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Michele Barden
US Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (06-4)
Boston, MA 02109-3912

Submitted via email: barden.michele@epa.gov

AND

Claire Golden
MassDEP, Surface Water Discharge Program
150 Presidential Way, Woburn, MA 01801

Submitted via email: MassDEP.npdes@mass.gov

Dear Ms. Barden and Ms. Golden:

I appreciate the opportunity to provide comments to the US Environmental Protection Agency (EPA) Region 1 and to MassDEP (DEP) on the draft National Pollutant Discharge Elimination System (NPDES) permit issued to the Massachusetts Water Resources Authority (MWRA) Deer Island Treatment Plant, Combined Sewer Overflow (CSO) Co-permittees and Co-permittees.

I reside in the MWRA service area in the Mystic River watershed, very close to the border of the Charles River watershed. I am a member of both the Mystic River Watershed Association (MyRWA) and the Charles River Watershed Association (CRWA) and regularly paddle my kayak in both watersheds.

The comments in this letter are focused on the CSO requirements in Part I.B and the Operation and Maintenance requirements at Part I.E. An attachment includes specific comments and those of a more editorial nature across the whole of the Draft Permit and Fact Sheet.

PART I, B. COMBINED SEWER OVERFLOWS (CSOs)

I fully support EPA and DEP including the four CSO-responsible Co-permittees (BWSC, Cambridge, Chelsea and Somerville) along with MWRA. Including all the relevant CSO dischargers in this permit greatly aids the public finding and understanding the CSO requirements that apply to them. Although not explicit in the permit language, putting them all in the same section is a fair reflection of the interconnected nature of these CSO systems. While the outfalls are owned and the responsibility of the separate entities, it is clear in the case of the outfalls that discharge to the fresh water portion of the Mystic and the Alewife Brook, that successful reduction of CSO discharges cannot be achieved by one entity in isolation.

I fully support the incorporation of the current Water Quality Standards (WQS) variances for the Mystic/Alewife and Lower Charles into the permit. However, the CSO activation and volume limits contained in the Draft Permit, while the most current, date back to 2006/2008 and are based on a typical year that is no longer representative of more recent precipitation patterns, let alone projected precipitation changes due to climate change. The current WQS variances for the Mystic/Alewife and Lower Charles (2019) recognize that the Long Term Control Plan (LTCP) targets contained in the Draft Permit need to be updated. MWRA and CSO-responsible Co-permittees Cambridge and Somerville are currently in the process of updated long term control planning for the variance waters.

It is critical that the final permit include some mechanism for incorporating the discharge limits that will be contained in the updated LTCP when approved by EPA and DEP. In the best case, final permit language would incorporate these future CSO discharge limits by reference. An example of language incorporating future requirements can be found at B.5.e, "...any related subsequent documents and the requirements of a CSO Variance."

Failing that, EPA and DEP must include language that makes clear that this section of the permit will be reopened upon approval of the updated LTCP. The Fact Sheet at 5.7.3 (p 127) anticipates something along these lines where it states:

"The Permit may be modified or re-issued upon the completion of a Long-term Control Plan. Such modification may include performance standards for the selected controls, a post-construction water quality assessment program, monitoring for compliance with water quality standards, and a reopener clause to be used in the event that the selected CSO controls fail to meet water quality standards. Section 301(b)(1)(C) requires that a permit include limits that may be necessary to protect water quality standards."

Similar language should be included in the final permit.

Public Notification of CSO Discharges, I.B.2(b)(8) and 3(j)

Minimizing human health impacts from CSOs is a core objective of EPA's CSO Control Policy, and the standard by which the public notification provisions in the Draft Permit must be measured. Over three million people live in the MWRA district. Less than 500 subscribe to the electronic discharge notification system. The hybrid system of outfall signage, mailings and electronic notifications in the Draft Permit has been tried for over a decade. In the Alewife Brook area this system still does not provide adequate notice for some users.

On August 8, 2023 after a heavy morning downpour and CSO discharges at four outfalls (CAM001, CAM401A, CAM401B, SOM001A), the Alewife Brook flooded portions of the adjacent Alewife Greenway/Bike Path. In the afternoon, despite the current notification system, people were observed using the path which still had standing water in sections. This is unacceptable.

When untreated sewage is discharged, the least sophisticated user of the public notification system should reasonably expect to be informed. The current electronic notification system, while necessary and useful, requires a level of user sophistication that makes it insufficient as a public warning system. Users of the Greenway should not be required to have subscribed to a notification system and have a device to access it in hand to safely use this public space. Along the Alewife Brook, and likely in other communities covered by this permit, the lack of contemporaneous notification leaves some people unaware of the sewage in the water around them. Timely notification should include actual notice in cases where people are in close proximity to the discharge.

The CSO outfalls that discharge to the Alewife Brook should have lights or electronic signage boards that illuminate when a discharge is in progress and for at least 24 hours after the discharge ends. For example, the NPDES permit for DC Water (DC0021199, at B.III,(h)(1)) requires that a red light be illuminated during a CSO occurrence and a yellow light be illuminated for 24 hours after CSO has stopped. The community around the Alewife Brook has called for similar notification approaches over the years; it is high time to heed that call. Similar requirements should be considered wherever the public has access to the vicinity of other CSO outfalls covered by this permit (e.g., the lower Charles River basin).

PART I, E. OPERATION AND MAINTENANCE

I fully support the inclusion of the Co-permittees in the Draft Permit. The efficient operation of the whole sewer system depends on each entity taking full responsibility for its part. I also applaud EPA and DEP's inclusion of climate adaptation planning in the Draft Permit. The rate at which our climate is changing clearly requires looking into the future to ensure that our waste water infrastructure is robust enough to continue to provide treatment that meets discharge limits. I am concerned that the time frames are unrealistically short and the guidance provided for identifying the major storms and flood events is perhaps too prescriptive. I urge EPA and DEP to define time frames and scenarios that will yield actionable plans during the term of the permit. The Adaptation Plan structure, requirements and guidance in the recently issued final permits for Westfield and Northampton are more reasonable and more likely to lead to useful results. I specifically welcome the additional information contained in the "EPA Region 1 Recommended Procedures and Resources for the Development of Adaptation Plans for Wastewater Treatment Systems and/or Sewer Systems." More specific comments on this section of the Draft Permit vary between the WWTS and the sewer system and are broken out below.

Wastewater Treatment Facility Adaptation Planning (I.E.1.a)

It would seem appropriate to allow MWRA to draw upon any/all major storm/flood event scenario work they have completed in the past few years or to draw on any recent major storm/flood scenario analyses such as those completed by other nearby municipalities (i.e., Cambridge, Boston/BWSC), watershed groups (e.g., Resilient Mystic Collaborative) and the mid-century precipitation forecasts developed in defining the future "typical year" for the updated

Long Term CSO planning being performed by MWRA, Cambridge and Somerville. With these recent, local analyses available, EPA and DEP should not include the option of using the more default-like future conditions as defined in footnote 8 in the final Westfield permit.

MWRA's WWTF is arguably threatened by two different types of storm scenarios, one more external and the other might be referred to as internal. With continuing sea level rise, a major coastal storm with long duration precipitation, winds and storm surge poses an external threat of inundation to the various components of the facility. The final permit should specifically require inclusion of a major coastal storm scenario.

An intense or longer duration precipitation event not associated with a coastal storm threatens the facility from within due to peak flow at the headworks and treatment batteries. Under current conditions in a "wet" year, the frequency of blending events at the treatment plant is concerning. [18 days in 10 months of 2023 reported in DEP's CSO data portal.] Not publicly documented is the frequency at which one or more of the headwork facilities approaches or reaches capacity. The Draft Permit does not specify an analysis of this threat. The final permit should require MWRA to evaluate the future frequency of conditions that exceed the capacity of any of the headworks or treatment components on Deer Island to provide secondary treatment.

Sewer System Adaptation Planning (I.E.2.e.(2))

The planning requirements in this section do not adequately reflect the range of critical future precipitation scenarios and the range of capabilities across the MWRA, the CSO Co-permittees and the Co-permittees. Coastal communities should be required to base their analysis on the impacts of the same coastal storm scenario used by MWRA. MWRA and the CSO Co-permittees should be required to base a separate analysis on the non-coastal storm mid-century precipitation forecasts included in the future "typical year" being used to update the long-term control plans. The other Co-permittees should be encouraged to pool their efforts to define critical future precipitation conditions at the watershed or regional scale. EPA and DEP should suggest that these Co-permittees join with a regional organization (e.g., MAPC) to discuss and develop a default future scenario. The "baseline" condition defined at footnote 7 in the Westfield permit should be available or required for all Co-permittees. The future conditions as defined in footnote 8 in the final Westfield permit should only be available to Co-permittees that do not have reasonable access to a more refined future scenario.

While I applaud the future planning requirements included in this section, at the same time I am concerned that the overall capacity of the MWRA-owned portion of the sewer system will become ever more stressed, causing increased instances of SSOs and/or blending at the treatment plant. In addition to the inundation-related risks at their pump stations, MWRA should be required to analyze future precipitation scenarios that cause any pump station to reach or exceed its pumping capacity or be constrained by conditions down-sewer of the pump station. MWRA has acknowledged that during some current storms there is more flow coming into the Alewife Brook Pumping Station than it has the capacity to pump, backing sewage up in the Alewife Brook Conduit and/or Alewife Brook Sewer and likely contributing to overflows at

up-system CSOs (e.g., SOM001A). If it's happening now, it will almost certainly happen more frequently in the future. Some analysis should be required to determine whether pumping stations owned by the Permittee and Co-Permittees have sufficient pumping capacity during major storms, or even lesser storms in times of high groundwater and/or increased infiltration.

The final permit should explicitly state that MWRA's five CSO treatment facilities are included in this section (or else that they are included in the WWTF analyses). If indeed they are included in the sewer system section, it should be clear that MWRA should be required to examine both the coastal storm scenario and the non-coastal storm scenario impacts on these facilities.

Finally, for the Co-permittees, it is unclear whether the sewer system adaptation analysis is intended to be limited to inundation risks at pumping stations or whether it extends to the capacity of the Co-permittees' pipes to accommodate the critical future precipitation scenario. My concerns are inextricably bound together with the amount of inflow and infiltration in the sewer system, but there is no explicit connection in the Draft Permit between the adaptation planning requirements and the I/I requirements at (I.E.2.c). Further thoughts on this topic continue below.

Inflow/Infiltration (I.E.2.c)

While there is plenty more I/I work required under existing climate conditions, the Draft Permit does not require that Co-permittees consider the I/I pressures on their sewer systems under future precipitation scenarios. Without consideration of future I/I stresses systematically across their sewer systems, there is a real chance that a Co-permittee's I/I improvements begin to resemble a game of "whack-a-mole", rather than a well-informed prioritization of efforts. If EPA and DEP declines to add this future-oriented requirement in this permit, it should definitely plan to include it when the permit is reissued.

Conclusion

The Draft Permit takes some great steps forward but needs some important refinements. I have a number of specific comments on the elements and language of the Draft Permit and the Fact Sheet. They are included as an attachment.

Thank you for your consideration of these comments.

Respectfully,

Stephen S Perkins /s/

Stephen S. Perkins
14baker.p@gmail.com
14 Baker Ave.
Lexington, MA 02421

Attachment

Specific comments on the Draft MWRA Permit and Fact Sheet.

Draft Permit Language

P 10 at Footnote 11. The end of the first sentence reads “is required by the Draft Permit (See Footnote 11).” This sounds like Fact Sheet language and is self referencing.

P 20 at I.B.3.m Placeholder for David Stoff’s concerns about public notification plans if not included in the body of the letter.

P 21 at I.B.5.e Replace “CSO Variance” with “water quality standards variance”

P 21 at I.B.5.a. I suggest that this be main body text for 5 as it applies to all the lettered paragraphs that follow. The rest would need to be relettered. Alternatively, all that follows “a” should be indented and sub numbered.

P 21 at I.B.5.f.(1) Except for f(1)ii, this section needs to be amended to require that comparisons made after approval of the updated LTCPs in the variance waters include comparisons to the “typical year” used in the updated LTCPs (for (1) first paragraph) and any revised CSO activations and volumes (for (1) i and iii).

P 31 at I.E.1.a the required *WWTF Major Storm and Flood Events Plan* seems focused on inundation and does not seem to anticipate that major storms can overtax the pumping or conveyance systems from within. Of particular concern is the Alewife Brook Pumping Station. MWRA has acknowledged that during some current storms (never mind in the future) there is more flow coming into the ABPS that it has the capacity to pump, backing sewage up in the Alewife Brook Conduit and/or Alewife Brook Sewer and likely contributing to overflows at SOM001A. If it’s happening now, it will almost certainly happen more frequently in the future. Some analysis should be required to determine whether ABPS (and all other pumping stations owned by the Permittee and Co-Permittees have sufficient pumping capacity during major storms, or even lesser storms in times of high groundwater/increased infiltration.

P 31 at I.E.1 footnote 2. Be explicit that this includes all the Permittee’s pump stations, headworks and CSO treatment facilities. (Footnote 14 on p 34 suggests that pump stations and headworks are included, though similar language is in Footnote 28 on p 41). If these facilities are not intended to be included here, be explicit that they are included in the requirements at E.2.e (2) p.39

P 31 at I.E.1, footnote 2. I assume that the five headworks facilities are included as part of the WWTF even though four of them are not located on Deer Island and encourage you to be explicit as to whether the off-site headworks facilities are included in the definition of the WWTF.

Please also be explicit as to whether the MWRA's CSO Treatment Facilities and associated outfalls considered part of the WWTF or the Sewer System for the purpose of Adaptation Planning.

P 31 at I.E.1 footnote 3. "(i.e., City of Boston)" should not be limited to Boston since resilience planning has been performed in Cambridge and Somerville where MWRA CSO Treatment Facilities are located. Replace i.e. with e.g OR include Cambridge and Somerville. Make same change at footnote 18 on p 39. [Note: these changes may be rendered unnecessary if this section changes to be similar to that included in the final permit for Westfield.]

P 36 at I.E.2.c (2), second sentence. ...strategy being removed from the updated plan?

P 37 at I.E.2.c (2) vii. The language in this paragraph is unclear and the fix is unclear. Perhaps the "which shall" in mid-paragraph should be deleted.

P 37 at I.E.2 c (3) and (4). The opening "The Draft Permit"... reads like Fact Sheet language rather than a permit condition.

P 38 at I.E.2.d. It seems that a map of the sewer system would be one, if not the first, of the components of the O&M plan required in I.E.2.e. Yet, the map is due in 30 months while the full system O&M plan is due within 24 months. Please reconsider the sequencing here.

P 39 at footnote 18. Same comment as above at p 31, footnote 3.

P 44. at I.E.3 (f) seems like it would only apply to the Permittee whereas 3 includes the Co-permittees. List below (f) starts with (4). Are 1-3 missing or should 4 and 5 be 1 and 2

P 46 at G.4. The list has: (i.e., bearings) while a nearly identical list on p 52 at G.10 has: (e.g., bearings). Which one is correct? Fix the other one.

Fact Sheet

I recognize that the Fact Sheet will not be revised, but urge that the following be addressed in the Response to Comments.

P 12, middle paragraph. It seems odd that this paragraph on Co-permittees references *In re Charles River Pollution Control District* while Appendix D makes no mention of the case. Is EPA offering two separate supporting arguments? One based on the EAB decision which rests on the Clean Water Act and EPA regulations, and the other on the region's legal analysis in Attachment A.

P 21. At 3.1.1 it says: "During high flows, primary treated flows, in excess of 700 MGD, may bypass the secondary batteries and final clarifiers and then be added back to the main treatment train." (emphasis added). This reads a bit too much like authorizing bypass. I

acknowledge that the permit at I.C.4 makes clear that bypass is not authorized and that reporting is required should bypasses happen, the permit does not authorize bypasses. The Response to Comments should clarify this potentially conflicting language.

P 97-100 at 5.4 I/I, lays out the case for finding excessive I/I in the whole and individual systems, forming the basis for including Co-permittees and requiring further I/I work. Figs 19 and 20 show how wet periods and years send the system into excessive flow territory. There should have been mention of the widely forecast climate change driven increases in precipitation with time which are almost certain to exacerbate the infiltration problem.

P 127 5.7.2 The second paragraph states: "Certain outfalls, such as MWR401 and MWR205 discharge in dry weather – they are connected to additional infrastructure and the weir/regulator controlling the CSO discharge is upstream of these connections or separate." How is the public, or the regulators, able to discern a dry weather CSO discharge from a non-CSO discharge at these outfalls?

P 128, 5.7.4 last sentence. "At the end of the LTCP...", Is this when the current LTCP and court schedule are deemed satisfied, or upon the completion of the updated LTCPs in the variance waters?

P 179. Last paragraph. Alewife Brook should have been included in the list of affected waters.