New Jersey Protecting Against Climate Threats

#NJPACT

Incorporating Climate Change into Land Use Rules

Overview

Executive Order 100

Administrative Order 2020-01

New Jersey's Rising Seas and Changing Coastal Storms (Rutgers report)

Rulemaking schedule

Stakeholder input

Rising Seas and Changing Coastal Storms

- From 1911 to 2019, sea-level rose 17.6 inches (1.5 feet).
- Almost half (8.2 in.) of that occurred over the last forty years (from 1979-2019)
- New Jersey coastal areas are likely (at least a 66% chance) to experience SLR of 0.5 to 1.1 ft between 2000 and 2030, and 0.9 to 2.1 ft between 2000 and 2050.

Sea-level rise:

Table ES-1: New Jersey Sea-Level Rise above the year 2000 (1991-2009 average) baseline (ft)*

		2030	2050	2070			2100			2150		
				Emissions								
	Chance SLR Exceeds			Low	Mod.	High	Low	Mod.	High	Low	Mod.	High
Low End	> 95% chance	0.3	0.7	0.9	1	1.1	1.0	1.3	1.5	1.3	2.1	2.9
Likely Range	> 83% chance	0.5	0.9	1.3	1.4	1.5	1.7	2.0	2.3	2.4	3.1	3.8
	~50 % chance	0.8	1.4	1.9	2.2	2.4	2.8	3.3	3.9	4.2	5.2	6.2
	<17% chance	1.1	2.1	2.7	3.1	3.5	3.9	5.1	6.3	6.3	8.3	10.3
High End	< 5% chance	1.3	2.6	3.2	3.8	4.4	5.0	6.9	8.8	8.0	13.8	19.6

**2010 (2001-2019 average) Observed = 0.2 ft*

Rule Schedule

Stakeholder meetings the winter/spring of 2020

Proposal the fall/winter of 2020

Adoption the fall/winter of 2021

Major Goal of the Rule

- Incorporate Climate Change considerations into the rules, including:
  - Coastal Zone Management (N.J.A.C 7:7)
  - Flood Hazard (N.J.A.C 7:13)
  - Freshwater Wetlands (N.J.A.C 7:7A)
  - Stormwater (N.J.A.C 7:8)

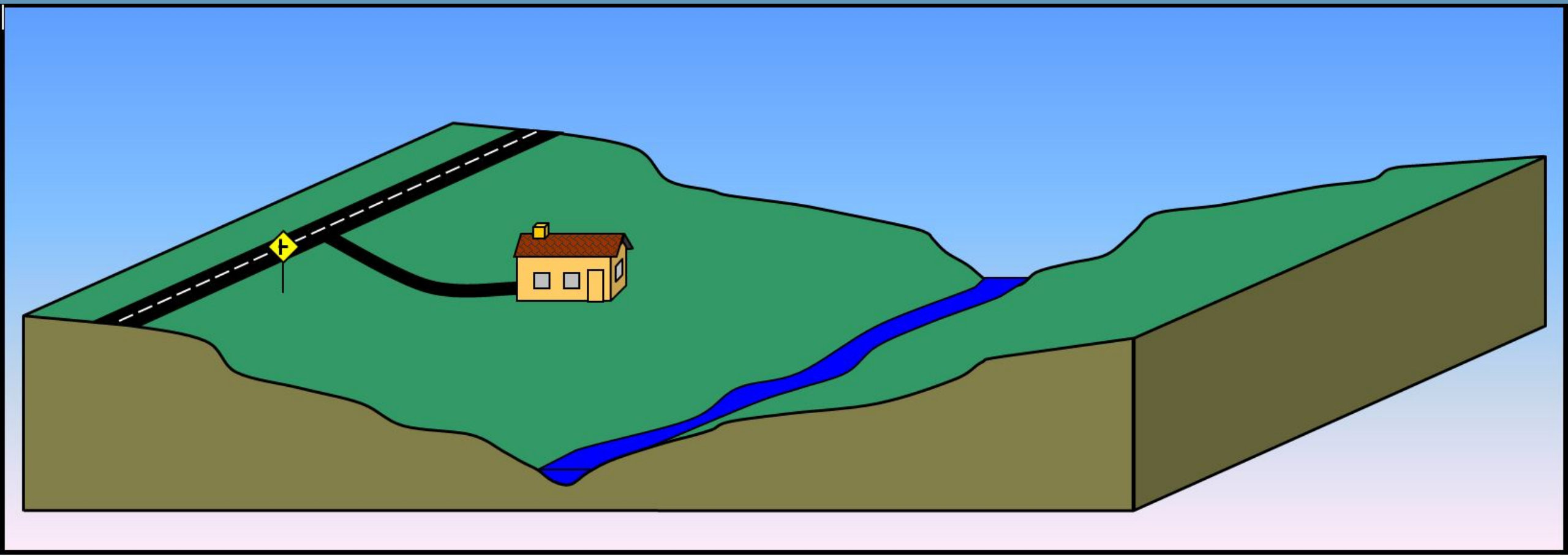
Planning for the Future

How do we plan for climate change in the rules?

Resiliency

How do we incorporate resiliency in flood prone areas?

- Flood Hazard Area Design Flood
  - *Existing rules:*
    - Fluvial areas: Design flood = 100-year flood + factor of safety
      - Calculated as 125% of 100-year event
      - Always at least 1 foot above FEMA BFE (effective or preliminary, whichever is higher)
    - Tidal : Design flood = FEMA BFE (effective or preliminary, whichever is higher)
  - *Proposed rules* could redefine the design flood as:
    - 500-year flood (or some other recurrence interval)
    - 100-year flood + additional factors of safety (BFE+3 feet, for example)
    - Other?



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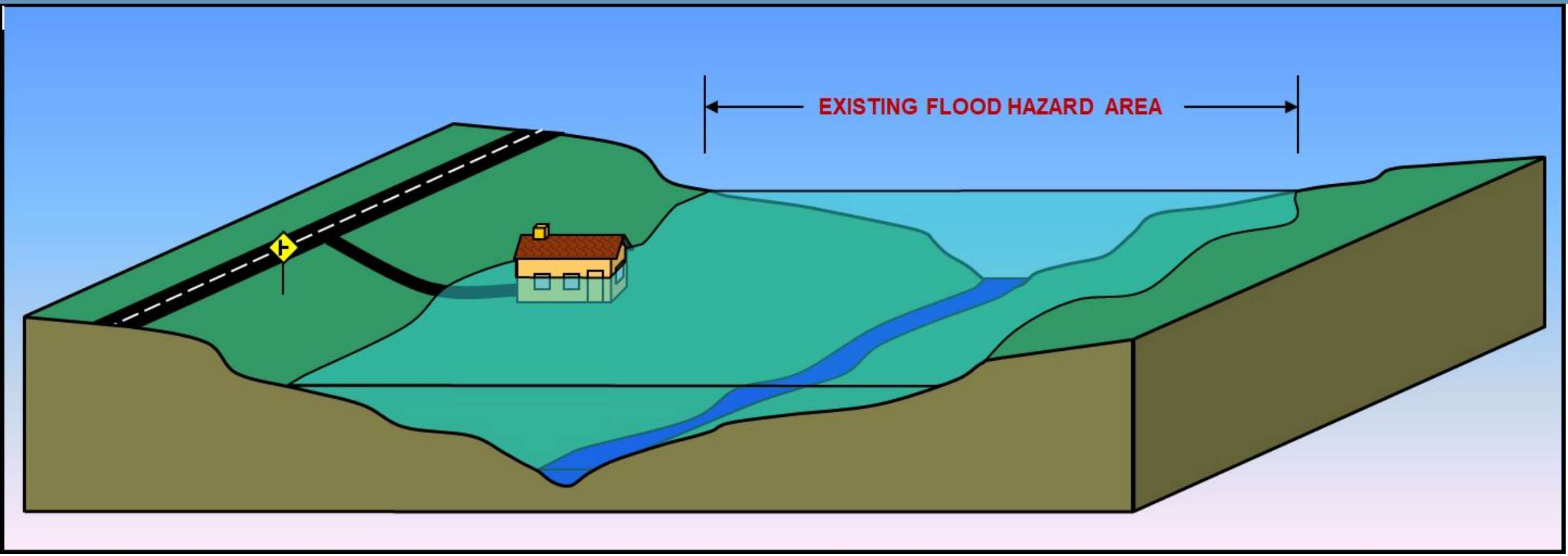

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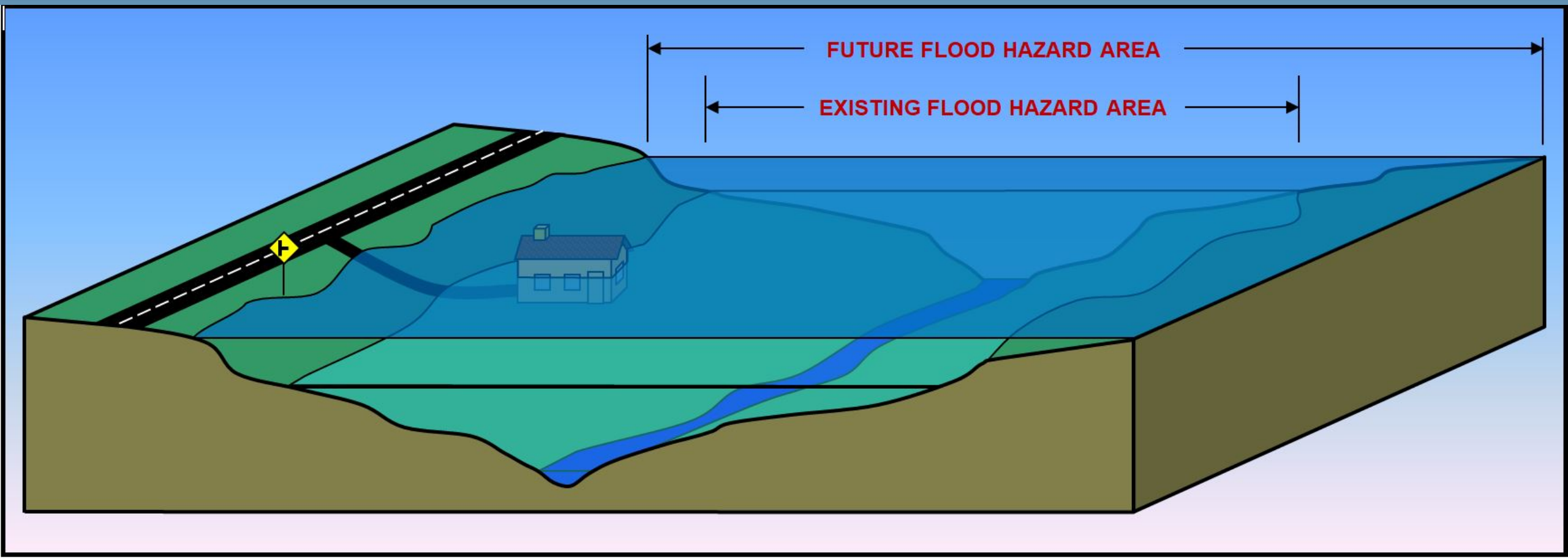

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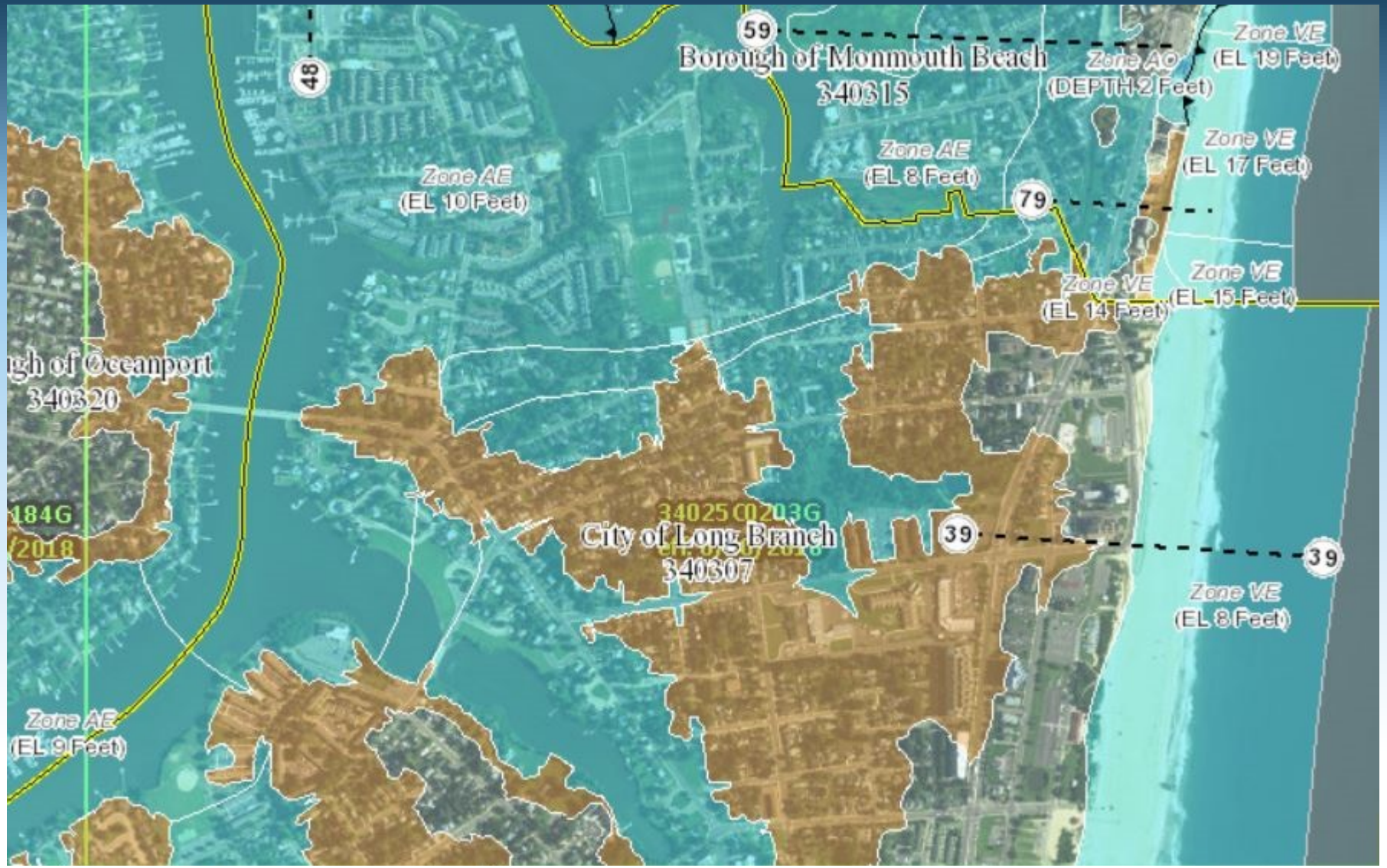

FEMA MAP OF LONG BRANCH

Existing 100-year floodplain

Existing 500-year floodplain

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Resiliency

How do we incorporate resiliency in new construction/redevelopment?

- *Existing rules:*
  - Lowest floor of buildings must be at least one foot above DFE (1 foot of freeboard)
  - Dry flood-proofing allowed only for non-residential/non-critical buildings that cannot be elevated
  - Wet flood-proofing allowed only in extremely limited cases (non-habitable or agricultural buildings, water dependent uses, etc.)
- *Proposed rules* could:
  - Add freeboard
  - Require different freeboard for different uses
  - Expand when wet flood-proofing can be used

Resiliency

How do we incorporate resiliency in stormwater management design?

- *Existing rules* include practices that are generally based on factors that will change with a changing climate
  - Using historical rainfall data (such as NOAA precipitation tables) for site design does not address expected changes in rainfall patterns
  - Many hydrologic tools are based on decades-old empirical data

Resiliency

How do we incorporate resiliency in stormwater management design?

- *Green Infrastructure Rule:* Published 3/2/20 – will increase resiliency
- *Proposed rules* could*:*
  - Remove the “rational method”
  - Require municipalities to evaluate and consider climate change as part of stormwater management plans required in MS4 permit
  - Require onsite retention of the ***water quality design storm***

Resiliency

How do we incorporate resiliency in stormwater management design?

- *Additional rulemaking options:*
  - Updating the design storm requirement
  - Addressing basin resiliency
  - Addressing basin sizing
  - Increasing ground water recharge volume

Coastal Resilience

How do we incorporate sea level rise in coastal areas?

- Coastal Centers
  - *Existing rules* do not contemplate sea level rise
  - *Proposed rules* could delineate centers in consideration of future inundation/flood-prone areas
- Oceanfront Special Areas
  - *Existing rules* oceanfront special areas such as dunes, coastal bluffs, beaches, etc. are evaluated on an individual basis.
  - *Proposed rules* could evaluate special areas holistically to address their interaction (coastal buffer zone)

Coastal Resilience (cont.)

- Infill Development
  - *Existing rules* allow infill development in vulnerable locations (single family homes)
  - *Proposed rules* could eliminate this exemption in vulnerable coastal areas
- Encourage growth outside of vulnerable areas
  - *Existing rules* restrict high rise development in certain areas
  - *Proposed rules* could revise high rise & scenic resources rules to allow the clustering of coastal development outside of vulnerable areas
- Future inundation zone
  - *Existing rules* do not address increased threats to flooding
  - *Proposed rules* could create a new special area rule to limit certain types of development in future inundation zones and encourage water dependent uses

Encouraging Renewable Energy & Green Building

How do we encourage renewable energy in the rules?

Examples:

- Renewable
  - *Existing rules* do not contemplate renewable energy and associated structures
  - *Proposed rules* should reflect and support Statewide policy to encourage responsible development of renewables by incorporating appropriate standards
- Green Building
  - *Existing rules* are silent on green building (e.g. green, white roofs)
  - *Proposed rules* could encourage or require green or white roofs for certain development

Anything Else?

- Other regulatory changes DEP should consider ?

Example:

- *Existing rules* include a number of permits-by-rule that are challenging to track and audit
- *Proposed rules* could shift these to permits-by-certification to allow increased tracking and oversight

Questions?

Thank you!

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