Housekeeping

- This is a Zoom **meeting**, please mute your microphone unless you are asking a question*

- **If you are an Advisory Committee member**, there will be time for clarifying questions after the presentation of each Stormwater Standard (5 min)

- **If you are a member of the public**, please hold your questions until the Q&A session at the end of the presentation

* To ask a question/make a comment, please use the "Raise Hand" function (either under "Participants" or "Reactions" button, depending on what device you're using).

Proposed Updates to Massachusetts Stormwater Management

June 10, 2021

Massachusetts Department of Environmental Protection
Stormwater Advisory Committee Meeting #6

MassDEP Stormwater Management Updates

Stormwater package

- Wetlands Protection Act regulations (310 CMR 10.00)
- 401 WQC regulations (314 CMR 9.00)
- MassDEP Stormwater Handbook (Volumes 1-3) and Appendices

Additional WPA Revisions

- BLSF (per NOAA Plus)
- Drought
- LSCSF
- Shared Use Paths (SUP) - WPA Limited Project

Agenda

- Stormwater Standard 2, Peak Runoff and Precipitation
- Stormwater Standard 3, Recharge
- Stormwater Standard 4, Water Quality
- Stormwater Standard 7, Redevelopment
- New Proposed Standard 11, TMDL Compliance

Stakeholder Consultation and Public Engagement

- MassDOT – extensive consultation to develop Highway Specific Considerations

- Stormwater Advisory Committee
  - 6 meetings to date, meeting summaries of Q&A, written comments (DOT, DCR, NAIOP, homebuilders, CRWA, Mystic Valley Collaborative)
  - 5 supplemental outreach sessions requested by AC sectors for constituents

- EPA – extensive consultation to coordinate MassDEP and MS4 requirements

Goals of Stormwater Management Updates

1: Align with EPA's MS4
2: Address Increasing Precipitation

Promote ESSD and LID to accomplish goals

How we are presenting information

- Purpose of Stormwater Standard
- Comparison of current and proposed standard

1.

Current MassDEP Wetlands/WQC Rule	PROPOSED

2.

Current MassDEP Wetlands/WQC Rule	MS4 Requirement	Proposed

- For Handbook and MS4 comparisons we **highlight differences in red**
- New Development Requirements before Redevelopment Requirements for each Stormwater Standard
- COMMENTS for Each Standard
- Changes proposed based on comments

Peak Runoff Attenuation (Std. 2)
New Development

Existing regulation: “Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04."

Current MassDEP Wetlands/WQC Rule	PROPOSED
▪ TP40 ▪ 2- and 10-year storms, and 100-year storm if offsite flooding ▪ Discretion for LSCSF	• **NOAA PLUS (based on current but extreme precipitation; 90% of upper confidence interval)** • **2- and 10-year storms, and 100-year storm in all instances** • **Reduce LSCSF discretion in areas upgradient of bridges and culverts**

Peak Runoff Attenuation (Std. 2)
Redevelopment (Std. 7)

Existing regulation: “Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04."

Current MassDEP Wetlands/WQC Rule	PROPOSED
Must meet Standard 2 to the Maximum Extent Practicable and Improve Existing Conditions	• **NO CHANGE – Remains Maximum Extent Practicable, however NOAA+ must be used for calculation**

Peak Runoff Attenuation (Std. 2) Comments

- Approve of NOAA Atlas 14
- Object to use of NOAA PLUS: increases costs, sizing
- NOAA PLUS needs justification, should have peer review
- Review potential impact NOAA+ may have on conveyances
- Support for (or exceed) NOAA+: reduces costs to towns and off-site developments
- Use existing rainfall (NOAA Atlas 14 or TP40) for pre-development runoff rates, and use NOAA+ for post-development runoff rates
- Post development discharge should decrease [from current] to make up for higher rainfall rates since TP40

Peak Runoff Attenuation (Std. 2) Recommended Changes to Proposal

No Changes Recommended to Proposal for Standard 2

5 Minutes for AC Clarifying Questions

Recharge (Std. 3) - New Development

Existing regulation: "At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from the pre-development conditions based on soil type."

Current MassDEP Wetlands/WQC Rule	PROPOSED
• A soil: 0.6-inches • B soil: 0.35-inches • C soil: 0.25-inches • D soil: 0.1-inches	• **A, B, and C Soil: 1-inch** • **D: 1-inch to Max. Extent Practicable**

Recharge (Std. 3) – Redevelopment (Std. 7)

Existing regulation: "At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from the pre-development conditions based on soil type."

Current MassDEP Wetlands/WQC Rule	PROPOSED
• Standard 3 must be met to the Maximum Extent Practicable	• No Change – Maximum Extent Practicable Standard remains (except it is one-inch to the MEP – except D soils) • **Off-site allowed**

Recharge (Std. 3)
Comments

- Resistance to 1-inch, keep soil-based standard
- C and D soils should be Maximum Extent Practicable standard
- 1” recharge limits use of curves, does not allow retainment
- Should increase 72-hour drawdown requirement
- The 70% recharge figure should be peer reviewed
- In favor, should evaluate alternative methods
- Support one-inch, especially in light of increasing droughts and water supply challenges

Recharge (Std. 3)
Recommended Change to Proposal

The 1-inch volume of infiltration is presumed to be provided when using:

a. The Static Method;
b. The Simple Dynamic or Dynamic Field Methods using in-situ Saturated Hydraulic Conductivity Tests;
c. The Continuous Simulation Method using in-situ Saturated Hydraulic Conductivity Tests where the static volume designed to be infiltrated represents at least 70% of the average annual precipitation at the three closest weather stations for which annual precipitation data is available … for the climate normal period 1991-2020, using a spreadsheet approach; or
d. When project sites are composed of HSG D Soils, bedrock within 2-feet of the existing ground surface, hazardous waste sites or solid waste landfill closures the standard is MEP

Use of methods b, c and d are expected to result in smaller required basin sizing

5 Minutes for AC Clarifying Questions

Pollutant Removal (Std. 4) - New Development

Existing regulation: “Remove 80% of the average annual load of Total Suspended Solids.”

Current MassDEP Wetlands/WQC Rule	MS4 Requirement	Proposed
▪ Remove 80% TSS ▪ Treat 0.5“ for most sites; ▪ Treat 1“ for Outstanding Resource Water, critical areas, Land Use with Higher Potential Pollutant Load	▪ Remove 90% TSS ▪ Remove 60% Total Phosphorus ▪ Off-site mitigation allowed within HUC 12	▪ **Remove 90% TSS** ▪ **Remove 60% TP** ▪ **Off-site mitigation not allowed**

Pollutant Removal (Std. 4) – Redevelopment (Std. 7)

Current MassDEP Wetlands/WQC Rule	MS4 Requirement (greater than one acre)	Proposed
▪ Standard 4: Maximum Extent Practicable (MEP) and improve existing conditions	▪ Remove 80% Total Suspended Solids ▪ Remove 50% Total Phosphorus ▪ Off-site mitigation allowed within HUC 12	▪ **Std 4: 80% TSS and 50% TP, Meet instead of MEP, for most projects** ▪ **Allow off-site mitigation^**

^ in sites that do not discharge to Critical Areas or are LUHPPLs

Pollutant Removal (Std. 4) - Comments

- Should fully align with MS4
- Use MS4 impervious surface standard
- Support for Low Impact Development
- Use of curves for new development is limited by proposed 1-inch recharge
- 5-9 lot subdivisions should stay MEP
- Keep Standard 4 MEP (e.g., roads, shared use paths)

Pollutant Removal (Std. 4 and All Stds.) Recommended Changes to Exceptions

10.05(6)(m) Standards apply to the MEP to:

- Subdivisions or multifamily housing with 4 or fewer lots that discharge to a critical area
- **KEEP 5-9 LOT SUBDIVISIONS AND MULTIFAMILY HOUSING that do not discharge to a critical area**
- **Unpaved footpaths, unpaved and paved bicycle paths, Public Shared Use Paths, and other unpaved or paved paths for pedestrian and/or nonmotorized vehicle access (with the exception of wheelchairs and other power-driven mobility devices by individuals with a mobility disability), not including paved sidewalks located near or adjacent to private and public roads.**
- **Maintenance of Existing Public Roadways.**

DRAFT NEW MassDEP ESSD/LID Site Design Credits

MassDEP SCM ESSD Credits	Recharge	Pollutant Removal Credit	
		TSS	TP
Credit 1: General ESSD	1”	90%	60%
Credit 2: Solar ESSD	1”	90%	60%
Credit 3: Roof Runoff to Qualifying Pervious Area (Partial Credit TBD)	1”	varies based on imperv/perv, up to 90+%	varies based on imperv/perv, up to 60+%
Credit 4: Road Runoff to Qualifying Pervious Area (Partial Credit TBD)	1”	varies based on imperv/perv, up to 90+%	varies based on imperv/perv, up to 60%
Credit 5: Tree Canopy	Effective IC Reduction	Effective IC Reduction	Effective IC Reduction
Credit 6: Reduce Impervious Area (Redevelopment Only)	Total IA Reduction	Total IA Reduction	Total IA Reduction
Credit 7: Buffer Zone Improvement	1”	Meets Std 4 & 7, varies based on imperv/perv	Meets Std 4 & 7, based on imperv/perv

5 Minutes for AC Clarifying Questions

Standards 2, 3, 4 and 7
Linear Projects - Roads, Shared Use Paths

Type	Existing	MS4 >1 ac	Proposed
New Road	Fully Meet	Fully Meet	Fully Meet
Redeveloped Road (Improvement)	MEP	Must Improve Existing Conditions Unless Infeasible	• MEP, except for Std 4 for Improvement projects • Highway Specific Considerations
Maintenance of Roadways	MEP	Must Improve Existing Conditions Unless Infeasible	• MEP • Highway Specific Considerations
New & Redevelopment Shared Use Paths	MEP	Fully Meet	MEP

Supporting Total Maximum Daily Loads (New Std. 11)

Formalizing TMDL compliance as a Standard will improve success meeting TMDL goals and ultimately removal of impaired waters from 303(d) list.

Current MassDEP Wetlands/WQC Rule	MS4 Requirement	Proposed
▪ Standard 4: when there is a TMDL, provide BMP to remove pollutants to meet Waste Load Allocation (for point sources) and Load Allocation (for non-point sources)	▪ Optimize BMPs to treat pollutants of concern for specific TMDL	▪ If discharge to Area with TMDL or Alternative TMDL for phosphorus, nitrogen, pathogens, metals, SCMs to be selected from MassDEP approved list to specifically address the applicable TMDL or Alternative TMDL. Size SCM to Standards 3 and 4 for New and Redevelopment.

Stormwater Handbook
New Format

2008 Handbook Structure	NEW Handbook Structure
Volume 1 - Overview of Standard	Section 1 - Introduction
	Section 2 - Mass Stormwater Standards
	Section 3 - Legal Framework
Vol 2 – Technical Guide for Compliance	Section 4 - Site Planning
	Section 5- Misc Stormwater Topics (e.g., retrofits)
Vol 3 – Documenting Compliance	Section 6 - Documenting Compliance
	Appendices:
	A. SCM Specs (ESSD, Non-struc, struc., source control)
	A. MA E&S Control Guidelines
	A. Std Method WQv to Discharge
	A. Redevelopment Checklist

Next Steps

July/ August

- Release Draft Regulations for public comment – July/August
  - Including proposed delay for effective date

- SW Handbook posted for review/comment parallel with regs

AC - Questions?

Public Participants - Questions?