

# THE FIRST STATE WATERMARK



## *Delaware's Floodplain Management Newsletter*

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### **Flood Mitigation Assistance Program**

**On April 29, 1997, the Federal Emergency Management Agency implemented the Flood Mitigation Assistance Program. The FMAP is a grant program aimed at reducing flood damage to property.**

FEMA is known to many as the agency which responds to natural disasters by providing assistance and resources to help stricken areas recover and rebuild, and the agency which oversees the National Flood Insurance Program. During the 1990's, mitigation - a term used to describe a broad range of measures aimed at damage reduction - has been incorporated into almost every FEMA program.

The National Flood Insurance Program was a pioneer in mitigation by mapping flood hazard areas and requiring flood resistant building codes in any participating community. However, many flood-prone structures exist which were built prior to these Flood Insurance Rate Maps and codes. Repetitive damage to these "Pre-FIRM" structures has always been a major drain on the NFIP. The long term goal of the Flood Mitigation Assistance Program is to reduce or eliminate claims under the NFIP through mitigation activities.

#### **ANNUAL FUNDING LEVELS**

Each state will get annual funding to help support FMAP activities. Annual funding levels are based on a formula of flood insurance policies, claims data, and other factors. Initially, Delaware has received \$141,000 which must be allocated prior to September 30, 1997. It is anticipated that Delaware's FY 1998 funding level will be similar.

#### **PLANNING ASSISTANCE**

Planning Grants are available to help County and local governments develop flood mitigation plans. Flood mitigation planning should identify problem areas through public meetings, identify specific solutions to flooding problems and investigate technical and fiscal means to implement these solutions. Communities whose flood mitigation plans have been approved by FEMA may apply for Flood Mitigation Project Grants. Until a County or municipality has adopted an approved Flood Mitigation Plan, the Delaware Emergency Management Agency may apply for project grants on behalf of local interests.

#### **PROJECT ASSISTANCE**

Project Grants are available to implement projects which will protect insured or insurable structures from flood damage. FEMA's focus is on acquisition, relocation and elevation of structures which are insured by the National Flood Insurance Program. Other examples of eligible projects include minor flood control projects (drainage improvements, etc.) beach nourishment projects, and bringing structures into compliance with floodplain management standards.

#### **TECHNICAL ASSISTANCE**

The third category of FMAP assistance is technical assistance. This category includes technical projects such as obtaining 100-year flood elevations in order to pursue projects; determining the feasibility of elevating or relocating structures, determining floor elevations, foundation conditions, and other factors in order to identify projects; and conducting workshops in order to develop Flood Mitigation projects or write project applications.

#### **MEETINGS HELD IN EACH COUNTY**

In June and July, meetings were held Dover, Georgetown and New Castle in order to meet with County and municipal officials and provide guidance on the FMAP. Following these meetings, Delaware's Flood Mitigation Program Manager, Michael Powell, met with local officials and residents of flood-prone areas to develop projects. By August 1, 1997, four flood prone homes were being evaluated for possible elevation/relocation, and several other small projects were being evaluated.

**KENT COUNTY FLOOD RESTUDY**

The Federal Emergency Management Agency has announced that it intends to restudy Kent County for the purpose updating the mapping of Special Flood Hazard Areas. In July, 1996, a meeting was held at the DNREC in Dover to allow County and community officials to provide comments regarding the focus of this study. The meeting was well attended and it was generally agreed that the study of "approximated" A-zones (without base flood elevations) was the top priority.

Specifically, A-zones where development is expected to occur will be studied to establish base flood elevations and more accurately delineate the Special Flood Hazard Area (100-year floodplain). In order to maximize the area studied, FEMA will conduct mostly "limited detail" studies where base flood elevations are determined but floodways are not. In addition, certain coastal areas will be restudied where shoreline erosion which has occurred renders the previous study (1982) suspect. The following areas are proposed for this study:

Coastal

- Pickering Beach
- Kitts Hummock
- Bowers Beach (North and South)
- Big Stone Beach

Riverine/Ponds

- Tappahanna Ditch 5.1 miles
- Tidbury Creek 3.9 Miles
- Choptank River 2.5 miles
- St. Jones River 5.1 miles
- Fork Branch 6.5 miles
- Maidstone Branch 4.3 miles

- Cahoon Branch 4.7 miles
- Little Creek 4.3 miles
- Morgan Branch 2.0 miles
- Penrose Branch 2.7 miles
- Andrews Lake 0.7 miles
- Corsey's Pond 0.7 miles
- McGinnis Pond 0.8 miles
- McColley Pond 0.8 miles
- Marshyhope Creek/Ditch 9.1 miles
- Horsepen Ditch 2.5 miles
- Green Branch 4.1 miles
- Duck Creek 5.2 miles

The latest word from FEMA is that preliminary copies of the new maps will be issued by late 1998. For more information please contact Michael Powell, Delaware's National Flood Insurance Program Coordinator at (302) 739-4411.

**NFIP MAKES "INCREASED COST OF COMPLIANCE" COVERAGE AVAILABLE**

One of the long-term goals of the National Flood Insurance Program is to phase out non-conforming (Pre-FIRM) floodplain development, which is a major financial drain on the program. The NFIP attempts to accomplish this by requiring that local floodplain ordinances regulate "substantially damaged" or "substantially improved" structures. Specifically, such buildings must be reconstructed in compliance with current floodplain requirements.

To bring such damaged structures into compliance can add greatly to the cost of repair. The National Flood Insurance Program now covers "Increased Cost of Compliance"(ICC) in a standard flood insurance policy.

**Here's an example of how ICC coverage works:** A home worth \$75,000, built in 1960, with lowest floor three feet below the current base elevation sustains \$40,000 worth of damage. The home has been substantially damaged, and the community floodplain ordinance requires that substantially damaged buildings be elevated to, or above, the base flood elevation. In addition to repairing the flood damage, the property owner is quoted \$12,000 to elevate the home.

Before, the NFIP would only pay the \$40,000 to repair flood damage. Now, ICC coverage will also cover the costs of elevating the home to meet the current floodplain regulations. ICC coverage will add \$4 - \$75 to the yearly cost of flood insurance.

## **HURRICANE FRAN - OBSERVATIONS, RECOMMENDATIONS, TECHNICAL GUIDANCE**

*On September 5, 1996, Hurricane Fran made landfall near Cape Fear North Carolina, with sustained winds of 115 miles per hour and with a peak storm surge of +15.4 NGVD. Flood levels in Hurricane Fran approached or exceeded 100-year (base) flood elevations in the impacted area. Fran was the major focus of the National Hurricane Conference held in Houston, Texas, in April, 1997, and is the subject of a new FEMA Building Performance Assessment report. The following is offered as a synopsis of the conference and report.*

### **Building Performance Findings**

#### Building Foundations

- In 1986 the North Carolina State Building Code was revised to require piles to be embedded either 16 feet below grade or to -5 feet m.s.l. Structures in compliance with these requirements fared well. Of the post-1986 structures which suffered foundation damage, non-compliance with the embedment provisions was identified.
- Many decks, porches and roof overhangs were not pile supported. Often supported by 4" or 6" posts, embedded two or six feet below grade, failure was widespread.
- Immediately landward of the V-Zone, perimeter block foundations were observed to have experienced considerable debris impact, erosion and scour.

#### Below Building Concrete Slabs

- Slab thickness of greater than four inches tended to increase the damage to adjacent foundations.
- Insufficient number of contraction/expansion joints led to slab break-up into large hazardous chunks.
- Wire mesh held together broken slabs causing debris masses to wrap around pilings and transfer unintended loads.

#### Utility Systems

- The majority of heating/air conditioning platforms were underdesigned. Cantilevered platforms well above the base flood elevation generally performed well.
- Electric meter boxes, electric feeds, telephone service boxes, cable TV boxes, sewer and water service feeds were frequently mounted on "breakaway" walls. When walls broke away, as designed, connected utility components were destroyed.

### **Flood Hazard Mapping/Permitting**

#### Flood Hazard Regulations and Maps

- The Flood Insurance Rate Maps (FIRMs) which were in effect at the time of Hurricane Fran were inaccurate. Wave activity greater than three feet high affected several rows of oceanfront structures whereas the V-Zone on the FIRM only included the first row.
- Many dune areas were mapped on the FIRM as Zone B or C, yet erosion, and storm surge caused extensive flooding and waves activity in these zones.
- North Carolina's Coastal Area Management Act (CAMA) requires that new construction be set back from the seawardmost line of stable vegetation. Following Fran, parts of the barrier island had no stable vegetation and a strict reading of the CAMA would have prohibited all reconstruction.

#### Post-Storm Reconstruction Permitting

- Approximately 1000 structures suffered damage which required a "substantial damage" determination. Local permitting officials lacked the tools to make these determinations within the time frame demanded by property owners wishing to reconstruct.
- Pre-storm aerial photography was used to establish the seaward line of stable vegetation. This establishment of the CAMA setback line placed approximately 250 substantially damaged structures in a "no-rebuild" zone.
- Communities adopted "advisory" Flood Insurance Rate Maps prepared by FEMA when post-storm surveys revealed the inadequacies of the existing FIRM's.

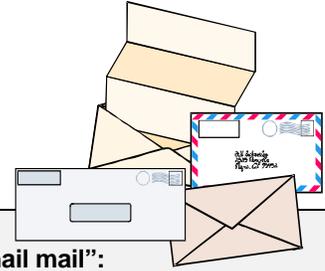
### **Insurance Issues**

- Many National Flood Insurance Program policies had been incorrectly written for property located within Coastal Barrier Resource Act (CBRA) areas. The NFIP is prohibited from paying claims on such policies.

**Note:** Copies of FEMA's Building Performance Assessment Team Report for Hurricane Fran are available by contacting FEMA Agency at (202) 646-4631.

### UPCOMING EVENTS

- October 5, 1997, 11:00 a.m. to 5:00 p.m.  
University of Delaware, Lewes, **Coast Day '97** - marine exhibits, ship tours, live music.  
Free admission, \$2 parking.
- February 18, 1998, 8:30 a.m. to 1:00 p.m.  
Modern Maturity Center, Dover, National Flood Insurance Program seminar for Insurance Agents.
- February 18, 1998, 1:30 p.m. to 5:00 p.m.  
Modern Maturity Center, Dover, National Flood Insurance Program seminar for lenders.



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