Session #6: Considering Codes – What Codes Apply to Projects in the Floodplain?

Keeping History Above Water: Annapolis
October 31, 2017
“Three-Legged” Stool of the NFIP
Defining the Floodplain

- Flood Insurance Study (FIS)
- Flood Insurance Rate Map (FIRM)
  - Digital FIRM (DFIRM)
- Community Identified Flood Risk
  - Historic high water marks
  - Other?
What Codes Apply?

Project Requirements

- Federal
- Local
- State
Local Considerations

- Floodplain Management Ordinance
  - Higher Regulatory Standards?
- Zoning Ordinance, Subdivision Code, etc.
- Building Code
  - 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*

- Policies and Procedures
Higher Regulatory Standards

- Freeboard – Factor of safety
  - Flood insurance savings
  - MD – 2 feet is common

- Cumulative substantial improvement
  - Track improvements over a 5 year period

- Coastal A Zone (CAZ)/Limit of Moderate Wave Action (LiMWA) provisions
  - May already be required by the building code
Key Definitions

- Base Flood Elevation (BFE)
- Building
- Design Flood Elevation (DFE)
- Development
- Historic Structure
- Special Flood Hazard Area (SFHA)
- Structure
- Substantial Damage
- Substantial Improvement

“50% Rule”

Etc.
State Considerations

- Laws and Regulations
  - Natural Resources
  - Environment
    - MD – Waterway construction regulations in nontidal floodplain
  - Housing and Community Development
  - Transportation
  - Etc.

- Building Code
  - MD – Maryland Building Performance Standards

- Executive Orders
  - MD – Climate Change and “Coast Smart” Construction (2012)

- Policies and Procedures
Federal Considerations

- **Laws**
  - Coastal Barrier Resources Act (CBRA)
    - Coastal Barrier Improvement Act of 1990
  - Endangered Species Act (ESA)
- **Code of Federal Regulations (CFR)**
  - Minimum NFIP requirements in Title 44, Subchapter B, Parts 59–60, § 59.1 & § 60.3(a)–(e)
- **Executive Orders**
  - 11988: Floodplain Management
  - 13690: Federal Flood Risk Management Standard
- **Policies & Guidance**
Where to Go for Help

- **Local Floodplain Administrator**
  - Planning & Zoning, DPW, Community Development, Code Enforcement Officer, Circuit Rider, etc.
  - Often specified in the local floodplain ordinance
- **State NFIP Office**
- **FEMA Regional Office**
Where to Find Codes Online

- Local and State
  - American Legal Publishing Corporation
  - LexisNexis
  - Municode

- Federal
  - Electronic Code of Federal Regulations
  - Federal Register
  - Law Library of Congress
FEMA Publications

- **Flood Resistant Provisions of the 2015 International Codes®** (also available for 2012 and 2009)
- **Highlights of ASCE 24 Flood Resistant Design and Construction** (for 24–05 and 24–14)
- **FEMA Technical Bulletins**
- **Substantial Improvement/Substantial Damage Desk Reference** (FEMA P–758)
- **Protecting Building Utility Systems From Flood Damage** (FEMA P–348)
- **Floodproofing Non–Residential Buildings** (FEMA P–936)
Provides guidance on the NFIP regulations concerning the requirement for openings in enclosures below the Base Flood Elevation for buildings in A Zones

- Situations that do not require openings
- Non-Engineered and Engineered Openings
- Revised bulletin coming soon
SI/SD Desk Reference

- Costs that must be included in SI/SD determinations
- Costs that may be excluded from SI/SD determinations
- Determining market value
- Lateral and vertical additions
- Sample notices and forms
Websites

- FEMA Building Science
  https://www.fema.gov/building-science

- International Code Council (ICC)
  https://www.iccsafe.org

- American Society of Civil Engineers (ASCE)
  https://www.asce.org
Questions?

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