



FEMA



Model Code Coordinated Ordinance Update

April 15, 2021

Monmouth County CRS Users Group

WARNING

The following slide show contains references to New Jersey's Model Code Coordinated Ordinances. Do not attempt to adopt these without the supervision and approval of the FEMA Region 2 and State NFIP Coordinator's Office in the DEP Bureau of Flood Engineering.

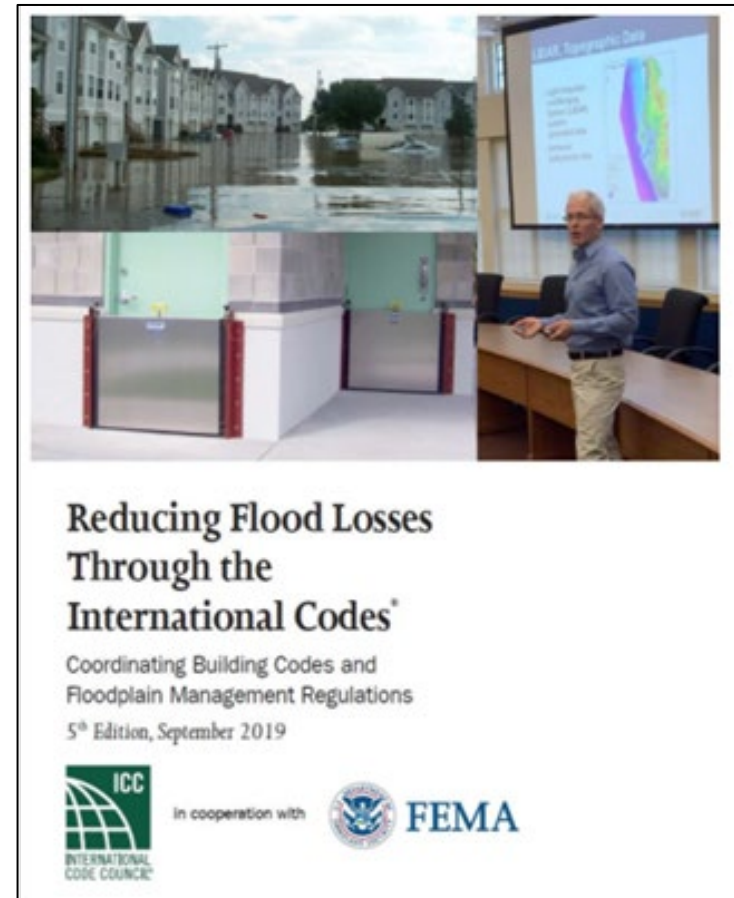


Agenda

- **Why a Code Coordinated Ordinance?**
- **What has changed from previous Ordinance?**
- **Community Responsibilities**
- **Supplemental Documents**
- **Q&A**

Why a Code Coordinated Ordinance?

- An initiative of the International Code Council and FEMA to reduce flood losses in communities that have adopted the I-Codes
- https://www.fema.gov/sites/default/files/2020-07/fema_reducing_flood_losses_rfl_5th-ed.pdf

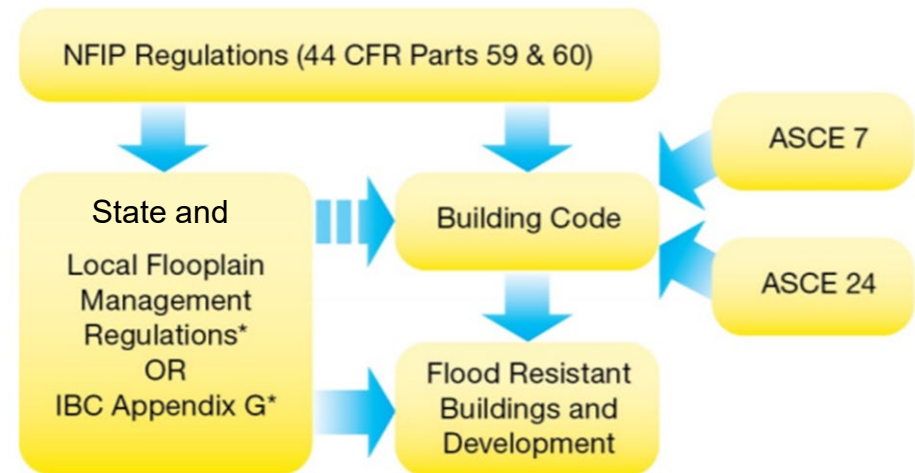


Why a Code Coordinated Ordinance?

- **Post Sandy FEMA recommendation**
- **They reduce flood damage losses**
- **They reflect the overlap in duties and responsibilities of all entities responsible for development in floodplains**
- **They provide an NFIP-compliant ordinance that:**
 - Fixes existing gaps in State model ordinances
 - Clarifies flood resistant design requirements contained in the State Uniform Construction Code (ASCE 24)
 - Ensures compliance with the “Higher State Standards” (the Flood Hazard Area Control Act) as required by 44 CFR 60.1(d)
 - Is written in more straight-forward language for property-owners, engineers, architects, floodplain administrators, and construction officials
- **They clarify processes for requesting mapping changes and for correcting ordinance violations and achieving compliance.**

Why a Code Coordinated Ordinance?

- **FEMA identified gaps and inconsistencies in previous State Model ordinance**
- **Identified need to tie together 3 regulations that govern development in the Special Flood Hazard Area**
 - NFIP Regulations
 - Uniform Construction Code
 - New Jersey Flood Hazard Area Control Act



* NFIP-consistent administrative provisions, community-specific adoption of Flood Insurance Studies and maps, and technical requirements for development outside the scope of the building code (and higher standards, in some communities).

Why a Code Coordinated Ordinance?

- **Together, FEMA and ICC developed the “Version 3 Model Ordinance”, which assumes:**
 - No changes that weaken the flood provisions of the ICC
 - Chapter 1 (Administrative Provisions) of the ICC is not adopted to manage the floodplain
 - IBC Appendix G (Flood Resistant Construction) is not adopted
- **Because DCA does not adopt Chapter 1 of the ICC or Appendix G of the IBC in the Uniform Construction Code this version is the best fit**
- **Including this missing language in the code coordinated ordinance makes local flood damage prevention ordinances compliant with the NFIP**

Why a Code Coordinated Ordinance?

- **Version 3 of the model ordinance was the starting point for developing the ordinance. Additionally, the following was incorporated:**
 - State Higher Standards in the Flood Hazard Area Control Act were incorporated
 - ASCE 24 construction requirements were clarified
 - N.J.S.A. 40:49 Penalties for Violations of Municipal Ordinances and NJ League of Municipalities model ordinance language was adopted to standardize the approach to violations including a 30-day compliance period.

What has changed from previous Ordinance?

New Jersey Model Flood Damage Prevention Ordinances have been simplified from more than 6 models to 2 models

- **Coastal Model**

- Formerly D&E, E, and D with LiMWA

- **Riverine Model**

- Formerly A, B, C, and D without LiMWA



What has changed from previous Ordinance?

- **Inspections for Non-structural Development and Coordinated Inspections for Structural Development with Construction Official**
- **N.J.S.A. 40:49 Penalties for Violations of Municipal Ordinances**
- **Determining Best Available Flood Mapping in Coastal Areas**
- **Determining Best Available Flood Mapping in Riverine Areas**
- **Determining Local Design Flood Elevation**
- **Riparian Zones**
- **Manufactured Homes, Recreational Vehicles, Temporary Structures**
- **Other Development and Building Work**
- **Utility and Miscellaneous Group U Structures**
Section 1001

What has changed from previous Ordinance?

Inspections for Non-structural Development and Coordinated Inspections for Structural Development with Construction Official

N.J.S.A. 40:49 Penalties for Violations of Municipal Ordinances

Floodplain Administrators can:

- Issue Notices or Stop Work
- Require a person to remedy or remove a violation or unsafe condition
- Impose a 30-day review
- Provisions for repeat offenses with possibility of imprisonment or community service
- Regulate unsecured materials in the floodplain (fine of \$2,000) as solid waste

Municipal Courts can impose a \$1250 fine (or possibly up to \$2000 by ordinance) for non-compliance with court order.

What has changed from previous Ordinance?

Determining Best Available Flood Mapping in Coastal Areas

- The NFIP requires consideration and regulation to the most restrictive area after evaluating both the preliminary and the effective maps;
- State Land Use permits regulate to the most restrictive “best available” mapping, which conflicts with ordinances that do not consider the preliminary mapping.
- State permits including permits-by-rule and CAFRA permits regulate to the most restrictive best available mapping, and, since these are obtained prior to local approval, local permitting cannot contradict State decision-making.

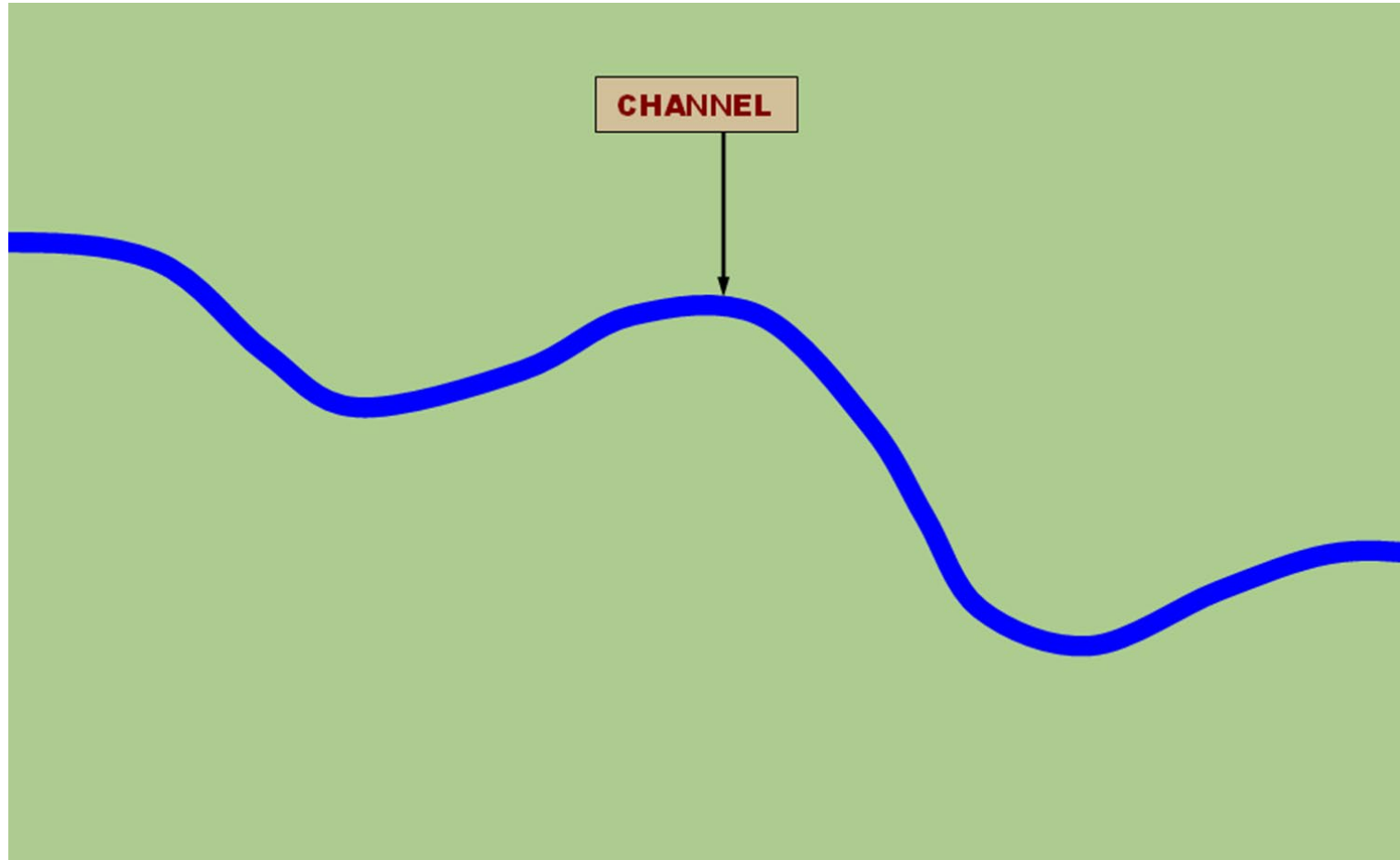
What has changed from previous Ordinance?

Determining Best Available Flood Mapping in Riverine Areas

- The NFIP requires consideration and regulation to the most restrictive area after evaluating both the preliminary and the effective maps;
- State Land Use permits regulate to the most restrictive “best available” mapping which considers the following sources of information:
 - FEMA Effective Map
 - FEMA Preliminary Map
 - NJ Flood Hazard Design Flood Elevation
 - State-Studied Watercourses
 - Watersheds 50 Acres or Greater
 - Riparian Zones based upon Stream Classification
- State permits including permits-by-rule regulate to the most restrictive best available mapping, and, since these are obtained prior to local approval, local permitting cannot contradict State decision-making.

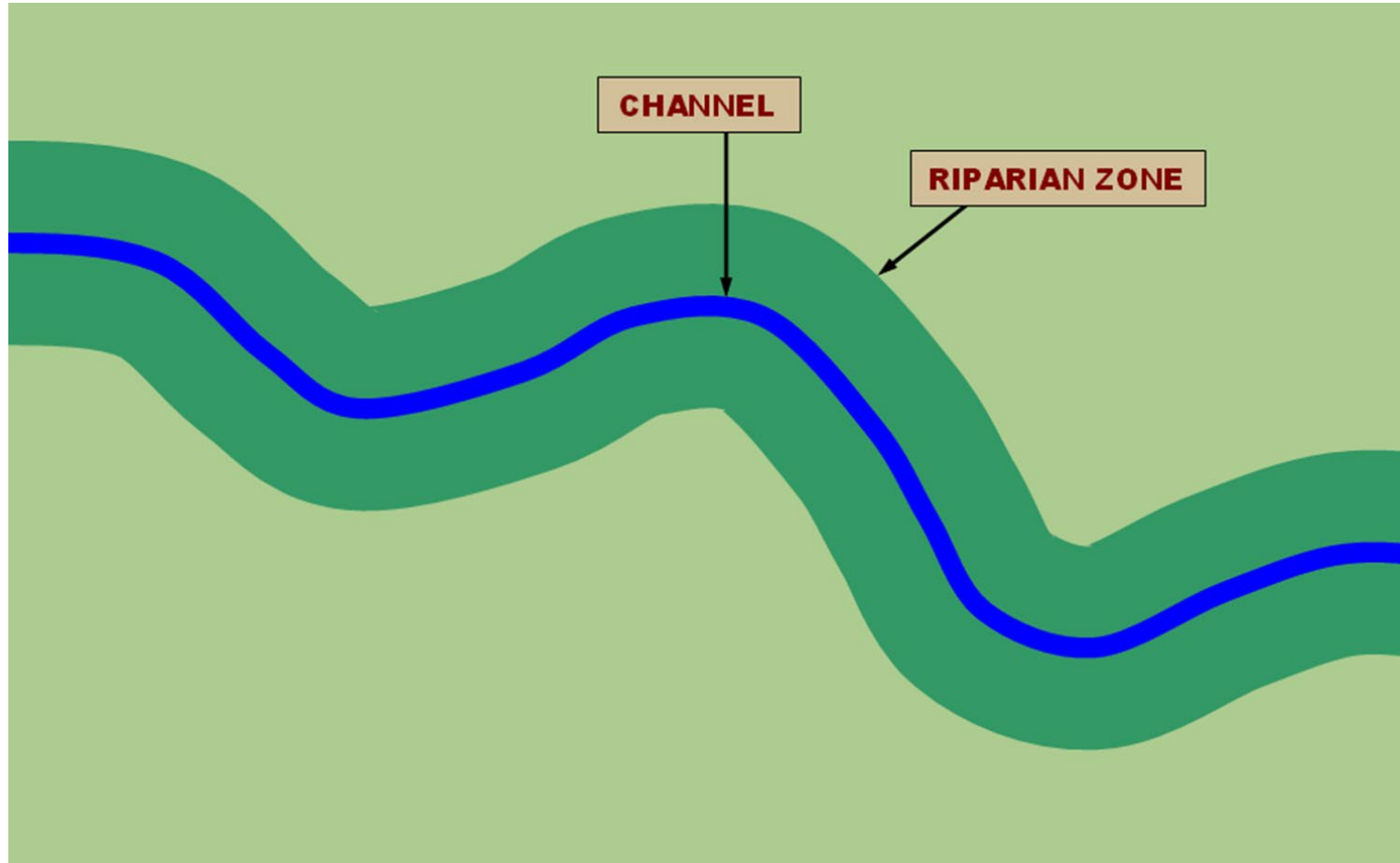
What has changed from previous Ordinance?

Determining Best Available Flood Mapping in Riverine Areas



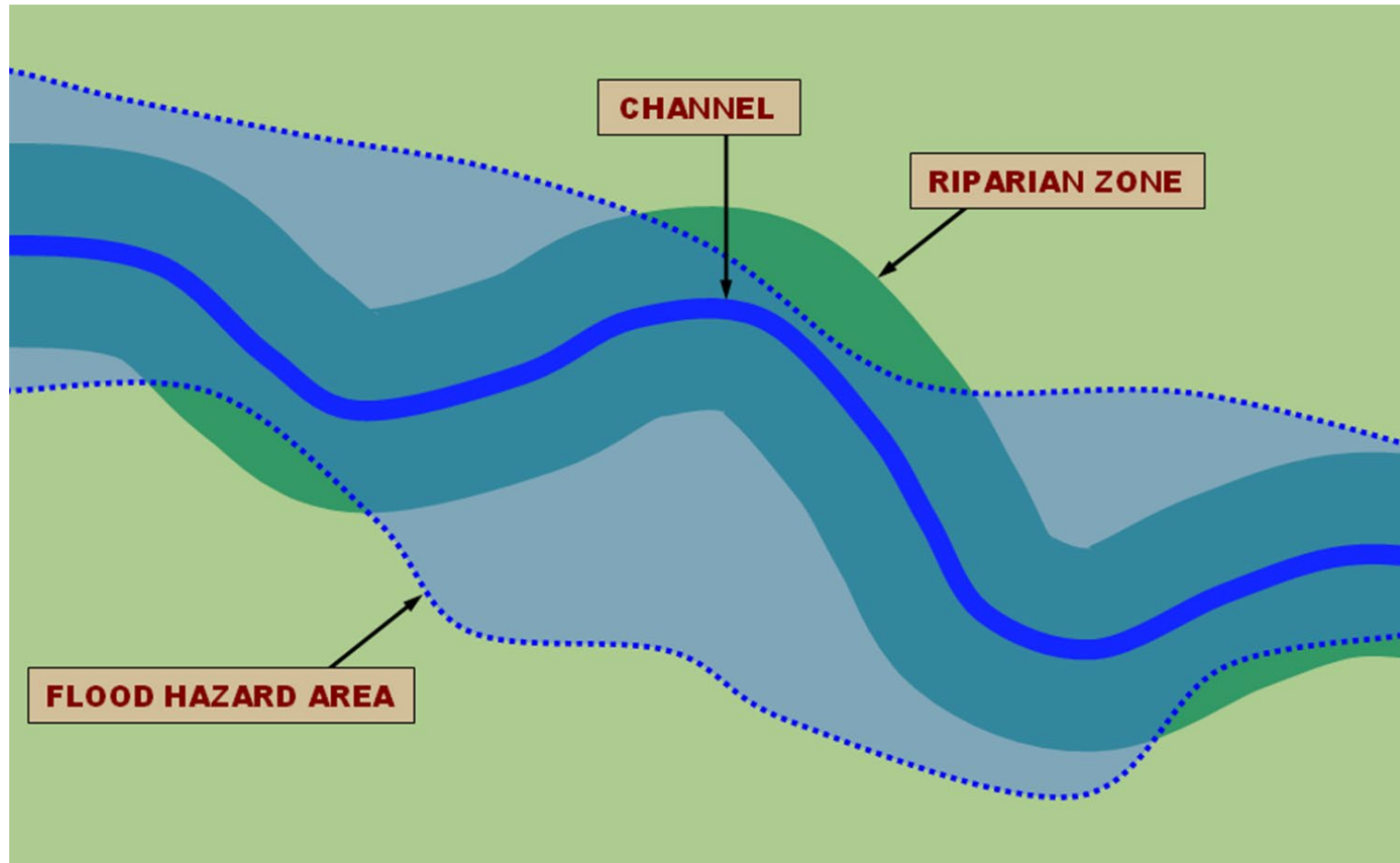
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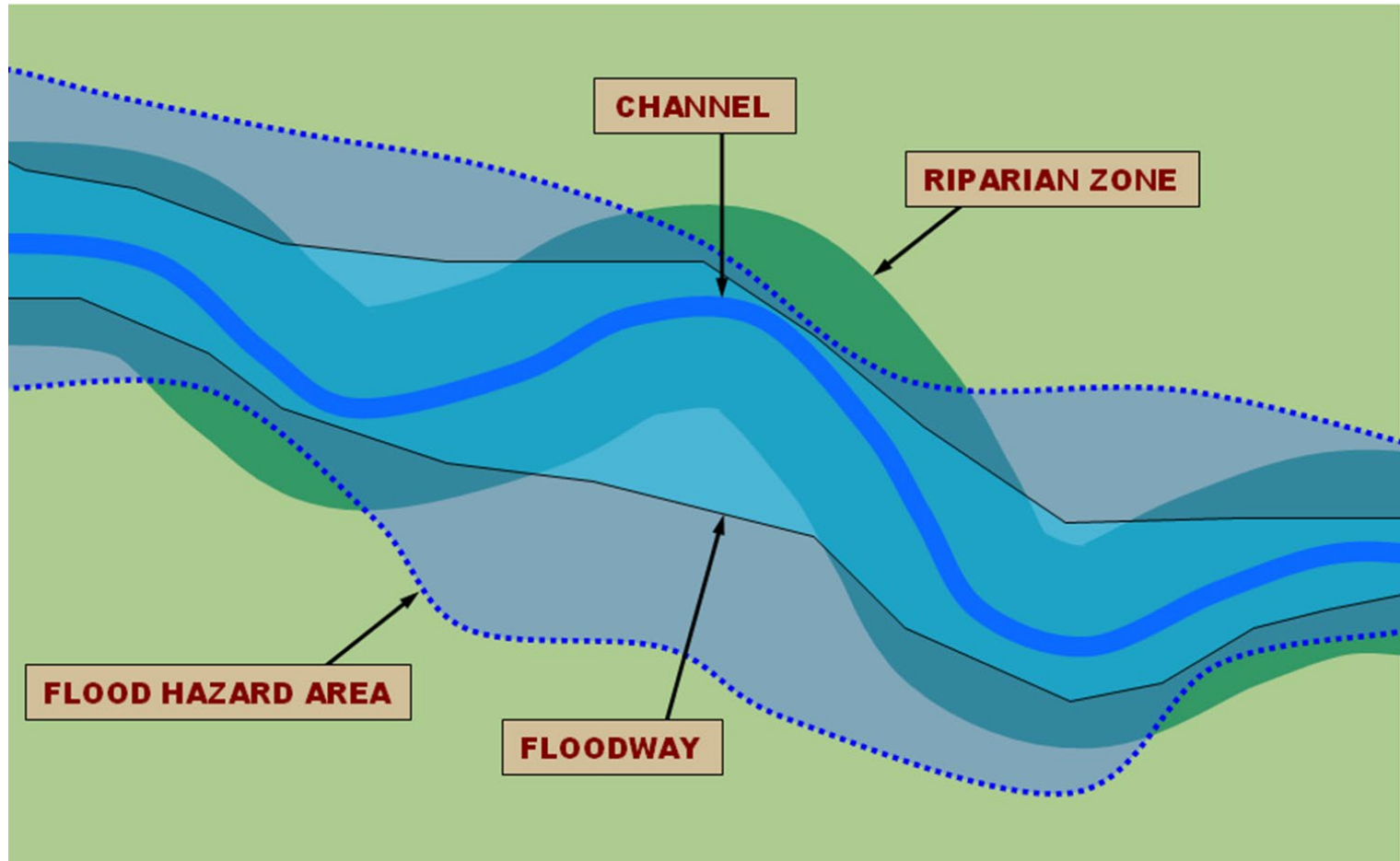
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What has changed from previous Ordinance?

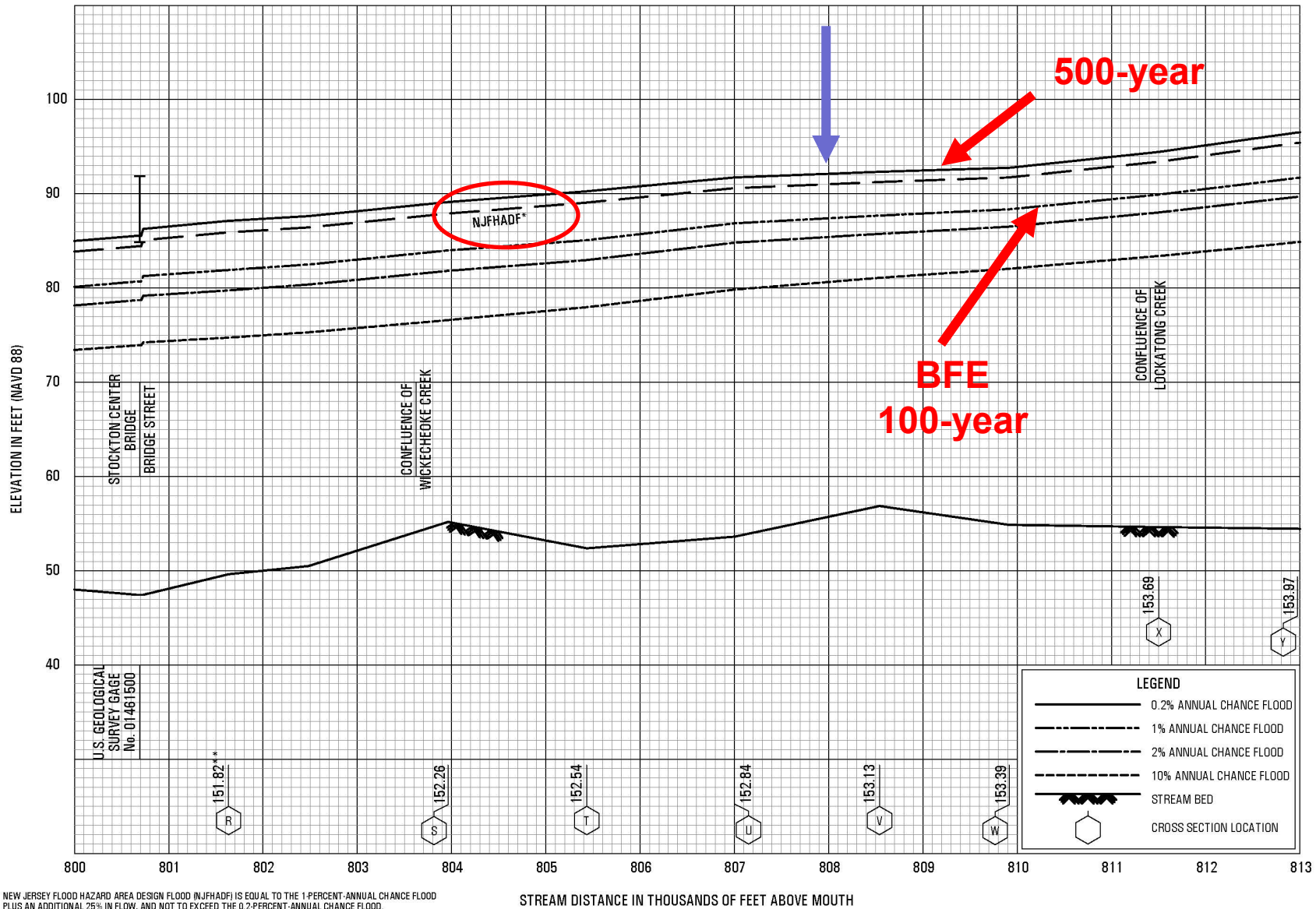
Determining Best Available Flood Mapping in Riverine Areas



What has changed from previous Ordinance?

Determining Local Design Flood Elevation

1. Determine the Best Available Flood Hazard Area then determine the elevation associated with the Best Available Flood Hazard Area.
2. If no elevation associated with the Best Available Flood Hazard Area either because it is an Approximate A Zone or a Watershed greater than 50 Acres in size determine either:
 1. Using “Method 5” in the State regulations to calculate one (this considered a conservative methodology and the one foot of freeboard is not required); or
 2. Using “Method 6” in the State regulations to calculate one and add one foot of freeboard; or
 3. Verify the New Jersey Flood Hazard Design Flood Elevation through a Flood Hazard Area Verification
3. Evaluate any Class III or Class IV Critical Facilities to compare the Flood Hazard Area Design Flood Elevation plus the required additional freeboard against the 500 Year Elevation, selecting the higher of the two.
4. Adding in any additional local freeboard specified in the ordinance.



* NEW JERSEY FLOOD HAZARD AREA DESIGN FLOOD (NJFHADF) IS EQUAL TO THE 1-PERCENT-ANNUAL CHANCE FLOOD PLUS AN ADDITIONAL 25% IN FLOW, AND NOT TO EXCEED THE 0.2-PERCENT-ANNUAL CHANCE FLOOD.

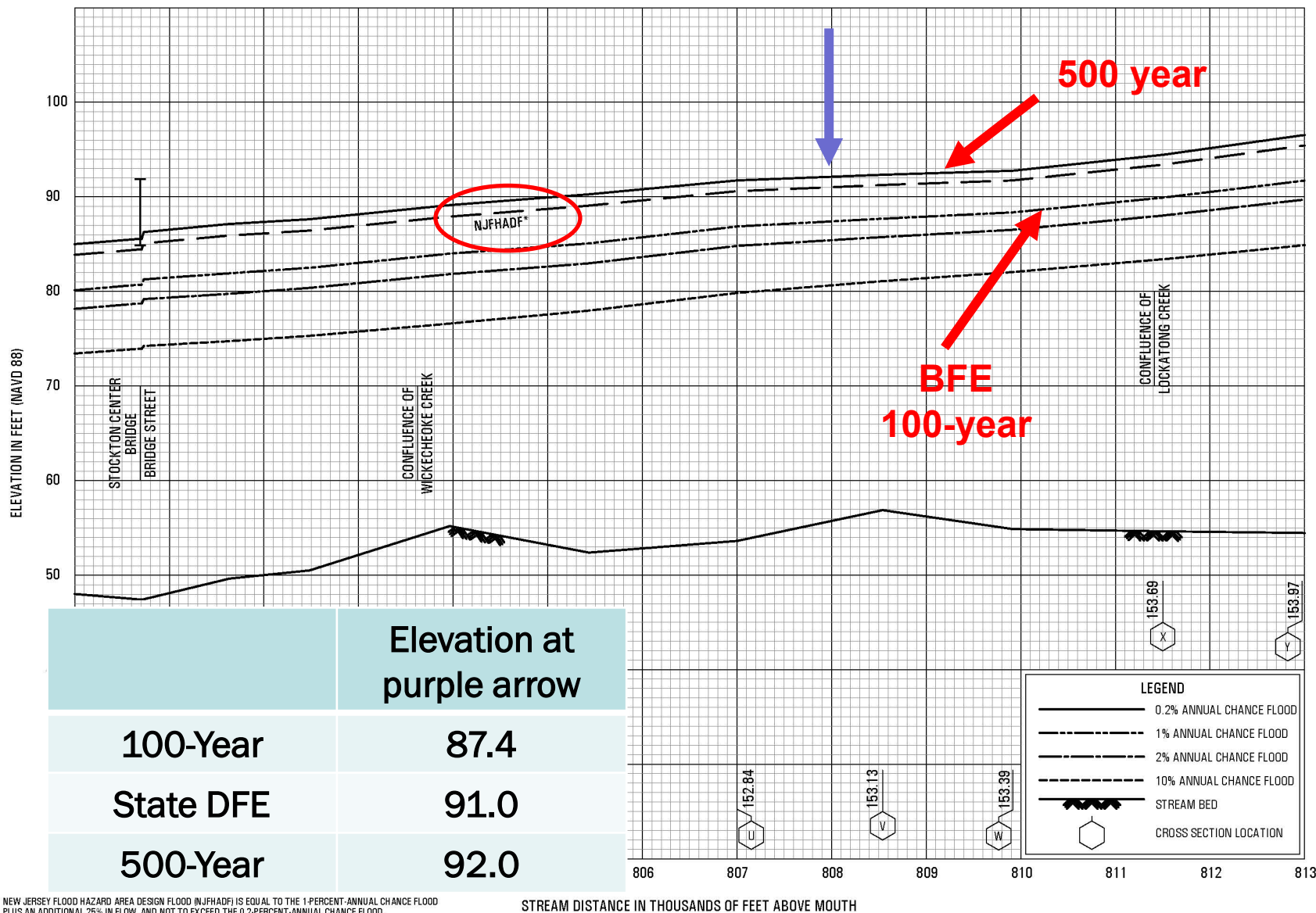
** CROSS SECTION STREAM DISTANCE IN MILES ABOVE THE MOUTH.

FLOOD PROFILES

DELAWARE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
HUNTERDON COUNTY, NJ
(ALL JURISDICTIONS)

35P



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FLOOD PROFILES

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Determining Local Design Flood Elevation From Best Available Data By Building Class

Building Class	Best Avail Data	Elevation
Class I + II	BFE + 1 foot	88.4 feet
	NJDFE	91.0 feet
Class III	BFE + 2 feet	89.4 feet
	NJDFE	91.0 feet
	500-Year	92.0 feet
Class IV	BFE + 3 feet	90.4 feet
	NJDFE	91.0 feet
	500-Year	92.0 feet

Determining Local Design Flood Elevation From Best Available Data By Building Class with preliminary map

Building Class	Best Avail Data	Elevation + Zone	Elevation + Zone + Freeboard
Class I + II	Eff. BFE + 1 foot	AE 5	6.0 feet
	Prelim BFE + 1 foot	AE 8	9.0 feet
Class III	Eff. BFE + 2 feet	AE 5	7.0 feet
	Prelim. BFE + 2 feet	AE 8	9.0 feet
	Eff. 500-Year		13.3 feet
	Prelim. 500-Year		12.2 feet
Class IV	Eff. BFE + 3 feet	AE 5	8.0 feet
	Prelim. BFE + 3 feet	AE 8	10.0 feet
	Eff. 500-Year		13.3 feet
	Prelim. 500-Year		12.2 feet

What has changed from previous Ordinance?

Riparian Zones

- No State Flood Hazard Design Flood Elevation is associated with these zones, but State permits are required and should be observed. Local floodplain permits should observe State permits and permits-by-rule/certification in these areas. Local permit applicants can request a permit applicability or verification of the riparian zone from Land Resource Protection
- Stream Classification and water-dependent threatened and endangered species affect the sizes of buffers.

What has changed from previous Ordinance?

Manufactured Homes, Recreational Vehicles, Temporary Structures

- Flood Hazard Area Design Elevations for habitable structures require both manufactured homes and permanently placed RV's to meet the same standards as stick-built construction.
- Recreational Vehicles in the floodplain:
 - must be fully licensed and ready for highway use;
 - are prohibited in coastal high hazard areas and floodways;
 - may be placed on-site for no more than 180 days or they must meet the requirements for habitable structures;
- Temporary Structures also have a 180-day requirement if located in the floodplain, but require anchoring and flood openings and must meet the floodway requirements

What has changed from previous Ordinance?

Other Development and Building Work

- **ASCE 24 language**
- **FHACA Higher State standards**
 - Habitable buildings
 - Roads, watercourse crossings, parking area at Flood Hazard Area Design Flood Elevation;
 - Deed restricted enclosures over 6 feet in height;
 - Floodway fence opening;
 - Above ground pools prohibited in floodways;
 - Enclosures must be at or above the adjoining exterior grade on one exterior wall for positive drainage;
- **Section for foundations for both habitable buildings (FHACA) and structures (ASCE)**
- **Certifications – Elevation, V Zone, Breakaway, Floodproofing noted as best practices but referenced in NFIP and ASCE 24**

Ordinary Maintenance and Building Work and Floodplain Development Permits

- **Since October 1, 1989 Floodplain Administrators have been required to review ordinary maintenance and other building work for substantial damages and improvements by the NFIP**
- **Uniform Construction Code rule change happened in 2018 where their permits were no longer required for such work**
- **Because of this change, many FPAs have expressed having difficulty in tracking this work**
- **Language added to ordinance to fill this gap**
- **Model Floodplain Development Permit for New Jersey recently posted on website**

What has changed from previous Ordinance?

Utility and Miscellaneous Group U Structures

- FHACA – generally defined as non-habitable buildings
- NFIP - New Accessory and Agricultural Structure guidance is available
- Section follows ASCE Definition and Requirements
 - Sets compliance for flood loads, elevation, and enclosures at the Local Design Flood Elevation (LDFE) .
 - Requires abandonment of below grade enclosures below the local design flood elevation for substantial improvements
 - Allows the ASCE exception for below LDFE for mechanical, plumbing, and electrical systems.

Mandatory Process for Adopting New Maps

- **6 month:** FEMA 6-month LFD Letter
- **5 month:** NJDEP Assistance Letter
- **3 ½ month:** Draft Ordinance
- **3 month:** NJDEP review of draft ordinance
- **3 month:** FEMA 90-day Reminder Letter
- **1 month:** FEMA 30-day Reminder Letter



Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

What is the responsibility of the community?

Local Flood Damage Prevention Ordinance to include:

- Updated FIS and FIRM panel numbers
- State plan and profile numbers
- Development permit in floodplain
- Local Floodplain Administrator Designation
- Updated map effective date
- Appeal Board designation
- Penalties for noncompliance

Opportunities for Higher Standard Adoption

- **Higher Freeboards added to the State 1-foot minimum**
- **Regulation to the FEMA 500-year floodplain or other flood map adopted by the municipality**
- **Substantial Damage and Substantial Improvement Determination**
 - Threshold lower than 50%
 - Cumulative thresholds – 5, 10, Lifetime of structure are common
- **Enclosures – prohibition or size limitation**
- **Others are possible**

New Model Ordinances

Color Coded

- **YELLOW** – Unique to the community
- **BLUE** – Higher standards

Unique and to be revised language highlighted in YELLOW.
Optional Higher Standards highlighted in BLUE.

*** ** **

ORDINANCE FOR ADOPTION OF THE FLOODPLAIN MANAGEMENT REGULATIONS OF {COMMUNITY}

ORDINANCE NO. XX-XX

AN ORDINANCE BY THE {community's governing body} AMENDING THE {name of community} CODE OF ORDINANCES TO REPEAL {insert appropriate chapter/section numbers}; TO ADOPT A NEW {insert appropriate chapter/section numbers}; TO ADOPT FLOOD HAZARD MAPS; TO DESIGNATE A FLOODPLAIN ADMINISTRATOR; AND PROVIDING FOR SEVERABILITY AND AN EFFECTIVE DATE.

101.1 Violations and Penalties for Noncompliance. No structure or land shall hereafter be constructed, re-located to, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Violation of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor under N.J.S.A. 40:49-5. Any person who violates this ordinance or fails to comply with any of its requirements shall be subject to one (1) or more of the following: a fine of not more than \$1250 {or optional higher threshold amount up to \$2000 under N.J.S.A 40:49-5}, imprisonment for a term not exceeding ninety(90) days or a period of community service not exceeding 90 days, in the discretion of the {Municipal Court Judge}

Common Local Law Mistakes

- Failure to provide map repository location
- Failure to name a floodplain administrator position title (must be a position title; not a name. For example, Construction Official)
- Incorrect FIRM or FIS reference
- Failure to name Town/Village/City Board or Council as appeals board
- Inconsistent section numbering
- Failure to include all sections
- Failure to adopt State laws

Instructions to Submit Ordinance

- Start with either the Coastal or Riverine version on the website
 - If your community has both coastal and riverine characteristics, use the coastal version
- Track your changes in Word when completing your community's updates. When saving the document name it: "CommunityName.YourLastName"
- If you need to change the numbering, please use the ordinance worksheet discussed in a couple slides to ensure all cross references were updated
- Double check reference tables before removing any language. Removal of language is dependent on NFIP regulations, State regulations and floodplain characteristics including State regulated unmapped floodplains
- Email filled in ordinance to the DEP and FEMA for their review as a Word document, **not PDF**. Contacts are on the next slide.
- After it is reviewed, and requested changes are accepted, the ordinance may be introduced
- After adoption, two signed and sealed copies need to be sent to the DEP, address is on the next slide.

Contacts and Address for Signed and Sealed Copies

Email Ordinance Submittals to:

Rebecca Jones, CFM

NJDEP, NJ State NFIP
Coordinator's Office

Rebecca.Jones@dep.nj.gov

Kenya Lovill

NJDEP, NJ State NFIP Coordinator's
Office

Kenya.Lovill@dep.nj.gov

A. Chris Gould, CFM

NJDEP, NJ State NFIP
Coordinator's Office

Alan.Gould@dep.nj.gov

Tonya Evans

Floodplain Management Specialist,
FEMA Region II

tonya.evans@fema.dhs.gov

***Send 2 signed and sealed
copies to:***

NJDEP Bureau of Flood Engineering
P.O. Box 420 Mail Code 501-01A
501 E. State Street
Trenton, NJ 08625
Attn: Ordinances

Supplemental Documents: Numbering Worksheet

MCCO					
Column A	Column B	Column C	Column D	Column E	Column F
Section Name	Original Section #	New Section #	Cross Reference Change Needed	New Reference	Verified Cross Section Change
SECTION 1. Recitals					
Scope and Administration	101				
Title	101.1				
Scope	101.2				
			102		
Purposes and objectives	101.3				
Coordination with Building Codes	101.4				
Ordinary Building Maintenance and Minor Work	101.5				
			102.3		
Warning	101.6				

SECTION 101 SCOPE AND ADMINISTRATION

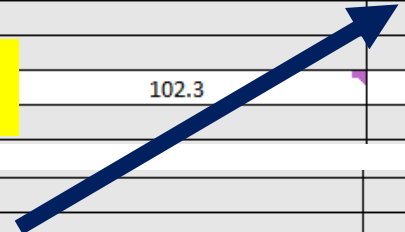
101.1 Title. These regulations, in combination with the flood provisions of the Uniform Construction Code (UCC) N.J.A.C. 5:23 (hereinafter “Uniform Construction Code,” consisting of the Building Code, Residential Code, Rehabilitation Subcode, and related codes, and the New Jersey Flood Hazard Area Control Act (hereinafter “FHACA”), N.J.A.C. 7:13, shall be known as the *Floodplain Management Regulations* of **{name of community}** (hereinafter “these regulations”).

101.2 Scope. These regulations, in combination with the flood provisions of the Uniform Construction Code and FHACA shall apply to all proposed development in flood hazard areas established in **Section 102** of these regulations.

Supplemental Documents: Numbering Worksheet

MCCO					
Column A	Column B	Column C	Column D	Column E	Column F
Section Name	Original Section #	New Section #	Cross Reference Change Needed	New Reference	Verified Cross Section Change
SECTION 1. Recitals					
Scope and Administration	101				
Title	101.1				
Scope	101.2				
Purposes and objectives	101.3		102		
Coordination with Building Codes	101.4				
			102.3		
Abrogation and greater restrictions	101.9				
Applicability	102				
General	102.1				
Establishment of Flood Hazard Areas	102.2				
	102.2(1)				
			Table 102.2(1)		
	Table 102.2(1)				
			Table Heading 102.2(1)		
	Table 102.2(2)				
			Table Heading 102(2)		

Scroll down to see new number...



101.2 Scope. These regulations, in combination with the flood provisions of the Uniform Construction Code and FHACA shall apply to all proposed development in flood hazard areas established in **Section 102** of these regulations.

Supplemental Documents: Reference Tables

- Break down of each section of the ordinances, indicates which regulations the language has been taken from
- Broken up into 3 tables for section 100, definitions (section 200), and then sections 300 through the end.

401.5	Storm drainage. Storm drainage shall be designed to convey the flow of surface waters to minimize or eliminate damage to persons or property.	FEMA MCCO	
401.6	Streets and sidewalks. Streets and sidewalks shall be designed to minimize potential for increasing or aggravating flood levels.	FEMA MCCO	
401.7	Limitations on placement of fill. Subject to the limitations of these regulations, fill shall be designed to be stable under conditions of flooding including rapid rise and rapid drawdown of floodwater, prolonged inundation, and protection against flood-related erosion and scour. In addition to these requirements, when intended to support buildings and structures (Zone A only), fill shall comply with the requirements of the UCC (N.J.A.C. 5:23). Proposed fill and encroachments in flood hazard areas shall comply with the flood storage displacement limitations of N.J.A.C. 7:13.	FEMA MCCO NJAC 7:13-11.3, 11.4, 12.3	
401.8	Limitations on sites in coastal high hazard areas (V Zones) and Coastal A Zones. In coastal high hazard areas and Coastal A Zones, alteration of sand dunes shall be permitted only when the engineering analysis required by Section 105.3(4) of these regulations demonstrates that the proposed alteration will not increase the potential for flood damage. Construction or restoration of dunes under or around elevated buildings and	FEMA MCCO, ASCE 24-14 4.3.3 NJAC 7:7	

Link to Ordinances and Supplemental Documents

- The ordinances and supplemental documents can be found on our website here: <https://www.nj.gov/dep/floodcontrol/modelord.htm>
- There is a brief description of the ordinance and how to use it, and at the bottom you will find links for the documents

ORDINANCES AND SUPPLEMENTAL DOCUMENTS

Coastal Model Code Coordinated Ordinance

- [Download Coastal Model](#)

Riverine Model Code Coordinated Ordinance

- [Download Riverine Model](#)

Reference Tables

Below is a link to the reference tables that supplement the ordinances. They are a break down of each section of the ordinances and indicate which regulations the language has been taken from. It is broken down into 3 tables for section 100, definitions (section 200), and then sections 300 through the end.

- [Section 100](#)
- [Definitions](#)
- [Section 300 through end](#)

Ordinance Worksheet

Below is a link to the Ordinance Worksheet which can be used to ensure all community specific information has been updated, all cross sections and numbering is correct, and all optional higher standards have been included or removed.

- [Ordinance Worksheet](#)

Additional Resources for Floodplain Management

- **New Jersey Model Floodplain Development Permit:**
 - <https://www.nj.gov/dep/floodcontrol/model-floodplain-permit.htm>
- **Local Design Flood Elevation Worksheets**
 - <https://www.nj.gov/dep/floodcontrol/links.htm>
 - Scroll down, under 'Local Floodplain Management Resources'

When to Adopt a Code Coordinated Ordinance?

■ BEFORE A FLOOD DISASTER?

- Public assistance to be used to elevate public structures to the LDFE.
- Increased Cost of Construction (ICC) policy riders to pay for elevation to the LDFE in properties with lowest floors built to the town's effective BFE or a lower LDFE.
- FEMA's BRIC and Flood Mitigation Assistance (FMA) programs will provide funds to elevate to the LDFE only if a town's ordinance require it.

■ AFTER A FLOOD DISASTER?

- New construction to be built to a higher standard.
- Communities to get reimbursed for writing a new ordinance (new guidance)
- BUT... FEMA will not pay for elevating public structures to a higher LDFE.

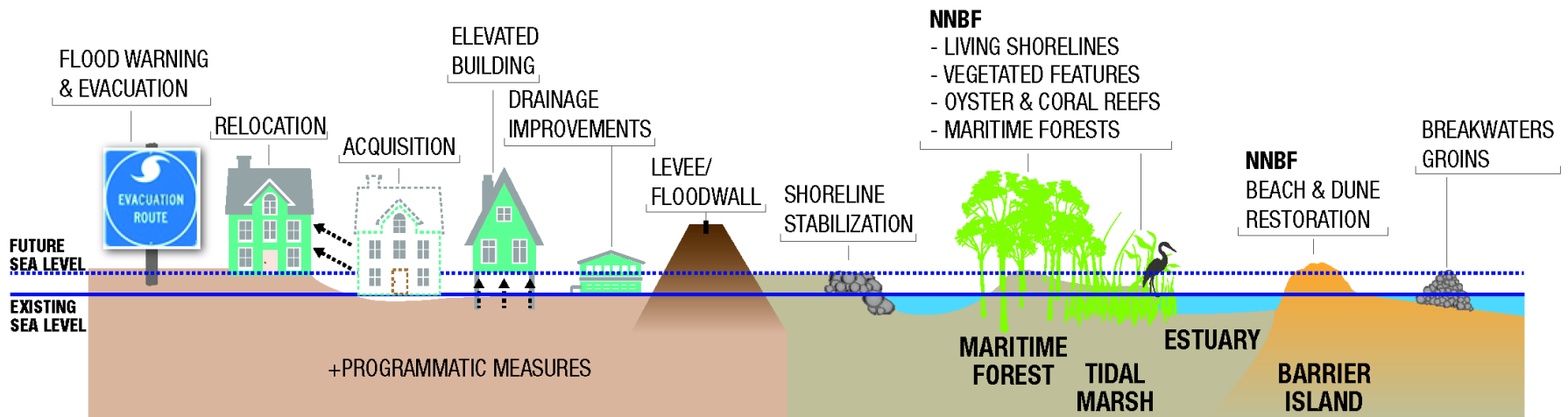
What is Mitigation Prevention?

Avoiding flood damage before it occurs by:

- **Implementing a FUNCTIONING State and Local regulatory structure**
- **Clearly defining roles and responsibilities for floodplain management**
- **Following Statewide minimum requirements and issuing NFIP-compliant permits at the local level**
- **Adopting higher standards in NFIP Ordinances to:**
 - Adapt structures gradually over time to climate change impacts
 - More fairly distribute the impact of climate-related State and municipal tax increases between those property owners with and those without flood risk
 - Limit the impact of State and local non-Federal cost shares for structure elevations
 - Maximize post-disaster public assistance funds to build higher
 - Maximize Increase Cost of Compliance funds for property owners
- **Encourage private and NFIP flood insurance coverage to avoid blight and tax base loss**

New Jersey Floodplain Management

Multi-faceted approach...



Questions?



FEMA



NJDEP