Historic Structures and the National Flood Insurance Program (NFIP), Is There a Balance?

Keeping History Above Water: Annapolis
November 1, 2017
Topics

- Overview of the NFIP
  - Flood Risk Mapping
  - Floodplain Management /Regulations & Mitigation Practices
  - Flood Insurance
- Higher Regulatory Standards
- Rehabilitation Projects
- Hazard Mitigation Planning
- Community Rating System (CRS)
- Maryland Resiliency Partnership
National Flood Insurance Program

- Created by the National Flood Insurance Act of 1968
- Administered by FEMA
- Participation is voluntary
  - Adopt and enforce regulations
  - Eligible for flood insurance
- Benefits of participation:
  - Flood insurance
  - Grants and loans
  - Disaster assistance
  - Federally-backed mortgages
- Partnership between the Federal government and the “community”
“Community”

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

Source: Title 44, § 59.1, Code of Federal Regulations
Community’s Role

- Adopt and enforce floodplain management regulations
  - Based on Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS)
- Use FIRMs and FIS for “development” review process
- Issue floodplain permits
- Respond to requests for assistance
- Meet with FEMA and/or State for Community Assistance Visit (CAV)
- Submit technical data to FEMA
Maryland at a Glance

- 142 participating communities
  - 13 Non–Special Flood Hazard Area (NSFHA)
- 66,448 Policies
  - 243 V–Zone
  - 37,465 A–Zone
  - 28,740 B, C and X–Zone
- $15,604,238,000 total coverage
- 18,165 total claims since 1978
- $293,076,445 total paid since 1978

Source: FEMA Community Information System, 10/26/2017
Components of the NFIP

Flood Risk Mapping

Know Your Risk

Flood Insurance and Outreach

Insure Your Risk

Reduce Your Risk

Floodplain Management/Regulations & Mitigation Practices
Physiographic Provinces and Their Subdivisions in Maryland

Maryland Geological Survey
January, 2001
http://www.mgs.md.gov
Know Your Risk – Maps and Data

- Flood Insurance Study (FIS)
- Flood Insurance Rate Map (FIRM)
  - Digital FIRM (DFIRM)
- Community Identified Flood Risk
  - Historic high water marks
  - Other?
Base Flood – The flood having a 1% chance of being equaled or exceeded in any given year; the base flood also is referred to as the 1% annual chance (100-year) flood.

Base Flood Elevation (BFE) – The water surface elevation of the base flood in relation to the datum specified on the Community's Flood Insurance Rate Map (FIRM).

Special Flood Hazard Area (SFHA) – The land in the floodplain subject to a 1% or greater chance of flooding in any given year. SFHAs are designated by FEMA in Flood Insurance Studies and on FIRM as Zones AE and VE.
Flood Insurance Rate Map (FIRM)

- Delineates flood risk based on different recurrence intervals
  - **Floods don’t follow map boundaries**
- National standard is the 1% annual chance flood (also known as 100-year flood, or special flood hazard area)
  - Flood insurance rating
  - Floodplain management & development review process
Limitations of FIRMs

- Doesn’t show where all flooding can occur
  - States and communities can regulate beyond the FEMA-mapped floodplain
- Doesn’t take into account future conditions
  - Based on current and historical data
# Flood Risk Zones

<table>
<thead>
<tr>
<th>Risk</th>
<th>Zone</th>
</tr>
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<tbody>
<tr>
<td>Low</td>
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<tr>
<td>Moderate</td>
<td>X (shaded)</td>
</tr>
<tr>
<td>High (Riverine/tidal)*</td>
<td>A, AH, AO, AE</td>
</tr>
<tr>
<td>High (Coastal)*</td>
<td>VE</td>
</tr>
</tbody>
</table>

*Mandatory purchase requirements for flood insurance, and regulatory requirements in high risk areas*
FEMA Flood Map Service Center

- **Access Products**
  - FIRMs & FIS
  - LOMCs
  - DFIRM Database
  - Historic Products
  - Flood Risk Products

- **Access Tools**
  - Make a **FIRMette**
  - National Flood Hazard Layer (NFHL) Viewer

- **Live Mapping Support**
  - FEMA Map Information eXchange (FMIX)

Additional resources:
- msc.fema.gov

For more information, visit the website or search for products using the provided search function.
www.mdfloodmaps.net
Flood Risk Application

This tool is designed to aid you in researching your flood risk in the state of Maryland. Content on this site is typically updated with in a 30 days of any maps or data released by FEMA, so please check back as the status of your county may have changed. It is important to investigate your flood risk status and contact your insurance agent to make the necessary modifications to your coverage. A schedule for tentative county effective dates can be found here.

Email questions or comments to flood.maps@maryland.gov

How to use the application:
Find your address:
Enter an address into the “Find a place” box on this page to zoom to the closest match.
Flood Risk Application
Flood Risk Map

This map is not the official regulatory FIRMs or DFIRMs. Its purpose is to assist with determining potential flood risk for the selected location.

Legend

- Preliminary Riverine Floodplain
  - 100 Year Floodplain
  - 500 Year Floodplain
- Preliminary Coastal Floodplain
  - 100 Year Floodplain
  - 500 Year Floodplain
- Floodplain
  - 100 Year Floodplain
  - 500 Year Floodplain

Disclaimer:
The Mapping Services provided herein are for reference only. The user of this information understands and acknowledges that the data may be inaccurate or contain errors or omissions and the user assumes full responsibility for any risks or damages resulting from any use of or reliance upon this data. MDE and their Agents or Affiliates do not guarantee the accuracy or reliability of the data generated from this service.

The user of this information should always consult official FEMA flood maps and certified elevation data if there is any doubt of a property’s flood risk. Please consult with your local, county, and/or community floodplain administrator for availability of official DFIRMs in your county.

January 23, 2017

Data Sources:
Preliminary and Effective Floodplain: FEMA
FIRM and DFIRM Grid: FEMA
High-Resolution Aerial Photography: MD Map
Map Projection: WGS 1984 Web Mercator Auxiliary Sphere

flood.maps@maryland.gov
Limit of Moderate Wave Action (LiMWA)
Coastal A Zone (CAZ)

Wave height ≥ 3 feet
Wave height 3.0–1.5 feet
Wave height < 1.5 feet

BFE
Flood level including wave effects
1% annual chance stillwater elevation
Sea level

Shoreline  Sand beach  Buildings  Overland wind fetch  Vegetated region  Limit of SFHA

Properly elevated building
Unelevated building constructed before community entered the NFIP

LiMWA
Limit of base flooding and waves

Maryland Department of the Environment
Reduce Your Risk – Floodplain Management/Regulations

- Minimum NFIP requirements found in the Code of Federal Regulations (CFR)
  - Title 44, Subchapter B, Parts 59–60, § 59.1 & § 60.3(a)–(e)
- State Laws and Regulations
- Community Requirements
  - In Maryland, often based on Model Ordinance
  - Higher Regulatory Standards?
- Building Codes
  - International Codes (I–Codes):
    - *International Building Code* (IBC)
    - *International Residential Code* (IRC)
  - ASCE 24: *Flood Resistant Design and Construction*
  - ASCE 7: *Minimum Design Loads for Building and Other Structures*
Key Definitions – Regulations

- **Development** – Any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, placement of manufactured homes, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials. (44 CFR, § 59.1)

- Historic Structure

- **Substantial Damage**

- **Substantial Improvement**

  “50% Rule”
“Historic Structure”

**Historic Structure** means any structure that is:

(a) 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;

(b) 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;

(c) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or

(d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

(1) By an approved state program as determined by the Secretary of the Interior or

(2) Directly by the Secretary of the Interior in states without approved programs.

**Source:** Title 44, § 59.1, Code of Federal Regulations
Maryland Certified Local Governments

Maryland Historical Trust: [http://mht.maryland.gov/grants_clg.shtml](http://mht.maryland.gov/grants_clg.shtml)

**Cities**
- Annapolis
- Baltimore
- Bel Air
- Cambridge
- Chestertown
- Cumberland
- Frederick
- Gaithersburg
- Hagerstown
- Rockville
- Salisbury

**Counties**
- Baltimore
- Calvert
- Charles
- Frederick
- Montgomery
- Prince George's
- St. Mary's
- Talbot
- Washington
- Wicomico
“Substantial damage”

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.

Source: Title 44, § 59.1, Code of Federal Regulations
“Substantial improvement”

*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 the “start of construction” of the improvement. This term includes structures which 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 local code enforcement official and which are the minimum necessary to assure safe living 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”.

Source: Title 44, § 59.1, Code of Federal Regulations
Regulatory Protections

- May be exempt from most floodplain management requirements
  - Flood insurance rate will likely be higher
- Community can adopt one of two options:
  1. Substantial improvement definition, or
  2. Variance provision
  - Not recommended to adopt both
Second Option: Variance Provision

- Historic structures can only be substantially improved by variance
- Gives the community the ability to require additional conditions
- Should be applied consistently throughout the community
Higher Regulatory Standards

- Freeboard – factor of safety
  - 2’ common in Maryland
- Lower the substantial improvement/substantial damage threshold
  - For example, 30% instead of 50%
- Cumulative substantial improvement
  - For example, track over a 5 year period
- Coastal A Zone (CAZ)/Limit of Moderate Wave Action (LiMWA) provisions
  - May already be required by the building code
Reduce Your Risk – Mitigation

- Use flood-resistant materials
- Install flood openings in enclosures
- Elevate HVAC equipment
- Anchor fuel tanks, extend vent pipe (oil)
- FEMA Hazard Mitigation Assistance (HMA) grants:
  - Floodproofing (dry, non-residential only)
  - Relocation (not preferred for historic buildings)
  - Elevation (at least 2’ above BFE)
  - Demolition (definitely not preferred for historic buildings)
- Purchase flood insurance
Non-residential buildings can be **dry floodproofed** as an alternative to elevating to or above the Base Flood Elevation (BFE).

Must be dry floodproofed at least **one foot above the BFE** to receive favorable flood insurance rate.

Must be certified by a licensed professional.
Insure Your Risk – Flood Insurance

- Check with your agent
- Available to homeowners, business owners and renters within the community
- Homeowners insurance doesn’t cover flood damage
- Can purchase even if structure is outside high risk flood hazard area
- Mandatory purchase requirement for structure in high risk area with federally-backed mortgage
- Lots of variables affect the rate:
  - Flood zone, date of construction, building elevations, ground elevations, Base Flood Elevation, etc.
FEMA Elevation Certificate

1. To ensure compliance with a community’s regulations
   - Properly elevated
   - Adequate flood openings

2. Flood insurance rating
   - Proper documentation required

3. Support Letter Of Map Change (LOMC) requests
   - Usually, must be certified by a licensed professional
     - In Maryland, only a land surveyor can certify as-built information
Key Definitions – Insurance

- **Basement** – Any area of the building, including any sunken room or sunken portion of a room, having its floor below ground level (subgrade) on all sides.

- **Flood** – A general and temporary condition of partial or complete inundation of 2 or more acres of normally dry land area or of 2 or more properties (at least 1 of which is the policyholder’s property)

- **Lowest Floor** – The lowest floor of the lowest enclosed area (including a basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building’s lowest floor provided that such enclosure is not built so as to render the structure in violation of requirements.
Flood Insurance

- National Flood Insurance Program (NFIP)
  www.FloodSmart.gov or 1–800–720–1093
- Recent Legislation:
  ◦ Biggert–Waters Flood Insurance Reform Act of 2012 (BW–12)
    • Grandfathering eliminated
  ◦ Homeowner Flood Insurance Affordability Act of 2014 (HFIAA)
    • Grandfathering reinstated
- Only long–term solution is mitigation
Flood Insurance Rating

- Higher rates for:
  - Subgrade crawlspace
  - HVAC not elevated
  - Lack of flood openings
- Elevation Certificate may improve the rate
- Agent to use whatever rating method yields cheaper rate
Subgrade Crawlspace = Basement
Flood Openings

- Bottom of opening must be within 12” of grade
- Prescriptive: 1 square inch of net open area for every square foot of enclosed area (also an engineered option)
- On at least two different walls
Lowest Floor – Openings Covered
Rehabilitation Projects
FEMA Technical Bulletins:
- TB1, Openings in Foundation Walls and Walls of Enclosures
- TB 2, Flood Damage-Resistant Materials Requirements
- TB 3, Non-Residential Floodproofing – Requirements and Certification
- TB 7, Wet Floodproofing Requirements

Substantial Improvement/Substantial Damage Desk Reference (FEMA P–758)

Floodplain Management Bulletin on Historic Structures (FEMA P–467–2)

Protecting Building Utility Systems From Flood Damage (FEMA P–348)

Floodproofing Non-Residential Buildings (FEMA P–936)

Floodplain Management Bulletin: Variances and the National Flood Insurance Program (FEMA P–993)

Fact Sheet: Historic Structures and the Biggert-Waters Flood Insurance Reform Act of 2012
Where to go from here?

- Learn more about floodplain regulations and hazard mitigation
- Get involved in hazard mitigation planning
- Be flexible in balancing protection and preservation
- Look for community–wide solutions
- Understand that climate change is more than sea level rise
Opportunities for Education

- FEMA’s Emergency Management Institute
  https://training.fema.gov/is/

- ASFPM’s Certified Floodplain Manager Program
  http://www.floods.org/index.asp

- Webinars –
  - APA Planning Information Exchange (PIE)
    https://www.planning.org/nationalcenters/hazards/planninginformationexchange/
  - Local State Floodplain/Stormwater Manager Association
    http://www.floods.org/index.asp?menuID=195&firstlevelmenuID=179&siteID=1
Hazard Mitigation Planning

Integrating Historic Property and Cultural Resource Considerations Into Hazard Mitigation Planning
State and Local Mitigation Planning How-To Guide
FEMA 386-6 / May 2005

National Flood Insurance Program (NFIP)
Floodplain Management Bulletin Historic Structures
FEMA P-467-2
May 2008

FEMA
Protection and Preservation
Protection and Preservation

Holland Island House

Historic house brought by barge from Holland Island

Own a piece of history with this charming Victorian circa 1918. This 3 bedroom home was one of four homes brought over to Crisfield by barges from Holland Island. Holland Island is located in the Holland Straits within the Chesapeake Bay. The 1 1/2 mile long island has been undergoing erosion since the early 1900's, and residents were forced to leave by 1922. Many residents moved their homes, piece by piece, to mainland areas. Today, only one home still remains standing on the island.

Source: http://www.houseforsaleeasternshore.com/houseforsaleeasternshore/standardave/index.htm
Protection and Preservation
Community-wide Solutions

Source: Google Maps, 2017
More than Rising Seas
What will you do?
Community Rating System (CRS)

- Voluntary incentive program
- Recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements
- For every 500 points earned, up to a 5% reduction in flood insurance
  - Up to 500 points for 3’ freeboard (fill prohibited)
  - Up to 650 points for CAZ requirement
Table 1:

How much discount property owners in your community can get

<table>
<thead>
<tr>
<th>Rate Class</th>
<th>SFHA*</th>
<th>Non-SFHA**</th>
<th>Credit Points Required</th>
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<tr>
<td>1</td>
<td>45%</td>
<td>10%</td>
<td>4,500 +</td>
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<tr>
<td>2</td>
<td>40%</td>
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<tr>
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<td>25%</td>
<td>10%</td>
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<td>20%</td>
<td>10%</td>
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<tr>
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<td>0%</td>
<td>0 - 499</td>
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</table>

* Special Flood Hazard Area

** Preferred Risk Policies are available only in B, C, and X Zones for properties that are shown to have a minimal risk of flood damage. The Preferred Risk Policy does not receive premium rate credits under the CRS because it already has a lower premium than other policies. Although they are in SFHAs, Zones AR and A99 are limited to a 5% discount. Premium reductions are subject to change.
19 Credited Activities

- Public Information Activities (300 Series)
  - Elevation Certificates, Map Information Service, Outreach Projects, Hazard Disclosure, Flood Protection Information and Assistance, Flood Insurance Promotion

- Mapping and Regulations (400 Series)
  - Flood Hazard Mapping, Open Space Preservation, Higher Regulatory Standards, Flood Data Maintenance, Stormwater Management

- Flood Damage Reduction Activities (500 Series)
  - Floodplain Management Planning, Acquisition and Relocation, Flood Protection, Drainage System Maintenance

- Warning and Response (600 Series)
  - Flood Warning and Response, Levees, Dams
CRS What-If Report

- Generated from FEMA’s Community Information System (CIS)
  - FEMA, ISO or State NFIP Office can help
- Gives an idea of the potential insurance savings in the community
<table>
<thead>
<tr>
<th>CRS Class</th>
<th>Per Policy</th>
<th>Per Community</th>
<th>Per Policy</th>
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</table>


**SFHA (Zones A9, AR, AR/A, AR/AE, AR/A1-A30, AR/AH, and AR/AO): 10% discount for Classes 1-6; 5% discount for Classes 7-9.*

***Preferred Risk Policies are not eligible for CRS Premium Discounts.***
CRS Resources

- FEMA’s [website](#)
  - Brochure
  - Fact Sheets
  - Award for Excellence
  - Additional Resources
  - NFIP/CRS Newsletter

- [www.crsresources.org](#)
  - CRS Coordinator’s Manual
  - Application Letter and Quick Check
  - Series Credit Guidance
  - Training & Videos
  - Sign up for NFIP/CRS Update newsletter
Maryland Resiliency Partnership

- Formed in 2015 (grassroots effort)
- Public–Private Partnership
  - Multiple state agencies
  - Private firms
  - Non profits
- Leverage funding, personnel, data and projects to support efforts that integrate hazard mitigation, floodplain management and coastal resiliency
www.resiliencypartnership.com
Comprehensive Approach

Flood Risk Mapping

Know Your Risk

Reduce Your Risk

Insure Your Risk

Flood Insurance and Outreach

Floodplain Management/Regulations & Mitigation Practices
Questions?

- Jennifer Sparenberg, CFM Hazard Mitigation Officer
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