

# CHAPTER 500 STAKEHOLDER ENGAGEMENT | TECHNICAL COMMITTEE MEETING #2 AGENDA

**RE:** Chapter 500 Stakeholder Engagement, Technical Committee Meeting #2

**DATE:** Monday, April 1<sup>st</sup>, 2024

**TIME:** 9:30am – 1:00pm

**LOCATION:** Remote via Microsoft Teams

**INVITEES:** Cody Obropta, Jeff Dennis, and David Waddell (Maine DEP)  
 Bina Skordas and Maggie Kosalek (FB Environmental Associates)  
 Chapter 500 Technical Committee

**MEETING OVERVIEW:**

TOPIC	WHO	ESTIMATED DURATION
1. Review goals and procedures	Bina Skordas (FBE)	10 mins
2. Summarize Subcommittee Discussions	Cody Obropta (DEP) & Other Subcommittee Members	10 mins
3. Review tasks from Steering Committee	Cody Obropta (DEP)	10 mins
4. Discuss Precipitation Data Source	Bina Skordas (FBE) & Cody Obropta (DEP)	60 mins
Break (15 min)		
5. Discuss Culvert and Flood Design Standards to Apply to All Projects	Bina Skordas (FBE) & Cody Obropta (DEP)	20 mins
6. Discuss Flooding Standard Applicability – Return Interval Storms	Bina Skordas (FBE) & Cody Obropta (DEP)	60 mins
7. Discuss Watershed Approach to Flooding (if time permits)	Bina Skordas (FBE) & Cody Obropta (DEP)	30 mins
8. Next steps	Bina Skordas (FBE)	10 mins

## DISCUSSION TOPICS:

### Flooding Technical Committee tasks:

- i. Decide on which source to use for precipitation data.
- ii. Determine the uncertainty that persists after changes are made and decide how this will be dealt with.  
(This goes along with testing the standard after changes are made by running it through scenarios, similar to LID standard.)
- iii. Clarify language to ensure standards can be understood by less technical audiences.
- iv. Define DEP scope and consider how this can be framed around a watershed-wide perspective as opposed to project site specific view. Consider how regulations from other agencies and municipalities impact this.
- v. Specify flood requirements based on stream risk/classifications (similar to LID TC task)
- vi. Ensure proper education of changes made (this is a task related to all Ch500 changes made, not just flooding standard).
- vii. Incorporate environmental justice

### Meeting Topic 1: Precipitation Data Source

Background: Designers and engineers currently use a static data table located in Appendix H to model flooding standards. This data table uses information extracted from the Northeast Regional Climate Center Extreme Precipitation Tables back in June of 2014. The average design life for stormwater infrastructure is between 50 and 100 years. The Maine Climate Council released a scientific and technical assessment for the State of Maine which found precipitation intensity and storm event frequency are changing due to climate change. Using data from 2014 to model infrastructure that will potentially still be in use in the year 2100 is out of alignment with Maine's climate resiliency goals. Further, needing to engage in major substantive rulemaking to update the precipitation table when new data sets are released is a hindrance to using best available science and data.

#### Objectives:

1. Determine a new data source to use to be used for stormwater modeling and infrastructure design.
  - a. Discussion item: factor of safety multiplied to data source?
2. Develop a streamlined process to update precipitation data moving forward (in the event that new, better data is released).
  - a. Establish a procedure with public comment?
  - b. Move to stormwater BMP manual?

### Meeting Topic 2: Culvert and Flood Design Applicable to All Projects

Background: Contained within the flooding standard are requirements to design piped or open channel systems based on the 10-year 24-hour storm event without overloading or flooding beyond channel limits. Additionally, requirements for projects to not flood primary access roads during the 25-year 24-hour storm event are contained within flooding standards.

#### Objectives:

1. Discuss moving these requirements to General Standards or a separate standard that applies to all projects.
2. Discuss whether these requirements should be made more protective.
3. Discuss any additional flooding requirements that should apply to all projects.

### Meeting Topic 3: Flooding Standard – Return Interval Storm Events

Background: Current flooding standards require peak matching for the 2, 10, and 25 year 24-hour storm events. Maine Department of Transportation is currently designing stormwater conveyance structures for the 50 and 100 year 24-hour storm events in certain contexts.

Bankfull discharge for most streams has a recurrence interval of between 1 and 2 years, with approximately 1.5 years as the most prevalent (Leopold, 1964 and 1994), and maintaining this discharge rate should act to prevent downstream erosion. Recent research, however, indicates that two-year peak discharge control does not protect channels from downstream erosion and may actually contribute to erosion since banks are exposed to a longer duration of erosive bankfull and sub-bankfull events (MacRae, 1993 and 1996, McCuen and Moglen, 1988). Consequently, 2-year peak discharge control may have some value for overbank flood control, but is not effective as a channel protection criterion, since it may actually reach peak flow that is too high and extend the duration of erosive velocities in the stream and increase downstream channel erosion.

#### Objectives:

1. Discuss removing 2-year peak matching requirement.
2. Discuss merits of peak-reduction standards in some settings.
3. Discuss adjusting peak flow control for higher intensity storm events (50-year/100-year).

### Meeting Topic 4: Watershed Approach to Flooding

Background: DEP regulates flooding at a site level through permitting, but flooding challenges are often expressed at a watershed scale level. Some flooding standard waivers already exist as an attempt to combat this issue – notably the waiver for direct discharge into a great pond, major river, or coastal area.

#### Objectives:

1. Identify opportunities address flooding issues in a larger watershed through site permitting.