



CHAPEL HILL STORMWATER REGULATIONS RECOMMENDATIONS

February 15, 2023
Town Council Regular Meeting

SOM

ORION
PLANNING+DESIGN 

 SRF



Stormwater Regulations Recommendations

- Background
 - Petition of 5 councilmembers
- Project Stakeholder Engagement
- Recommendations



How will Climate Change Impact Stormwater?

- Projected temperature increases
- Rainfall and Drought
- Climate changes could impact



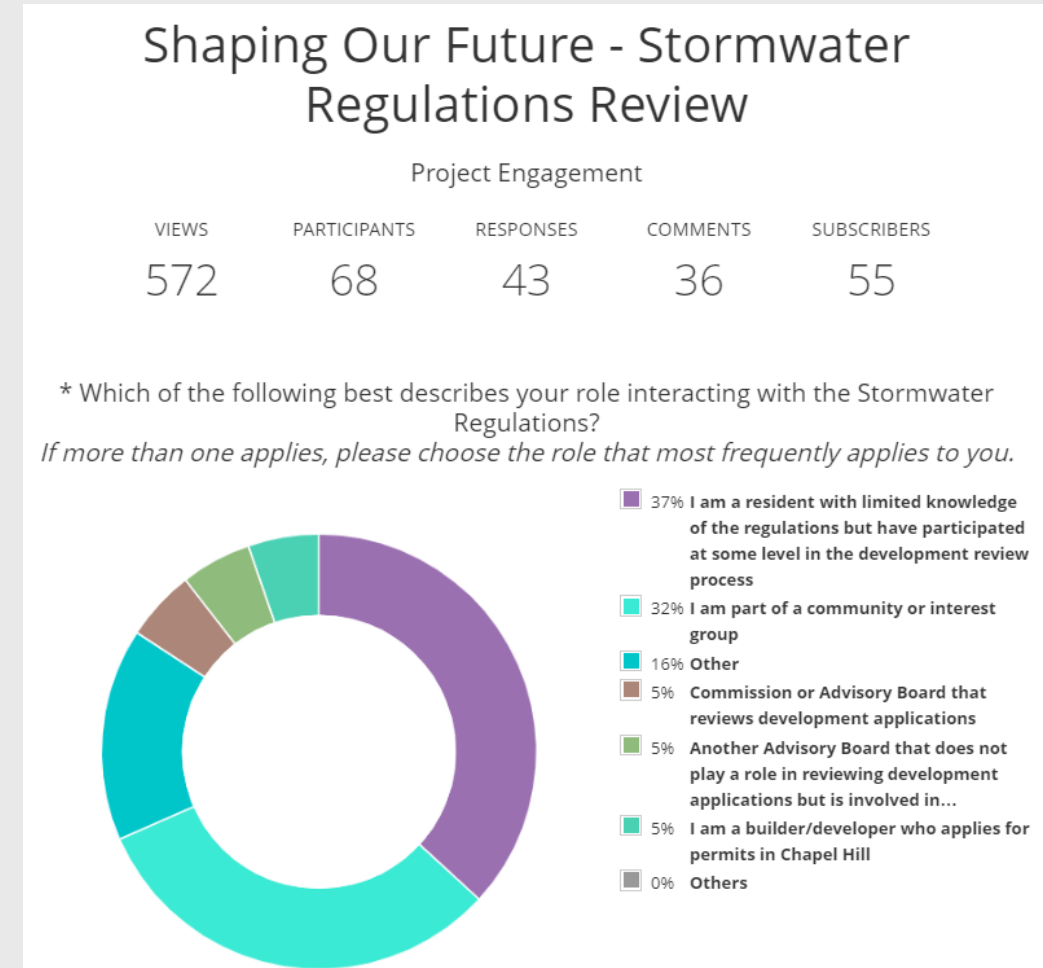
Probability of Outcome for Likelihood Terms

Very likely = 90-100%

Likely = 66-100%

Stakeholder Engagement

- Current Stormwater Regulations
 - What's working?
 - What are the challenges?
 - Opportunities & Goals



Recommendations

- Rate Control
 - Current: 1-yr, 2-yr, and 25-yr, 24-hour storm
 - Recommendation: 1-year, 10-year, and 100-yr, 24-hour storm
 - ★ Adopt Atlas-14
- Water Quality
 - Standard is sufficient and consistent with State
 - Rewording and clarification
 - 85% TSS removal from the first one inch of rainfall

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North Carolina **Climate Science Report**



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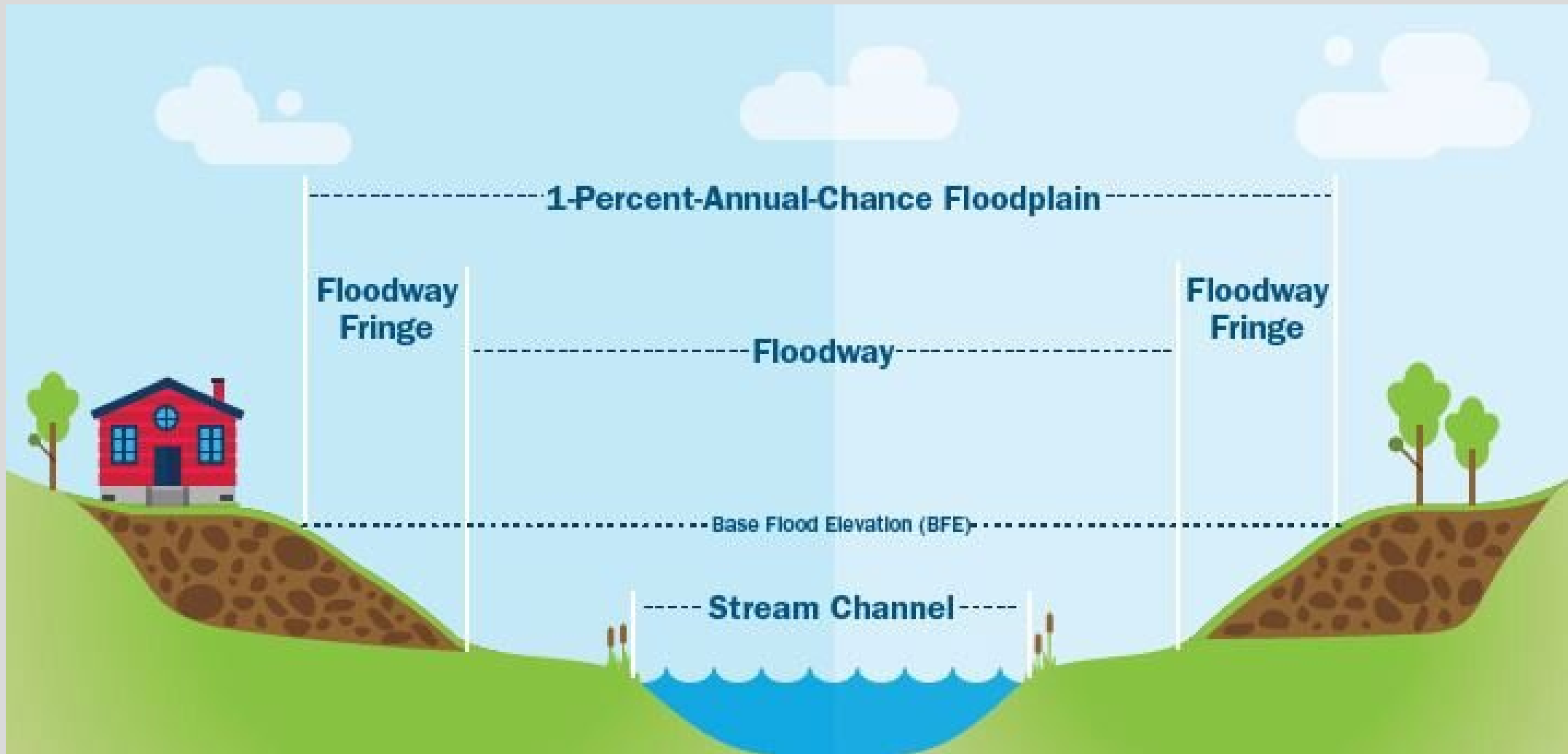
Recommendations

Resource Conservation District/Floodplain Management

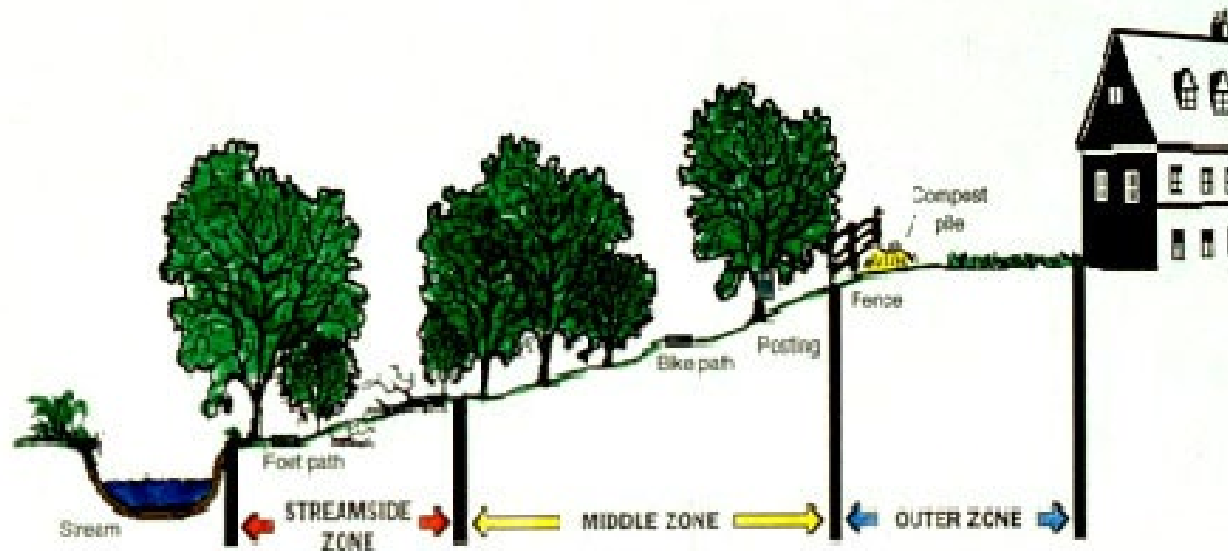
- Review the provide clarity and consistency to prohibit encroachment & fill in the 100-year floodplain

Wetland Protection/Buffers

- Establish a wetland protection/buffer ordinance

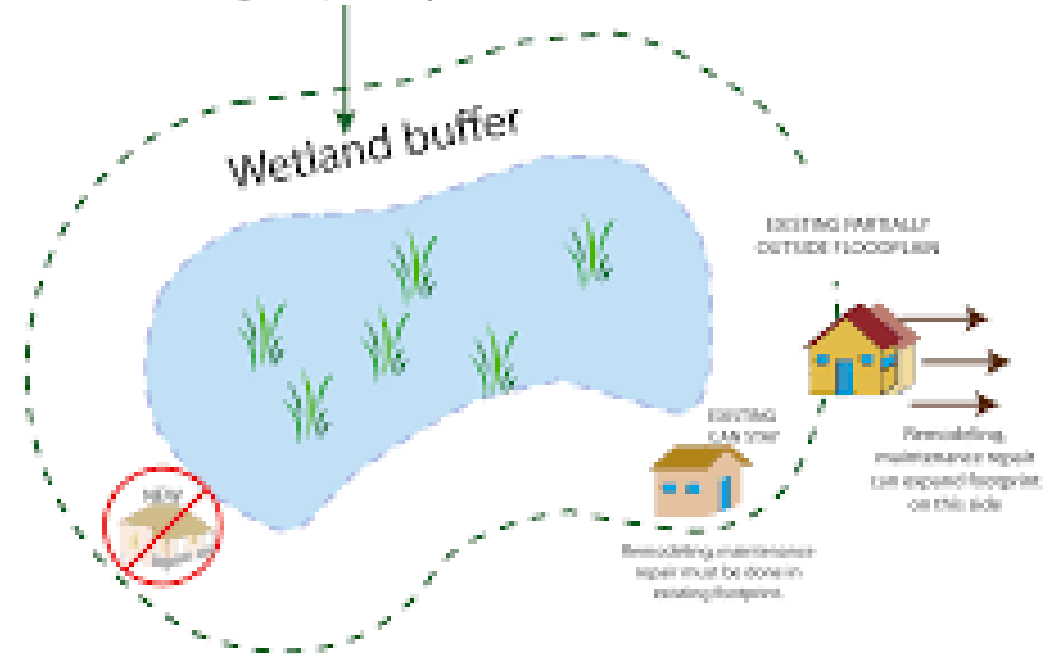


The three-zone urban stream buffer system



CHARACTERISTICS	STREAMSIDE ZONE	MIDDLE ZONE	OUTER ZONE
FUNCTION	Protect the physical integrity of the stream ecosystem	Provide distance between upland development and streamside zone	Prevent encroachment and filter backyard runoff
WIDTH	Min. 25 feet, plus wetlands and critical habitats	50 to 100 feet, depending on stream order, slope, and 100 year floodplain	25 foot minimum setback to structures
VEGETATIVE TARGET	Undisturbed mature forest Reforest if grass	Managed forest, some clearing allowable	Forest encouraged, but usually turfgrass
ALLOWABLE USES	<i>Very Restricted</i> e.g., flood control, utility right of ways, footpaths, etc.	<i>Restricted</i> e.g., some recreational uses, some stormwater BMPs, bike paths, tree removal by permit	<i>Unrestricted</i> e.g., residential uses including lawn, garden, compost, yard wastes, most stormwater BMPs

Buffer widths would stay in the range of 50 feet to 300 feet, but determination of width would be based on distances required to maintain water quality and habitat values, according to the Department of Ecology rating system. Some widths may be narrower than existing buffers; some may be wider. No "one size fits all."





Recommendations

Stormwater Runoff Volume

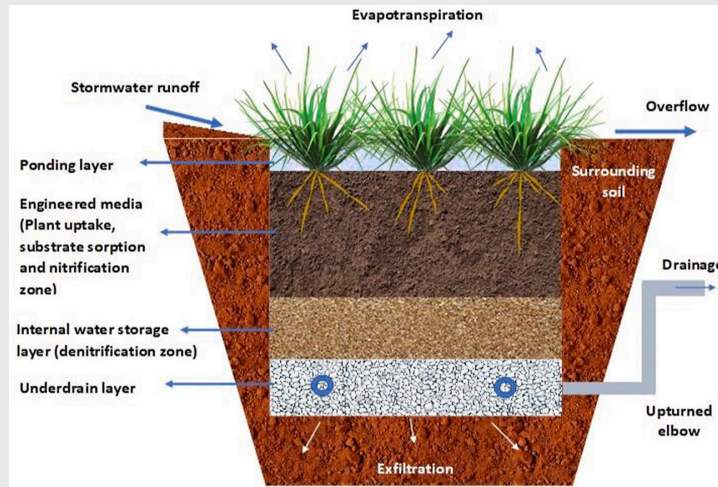
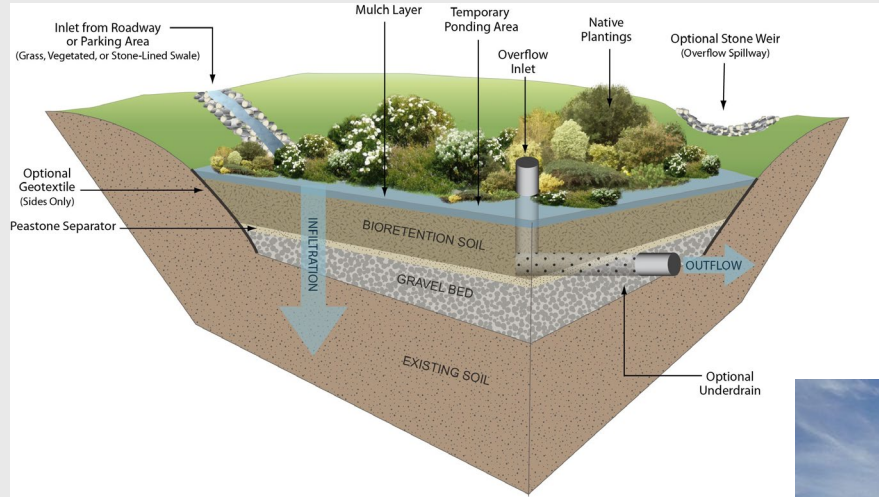
- Retain runoff onsite
- Provide tiered and flexible treatment approaches

Retain 2-year, 24-hour storm

If not achievable, then retain first one (1) inch of rainfall

If not achievable – alternative practices, design, credits

Stormwater Retention





Additional Recommendations

- **Stormwater regulations on development alone will not address impacts of climate change and change is precipitation patterns.**
- Rewrite & update the stormwater management requirements in LUMO 5.4 to add clarity and improve understandability.
- Utilize greenways and TOD corridors as identified in the Complete Community Strategy and TOD Plan.
- Regional Stormwater Control Measures on Town/public land



Greenways and TOD Corridors



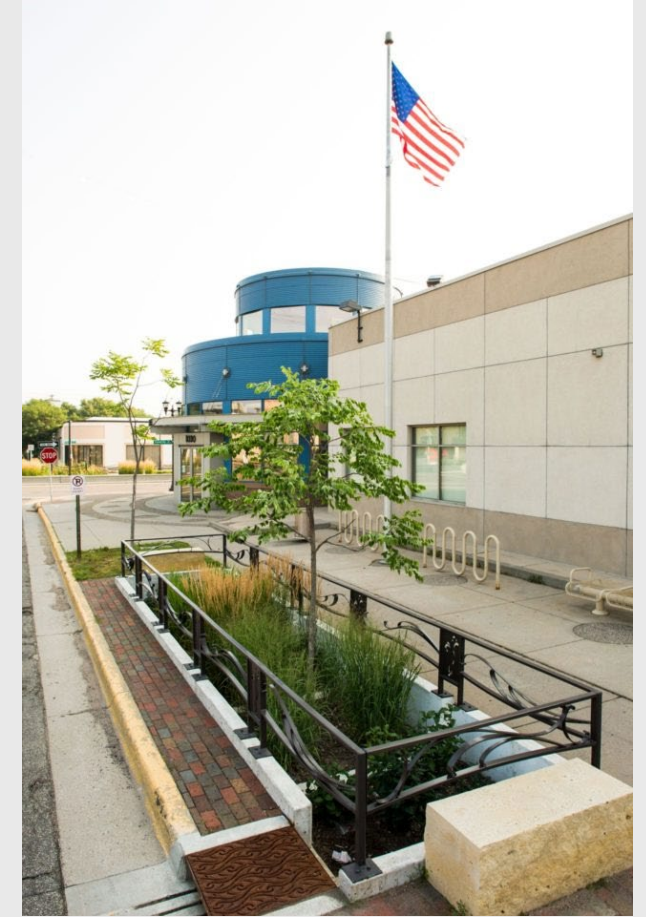


Additional Recommendations

- Incorporate regional stormwater control measures into CIPs
- Pursue grants and other funding sources and partnerships to promote voluntary stormwater management
- Promote or incentivize individual residential stormwater management practices.



Regional Stormwater Control Measures & Treatment Train Approach



Residential Stormwater Management





Next Steps

- Receive Technical Report by the beginning of March 2023
- One final review from Town Staff
- Provide Additional Opportunity for Public Comment for a final report:
 - Post to project website:
https://publicinput.com/shapingourfuture_stormwater
 - Present to the Stormwater Management Utility Advisory Board
- Provide Council with a final report and recommendations on how to proceed by April 2023

Questions



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