

U.S. Department of Homeland Security
FEMA Region VI
800 North Loop 288
Denton, TX 76209-3698



FEMA

April 27, 2004

Steve Chutchian, Floodplain Administrator
Town of Addison
P.O. Box 9010
Addison, Texas 75001

Dear Steve Chutchian:

The purpose of this letter is to provide you with an official notification that Town of Addison is part of a countywide effort initiated by FEMA to prepare Digital Flood Insurance Rate Maps for Dallas County. The countywide format was selected to address all communities within Dallas County with a single set of maps. This initiative is known as the Multi-Hazard Flood Map Modernization Program (MHFMMP) with the primary goals of reducing the loss of life and property, minimizing suffering and disruption caused by disaster, and better preparing the Nation to address the consequences of flooding and other hazards.

The MHFMMP is a large-scale overhaul of the nation's flood hazard maps. It is a five-year program that is funded each year by the Federal government. Based upon a statewide priority system and a needs assessment evaluation, FEMA has identified the need for and will initiate a flood insurance study update for Dallas County.

FEMA is in the process of issuing an RFP (Request for Proposal) to Halff Associates a FEMA study contractor who will be asked to gather information about your community's mapping needs in the near future. This study contractor will be in contact with your community within the next few weeks to solicit your input, participation, and support of this program.

Community outreach and public awareness is a critical factor in achieving the goals of this program and we will need your guidance on how best to accomplish this within your community. The study contractor will provide you with additional information as the study gets underway.

Should you have any questions or would like more information about the Map Modernization Program, please visit www.fema.gov or contact the FEMA Project Officer, Jack Quarles, at

(940) 898-5127.

Sincerely,

Frank Pagano
Mitigation Division Director

cc. FEMA Compliance, Dale Hoff
FEMA Project Officer, Jack Quarles
Study Contractor, Halff Associates

Memo

December 14, 2000

To: Mike Murphy, Director of Public Works

From: Steve Chutchian, Assistant City Engineer

Cc: Jim Pierce, Assistant Director of Public Works
Jim Wilson, Project Manager

Re: National Flood Insurance Program
T.N.R.C.C.

Contact Person: Mr. James Mirabal
Water Quality Division, Floodplain Management
T.N.R.C.C. - 1-512-239-4771

Q: What happens to the Town of Addison if it does **not** participate in the National Flood Insurance Program (NFIP)?

Response: House Bill No. 1018 did not provide **any** means of enforcement or penalties for failing to enter the program. The State of Texas Attorney General has been contacted by the TNRCC regarding this issue. No determination or course of action against dissenting municipalities has been established to date. It is the **intent** of the bill to direct each city toward joining the program.

Q: What level of severity must be reached in order for a municipality or county to be eligible for disaster relief funds?

Response: At this time, no criteria exist for determining when a region will be declared a disaster area. Each event is currently considered individually. (i.e., a tornado recently destroyed a large portion of the City of Jarrel, Texas. Unfortunately, the area was not eligible for disaster relief because it was determined that the tornado carried off most of the damaged material and the resulting clean up was minimal. Loss of life is not considered in disaster relief determinations. The need for legislation is being considered, at this time, which will change the format for declaring a region eligible for disaster relief. Under a possible scenario, a level of \$3-\$5 per capita in the municipality or region must be reached in order to be considered.

Q: What happens to the citizens and property owners if the Town of Addison does not participate in the NFIP?

Response: If the Town of Addison is included in the NFIP, property owners located in floodplain areas are eligible for Federal Disaster Relief Funds, as a result of tornados, flooding, etc. In addition, properties may be covered by flood insurance, resulting from other drainage related events, such as water main breaks and construction, etc. Mr. Mirabal stated that approximately 40% of all claims are the result of flooding from water main systems. He also stated that if the Town of Addison does not participate in the NFIP, property owners would not be eligible to obtain flood insurance or receive disaster relief funds.



Steve Chutchian

FAX TRANSMITTAL

of pages **ONE**

To **STEVE CHUTCHIAN**
Dept./Agency

From **DAVID HIEGEL**

Phone # **940 898 5405**

Fax # **972 450 2837**

Fax #

NSN 7540-01-317-7368

5099-101

GENERAL SERVICES ADMINISTRATION

H.B. No. 1018

AN ACT

relating to participation of cities and counties in the National Flood Insurance Program.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Subchapter I, Chapter 16, Water Code, is amended by adding Section 16.3145 to read as follows:

Sec. 16.3145. NATIONAL FLOOD INSURANCE PROGRAM ORDERS OR ORDINANCES. The governing body of each city and county shall adopt ordinances or orders, as appropriate, necessary for the city or county to be eligible to participate in the National Flood Insurance Program.

SECTION 2. The governing body of each city and county shall adopt ordinances or orders, as appropriate, necessary for the city or county to be eligible to participate in the National Flood Insurance Program as required by Section 16.3145, Water Code, as added by this Act, not later than January 1, 2001.

SECTION 3. The importance of this legislation and the crowded condition of the calendars in both houses create an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three several days in each house be suspended, and this rule is hereby suspended, and that this Act take effect and be in force from and after its passage, and it is so enacted.

President of the Senate

Speaker of the House

I certify that H.B. No. 1018 was passed by the House on April 7, 1999, by a non-record vote.

Chief Clerk of the House

I certify that H.B. No. 1018 was passed by the Senate on May 24, 1999, by the following vote: Yeas 30, Nays 0.

Secretary of the Senate

APPROVED: _____
Date

Governor

December 15, 2000

MEMORANDUM

To: Mike Murphy, P.E., Director of Public Works
From: Jim Pierce, P.E., Assistant Public Works Director
Subject: National Flood Insurance Program (NFIP)

I recently spoke with John Baumgartner to try to understand the history of why the Town of Addison had never joined the NFIP.

John's recollection was the "development community" saw the NFIP as possibly infringing on their rights to build in flood plains and they did not want a federal program interfering, slowing down, or causing more paperwork. The development community lobbied the mayor at that time not to join the program for those reasons.

John commented that now that the Town of Addison is almost completely developed, there should not be any reason not to join.

Ordinance No. 597

Adopting Flood Plain Insurance Regmts

Passed 15 July 80

Codified as Chapter 6.1 "Flood Hazard"

HB 1018

Slows down
development

FEMA

Develop Community / Lobbied - (Mayor)

Build Right over them

Impacted the development community

Passed the Ord but

Never joined

Now that we developed

Why not join

Job	Start Time	Usage	Phone Number or ID	Type	Pages	Mode	Status
586	11/17 11:22AM	0'49"	Cowles & Thompson	Send.....	2 / 2	EC144	Completed.....

Total 0'49" Pages Sent: 2 Pages Printed: 0

TOWN OF
ADDISON

PUBLIC WORKS

To: Ken Dippel

From: **Jim Pierce, P.E.**

Company: Cowles & Thompson

Asst. Public Wks. Dir.

Phone: 972/450-2879

FAX #: 214-672-2020

FAX: 972/450-2837

jperce@ci.addison.tx.us

Date: 11-17-00

16801 Westgrove

P.O.Box 9010

of pages (including cover): 2

Addison, TX 75001-9010

Re: National Flood Insurance Program

Original in mail Per your request FYI Call me

Comments: Copy of H.B. No 1018
regarding the above, FYI

Jim

cc Mike Murphy
Steve Clutchedian

FAX TRANSMITTAL

of pages ► ONE

To STEVE CHUTCHIAN	From DAVID HIEGEL
Dept./Agency	Phone # 940 8985405
Fax # 972 4502837	Fax #
NSN 7540-01-317-7368	5099-101

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Chief Clerk of the House

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Secretary of the Senate

APPROVED: _____
Date

Governor

214 672-2144

Angela Washington

- Direct -

Bill mandates we do it

No provisions as to what will
happen -

Don't necessarily have to
apply for membership

Don't need to

Memo

December 5, 2000

To: Mike Murphy, Director of Public Works
Jim Pierce, Assistant Director of Public Works

From: Steve Chutchian, Assistant City Engineer

Cc: Jim Wilson, Project Manager

Re: FEMA Resolution & Ordinance for NFIP

Ms. Angela Washington, with the City Attorney's office, has worked with the Public Works Department staff and representatives of the Denton, Texas branch of FEMA, in order to review and refine documents related to our Town's inclusion into the National Flood Insurance Program (NFIP). The attached documents are in final form and may be presented to the Council for consideration at the January 9, 2001 meeting:

- a. Resolution
- b. Ordinance
- c. Exhibit "A" to Ordinance

Upon approval of the Resolution and Ordinance by the Council, they must be submitted to the Denton office of FEMA, with a short application form that we currently have in-hand. Their office expects to receive our documents immediately after the January 9th Council meeting.



Steve Chutchian
Assistant City Engineer

TOWN OF ADDISON, TEXAS

RESOLUTION NO. _____

RESOLUTION OF THE TOWN OF ADDISON INDICATING ITS DESIRE AND INTENT TO PARTICIPATE IN THE NATIONAL FLOOD INSURANCE PROGRAM; INDICATING ITS INTENT TO ADOPT AND ENFORCE FLOOD PLAIN MANAGEMENT REGULATIONS CONSISTENT WITH FEDERAL CRITERIA; AND DIRECTING THE CITY MANAGER TO TAKE APPROPRIATE STEPS TO IMPLEMENT THE INTENT OF THE TOWN COUNCIL, AS OUTLINED IN THIS RESOLUTION

WHEREAS, certain areas of Addison are subject to periodic flooding, causing ~~serious~~ damage to properties within those areas; and

WHEREAS, it is the intent of the Council to require the recognition and evaluation of flood hazards in all official actions relating to land use in areas having such hazards; and

WHEREAS, the Town of Addison has the legal authority to adopt land use and control measures to reduce future flood losses pursuant to Subchapter I, Chapter 16, Texas Water Code; and

WHEREAS, members of the community of Addison are not eligible to purchase flood insurance under the National Flood Insurance Program unless Addison joins the National Flood Insurance Program;

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF ADDISON, TEXAS:

Section 1. That it is the desire and intent of the Town of Addison to join the National Flood Insurance Program.

Section 2. That the Town Council of the Town of Addison assures the Federal Emergency Management Agency that it will enact and enforce adequate land use and control measures consistent with the requirements and criteria of the National Flood Insurance Program.

Section 3. That the City Manager or his designee is hereby directed to:

a. assist the Federal Insurance Administrator (Administrator), at the Administrator's request, in the delineation of the limits of the area having special flood hazards;

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

c. 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 Flood Hazard Boundary Map (FHBM) or Flood Insurance Rate Map (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 construction 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;

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

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

f. submit an annual report to the Administrator concerning Addison's participation in the Program, including, but not limited to the development and implementation of floodplain management measures.

Section 4. That the City Manager is further directed to take appropriate steps to implement the intent of the Council, as outlined in this resolution.

Section 5. That the Town Council of the Town of Addison intends to take such other official action as may be reasonably necessary to carry out the objectives of any floodplain management measures adopted.

PASSED AND APPROVED by the Town Council of the Town of Addison, Texas this the _____ day of _____, 2000.

R. Scott Wheeler, Mayor

ATTEST:

APPROVED AS TO FORM:

By: _____
Carmen Moran, City Secretary

By: _____
Ken C. Dippel, City Attorney

TOWN OF ADDISON

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE TOWN OF ADDISON, TEXAS, AMENDING CHAPTER 42, "FLOODS," OF THE CODE OF ORDINANCES OF THE CITY BY AMENDING ARTICLE II, "FLOOD DAMAGE PREVENTION," TO ENSURE ELIGIBILITY FOR PARTICIPATION IN THE NATIONAL FLOOD INSURANCE PROGRAM; PROVIDING A SAVING CLAUSE; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the flood hazard areas of Addison, Texas are subject to periodic inundation which could result in serious damage to properties within those areas, loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which would adversely affect the public health, safety and general welfare; and

Whereas, such flood losses are created by the cumulative effect of obstructions in floodplains which cause an increase in flood heights and velocities, and by the occupancy of flood hazard areas by uses vulnerable to floods, and hazardous to other lands because they are inadequately elevated, floodproofed or otherwise protected from flood damage; and

WHEREAS, members of the community of Addison are not eligible to purchase flood insurance under the National Flood Insurance Program unless Addison joins the National Flood Insurance Program; and

WHEREAS, Section 16.3145 of the Texas Water Code provides that the governing body of each city shall adopt ordinances or orders necessary for the city to be eligible to participate in the National Flood Insurance Program; and

WHEREAS, The City Council desires to amend Chapter 42, "Floods," of the Code of Ordinances to ensure that the Town's regulations are adequately designed to minimize flood losses and ensure eligibility for participation in the National Flood Insurance Program; Now, Therefore,

BE IT ORDAINED BY THE CITY COUNCIL OF THE TOWN OF ADDISON, TEXAS:

Section 1. Incorporation of Premises. That the above and foregoing premises are true and correct and are incorporated herein and made a part hereof for all purposes.

Section 2. Amendment. That Chapter 42, "Floods," of the Code of Ordinances of the Town of Addison, Texas (the "City") is hereby amended by amending Article II, "Flood Damage Prevention," as set forth in Exhibit A attached hereto and incorporated herein, and all other chapters, sections, subsections, paragraphs, sentences, phrases and words of the Code are not amended but are hereby ratified, verified, approved and affirmed.

Section 3. Savings. That this ordinance shall be cumulative of all other ordinances of the City affecting flooding and shall not repeal any of the provisions of those ordinances except in those instances where the provisions of those Ordinances are in direct conflict with the provisions of this Ordinance.

Section 4. Severability. That the sections, paragraphs, sentences, phrases, clauses and words of this Ordinance are severable, and if any section, paragraph, sentence, phrase, clause or word in this Ordinance or application thereof to any person or circumstance is held invalid or unconstitutional by a Court of competent jurisdiction, such holding shall not affect the validity of the remaining portions of this Ordinance, and the City Council hereby declares that it would have adopted such remaining portions of this Ordinance despite such invalidity, which remaining portions shall remain in full force and effect.

Section 5. Effective Date. That this ordinance shall become effective from and after its date of passage as provided by law.

DULY PASSED AND APPROVED BY THE CITY COUNCIL OF THE TOWN OF ADDISON, TEXAS, this _____ day of _____, 2000.

Mayor Scott Wheeler

ATTEST:

Carmen Moran, City Secretary

APPROVED AS TO FORM:

Ken Dippel, City Attorney

EXHIBIT A

ARTICLE II. FLOOD DAMAGE PREVENTION

DIVISION 1. GENERALLY

Sec. 42-31. Statutory Authorization.

Local governments are authorized by Chapter 16 of the Texas Water Code to adopt regulations designed to minimize flood losses, and to take all necessary and reasonable actions to comply with the requirements and criteria of the National Flood Insurance Program.

Sec. 42-32. Definitions.

Unless specifically defined below, words or phrases used in this article shall be interpreted to give them the meaning they have in common usage and to give this article its most reasonable application. The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Alluvial fan flooding means flooding occurring on the surface of an alluvial fan or similar landform which originates at the apex and is characterized by high-velocity flows; active processes of erosion, sediment transport, and deposition; and unpredictable flow paths.

Apex means a point on an alluvial fan or similar landform below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur.

Area of shallow flooding means a designated AO, AH, or VO zone on the 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 hazard means the land in the floodplain subject to a one percent or greater chance of flooding in any given year. The area may be designated as Zone A on the Flood Hazard Boundary Map (FHBM). After detailed ratemaking has been completed in preparation for publication of the FIRM, Zone A usually is refined into Zone A, AE, AH, AO, A1-99, VO, V1-30, VE or V.

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

Basement means any area of the building having its floor sub-grade (below ground level) on all sides.

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.

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 or storage of equipment or materials.

Elevated building means a non-basement building (i) built, in the case of a building in Zones A1-30, AE, A, A99, AO, AH, B, C, X, and 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 floor 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, AO, AH, B, C, X, and 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, and 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 Section 60.3(e)(5) of the National Flood Insurance Program regulations.

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 manufactured home park or subdivision means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the adoption of floodplain management regulations.

Expansion to an existing manufactured home park or subdivision means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

Flood or flooding means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (1) the overflow of inland or tidal waters; or
- (2) the unusual and rapid accumulation or runoff of surface waters from any source.

Flood insurance rate map (FIRM) means the official map on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards and the risk premium zones.

Flood insurance study means the official report provided by the Federal Emergency Management Agency. The report contains flood profiles, water surface elevation of the base flood, as well as the Flood Boundary-Floodway Map.

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

Floodplain 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 floodplain management regulations.

Floodplain management regulations means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power, 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 areas 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.

Floodway (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.

Functionally dependent use means a use that 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.

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

Historic structure means any structure that is:

- (1) listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (2) certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; or
- (3) individually listed on the state's inventory of historic places.

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 that 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 (including basement). An unfinished or flood resistant enclosure usable solely for parking or 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 requirement of Section 60.3 of the National Flood insurance Program regulations.

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. The term "manufactured home" does not include a "recreational vehicle."

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.

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 the Flood Insurance Rate Map are referenced.

National Flood Insurance Program Regulations means those regulations contained in Chapter 1 of Title 44 of the Code of Federal Regulations (CFR) pertaining to floodplain management.

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, and includes any subsequent improvements to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation and includes any subsequent improvements to such structures.

New manufactured home park or subdivision means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after December 12, 2000.

Recreational vehicle means a vehicle that is:

- (1) built on a single chassis;
- (2) 400 square feet or less when measured at the largest horizontal projections;
- (3) designed to be self-propelled or permanently towable by a light duty truck; and
- (4) designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

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, rehabilitation, addition, 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 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. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure means a walled and roofed building, including a gas or liquid storage tank and a manufactured home, that is principally above ground.

Substantial damage means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial improvement means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before "start of construction" of the improvement. This includes structures that

have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

- (1) any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the building official and which are the minimum necessary conditions; or
- (2) any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."

Variance means a grant of relief from the requirements of this article that permits construction or development in a manner that would otherwise be prohibited by this article.

Violation means the failure of a structure or other development to be fully compliant with the Town's floodplain management regulations. A structure or other development without appropriate certifications, or other required evidence of compliance 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 floodplains of coastal or riverine areas.

Sec. 42-33. Applicability.

This article applies to all areas of special flood hazard within the jurisdiction of the Town.

Sec. 42-34. Penalties for noncompliance.

No structure or land shall hereafter be constructed, located, extended, converted, or altered, or have its use changed without full compliance with the terms of this article and all other applicable regulations. Violation of the provisions of this article by failure to comply with any of its requirements, including violations of conditions and safeguards established in connection with conditions, shall constitute a misdemeanor. Any person who violates this article or fails to comply with any of its requirements shall upon conviction thereof be fined not more than \$500.00 for each violation in accordance with Section 1-7 of this Code, and in addition shall pay all costs and expenses involved in the case. Nothing contained in this article shall prevent the Town from taking such other lawful action as is necessary to prevent or remedy any violation.

Sec. 42-35. Interpretation.

In the interpretation and application of this article, all provisions shall be:

- (1) considered as minimum requirements;

- (2) liberally construed in favor of the city council; and
- (3) deemed neither to limit nor repeal any other powers granted under state statutes.

Sec. 42-36. Purpose.

It is the purpose of this article to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- (1) protect human life and health;
- (2) minimize expenditure of public money for costly flood control projects;
- (3) minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) minimize prolonged business interruptions;
- (5) minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
- (6) help maintain a stable tax base by providing for the sound use and development of flood-prone areas in such a manner as to minimize future flood blight areas; and
- (7) ensure that potential buyers are notified that property is in a flood area.

Sec. 42-37. Basis for establishing the areas of special flood hazard.

The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled "The Flood Insurance Study for Addison, Texas," with accompanying Flood Insurance Rate Maps and Flood Boundary-Floodway Maps (FIRM and FBFM), dated July 30, 1999, and any revisions thereto are hereby adopted by reference and declared to be a part of this article. The flood insurance study is on file at 4500 Belt Line Road, Addison, Texas.

— have?

Sec. 42-38. Abrogation and greater restrictions.

This article is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this article and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

Sec. 42-39. Methods of reducing flood losses.

In order to accomplish its purposes, this article includes methods and provisions for:

- (1) restricting or prohibiting uses that are dangerous to health, safety or property in times of flood, or that cause excessive increases in flood heights or velocities;
- (2) requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- (3) controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
- (4) controlling filling, grading, dredging and other development which may increase flood damage; and
- (5) preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other areas.

Sec. 42-40. Warning and disclaimer or liability.

The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions greater floods can and will occur and flood heights may be increased by man-made or natural causes. This article does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This article shall not create liability on the part of the Town or any officer or employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made under this article.

Secs. 42-41 – 42-55. Reserved.

DIVISION 2. ADMINISTRATION AND ENFORCEMENT

Sec. 42-56. Floodplain administrator.

The Director of Public Works is hereby appointed the Floodplain Administrator to administer and implement this article and other appropriate sections of 44 CFR (National Flood Insurance Program Regulations) pertaining to floodplain management.

Sec. 42-57. Duties & responsibilities of the floodplain administrator.

Duties and responsibilities of the Floodplain Administrator include, but are not limited to, the following:

- (1) Maintaining for public inspection all records pertaining to the provisions of this article.
- (2) Reviewing permit applications to determine whether proposed building sites, including the placement of manufactured homes, will be reasonably safe from flooding.
- (3) Reviewing all applications for development permits required by this article to determine that all permit requirements have been satisfied.
- (4) Reviewing permits for proposed development to determine that all necessary permits have been obtained from those federal, state or local governmental agencies (including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334) from which prior approval is required.
- (5) Making interpretations, where needed, as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions).
- (6) Notifying adjacent communities and the Texas Natural Resource Conservation Commission prior to any alteration or relocation of a watercourse, and submitting evidence of such notification to the Federal Emergency Management Agency.
- (7) Assuring that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained.
- (8) Obtaining, reviewing and reasonably utilizing any base flood elevation data and floodway data available from a federal, state or other source, in order to administer this article, when base flood elevation data has not been provided in accordance with Section 42-37.
- (9) Requiring that no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the FIRM when a regulatory floodway has not been designated, 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 Town.
- (10) Making application under the provisions of 44 CFR Chapter 1, Section 65.12, of the National Flood Insurance Program regulations for a conditional FIRM revision (Conditional Letter of Map Revision) through FEMA, when appropriate

to approve development that increases the water surface elevation of the base flood by more than one foot in Zone A1-30, AE, or AH, on the FIRM.

Sec. 42-58. Development permit – required

A development permit must be obtained before construction or development begins within any area of special flood hazard to ensure conformance with the provisions of this article.

Sec. 42-59. Development permit – procedure.

(a) Application for a Development Permit shall be presented to the Floodplain Administrator on forms furnished by the Administrator and must include, but is not limited to, plans in duplicate drawn to scale showing the location, dimensions, and elevation of proposed landscape alterations, existing and proposed structures, including the placement of manufactured homes, and the location of the foregoing in relation to areas of special flood hazard. Additionally, the following information is required:

- (1) Elevation (in relation to mean sea level), of the lowest floor (including basement) of all new and substantially improved structures.
- (2) Elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed.
- (3) A certificate from a registered professional engineer or architect that the nonresidential floodproofed structure shall meet the floodproofing criteria of Paragraph 2 of Section 42-77.
- (4) A description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.

(b) The Administrator must maintain a record of all such information in accordance with Paragraph 1 of Section 42-57.

(c) Approval or denial of a Development Permit by the Floodplain Administrator shall be based on the provisions of this article and the following relevant factors:

- (1) The danger to life and property due to flooding or erosion damage.
- (2) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.
- (3) The danger that materials may be swept onto other lands to the injury of others.
- (4) The compatibility of the proposed use with existing and anticipated development.

- (5) The safety of access to the property in times of flood for ordinary and emergency vehicles.
- (6) The costs of providing governmental services during and after flood conditions including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical and water systems.
- (7) The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site.
- (8) The necessity to the facility of a waterfront location, where applicable.
- (9) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use.
- (10) The relationship of the proposed use to the comprehensive plan for that area.

Sec. 42-60. Variances.

(a) The building code board of appeals as established by the Town shall hear and decide appeals and requests for variances from the requirements of this article.

(b) The building code board of appeals shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Floodplain Administrator in the enforcement or administration of this article. All decisions of the building code board of appeals are final.

(c) In passing upon such applications, the building code board of appeals shall consider all technical evaluations, all relevant factors, standards specified in other sections of this article and:

- (1) The danger that materials may be swept onto other lands to the injury of others;
- (2) The danger to life and property due to flooding or erosion damage;
- (3) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- (4) The importance of the services provided by the proposed facility to the community;
- (5) The necessity to the facility of a waterfront location, where applicable;

- (6) The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
- (7) The compatibility of the proposed use with existing and anticipated development;
- (8) The relationship of the proposed use to the comprehensive plan and floodplain management program of that area;
- (9) The safety of access to the property in times of flood for ordinary and emergency vehicles;
- (10) The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and
- (11) The cost of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems and streets and bridges.

(d) Upon consideration of the factors of this section and the purposes of this article, the building code board of appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of this article.

(e) The Floodplain Administrator shall maintain a record of all appeal actions, including technical information, and report any variances to the Federal Emergency Management Agency upon request.

(f) Generally, variances may be issued 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, providing the relevant factors in Subsections (c)(1) through (c)(11) of this section have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.

(g) Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

(h) Variances may be issued for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that:

- (1) the criteria outlined in this section are met, and
- (2) 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.

(i) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in the remainder of this section.

(j) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(k) Prerequisites for granting variances:

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

(2) Variances shall only be issued upon:

- a. a showing of good and sufficient cause;
- b. a determination that failure to grant the variance would result in exceptional hardship to the applicant, and
- c. 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.

(l) Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

Secs. 42-61-42-75. Reserved.

DIVISION 3. FLOOD HAZARD REDUCTION

Sec. 42-76. General standards.

In all areas of special flood hazards the following standards are required:

- (1) *Anchoring.* All new construction or substantial improvements must be designed (or modified) in such a manner that they are adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

- (2) *Construction materials and methods.*
 - a. All new construction or substantial improvements must be constructed by methods and practices that minimize flood damage.
 - b. All new construction or substantial improvements must be constructed with materials resistant to flood damage.
- (3) *Utilities.*
 - a. All new construction and substantial improvements must be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and located so as to prevent water from entering or accumulating within the components during conditions of flooding.
 - b. All new and replacement water supply systems must be designed to minimize or eliminate infiltration of floodwaters into the system.
 - c. All new and replacement sanitary sewage systems must be designed to minimize or eliminate infiltration of flood waters into the system, and to minimize or eliminate discharge from the systems into flood waters.
 - d. On-site waste disposal systems must be located to avoid impairment to them or contamination from them during flooding.

Sec. 42-77. Specific standards.

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section 42-37, regarding the basis for establishing the area of special flood hazard, Paragraph 8 of Section 42-57, pertaining to the use of other base flood data, or Paragraph 3 of Section 42-78, pertaining to standards for subdivision proposals, the following provisions are required:

- (1) *Residential Construction.* New construction and substantial improvement of any residential structure must have the lowest floor, including basement, elevated at least two feet above the base flood elevation. A registered professional engineer, architect, or land surveyor shall submit a certification to the Floodplain Administrator that this standard is satisfied. The Administrator shall maintain a record of such certification.
- (2) *Nonresidential Construction.* New construction and substantial improvements of any commercial, industrial or other nonresidential structure must either have the lowest floor, including basement, elevated at least two feet above the base flood elevation, or together with attendant utility and sanitary facilities, be designed so

that below the base flood elevation 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. A registered professional engineer or architect shall develop or review the structural design, specifications, and plans for the construction, and shall certify to the Floodplain Administrator that the design and methods of construction are in accordance with accepted standards of practice as outlined in this article. A record of such certification that includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed must be maintained by the Administrator.

(3) *Enclosures.* New construction and substantial improvements with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding, must 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. 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 must be provided.
- b. The bottom of all openings must be no higher than one foot above grade.
- c. Openings equipped with screens, louvers, valves, or other coverings or devices must permit the automatic entry and exit of floodwaters.

(4) *Manufactured Homes.*

- a. Manufactured homes to be placed within Zone A on the FHBM or FIRM must be installed using methods and practices that 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 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.
- b. Manufactured homes that are placed or substantially improved within Zones A1-30, AH, and AE on the FIRM on sites (i) outside of a manufactured home park or subdivision, (ii) in a new manufactured home park or subdivision, (iii) in an expansion to an existing manufactured home park or subdivision, or (iv) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood, must be elevated on a permanent

foundation such that the lowest floor of the manufactured home is elevated to or above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

- c. Manufactured homes placed or substantially improved on sites in an existing manufactured home park or subdivision within Zones A1-30, AH and AE on the FIRM that are not subject to the provisions of Paragraph (4)b. of this section must be elevated so that either:
 - i. the lowest floor of the manufactured home is at or above the base flood elevation, or
 - ii. the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and are securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

(5) *Recreational Vehicles.* Recreational vehicles placed on sites within Zones A1-30, AH, and AE on the FIRM must either:

- a. be on the site for fewer than 180 consecutive days;
- b. be fully licensed and ready for highway use; or
- c. meet the permit requirements of Section 42-59, and the elevation and anchoring requirements for "manufactured homes" in Paragraph 4 of this section. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

Sec. 42-78. Standards for subdivision proposals.

- (1) All subdivision proposals, including the placement of manufactured home parks and subdivisions, must be consistent with the need to minimize flood damage.
- (2) All proposals for the development of subdivisions, including the placement of manufactured home parks and subdivisions, must meet Development Permit requirements of this article.
- (3) Base flood elevation data must be provided for subdivision proposals and other proposed development, including the placement of manufactured home parks and subdivisions, that is greater than 50 lots or 5 acres, whichever is less, if not

otherwise provided pursuant to Section 42-37 regarding the basis for establishing the areas of special flood hazard or Paragraph 8 Section 42-57 pertaining to the use of other base flood data.

- (4) All subdivision proposals, including the placement of manufactured home parks and subdivisions, must have adequate drainage provided to reduce exposure to flood hazards.
- (5) All subdivision proposals, including the placement of manufactured home parks and subdivisions, must have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

Sec. 42-79. Standards for areas of shallow flooding (AO/AH Zones).

Located within the areas of special flood hazard established in Section 42-37, are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of one to three feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow; therefore, the following provisions apply:

- (1) All new construction and substantial improvements of residential structures must 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 FIRM (at least two feet if no depth number is specified).
- (2) All new construction and substantial improvements of non-residential structures must:
 - a. 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 FIRM (at least two feet if no depth number is specified);
 - b. 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 of effects of buoyancy.
- (3) A registered professional engineer or architect shall submit a certification to the Floodplain Administrator that the standards of this Section are satisfied.
- (4) Within Zones AH and AO, adequate drainage paths must be provided around structures on slopes to guide flood waters around and away from proposed structures.

Sec. 42-80. Floodways

Located within areas of special flood hazard established in Section 42-37, are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters that carry debris, potential projectiles and erosion potential, the following provisions apply:

- (1) Encroachments are prohibited, including fill, new construction, substantial improvements and other development, within the adopted regulatory floodway, unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the Town during the occurrence of the base flood discharge.
- (2) If Paragraph (1) of this Section 42-80 is satisfied to permit encroachment, all new construction and substantial improvements must comply with all applicable flood hazard reduction provisions of this article.
- (3) Encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations are prohibited, unless the Floodplain Administrator obtains a conditional FIRM and floodway revision through FEMA.

water

FEMA and communities partner to update flood maps

FOR MORE THAN 20 years, the Federal Emergency Management Agency (FEMA) has planned for, responded to and mitigated the effects of a wide range of disasters. The agency was formed in 1979 in a merger of many disaster-related responsibilities.

One of FEMA's roles is to oversee the National Flood Insurance Program (NFIP) mandated by the National Flood Insurance Act of 1968. Under its Flood Hazard Mapping Program, FEMA identifies, publishes and updates information on flood-prone areas and has published and updated flood maps for more than 19,000 communities. These maps are important because they are used to administer the NFIP, through which cities regulate flood-plain development.

Nationwide, more than 75 percent of FEMA's flood maps are now more than 10 years old, some more than 20 years old, so updates are urgently needed. Such assessments are vital because flood-hazard conditions vary over time as a result of natural and manmade changes in watersheds and floodplains, putting more homeowners at risk.

FEMA plans to reduce the backlog of outdated flood maps by producing new Digital Flood Insurance Rate Maps known

The Federal Emergency Management Agency (FEMA) has planned for, responded to and mitigated the effects of a wide range of disasters for more than 20 years. Under its Flood Hazard Mapping Program, FEMA identifies, publishes and updates information on flood-prone areas and has published and updated flood maps for more than 19,000 communities

as DFIRMS. To prepare for the increased workload, FEMA's Region VI has put in place five indefinite delivery contracts.

To prioritize the selection of communities for updated mapping, FEMA has developed Map Modernization Plans for each state, using the information stored in its Map Needs Assessment database (MNUSS). However, since only about 10 percent of eligible communities have any information in MNUSS, the counties with the highest priority tend to be the ones that have the most information in MNUSS.

"Communities can gain assistance in completing their MNUSS data through working with consulting firms that are authorized to enter data directly into the system," said Curtis Beitel, senior water resources engineer with Carter & Burgess, thus giving them a leg up in updating their flood maps.

funding

FEMA estimates that updating its flood maps nationwide will cost around \$990 million. President Bush's FY 2003 budget proposed an additional \$300 million for FEMA's Map Modernization, and the final FY 2003 budget included an additional \$150 million. The upcoming FY 2004 budget, recently approved by Congress, included an additional \$200 million.

Each FEMA regional office determines how much of its annual mapping budget will be allocated to mapping activities. "For the FY 2003 funds, only the top 10 percent of counties were considered for updates," Beitel noted. "However, Cooperating Technical Partners (CTP) communities in the top 20 percent of counties were also considered, so local participation can be critical for anyone interested in moving closer to the front of the line."

the CTP program

One objective of the Map Modernization Program is to increase local involvement and ownership in the flood-mapping process. To achieve this goal, FEMA has developed the Cooperating Technical Partners (CTP) program.

The CTP program allows communities, regional agencies and state agencies to partner in the effort by performing a part of the overall mapping effort. Eligible entities include municipalities, counties, watershed management and flood control districts, regional planning councils, councils of governments, and regional offices of state agencies. Participating partners must have processes and/or systems supported by nonfederal funding for mapping or data-collection activities that contribute to flood-hazard identification.

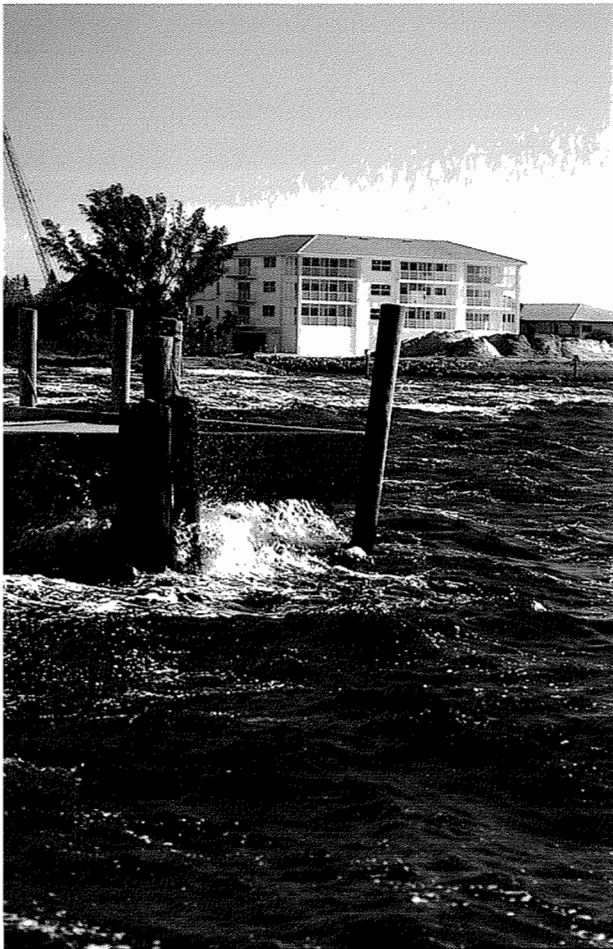
Partners receiving federal funding through a cooperative agreement must have in-house technical capabilities to complete the mapping activities and to perform related financial-management activities.

The necessary capabilities may be determined through (but not limited to) a



To expedite the map modernization process, FEMA has developed the Cooperating Technical Partners (CTP) program, which allows regional agencies and state agencies to partner in the effort by performing a part of the overall mapping effort.

Charlotte County Storm Water Master Plan Phase I
Charlotte County, Florida
Carter & Burgess, Inc. developed a storm water master plan for the Charlotte County (Florida) Department of Public Works in anticipation of future National Pollutant Discharge Elimination System (NPDES) permitting requirements. GIS was used to develop the database for establishing project priorities within the county's 80 drainage basins.



FEMA regional office review of both the map products previously prepared by partners and the existing map-production processes or systems that partners intend to use for CTP-related mapping activities. FEMA can also provide data, training and technical assistance and facilitate mentoring of current and potential partners.

To become a CTP, the governing body of the community executes a partnership agreement that emphasizes the NFIP's three general components: insurance, floodplain management and mapping. Then individual Mapping Activity Statements (MASs) are developed which specify the scope and schedule for the parts of FEMA's mapping process the community will perform.

Developed collaboratively by partners and FEMA, the MASs also spell out the responsible entities, funding and the nature of each partner's working relationship with FEMA. Partners may perform various mapping activities, separately or in combination, under MASs with FEMA.

FEMA retains the final authority for issuing flood maps and revisions, and partners face no additional liability by participating in the CTP program. Existing federal and state laws govern an entity's liability for providing information to the public, enforcing local ordinances and carrying out zoning regulations.

in-kind contributions

One way that FEMA is integrating partners into the flood-hazard data-development process is to aim for a 20 percent state/local contribution for this work. CTP has a set process through which cities can complete a portion of this process, including technical review services or topographic mapping, as their in-kind contributions.

Communities can undertake the mapping activities themselves and/or hire consultants to complete their portion of the project. In such cases, partners must have in-house staff that can monitor contractors and sign off on their work.

"If partners opt to contract all or part of one of these projects," Beitel notes, "it would be best if they hired someone with experience working directly with FEMA." A good example of this is the Arkadelphia, Arkansas, DFIRM project, where Carter &



Burgess helped the city fulfill its CTP responsibilities (see sidebar).

Contractors used by partners for FEMA-funded activities must meet the requirements of Part 13 of the Code of Federal Regulations (44 CFR Part 13§13.36), which covers procurement standards for contracted mapping-related activities.

a range of benefits

"Communities that partner with FEMA rather than simply sitting back and waiting their turn will realize a number of benefits," says Steve Veal, Carter & Burgess principal and public works unit manager in Fort Worth. The obvious advantage is that they will be among the first to get updated flood maps that reflect current conditions instead of having to rely on outdated information.

The CTP program also provides the opportunity to create flood maps that are particularly suited to a community rather than a cookie-cutter approach to be used



in every locale. Thus, where site-specific conditions exist, unique approaches to flood-hazard identification can be taken.

"The FEMA data used for local permitting and planning kills two birds with one stone: besides being used for these activities, it is also the basis for the NFIP map, facilitating more efficient and cost-effective floodplain management," says Veal.

The partnership mechanism also provides the opportunity for different entities to pool their resources and thus extend the productivity of limited public funds.

The ripple effect extends to protection of citizens. Updated maps can reduce damage from a flooding event by preventing developers from building houses in areas that are not appropriate.

"Homeowners may buy a house that they don't realize is too low in the floodplain," Beitel explains, "and when it floods, they are usually shocked, and the developer is long gone. Often they don't have flood insurance because they didn't realize they needed it."

CRS credit points

To recognize communities that voluntarily reduce their risk of flooding and increase flood-protection effectiveness above and beyond the minimum NFIP requirements, FEMA established the Community Rating System (CRS) to provide reduced risk premium rates. The CRS program awards credit points for a range of activities, and depending on the total number of points, a community is placed in one of 10 class categories.

Communities enter the program as Class 10 communities, and as they accumulate points, their classification is reduced. Each reduction in class is accompanied by a 5 percent reduction in flood insurance premium rates, so a Class 9 community gets a 5 percent reduction, a Class 8 community gets a 10 percent reduction, and so on.

A maximum of 143 credit points can be awarded in the CRS program. Signing a CTP partnership agreement merits 10 CRS

credit points. If the community is served by a state or regional agency that has signed a CTP partnership agreement, the community receives 10 more points.

The remaining 123 points are awarded based on the types of flood map projects and floodplain management activities the community undertakes in partnership with FEMA. For example, credit points are awarded to projects resulting in better and more-detailed flood-hazard information or enforcement of a higher level of regulation.

More than 100 communities, regional agencies and state agencies have signed partnership agreements with FEMA, and the number is growing. Eligible communities, regional agencies and state agencies should contact their regional CTP coordinators for up-to-date information. ■

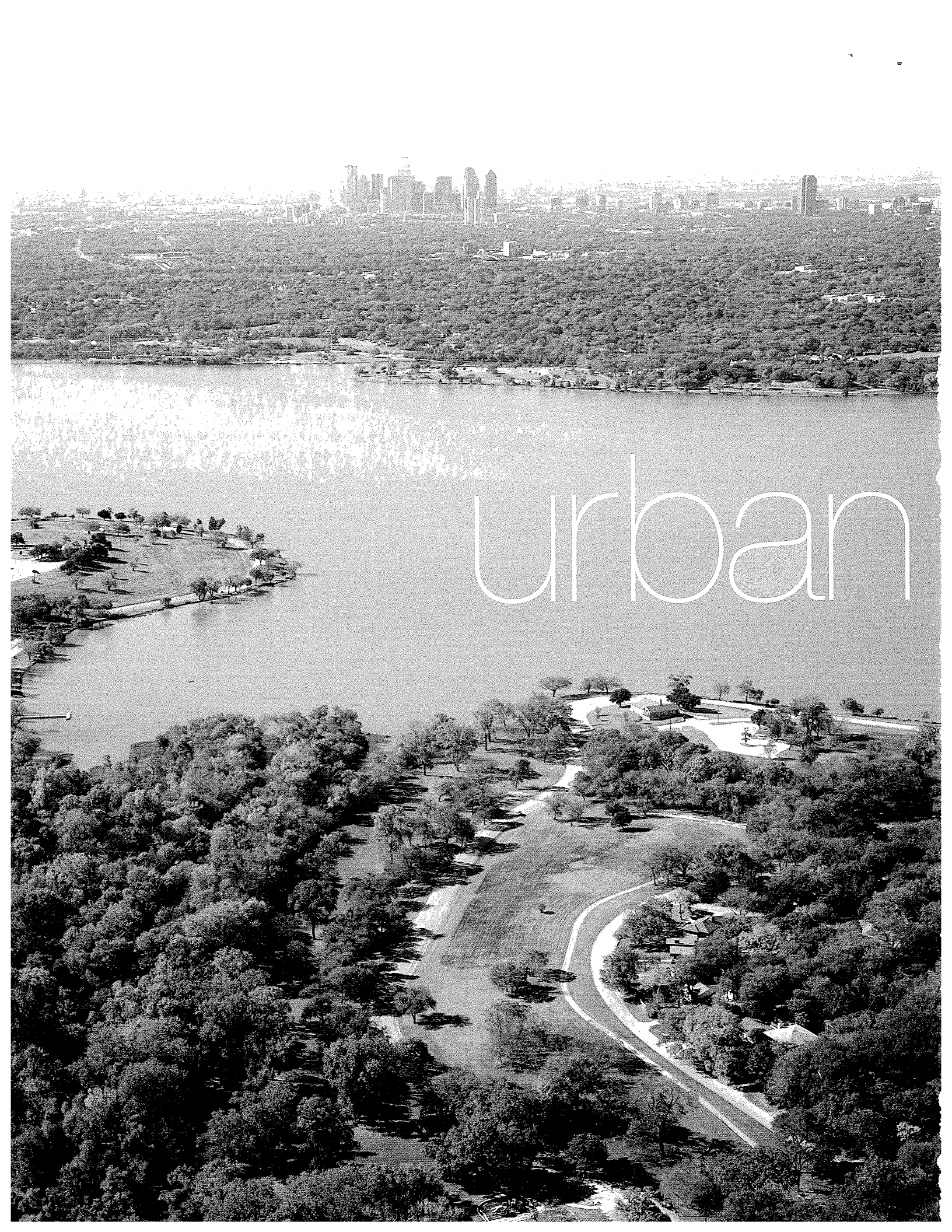
map modernization in arkadelphia, arkansas

When the City of Arkadelphia, Arkansas, a community of about 11,000 located southwest of Little Rock, decided to take ownership of part of the FEMA process to produce updated flood maps, city officials contracted with Carter & Burgess to produce maps under FEMA's Cooperating Technical Partners (CTP) program.

The ensuing Arkadelphia Digital Flood Insurance Rate Map (DFIRM Development) involved refining and establishing flood-zone boundaries in the city. The objective was to convert FIRMs and FBFMs (Flood Boundary Floodway Maps) to a digital format conforming with FEMA specifications.

These types of maps are sometimes not updated frequently because of the expense of surveying and data collection. In 10 to 20 years, maps can become almost useless because intervening development will have changed an area's flood patterns significantly.

Arkadelphia's updated flood insurance rate maps better reflect current city conditions and thus offer numerous benefits as the city grows and changes. Developers and city residents can now use the city's software to view the new digital maps, in conjunction with aerial photography if they choose, in order to better understand the city's floodplains and more effectively plan for future development. ■



urban