- History
 - 1968 National Flood Insurance Act
 - 1973 Flood Disaster Protection Act
 - National Flood Insurance Reform Act of 1994
- Over 20,000 participating communities
- 3 basic parts to NFIP
 - Mapping
 - Insurance
 - Regulations

- Mapping
 - How and by whom the maps are used
 - Flood Insurance Rate Map (FIRM)—based on detailed study
 - Pre-FIRM
 - Post-FIRM

- Insurance
 - A "flood" is defined by the NFIP as "a general and temporary condition of partial or complete inundation of normally dry land areas from:
 - The overflow of inland or tidal waters
 - The unusual or rapid accumulation or runoff of surface waters from any source."
 - Pre-FIRM structures are subsidized by NFIP policyholders

- Regulations
 - Communities must adopt and enforce ordinances that meet or exceed NFIP criteria
 - Regulations are designed to ensure that new buildings will be protected from the flood levels shown on the FIRM
 - Over time, the stock of pre-FIRM buildings should be replaced with post-FIRM buildings and the exposure to flooding reduced

- Roles of participating community
 - Issuing or denying floodplain development/ building permits
 - Inspecting all development to ensure compliance with the local ordinance
 - Maintaining records of floodplain development
 - Assisting in the preparation and revision of floodplain maps
 - Helping residents obtain information on flood hazards, floodplain map data, flood insurance, and proper construction measures

- Roles of State NFIP coordinating agency
 - Ensuring that communities have the legal authorities necessary to adopt and enforce floodplain management regulations
 - Establishing minimum state regulatory requirements consistent with the NFIP
 - Providing technical and specialized assistance to local governments
 - Coordinating the activities of various state agencies that affect the NFIP

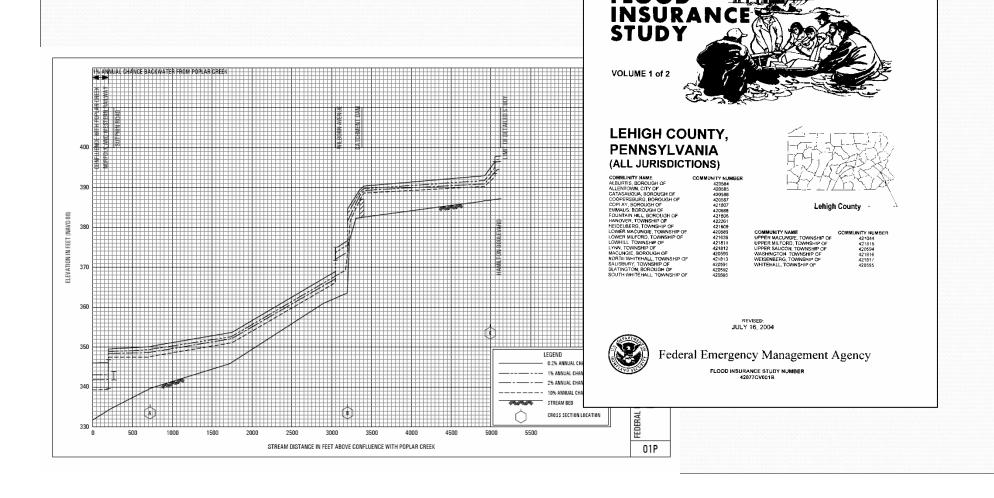
- Roles of the Federal Government
 - FEMA administers the NFIP through its 10 Regional Offices, its Mitigation Directorate, and the Federal Insurance Administration
 - Write Your Own Program
 - An arrangement whereby private insurance companies write National Flood Insurance policies

- Community Participation
 - To join the NFIP, communities must submit
 - Resolution of intent to "maintain in force...adequate land use and control measures" and to cooperate with FEMA
 - Its adopted floodplain management ordinance

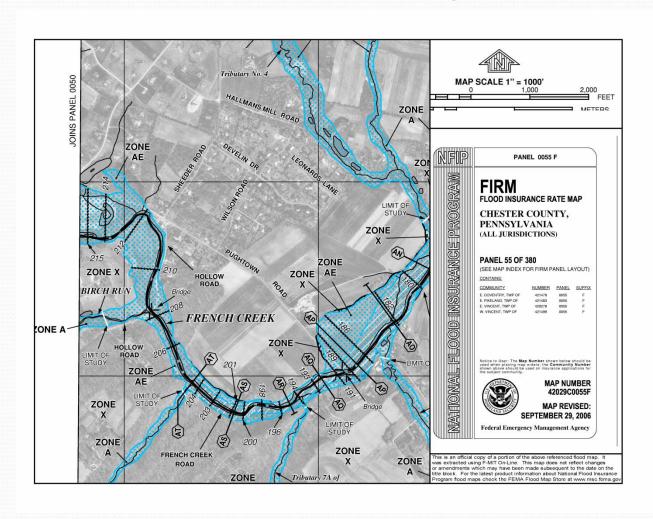
- Community Participation (continued):
 - Sanctions for nonparticipation
 - No flood insurance through the NFIP
 - If the community withdraws or is suspended, existing flood insurance policies will not be renewed

Community Tools for Floodplain Management – Flood Insurance Study with Profiles

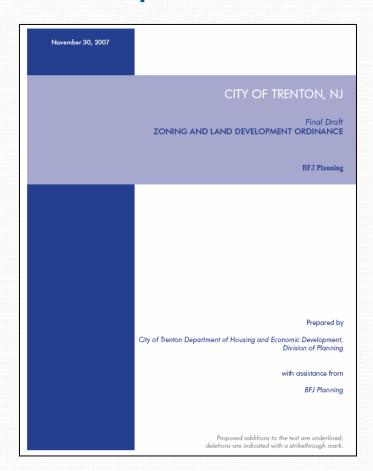
FLOOD



Community Tools for Floodplain Management – Flood Insurance Rate Map



Community Tools for Floodplain Management – Floodplain Ordinance



The City of Philadelphia **ADMINISTRATIVE** CODE 2004 SECOND PRINTING (SUBCODE "A" OF TITLE 4, THE BUILDING CONSTRUCTION AND OCCUPANCY CODE OF THE CITY OF PHILADELPHIA) CONFORMING TO THE PENNSYLVANIA UNIFORM CONSTRUCTION CODE (ACT 45 OF 1999)

Sanctions for nonparticipation

- No flood insurance through the NFIP
- If the community withdraws or is suspended, existing flood insurance policies will not be renewed
- No Federal mortgage insurance or loan guarantees in SFHAs. Includes policies written by FHA, VA, and others
- No Federal disaster assistance to repair insurable buildings located in SFHAs

NFIP Requirements: 44CFR

Section 60.3 — Floodplain Management Criteria

1% Annual				Land Use
Chance Flooding	BFEs	Floodway	V Zone	Classification
no	no	no	no	60.3a
yes	no	no	no	60.3b
yes	yes	no	no	60.3c
yes	yes	yes	no	60.3d
yes	yes	no	yes	60.3e
yes	yes	yes	yes	60.3d & 60.3e

Permit Requirements

- A permit is required for all development in the SFHA, not just "building" projects
- "Development means any manmade 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" (44 CFR 59)

Permit Requirements

- Communities are required to ensure that all required State and Federal permits have been obtained [60.3[a][2])
- Building must be reasonably safe from flooding
- FEMA does not issue building permits

Buildings:

- Structures (buildings) are defined, for floodplain management purposes, as walled and roofed structures principally above ground, and including gas and liquid storage tanks and manufactured homes (44 CFR 59.1)
- Residential buildings in the SFHA must be elevated above the BFE
- Non-residential buildings in the SFHA must be elevated or floodproofed

60.3 (a) - no SFHAs identified

Regulate development when no SFHAs identified - 60.3 (a)

- Require permits for all development
- Assure proposed building site will be reasonably safe from flooding
- Have public utilities and facilities located and constructed so as to minimize flood damage
- Provide adequate drainage for each building site

60.3(b)- Zone A, no BFEs

- BFE data from sources other than FEMA should be used as long as they:
 - Reasonably reflect flooding conditions expected during the base flood
 - Represent the best data available
 - 60.3(b)(3) requirement that proposed development (in SFHA) greater than 50 lots or 5 acres, whichever is the lesser, include BFE data with proposals

Watercourse alterations 44 CFR 60.3(b)(6) and (7)

- Community must notify adjacent communities and the appropriate state agency prior to altering or relocating any river or stream within its jurisdiction
- Copies of such notification must be submitted to the FEMA Regional office
- Any alteration or relocation should not increase the community's flood risks or those of any adjacent community

60.3(c) - BFEs but no floodways

- Could treat the entire floodplain as a floodway; or
- Require encroachment certificate to demonstrate that the cumulative effect of the proposed development, when combined with all other existing and proposed development
 - Will not increase the water-surface elevation of the base flood more than 1 foot at any point in the community

Elevation

- In Zones A1-A30, AE, and AH, all residential new construction and substantial improvement of existing structures must be elevated so that lowest floor (including basement) is elevated to or above the BFE. This can be done by:
 - Elevation on fill
 - Elevation on piles, piers, posts, or columns
 - Elevation on walls or a crawl space

AO & AH Zones – with flood depth

- AO Zones—shallow flooding (sheet flow)
- AH Zones shallow flooding (ponding)
 - All new construction and substantial improvements of residential structures shall have the lowest floor elevated above the highest adjacent grade:
 - At least as high as the depth number; or
 - At least 2 feet if no depth number is specified

60.3(d) -Floodways

- Regulatory development in floodways
 - Adopt floodway and prohibit encroachments that exceed allowable increase (1.00 foot)

60.3(d) -Floodway Encroachments

- Development must not significantly increase the flood hazard on other properties
- Communities must regulate development in floodways to ensure there are no increases in flood elevations due to encroachment
- All projects in the floodway must undergo an encroachment review to determine if the project will increase flood heights
- Community may require developer to provide a "no-rise" or "no-impact" encroachment certification

Increases in flood heights

- If community proposes to permit a project that will cause increases in excess of the allowable level, it must request a CLOMR
- CLOMR request typically includes:
 - A complete application, letter of request, and fee
 - Evaluation of alternatives
 - Documentation of legal notice to all affected property owners
 - Concurrence from CEO of any other affected communities
 - Certification that no structures are located in areas that will be affected by increased BFE

Flood Control Projects

- A99 Zone—an SFHA that will be protected by a Federal flood control project
- AR Zone—an SFHA that used to be a B, C, or X Zone that was protected by an accredited flood control system
- If the community has an A99 or AR Zone, it should contact the state NFIP coordinating agency or FEMA Regional office for guidance on regulatory requirements

60.3(e) - Coastal High Hazard Areas

- New buildings in V Zones:
 - Special building requirements (water & wind loads, breakaway walls, PE certification)
 - Must be located landward of mean high tide
 - All new construction and substantial improvements must be elevated on piers, posts, columns, or pilings
 - The controlling elevation is the bottom of the lowest horizontal structural member of the lowest floor

Questions?