308, Aug. 25, 1986]

§ 60.7 Revisions of criteria for flood plain management regulations.

From time to time Part 60 may be revised as experience is acquired under the Program and new information becomes available. Communities will be given six months from the effective date of any new regulation to revise their flood plain management regulations to comply with any such changes.

§ 60.8 Definitions.

The definitions set forth in Part 59 of this subchapter are applicable to this part.

Subpart B—Requirements for State Flood Plain Management Regulations

§ 60.11 Purpose of this subpart.

(a) A State is considered a "community" pursuant to § 59.1 of this subchapter; and, accordingly, the Act provides that flood insurance shall not be sold or renewed under the Program unless a community has adopted adequate flood plain management regulations consistent with criteria established by the Administrator.

(b) This subpart sets forth the flood plain management criteria required for State-owned properties located within special hazard areas identified by the Administrator. A State shall satisfy such criteria as a condition to the purchase of a Standard Flood Insurance Policy for a State-owned structure or its contents, or as a condition to the approval by the Administrator, pursuant to Part 75 of this subchapter, of its plan of self-insurance.

[41 FR 46975, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 60.12 Flood plain management criteria for State-owned properties in special hazard areas.

(a) The State shall comply with the minimum flood plain management criteria set forth in §§ 60.3, 60.4, and 60.5. A State either shall:

(1) Comply with the flood plain management requirements of all local communities participating in the program in which State-owned properties are located; or

(2) Establish and enforce flood plain management regulations which, at a minimum, satisfy the criteria set forth in §§ 60.3, 60.4, and 60.5.

(b) The procedures by which a state government adopts and administers flood plain management regulations satisfying the criteria set forth in §§ 60.3, 60.4 and 60.5 may vary from the procedures by which local governments satisfy the criteria.

(c) If any State-owned property is located in a non-participating local community, then the State shall comply with the requirements of paragraph (a)(2) of this section for the property.

§ 60.13 Noncompliance.

If a State fails to submit adequate flood plain management regulations applicable to State-owned properties pursuant to § 60.12 within six months of the effective date of this regulation, or fails to adequately enforce such regulations, the State shall be subject to suspensive action pursuant to § 59.24. Where the State fails to adequately enforce its flood plain management regulations, the Administrator shall conduct a hearing before initiating such suspensive action.

[41 FR 46975, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

Subpart C—Additional Considerations in Managing Flood-Prone, Mudslide (i.e., Mudflow)-Prone and Flood-Related Erosion-Prone Areas

§ 60.21 Purpose of this subpart.

The purpose of this subpart is to encourage the formation and adoption of overall comprehensive management plans for flood-prone, mudslide (i.e., mudflow)-prone and flood-related erosion-prone areas. While adoption by a community of the standards in this subpart is not mandatory, the community shall completely evaluate these standards.

§ 60.22 Planning considerations for flood-prone areas.

(a) The flood plain management regulations adopted by a community for flood-prone areas should:

(1) Permit only that development of flood-prone areas which (i) is appropriate in light of the probability of flood damage and the need to reduce flood losses, (ii) is an acceptable social and economic use of the land in relation to the hazards involved, and (iii) does not increase the danger to human life;

(2) Prohibit nonessential or improper installation of public utilities and public facilities in flood-prone areas.

(b) In formulating community development goals after the occurrence of a flood disaster, each community shall consider—

(1) Preservation of the flood-prone areas for open space purposes;

(2) Relocation of occupants away from flood-prone areas;

(3) Acquisition of land or land development rights for public purposes consistent with a policy of minimization of future property losses;

(4) Acquisition of frequently flood-damaged structures;

(c) In formulating community development goals and in adopting flood plain management regulations, each community shall consider at least the following factors—

(1) Human safety;

(2) Diversion of development to areas safe from flooding in light of the need to reduce flood damages and in light of the need to prevent environmentally incompatible flood plain use;

(3) Full disclosure to all prospective and interested parties (including but not limited to purchasers and renters) that (i) certain structures are located within flood-prone areas, (ii) variances have been granted for certain structures located within flood-prone areas, and (iii) premium rates applied to new structures built at elevations below the base flood substantially increase as the elevation decreases;

(4) Adverse effects of flood plain development on existing development;

(5) Encouragement of floodproofing to reduce flood damage;

(6) Flood warning and emergency preparedness plans;

(7) Provision for alternative vehicular access and escape routes when normal routes are blocked or destroyed by flooding;

(8) Establishment of minimum floodproofing and access requirements for schools, hospitals, nursing homes, orphanages, penal institutions, fire stations, police stations, communications centers, water and sewage pumping stations, and other public or quasi-public facilities already located in the flood-prone area, to enable them to withstand flood damage, and to facilitate emergency operations;

(9) Improvement of local drainage to control increased runoff that might increase the danger of flooding to other properties;

(10) Coordination of plans with neighboring community's flood plain management programs;

(11) The requirement that all new construction and substantial improvements in areas subject to subsidence be elevated above the base flood level equal to expected subsidence for at least a ten year period;

(12) For riverine areas, requiring subdividers to furnish delineations for floodways before approving a subdivision;

(13) Prohibition of any alteration or relocation of a watercourse, except as part of an overall drainage basin plan. In the event of an overall drainage basin plan, provide that the flood carrying capacity within the altered or relocated portion of the watercourse is maintained;

(14) Requirement of setbacks for new construction within Zones V1-30, VE, and V on a community's FIRM;

(15) Requirement of additional elevation above the base flood level for all new construction and substantial improvements within Zones A1-30, AE, V1-30, and VE on the community's FIRM to protect against such occurrences as wave wash and floating debris, to provide an added margin of safety against floods having a magnitude greater than the base flood, or to compensate for future urban development;

(16) Requirement of consistency between state, regional and local comprehensive plans and flood plain management programs;

(17) Requirement of pilings or columns rather than fill, for the elevation of structures within flood-prone areas, in order to maintain the storage capacity of the flood plain and to minimize the potential for negative impacts to sensitive ecological areas;

(18) Prohibition, within any floodway or coastal high hazard area, of plants or facilities in which hazardous substances are manufactured.

[41 FR 46975, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 50 FR 36025, Sept. 4, 1985]

§ 60.23 Planning considerations for mudslide (i.e., mudflow)-prone areas.

The planning process for communities identified under Part 65 of this subchapter as containing Zone M, or which indicate in their applications for flood insurance pursuant to § 59.22 of this subchapter that they have mudslide (i.e., mudflow) areas, should include—

(a) The existence and extent of the hazard;

(b) The potential effects of inappropriate hillside development, including

(1) Loss of life and personal injuries, and

(2) Public and private property losses, costs, liabilities, and exposures resulting from potential mudslide (i.e., mudflow) hazards;

(c) The means of avoiding the hazard including the (1) availability of land which is not mudslide (i.e., mudflow)-prone and the feasibility of developing such land instead of further encroaching upon mudslide (i.e., mudflow) areas, (2) possibility of public acquisition of land, easements, and development rights to assure the proper development of hillsides, and (3) advisability of preserving mudslide (i.e., mudflow) areas as open space;

(d) The means of adjusting to the hazard, including the (1) establishment by ordinance of site exploration, investigation, design, grading, construction, filing, compacting, foundation, sewerage, drainage, subdrainage, planting, inspection and maintenance standards and requirements that promote proper land use, and (2) provision for proper drainage and subdrainage on public property and the location of public utilities and service facilities, such as sewer, water, gas and electrical systems and streets in a manner designed to minimize exposure to mudslide (i.e., mudflow) hazards and prevent their aggravation;

(e) Coordination of land use, sewer, and drainage regulations and ordinances with fire prevention, flood plain, mudslide (i.e., mudflow), soil, land, and water regulation in neighboring communities;

(f) Planning subdivisions and other developments in such a manner as to avoid exposure to mudslide (i.e., mudflow) hazards and the control of public

facility and utility extension to discourage inappropriate development;

(g) Public facility location and design requirements with higher site stability and access standards for schools, hospitals, nursing homes, orphanages, correctional and other residential institutions, fire and police stations, communication centers, electric power transformers and substations, water and sewer pumping stations and any other public or quasi-public institutions located in the mudslide (i.e., mudflow) area to enable them to withstand mudslide (i.e., mudflow) damage and to facilitate emergency operations; and

(h) Provision for emergencies, including:

(1) Warning, evacuation, abatement, and access procedures in the event of mudslide (i.e., mudflow),

(2) Enactment of public measures and initiation of private procedures to limit danger and damage from continued or future mudslides (i.e., mudflow),

(3) Fire prevention procedures in the event of the rupture of gas or electrical distribution systems by mudslides,

(4) Provisions to avoid contamination of water conduits or deterioration of slope stability by the rupture of such systems,

(5) Similar provisions for sewers which in the event of rupture pose both health and site stability hazards and

(6) Provisions for alternative vehicular access and escape routes when normal routes are blocked or destroyed by mudslides (i.e., mudflow);

(i) The means for assuring consistency between state, areawide, and local comprehensive plans with the plans developed for mudslide (i.e., mudflow)-prone areas;

(j) Deterring the nonessential installation of public utilities and public facilities in mudslide (i.e., mudflow)-prone areas.

§ 60.24 Planning considerations for flood-related erosion-prone areas.

The planning process for communities identified under Part 65 of this subchapter as containing Zone E or which indicate in their applications

for flood insurance coverage pursuant to § 59.22 of this subchapter that they have flood-related erosion areas should include—

- (a) The importance of directing future developments to areas not exposed to flood-related erosion;
- (b) The possibility of reserving flood-related erosion-prone areas for open space purposes;
- (c) The coordination of all planning for the flood-related erosion-prone areas with planning at the State and Regional levels, and with planning at the level of neighboring communities;
- (d) Preventive action in E zones, including setbacks, shore protection works, relocating structures in the path of flood-related erosion, and community acquisition of flood-related erosion-prone properties for public purposes;
- (e) Consistency of plans for flood-related erosion-prone areas with comprehensive plans at the state, regional and local levels.

§ 60.25 Designation, duties, and responsibilities of State Coordinating Agencies.

(a) States are encouraged to demonstrate a commitment to the minimum flood plain management criteria set forth in §§ 60.3, 60.4, and 60.5 as evidenced by the designation of an agency of State government to be responsible for coordinating the Program aspects of flood plain management in the State.

(b) State participation in furthering the objectives of this part shall include maintaining capability to perform the appropriate duties and responsibilities as follows:

- (1) Enact, whenever necessary, legislation enabling counties and municipalities to regulate development within flood-prone areas;
- (2) Encourage and assist communities in qualifying for participation in the Program;
- (3) Guide and assist county and municipal public bodies and agencies in developing, implementing, and maintaining local flood plain management regulations;
- (4) Provide local governments and the general public with Program information on the coordination of local ac-

tivities with Federal and State requirements for managing flood-prone areas;

(5) Assist communities in disseminating information on minimum elevation requirements for development within flood-prone areas;

(6) Assist in the delineation of riverine and coastal flood-prone areas, whenever possible, and provide all relevant technical information to the Administrator;

(7) Recommend priorities for Federal flood plain management activities in relation to the needs of county and municipal localities within the State;

(8) Provide notification to the Administrator in the event of apparent irreconcilable differences between a community's local flood plain management program and the minimum requirements of the Program;

(9) Establish minimum State flood plain management regulatory standards consistent with those established in this part and in conformance with other Federal and State environmental and water pollution standards for the prevention of pollution during periods of flooding;

(10) Assure coordination and consistency of flood plain management activities with other State, areawide, and local planning and enforcement agencies;

(11) Assist in the identification and implementation of flood hazard mitigation recommendations which are consistent with the minimum flood plain management criteria for the Program;

(12) Participate in flood plain management training opportunities and other flood hazard preparedness programs whenever practicable.

(c) Other duties and responsibilities, which may be deemed appropriate by the State and which are to be officially designated as being conducted in the capacity of the State Coordinating Agency for the Program, may be carried out with prior notification of the Administrator.

(d) For States which have demonstrated a commitment to and experience in application of the minimum flood plain management criteria set forth in §§ 60.3, 60.4, and 60.5 as evidenced by the establishment and implementation of programs which sub-

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stantially encompass the activities described in paragraphs (a), (b), and (c) of this section, the Administrator shall take the foregoing into account when:

- (1) Considering State recommendations prior to implementing Program activities affecting State communities;
- (2) Considering State approval or certifications of local flood plain management regulations as meeting the requirements of this part.

[51 FR 30309, Aug. 25, 1986]

§ 60.26 Local coordination.

(a) Local flood plain, mudslide (i.e., mudflow) and flood-related erosion area management, forecasting, emergency preparedness, and damage abatement programs should be coordinated with relevant Federal, State, and regional programs;

(b) A community adopting flood plain management regulations pursuant to these criteria should coordinate with the appropriate State agency to promote public acceptance and use of effective flood plain, mudslide, (i.e., mudflow) and flood-related erosion regulations;

(c) A community should notify adjacent communities prior to substantial commercial developments and large subdivisions to be undertaken in areas having special flood, mudslide (i.e., mudflow) and/or flood-related erosion hazards.

PART 63—[RESERVED]

**PART 64—COMMUNITIES ELIGIBLE
FOR THE SALE OF INSURANCE**

Sec.

64.1 Purpose of part.

64.2 Definitions.

64.3 Flood Insurance Maps.

64.4 Effect on community eligibility resulting from boundary changes, governmental reorganization, etc.

64.5 Relationship of rates to zone designations.

64.6 List of eligible communities.

AUTHORITY: 42 U.S.C. 4001 et seq.; Reorganization Plan No. 3 of 1978, E.O. 12127.

§ 64.1 Purpose of part.

(a) 42 U.S.C. 4012(c), 4022 and 4102 require that flood insurance in the maximum limits of coverage under the regular program shall be offered in communities only after the Administrator has: (1) Identified the areas of special flood, mudslide (i.e., mudflow) or flood-related erosion hazards within the community; and/or (2) completed a risk study for the applicant community. The priorities for conducting such risk studies are set forth in §§59.23 and 60.25 of this subchapter. The purpose of this part is to define the types of zones which the Agency will use for identifying the hazard areas on maps.

(b) 42 U.S.C. 4056 authorizes an emergency implementation of the National Flood Insurance Program whereby the Administrator may make subsidized coverage available to eligible communities prior to the completion of detailed risk studies for such areas. This part also describes procedures under the emergency program and lists communities which become eligible under the NFIP.

[48 FR 28278, June 21, 1983, as amended at 49 FR 4751, Feb. 8, 1984; 49 FR 33879, Aug. 27, 1984]

§ 64.2 Definitions.

The definitions set forth in Part 59 of this subchapter are applicable to this part.

[41 FR 46986, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979]

§ 64.3 Flood Insurance Maps.

(a) The following maps may be prepared by the Administrator for use in connection with the sale of flood insurance:

(1) Flood Insurance Rate Map (FIRM): This map is prepared after the risk study for the community has been completed and the risk premium rates have been established. It indicates the risk premium rate zones applicable in the community and when those rates are effective. The symbols used to designate those zones are as follows:

Zone symbol	
A.....	Area of special flood hazard without water surface elevations determined.
A1-30, AE.....	Area of special flood hazard with water surface elevations determined.
A0.....	Area of special flood hazards having shallow water depths and/or unpredictable flow paths between (1) and (3) ft.
A99.....	Area of special flood hazard where enough progress has been made on a protective system, such as dikes, dams, and levees, to consider it complete for insurance rating purposes.
AH.....	Areas of special flood hazards having shallow water depths and/or unpredictable flow paths between (1) and (3) feet, and with water surface elevations determined.
V.....	Area of special flood hazards without water surface elevations determined, and with velocity, that is inundated by tidal floods (coastal high hazard area).
V1-30, VE.....	Area of special flood hazards, with water surface elevations determined and with velocity, that is inundated by tidal floods (coastal high hazard area).
V0.....	Area of special flood hazards having shallow water depths and/or unpredictable flow paths between (1) and (3) ft. and with velocity.
B, X.....	Area of moderate flood hazards.
C, X.....	Area of minimal hazards.
D.....	Area of undetermined but possible, flood hazards.
M.....	Area of special mudslide (i.e., mudflow) hazards.
N.....	Area of moderate mudslide (i.e., mudflow) hazards.
P.....	Area of undetermined, but possible, mudslide hazards.
E.....	Area of special flood-related erosion hazards.

Areas identified as subject to more than one hazard (flood, mudslide (i.e., mudflow), flood-related erosion) will be designated by use of the proper symbols in combination.

(2) Flood Hazard Boundary Map (FHBM). This map is issued by the Administrator delineating Zones A, M, and E within a community.

(b) Notice of the issuance of new or revised FHBMs or FIRMs is given in Part 65 of this subchapter. The mandatory purchase of insurance is required within designated Zones A, A1-30, AE, A99, A0, V1-30, VE, V, V0, M, and E.

(c) The FHBM or FIRM shall be maintained for public inspection at the following locations:

(1) The information office of the State agency or agencies designated by statute or the respective Governors to cooperate with the Administrator in implementing the Program whenever a community becomes eligible for Program participation and the sale of insurance pursuant to this section or is identified as flood prone.

(2) One or more official locations within the community in which flood insurance is offered.

(3) [Reserved]

(4) The official record copy of each official map shall be maintained in FEMA files in Washington, D.C.

[41 FR 46986, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 46 FR 1274, Jan. 6, 1981; 48 FR 28278, June 21, 1983; 48 FR 44544 and 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 50 FR 36028, Sept. 4, 1985]

§ 64.4 Effect on community eligibility resulting from boundary changes, governmental reorganization, etc.

(a) When a community not participating in the Program acquires by means of annexation, incorporation, or otherwise, an area within another community participating in the Program, no new flood insurance shall be made available as of the effective date of annexation until the newly acquiring community participates in the Program. Until the effective date of participation, existing flood insurance policies remain in effect until the policy's date of expiration, but shall not be renewed.

(b) When a community participating in the Program acquires by means of annexation, incorporation, or otherwise, another area which was previously located in a community either participating or not participating in the Program, the community shall have six months from the date of acquisition to formally amend its flood plain management regulations in order to include all flood-prone areas within the newly acquired area. The amended regulations shall satisfy the applicable requirements in § 60.3 of this subchapter based on the data previously provided by the Administrator. In the

event that the newly acquired area was previously located in a community participating in the Program, the provisions of this section shall only apply if the community, upon acquisition, and pending formal adoption of the amendment to its flood plain management regulations, certifies in writing over the signature of a community official that within the newly acquired area the flood plain management requirements previously applicable in the area remain in force. In the event that the newly-acquired area was previously located in a community not participating in the Program, the provisions of the section shall only apply if the community, upon acquisition, and pending formal adoption of the amendments to its flood plain management regulations, certifies in writing over the signature of a community official that it shall enforce within the newly-month period, existing flood insurance policies shall remain in effect until their date of expiration may be renewed, and new policies may be issued. Failure to satisfy the applicable requirements in § 60.3 shall result in the community's suspension from Program participation pursuant to § 59.24 of this subchapter.

(c) When an area previously a part of a community participating in the Program becomes autonomous or becomes a portion of a newly autonomous community resulting from boundary changes, governmental reorganization, changes in state statutes or constitution, or otherwise, such new community shall be given six months from the date of its independence, to adopt flood plain management regulations within the special hazard areas subject to its jurisdiction and to submit its application for participation as a separate community in order to retain eligibility for the sale of flood insurance. The regulations adopted by such new community shall satisfy the applicable requirements in § 60.3 of this subchapter based on the data previously provided by the Administrator. The provisions of this section shall only apply where the new community upon the date of its independence certifies in writing over the signature of a community official that, pending formal adoption of flood plain man-

agement regulations, the flood plain management requirements previously applicable in that area remain in effect. During the six month period, existing flood insurance policies shall remain in effect until their dates of expiration may be renewed, and new policies may be issued. Failure to satisfy the applicable requirements in § 60.3 of this subchapter shall result in the community's suspension from Program participation pursuant to § 59.24 of this subchapter.

(d) Where any community or any area within a community had in effect a FHBM or FIRM, but all or a portion of that community has been acquired by another community, or becomes autonomous, that map shall remain in effect until it is superseded by the Administrator, whether by republication as part of the map of the acquiring community, or otherwise.

(e) When a community described in paragraph (a), (b), (c), or (d) of this section has flood elevations in effect, no new appeal period under Parts 66, 67, and 68 of this subchapter will begin except as new scientific and technical data are available.

[41 FR 46986, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 64.5 Relationship of rates to zone designations.

(a) In order to expedite a community's qualification for flood insurance under the emergency program, the Administrator may authorize the sale of such insurance without designating any Zones A, M, or E within a community, provided the community has previously adopted flood plain management regulations meeting the requirements of § 60.3(a), § 60.4(a) or § 60.5(a) of this subchapter. When the Administrator has obtained sufficient technical information to delineate Zones A, M, or E, he/she shall delineate the tentative boundaries on a FHBM.

(b) Upon the effective date of the FIRM, flood insurance will continue to be available throughout the entire community at chargeable rates (i.e., subsidized) for first layer coverage of existing structures, but will be only available at risk premium rates for all

new construction and substantial improvements. Upon the effective date of a FIRM, second layer coverage is available only at risk premium rates for all structures.

(c) Detailed insurance information may be obtained from the servicing companies. See Part 62 of this subchapter.

[41 FR 46986, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44552, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 64.6 List of eligible communities.

The sale of flood insurance pursuant to the National Flood Insurance Program (42 U.S.C. 4001-4128) is authorized for the communities set forth under this section. Previous listings under this part continue in effect until revised.

[41 FR 46986, Oct. 25, 1976]

EDITORIAL NOTE: For references to FR pages showing lists of eligible communities, see the List of CFR Sections Affected appearing in the Finding Aids section of this volume.

PART 65—IDENTIFICATION AND MAPPING OF SPECIAL HAZARD AREAS

Sec.

- 65.1 Purpose of part.
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- 65.9 Review and response by the Administrator.
- 65.10 Mapping of areas protected by levee systems.
- 65.11 List of communities submitting new technical data.

AUTHORITY: 42 U.S.C. 4001 *et seq.*; Reorganization Plan No. 3 of 1978; E.O. 12127.

§ 65.1 Purpose of part.

42 U.S.C. 4104 authorizes the Director to identify and publish information with respect to all areas within the United States having special flood,

mudslide (i.e., mudflow) and flood-related erosion hazards. The purpose of this part is to outline the steps a community needs to take in order to assist the Agency's effort in providing up-to-date identification and publication, in the form of the maps described in Part 64, on special flood, mudslide (i.e., mudflow) and flood-related erosion hazards.

[48 FR 28278, June 21, 1983]

§ 65.2 Definitions.

(a) Except as otherwise provided in this part, the definitions set forth in Part 59 of this subchapter are applicable to this part.

(b) For the purpose of this part, a certification by a registered professional engineer or other party does not constitute a warranty or guarantee of performance, expressed or implied. Certification of data is a statement that the data is 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 the structure(s) has been built according to the plans being certified, is in place, and is fully functioning.

[51 FR 30313, Aug. 25, 1986]

§ 65.3 Requirement to submit new technical data.

A community's base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, a community shall notify the Administrator of the changes by submitting technical or scientific data in accordance with this part. Such a submission is necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and flood plain management requirements will be based upon current data.

[51 FR 30313, Aug. 25, 1986]

§ 65.4 Right to submit new technical data.

(a) A community has a right to request changes to any of the information shown on an effective map that does not impact flood plain or floodway delineations or base flood elevations, such as community boundary changes, labeling, or planimetric details. Such a submission shall include appropriate supporting documentation in accordance with this part and may be submitted at any time.

(b) All requests for changes to effective maps, other than those initiated by FEMA, must be made in writing by the Chief Executive Officer of the community (CEO) or an official designated by the CEO. Should the CEO refuse to submit such a request on behalf of another party, FEMA will agree to review it only if written evidence is provided indicating the CEO or designee has been requested to do so.

[51 FR 30313, Aug. 25, 1986]

§ 65.5 Revision to special hazard area boundaries with no change to base flood elevation determinations.

(a) *Data requirements for topographic changes.* In many areas of special flood hazard (excluding V zones and floodways) it may be feasible to elevate areas with earth fill above the base flood elevation. Scientific and technical information to support a request to gain exclusion from an area of special flood hazard of a structure or parcel of land that has been elevated by the placement of fill shall include the following:

(1) A copy of the recorded deed indicating the legal description of the property and the official recordation information (deed book volume and page number) and bearing the seal of the appropriate recordation official (e.g., County Clerk or Recorder of Deeds).

(2) If the property is recorded on a plat map, a copy of the recorded plat indicating both the location of the property and the official recordation information (plat book volume and page number) and bearing the seal of the appropriate recordation official. If

the property is not recorded on a plat map, copies of the tax map or other suitable maps are required to aid FEMA in accurately locating the property.

(3) If a legally defined parcel of land is involved, a topographic map indicating present ground elevations and date of fill. FEMA's determination as to whether a legally defined parcel of land is to be excluded from the area of special flood hazard shall be based upon a comparison of the ground elevations of the parcel with the elevations of the base flood. If the ground elevations of the entire legally defined parcel of land are at or above the elevations of the base flood, the parcel may be excluded from the area of special flood hazard.

(4) If a structure is involved, a topographic map indicating structure location and ground elevations including the elevations of the lowest floor (including basement) and the lowest adjacent grade to the structure. FEMA's determination as to whether a structure is to be excluded from the area of special flood hazard shall be based upon a comparison of the elevation of the lowest floor (including basement) and the elevation of the lowest adjacent grade with the elevation of the base flood. If the entire structure and the lowest adjacent grade are at or above the elevation of the base flood, the structure may be excluded from the area of special flood hazard.

(5) Data to substantiate the base flood elevation. If FEMA has completed a Flood Insurance Study (FIS), that data will be used to substantiate the base flood. Otherwise, data provided by an authoritative source, such as the U.S. Army Corps of Engineers, U.S. Geological Survey, U.S. Soil Conservation Service, state and local water resource departments, or technical data prepared and certified by a registered professional engineer may be submitted. If base flood elevations have not previously been established, hydraulic calculations may also be requested.

(6) Where fill has been placed to raise the ground surface to or above the base flood elevation and the request to gain exclusion from an area of special flood hazard includes more

than a single structure or a single lot, it must be demonstrated that fill will not settle below the elevation of the base flood, and that the fill is adequately protected from the forces of erosion, scour, or differential settlement as described below:

(i) Fill must be compacted to 95 percent of the maximum density obtainable with the Standard Proctor Test method issued by the American Society for Testing and Materials (ASTM Standard D-698). This requirement applies to fill pads prepared for residential or commercial structure foundations and does not apply to filled areas intended for other uses.

(ii) Fill slopes for granular materials are not steeper than one vertical on one-and-one-half horizontal unless substantiating data justifying steeper slopes is submitted.

(iii) Adequate protection is provided fill slopes exposed to flood waters with expected velocities during the occurrence of the base flood of five feet per second or less by covering them with grass, vines, weeds, or similar vegetation undergrowth.

(iv) Adequate protection is provided fill slopes exposed to flood waters with velocities during the occurrence of the base flood of greater than five feet per second by armoring them with stone or rock slope protection.

(7) A revision of flood plain delineations based on fill must demonstrate that any such fill has not resulted in a floodway encroachment.

(b) *New topographic data.* The procedures described in paragraphs (a) (1) through (5) of this section may be also followed to request a map revision when no physical changes have occurred in the area of special flood hazard, when no fill has been placed, and when the natural ground elevations, as evidenced by new topographic maps, more detailed or more accurate than those used to prepare the map to be revised, are shown to be above the elevation of the base flood.

(c) *Certification requirements.* The items required in paragraphs (a) (3) and (4) and (b) of this section shall be certified by a registered professional engineer or licensed land surveyor. Items required in paragraph (a)(6) of this section shall be certified by the

community's NFIP permit official, a registered professional engineer, or an accredited soils engineer. Such certifications are subject to the provisions of § 65.2 of this subchapter.

(d) *Submission procedures.* All requests shall be submitted to the appropriate FEMA Regional Office servicing the community's geographic area.

[51 FR 30313, Aug. 25, 1986]

§ 65.6 Revision of base flood elevation determinations.

(a) *General conditions and data requirements.* (1) The supporting data must include all the information FEMA needs to review and evaluate the request. This may involve the requestor's performing new hydrologic and hydraulic analysis and delineation of new flood plain boundaries and floodways, as necessary.

(2) To avoid discontinuities between the revised and unrevised flood data, the necessary hydrologic and hydraulic analyses submitted by the map revision requestor must be extensive enough to ensure that a logical transition can be shown between the revised flood elevations, flood plain boundaries, and floodways and those developed previously for areas not affected by the revision. Unless it is demonstrated that it would not be appropriate, the revised and unrevised base flood elevations must match within one-half foot where such transitions occur.

(3) Revisions cannot be made based on the effects of proposed projects or future conditions. Section 65.8 of this subchapter contains provisions for obtaining conditional approval of proposed projects that may effect map changes when they are completed.

(4) The datum and date of releveling of benchmarks, if any, to which the elevations are referenced must be indicated.

(5) Maps will not be revised when discharges change as a result of the use of an alternative methodology or data for computing flood discharges unless the change is statistically significant as measured by a confidence limits analysis of the new discharge estimates.

(6) In order for an alternative hydraulic or hydrologic methodology to

be accepted, any computer program used must be accepted for general use by a governmental agency or notable scientific body, must be well documented including a user's and programmer's manual, and must be available to the general user.

(7) A revised hydrologic analysis for flooding sources with established base flood elevations must include evaluation of the same recurrence interval(s) studied in the effective FIS, such as the 10-, 50-, 100-, and 500-year flood discharges.

(8) A revised hydraulic analysis for a flooding source with established base flood elevations must include evaluation of the same recurrence interval(s) studied in the effective FIS, such as the 10-, 50-, 100-, and 500-year flood elevations, and of the floodway. Unless the basis of the request is the use of an alternative hydraulic methodology or the requestor can demonstrate that the data of the original hydraulic computer model is unavailable or its use is inappropriate, the analysis shall be made using the same hydraulic computer model used to develop the base flood elevations shown on the effective Flood Insurance Rate Map and updated to show present conditions in the flood plain. Copies of the input and output data from the original and revised hydraulic analyses shall be submitted.

(9) A hydrologic or hydraulic analysis for a flooding source without established base flood elevations may be performed for only the 100-year flood.

(10) A revision of flood plain delineations based on topographic changes must demonstrate that any topographic changes have not resulted in a floodway encroachment.

(11) Delineations of flood plain boundaries for a flooding source with established base flood elevations must provide both the 100- and 500-year flood plain boundaries. For flooding sources without established base flood elevations, only 100-year flood plain boundaries need be submitted. These boundaries should be shown on a topographic map of suitable scale and contour interval.

(b) *Data requirements for correcting map errors.* To correct errors in the original flood analysis, technical data

submissions shall include the following:

(1) Data identifying mathematical errors.

(2) Data identifying measurement errors and providing correct measurements.

(c) *Data requirements for changed physical conditions.* Revisions based on the effects of physical changes that have occurred in the flood plain shall include:

(1) *Changes affecting hydrologic conditions.* The following data must be submitted:

(i) General description of the changes (e.g., dam, diversion channel, or detention basin).

(ii) Construction plans for as-built conditions, if applicable.

(iii) New hydrologic analysis accounting for the effects of the changes.

(iv) New hydraulic analysis and profiles using the new flood discharge values resulting from the hydrologic analysis.

(v) Revised delineations of the flood plain boundaries and floodway.

(2) *Changes affecting hydraulic conditions.* The following data shall be submitted:

(i) General description of the changes (e.g., channelization or new bridge, culvert, or levee).

(ii) Construction plans for as-built conditions.

(iii) New hydraulic analysis and flood elevation profiles accounting for the effects of the changes and using the original flood discharge values upon which the original map is based.

(iv) Revised delineations of the flood plain boundaries and floodway.

(3) *Changes involving topographic conditions.* The following data shall be submitted:

(i) General description of the changes (e.g., grading or filling).

(ii) New topographic information, such as spot elevations, cross sections grading plans, or contour maps.

(iii) Revised delineations of the flood plain boundaries and, if necessary, floodway.

(d) *Data requirements for incorporating improved data.* Requests for revisions based on the use of improved

hydrologic, hydraulic, or topographic data shall include the following data:

(1) Data that are believed to be better than those used in the original analysis (such as additional years of stream gage data).

(2) Documentation of the source of the data.

(3) Explanation as to why the use of the new data will improve the results of the original analysis.

(4) Revised hydrologic analysis where hydrologic data are being incorporated.

(5) Revised hydraulic analysis and flood elevation profiles where new hydrologic or hydraulic data are being incorporated.

(6) Revised delineations of the flood plain boundaries and floodway where new hydrologic, hydraulic, or topographic data are being incorporated.

(e) *Data requirements for incorporating improved methods.* Requests for revisions based on the use of improved hydrologic or hydraulic methodology shall include the following data:

(1) New hydrologic analysis when an alternative hydrologic methodology is being proposed.

(2) New hydraulic analysis and flood elevation profiles when an alternative hydrologic or hydraulic methodology is being proposed.

(3) Explanation as to why the alternative methodologies are superior to the original methodologies.

(4) Revised delineations of the flood plain boundaries and floodway based on the new analysis(es).

(f) *Certification requirements.* All analysis and data submitted by the requester shall be certified by a registered professional engineer or licensed land surveyor, as appropriate, subject to the definition of "certification" given at § 65.2 of this subchapter.

(g) *Submission procedures.* All requests shall be submitted to the appropriate FEMA Regional Office servicing the community's geographic area.

[51 FR 30314, Aug. 25, 1986]

§ 65.7 Floodway revisions.

(a) *General.* Floodway data is developed as part of FEMA Flood Insurance Studies and is utilized by commu-

nities to select and adopt floodways as part of the flood plain management program required by § 60.3 of this subchapter. When it has been determined by a community that no practicable alternatives exist to revising the boundaries of its previously adopted floodway, the procedures below shall be followed.

(b) *Data requirements when base flood elevation changes are requested.* When a floodway revision is requested in association with a change to base flood elevations, the data requirements of § 65.6 shall also be applicable. In addition, the following documentation shall be submitted:

(1) Copy of a public notice distributed by the community stating the community's intent to revise the floodway or a statement by the community that it has notified all affected property owners and affected adjacent jurisdictions.

(2) Copy of a letter notifying the appropriate State agency of the floodway revision when the State has jurisdiction over the floodway or its adoption by communities participating in the NFIP.

(3) Documentation of the approval of the revised floodway by the appropriate State agency (for communities where the State has jurisdiction over the floodway or its adoption by communities participating in the NFIP).

(4) Engineering analysis for the revised floodway, as described below:

(i) The floodway analysis must be performed using the hydraulic computer model used to determine the proposed base flood elevations.

(ii) The floodway limits must be set so that neither the effective base flood elevations nor the proposed base flood elevations if less than the effective base flood elevations, are increased by more than the amount specified under § 60.3 (d)(2). Copies of the input and output data from the original and modified computer models must be submitted.

(5) Delineation of the revised floodway on the same topographic map used for the delineation of the revised flood boundaries.

(c) *Data requirements for changes not associated with base flood eleva-*

tion changes. The following data shall be submitted:

(1) Items described in paragraphs (b) (1) through (3) of this section must be submitted.

(2) Engineering analysis for the revised floodway, as described below:

(i) The original hydraulic computer model used to develop the established base flood elevations must be modified to include all encroachments that have occurred in the flood plain since the existing floodway was developed. If the original hydraulic computer model is not available, an alternate hydraulic computer model may be used provided the alternate model has been calibrated so as to reproduce the original water surface profile of the original hydraulic computer model. The alternate model must be then modified to include all encroachments that have occurred since the existing floodway was developed.

(ii) The floodway analysis must be performed with the modified computer model using the desired floodway limits.

(iii) The floodway limits must be set so that combined effects of the past encroachments and the new floodway limits do not increase the effective base flood elevations by more than the amount specified in § 60.3(d)(2). Copies of the input and output data from the original and modified computer models must be submitted.

(3) Delineation of the revised floodway on a copy of the effective NFIP map and a suitable topographic map.

(d) *Certification requirements.* All analyses submitted shall be certified by a registered professional engineer. All topographic data shall be certified by a registered professional engineer or licensed land surveyor. Certifications are subject to the definition given at § 65.2 of this subchapter.

(e) *Submission procedures.* All requests that involve changes to floodways shall be submitted to the appropriate FEMA Regional Office servicing the community's geographic area.

[51 FR 30315, Aug. 25, 1986]

§ 65.8 Review of proposed projects.

A community, or individual through the community, wishing FEMA's com-

ments on whether a proposed project, if built as proposed, would justify a map revision may request a Conditional Letter of Map Amendment or Revision in accordance with Part 72 of this subchapter. The data required to support such requests are the same as those required to support requests for revisions in accordance with §§ 65.5, 65.6, and 65.7, except as-built certification is not required.

[51 FR 30315, Aug. 25, 1986]

§ 65.9 Review and response by the Administrator.

If any questions or problems arise during review, FEMA will consult the Chief Executive Officer of the community (CEO), the community official designated by the CEO, and/or the requester for resolution. Upon receipt of a revision request, the Administrator shall mail an acknowledgment of receipt of such request to the CEO. Within 90 days of receiving the request with all necessary information, the Administrator shall notify the CEO of one or more of the following:

(a) The effective map(s) shall not be modified;

(b) The base flood elevations on the effective FIRM shall be modified and new base flood elevations shall be established under the provisions of Part 67 of this subchapter;

(c) The changes requested are approved and the map(s) amended by Letter of Map Revision (LOMR);

(d) The changes requested are approved and a revised map(s) will be printed and distributed;

(e) The changes requested are not of such a significant nature as to warrant a reissuance or revision of the flood insurance study or maps and will be deferred until such time as a significant change occurs;

(f) An additional 90 days is required to evaluate the scientific or technical data submitted; or

(g) Additional data are required to support the revision request.

[51 FR 30315, Aug. 25, 1986]

§ 65.10 Mapping of areas protected by levee systems.

(a) *General.* For purposes of the NFIP, FEMA will only recognize in its

flood hazard and risk mapping effort those levee systems that meet, and continue to meet, minimum design, operation, and maintenance standards that are consistent with the level of protection sought through the comprehensive flood plain management criteria established by § 60.3 of this subchapter. Accordingly, this section describes the types of information FEMA needs to recognize, on NFIP maps, that a levee system provides protection from the base flood. This information must be supplied to FEMA by the community or other party seeking recognition of such a levee system at the time a flood risk study or restudy is conducted, when a map revision under the provisions of Part 65 of this subchapter is sought based on a levee system, and upon request by the Administrator during the review of previously recognized structures. The FEMA review will be for the sole purpose of establishing appropriate risk zone determinations for NFIP maps and shall not constitute a determination by FEMA as to how a structure or system will perform in a flood event.

(b) *Design criteria.* For levees to be recognized by FEMA, evidence that adequate design and operation and maintenance systems are in place to provide reasonable assurance that protection from the base flood exists must be provided. The following requirements must be met:

(1) *Freeboard.* (i) Riverine levees must provide a minimum freeboard of three feet above the water-surface level of the base flood. An additional one foot above the minimum is required within 100 feet in either side of structures (such as bridges) riverward of the levee or wherever the flow is constricted. An additional one-half foot above the minimum at the upstream end of the levee, tapering to not less than the minimum at the downstream end of the levee, is also required.

(ii) Occasionally, exceptions to the minimum riverine freeboard requirement described in paragraph (b)(1)(i) of this section, may be approved. Appropriate engineering analyses demonstrating adequate protection with a lesser freeboard must be submitted to

support a request for such an exception. The material presented must evaluate the uncertainty in the estimated base flood elevation profile and include, but not necessarily be limited to an assessment of statistical confidence limits of the 100-year discharge; changes in stage-discharge relationships; and the sources, potential, and magnitude of debris, sediment, and ice accumulation. It must be also shown that the levee will remain structurally stable during the base flood when such additional loading considerations are imposed. Under no circumstances will freeboard of less than two feet be accepted.

(iii) For coastal levees, the freeboard must be established at one foot above the height of the one percent wave or the maximum wave runup (whichever is greater) associated with the 100-year stillwater surge elevation at the site.

(iv) Occasionally, exceptions to the minimum coastal levee freeboard requirement described in paragraph (b)(1)(iii) of this section, may be approved. Appropriate engineering analyses demonstrating adequate protection with a lesser freeboard must be submitted to support a request for such an exception. The material presented must evaluate the uncertainty in the estimated base flood loading conditions. Particular emphasis must be placed on the effects of wave attack and overtopping on the stability of the levee. Under no circumstances, however, will a freeboard of less than two feet above the 100-year stillwater surge elevation be accepted.

(2) *Closures.* All openings must be provided with closure devices that are structural parts of the system during operation and design according to sound engineering practice.

(3) *Embankment protection.* Engineering analyses must be submitted that demonstrate that no appreciable erosion of the levee embankment can be expected during the base flood, as a result of either currents or waves, and that anticipated erosion will not result in failure of the levee embankment or foundation directly or indirectly through reduction of the seepage path and subsequent instability. The factors to be addressed in such analyses

include, but are not limited to: Expected flow velocities (especially in constricted areas); expected wind and wave action; ice loading; impact of debris; slope protection techniques; duration of flooding at various stages and velocities; embankment and foundation materials; levee alignment, bends, and transitions; and levee side slopes.

(4) *Embankment and foundation stability.* Engineering analyses that evaluate levee embankment stability must be submitted. The analyses provided shall evaluate expected seepage during loading conditions associated with the base flood and shall demonstrate that seepage into or through the levee foundation and embankment will not jeopardize embankment or foundation stability. An alternative analysis demonstrating that the levee is designed and constructed for stability against loading conditions for Case IV as defined in the U.S. Army Corps of Engineers (COE) manual, "Design and Construction of Levees" (EM 1110-2-1913, Chapter 6, Section II), may be used. The factors that shall be addressed in the analyses include: Depth of flooding, duration of flooding, embankment geometry and length of seepage path at critical locations, embankment and foundation materials, embankment compaction, penetrations, other design factors affecting seepage (such as drainage layers), and other design factors affecting embankment and foundation stability (such as berms).

(5) *Settlement.* Engineering analyses must be submitted that assess the potential and magnitude of future losses of freeboard as a result of levee settlement and demonstrate that freeboard will be maintained within the minimum standards set forth in paragraph (b)(1) of this section. This analysis must address embankment loads, compressibility of embankment soils, compressibility of foundation soils, age of the levee system, and construction compaction methods. In addition, detailed settlement analysis using procedures such as those described in the COE manual, "Soil Mechanics Design—Settlement Analysis" (EM 1100-2-1904) must be submitted.

(6) *Interior drainage.* An analysis must be submitted that identifies the source(s) of such flooding, the extent of the flooded area, and, if the average depth is greater than one foot, the water-surface elevation(s) of the base flood. This analysis must be based on the joint probability of interior and exterior flooding and the capacity of facilities (such as drainage lines and pumps) for evacuating interior floodwaters.

(7) *Other design criteria.* In unique situations, such as those where the levee system has relatively high vulnerability, FEMA may require that other design criteria and analyses be submitted to show that the levees provide adequate protection. In such situations, sound engineering practice will be the standard on which FEMA will base its determinations. FEMA will also provide the rationale for requiring this additional information.

(c) *Operation plans and criteria.* For a levee system to be recognized, the operational criteria must be as described below. All closure devices or mechanical systems for internal drainage, whether manual or automatic, must be operated in accordance with an officially adopted operation manual, a copy of which must be provided to FEMA by the operator when levee or drainage system recognition is being sought or when the manual for a previously recognized system is revised in any manner. All operations must be under the jurisdiction of a Federal or State agency, an agency created by Federal or State law, or an agency of a community participating in the NFIP.

(1) *Closures.* Operation plans for closures must include the following:

(i) Documentation of the flood warning system, under the jurisdiction of Federal, State, or community officials, that will be used to trigger emergency operation activities and demonstration that sufficient flood warning time exists for the completed operation of all closure structures, including necessary sealing, before floodwaters reach the base of the closure.

(ii) A formal plan of operation including specific actions and assignments of responsibility by individual name or title.

(iii) Provisions for periodic operation, at not less than one-year intervals, of the closure structure for testing and training purposes.

(2) *Interior drainage systems.* Interior drainage systems associated with levee systems usually include storage areas, gravity outlets, pumping stations, or a combination thereof. These drainage systems will be recognized by FEMA on NFIP maps for flood protection purposes only if the following minimum criteria are included in the operation plan:

(i) Documentation of the flood warning system, under the jurisdiction of Federal, State, or community officials, that will be used to trigger emergency operation activities and demonstration that sufficient flood warning time exists to permit activation of mechanized portions of the drainage system.

(ii) A formal plan of operation including specific actions and assignments of responsibility by individual name or title.

(iii) Provision for manual backup for the activation of automatic systems.

(iv) Provisions for periodic inspection of interior drainage systems and periodic operation of any mechanized portions for testing and training purposes. No more than one year shall elapse between either the inspections or the operations.

(3) *Other operation plans and criteria.* Other operating plans and criteria may be required by FEMA to ensure that adequate protection is provided in specific situations. In such cases, sound emergency management practice will be the standard upon which FEMA determinations will be based.

(d) *Maintenance plans and criteria.* For levee systems to be recognized as providing protection from the base flood, the maintenance criteria must be as described herein. Levee systems must be maintained in accordance with an officially adopted maintenance plan, and a copy of this plan must be provided to FEMA by the owner of the levee system when recognition is being sought or when the plan for a previously recognized system is revised in any manner. All maintenance activities must be under the jurisdiction of a Federal or State agency, an agency created by Federal

or State law, or an agency of a community participating in the NFIP that must assume ultimate responsibility for maintenance. This plan must document the formal procedure that ensures that the stability, height, and overall integrity of the levee and its associated structures and systems are maintained. At a minimum, maintenance plans shall specify the maintenance activities to be performed, the frequency of their performance, and the person by name or title responsible for their performance.

(e) *Certification requirements.* Data submitted to support that a given levee system complies with the structural requirements set forth in paragraphs (b)(1) through (7) of this section must be certified by a registered professional engineer. Also, certified as-built plans of the levee must be submitted. Certifications are subject to the definition given at § 65.2 of this subchapter. In lieu of these structural requirements, a Federal agency with responsibility for levee design may certify that the levee has been adequately designed and constructed to provide protection against the base flood.

[51 FR 30316, Aug. 25, 1986]

§ 65.11 List of communities submitting new technical data.

This section provides a cumulative list of communities where modifications of the base flood elevation determinations have been made because of submission of new scientific or technical data. Due to the need for expediting the modifications, the revised map is already in effect and the appeal period commences on or about the effective date of the modified map. An interim rule, followed by a final rule, will list the revised map effective date, local repository and the name and address of the Chief Executive Officer of the community. The map(s) is (are) effective for both flood plain management and insurance purposes.

[51 FR 30317, Aug. 25, 1986]

EDITORIAL NOTE: For a list of communities issued under this section and not carried in the CFR, see the List of CFR Sections Affected appearing in the Finding Aids section of this volume.

PART 66—CONSULTATION WITH LOCAL OFFICIALS

Sec.

- 66.1 Purpose of part.
- 66.2 Definitions.
- 66.3 Establishment of community case file and flood elevation study docket.
- 66.4 Appointment of consultation coordination officer.
- 66.5 Responsibilities for consultation and coordination.

AUTHORITY: 42 U.S.C. 4001 et seq.; Reorganization Plan No. 3 of 1978; E.O. 12127.

§ 66.1 Purpose of part.

(a) The purpose of this part is to comply with section 206 of the Flood Disaster Protection Act of 1973 (42 U.S.C. 4107) by establishing procedures for flood elevation determinations of Zones A1-30, AE, AH, AO and V1-30, and VE within the community so that adequate consultation with the community officials shall be assured.

(b) The procedures in this part shall apply when base flood elevations are to be determined or modified.

(c) The Administrator or his delegate shall:

(1) Specifically request that the community submit pertinent data concerning flood hazards, flooding experience, plans to avoid potential hazards, estimate of historical and prospective economic impact on the community, and such other appropriate data (particularly if such data will necessitate a modification of a base flood elevation).

(2) Notify local officials of the progress of surveys, studies, investigations, and of prospective findings, along with data and methods employed in reaching such conclusions; and

(3) Encourage local dissemination of surveys, studies, and investigations so that interested persons will have an opportunity to bring relevant data to the attention of the community and to the Administrator.

(4) Carry out the responsibilities for consultation and coordination set forth in § 66.5 of this part.

[41 FR 46988, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 47 FR 771, Jan. 7, 1982; 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 50 FR 36028, Sept. 4, 1985]

§ 66.2 Definitions.

The definitions set forth in Part 59 of this subchapter are applicable to this part.

[41 FR 46988, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979]

§ 66.3 Establishment of community case file and flood elevation study docket.

(a) A file shall be established for each community at the time initial consideration is given to studying that community in order to establish whether or not it contains flood-prone areas. Thereafter, the file shall include copies of all correspondence with officials in that community. As the community is tentatively identified, provided with base flood elevations, or suspended and reinstated, documentation of such actions by the Administrator shall be placed in the community file. Even if a map is administratively rescinded or withdrawn after notice under Part 65 of this subchapter or the community successfully rebuts its flood-prone designation, the file will be maintained indefinitely.

(b) A portion of the community file shall be designated a flood elevation study consultation docket and shall be established for each community at the time the contract is awarded for a flood elevation study. The docket shall include copies of (1) all correspondence between the Administrator and the community concerning the study, reports of any meetings among the Agency representatives, property owners of the community, the state coordinating agency, study contractors or other interested persons, (2) relevant publications, (3) a copy of the completed flood elevation study, and (4) a copy of the Administrator's final determination.

(c) A flood elevation determination docket shall be established and maintained in accordance with Part 67 of this subchapter.

[41 FR 46988, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44544 and 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 66.4 Appointment of consultation coordination officer.

The Administrator may appoint an employee of the Federal Emergency Management Agency, or other designated Federal employee, as the Consultation Coordination Officer, for each community when an analysis is undertaken to establish or to modify flood elevations pursuant to a new study or a restudy. When a CCO is appointed by the Administrator, the responsibilities for consultation and coordination as set forth in § 66.5 shall be carried out by the CCO. The Administrator shall advise the community and the state coordinating agency, in writing, of this appointment.

[47 FR 771, Jan. 7, 1982, as amended at 49 FR 4751, Feb. 8, 1984]

§ 66.5 Responsibilities for consultation and coordination.

(a) Contact shall be made with appropriate officials of a community in which a proposed investigation is undertaken, and with the state coordinating agency.

(b) Local dissemination of the intent and nature of the investigation shall be encouraged so that interested parties will have an opportunity to bring relevant data to the attention of the community and to the Administrator.

(c) Submission of information from the community concerning the study shall be encouraged.

(d) Appropriate officials of the community shall be fully informed of (1) The responsibilities placed on them by the Program, (2) the administrative procedures followed by the Federal Emergency Management Agency, (3) the community's role in establishing elevations, and (4) the responsibilities of the community if it participates or continues to participate in the Program.

(e) Before the commencement of an initial Flood Insurance Study, the CCO or other FEMA representative, together with a representative of the organization undertaking the study, shall meet with officials of the community. The state coordinating agency shall be notified of this meeting and may attend. At this meeting, the local officials shall be informed of (1) The

date when the study will commence, (2) the nature and purpose of the study, (3) areas involved, (4) the manner in which the study shall be undertaken, (5) the general principles to be applied, and (6) the intended use of the data obtained. The community shall be informed in writing if any of the six preceding items are or will be changed after this initial meeting and during the course of the ongoing study.

(f) The community shall be informed in writing of any intended modification to the community's final flood elevation determinations or the development of new elevations in additional areas of the community as a result of a new study or restudy. Such information to the community will include the data set forth in paragraph (e) of this section. At the discretion of the Chief of the Natural and Technological Hazards Division in each FEMA Regional Office, a meeting may be held to accomplish this requirement.

[47 FR 771, Jan. 7, 1982, as amended at 49 FR 4751, Feb. 8, 1984]

PART 67—APPEALS FROM PROPOSED FLOOD ELEVATION DETERMINATIONS

Sec.

- 67.1 Purpose of part.
- 67.2 Definitions.
- 67.3 Establishment and maintenance of a flood elevation determination docket (FEDD).
- 67.4 Proposed flood elevation determination.
- 67.5 Right of appeal.
- 67.6 Basis of appeal.
- 67.7 Collection of appeal data.
- 67.8 Appeal procedure.
- 67.9 Final determination in the absence of an appeal by the community.
- 67.10 Rates during pendency of final determination.
- 67.11 Notice of final determination.
- 67.12 Appeal to District Court.

AUTHORITY: 42 U.S.C. 4001 et seq. Reorganization Plan No. 3 of 1978, E.O. 12127.

SOURCE: 41 FR 46989, Oct. 26, 1976, unless otherwise noted. Redesignated at 44 FR 31177, May 31, 1979.

§ 67.1 Purpose of part.

The purpose of this part is to establish procedures implementing the pro-

visions of section 110 of Flood Disaster Protection Act of 1973.

§ 67.2 Definitions.

The definitions set forth in Part 59 of this subchapter are applicable to this part.

§ 67.3 Establishment and maintenance of a flood elevation determination docket (FEDD).

The Administrator shall establish a docket of all matters pertaining to flood elevation determinations. The docket files shall contain the following information:

(a) The name of the community subject to the flood elevation determination;

(b) A copy of the notice of the proposed flood elevation determination to the Chief Executive Officer (CEO) of the Community;

(c) A copy of the notice of the proposed flood elevation determination published in a prominent local newspaper of the community;

(d) A copy of the notice of the proposed flood elevation determination published in the FEDERAL REGISTER;

(e) Copies of all appeals by private persons received by the Administrator from the CEO;

(f) Copies of all comments received by the Administrator on the notice of the proposed flood elevation determination published in the FEDERAL REGISTER.

(g) A copy of the community's appeal or a copy of its decision not to appeal the proposed flood elevation determination;

(h) A copy of the flood insurance study for the community;

(i) A copy of the FIRM for the community;

(j) Copies of all materials maintained in the flood elevation study consultation docket; and

(k) A copy of the final determination with supporting documents.

[41 FR 46989, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 67.4 Proposed flood elevation determination.

The Administrator shall propose flood elevation determinations in the following manner:

(a) Publication of the proposed flood elevation determination for comment in the **FEDERAL REGISTER**;

(b) Notification by certified mail, return receipt requested, of the proposed flood elevation determination to the CEO; and

(c) Publication of the proposed flood elevation determination in a prominent local newspaper at least twice during the ten day period immediately following the notification of the CEO.

[41 FR 46989, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 67.5 Right of appeal.

(a) Any owner or lessee of real property, within a community where a proposed flood elevation determination has been made pursuant to section 1363 of the National Flood Insurance Act of 1968, as amended, who believes his property rights to be adversely affected by the Administrator's proposed determination, may file a written appeal of such determination with the CEO, or such agency as he shall publicly designate, within ninety days of the second newspaper publication of the Administrator's proposed determination.

[41 FR 46989, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 67.6 Basis of appeal.

(a) The sole basis of appeal under this part shall be the possession of knowledge or information indicating that the elevations proposed by FEMA are scientifically or technically incorrect. Because scientific and technical correctness is often a matter of degree rather than absolute (except where mathematical or measurement error or changed physical conditions can be demonstrated), appellants are required to demonstrate that alternative methods or applications result in more correct estimates of base flood elevations,

thus demonstrating that FEMA's estimates are incorrect.

(b) *Data requirements.* (1) If an appellant believes the proposed base flood elevations are technically incorrect due to a mathematical or measurement error or changed physical conditions, then the specific source of the error must be identified. Supporting data must be furnished to FEMA including certifications by a registered professional engineer or licensed land surveyor, of the new data necessary for FEMA to conduct a reanalysis.

(2) If an appellant believes that the proposed base flood elevations are technically incorrect due to error in application of hydrologic, hydraulic or other methods or use of inferior data in applying such methods, the appeal must demonstrate technical incorrectness by:

(i) Identifying the purported error in the application or the inferior data.

(ii) Supporting why the application is incorrect or data is inferior.

(iii) Providing an application of the same basic methods utilized by FEMA but with the changes itemized.

(iv) Providing background technical support for the changes indicating why the appellant's application should be accepted as more correct.

(v) Providing certification of correctness of any alternate data utilized or measurements made (such as topographic information) by a registered professional engineer or licensed land surveyor, and

(vi) Providing documentation of all locations where the appellant's base flood elevations are different from FEMA's.

(3) If any appellant believes the proposed base flood elevations are scientifically incorrect, the appeal must demonstrate scientific incorrectness by:

(i) Identifying the methods, or assumptions purported to be scientifically incorrect.

(ii) Supporting why the methods, or assumptions are scientifically incorrect.

(iii) Providing an alternative analysis utilizing methods, or assumptions purported to be correct.

(iv) Providing technical support indicating why the appellant's methods

should be accepted as more correct and

(v) Providing documentation of all locations where the appellant's base flood elevations are different from FEMA's.

[48 FR 31644, July 1, 1983]

§ 67.7 Collection of appeal data.

(a) Appeals by private persons to the CEO shall be submitted within ninety (90) days following the second newspaper publication of the Administrator's proposed flood elevation determination to the CEO or to such agency as he may publicly designate and shall set forth scientific or technical data that tend to negate or contradict the Administrator's findings.

(b) Copies of all individual appeals received by the CEO shall be forwarded, as soon as they are received, to the Administrator for information and placement in the Flood Elevation Determination Docket.

(c) The CEO shall review and consolidate all appeals by private persons and issue a written opinion stating whether the evidence presented is sufficient to justify an appeal on behalf of such persons by the community in its own name.

(d) The decision issued by the CEO on the basis of his review, on whether an appeal by the community in its own name shall be made, shall be filed with the Administrator not later than ninety days after the date of the second newspaper publication of the Administrator's proposed flood elevation determination and shall be placed in the FEDD.

[41 FR 46989, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 67.8 Appeal procedure.

(a) If a community appeals the proposed flood elevation determination, the Administrator shall review and take fully into account any technical or scientific data submitted by the community that tend to negate or contradict the information upon which his/her proposed determination is based.

(b) The Administrator shall resolve such appeal by consultation with officials of the local government, or by administrative hearings under the procedures set forth in Part 68 of this subchapter, or by submission of the conflicting data to an independent scientific body or appropriate Federal agency for advice.

(c) The final determination by the Administrator where an appeal is filed shall be made within a reasonable time.

(d) Nothing in this section shall be considered to compromise an appellant's rights granted under § 67.12.

(e) The Administrator shall make available for public inspection the reports and other information used in making the final determination. This material shall be admissible in a court of law in the event the community seeks judicial review in accordance with § 67.12.

[41 FR 46989, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 67.9 Final determination in the absence of an appeal by the community.

(a) If the Administrator does not receive an appeal from the community within the ninety days provided, he shall consolidate and review on their own merits the individual appeals which, in accordance with § 67.7 are filed within the community and forwarded by the CEO.

(b) The final determination shall be made pursuant to the procedures in § 67.8 and, modifications shall be made of his proposed determination as may be appropriate, taking into account the written opinion, if any, issued by the community in not supporting such appeals.

[41 FR 46989, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 67.10 Rates during pendency of final determination.

(a) Until such time as a final determination is made and proper notice is given, no person within a participating community shall be denied the right

to purchase flood insurance at the subsidized rate.

(b) After the final determination and upon the effective date of a FIRM, risk premium rates will be charged for new construction and substantial improvements. The effective date of a FIRM shall begin not later than six months after the final flood elevation determination.

§ 67.11 Notice of final determination.

The Administrator's notice of the final flood elevation determination for a community shall be in written form and published in the FEDERAL REGISTER, and copies shall be sent to the CEO, all individual appellants and the State Coordinating Agency.

[41 FR 46989, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

EDITORIAL NOTE: For the list of communities issued under this section, and not carried in the CFR, see the List of CFR Sections Affected appearing in the Finding Aids section of this volume.

§ 67.12 Appeal to District Court.

(a) An appellant aggrieved by the final determination of the Administrator may appeal such determination only to the United States District Court for the District within which the community is located within sixty days after receipt of notice of determination.

(b) During the pendency of any such litigation, all final determinations of the Administrator shall be effective for the purposes of this title unless stayed by the court for good cause shown.

(c) The scope of review of the appellate court shall be in accordance with the provisions of 5 U.S.C. 706, as modified by 42 U.S.C. 4104(b).

[41 FR 46989, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44544 and 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 49 FR 33879, Aug. 27, 1984]

PART 68—ADMINISTRATIVE HEARING PROCEDURES

Sec.

- 68.1 Purpose of part.
- 68.2 Definitions.
- 68.3 Right to administrative hearings.
- 68.4 Hearing board.
- 68.5 Establishment of a docket.
- 68.6 Time and place of hearing.
- 68.7 Conduct of hearings.
- 68.8 Scope of review.
- 68.9 Admissible evidence.
- 68.10 Burden of proof.
- 68.11 Determination.
- 68.12 Relief.

AUTHORITY: 42 U.S.C. 4001 *et seq.*; Reorganization Plan No. 3 of 1978; E.O. 12127.

SOURCE: 47 FR 23449, May 29, 1982, unless otherwise noted.

§ 68.1 Purpose of part.

The purpose of this part is to establish procedures for appeals of the Administrator's base flood elevation determinations, whether proposed pursuant to section 1363(e) of the Act (42 U.S.C. 4104) or modified because of changed conditions or newly acquired scientific and technical information.

[47 FR 23449, May 29, 1982, as amended at 49 FR 33879, Aug. 27, 1984]

§ 68.2 Definitions.

The definitions set forth in Part 59 of this subchapter are applicable to this part.

[47 FR 23449, May 29, 1982, as amended at 49 FR 33879, Aug. 27, 1984]

§ 68.3 Right to administrative hearings.

If a community appeals the Administrator's flood elevation determination established pursuant to § 67.8 of this subchapter, and the Administrator has determined that such appeal cannot be resolved by consultation with officials of the community or by submitting the conflicting data to an independent scientific body or appropriate Federal agency for advice, the Administrator shall hold an administrative hearing to resolve the appeal.

[47 FR 23449, May 29, 1982, as amended at 49 FR 33879, Aug. 27, 1984]

§ 68.4 Hearing board.

(a) Each hearing shall be conducted by a three member hearing board (hereinafter "board"). The board shall consist of a hearing officer (hereinafter "Judge") appointed by the Director based upon a recommendation by the Office of Personnel Management and two members selected by the Judge who are qualified in the technical field of flood elevation determinations. The Judge shall consult with anyone he deems appropriate to determine the technical qualifications of individuals being considered for appointment to the board. The board members shall not be FEMA employees.

(b) The Judge shall be responsible for conducting the hearing, and shall make all procedural rulings during the course of the hearing. Any formal orders and the final decision on the merits of the hearing shall be made by a majority of the board. A dissenting member may submit a separate opinion for the record.

(c) A technically qualified alternate will be appointed by the Judge as a member of the board when a technically qualified appointed member becomes unavailable. The Director will appoint an alternate Judge if the appointed Judge becomes unavailable.

§ 68.5 Establishment of a docket.

The General Counsel shall establish a docket for appeals referred to him/her by the Administrator for administrative hearings. This docket shall include, for each appeal, copies of all materials contained in the flood elevation determination docket (FEDD) file on the matter, copies of all correspondence in connection with the appeal, all motions, orders, statements, and other legal documents, a transcript of the hearing, and the board's final determination.

[47 FR 23449, May 29, 1982, as amended at 49 FR 33879, Aug. 27, 1984]

§ 68.6 Time and place of hearing.

(a) The time and place of each hearing shall be designated by the Judge for that hearing. The Administrator and the General Counsel shall be promptly advised of such designations.

(b) The board's notice of the time and place of hearing shall be sent by the Flood Insurance Docket Clerk by registered or certified mail, return receipt requested, to all appellants. Such notice shall include a statement indicating the nature of the proceedings and their purpose and all appellants' entitlement to counsel. Notice of the hearing shall be sent no later than 30 days before the date of hearing unless such period is waived by all appellants.

[47 FR 23449, May 29, 1982, as amended at 49 FR 33879, Aug. 27, 1984]

§ 68.7 Conduct of hearings.

(a) The Judge shall be responsible for the fair and expeditious conduct of proceedings.

(b) The Administrator shall be represented by the General Counsel or his/her designee.

(c) One administrative hearing shall be held for any one community unless the Administrator for good cause shown grants a separate hearing or hearings.

(d) The Chief Executive Officer (CEO) of the community or his/her designee shall represent all appellants from that community; *Provided*, That any appellant may petition the board to allow such appellant to make an appearance on his/her own behalf. Such a petition shall be granted only upon a showing of good cause.

(e) Hearings shall be open to the public.

(f) A verbatim transcript will be made of the hearing. An appellant may order copies of the transcribed verbatim record directly from the reporter and will be responsible for payments.

[47 FR 23449, May 29, 1982, as amended at 49 FR 33879, Aug. 27, 1984]

§ 68.8 Scope of review.

Review at administrative hearings shall be limited to: An examination of any information presented by each appellant within the 90 day appeal period indicating that elevations proposed by the Administrator are scientifically or technically incorrect; the FIRM; the flood insurance study; its backup data and the references used in development of the flood insurance

study; and responses by FEMA to the issues raised by the appellant(s).

[47 FR 23449, May 29, 1982, as amended at 49 FR 33879, Aug. 27, 1984]

§ 68.9 Admissible evidence.

(a) Legal rules of evidence shall not be in effect at administrative hearings. However, *only* evidence relevant to issues within the scope of review under § 68.8 shall be admissible.

(b) Documentary and oral evidence shall be admissible.

(c) Admissibility of non-expert testimony shall be within the discretion of the board.

(d) All testimony shall be under oath.

(e) *Res judicata*/collateral estoppel. Where there has been a previous determination, decision or finding of fact by the Director, one of his delegees, an administrative law judge, hearing officer, or hearing board regarding the base flood elevations of any other community, such determination, decision, or finding of fact shall not be binding on the board and may only be admissible into evidence if relevant.

§ 68.10 Burden of proof.

The burden shall be on appellant(s) to prove that the flood elevation determination is not scientifically or technically correct.

§ 68.11 Determination.

The board shall render its written decision within 45 days after the conclusion of the hearing. The entire record of the hearing including the board's decision will be sent to the Director for review and approval. The Director shall make the final base flood elevation determination by accepting in whole or in part or by rejecting the board's decision.

§ 68.12 Relief.

The final determination may be appealed by the appellant(s) to the United States district court as provided in section 1363(f) of the Act (42 U.S.C. 4104).

PART 69—[RESERVED]

PART 70—PROCEDURE FOR MAP CORRECTION

MAPPING DEFICIENCIES UNRELATED TO COMMUNITY-WIDE ELEVATION DETERMINATIONS

Sec.

70.1 Purpose of part.

70.2 Definitions.

70.3 Right to submit technical information.

70.4 Review by the Administrator.

70.5 Letter of Map Amendment.

70.6 Distribution of Letter of Map Amendment.

70.7 Notice of Letter of Map Amendment.

70.8 Premium refund after Letter of Map Amendment.

70.9 Review of proposed projects.

AUTHORITY: 42 U.S.C. 4001 et seq.; Reorganization Plan No. 3 of 1978; E.O. 12127.

MAPPING DEFICIENCIES UNRELATED TO COMMUNITY-WIDE ELEVATION DETERMINATIONS

§ 70.1 Purpose of part.

The purpose of this part is to provide an administrative procedure whereby the Administrator will review the scientific or technical submissions of an owner or lessee of property who believes his property has been inadvertently included in designated A, AO, A1-30, AE, AH, A99, V0, V1-30, VE, and V Zones, as a result of the transposition of the curvilinear line to either street or to other readily identifiable features. The necessity for this part is due in part to the technical difficulty of accurately delineating the curvilinear line on either a FHBM or FIRM. These procedures shall not apply when there has been any alteration of topography since the effective date of the first NFIP map (i.e., FHBM or FIRM) showing the property within an area of special flood hazard. Appeals in such circumstances are subject to the provisions of Part 65 of this subchapter.

[41 FR 46991, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 50 FR 36028, Sept. 4, 1985; 51 FR 30317, Aug. 25, 1986]

§ 70.2

§ 70.2 Definitions.

The definitions set forth in Part 59 of this subchapter are applicable to this part.

[41 FR 46991, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979]

§ 70.3 Right to submit technical information.

(a) Any owner or lessee of property (applicant) who believes his property has been inadvertently included in a designated A, A0, A1-30, AE, AH, A99, V0, V1-30, VE, and V Zones on a FHBM or a FIRM, may submit scientific or technical information to the Administrator for his/her review.

(b) Scientific and technical information for the purpose of this part may include, but is not limited to the following:

(1) An actual copy of the recorded plat map bearing the seal of the appropriate recordation official (e.g. County Clerk, or Recorder of Deeds) indicating the official recordation and proper citation (Deed or Plat Book Volume and Page Numbers), or an equivalent identification where annotation of the deed or plat book is not the practice.

(2) A topographical map showing (i) ground elevation contours in relation to the National Geodetic Vertical Datum (NVGD) of 1929, (ii) the total area of the property in question, (iii) the location of the structure or structures located on the property in question, (iv) the elevation of the lowest floor (including basement) of the structure or structures and (v) an indication of the curvilinear line which represents the area subject to inundation by a base flood. The curvilinear line should be based upon information provided by any appropriate authoritative source, such as a Federal Agency, the appropriate state agency (e.g. Department of Water Resources), a County Water Control District, a County or City Engineer, a Federal Emergency Management Agency Flood Insurance Study, or a determination by a Registered Professional Engineer;

(3) A copy of the FHBM or FIRM indicating the location of the property in question;

(4) A certification by a Registered Professional Engineer or Licensed Land Surveyor of the type of structure and that the lowest floor (including basement) of the structure is above the base flood level.

[41 FR 46991, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44544 and 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 50 FR 36028, Sept. 4, 1985; 51 FR 30317, Aug. 25, 1986]

§ 70.4 Review by the Administrator.

The Administrator, after reviewing the scientific or technical information submitted under the provisions of § 70.3, shall notify the applicant in writing of his/her determination within 60 days from the date of receipt of the applicant's scientific or technical information that either the ground elevations of an entire legally defined parcel of land or the elevation of the lowest adjacent grade to a structure have been compared with the elevation of the base flood and that:

(a) The property is within a designated A, A0, A1-30, AE, AH, A99, V0, V1-30, VE, or V Zone, and shall set forth the basis of such determination; or

(b) The property should not be included within a designated A, A0, A1-30, AE, AH, A99, V0, V1-30, VE, or V Zone and that the FHBM or FIRM will be modified accordingly; or

(c) An additional 60 days is required to make a determination.

[41 FR 46991, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 50 FR 36028, Sept. 4, 1985; 51 FR 30317, Aug. 25, 1986]

§ 70.5 Letter of Map Amendment.

Upon determining from available scientific or technical information that a FHBM or a FIRM requires modification under the provisions of § 70.4(b), the Administrator shall issue a Letter of Map Amendment which shall state:

(a) The name of the Community to which the map to be amended was issued;

(b) The number of the map;

(c) The identification of the property to be excluded from a designated A,

A0, A1-30, AE, AH, A99, V0, V1-30, VE, or V Zone.

[41 FR 46991, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 50 FR 36028, Sept. 4, 1985]

§ 70.6 Distribution of Letter of Map Amendment.

(a) A copy of the Letter of Map Amendment shall be sent to the applicant who submitted scientific or technical data to the Administrator.

(b) A copy of the Letter of Map Amendment shall be sent to the local map repository with instructions that it be attached to the map which the Letter of Map Amendment is amending.

(c) A copy of the Letter of Map Amendment shall be sent to the map repository in the state with instructions that it be attached to the map which it is amending.

(d) A copy of the Letter of Map Amendment will be sent to any community or governmental unit that requests such Letter of Map Amendment.

(e) [Reserved]

(f) A copy of the Letter of Map Amendment will be maintained by the Agency in its community case file.

[41 FR 46991, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44544 and 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 70.7 Notice of letter of Map Amendment.

(a) The Administrator, shall not publish a notice in the FEDERAL REGISTER that the FIRM for a particular community has been amended by letter determination pursuant to this part unless such amendment includes alteration or change of base flood elevations established pursuant to Part 67. Where no change of base flood elevations has occurred, the Letter of Map Amendment provided under §§ 70.5 and 70.6 serves to inform the parties affected.

EDITORIAL NOTE: For a list of communities issued under this section and not carried in the CFR see the List of CFR Sections Affected appearing in the Finding Aids Section of this volume.

§ 70.8 Premium refund after Letter of Map Amendment.

A Standard Flood Insurance Policyholder whose property has become the subject of a Letter of Map Amendment under this part may cancel the policy within the current policy year and receive a premium refund under the conditions set forth in § 62.5 of this subchapter.

[41 FR 46991, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979]

§ 70.9 Review of proposed projects.

An individual who is proposing to build on that portion of a property that may be inadvertently included in an area of special flood hazard may request a Conditional Letter of Map Amendment in accordance with Part 72 of this subchapter. The data required to support such requests are the same as those required to support requests for final Letters of Map Amendment in accordance with § 70.3, except as-built certification is not required.

[51 FR 30318, Aug. 25, 1986]

PART 71—IMPLEMENTATION OF COASTAL BARRIER RESOURCES ACT

Sec.

- 71.1 Purpose of part.
- 71.2 Definitions.
- 71.3 Denial of flood insurance.
- 71.4 Documentation.
- 71.5 Violations.

AUTHORITY: Sec. 1306, 82 Stat. 575 (42 U.S.C. 4013). Reorganization Plan No. 3 of 1978 (43 FR 41943), E.O. 12127, dated March 31, 1979 (44 FR 19367), sec. 11, Pub. L. 97-348.

SOURCE: 48 FR 37039, Aug. 16, 1983, unless otherwise noted.

§ 71.1 Purpose of part.

This part implements section 11 of the Coastal Barrier Resources Act (Pub. L. 97-348) as that Act amends the National Flood Insurance Act of 1968 (42 U.S.C. 400a *et seq.*).

§ 71.2 Definitions.

(a) Except as otherwise provided in this part, the definitions set forth in Part 59 of this subchapter are applicable to this part.

(b) For the purpose of this part a structure is "new construction" unless it meets the following criteria:

(1)(i) A legally valid building permit or equivalent documentation was obtained for the construction of such structure prior to October 18, 1982; and

(ii) The start of construction (see Part 59) took place prior to October 18, 1982; or

(2)(i) A legally valid building permit or equivalent documentation was obtained for the construction of such structure prior to October 1, 1983; and

(ii) The structure constituted an insurable building, having walls and a roof permanently in place no later than October 1, 1983.

(c) For the purpose of this part, a structure is a "substantial improvement" if the substantial improvement (see Part 59) of such structure took place on or after October 1, 1983.

(d) For the purpose of this part, "new flood insurance coverage" means a new or renewed policy of flood insurance.

[48 FR 37039, Aug. 16, 1983, as amended at 49 FR 33879, Aug. 27, 1984]

§ 71.3 Denial of flood insurance.

No new flood insurance coverage may be provided on or after October 1, 1983, for any new construction or substantial improvement of a structure located on any coastal barrier within the Coastal Barrier Resources System established by section 4 of the Coastal Barrier Resources Act.

[48 FR 37039, Aug. 16, 1983, as amended at 49 FR 33879, Aug. 27, 1984]

§ 71.4 Documentation.

(a) In order to obtain flood insurance for a structure which is not covered by a policy of flood insurance as of October 1, 1983, the owner of the structure must submit the documentation described in this section in order to show that such structure is eligible to receive flood insurance.

(b) The documentation must be submitted to the Federal Insurance Administration.

(c) Where the start of construction of the structure took place prior to Oc-

tober 18, 1982, the documentation shall consist of:

(1) A legally valid building permit or its equivalent for the construction of the structure dated prior to October 18, 1982;

(i) If the community did not have a building permit system at the time the structure was built, a written statement to this effect signed by the responsible community official will be accepted in lieu of the building permit;

(ii) If the building permit was lost or destroyed, a written statement to this effect signed by the responsible community official will be accepted in lieu of the building permit. This statement must also include a certification that the official has inspected the structure and found no evidence that the structure was not in compliance with the building code at the time it was built; and

(2) A written statement signed by the community official responsible for building permits, attesting to the fact that he or she knows of his/her own knowledge or from official community records, that:

(i) The start of construction took place prior to October 18, 1982; and

(ii) The structure has not been substantially improved since September 30, 1983.

(d) Where the start of construction of the structure took place on or after October 18, 1982, but the structure was completed (walls and roof permanently in place) prior to October 1, 1983, the documentations shall consist of:

(1) A legally valid building permit or its equivalent for the construction of the structure dated prior to October 1, 1983;

(i) If the community did not have a building permit system at the time the structure was built, a written statement to this effect signed by the responsible community official will be accepted in lieu of the building permit;

(ii) If the building permit was lost or destroyed, a written statement to this effect signed by the responsible community official will be accepted in lieu of the building permit. This statement must also include a certification that the official has inspected the structure and found no evidence that the struc-

ture was not in compliance with the building code at the time it was built; and

(2) A written statement signed by the community official responsible for building permits, attesting to the fact that he or she knows of his/her own knowledge or from official community records, that:

(i) The structure constituted an insurable building, having walls and a roof permanently in place no later than October 1, 1983; and

(ii) The structure has not been substantially improved since September 30, 1983; and

(3) A community issued final certificate of occupancy or other use permit or equivalent proof certifying the building was completed (walled and roofed) by October 1, 1983.

(Approved by the Office of Management and Budget under control number 3067-0120)

§ 71.5 Violations.

(a) Any flood insurance policy which has been issued where the terms of this section have not been complied with or is otherwise inconsistent with the provisions of this section, is void *ab initio* and without effect.

(b) Any false statements or false representations of any kind made in connection with the requirements of this part may be punishable by fine or imprisonment under 18 U.S. Code section 1001.

PART 72—PROCEDURE AND FEES FOR OBTAINING CONDITIONAL APPROVAL OF MAP CHANGES

Sec.

72.1 Purpose of part.

72.2 Definitions.

72.3 Initial fee schedule.

72.4 Submittal/payment procedures and FEMA response.

72.5 Exemptions.

72.6 Unfavorable response.

72.7 Resubmittals.

AUTHORITY: 31 U.S.C. 9701; 42 U.S.C. 4001 et seq.; Reorganization Plan No. 3 of 1978; E.O. 12127.

SOURCE: 50 FR 36028, Sept. 4, 1985, unless otherwise noted.

§ 72.1 Purpose of part.

The purpose of this part is to provide administrative and cost recovery procedures for engineering review and processing associated with the issuance of Conditional Letters of Map Amendment (conditional LOMAs) and Conditional Letters of Map Revision (conditional LOMRs). Final LOMAs and LOMRs granted to correct map deficiencies are not subject to this reimbursement procedure.

§ 72.2 Definitions.

(a) Except as otherwise provided in this part, the definitions set forth in Part 59 of this subchapter are applicable to this part.

(b) For the purpose of this part, a Conditional Letter of Map Amendment (conditional LOMA) is FEMA's comment on a proposed project to be located in and affecting only that portion of the area of special flood hazard outside the regulatory floodway and having no impact on the existing regulatory floodway or effective base flood elevations.

(c) For the purpose of this part, a Conditional Letter of Map Revision (conditional LOMR) will be FEMA's comment on a proposed project that would affect the hydrologic and/or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway or effective base flood elevations.

§ 72.3 Initial fee schedule.

(a) For conditional Letters of Map Amendment, the initial fee shall be paid by the requestor in the following amounts:

- (1) Single-lot.....\$125
- (2) Multi-lot/subdivision.....\$175

(b) For conditional Letters of Map Revision, the initial fee shall be paid by the requestor in the following amounts:

- (1) New bridge or culvert (no channelization).....\$350
- (2) Channel modifications only.....\$400
- (3) Channel modification and new bridge or culvert.....\$525
- (4) Levees, berms, or other structural measures.....\$675

(c) For projects involving combinations of the above actions which are

not separately identified, the initial fee shall be that charged for the most expensive of the actions comprising the combination.

§ 72.4 Submittal/payment procedures and FEMA response.

(a) Initial fees shall be submitted with the request for FEMA review and processing of conditional LOMAs and conditional LOMRs.

(b) Initial fees must be received by FEMA before the review can be initiated for any conditional LOMA or conditional LOMR request.

(c) Following completion of FEMA review for any conditional LOMA or conditional LOMR, the requestor will be billed at the prevailing private sector labor rate (currently \$25.00 per hour) for any actual costs exceeding the initial fee incurred during the review.

(1) Requestors of conditional LOMAs will be notified of the anticipated total cost if the total cost of processing their request will exceed \$500.

(2) Requestors of conditional LOMRs will be notified of the anticipated total cost if the total cost of processing their request will exceed \$1,500.

(3) In the event that processing costs exceed the limits defined in paragraphs (c)(1) and (2) of this section, processing of the request will be suspended pending FEMA receipt of written approval from the requestor to proceed.

(d) The entity that applies to FEMA through the local community for review will be billed for the cost of the review. The local community incurs no financial obligation under the reimbursement procedure set forth in this part as a result of transmitting the submittal to FEMA.

(e) Payment of both the initial fee and final cost shall be by check or money order payable to the United States Treasury and must be received by FEMA before the conditional LOMA or conditional LOMR will be issued.

(f) For conditional LOMA requests, FEMA shall:

(1) Notify the requestor within 30 days as to the adequacy of the submittal, and

(2) Within 30 days of receipt of adequate information, provide comment to the requestor on the proposed project.

(g) For conditional LOMR requests, FEMA shall:

(1) Notify the requestor within 60 days as to the adequacy of the submittal, and

(2) Within 90 days of receipt of adequate information, provide comment to the requestor on the proposed project.

§ 72.5 Exemptions.

Federal, State, and local governments and their agencies shall be exempt from fees for projects they sponsor if the requestor certifies that the particular project is for public benefit and primarily intended for flood loss reduction to existing development in identified flood hazard areas, as opposed to planned flood plain development.

§ 72.6 Unfavorable response.

A conditional LOMA or conditional LOMR may be denied or may contain specific comments, concerns, or conditions regarding a proposed project or design and its impacts on flood hazards in a community. A requestor is not entitled to any refund if the letter contains such comments, concerns, or conditions, or if the letter is denied. A requestor is not entitled to any refund if the requestor is unable to obtain required authorizations, permits, financing, etc., for which the letter was sought.

§ 72.7 Resubmittals.

Any resubmittal of a request more than 90 days after FEMA notification that a request has been denied or after a review has been terminated due to insufficient information or other reasons will be treated as an original submission and subject to all submittal/payment procedures as described in § 72.4, including the initial fee. The procedure of § 72.4 including the initial fee, will also apply if the project has been significantly altered in

design or scope other than that necessary to respond to previously issued comments, concerns, or conditions by FEMA.

PART 73—IMPLEMENTATION OF SECTION 1316 OF THE NATIONAL FLOOD INSURANCE ACT OF 1968

Sec.

73.1 Purpose of part.

73.2 Definitions.

73.3 Denial of flood insurance coverage.

73.4 Restoration of flood insurance coverage.

AUTHORITY: 42 U.S.C. 4001 *et seq.*; Reorganization Plan No. 3 of 1978; E.O. 12127.

SOURCE: 51 FR 30318, Aug. 25, 1986, unless otherwise noted.

§ 73.1 Purpose of part.

This part implements Section 1316 of the National Flood Insurance Act of 1968.

§ 73.2 Definitions.

(a) Except as otherwise provided in this part, the definitions set forth in Part 59 of this subchapter are applicable to this part.

(b) For the purpose of this part a "duly constituted State or local zoning authority or other authorized public body" means an official or body authorized under State or local law to declare a structure to be in violation of a law, regulation or ordinance.

(c) For the purpose of this part, "State or local laws, regulations or ordinances intended to discourage or restrict development or occupancy of flood-prone areas" are measures such as those defined as "Flood plain management regulations" in § 59.1 of this subchapter. Such measures are referred to in this part as State or local flood plain management regulations.

§ 73.3 Denial of flood insurance coverage.

(a) No new flood insurance shall be provided for any property which the Administrator finds has been declared by a duly constituted State or local zoning authority or other authorized public body, to be in violation of State or local laws, regulations or ordinances which are intended to discourage or otherwise restrict land development or occupancy in flood-prone areas.

(b) New and renewal flood insurance shall be denied to a structure upon a finding by the Administrator of a valid declaration of a violation.

(c) States and communities shall determine whether to submit a declaration to the Administrator for the denial of insurance.

(d) A valid declaration shall consist of:

(1) The name(s) of the property owner(s) and address or legal description of the property sufficient to confirm its identity and location;

(2) A clear and unequivocal declaration that the property is in violation of a cited State or local law, regulation or ordinance;

(3) A clear statement that the public body making the declaration has authority to do so and a citation to that authority;

(4) Evidence that the property owner has been provided notice of the violation and the prospective denial of insurance; and

(5) A clear statement that the declaration is being submitted pursuant to section 1316 of the National Flood Insurance Act of 1968, as amended.

§ 73.4 Restoration of flood insurance coverage.

(a) Insurance availability shall be restored to a property upon a finding by the Administrator of a valid rescission of a declaration of a violation.

(b) A valid rescission shall be submitted to the Administrator and shall consist of:

(1) The name of the property owner(s) and an address or legal description of the property sufficient to identify the property and to enable FEMA to identify the previous declaration;

(2) A clear and unequivocal statement by an authorized public body rescinding the declaration and giving the reason(s) for the rescission;

(3) A description of and supporting documentation for the measures taken in lieu of denial of insurance in order to bring the structure into compliance with the local flood plain management regulations; and

(4) A clear statement that the public body rescinding the declaration has

the authority to do so and a citation to that authority.

PART 74 [RESERVED]

PART 75—EXEMPTION OF STATE-OWNED PROPERTIES UNDER SELF-INSURANCE PLAN

Subpart A—General

Sec.

- 75.1 Purpose of part.
- 75.2 Definitions.
- 75.3 Burden of proof.

Subpart B—Standards for Exemption

- 75.10 Applicability.
- 75.11 Standards.
- 75.12 Application by a State for exemption.
- 75.13 Review by the Administrator.
- 75.14 States exempt under this part.

AUTHORITY: 42 U.S.C. 4001 et seq.; Reorganization Plan No. 3 of 1978; E.O. 12127.

SOURCE: 41 FR 46991, Oct. 26, 1976, unless otherwise noted. Redesignated at 44 FR 31177, May 31, 1979.

Subpart A—General

§ 75.1 Purpose of part.

The purpose of this part is to establish standards with respect to the Administrator's determinations that a State's plan of self-insurance is adequate and satisfactory for the purposes of exempting such State, under the provisions of section 102(c) of the Act, from the requirement of purchasing flood insurance coverage for State-owned structures and their contents in areas identified by the Administrator as A, A0, AH, A1-30, AE, A99, M, V, VO, V1-30, VE, and E Zones, in which the sale of insurance has been made available, and to establish the procedures by which a State may request exemption under section 102(c).

[41 FR 46991, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44544, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 49 FR 5621, Feb. 14, 1984; 50 FR 36029, Sept. 4, 1985]

§ 75.2 Definitions.

The definitions set forth in Part 59 of this subchapter are applicable to this part.

§ 75.3 Burden of proof.

In any application made by a State to the Administrator for certification of its self-insurance plan, the burden of proof shall rest upon the State making application to establish that its policy of self-insurance is adequate and equals or exceeds the standards provided in this part.

Subpart B—Standards for Exemption

§ 75.10 Applicability.

A State shall be exempt from the requirement to purchase flood insurance in respect to State-owned structures and, where applicable, their contents located or to be located in areas identified by the Administrator as A, A0, AH, A1-30, AE, A99, M, V, VO, V1-30, VE and E Zones, and in which the sale of flood insurance has been made available under the National Flood Insurance Act of 1968, as amended, provided that the State has established a plan of self-insurance determined by the Administrator to equal or exceed the standards set forth in this subpart.

[41 FR 46991, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44544, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 49 FR 5621, Feb. 14, 1984; 50 FR 36029, Sept. 4, 1985]

§ 75.11 Standards.

(a) In order to be exempt under this part, the State's self-insurance plan shall, as a minimum:

(1) Constitute a formal policy or plan of self-insurance created by statute or regulation authorized pursuant to statute.

(2) Specify that the hazards covered by the self-insurance plan expressly include the flood and flood-related hazards which are covered under the Standard Flood Insurance Policy.

(3) Provide coverage to state-owned structures and their contents equal to that which would otherwise be available under a Standard Flood Insurance Policy.

(4) Consist of a self-insurance fund and/or a commercial policy of insurance or reinsurance for which provision is made in statute or regulation and which is funded by periodic premiums or charges allocated for state-

owned structures and their contents in areas identified by the Administrator as A, A0, AH, A1-30, AE, A99, M, V, VO, V1-30, VE, and E Zones. The person or persons responsible for such self-insurance fund shall report on its status to the chief executive authority of the State, or to the legislature, or both, not less frequently than annually. The loss experience shall be shown for each calendar or fiscal year from inception to current date based upon loss and loss adjustment expense incurred during each separate calendar or fiscal year compared to the premiums or charges for each of the respective calendar or fiscal years. Such incurred losses shall be reported in aggregate by cause of loss under a loss coding system adequate, as a minimum, to identify and isolate loss caused by flood, mudslide (i.e., mudflow) or flood-related erosion. The Administrator may, subject to the requirements of paragraph (a)(5) of this section, accept and approve in lieu of, and as the reasonable equivalent of the self-insurance fund, an enforceable commitment of funds by the State, the enforceability of which shall be certified to by the State's Attorney General, or other principal legal officer. Such funds, or enforceable commitment of funds in amounts not less than the limits of coverage which would be applicable under Standard Flood Insurance Policies, shall be used by the State for the repair or restoration of State-owned structures and their contents damaged as a result of flood-related losses occurring in areas identified by the Administrator as A, A0, AH, A1-30, AE, A99, M, V, VO, V1-30, VE, and E Zones.

(5) Provide for the maintaining and updating by a designated State official or agency not less frequently than annually of an inventory of all State-owned structures and their contents within A, A0, AH, A1-30, AE, A99, M, V, VO, V1-30, VE, and E Zones. The inventory shall: (i) Include the location of individual structures; (ii) include an estimate of the current replacement costs of such structures and their contents, or of their current economic value; and (iii) include an estimate of the anticipated annual loss due to flood damage.

(6) Provide the flood loss experience for State-owned structures and their contents based upon incurred losses for a period of not less than the 5 years immediately preceding application for exemption, and certify that such historical information shall be maintained and updated.

(7) Include, pursuant to § 60.12 of this subchapter, a certified copy of the flood plain management regulations setting forth standards for State-owned properties within A, A0, AH, A1-30, AE, A99, M, V, VO, V1-30, VE, and E Zones.

(b) The Administrator shall determine the adequacy of the insurance provisions whether they be based on available funds, an enforceable commitment of funds, commercial insurance, or some combination thereof, but has discretion to waive specific requirements under this part.

[41 FR 46991, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44544, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 49 FR 5621, Feb. 14, 1984; 50 FR 36029, Sept. 4, 1985]

§ 75.12 Application by a State for exemption.

Application for exemption made pursuant to this part shall be made by the Governor or other duly authorized official of the State accompanied by sufficient supporting documentation which certifies that the plan of self-insurance upon which the application for exemption is based meets or exceeds the standards set forth in § 75.11.

§ 75.13 Review by the Administrator.

(a) The Administrator may return the application for exemption upon finding it incomplete or upon finding that additional information is required in order to make a determination as to the adequacy of the self-insurance plan.

(b) Upon determining that the State's plan of self-insurance is inadequate, the Administrator shall in writing reject the application for exemption and shall state in what respects the plan fails to comply with the standards set forth in § 75.11 of this subpart.

(c) Upon determining that the State's plan of self-insurance equals or exceeds the standards set forth in § 75.11 of this subpart, the Administrator shall certify that the State is exempt from the requirement for the purchase of flood insurance for State-owned structures and their contents located or to be located in areas identified by the Administrator as A, A0, AH, A1-30, AE, A99, M, V, VO, V1-30, VE, and E Zones. Such exemption, however, is in all cases provisional. The Administrator shall review the plan for continued compliance with the criteria set forth in this part and may request updated documentation for the purpose of such review. If the plan is found to be inadequate and is not corrected within ninety days from the date that such inadequacies were identified, the Administrator may revoke his certification.

(d) Documentation which cannot reasonably be provided at the time of application for exemption shall be submitted within six months of the application date. The Administrator may revoke his certification for a State's failure to submit adequate documentation after the six month period.

[41 FR 46991, Oct. 26, 1976. Redesignated at 44 FR 31177, May 31, 1979, and amended at 48 FR 44544, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 49 FR 5621, Feb. 14, 1984; 50 FR 36029, Sept. 4, 1985]

§ 75.14 States exempt under this part.

The following States have submitted applications and adequate supporting documentation and have been determined by the Administrator to be exempt from the requirement of flood insurance on State-owned structures and their contents because they have in effect adequate State plans of self-insurance: Florida, Georgia, Iowa, Maine, New Jersey, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, and Vermont.

[48 FR 44544, Sept. 29, 1983]

PART 76—[RESERVED]

PART 77—ACQUISITION OF FLOOD DAMAGED STRUCTURES

GENERAL PROVISIONS

Sec.

77.1 Definitions.

77.2 Criteria for acquisition.

AUTHORITY: 42 U.S.C. 4001 *et seq.*; Reorganization Plan No. 3 of 1978; E.O. 12148.

GENERAL PROVISIONS

§ 77.1 Definitions.

(a) Definitions found in § 59.1 of this subchapter are applicable to this section.

(b) Furthermore, the following definitions are established:

Damaged Substantially Beyond Repair—means where (a) damages to the improved real property are such that as a condition of repair as imposed by a state or local government, the structure must be elevated or floodproofed to or above the 100-year flood elevation, or (b) damages to the improved real property equals or exceed 50 percent of the structure's fair market or actual cash value, whichever is less, or (c) where damages to the improved real property are such that repair is physically impossible or infeasible.

Flood Risk Area—See definition for *Special Hazard Area* in § 59.1, or other area subject to flooding as determined by the Administrator.

Significantly Increased Construction Cost—occurs when a specific State or local statute, ordinance, or code requires that improvements be made to a structure as a condition of the repair of damages sustained, such that the actual cost of repair would be greater by 25 percent than the cost which would be required for repair of the damages only.

Sound Land Management and Use—The process wherein the governmental body responsible for land use regulation in a political jurisdiction plans and regulates the use of land within its jurisdiction in order to promote the reduction of property exposure to flood hazard and the protection of environmental values of flood plains.

Sound use of land acquired by FEMA and transferred to local governments pursuant to section 1362 of Pub. L. 95-128 is use for primarily open space and recreational purposes to minimize potential for any future flood damage, with a general prohibition of enclosed structures unless functionally dependent for some recreational or open space use. The criteria set forth in paragraphs (d)(1) through (4), of § 77.2 and restrictions to be placed in deeds used to convey title to real property from the Federal Government to local governments will set forth more specific requirements to be used in determining what constitutes sound Land Management and Use for individual land parcels.

[45 FR 50282, July 28, 1980, as amended at 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984]

§ 77.2 Criteria for acquisition.

(a) The objectives of the Flooded Property Purchase Program under the National Flood Insurance Program are:

(1) To reduce future flood insurance and disaster assistance costs by removing repetitively and/or substantially damaged structures from flood risk areas;

(2) To provide an opportunity for owners of repetitively and substantially damaged structures to be permanently removed from flood risk areas, and to reduce risk to life from flooding; and

(3) To complement Federal, State and local efforts to restore flood plain values, protect the environment and provide recreational and open space resources.

(b) The Administrator will, when he or she deems it to be in the public interest, enter into negotiation with property owners whose improved real property has been damaged by flooding for the purpose of purchasing such buildings and associated land or lot for transfer by sale, lease, or donation to a community when the following conditions are met:

(1) The property must be located in a flood risk area as determined by the Administrator;

(2) The property must have been covered by a flood insurance policy

under the National Flood Insurance Program at the time damage took place.

(3) The building, while covered by flood insurance under the National Flood Insurance program, must have been damaged substantially beyond repair or must have been damaged not less than three previous times during the preceding five year period, each time the cost of repair equalling 25 percent or more of the structure's value, or must have been damaged from a single casualty of any nature so that a statute, ordinance or regulation precludes its repair or restoration or permits repair or restoration only at significantly increased cost.

(4) A State or local community must enter into an agreement authorized by ordinance or legally binding resolution to take title to and manage the property in a manner consistent with sound land management use as determined by the Administrator.

(5) The community must agree to remove without cost to the Federal Emergency Management Agency (FEMA), by demolition, relocation, donation or sale any damaged structures to which the community accepts title from FEMA, provided the Administrator may, when it is in the public interest to do so, agree to assume a part or all of the cost of such removal.

(c) Title to the real property acquired by FEMA shall be conveyed to local communities subject to specific restrictive covenants, conditions and agreements which will run with the land and be binding on subsequent successors, grantees and assigns. These restrictive covenants, conditions and agreements will be recited in the deed a community receives from FEMA and the community shall join in the execution of the deed.

(d) The general criteria from which specific deed restrictions will be developed may include, among other things, that:

(1) The land must be dedicated in perpetuity for open space purposes, or such other purposes as the Administrator may agree are consistent with the objectives set forth in paragraphs (a)(1) through (3) of this section; that the community shall faithfully manage the land for its dedicated pur-

poses; that the community shall not erect or permit to be erected and structures or other improvements on the land unless such structures are, except for restrooms, open on all sides and functionally related to a designated open space use without the prior approval in writing of the Administrator; and that the community shall not permit any use which will create a threat to human life from flooding.

(2) In general, allowable open space uses include parks for outdoor recreational activities, nature reserves, cultivation, grazing, camping (except where adequate warning time is not available to allow evacuation), temporary storage in the open of wheeled vehicles which are easily movable (except mobile homes), unimproved parking lots, buffer zones, or open space areas that are part of Planned Unit Developments (PUD's). Structures functionally related to these uses are open-sided picnic and camping facilities, kiosks and refreshment stands or nonhabitable, elevated or floodproofed service structures associated with a marina.

(3) The rights to enforce the restrictive covenants shall be assigned to the Administrator as assignee, together with a declaration that any future violation of the restrictive covenants or agreements, delivered in writing to the Chief Executive Officer within thirty (30) days from the date the Administrator receives actual notice of the violation, shall be deemed at the Administrator's option to cause a reversion of title to FEMA.

(4) The property shall be transferred subject to zoning and building laws and ordinances; easements, agreements, reservations, covenants and restriction of record; any state of facts an accurate survey might show; encroachments and variations from the record lines of hedges, retaining walls, sidewalks and fences;

(e) Any structures, as described at paragraph (d)(2) of this section, and built in accordance with the deed restrictions shall be floodproofed or elevated to withstand the effects of the 500 year or .02 percent chance flood.

(f) Appraisals for the determination of compensation for flood damaged real property will be undertaken in

conformance with the "Uniform Appraisal Standards for Federal Land Acquisitions" published by the Interagency Land Acquisition Conference, GPO (1973). Appraisals will reflect the adjusted (for time) pre-damage fair market value (FMV) of the structure and land to the extent that this FMV may have been reduced or depressed in the open market as a result of flooding. Actual compensation of FMV will be inclusive of any flood insurance claim payments made or to be made as a result of the most recent flood event to the extent that repairs have not yet been made.

(g) Agreement to sell real property on the part of owners will be completely voluntary. No property owners will be required to sell their properties under section 1362.

(h) Relocation assistance under the Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 U.S.C. 4601 et seq.) is not available to property owners who sell their properties under section 1362.

[45 FR 50282, July 28, 1980, as amended at 48 FR 44553, Sept. 29, 1983; 49 FR 4751, Feb. 8, 1984; 49 FR 33879, Aug. 27, 1984]

FEDERAL EMERGENCY MANAGEMENT AGENCY

Appeals, Revisions, and Amendments to Flood Insurance Maps

A GUIDE FOR COMMUNITY OFFICIALS

September 1985



Foreword

The determination of flood risk zones, base (100-year) flood elevations, and floodways provides the basis for administering both the flood plain management and insurance aspects of the National Flood Insurance Program (NFIP). Accepted hydrologic and hydraulic techniques are used to determine the extent of the flood risk for each community that participates in the Program. Under Federal Emergency Management Agency (FEMA) guidelines, this engineering work is carried out by private engineering firms and Federal and State agencies throughout the nation.

At present, nearly 18,000 flood-prone communities are partners with the Federal Government in the NFIP. Using the flood risk information and other technical data provided in NFIP maps, communities design and adopt flood plain management measures to reduce future flood losses, and the Federal Insurance Administration of FEMA makes

actuarially based flood insurance available to millions of property owners.

FEMA recognizes that these maps require changes from time to time as a result of flood plain and watershed changes or as a result of improvements in the techniques used to estimate flood risk. Citizens and local governments play an important role in keeping NFIP maps technically sound and up-to-date as conditions change in their communities.

This guide provides basic information on the technical standards that must be applied, and the administrative procedures that must be followed, by local officials requesting changes to NFIP maps. The guide is intended not only to discuss these standards and procedures, but also to help local officials understand how they can be most effective in maintaining the accuracy of the flood risk information developed for their communities.



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Chapter 1

Introduction

This guide has been designed to provide the community official, planner or engineer, with information on how to obtain corrections or revisions of flood plain maps and other flood risk data prepared by the Federal Emergency Management Agency (FEMA).

In the past, FEMA has expended a great deal of time and effort to obtain the technical information needed to evaluate requests for changes to National Flood Insurance Program (NFIP) maps. The goal of this guide is to provide general information on the types of supporting data that FEMA needs to review and evaluate requested changes. In addition, background on the NFIP is provided to enable community officials to understand the regulations and procedures under which requests for changes are handled by FEMA.

National Flood Insurance Program

In 1968, the U.S. Congress established the NFIP. Communities participating in the NFIP do so in two phases--the Emergency and Regular Phases. In communities

participating in the initial Emergency Phase, limited amounts of flood insurance are available to local property owners. In communities participating in the Regular Phase, full flood insurance coverage is available.

The NFIP is designed to benefit individuals and communities. It enables property owners to purchase flood insurance at reasonable rates, and it requires communities to adopt and administer local flood plain management measures aimed at protecting lives and new construction from future flooding. All communities that have flood problems and the authority to adopt and administer flood plain management regulations can participate in the NFIP.

Under the Emergency Phase of the NFIP, FEMA issued Flood Hazard Boundary Maps (FHBMs) for most flood-prone communities in the nation. These maps provide approximate delineations of areas subject to inundation by the base (100-year) flood; in the NFIP, these areas are known as Special Flood Hazard Areas (SFHAs). The base flood is the standard regulatory flood and has a 1-percent chance of being equaled or exceeded in any given year. This standard is used by Federal agencies, and most States, in the

administration of programs that relate to flood plains.

The boundaries of the SFHAs (100-year flood plain boundaries) shown on an FHBM are plotted using one or more of the following: information on past floods, regional flood depth/drainage area relationships, flood maps published by other agencies, and simplified hydrologic and hydraulic calculations. Detailed analyses and field surveys are generally not performed for the preparation of an FHBM. As a result, the flood boundaries shown are considered to be approximate, and the SFHAs are designated as approximate Zone A.

After the publication of the FHBM, a Flood Insurance Study (FIS) report and a Flood Insurance Rate Map (FIRM) are prepared, usually as a result of a detailed engineering study. They supply flood information that allows a community to participate in the Regular Program. The FIS report and FIRM refine the boundaries of the SFHAs appearing on the FHBM and provide base flood elevations (BFEs), flood risk zones, and floodways.

A FIRM depicts 100- and 500-year flood boundaries, flood insurance rate zones, and base flood elevations, all of which are usually the result of detailed engineering analyses performed as part of an FIS. These analyses include hydrologic analyses per-

formed to determine flood frequency/discharge relationships and hydraulic analyses performed to determine flood elevations. The hydrologic analyses usually involve the use of statistical analyses of recorded stream gage data, regional discharge/drainage area relationships, or rainfall-runoff models. For riverine flooding sources, the hydraulic analyses usually involve backwater computations or other hydraulic computations using the computed flood discharges and the results of field surveys. Special techniques are used for the analysis of coastal flooding and alluvial fan flooding.

SFHAs identified through the use of such analyses are assigned detailed zone designations. A FIRM may also depict approximate SFHAs, which may have been taken directly from an effective FHBM or developed by the FIS contractor. An accompanying FIS report is usually published with a FIRM. The boundaries of 100- and 500-year flood plains and the floodway may be shown on a separate Flood Boundary and Floodway Map (FBFM) published as a part of the FIS report; for more recent studies, this information is shown on the FIRM.

Before entering both the Emergency and Regular Phases of the NFIP, the community must, if it has not already done so, adopt and enforce flood plain management regulations that are aimed at reducing future flood losses and that comply with the minimum standards of the NFIP.

Need for Documentation

The flood risk data published in NFIP maps and FIS reports form the technical basis for the administration of the NFIP in each flood-prone community in the nation. These data provide the criteria for flood plain management measures required of each community participating in the NFIP, as well as the basis for actuarial flood insurance premiums. Because of the legal significance of the information presented in NFIP maps and FIS reports, FEMA exercises great care to ensure that methods used are scientifically and technically correct, that data presented are accurate, and that engineering procedures meet professional standards. Although the preparation of NFIP maps and FIS reports is subject to rigorous technical standards, FEMA recognizes that improvements in techniques used to estimate flood risk, changes in physical conditions in flood plains or watersheds, and availability of new technical data may necessitate revisions of the maps and studies. In addition, limitations of FHBM or FIRM scale may result in individual properties being incorrectly included in SFHAs. The NFIP, therefore, contains provisions for revising and amending NFIP maps and FIS reports based on requests from community officials and individual property owners.

In making such revisions and amendments, FEMA must adhere to the same engineering

standards applied in the preparation of the original map and FIS report. When requesting changes to NFIP maps and FISs, community officials and property owners must submit adequate supporting data. These data allow FEMA to review and evaluate the requests and to carry out its responsibility to ensure that the information to be presented is scientifically and technically correct. Over the years, the majority of community requests for such changes have been found to be warranted, but FEMA cannot make these changes without adequate supporting data.

Appeals, Revisions, and Amendments

In dealing with flood insurance map changes, you will encounter the following three terms:

- Appeals--challenges to proposed BFE determinations during a formal 90-day appeal period. Successful Appeals to proposed BFEs result in changes being incorporated into the FIS report and FIRM at the time they are published.
- Map Revisions--changes to effective FHBM and FIRMs. NFIP maps become effective after they are published and distributed. The effective date is shown

on the map. Map revisions may be accomplished by publishing a revised FHBM or FIRM and FIS report or, where feasible, by publishing a written description of the change in a Letter of Map Revision (LOMR).

- Map Amendments--changes to effective FHBMs and FIRMs resulting from the exclusion of individual structures and legally described parcels of undeveloped land from the SFHA; such changes are described in Letters of Map Amendments (LOMAs).

The general requirements for technical and scientific data needed to substantiate Appeals and Map Revisions are similar. There are, however, procedural differences

that determine the amount of data required and when the data may be submitted. These differences are discussed in the chapters that follow.

These three terms refer not only to types of changes to NFIP maps and FISs, but also to processes under which FEMA will address requests for such changes. By using the following chapter, you can decide which process is applicable to a particular request. By using the other chapters in this guide, you will be able to identify the type and amount of information that must be submitted to support the requested change; you will be able to understand how a change may be made and what may be expected of FEMA; and you will ensure that the request will be handled in the most expeditious manner.

Chapter 2

How To Use the Guide

To determine which of the three processes for changing NFIP maps is applicable to your needs, you should follow the two steps outlined in this chapter.

Step 1 is to answer the following questions:

- What type of NFIP map is to be changed?
- What is the status of that map?
- What type of changes are to be made?

The information you need to answer these questions is provided in Step 1.

Step 2 is to choose the appropriate process, using the answers from Step 1. The information provided in Step 2 concerning the conditions under which each process is applicable will enable you to make this determination.

Once you have identified the appropriate process, you can refer to the chapter in which it is discussed for further information concerning procedures and supporting data.

Step 1

Type of map to be changed. Both FHBMs and FIRMs may be revised; however, because regulations, processing procedures, and data required to support requests for changes vary based on the type of map to be revised, it is important that you identify the type of map in question and understand how the information presented on the map was developed.

The descriptions of these two types of maps in Chapter 1 and the sample map title blocks shown in Figure 1 will help you do this.

Status of the map. Both FHBMs and FIRMs must be reviewed in preliminary form by the community before becoming effective. The status of the map refers to the point in this process that the map has reached.

An FHBM presents less information than a FIRM does, and the information that is presented is the result of less rigorous analyses than those employed in the preparation of the FIRM. For these reasons, the Federal regulations that apply to a community for which only an FHBM has been

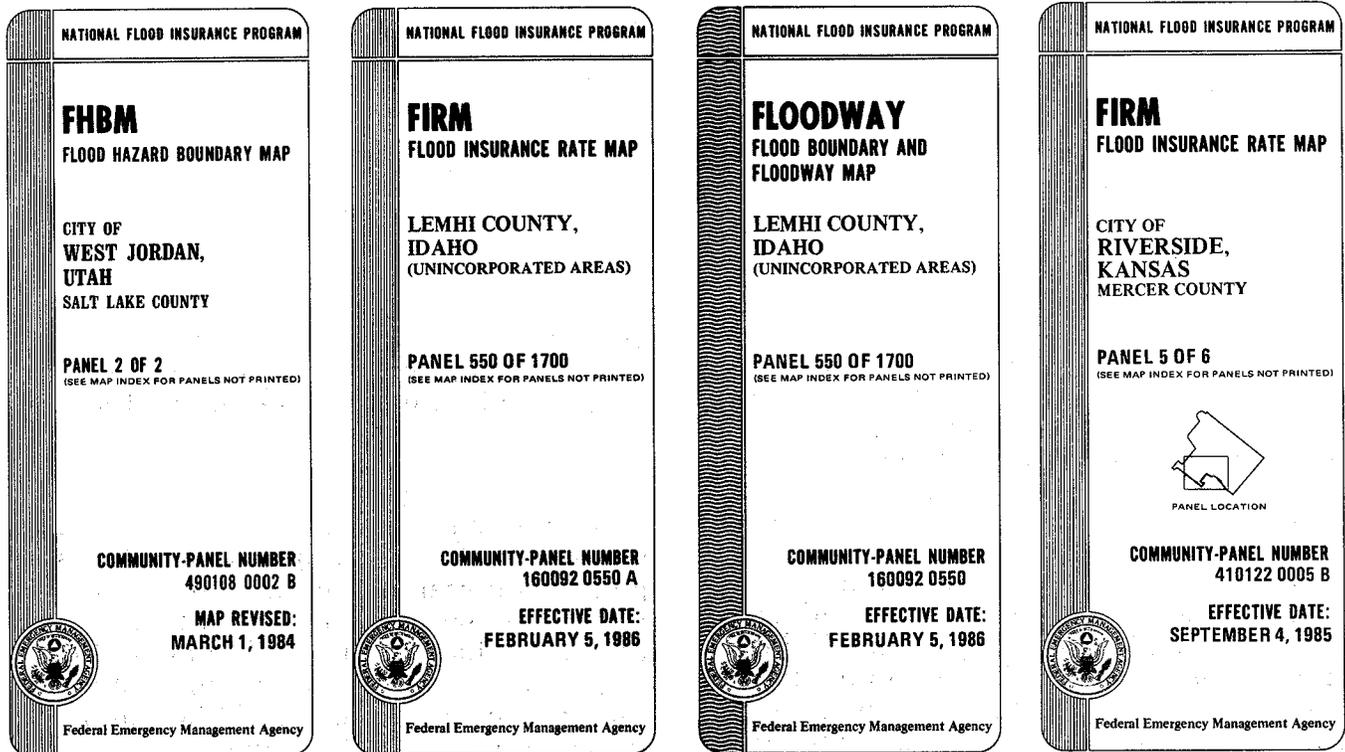


FIGURE 1
Title Blocks of NFIP Maps

issued are less restrictive, and the ordinances that must be adopted by the community are less complex, than those required after a FIRM has been issued. Therefore, the review periods and FEMA procedures associated with these two types of maps are different.

When an FHBM is prepared, a preliminary copy of the map is sent to the community. The community is given approximately 30 days to review and comment on the map before it is printed. Approximately 4 months are allowed for printing. Therefore, the status of the FHBM will usually be that: (1) it is being reviewed, (2) it is being printed, or (3) it has been printed and has become effective.

A more lengthy and complex procedure is followed for the community review of a FIRM. A preliminary copy of the FIRM is sent to the community for an initial review. This review is followed by a meeting at which community officials and residents may comment on the FIRM. After any significant problems identified at the meeting are resolved, a notice of the BFEs shown on the FIRM is published in a local newspaper and in the Federal Register. At this point, the BFEs are considered to be proposed. Federal regulations require that before BFEs can become effective for a community, the community must be given a formal 90-day appeal period during which community officials or property owners may appeal the proposed BFEs based on scientific or technical data. After the appeal period has

ended and any appeals resolved, the Federal Insurance Administrator will make a final BFE determination. The BFEs are made final by their publication in the Federal Register. The community is informed by letter of the final BFE determination and is then given 6 months to enact the ordinances required for participation in the NFIP. During this 6-month period, the FIRM is printed. At the end of the 6-month period, the FIRM becomes effective. To determine the status of the FIRM, you must determine at what stage the FIRM is in the previously described process.

If an effective FHBM or FIRM is revised by a FEMA restudy or through the Map Revision process (Chapter 4), the community is given a review period similar to that described previously for the initial FHBM or FIRM, with the following exception. When a revision to an effective FIRM does not include new or revised BFEs, no 90-day appeal period occurs. The affected community is given only a 30-day review period, after which the FIRM is printed.

FEMA notifies community officials by letter as the stages in the previously described FHBM and FIRM processes are reached. Any questions concerning the status of the FHBM or FIRM that cannot be answered based on the information provided routinely by FEMA can be answered by staff members of the appropriate FEMA Regional Office.

Type of change(s) being requested. NFIP maps present various types of flooding information: flood plain boundaries, floodways, flood insurance zones, flood elevations, and flood depths. These maps also depict features such as streams and lakes, roads, railroads, major buildings, and the boundaries of incorporated communities, counties, and Federal and state lands.

Requests for changes to NFIP maps may involve one or more types of flooding information and may also involve other aspects of the map. Often, because much of the information presented on the map is interrelated, a change to one type of information will necessitate changes to others. Based on the legal and procedural requirements of the NFIP, each of the three processes for changing NFIP maps (Appeals, Map Revisions, and Map Amendments) is applicable only to specific kinds of changes. Therefore, you should not only consider the kind of change being requested (flood elevation, flood boundary, etc.), but should also anticipate whether changes to related map information will be necessary and determine what those changes are.

In making this determination, you must consider the basis for the requested change. For example, a change to a 100-year flood plain boundary may be requested based on the effects of a channelization project. However, such a project is also likely to affect the flood elevations, floodway, and

stream configuration shown on the map. You will not always be able to identify every change that may be necessary, but by attempting to do so, you will help FEMA to address your request as quickly and efficiently as possible.

After having completed Step 1, you will have identified the type of map to be changed, the status of the map, and the type of change(s) to be made. You will now be able to proceed to Step 2 in which you will determine which of the three processes is applicable to your request. The following are general descriptions of the conditions under which each process is applicable is provided in this section. The chart shown in Figure 2 summarizes the information provided in Steps 1 and 2 and may be used as a guide in choosing the appropriate process.

Step 2

More detailed information concerning each process, including the type and amount of data that you must submit, are provided in Chapters 3, 4, 5, and 6. This guide is applicable only to changes that may be made under the Appeal, Map Revision, and Map Amendment processes. If the conditions under which a change is to be made are not the same as the those specified for one of the three processes described in this section, you

should discuss the requested change with a representative of the appropriate FEMA Regional Office.

Appeals (Part 67). Under Title 44, Chapter 1, Part 67 of the Code of Federal Regulations (CFR), Appeals are defined as requests for changes to proposed BFEs. To qualify as Appeals, such requests must be submitted to FEMA within a formal 90-day appeal period and must be supported by data that show that the proposed BFEs are either scientifically or technically incorrect. A formal 90-day appeal period is provided to a community only when new or revised BFEs are being proposed for the community. This will occur in only two situations: (1) when a community is being converted from the Emergency Phase to the Regular Phase of the NFIP with a FIRM and an FIS, or (2) when the existing FIRM for a community is being revised by a FEMA restudy or through the Map Revision process.

Because BFEs are not shown on FHBMs, the Appeal process applies only to FIRMs. In addition, although changes to map information other than proposed BFEs (i.e., flood boundaries, floodways, flood insurance zones, etc.) may be necessary as part of the resolution of an Appeal, requests that do not involve BFEs do not qualify as Appeals. Requests of this type, when submitted during the 90-day appeal period, are called Protests. FEMA policy concerning Protests is discussed in Appendix B.

Map Revisions (Part 65). Under Title 44, Chapter 1, Part 65 of the CFR, changes may be made to the information depicted on effective FHBMs and FIRMs. Changes to flood plain boundaries, floodways, flood insurance zones, flood elevations, flood depths, and other information shown on the map may be requested under this process.

Occasionally, because of the limitations of the scale at which a NFIP map is prepared, the flood plain boundaries cannot be delineated to reflect individual structures that have been elevated on fill or small parcels of undeveloped land that have been filled. Therefore, the Map Revision process is also applicable to requests that individual structures or legally described parcels of undeveloped land be excluded from the SFHA shown on an effective NFIP map.

The Map Revision process is not applicable to requests that individual structures or parcels land be removed from the SFHA based on topographic conditions that existed before the effective date of the first NFIP map that showed the structure or parcel to be within the SFHA. (See following, Map Amendments (Part 70).)

Although its primary application is to requests that effective NFIP maps be revised based on new or better information, the Map Revision process is also applicable to requests for conditional approval of proposed revisions that are based on proposed

Type of Map To Be Changed	Status of Map	Type of Change	Process and Authority	Method of Change
FIRM	In 90-Day Appeal Period	Change to BFE	Appeal (44 CFR, Part 67)	Map and Report Revised Before Printing
FHBM FIRM FBFM	Effective	<p>Changes to Any Flood or Non-Flood Information</p> <hr/> <p>Exclusion From SFHA of Structures and Legally Described Parcels of Undeveloped Land Elevated By Fill Placed After the Effective Date of the First NFIP Map That Showed the Structure or Parcel To Be Within the SFHA</p> <hr/> <p>Conditional Changes and Conditional Exclusion of Structures and Legally Described Parcels of Undeveloped Land Proposed To Be Elevated By Fill</p>	Map Revision (44 CFR, Part 65)	<p>Physical Map Revision or Letter of Map Revision (LOMR)</p> <hr/> <p>Letter of Map Revision (LOMR)</p> <hr/> <p>Conditional LOMR</p>
FHBM FIRM	Effective	<p>Exclusion From SFHA of Structures and Legally Described Parcels of Undeveloped Land</p> <hr/> <p>Conditional Exclusion of Proposed Structures</p>	Map Amendment (44 CFR, Part 70)	<p>Letter of Map Amendment (LOMA)</p> <hr/> <p>Conditional LOMA</p>

FIGURE 2
Summary of NFIP Map Change Processes

modifications of stream channels and flood plains, proposed elevations for individual structures, or conditions that are expected to exist in the future. Under this process, you may submit engineering data for a proposed project or future condition and ask that FEMA review the data and issue a letter describing the revisions that could be made in the future. Note, however, that after January 1, 1986, a fee will be assessed for this service.

Map Amendments (Part 70). Under Title 44, Chapter I, Part 70 of the CFR, effective NFIP maps may be revised by LOMA to exclude individual structures and legally described parcels of undeveloped land that have been inadvertently included in the SFHA. Occasionally, individual structures or parcels of land may be inadvertently included in the SFHA when a NFIP map is prepared or it may be difficult for a property owner to determine whether a structure or parcel of land is in the SFHA. A property owner who

either believes that a specific structure or parcel of land has been incorrectly shown in the SFHA or who cannot determine whether the structure or parcel of land is in the SFHA on an effective NFIP map can request that FEMA make this determination.

The Map Amendment process is also applicable to requests for conditional determinations involving proposed structures. Note, however, that after January 1, 1986, a fee will be assessed for conditional determinations.

This process is not applicable to requests that involve changes to the flooding information shown on a NFIP map or that result from alterations of topography that were made after the date of the first NFIP map that showed the structure or parcel of land to be within the SFHA. Therefore, LOMAs should not be requested based on new topographic, hydrologic, or hydraulic conditions. (See preceding, Map Revisions (Part 65).)

Chapter 3

Appeals

The BFEs determined by FISs and restudies are the basis for delineation of the flood plain boundaries, determination of the flood risk zones, and development of the floodways shown on FIRMs and FBFMs. This information, including the BFEs, is used for flood plain management and insurance purposes by Federal, State, and local agencies. Because of the significance of the BFEs, FEMA is careful to ensure their accuracy. In addition to applying rigorous standards in developing and updating flood risk data, FEMA provides communities with an opportunity to appeal new or revised BFEs before they become final.

Background

For each community that will be affected by new or revised BFEs, FEMA starts a formal 90-day appeal period by publishing in the Federal Register and a local newspaper a notice of proposed BFEs. The newspaper notice is published twice. On the date of the second publication, the appeal period begins. At the end of the appeal period or after an Appeal is resolved, FEMA makes the BFEs final.

An appeal period is necessary for a community under the following conditions:

- Conversion of community from Emergency Phase to Regular Phase of NFIP--Until an FIS is performed, no BFEs will have been determined for a community that is participating in the Emergency Phase of the NFIP. Before the community can be converted to the Regular Phase, the BFEs determined by the FIS must be proposed and made final.
- Revision of FIS report/FIRM by FEMA restudy--When the existing BFEs presented in an effective FIS and FIRM are revised, or when new BFEs are added, by a FEMA restudy, these BFEs must be proposed and made final.
- Revision of FIS report/FIRM through Map Revision process--When the existing BFEs presented in an effective FIS and FIRM are revised, or when new BFEs are added through the Map Revision process, these BFEs must be proposed and made final. Map Revisions (see Chapter 4) may be accomplished by a physical revision of the FIRM or by a LOMR; therefore, the proposed BFEs will either be shown on the revised FIRM or described in a letter.

How To Appeal

During the appeal period, community officials and individual property owners may appeal the proposed BFEs. Because the Chief Executive Officer (CEO) of the community is responsible for ensuring that the community meets its obligations as a participant in the NFIP, FEMA works with the CEO or with a local official designated by the CEO, such as a city planner or city engineer, to resolve Appeals. Therefore, any individual property owner who wishes to appeal the proposed BFEs must submit the Appeal to the CEO or to the designated local official. Individual property owners should not submit Appeals directly to FEMA.

As the CEO or as the designated community official, you should review all individual Appeals and, when forwarding them to FEMA, should state whether the community supports the Appeals. You may also appeal on behalf of the community. Appeals must be submitted during the appeal period; however, when you receive numerous individual Appeals or when you expect to receive numerous Appeals, you should collect these Appeals and forward them to FEMA at the end of the appeal period. All Appeals should be sent to the FEMA Headquarters Office at the following address:

Chief, Risk Studies Division
Office of Risk Assessment
Federal Insurance Administration
Federal Emergency Management Agency
500 C. Street, S.W.
Washington, D.C. 20472

Data Required To Support the Appeal

Under the provisions of Title 44, Chapter I, Part 67, of the CFR, an Appeal must be based on data that show the proposed BFEs to be scientifically or technically incorrect. The distinction between "scientifically incorrect" and "technically incorrect" is significant because of the differences in the type and amount of data required to demonstrate one versus the other. However, before defining these terms, it is important to first discuss the meaning of the word "correct" as it applies to the BFEs.

The BFEs presented in FIS reports and FIRMs are the result of engineering methodologies employed by FEMA study contractors. Because numerous methodologies have been developed in an attempt to more accurately estimate flood discharges and flood elevations under a variety of conditions, study contractors use judgment in selecting methodologies that are appropriate for the conditions in a particular community. In general, because these methodologies are the

result of attempts to reduce complex physical processes to relationships between a limited number of variables, the methodologies include simplifying assumptions. In addition, these methodologies generally involve the use of data that are developed during the course of an FIS. Therefore, the results of the methodologies are affected by the amount of data collected or the precision of any measurements made.

Because of the judgments and assumptions that must be made and the limits imposed by cost considerations, the "correctness" of the BFEs is often a matter of degree, rather than absolute. For this reason, appellants who contend that the BFEs are incorrect because better methodologies could have been used, better assumptions made, or better data used generally must provide alternative analyses that incorporate such methodologies, assumptions, or data. FEMA will review these alternative analyses and will make a decision concerning their merit relative to those used in the FIS.

The BFEs are said to be scientifically incorrect if the methodology used to determine the BFEs is inappropriate or incorrect, or if the assumptions made as part of the methodology are inappropriate or incorrect. An appeal based on the BFEs being scientifically incorrect would, therefore, contend that the use of a different methodology or different assumptions would produce more accurate results (i.e., BFEs that are more correct).

The BFEs are said to be technically incorrect if (1) the methodology has not been applied properly or is based on too few or poor quality data or (2) mathematical or measurement errors have been made in applying the methodology, or the methodology does not account for physical changes that have occurred in the flood plain. The conditions under which the BFEs are said to be technically incorrect have been divided into these two groups according to the data required to support appeals under these conditions.

The following are descriptions of data that must be submitted by an appellant to support various types of appeals:

Scientifically Incorrect BFEs

Appeals Based On The Contention That A Methodology Is Inappropriate Or Incorrect

- I. Inappropriate Or Incorrect Hydrologic Methodology. The following data must be submitted:
 - a. New hydrologic analysis using an alternative methodology
 - b. Explanation of why the alternative methodology is superior to the original methodology

- c. New hydraulic analysis using the flood discharge values resulting from the new hydrologic analysis
 - d. Revised delineations of the flood plain boundaries and floodway
2. Inappropriate Or Incorrect Hydraulic Methodology. The following data must be submitted:
- a. New hydraulic analysis using an alternative methodology and the original flood discharge values
 - b. Explanation of why the alternative methodology is superior to the original methodology
 - c. Revised delineations of the flood plain boundaries and floodway
- b. Explanation of why the new application is superior to the original application
- c. New hydraulic analysis using the flood discharge values resulting from the new hydrologic analysis
 - d. Revised delineations of the flood plain boundaries and floodway
2. Incorrect Application Of The Hydraulic Methodology. The following data must be submitted:
- a. New hydraulic analysis in which the original methodology has been applied differently using the original flood discharge values
 - b. Explanation of why the new application is superior to the original application
 - c. Revised delineations of the flood plain boundaries and floodway

Technically Incorrect BFEs

Appeals Based On The Contention That A Methodology Has Not Been Applied Properly

- 1. Incorrect Application Of The Hydrologic Methodology. The following data must be submitted:
 - a. New hydrologic analysis in which the original methodology has been applied differently

Appeals Based On The Contention That Too Few Or Poor Quality Data Were Used

- 1. Too Few Or Poor Quality Hydrologic Data. The following data must be submitted:
 - a. Data that are believed to be better than those used in the original hydrologic analysis

-
- b. Documentation for the source of the data
 - c. Explanation of why the use of these data will improve the results of the original hydrologic analysis
 - d. New hydrologic analysis using the better data
 - e. New hydraulic analysis using the flood discharge values resulting from the new hydrologic analysis
 - f. Revised delineations of the flood plain boundaries and floodway
2. Too Few Or Poor Quality Hydraulic Data. The following data must be submitted:
- a. Data that are believed to be better than those used in the original hydraulic analysis
 - b. Documentation for the source of the data
 - c. Explanation of why the use of these data will improve the results of the original hydraulic analysis
 - d. New hydraulic analysis using the better data and the original flood discharge values
 - e. Revised delineations of the flood plain boundaries and floodway

Appeals Based On The Contention That The Analysis Contains Indisputable Errors

1. Mathematical Error--The appellant must identify the error; FEMA will perform any new calculations required to correct the error and make the necessary changes to the FIRM, FBFM, and FIS report.
2. Measurement Error--The appellant must identify the error and provide the correct measurement; FEMA will perform any new calculations required and make the necessary changes to the FIRM, FBFM, and FIS report.

Appeals Based On The Effects Of Physical Changes That Have Occurred In The Flood Plain

The appellant must identify the changes that have occurred and provide the data necessary for FEMA to perform a reanalysis. These data may include topographic maps, grading plans, new stream channel and flood plain cross sections, and the dimensions of structures.

General Technical Guidance

When developing technical supporting data, appellants should consider the following points:

- Because Appeals, unless based on indisputable mathematical or measurement errors or the effects of physical changes that have occurred in the flood plain, must be accompanied by all the data that FEMA needs to revise the FIRM, FIS report, and FBFM, the appellant should be prepared to perform hydrologic and hydraulic analyses and delineate new flood plain boundaries and floodways as necessary. In addition, new flooding information cannot be added to a NFIP map in such a way as to create mismatches with the flooding information shown for unrevised areas. Therefore, in performing new analyses and developing revised flooding information, the appellant must tie his new flood elevations, flood plain boundaries, and floodways into those shown for areas not shown by the Appeal to be incorrect. When Appeals involve new flood discharge values, extensive changes in hydraulic conditions, or complex situations in which changes made to the flooding information developed for one flooding source will affect that developed for others, the appellant may be required to provide new information for a large portion of the map.
 - All analyses and data submitted by the appellant must be certified by a registered professional engineer or licensed land surveyor, as appropriate.
 - Appeals cannot be based on the effects of proposed projects or future conditions; therefore, any plans, maps, or measurements submitted by the appellant must be certified as representing existing or "as-built" conditions.
 - When an appellant is required to submit hydrologic analyses, the analyses must be performed for the 10-, 50-, 100-, and 500-year floods.
 - When an appellant is required to submit hydraulic analyses, the analyses must be performed for the 10-, 50-, 100-, and 500-year floods and floodway. Unless the basis of the Appeal is the use of an alternative hydraulic methodology, the analysis should be made using the same hydraulic computer model used to develop the BFEs shown on the Preliminary FIRM. You may request, through the appropriate FEMA Regional Office, a copy of the input and output data from this model.
- When the new hydraulic analysis is submitted to FEMA, copies of the input and output data from the original and revised computer models should be submitted.

-
- Although requests for revisions to floodways do not qualify as Appeals, the changes resulting from successful Appeals often include changes to floodways. For information concerning additional data that must be submitted to support Appeals that involve changes to floodways, refer to Chapter 6, in which the FEMA policy concerning floodway revisions is discussed.
 - When the appellant is required to submit delineations of flood plain boundaries, both the 100- and 500-year flood plain boundaries must be submitted. These boundaries should be shown on a topographic map of suitable scale and contour interval to provide reasonable accuracy.
 - To support an appeal based on the effects of earth-fill levees, floodwalls, seawalls, and similar structures, the appellant must submit the following data.
 - Certification that the structure will be maintained and operated by an agency of the Federal, State, or local government
 - An ordinance or official operation and maintenance plan adopted by that agency that describes the type and frequency of the maintenance activities that will be performed and the operation of any closures
 - Either a certification from a Federal agency that the structure is adequately designed to provide protection from a 100-year or greater magnitude flood, or
Technical data to show that the structure meets adequate freeboard and stability requirements (The appropriate FEMA Regional Office should be contacted for information on structural standards adopted by FEMA.)

Appeal Resolution Procedures

After the appeals submitted by the CEO have been received, FEMA will acknowledge their receipt by letter to the CEO. Copies of this acknowledgment letter will be sent to each appellant unless the number of appellants is so great that to do so would be unpractical. When this is the case, the CEO is responsible for informing the appellants that FEMA has received the appeals. FEMA will review the appeals and the supporting data submitted with them. If any questions or problems arise during this review, FEMA will work with the CEO, the community official designated by the CEO, or the appellant to resolve them.

If FEMA determines that additional data are required to support the appeals, these data will be requested by letter. The letter will

be sent to the CEO. If appropriate, a copy will be sent to the community official designated by the CEO. Copies will also be sent to the individual appellants, if it is practical to do so. To avoid delaying the resolution of appeals, FEMA allows 30 days for the CEO to provide the requested data. If the data are not provided within the allotted time, FEMA will resolve the appeals using the data originally submitted. If the requested data are provided, FEMA will consider them before resolving the appeals.

If the Appeals are not supported by the data that have been submitted, FEMA will inform the CEO by letter that the Appeals are denied.

If the Appeals are adequately supported, FEMA will revise the BFEs and any other information affected by the Appeals, such as flood plain boundaries, floodways, and flood

insurance zones. If the Appeals involved the proposed BFEs shown on a new FIRM or a revised FIRM, FEMA will revise the FIRM and, if necessary, the accompanying FIS report and FBFM. Copies of these materials will be sent to the CEO with a letter that explains the resolution of the Appeals. The community will be given 30 days to review these materials and comment on the resolution. At the end of this review period, FEMA will make the BFEs final by publishing them in the Federal Register. The CEO will be notified by letter of the final BFE determination.

If the Appeals involve BFEs proposed in a LOMR, FEMA will explain the resolution of the Appeals in a letter to the CEO, the community will be given 30 days to review and comment on the resolution, after which FEMA will make the revised BFEs final by publishing them in the Federal Register.

Chapter 4

Revisions

To provide accurate assessments of flood risk for flood plain management and insurance purposes, NFIP maps must present flood hazard information that is correct and up-to-date. Because this information is subject to change, FEMA has developed the Map Revision process, under which communities may request that effective FHBMs and FIRMs be revised to incorporate new or corrected flooding information.

Background

The information depicted on effective FEMA maps may be revised by a physical revision of the map or by Letter of Map Revision (LOMR). A physical map revision involves revising and printing the individual map panels affected by the requested changes. When NFIP maps are revised by LOMR, the changes made to the maps are described in the LOMR; revised map panels are not printed. Because of the costs involved in printing new map panels FEMA generally revises maps physically only when it is necessary to show changes involving a land

area of significant size or increased flood hazards (new or enlarged SFHAs or higher BFEs). To make other types of map changes, FEMA usually issues LOMRs.

LOMRs may be used to make many types of map changes, but are especially well suited to changes that involve only small areas within a community, particularly those involving individual structures and parcels of undeveloped land. Therefore, a LOMR may be issued, if warranted, to remove structures and legally described parcels of undeveloped land from the SFHA.

Although changes to any of the information shown on an effective NFIP map may be made, FEMA generally will not revise an effective map unless the changes involve flooding information. Requests for changes that involve other information such as roads, road names, or community boundaries will usually be kept on file and addressed if a revision becomes necessary as a result of a request for more significant changes.

As explained in Chapter 2, conditional revisions can also be made under the Map Revision process. Communities, developers, and property owners often undertake improvement projects intended to reduce the flood hazard in specific areas within their

communities and usually want FEMA to recognize the effects of these projects and eventually to credit the projects with providing some degree of flood protection. Similarly, property owners and developers who intend to construct houses or other buildings in the 100-year flood plain usually must prove to lending institutions and local officials that these structures will be above the BFE. It has become common practice, therefore, for those who are planning such projects or construction to submit design plans and other engineering data to FEMA and request that FEMA evaluate them. FEMA responses to such requests describe the changes that may eventually be made to the effective map and are called Conditional LOMRs.

To recoup the costs involved in evaluating proposed projects, many of which are never actually completed, FEMA has found it necessary to charge a fee for evaluations to support Conditional LOMRs. Details concerning the amount of the fee and method of payment will be provided in Part 72 of Title 44 of the CFR after January 1, 1986.

How To Request a Revision

At any time after a NFIP map has become effective, a community may request that the

map be revised. Because the CEO of the community is responsible for ensuring that the community meets its obligations as a participant in the NFIP, any requests for revisions must be made or approved by either the CEO or a community official, such as a city planner or city engineer, designated by the CEO. Therefore, any individual property owner, developer, or other person who wishes to have the NFIP map revised, must submit the request to the CEO or the designated community official. You, as the CEO or as the designated community official, should review the request and, when forwarding it to FEMA, should state whether the community supports the request. If the community will not support the request on the basis that the request would involve a violation of Federal, State, or local flood plain management laws or ordinances, FEMA will not act on the request.

Requests for revisions to effective NFIP maps should be submitted to the appropriate FEMA Regional Office. If the request is for a determination involving a single structure or single lot, the Regional Office will make the determination. All other requests will be reviewed by the Regional Office and forwarded to the FEMA Headquarters Office in Washington, D.C., for disposition. Regional Offices and their addresses are listed in Appendix D.

Data Required To Support the Request

The type and amount of data that must be submitted are dependent on the reason for the revision and the type of changes to be made.

Revisions to effective NFIP maps are usually requested because of changes that have taken place in the flood plain. Such changes include, but are not limited to, the construction of new bridges, culverts, levees, or channel improvements and the grading and filling normally associated with development (including the placement of fill to elevate individual structures above the BFE). Occasionally, revisions will be requested because the analyses used to develop the data shown on the effective NFIP map are found to contain errors or because a requestor believes that the use of alternative methodologies or better data will provide results that are more accurate than those obtained from the original FEMA analyses.

To support requests based on the effects of physical changes that have occurred in the flood plains or on the use of alternative methodologies or better data, the requestor must provide new analyses, in which the alternative methodologies or better data are used, and any other data necessary for FEMA to revise the effective map. FEMA will not

perform any analyses in conjunction with these kinds of requests.

To support requests that revisions be made to correct mathematical or measurement errors, the requestor need only identify the errors and provide any new data necessary for FEMA to perform new analyses and correct the maps.

The following are descriptions of the data that must be submitted to support various types of revision requests:

Revisions Based On The Effects Of Physical Changes That Have Occurred In The Flood Plain

- I. Changes Affecting Hydrologic Conditions.
The following data must be submitted:
 - a. General description of the changes (dam, diversion channel, detention basin, etc.)
 - b. Construction plans for as-built condition, if applicable
 - c. New hydrologic analysis accounting for the effects of the changes
 - d. New hydraulic analysis using the new flood discharge values resulting from the hydrologic analysis
 - e. Revised delineations of the flood plain boundaries and floodway

2. Changes Affecting Hydraulic Conditions. The following data must be submitted:

- a. General description of the changes (channelization; new bridge, culvert, levees, etc.)
- b. Construction plans for as-built condition
- c. New hydraulic analysis accounting for the effects of the changes and using the original flood discharge values
- d. Revised delineations of the flood plain boundaries and floodway

3. Changes Affecting Topographic Conditions. The following data, certified by a registered professional engineer or licensed land surveyor, must be submitted:

- a. General description of the changes (grading, filling, etc.)
- b. New topographic information, such as spot elevations, grading plans, or contour maps
- c. Revised delineations of the flood plain boundaries and, if necessary, floodway

Revisions Based On The Use Of Better Data

1. Better Hydrologic Data. The following data must be submitted:

- a. Data that are believed to be better than those used in the original hydrologic analysis (such as additional years of stream gage data)
- b. Documentation for of the source of the data
- c. Explanation of why the use of these data will improve the results of the original hydrologic analysis
- d. New hydrologic analysis using the better data
- e. New hydraulic analysis using the new flood discharge values resulting from the hydrologic analysis
- f. Revised delineations of the flood plain boundaries and floodway

2. Better Hydraulic Data. The following data must be submitted:

- a. Data that are believed to be better than those used in the original hydraulic analysis (such as supplementary flood plain and stream channel cross sections)
- b. Documentation for the source of the data

- c. Explanation of why the use of these data will improve the results of the original hydraulic analysis
 - d. New hydraulic analysis using the better data and the original flood discharge values
 - e. Revised delineations of the flood plain boundaries and floodway
3. Better Topographic Data. The following data, certified by a registered professional engineer or licensed land surveyor, must be submitted:
- a. Data that are believed to be better than those used to plot the original flood boundaries (detailed topographic maps, grading plans, spot elevations, etc.)
 - b. Documentation of the source of the data
 - c. Revised delineations of the flood plain boundaries
- b. Explanation of why the alternative methodology is superior to the original methodology
 - c. New hydraulic analysis, using the new flood discharge values resulting from the hydrologic analysis
 - d. Revised delineations of the flood plain boundaries and floodway
2. Alternative Hydraulic Methodology. The following data must be submitted:
- a. New hydraulic analysis using the alternative methodology and the original flood discharge values
 - b. Explanation of why the alternative methodology is superior to the original methodology
 - c. Revised delineations of the flood plain boundaries and floodway

Revisions Based On The Use Of An Alternative Methodology

1. Alternative Hydrologic Methodology. The following data must be submitted:
- a. New hydrologic analysis using the alternative methodology

Revisions To Correct Indisputable Errors In The Original Analysis

1. Mathematical error. The requestor must identify the error; FEMA will perform new calculations to correct the error.
2. Measurement error. The requestor must identify the error and provide the correct measurement; FEMA will perform new calculations to correct the error.

Revisions To Exclude Individual Structures And Legally Described Parcels Of Undeveloped Land From The SFHA Based On Altered Topography

The determinations and changes made by FEMA will be similar to those described in Chapter 5, Amendments. The requestor must provide data that to verify the location of the structure or parcel of land and show that the structure or parcel of land is not subject to flooding during the base flood. Therefore, these data generally will be the same as those required to support a request for a Map Amendment. However, because the changes handled under the Map Revision process will involve alterations of topography, the following additional requirements will also apply:

1. When the revision involves the exclusion from the SFHA of a structure that has been elevated by the placement of fill, the requestor must submit data showing that the entire structure including the lowest floor (basement) is at or above the BFE.
2. When the revision involves the exclusion from the SFHA of a parcel of land that has been filled, the requestor must submit data showing that all land within the legally described limits of the parcel is at or above the BFE.

Conditional Revisions Based On The Effects Of Proposed Projects Or Future Conditions

Except for the fact that any maps, plans, drawings, measurements, or elevation data that are submitted will not reflect existing conditions, the data required to support requests for Conditional LOMRs are generally the same as those required to support requests for revisions. A fee will be assessed for the evaluation of requests for conditional revisions after January 1, 1986.

General Technical Guidance

When developing technical supporting data, requestors should consider the following points:

- Unless based on indisputable and clearly defined mathematical or measurement errors in the original FEMA analyses, revision requests must be accompanied by all the data that FEMA needs to revise the FHBM or FIRM, FIS report, and FBFM. Therefore, the requestor should be prepared to perform new hydrologic and hydraulic analyses and delineate new flood plain boundaries and floodways as necessary. In addition, new flooding information cannot be added to a NFIP map in such a way as to create mismatches with the flooding information

shown for unrevised areas. Therefore, in performing new analyses and developing revised flooding information, the requestor must tie his new flood elevations, flood plain boundaries, and floodways into those shown for areas not affected by the revisions. When requests involve new flood discharge values, extensive changes in hydraulic conditions, or complex situations in which changes made to the flooding information developed for one flooding source will affect that developed for others, the requestor may be required to provide new information for a large portion of the map.

- All analyses and data submitted by the requestor must be certified by a registered professional engineer or licensed land surveyor, as appropriate.
- Revisions cannot be made based on the effects of proposed projects or future conditions; therefore, unless a conditional revision is requested, any maps, plans, drawings, measurements, or elevation data submitted by the appellant must be certified "as-built" or as representing existing conditions.
- NFIP maps may be revised when flood discharges change as a result of structural improvements, such as dams or other significant retention facilities. However, NFIP maps will not be revised when

discharges change as a result of the use of an alternative methodology or better data unless the change is statistically significant. The criteria to be used in determining whether a change is statistically significant are discussed in Section 2-6, "Hydrologic Analyses," of the FEMA Guidelines and Specifications for Study Contractors (dated September 1985). Therefore, when requesting a revision based on new flood discharges, the requestor should determine the significance of the change before proceeding with new hydraulic analyses. When the statistical significance test does not apply, a determination by a Federal or State agency that the change is significant may be accepted as the basis for a revision.

- When a requestor is required to submit a hydrologic analysis for flooding sources originally studied by detailed methods, the analysis must be performed for the 10-, 50-, 100-, and 500-year floods.
- When a requestor is required to submit a hydraulic analysis for a flooding source originally studied by detailed methods, the analysis must be performed for the 10-, 50-, 100-, and 500-year floods and floodway. Unless the basis of the request is the use of an alternative hydraulic methodology, the analysis should be made using the same hydraulic computer model used to develop the BFEs shown on the effective NFIP map. You may request,

through the appropriate FEMA Regional Office, a copy of the input and output data from the original computer model. Any differences between the original and revised models must be justified on the basis of physical changes that have occurred, better hydraulic data, or revised discharges. The revised model should also include all existing conditions, including any encroachments that have occurred in the flood plain since the original model was developed.

When the new hydraulic analysis is submitted to FEMA, copies of the input and output data from the original and revised computer models should be submitted.

- For information concerning additional data that must be submitted to support requests that involve changes to floodways, refer to Chapter 6, in which the FEMA policy concerning floodway revisions is discussed.
- When a requestor is required to submit a hydrologic or hydraulic analysis for a flooding source originally studied by approximate methods, the analysis may be performed for only the 100-year flood.
- When requesting a revision of flood plain delineations based on significant topographic changes, the requestor must verify that the new topographic data do not significantly alter the hydraulic characteristics of the stream; if they do, a new hydraulic analysis may be necessary.
- When a requestor is required to submit delineations of flood plain boundaries for a flooding source originally studied by detailed methods, both the 100- and 500-year flood plain boundaries must be submitted; for flooding sources originally studied by approximate methods, 100-year flood plain boundaries must be submitted. These boundaries should be shown on a topographic map of suitable scale and contour interval to provide reasonable accuracy.
- To support a request for a revision based on the effects of earth-fill levees, floodwalls, seawalls, and similar structures, the requestor must submit the following data:
 - Certification that the structure will be maintained and operated by an agency of the Federal, State, or local government
 - An ordinance or official operation and maintenance plan adopted by that agency that describes the type and frequency of the maintenance activities that will be performed and the operation of any closures
 - Either a certification from a Federal agency that the structure is adequately designed to provide

protection from a 100-year or greater magnitude flood, or

Technical data to show that the structure meets adequate freeboard and stability requirements (The appropriate FEMA Regional Office should be contacted for information on structural standards adopted by FEMA.)

Map Revision Procedures

After a revision request has been received from the CEO, FEMA will acknowledge receipt of the request by letter to the CEO. A copy of the acknowledgment letter will be sent to the requestor. FEMA will review the request and the supporting data submitted with it. If any questions or problems arise during this review, FEMA will work with the CEO, the community official designated by the CEO, or the requestor to resolve them.

If FEMA determines that additional data are required to support the request, these data will be requested by letter. The letter will be sent to the CEO. If appropriate, a copy will be sent to the community official designated by the CEO. A copy will also be sent to the requestor. FEMA allows 30 days for the CEO to provide the requested data. If the data are not provided within the allotted time, FEMA will complete the

review using the data originally submitted. If the requested data are provided, FEMA will consider them in the review.

If the data submitted do not warrant any changes to the information shown on the effective map, FEMA will inform the CEO by letter that no further action will be taken on the request until adequate data are provided. If changes are warranted, FEMA will either physically revise the effective map or issue a LOMR.

Physical Map Revision--Only the panels of the FHBM or FIRM affected by the changes are revised. When a FIRM is revised, the corresponding FBFM panels and FIS report are also revised, if necessary. The revised materials are sent to the community for a 30-day review period. When FIRM revisions involve new or changed BFEs, the 30-day period will be followed by a formal 90-day appeal period, during which the BFEs may be appealed. (See Chapter 3.)

When the BFEs have been lowered, FEMA may print the revised FIRM during the appeal period. If an appeal is submitted, FEMA will either delay the printing of the new FIRM or, if necessary, revise the new FIRM after it has been printed. Because appeals are rarely submitted when BFEs have been lowered, this procedure has proved to be a fast and effective method of providing the community with its revised maps. When BFEs have been

added or raised, the FIRM will not be printed until after the appeal period has ended and any appeals resolved.

When physical map revisions do not involve new or changed BFEs, no appeal period is necessary; the maps are printed after the 30-day review period has ended. In all cases, the revised maps do not become effective until they are printed.

Letter of Map Revision (LOMR)—The LOMR, which is sent to the CEO, takes the place of

a physical map revision. The LOMR describes the changes that have been made and officially revises the effective NFIP map. Occasionally, when it is difficult to describe the changes in the LOMR, hand-revised maps illustrating the changes are sent with the LOMR. The revision is effective as of the date of the LOMR. A LOMR cannot be issued to add or raise BFEs. LOMRs that decrease BFEs will be followed by a formal 90-day appeal period. No appeal period is necessary for LOMRs that do not involve changes to the BFEs.

Chapter 5

Amendments

The accuracy of the flood plain boundaries shown on NFIP maps is limited by the scales at which the maps are prepared and by the topographic data available to prepare them. As a result, map users will occasionally find it difficult to determine whether a specific structure or parcel of land is within the SFHA. Also, small areas of high ground may be included in the SFHA because they are too small to be shown to scale. When this happens, structures or parcels of land may be inadvertently included in the SFHA when the map is prepared. The inclusion of land areas will also pose a problem for persons who propose to build new structures in them. Because the Federal requirement for the purchase of flood insurance and the Federal and local regulations governing construction in the SFHA are important to persons who own or plan to build structures, FEMA has developed the Map Amendment process. Under this process property owners may request that FEMA determine whether specific structures or legally described parcels of undeveloped land are or would be in the SFHA and, if necessary, amend the effective map accordingly.

Background

Under the Map Amendment process, FEMA will make final and conditional determinations for single or multiple structures on one or more lots, or for parcels of undeveloped land that can be legally described.

These determinations will be made by FEMA using the best available data (usually the effective NFIP map) and information provided by the requestor concerning the existing or proposed locations and elevations of structures or the locations and existing elevations of legally described parcels of undeveloped land.

The Map Amendment process is applicable only to requests for determinations concerning structures and legally described parcels of undeveloped land based on topographic conditions that existed before the effective date of the first NFIP map that showed the structure or parcel of land to be within the SFHA. This includes natural ground as well as any fill placed prior to the date of that map.

Structures and parcels of land may be determined to be

- Out of the SFHA as shown on the effective FEMA map. No amendment to the map is necessary.
- Out of the SFHA because the structure or parcel of land is above the BFE (inadvertent inclusion). The effective map is amended to exclude the existing structure from the SFHA.
- In the SFHA because the structure or parcel of land is below the BFE. If necessary, the effective map will be amended to include the structure in the SFHA.

Only the effective NFIP map may be amended under the Map Amendment process. All final determinations and Amendments made by FEMA will be described in LOMAs. Conditional determinations for proposed structures will be described in Conditional LOMAs.

How To Request an Amendment

Any owner or lessee of property may request that a determination be made concerning a structure or parcel of land and that, if necessary, the effective NFIP map be amended

accordingly. Because these requests concern structures and parcels of land that were inadvertently included in the SFHA and do not involve recent alterations of topography or result in significant changes to the flooding information depicted on the NFIP map, they may be submitted directly to FEMA and are not subject to the review and approval of the community.

Requests for determinations concerning multiple structures on multiple lots and all requests for conditional determinations should be sent to the FEMA Headquarters Office at the following address:

Chief, Technical Operations Division
Office of Risk Assessment
Federal Insurance Administration
Federal Emergency Management Agency
500 C. Street, S.W.
Washington, D.C. 20472

Requests for determinations concerning single structures on single lots and parcels of land should be sent to the appropriate FEMA Regional Office. These offices and their addresses are listed in Appendix D.

Data Required To Support the Request

The requestor must provide data that are sufficient to allow FEMA to verify the

location of the structure or parcel of land and that the structure or land is not subject to inundation during the base flood.

Determinations For Existing Structures. The following data must be submitted:

1. A copy of the recorded deed with the legal description of the property and the deed book volume and page number, bearing the seal of the Recorder of Deeds.
2. A copy of the recorded plat showing both the location of the property and the plat book volume and page number, bearing the seal of the Recorder of Deeds. If the property is not recorded on a plat map, copies of the tax map or other suitable maps are required to aid FEMA in accurately locating the property.
3. A topographic map, certified "as-built" by registered professional engineer or licensed land surveyor, showing structure locations (if applicable), ground elevations, and the elevations of the lowest finished grades adjacent to the structures (if applicable).
4. Data to substantiate the BFE. These data may be taken from an authoritative source, such as the U.S. Army Corps of Engineers, U.S. Geological Survey, U.S. Soil Conservation Service, any other Federal agency, State and local water resource or planning departments, a

FEMA FIS, or information prepared by a registered professional engineer.

5. A signed statement asserting the accuracy of the information submitted.

Determinations For Proposed Structures. The data required to support a request for a conditional determination are generally the same as those required for determinations for existing structures. However, none of the plans or structural elevations submitted will be certified "as-built." Note that after January 1, 1986, a fee will be assessed for conditional determinations.

General Technical Guidance

When developing technical supporting data, requestors should consider the following points:

- If an entire legally described parcel of land is shown to be inadvertently included in the SFHA, the LOMA will be issued for the parcel.
- If the request is for more than one lot or structure, then the requestor must provide an effective NIFP map (FIRM or FHBM), or a photographic copy of it, on which the legal metes and bounds of the property, including each lot within a

subdivision, have been drawn as accurately as possible. The map submitted must bear the seal of a licensed land surveyor or registered professional engineer to certify that the property is correctly located on the NFIP map based on the legal description of the property. If a flood boundary runs through a lot or tract of property, the location of the structure(s) on the lot or tract should be accurately drawn. A photocopy of the NFIP map is unacceptable because the size of the map may be distorted.

- In some instances, additional data may be required for FEMA to make a determination. These may consist of, but not be limited to, certifications by a registered professional engineer or a licensed land surveyor as to the type of structure and whether it is elevated on posts, piers, pilings, or barrier sand dunes; or a hydraulic analysis of the flooding conditions.
- To support a request involving fill that was placed before the effective date of the first NFIP map showing the structure or parcel of land to be within the SFHA, a requestor may be required to submit a certification of the date the fill was placed. This certification may be made by a community official, registered professional engineer, or licensed land surveyor.
- When the effective NFIP map is an FHBM, BFEs will not be shown. The

requestor may either determine an approximate BFE using standard engineering techniques or request that FEMA determine an approximate BFE. FEMA will either check the BFE determined by the requestor or, if necessary, determine an approximate BFE using the supporting data for the FHBM or the best available data.

When a preliminary or revised preliminary FIRM has been issued, the BFEs shown on the FIRM may be used as best available data after the BFEs have been made final by FEMA.

- When the effective NFIP map is a FIRM, the determination concerning the structure or parcel of land will be made using the BFEs shown on the FIRM. Determinations cannot be made using other flood elevations, unless the effective FIRM is first revised to incorporate the new elevations. (See Chapter 4, Map Revisions.)
- When the effective FIRM shows an average depth of flooding rather than a BFE, the determination will be made by comparing the elevation of the lowest grade adjacent to the structure to the elevation of the surrounding terrain where sheet flow would be conveyed. If the difference in these elevations is equal to or greater than the flood depth shown on the effective FIRM, the structure can be excluded from the SFHA.

- When the SFHA on the effective FIRM is designated as approximate Zone A no BFEs will be shown. If the structure is located in approximate Zone A, a BFE may be determined by the same method as that used when the effective map is an FHBM.
- Structures that have been elevated above the BFE on posts, piers, or pilings cannot be excluded from the SFHA if any portion of the structure (including the posts, piers, or pilings) is still in the SFHA.
- Regardless of the elevations of the lowest adjacent grades and lowest floor, LOMAs will not be issued to exclude from the SFHA structures located in floodways or in Zone V or in areas that are anticipated to be designated as floodways or Zone V.

No determinations can be made until the floodway has been revised to exclude the structure or until the Zone V designation for the area in which the structure is located has been changed. Changes to floodways shown on effective maps are discussed in Chapters 4 and 6 of this guide. Changes to zone designations shown on effective maps are made under the Map Revision process, which is discussed in Chapter 4.

Map Amendment Procedures

After a request has been received, FEMA will acknowledge receipt of the request by letter to the requestor. This letter will be accompanied by a checklist that identifies any basic data the requestor may have neglected to submit. If sufficient data have been provided with the request, FEMA will review the request and the supporting data. If any questions or problems arise during this review, FEMA will work with the requestor to resolve them.

If the missing data identified on the checklist are not provided within 30 days of the date of the acknowledgment letter, a data request letter will be sent to the requestor. This letter will allow the requestor 30 more days to provide the necessary data. If these data are not provided within the allotted time, FEMA will generally drop the request. If the requested data are provided, FEMA will complete the review and issue the appropriate LOMA. Generally the LOMA will be issued within 4 to 8 weeks of the date that all the required supporting data are received.

When FEMA determines that, based on the legal description or recorded plat, the structure is located outside the SFHA shown on the effective NFIP map, a LOMA will be issued stating that the structure is "out as shown."

When the elevation of the lowest grade adjacent to the structure or the elevation of the lowest portion of a parcel of land is determined to be at or above the effective BFE, FEMA will issue a LOMA stating that the effective map has been amended to exclude the structure or parcel of land from the SFHA. Otherwise, the LOMA will state that the structure or parcel of land is below the BFE and, therefore, in the SFHA.

When an effective NFIP map is amended by a LOMA, the amendment is effective as of the

date of the LOMA. Copies of LOMAs that amend an effective map are sent to the CEO of the affected community and the State Coordinator.

A Conditional LOMA only comments on the proposed plan and does not amend the effective NFIP map. No copies of Conditional LOMAs are distributed. After January 1, 1986, a fee will be assessed for the review of Conditional LOMA requests.

Chapter 6

Floodway Revisions

The floodways shown on NFIP maps are developed as part of detailed FISs and are adopted by communities for use in developing sound flood plain management programs. By restricting development in the floodway, your community can preserve the conveyance area necessary for the passage of flood waters and avoid significant increases in flood elevations. After your community has adopted a floodway, it may become necessary to change the configuration of the floodway. The purpose of this chapter is to discuss FEMA policy concerning floodway revisions and to describe the information that must be submitted to support a request for a floodway revision.

Background

Encroachments within the 100-year flood plain can increase BFEs by blocking areas of the flood plain that would otherwise be open to convey flood waters. Therefore, FEMA has established floodways in an effort to achieve a balance between any benefits gained from flood plain development and the

resulting increases in flood hazard. The floodway is the channel of a stream and any areas of the 100-year flood plain adjacent to it that must be kept free from encroachment to convey the 100-year flood without increasing the BFEs more than a specified amount. FEMA has set a minimum standard of 1.0 foot for the allowable increase. This increase determines the size of the floodway. After the limits of the floodway have been identified, the community may allow development in the remainder of the 100-year flood plain (the floodway fringe) with the assurance that flood hazards will not be increased significantly.

Several States have adopted requirements that limit the allowable increases to less than the FEMA minimum standard. For States that have adopted more stringent standards by legally enforceable statutes or regulations, FEMA computes floodways using these standards. Once the floodway has been adopted by the community, any encroachments within the floodway that would increase the BFEs during the 100-year flood are prohibited. These encroachments would include fill, new construction, substantial improvements, and other types of development.

Floodways are developed for streams studied by detailed methods as part of the hydraulic analyses performed for these streams. The most common method employed to develop floodways is referred to as the "equal conveyance reduction method" in which the hydraulic computer model used to determine the BFEs is modified to eliminate equal amounts of conveyance area from opposite sides of the 100-year flood plain until the allowable rise in the BFE is reached. When it is necessary to develop floodways with specific configurations requested by the community, unequal amounts of conveyance area may be used. The resulting floodway is a reasonable depiction of the area that must be kept open to convey flood waters and is not necessarily the minimum area required to meet the FEMA or State standard. Once adopted by the community, a particular floodway configuration becomes administratively established, as much the same as other community regulations do, and the limits of the floodway are intended to remain unchanged.

However, there are generally two situations in which a community may find it necessary to request a floodway revision:

- When an Appeal or a Map Revision results in changes to effective BFEs
- When, for good cause, the community wishes to shift the floodway or change its configuration in some way

Appeals and Map Revisions that result in changes to BFEs are generally supported by new or revised hydraulic analyses that involve modification of the hydraulic computer model. (See Chapters 3 and 4.) Because the floodway is developed using this model and the floodway width is dependent on a specified rise in the BFEs, changes to floodways will usually be a part of any Appeal or Map Revision that results in changes to BFEs.

A floodway revision request may be submitted during the 90-day appeal period or after the NFIP map on which the floodway is shown has become effective. Requests submitted during the appeal period will be handled as Protests. (See Appendix B.) Requests submitted after the effective date of the NFIP map will be handled under the Map Revision process.

How To Request a Floodway Revision

Because the community selects and adopts the floodway, all requests for changes to floodways must be made or approved by the community. FEMA will not revise a floodway without the approval of the community. Because the CEO of the community is responsible for ensuring that the community

meets its obligation to regulate floodways, FEMA will work with the CEO or a local official, such as a city planner or city engineer, designated by the CEO in evaluating requests that involve changes to floodways. Therefore, any individual property owner, developer, or other person who wishes to request a map change that involves the floodway must submit the request to the CEO or the designated official. You, as the CEO or other community official, should review the request and, when forwarding it to FEMA, should state whether the community approves the requested change.

All requests that involve changes to floodways should be submitted to the appropriate FEMA Regional Office. The Regional Offices and their addresses are listed in Appendix E.

Data Required To Support the Request

Floodway revisions cannot be made without adequate supporting information. Because many States require communities to follow administrative procedures in revising floodways and because the limits of the floodway are established through engineering analyses, both legal documentation and technical data must be submitted. The

following are descriptions of the documentation and data that must be submitted to support each type of floodway revision.

All Floodway Revisions

The following documentation must be submitted as evidence that the community is prepared to adopt the revised floodway and that all legal requirements will have been met before the floodway is revised:

1. Copy of a public notice stating the community's intent to revise the floodway and a statement that the community has notified any affected property owners or adjacent jurisdictions
2. Copy of a letter notifying the State of the floodway revision
3. Documentation of the approval of the revised floodway by the appropriate State agency (for communities where the State has jurisdiction over the floodway or its adoption by communities participating in the NFIP)

Floodway Revisions Made as Part of an Appeal or Map Revision

The following data must be submitted:

1. Engineering analysis for the revised floodway, performed according to the following steps:

- a. The floodway analysis should be performed using the desired floodway limits and the hydraulic computer model used to determine the new BFEs for the Appeal or Map Revision (See Chapter 3 or 4).
- b. The floodway limits should be set so that neither the effective BFEs nor those resulting from the Appeal or Map Revision are increased by more than the amount allowed by FEMA and the State.

(Copies of the input and output data from the original, modified, and floodway computer models must be submitted.)

2. Delineation of the revised floodway on the same topographic map used for the delineation of the revised flood boundaries resulting from the Appeal or Map Revision

Floodway Revisions Made Independently of Appeals or Map Revisions

The following data must be submitted:

1. Engineering analysis for the revised floodway, performed according to the following steps:
 - a. The original hydraulic computer model used to develop the existing BFEs should be modified to include all encroachments that have occurred

in the flood plain since the existing floodway was developed.

- b. The floodway analysis should be performed with the modified computer model using the desired floodway limits.
- c. The floodway limits should be set so that the combined effects of the past encroachments and the new floodway limits do not increase the effective BFEs by more than the amounts allowed by FEMA and the State.

(Copies of the input and output data from the original, modified, and floodway computer models must be submitted.)

2. Delineation of the revised floodway on a copy of the effective NFIP map

General Technical Guidance

When developing technical supporting data, requestors should consider the following points:

- All analyses and data submitted by the requestor must be certified by a registered professional engineer or licensed land surveyor.

- Input and output data from the original hydraulic computer model may be requested through the appropriate FEMA Regional Office.
- FEMA policies concerning floodway revisions based on changes in flood discharges or the effects of earth-fill levees or other structures are the same as those outlined for Map Revisions in Chapter 4.

Floodway Revision Procedures

As explained earlier, a request for a floodway revision may be part of either an Appeal or a Map Revision that results in changes to BFEs, or may be submitted independently as a Protest or a Map Revision request that involves only the floodway. A request for a floodway revision that is part of an Appeal or a Map Revision request will not be acknowledged separately. Requests that involve only the floodway will be acknowledged by letter to the CEO.

If it is part of an Appeal or Map Revision, the request will be reviewed and resolved under the procedures outlined in Chapter 3 or 4.

If the request involves changes to the floodway only, FEMA will review the request and the supporting data submitted with it. If

any questions or problems arise during this review, FEMA will work with the CEO, the community official designated by the CEO, or the requestor to resolve them.

If FEMA determines that additional data are required to support the request, these data will be requested by letter. The letter will be sent to the CEO. If appropriate, a copy will be sent to the community official designated by the CEO. To avoid spending time reviewing poorly documented requests, FEMA allows 30 days for the CEO to provide the requested data. If the data are not provided within the allotted time, FEMA will complete the review using the data originally submitted. If the requested data are provided, FEMA will consider them in the review.

After reviewing all the supporting data, FEMA will determine whether the request is warranted. The action taken by FEMA at this point will depend on whether the request was submitted as a Protest or as a request for a Map Revision.

Protest

If no revision is warranted, FEMA will inform the CEO by letter that the request is denied. If a revision is warranted, the revised floodway will be incorporated into the map at the time it is printed and before it becomes effective. The revised floodway data will be incorporated into the FIS report at the same time.

Map Revision

If no revision is warranted, FEMA will inform the CEO by letter that no further action will be taken until adequate supporting data are provided.

If a revision is warranted, FEMA will do one of the following:

1. Physically revise the affected map panels to incorporate the revised floodway. The procedures that will be followed are identical to those outlined in Chapter 4 for a physical map revision that does not involve changes to BFEs.

2. Issue a LOMR that revises the map. The LOMR will be accompanied by a hand-revised copy of the effective map and will state that, although a revision is warranted, a physical map revision is not. The procedures that will be followed are identical to those outlined in Chapter 4 for a LOMR that does not involve changes to BFEs.

FEMA will physically revise the effective map only when the revision is considered to be significant. The significance of the revision will be determined by the size of the area and the number of interests that will be affected by the revision.

Appendix A

Glossary

Amendment--Change to an effective FEMA map resulting from the exclusion of an individual structure or a legally described parcel of undeveloped land that was inadvertently included in the SFHA

Appeal--Formal objection to proposed BFEs that is submitted by a community or individual resident during the 90-day appeal period and that is based on data that show the proposed BFEs to be scientifically or technically incorrect

Base Flood Elevation (BFE)--Elevation of the 100-year (1-percent annual chance) flood, in feet, referenced to the National Geodetic Vertical Datum

Chief Executive Officer (CEO)--Community official, such as a mayor, city manager, or chairman of a board of supervisors, who is designated by the community to coordinate the community's participation in the National Flood Insurance Program

Code of Federal Regulations (CFR)--Codification of the general and permanent

rules published in the Federal Register by the Executive Departments and agencies of the Federal Government

Effective Map--Current NFIP map issued by the Administrator of the Federal Insurance Administration that is in effect as of the date shown on the map as (Effective Date)

Encroachment--Construction, placement of fill, or similar alteration of topography in the flood plain that reduces the area available to convey flood waters

Federal Register--Document published daily by the U.S. Government that provides a uniform system for making available to the public regulations and legal notices issued by Federal agencies

Final BFEs--BFEs published in the Federal Register after the end of the 90-day appeals period and after all appeals have been resolved

Flood Boundary and Floodway Map (FBFM)--Flood plain management map issued by FEMA

that depicts, based on detailed analyses, the boundaries of the 100- and 500-year floods and the limits of the 100-year floodway

Flood Hazard Boundary Map (FHBM)--Initial insurance map issued by FEMA that identifies, based on approximate analyses, areas of 100-year flood hazard in a community that may be participating in the Emergency Phase of the National Flood Insurance Program

Flood Insurance Rate Map (FIRM)--Insurance and flood plain management map issued by FEMA that identifies, based on detailed analyses, areas of 100-year flood hazard in a community (also shown are BFEs, actuarial insurance rate zones, delineations of the 100- and 500-year flood boundaries, and, on some FIRMs, the 100-year floodway) and enables the community to enter the Regular Phase of the National Flood Insurance Program

Flood Insurance Study (FIS)--Engineering study, performed by a Study Contractor, to identify flood-prone areas within a community

Flood Plain--Areas adjacent to a watercourse or other body of water that are subject to inundation by flood waters

Floodway--Channel of a stream plus any adjacent flood plain areas that must be kept free of encroachment so that the 100-year flood discharge can be conveyed without

increasing the elevation of the 100-year flood more than a specified amount

Floodway Fringe--Portion of the 100-year flood plain that is not within the floodway and in which development and other forms of encroachment are allowed

Hydraulic Methodology--Methodology used to assess the movements and behavior of flood waters to determine flood elevations and floodways and probabilities for selected flooding sources

Hydraulic Computer Model--Computer program that uses flood discharges and data concerning flood plain characteristics to simulate flow conditions and determine flood elevations, flood plain and floodway widths, flow velocities, and other hydraulic information

Hydrologic Methodology--Methodology used by FEMA contractors to determine flood discharges and probabilities for selected flooding sources

Legally Described Parcel of Undeveloped Land--Parcel of land for which a meets and bounds description or a plat has been recorded and on which no structures have been built

Letter of Map Amendment (LOMA)--Official determination that a specific structure is not in a 100-year flood zone; amends the effective FHBM or FIRM

Letter of Map Revision (LOMR)--Letter that revises BFEs, flood insurance rate zones, flood boundaries, or floodways as shown on an effective FHBM or FIRM

Local Newspaper--Community newspaper, identified by the CEO, in which legal notices are published

Lot--Parcel of land for which a meets and bounds description or a plat has been recorded and on which one or more structures may have been built

National Flood Insurance Program (NFIP)--Federal regulatory program under which flood-prone areas are identified and flood insurance is provided to the owners of property in flood-prone areas

90-Day Appeal Period--Period that follows the second publication of the proposed BFEs in the local newspaper, during which community officials and individual residents may appeal the proposed BFEs by submitting data to show that the BFEs are scientifically or technically incorrect

Proposed BFEs--BFEs published in the Federal Register and local newspaper at the start of the 90-day appeal period

Protest--Objection to any information, other than BFEs, shown on a NFIP map, which is submitted by a community or individual resident during the 90-day appeal period

Revision--Change to any of the information that is depicted on an effective NFIP map, which is accomplished by a LOMR or by a physical map revision

Scientifically Incorrect--Methodology(ies) and /or assumptions that have been used are inappropriate for the physical processes being evaluated or are otherwise erroneous

6-Month Compliance Period--Period between the date of the final BFE determination and the effective date of the FIRM, during which the community must enact and adopt the ordinances required for participation in the NFIP

Special Flood Hazard Area (SFHA)--Area inundated by the base (100-year) flood, which carries any of several A or V zone designations

Study Contractor--Architectural and engineering firm or Federal, State, or local agency under contract to FEMA to perform an FIS

Technically Incorrect--Methodology(ies) used, has been erroneously applied as a result of mathematical or measurement error, changed physical conditions or insufficient quantity or quality of input data

Appendix B

Protests

During the formal 90-day appeal period, a community official or an individual property owner may wish to object to information shown on the FIRM, FIS report, or FBFM. If the objection does not involve the proposed BFEs or does not include scientific or technical data, it does not, according to Title 44, Chapter I, Part 67 of the CFR, constitute an Appeal. Objections of this type are called Protests.

Like Appeals, Protests should not be submitted directly to FEMA by individual property owners; they should be submitted to the CEO or a community official designated by the CEO. As the CEO or other community official, you should review the Protests and, when forwarding them to FEMA, should state whether the community supports them. Protests should be sent to FEMA at the same address shown in Chapter 3.

Protests will generally involve one of the following:

- Flood Boundaries
- Floodways
- Corporate Limits
- Roads and Road Names

The various types of Protests and the data that must be submitted to support them are discussed in the following paragraphs:

Changes to Flood Boundaries (Flooding Sources Studied by Detailed Methods)-- Detailed flood boundaries are usually delineated using topographic maps and the BFEs resulting from the hydraulic analysis performed for the FIS. If topographic maps or other ground elevation data are submitted that are of greater detail than those used by FEMA or that show changed topographic conditions, FEMA will use them to revise the flood boundaries shown on the FIRM and FBFM. All maps and other data submitted must be certified by a registered professional

engineer or a licensed land surveyor and must show existing conditions. Maps prepared by an authoritative source, such as the U.S. Army Corps of Engineers, U.S. Geological Survey, U.S. Bureau of Reclamation, or a State Department of Highways and Transportation, are acceptable as long as the sources and dates of the maps are indicated.

Changes to Flood Boundaries (Flooding Sources Studied by Approximate Methods)--Approximate flood boundaries are usually delineated using the best available data including flood maps published by other agencies, information on past floods, and simplified hydrologic and hydraulic analyses. If more detailed data or analyses are submitted FEMA will use them to revise the flood boundaries shown on the FIRM and FBFM. These data and analyses would include the following:

1. Published flood maps that are more recent or more detailed than those used by FEMA
2. Analyses that are more detailed than those performed by FEMA or that are based on better data than those used by FEMA

All data or analyses submitted must be certified by a registered professional engineer or licensed land surveyor.

Changes to Floodways--Protests that involve changes to floodways are discussed in Chapter 6, Floodway Revisions

Changes to Corporate Limits--The corporate limits shown on NFIP maps are taken from community maps obtained by FEMA study contractors during the course of the FIS. When changes to the corporate limits shown on the NFIP map are necessary, an up-to-date community map should be submitted. FEMA will use the map to revise the corporate limits shown on the FIRM and FBFM.

Changes to Roads and Road Names--In general, FEMA shows on its maps all roads that are in or adjacent to flood plains. If maps are submitted showing new or revised information concerning the locations and names of roads, FEMA will revise the FIRM and FBFM as necessary.

Changes that must be made to the FIRM, FIS report, and FBFM as a result of a Protest are incorporated into the maps and report at the time they are printed. Generally, the letter that informs the CEO of the final BFE determination will also explain the resolution of any Protests that have been submitted.

Appendix C

Bibliography

Public Law 90-448, National Flood Insurance Act of 1968, As Amended

Public Law 93-234, Flood Disaster Protection Act of 1973

Code of Federal Regulations, Title 44, Chapter I, Parts 59-72 (National Flood Insurance Program)

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Federal Emergency Management Agency, Flood Insurance Study Guidelines and Specifications for Study Contractors, to be issued by October 1985

Federal Emergency Management Agency, Questions and Answers on the National Flood Insurance Program, February 1983

National Research Council, A Levee Policy for the National Flood Insurance Program, Academy Press, Washington, D.C., 1982

Appendix D

FEMA Offices

FEMA Headquarters Office

Risk Studies Division
Technical Operations Division

Office of Risk Assessment
Federal Insurance Administration
Federal Emergency Management Agency
500 C. Street, S.W.
Washington, DC 20472

FEMA Regional Offices

REGION I (Connecticut, Maine,
Massachusetts, New Hampshire,
Rhode Island, and Vermont)

J.W. McCormack P.O. and Courthouse
Building
Room 442
Boston, Massachusetts 02109

(617) 233-4741

REGION II (New Jersey, New York, Puerto
Rico, Virgin Islands)

26 Federal Plaza, Room 1349
New York, New York 10278

(212) 264-8980

REGION III (Delaware, District of
Columbia, Maryland,
Pennsylvania, Virginia, and
West Virginia)

Liberty Square Building
105 S. Seventh Street
Philadelphia, Pennsylvania 19106

(215) 597-9416

REGION IV (Alabama, Florida, Georgia,
Kentucky, Mississippi, North
Carolina, South Carolina, and
Tennessee)

1371 Peachtree Street, N.E.
Atlanta, Georgia 30309

(404) 881-2391

REGION V (Illinois, Indiana, Michigan,
Minnesota, Ohio, and Wisconsin)

300 South Wacker Drive
24th Floor
Chicago, Illinois 60606

(312) 353-8661

REGION VI (Arkansas, Louisiana, New
Mexico, Oklahoma, and Texas)

Federal Regional Center
Room 206, North Loop 288
Denton, Texas 76201

(817) 387-5811

REGION VII (Iowa, Kansas, Missouri, and
Nebraska)

Federal Office Building
Room 300
911 Walnut Street
Kansas City, Missouri 64106

(816) 374-5912

REGION VIII (Colorado, Montana, North
Dakota, South Dakota, Utah,
and Wyoming)

Denver Federal Center
Building 710, Box 25267
Denver, Colorado 80225-0267

(303) 235-4811

REGION IX (Arizona, California, Hawaii,
and Nevada)

Presidio of San Francisco
Building 105
San Francisco, California 94129

(415) 556-8794

REGION X (Alaska, Idaho, Oregon, and
Washington)

Federal Regional Center
130 228th Street, S.W.
Bothell, Washington 98021-9796

(206) 481-8800